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RECOMMENDATIONS FOR MEETING THE MOBILITY NEEDS OF OLDER ADULTS IN RURAL MICHIGAN

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16. Abstract

The populations of the United States (US) and Michigan are aging. This demographic trend will continue to have a significant impact on society for the next few decades, particularly in the area of safe mobility in rural areas. As the population of Michigan's rural older adults continues to grow, it is becoming increasingly crucial that the Michigan Department of Transportation (MDOT) understand the mobility needs and issues of rural older adults, including the issues faced by Indian Tribes in rural Michigan, and be proactive in addressing these needs and issues in their activities. This project provides the background and suggestions to help MDOT identify areas where they significantly impact the safe mobility of Michigan's rural older adults. The overall goal of the project is to help maintain the safety and well-being of Michigan's rural older adult residents by providing recommendations on how current alternative transportation services could be improved to be more attractive to older adults while addressing cultural and psychological barriers to using these services. This goal was achieved through a literature review, an analysis of demographic data, a statewide survey of older adults living in six rural counties of Michigan, structured interviews with public and community transportation providers, and group discussions with representatives of three Indian Tribes located in rural Michigan. The complete results of these research activities, a list of recommendations for improving rural older adult mobility in Michigan, and an implementation plan are included in this report.

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Executive Summary

Background

Global populations are getting older, including the populations of the United States (US) and Michigan. This changing demographic will continue to have a significant impact on society for the next few decades, particularly in the area of safe mobility for rural older adults. For a variety of reasons, older adults prefer the personal automobile for meeting their mobility needs, preferably as the driver. As people age they are more likely to experience health conditions that can make driving more difficult and less safe. Indeed, the fatal crash rate per mile driven is higher for drivers over age 70 than for all other age groups except for the youngest drivers.

The issues of safe mobility for older adults are magnified in rural areas and many older adults in rural areas report difficulties in meeting mobility needs. Older adults are more likely to reside in rural areas. The preference and need to use the personal automobile is more pronounced in rural areas because of the longer distances between services and residences and because of the many difficulties in providing public transportation in these areas. When compared to older adults who live in urban areas, fatal crash rates are higher for rural older adults. As the population of Michigan's rural older adults continues to grow, it is becoming increasingly crucial that the Michigan Department of Transportation (MDOT) understand the mobility needs and issues of rural older adults, including the issues faced by Indian Tribes in rural Michigan, and be proactive in addressing these needs and issues in their activities. This project provides the background and suggestions to help MDOT identify areas where they significantly impact the safe mobility of Michigan's rural older adults. The overall goal of the project is to help maintain the safety and well-being of Michigan's rural older adult residents by providing recommendations on how current alternative transportation services could be improved to be more attractive to older adults while addressing cultural and psychological barriers to using these services.

This project involved five main tasks to support the development of recommendations for improving the mobility of rural Michigan older adults. The first was a literature review to better understand rural older adult issues and travel needs, rural public transportation issues, and issues facing rural American Indian Tribes regarding aging and mobility. The second was an analysis of demographic data in six rural Michigan counties (Iron, Marquette, Hillsdale, Mason, Huron, and Alpena) to better understand rural Michigan's current older adult residents and projected future older adult residents. The third task was administering a survey to older adults who reside in the six rural study counties to gain a better understanding of the travel and residency patterns, gaps in transportation services, barriers to using public transportation, and the transportation needs and wants of this segment of Michigan's population. The fourth task was structured interviews with public transportation providers in the six rural counties to identify, from the perspectives of the transit and service providers, barriers to use of various transportation modes and strategies for increasing use among older adults. The final task was a series of group discussions with representatives of three Indian Tribes whose service areas encompass one of the six rural study counties to ascertain the aging and mobility issues among Tribes and strategies for improving mobility among Tribal older adults.

Results

Literature Review

The review found that older adults commonly live in rural areas because they already live in rural areas and prefer not to move when they retire. The travel behavior of rural older adults differs from older adults who live elsewhere, in that they take fewer trips by public transportation, travel longer distances, and have greater difficulty meeting their transportation needs once driving becomes difficult. In part because of the difficultly meeting mobility needs once safe driving becomes more difficult, rural older adults are more likely to continue driving past the point where they can safely do so.

The review also found that implementing public transportation systems in rural areas is challenging primarily because of the high cost. There are also barriers for older adults using rural public transportation systems. These barriers included: older adults

not knowing about the available services; physical and financial limitations for using the services; and a lack of knowledge of how to use the services. Improved coordination of transportation services could be beneficial for rural public transportation. Transit travel training also shows promise for helping older adults utilize public transportation services. There are also several federal grant programs to assist with solving transportation issues in rural areas.

One special focus of this project was to gain a better understanding of the aging and mobility issues faced by American Indian Tribes. To this end, we looked at relevant published reports on Indian Tribes located throughout the US, not just in Michigan. The review identified several challenges unique to Indian Tribes (e.g., wide geographic dispersion of members, distances between businesses and Tribal members), as well as highlighted several successful Tribal transit programs. In Michigan, there are 12 federally recognized sovereign Tribal governments whose lands are situated within Michigan, most in rural areas. Collectively, the population of these Tribes is about 62,000. MDOT maintains ongoing government-to-government communication with the Tribes through a Tribal Affairs Coordinator whose primary role is to serve as a point of contact for tribal governments and to facilitate communication and problem resolution on transportation-related topics.

Demographic Analysis

In 2010, the population of the state of Michigan was 9,883,630 people. Nearly 10% of all Michigan residents were age 70 or older. Among these, 59% were between the ages of 70-79 years, 34% were between the ages of 80 and 89, and 7% were age 90 or older. About one-half of Michigan residents overall were male. This percentage dropped with increasing age resulting in only 27% of those age 90 and older being male. Among the six rural study counties, the percentage of adults age 70 and older ranged from about 11% to 19%, which is higher than for Michigan overall. County level population projections for 2015-2040 for Michigan counties by age and sex were developed by the University of Michigan Institute for Research on Labor, Employment and Economy (2012) and provided by MDOT Statewide and Urban Travel Analysis Section. Population projections showed that in nearly each study county (except Iron

County), the projections showed increasing numbers and percentages of older adults in the future. This trend was particularly pronounced for males and for adults age 85 and older. In Iron County, the projections showed slight decreases in the number and percentages of older adults residing in the county in the next 30 years.

The analysis of older adult driver licensing found that in 2010 nearly all adults age 70-75 held a driver license in the six counties and for Michigan overall, except for women in Michigan overall. For this group, only 91% held licenses, indicating that older women were more likely to be licensed in rural areas of Michigan. As age increased, the percentages of the population that held a driver license decreased, with significant decreases for older adults age 90 and older. Less than 50% of older adults age 90 and older held a driver license in 2010.

The demographic analysis also analyzed older adult crash data. In 2010 5.3% of older drivers were involved in crashes statewide. This percentage ranged from 6.4% (Hillsdale County) to 8.5% (Iron County) in the rural study counties, indicating that older drivers in rural areas are slightly more likely to be involved in crashes. The 2010 serious crash casualty rate per 1,000 older adults in Michigan statewide was 0.06. This rate ranged from 0.03 (Huron County) to 0.15 (Hillsdale County) for the six rural study counties. Other analyses of crashes by injury level are also reported in Appendix A.

Survey of Rural Michigan Older Adults

The survey found that most rural older adult households have 1 to 2 vehicles, but 16% had no vehicle. More than one-half of households had two or more drivers, but 23% had no drivers. About two-thirds of older adults were regular drivers and 20% rarely or never drove. The survey found that large majorities of rural adults reported not having or not being aware of public and community transportation services in their neighborhoods including buses (82%), senior van/dial-a-ride (37%), volunteer drivers (50%), and taxis (67%). For rural older adults who did have these services available, very few utilized them. Nearly all rural older adults had not participated in a travel training program or utilized mobility management services. Rural older adults tended to make all trips either as a driver or as riding as a passenger. Less than 20% of rural older adults were receiving informal transportation assistance. Of those who were

receiving this type of care, the caregiver was most commonly the child of the older adult and all were being given rides in the caregiver's car.

The survey found some differences between rural older men and women. The rural older women tended to be older, less likely to be married, less likely to be licensed, and more likely to live in households with fewer cars and drivers. Rural older women drove less frequently, fewer days per week, fewer annual miles, stayed closer to home, and were less satisfied with their personal mobility. Women were generally more aware of transportation services in their neighborhoods and were slightly more likely to use these services. Women were more likely than men to ride as a passenger when taking trips for any purpose. Rural older women who were receiving informal care were more likely than rural older men to get this care from their children. Rural older men were more likely than women to receive care from a friend or other relative.

There were also differences between rural older adults age 70-79 and those age 80 and older. Rural older adults age 80 and older lived in households with fewer cars and licensed drivers, were generally in poorer health, drove less, and reported slightly greater social isolation. The oldest age-group of rural adults was also more likely to use the various public and community transportation services. The oldest respondents were more likely to report taking fewer trips (for all trip purposes) and more frequent riding as a passenger for all types of trips. Among rural older adults who were receiving informal care, the oldest adults were less likely to get this care from a spouse, less likely to have the caregiver living in the same household, and the caregiver was generally younger.

The survey also compared rural older adults who had used some form of public/community transportation (users) to those who had not used public/community transportation services in the past year (non-users). Many differences were found. Users were older, generally not married, more likely to be female, less likely to own their own home, less likely to have lived in the same place for the past 5 years, had fewer drivers and vehicles in the house (50% had no vehicle in the household), and were less likely to be volunteering in the community. The health of users was generally worse than non-users, and users were significantly more likely to report having vision and mobility problems that affected driving. Two-thirds of users of public/community transportation were not driving anymore and those who were still driving were doing so

less frequently, driving fewer miles, and traveling closer to home. Users of public/community transportation services were also significantly less satisfied with their overall mobility and reported significantly greater social isolation.

As expected, users of public/community transportation services were more aware of all forms of public and community transportation services. The top two reasons for liking bus services were that it went where respondents wanted to go and it was convenient. The top two reasons for liking senior vans/dial-a-ride services were that they were convenient and pleasant. Volunteer driver services were liked because this service went to where people wanted to go and it was pleasant. Taxis services were liked because they were reliable/punctual and respondents did not have to ask others for rides. The main reasons reported for not liking buses, senior vans/dial-a-ride, and volunteer driver services were that they took too long or they were inconvenient. Taxis were not liked because they were too expensive and they took too long. Users of public/community transportation services were also more likely than non-users to be riding as a passenger and the driver they rode with was less likely to be a spouse and more likely to be a friend or other relative when compared to non-users of public/community transportation. Users of public/community transportation services took significantly fewer shopping, family/business, social/recreational, and out of county trips than did non-users and were much more likely to ride as a passenger or use another form of transportation than non-users for these trips. A significantly greater proportion of users reported receiving informal care or transportation assistance, but the characteristics of the caregiver or the type of care given did not differ by whether or not the respondent had recently used public/community transportation.

Structured Interviews with Public Transportation Providers

In all of the study counties, transportation was reported to be a very important need of older adults. Each transportation provider that we interviewed reported that they had transportation services for older adults, some more than others, and all reported challenges to providing services. Several common themes emerged among the transportation providers in each county related to the challenges with providing services to older adults. They were: lack of funding to expand or provide services;

difficulty recruiting and maintaining volunteer drivers; inability to transport older adults out of the city and/or county; inability to transport those that need physical assistance; inability to transport wheelchairs or mobility chairs; educating the public on the transportation service; and a lack of coordination and/or knowledge of services between transportation service providers.

Most of the transportation providers considered their vehicle fleet adequate to meet their current needs, and most felt snow was not an issue for providing service as long as roads were plowed. Some mentioned that snow was a barrier for older adults in places where sidewalks were not present or not shoveled. Many transportation providers were members of the Michigan Transit Pool and/or did not report any liability issues, although some mentioned the liability associated with providing door-through-door service was a barrier that prevented them from offering that service. Most providers received some federal or state funding, a city or county millage, and/or donations. Those that received a millage reported that they were generally stable, but some transportation providers reported legal and political challenges in obtaining millage funds, limiting their level of service.

All interviewees agreed that older adults most often traveled for medical, shopping, and social/recreational purposes. Although most providers agreed that older adults can usually get their basic transportation needs met, they also thought that older adults still faced challenges in using transportation services. The interviewees mentioned several barriers in providing transportation services to older adults, including the following: physical restraints preventing them from getting onto or riding public transit; lack of transportation to services beyond medical and basic needs; no transportation service in the area they live; limited or no transportation for those in wheelchairs, mobility chairs or on oxygen; and financial barriers to utilizing public transit.

Many transportation providers also noted that independence was very important to older adults and transitioning from the personal automobile to a transportation service is difficult for many older adults. Providers reported that many older adults are on a fixed income and that reasonable pricing is a factor in utilizing public transportation. Some providers mentioned offering free transportation to seniors to increase their use of the service.

Many of the interviewees were unsure about how MDOT could help them improve their services to older adults. The following suggestions, however, were reported by the service providers: providing funding; providing vehicles, including smaller or senior-friendly vans/buses; and educating the public on the need, benefits, and advantages of public transportation.

All but one of the interviewees expected that the population and transportation need of older adults in their county would grow in the future. Service providers expected that these future trends would require transportation providers to expand services beyond their current service by extending the days and hours of service; increasing the number of vehicles including lift-equipped vehicles; recruiting more volunteer drivers; and offering trips for more than medical purposes if they were not already doing so.

Group Discussions with Michigan Indian Tribal Representatives

The group discussions with Tribal representatives yielded a number of themes. All Tribes provided transportation services to Tribal elders through one or more of the Tribal departments that serve elders. The specifics of these services varied among the Tribes. Tribes mentioned a number of challenges associated with providing transportation to Tribal elders including: decreased ability to provide transportation for non-medical purposes; limitations of public and paratransit options; decreased availability of informal family/friends transportation assistance; and an increasing number of elders. A number of opportunities for expanding transportation programs, funding, and increasing coordination were discussed.

Recommendations

Based on the results of the research activities the following recommendations were developed:

- Continued special focus on older adults who live in rural areas is warranted.
- Differences among rural older adults themselves should be taken into account. The rural older adult population is the most heterogeneous of all age groups. In particular, rural older adults age 80 or older can be different from rural older adults age 70-79.

- Gender should be considered when developing mobility solutions for rural older adults.

- Follow the recent recommendations for extending safe driving among Michigan older adults that are also relevant for rural older adults in Michigan.

- Pursue opportunities to employ rural intelligent transportation system technologies designed to improve roadway safety.

- Develop and disseminate educational information designed to help people understand the need to and advice for how to plan for the time when they can no longer drive.

- Provide support and resources to law enforcement to help them understand issues related to aging and driving and the important role law enforcement plays in maintaining safe driving among rural older adults.

- Follow the recent recommendations for improving community mobility options for Michigan older adults that are also relevant for rural older adults in Michigan.

- Encourage public transportation providers to develop, market, and formally evaluate travel training programs for older adults.

- Compile and update a comprehensive list of transportation service providers for older adults by county and make this list readily available and searchable.

- Encourage the development of and maximize the potential for rural volunteer driver programs.

- Encourage existing public/community transportation providers to develop new programs for older adults, particularly for services that provide trips for non-medical purposes.

- Continue/strengthen efforts to work with local and county transportation providers in rural areas to help them obtain federal funding from a broad array of government agencies.

- Support efforts by local, county, and Tribal government programs to recruit and maintain volunteer drivers.

- Continue to support and consider expanding the position of the MDOT Tribal Affairs Coordinator.

- Provide technical support for identifying potential funding sources for Tribal transportation, as well as applying for these funds. Technical assistance should include developing and providing to Tribes a synthesis of funding information in a

format that consolidates information across multiple government agencies and allows easy comparison of funding requirements.

Introduction

As discussed in several recent literature reviews, global populations are getting older, including the populations of the United States (US) and Michigan (Eby & Molnar, 2012; Eby, Molnar, Kostyniuk, St. Louis, & Zanier, 2011; Kostyniuk, St. Louis, Zanier, Eby, & Molnar, 2012). This demographic trend will continue to have a significant impact on society for the next few decades, particularly in the area of safe mobility. For a variety of reasons, older adults prefer the personal automobile for meeting their mobility needs, preferably as the driver (Eby et al., 2011). As people age, they are more likely to experience health conditions that can make driving more difficult and less safe (Eby, Molnar, & Kartje, 2009). Indeed, the fatal crash rate per mile driven is higher for drivers over age 70 than for all other age groups except for the youngest drivers (Dickerson et al., 2007).

Older adults generally recognize when driving abilities begin to decline and as driving becomes more difficult they often begin to limit their driving to the times and situations in which they feel most safe—some cease driving entirely (Molnar & Eby, 2008). In other cases, licensing agencies, medical personal, or families might request or require older adults to limit driving. The unfortunate result of these limitations for most older adults is decreased mobility which can have a negative impact on health and well-being; this has recently been referred to as “mobility disability” (Satariano et al., 2012).

Because of the preference for the personal automobile and the lack of adequate and acceptable community mobility options, one goal of older adult mobility efforts is to keep them driving for as long as they can safely do so (see Dickerson et al., 2007; Eby, Molnar, & Kartje, 2009). In addition, communities have a responsibility to facilitate the meeting of mobility needs for those older adults who are unable or choose not to drive. Research shows that most older adults will have up to 10 years of life after they stop driving (Foley, Heimovitz, Guralnik, & Brock, 2002). Thus, a second goal for maintaining safe mobility for older adults is to provide acceptable community mobility options for non-drivers (Eby, Molnar, & Kartje, 2009; Molnar, Eby, & Dobbs, 2005).

The issues of safe mobility for older adults are magnified in rural areas and many older adults in rural areas report difficulties in meeting mobility needs (Mattson, 2011;

Park et al., 2010). Older adults are more likely to reside in rural areas. In Michigan, for example, the percentage of adults age 70 and older residing in six representative rural counties was 13.9% compared to 9.5% statewide (see Appendix A). The preference and need to use the personal automobile is more pronounced in rural areas because of the longer distances between services and residences and the because of the many difficulties in providing public transportation in these areas (Dickerson et al., 2007). Compared to older adults who live in urban areas, fatal crash rates are higher for rural older adults (Boufous et al., 2008; Thompson et al., 2010). As the population of Michigan's rural older adults continues to grow, it is becoming increasingly crucial that the Michigan Department of Transportation (MDOT) understand the mobility needs and issues of rural older adults, including the issues faced by Indian Tribes in rural Michigan, and be proactive in addressing these needs and issues in their activities. This project provides the background and suggestions to help MDOT identify areas where it can significantly impact the safe mobility of Michigan's rural older adults.

Objectives

The overall goal of the project is to help maintain the safety and well-being of Michigan's rural older adult residents by providing recommendations on how current alternative transportation services could be improved to be more attractive to older adults while addressing cultural and psychological barriers to using these services. This goal will be achieved through the following objectives:

- Determine rural older adult driving patterns, awareness of alternative transportation options, use of options, reasons for use and nonuse of options, and purposes of trips in six rural counties in Michigan: Iron, Marquette, Hillsdale, Mason, Huron, and Alpena;
- Determine what transportation services rural older adults in Michigan would prefer and use if they were no longer able to drive;
- Compile a list of all alternative transportation services available in the six representative rural counties in Michigan;
- Identify the cultural and psychological issues among older adults in rural Michigan that may influence their use of mass transit and other public transportation systems.

Scope

This project included 11 tasks. Task 1 was an initial meeting in Lansing, MI with MDOT technical liaisons, sponsoring MDOT Office Administrator, and staff from MDOT's Research Administration. The second task was a literature review to better understand rural older adult issues and travel needs, rural public transportation issues, and issues facing rural American Indian Tribes regarding aging and mobility through a detailed search and review of the literature. Task 3 was an analysis of demographic data in six rural Michigan counties to better understand rural Michigan's current older adult residents and projected future older adult residents. The fourth task was a survey of Michigan older adults who reside in one of the six counties to gain a better understanding of the travel and residency patterns, gaps in transportation services, barriers to using public transportation, and the transportation needs and wants of Michigan rural older adult residents. The fifth task was a set of structured interviews with public transportation providers in the six rural counties to determine, from the perspectives of the transit and service providers, barriers to use of various transportation modes and strategies for increasing use among older adults. The sixth task was a set of group discussions with representatives of three Indian Tribes whose service areas encompass one of the six rural study counties to ascertain the aging and mobility issues among Tribes and strategies for improving mobility among tribal members. Task 7 was to compile a complete list of transportation services in the six rural study counties. Tasks 8-11 focused on wrap-up and dissemination activities including: writing a final report, executive summary, and implementation plan; participate in a wrap-up meeting; writing an article for the ORBP newsletter; and producing quarterly progress reports.

Methodology

This research entailed five main activities designed to support the development of recommendations to increase rural older adult safety and mobility in Michigan: a literature review; a demographic analysis; a statewide survey of rural older adults; structured interviews with transit providers; and group discussions with representatives of Michigan Indian Tribes. This section describes the methodologies for each activity.

Literature Review

The purpose of this task was to better understand rural older adult travel needs and to determine promising approaches and best practices for enhancing older adult mobility in rural areas through a detailed search and review of the literature. This search was conducted by first developing a set of selection criteria. These selection criteria were derived from our knowledge of the aging and mobility literature, recent reviews of the literature conducted by members of the project team (Eby, Molnar & Kartje, 2009; Eby et al., 2011; Eby, Molnar, & St. Louis, 2008; Eby, Molnar, & Vivoda, 2009; Molnar, Eby, St. Louis, & Neumeyer, 2007), input from the Senior Mobility Work Group (an action team established by the Governor's Traffic Safety Advisory Commission), and discussions with MDOT. The selection criteria were used to gather appropriate articles, reports, and other documents. Several document databases were searched, including: MEDLINE, PSYCINFO, TRID, ProQuest, ScienceDirect, Google Scholar, UM-MIRLYN, and the University of Michigan Transportation Research Institute's (UMTRI's) Library. We also searched relevant websites, such as MDOT's and transit providers' websites to gather information specific to rural transportation issues. Collected articles and data were reviewed for appropriateness and those deemed appropriate were collected, organized, synthesized, and included in the literature review. Sections of the review were drafted by members of the project team and integrated by the first author. The first draft was submitted to MDOT for comments and a final document was written based on these comments. The complete literature review document can be found in Appendix A.

Demographic Analysis

The purpose of this task was to better understand Michigan's current rural older adult residents and projected future rural older adult residents by conducting an analysis of the 2010 Census Bureau data, Michigan Crash data, and Driver History data on the six rural study counties in Michigan: Iron, Marquette, Hillsdale, Mason, Huron, and Alpena. The demographic analysis focused on rural residents age 70 and older. These analyses included: current resident age, population trends, aging population trends, licensing trends, and motor vehicle crash trends. The complete results of the demographic analysis are presented as part of the literature review in Appendix A.

Survey of Rural Michigan Older Adults

The purpose of this task was to gain a better understanding of rural older adult driving patterns, awareness of alternative transportation options, use of options, reasons for use and nonuse of options, and purposes of trips in the six study counties. This task was intended to help MDOT gain a better understanding of what transportation services rural older adults in Michigan would prefer and use if they were no longer able to drive. The project team completed this task through a statewide telephone survey administered to older adults (age 70 and older) who resided in one of the six rural study counties: Iron, Marquette, Hillsdale, Mason, Huron, and Alpena. This task involved four activities: questionnaire design; sample design; data collection; and data analyses.

Questionnaire Design

The topics for the questionnaire included: respondent demographics; self-reported health; driving behavior; availability, awareness, and use of alternative transportation; travel as a passenger; trip purposes and modes used; and types of care received from others. These were the same as the topics used in a previous survey of transportation issues among Michigan older adults conducted by the research team (see Eby et al., 2011). Therefore, the same survey questions as used in the previous survey were used in this questionnaire with some minor modifications to wording. A

draft of the questionnaire was forwarded to MDOT for review and was revised based on this feedback.

Sample Design

A sample design with 600 respondents stratified by the six rural study counties with equal numbers of respondents in each county was selected for the survey. To ensure that the number of respondents with recent experience of public or community transportation use was sufficient for analysis, an additional requirement that approximately 25% of respondents in each county be current users of public or community transportation was imposed. These respondents were identified by a "yes" answer to the question: "In the last 12 months have you used any type of public or community transportation in your county?"

The Michigan Driver History File database, extracted in January 2012, served as the sampling frame for the survey. This database contains records of people who are currently licensed, including those with sanctioned (revoked, restricted, etc.) licenses, those whose license has expired within the past 7 years, and those who hold a Michigan Department of State-issued identification card. Thus, this database includes both drivers and non-drivers in approximately the same proportion as they are found in Michigan.

The sample for each of the six study counties was developed independently using the following process. First UMTRI filtered the Driver History File to retain only names and addresses of people age 70 and older. These records were then grouped into 3 mutually exclusive categories: current license holders, expired license holders, and identification card holders. In each county approximately 80% of the records belonged to current license holders, 13% to expired license holders, and 7% to state identification card holders. Because the total number of records for people age 70 and older in each county was not large (ranging from 2,334 in Iron County to 7,622 in Marquette County), all the records were retained at this point and turned over to the professional survey research company, Morpace International. Driver history records do not contain telephone numbers, so Morpace obtained telephone numbers from commercially available databases that matched names and home addresses to

telephone numbers. The match rate ranged from 75% to 82% across the counties, resulting in a 24,486 telephone numbers of persons age 70 and older from the six counties who were in the driver history file.

To address the challenge of obtaining samples that were random and also contained sufficient numbers of respondents who had used some form of public or community transportation in the past year, it was assumed that people without drivers' licenses were more likely than currently licensed drivers to use public or community transportation. To that end, the latter two groups were oversampled (i.e., a higher sampling rate was applied to these categories than to the category of current license holders). The sampling rate was determined by monitoring the incidence rate of public and community transportation users by driver license status in the first week of survey administration, and setting it so that the final sample in each county would contain approximately 25 public or community transportation users.

Data Collection

The telephone interviews were conducted by professional interviewers from Morpace using Computer Assisted Telephone Interviewing (CATI) technology. All Morpace interviewers are trained in interviewing techniques and undergo project-specific training. According to the survey administration protocol, interviews were monitored by field supervisors to ensure a high standard of quality in the data collection process, and telephone numbers were released to the "phone room" in replicates of 400 telephone numbers. Each telephone number was called up to three times.

Interviews were conducted from May 2, 2012 to June 3, 2012. In all, 7,522 telephone numbers were dialed. Of these, 2,654 were not eligible (fax/data line, non-working, disconnected, number changed, no eligible respondent), 474 were of unknown eligibility (always busy, no answer, call blocking), 3,796 were eligible but not interviewed (soft or hard refusal, respondent never available, answering machine, break-off), 598 were eligible and interviewed with 583 complete and 15 incomplete interviews. Based on the American Association for Public Research (AAPOR) Response Rate 3 method of

estimating response rates,[1] the percentage of cases of unknown eligibility that would be eligible is 62.3% in this case, which results in a response rate estimate of 12.5%.

Table 1 shows the number of respondents in each county including the number who were classified as public or community transportation users.

	Table 1: Respondents by County and Public Transportation (PT)						
County	**Alpena**	**Hillsdale**	**Huron**	**Iron**	**Marquette**	**Mason**	**Total**
Not PT User	78	76	75	75	75	75	454
PT User	25	25	14	9	26	30	129
Total	103	101	89	84	101	105	583

Survey Weighting

Weighting survey responses compensates for unequal probabilities of selection of respondents and also for the failure of selected respondents to respond. Overall, weighting improves the accuracy and minimizes the bias of the sample estimates.

$$Weight_{(stratum,\ driver\ license\ group)} = (1/prob.\ of\ selection) \times (1/\ prob.\ of\ response).$$

The probability of selection was based on the population of eligible persons in each stratum (county) and in each of the three driver license categories in the Michigan driver database. The sampling rates for each of the three driver license categories and the telephone match rate are included in this estimation. The probability of response is estimated from the ratio of respondents to the number of eligible contacts. Table 2 shows the final weights used in the analysis of the survey responses.

[1] http://www.aapor.org/Standard_Definitions/1818.htm

Table 2: Weighting for Survey Analysis (x10^3)			
County	**Respondent with Driver's License**	**Respondent with Expired Driver's License**	**Respondent with State ID Card**
Alpena	1.97	2.02	1.34
Hillsdale	1.75	1.89	1.33
Huron	1.67	2.01	1.23
Iron	4.40	4.87	3.02
Marquette	1.27	1.28	0.85
Mason	2.09	2.23	1.45

Analysis

Survey response data were analyzed using the Statistical Analysis Software (SAS) 9.2 package using tools for the analysis of complex samples. The survey responses were tabulated for each question by study county and statewide as well as by sex, by age group (70-79, 80+), and by whether or not respondents had used public/community transportation in the past year (user, non-user).

The weighted proportions and means were calculated, along with the standard error of the proportion or mean. The standard error was used to calculate the confidence interval which provides the estimate of the reliability of the measure.

In the analyses of survey responses by sex, age, and public transportation use, the comparisons in the proportions were tested using the Rao-Scott Chi Square test, a design-adjusted chi-square test. The SAS Proc Surveyreg modeling procedure that yields t-statistics was used to test for statistical differences between means.

Structured Interviews with Public Transportation Agencies and Compilation of a Comprehensive List of Transportation Services

The objective of this task was to interview transportation providers in each of the six study counties to learn about their transportation services for older adults and compile a comprehensive list of transportation services available in the counties. Another purpose of the interviews was to identify challenges that agencies encounter when providing transportation services, as well as the barriers that older adults in each county face in meeting their transportation needs.

In-depth interviews were conducted with two transportation providers in each of the counties of interest. The agencies interviewed were initially selected by reviewing data from a previous study conducted for MDOT by the research team that identified transportation providers in every county in Michigan (Eby et al., 2011). In all cases, at least one agency from this prior report was still in operation and granted us an interview. In the event the other agencies listed in the previous report were no longer in operation, the transportation service recommended by our first interviewee was contacted. To create a comprehensive list of transportation providers, we asked all the service providers interviewed about other transportation programs available in the county. To supplement information from the interviews and gain a more complete picture of transportation services in each county, we also contacted senior centers, city halls, taxicab services, Area Agencies on Aging, MDOT representatives, AAA insurance agents, assisted living and senior living facilities, and city and community service agencies identified in the interviews or through follow-up internet searches.

Group Discussions with Michigan Indian Tribal Representatives

Group discussions were held with representatives of three Michigan Indian Tribes whose service areas each encompass one of the counties of interest for the project; a separate discussion was held with each Tribe. The Tribes included the Little River Band of Ottawa Indians, the Little Traverse Bay Bands of Odawa Indians, and the Sault Ste. Marie Band of Chippewa Indians. The purpose of the discussions was to identify the transportation needs and preferences of Tribal elders and the challenges they face in meeting those needs. Also discussed were opportunities to expand services and/or coordinate services among the departments or between the Tribe and local or county transportation providers.

The project team worked with MDOT to identify appropriate contact people for each Tribe. Once contact with the Tribe was established, we worked with the Tribal transportation planner to identify appropriate Tribal departments to include in the discussions and to schedule and coordinate the discussions. The departments included in the discussions generally included transportation, elder services, health, housing, and

human or family services. Each group discussion took place at the Tribe's government center location and lasted between 1.5 to 2 hours. Discussion was facilitated by a member of the project team, based on a discussion guide prepared and circulated to Tribal representatives prior to the discussion. Based on a review of the detailed notes from each discussion group, common themes were identified.

Results

The results of the main research activities are presented here.

Literature Review

The complete literature review can be found in Appendix A. The review covered eight general topics: aging in place; travel behavior of rural older adults; adverse effects of driving cessation among rural older adults; rural community mobility; transportation coordination; travel training; American Indian transportation issues; and rural transportation funding.

The review found that older adults commonly live in rural areas because that is where they had been living before they reached older adulthood and they preferred to "age in place." The travel behavior of rural older adults differs from older adults who live elsewhere in that they take fewer trips by public transportation, travel longer distances, and have greater difficulty meeting their transportation needs once driving becomes difficult. In part because of the difficultly meeting mobility once safe driving becomes more difficult, rural older adults are more likely to continue driving past the point where they can safely do so.

The review also found that implementing public transportation systems in rural areas is challenging primarily because of the high cost. There are also barriers for older adults using rural public transportation systems. These barriers included: older adults not knowing about the available services; physical and financial limitations for using the services; and a lack of knowledge of how to use the services. Improved coordination of transportation services could be beneficial for rural public transportation. Transit travel training also shows promise for helping older adults utilize public transportation services. There are also several federal grant programs to assist with addressing transportation issues in rural areas.

One special focus of this project was to gain a better understanding of the aging and mobility issues faced by American Indian Tribes. To this end, we looked at relevant published reports on Indian Tribes located throughout the US, not just in Michigan. The review identified several challenges unique to Indian Tribes (e.g., wide geographic dispersion of members, distances between businesses and Tribal members), as well as highlighted several successful Tribal transit programs. In Michigan, there are 12

federally recognized sovereign Tribal governments whose lands are situated within Michigan, most in rural areas. Collectively, the population of these Tribes is about 62,000. MDOT maintains ongoing government-to-government communication with the Tribes through a Tribal Affairs Coordinator whose primary role is to serve as a point of contact for tribal governments and to facilitate communication and problem resolution on transportation-related topics.

Demographic Analysis

The complete demographic analysis results are contained in Appendix A. This section of the report examined population projections and current trends in driver licensing, travel patterns, and transportation-related fatality and injury rates of the six study counties in Michigan of adults age 70 and older. The following is a brief summary of the findings.

In 2010, the population of the state of Michigan was 9,883,630. Nearly 10% of all Michigan residents were age 70 and older. Among these, 59% were between the ages of 70-79 years, 34% were between the ages of 80-89, and 7% were age 90 or older. About one-half of Michigan residents overall were male. This percentage dropped with increasing age resulting in only 27% of those age 90 and older being male. Among the six rural study counties, the percentage of adults age 70 and older ranged from about 11% to 19%, which is higher than for Michigan overall. County level population projections for 2015-2040 for Michigan counties by age and sex were developed by the University of Michigan Institute for Research on Labor, Employment and Economy (2012) and provided by the MDOT Statewide and Urban Travel Analysis Section. Population projections showed increasing numbers and percentages of older adults in the future in every study county except Iron County. This trend was particularly pronounced for males and for adults age 85 and older. In Iron County, the projections showed slight decreases in the number and percentages of older adults residing in the county over the next 30 years.

The analysis of older adult driver licensing indicated that in 2010, nearly all adults age 70-75 held a driver license in the six counties and for Michigan overall, except for women in Michigan overall. For this group, only 91% held licenses, indicating that

older women were more likely to be licensed in rural areas of Michigan. As age increased, the percentages of the population that held a driver license decreased, with significant decreases for older adults age 90 and older. Less than 50% of older adults age 90 and older held a driver license in 2010.

The demographic analysis also analyzed older adult crash data. In 2010 5.3% of older drivers were involved in crashes statewide. This percentage ranged from 6.4% (Hillsdale County) to 8.5% (Iron County) in the rural study counties, indicating that older drivers in rural areas were slightly more likely to be involved in crashes. The 2010 serious crash casualty rate per 1,000 older adults in Michigan statewide was 0.06. This rate ranged from 0.03 (Huron County) to 0.15 (Hillsdale County) for the six rural study counties. Other analyses of crashes by injury level are also reported in Appendix A.

Survey of Michigan Rural Older Adults

A total of 583 residents of the six rural study counties who were age 70 and older completed the survey. The demographics of this sample are shown in Table 3 by county and by the six counties combined. As shown in the table, respondents averaged about 79 years of age, were about two-thirds women, about 54% were currently married, nearly all lived in their own home or apartment, and 91% had lived at their current residence for at least 5 years. Nearly all respondents were non-Hispanic Whites. Respondents varied greatly in household income and education.

Table 3: Rural Older Adult Sample Demographics

	Alpena	Hillsdale	Huron	Iron	Marquette	Mason	Total
Number of respondents	103	101	89	84	101	105	583
Mean age	78.7	78.7	78.2	79.0	79.2	77.8	78.6
(SD)	(6.6)	(6.7)	(6.5)	(6.0)	(6.1)	(6.1)	(6.3)
% Female	76.7	58.4	67.4	61.9	65.4	63.8	65.7
% Married	54.4	55.5	53.9	46.4	52.5	57.1	53.5
% Live in own home/apartment	95.1	96.0	95.5	91.7	89.1	92.4	93.5
% Lived 5^{+} years in same location	92.2	89.1	96.6	91.7	83.2	86.7	90.5
Race							
White	100.0	95.1	97.8	97.6	100.0	98.1	98.1
Am. Indian/Alaskan Native	0.0	0.0	1.1	2.4	0.0	0.0	0.5
African Am.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	3.0	0.0	0.0	0.0	1.0	0.7
Don't know	0.0	1.0	0.0	0.0	0.0	0.0	0.2
Refused	0.0	1.0	1.1	0.0	0.0	1.0	0.5

% Non-Hispanic	98.1	95.1	98.9	100.0	99.0	98.1	98.1
Household income							
Under $25,000	39.8	31.7	37.1	47.6	39.6	32.4	37.7
$25,000 to under $50,000	26.2	27.7	28.1	26.2	24.8	24.8	26.2
$50,000 to under $75,000	10.7	13.9	13.5	4.8	9.9	12.4	11.0
$75,000 and over	6.8	7.9	4.5	4.8	5.0	6.7	6.0
Don't know	8.7	6.9	3.4	4.8	8.9	12.4	7.7
Refused	7.8	11.9	13.5	11.9	11.9	11.4	11.3
Education							
Grade school or less	4.9	1.0	13.5	1.2	4.0	1.9	4.3
Some high school	11.7	7.9	5.6	9.5	4.0	10.5	8.2
High school	44.7	46.5	46.1	50.0	47.5	40.0	45.6
Vocational or some college	22.3	22.8	13.5	17.9	17.8	27.6	20.6
College graduate	4.9	5.9	11.2	8.3	5.0	8.6	7.2
Some graduate school	1.9	5.0	2.3	0.0	3.0	5.7	3.1
Completed graduate degree	9.7	7.9	7.9	11.9	16.8	4.8	9.8
Don't know	0.0	2.0	0.0	1.2	2.0	1.0	1.0
Refused	0.0	1.0	0.0	0.0	0.0	0.0	0.2

Table 4 shows questionnaire variables related to household size and vehicle ownership as a function of county and all counties combined. Overall, the households averaged about 1.7 vehicles, with little difference by county. The percentage of household with no vehicle was about 16% overall, but this varied among the six counties from 12% (Iron County) to 26% (Mason County). More than 80% of respondents were licensed to drive in the counties, except for respondents in Mason County (77%). Of those not currently licensed to drive, about one-half overall had held a license in the past 5 years. Overall, about 41% of respondent households had two licensed drivers and 40% had one driver. About 15% overall had no licensed drivers in the household, with large differences among the counties ranging from 10% (Iron County) to 23% (Mason County).

Table 5 shows the work and volunteering activities of respondents. Overall, about 41% of respondents volunteered in their community, with great variation among counties (the range was 33% in Hillsdale County to 48% in Marquette County). Very few respondents worked outside of the home for pay (5% overall), but there were differences by county ranging from 2% in Marquette County to 9% in Hillsdale County. Of those who did work, very few worked full time.

Table 4: Household and Vehicles							
	Alpena	**Hillsdale**	**Huron**	**Iron**	**Marquette**	**Mason**	**Total**
Avg. # of vehicles, for households w/vehicle (SD)	n=85	n=88	n=76	n=72	n=84	n=79	n=484
	1.7 (0.6)	1.8 (0.8)	1.6 (0.6)	1.6 (0.7)	1.5 (0.8)	1.9 (0.9)	1.7 (0.7)
% households with no vehicle	n=103	n=101	n=89	n=84	n=101	n=105	n=583
	18.2 (3.4)	13.1 (3.2)	13.1 (3.9)	12.1 (3.9)	17.2 (2.3)	26.3 (4.0)	15.8 (1.6)
% licensed to drive	81.3	85.5	80.5	85.9	80.8	77.2	82.4
Of those not currently licensed - % licensed in past 5 years	n=22	n=16	n=17	n=13	n=22	n=28	n=118
	59.9 (10.7)	38.4 (12.8)	51.3 (12.8)	59.7 (14.6)	60.0 (10.9)	44.7 (9.9)	52.8 (5.2)
Number of licensed drivers in household	n=103	n=101	n=89	n=84	n=101	n=105	n=583
0	13.6 (3.3)	13.9 (3.4)	13.6 (3.7)	10.3 (3.3)	17.4 (2.3)	22.8 (4.0)	14.6 (1.5)
1	38.5 (4.9)	37.7 (4.9)	40.6 (5.3)	51.5 (5.5)	39.6 (4.8)	21.1 (4.0)	39.6 (2.2)
2	44.2 (5.0)	38.4 (4.9)	43.6 (5.3)	35.9 (5.3)	36.8 (4.6)	50.1 (4.9)	41.1 (2.2)
3	2.0 (1.4)	5.8 (2.3)	2.2 (1.6)	2.4 (1.7)	4.1 (2.0)	3.0 (1.7)	3.1 (0.8)
4	1.0 (1.0)	3.1 (1.8)	0.0	0.0	1.0 (1.0)	2.0 (1.4)	1.1 (0.4)
5	0.0	1.0 (1.0)	0.0	0.0	1.0 (1.0)	1.0 (1.0)	0.4 (0.2)

Table 5: Work and Volunteering							
	Alpena n=103	**Hillsdale n=101**	**Huron n=89**	**Iron n=84**	**Marquette n=101**	**Mason n=105**	**Total n=583**
% Volunteer in community	40.5 (4.9)	32.8 (4.7)	39.9 (5.2)	43.5 (5.5)	48.2 (5.0)	37.2 (4.8)	40.5 (2.3)
% Work outside home for pay	6.0 (2.4)	8.6 (2.8)	4.5 (2.2)	3.6 (2.1)	2.0 (1.4)	3.1 (1.8)	4.6 (0.9)
Those who work % full time	n=6	n=9	n=4	n=3	n=2	n=3	n=27
	16.7 (16.7)	11.8 (11.7)	25.0 (25.0)	0.0	50.0 (50.0)	32.6 (33.0)	15.8 (7.1)

Table 6 shows the respondents' answers to a variety of health related questions. Overall, respondents reported to be in good health, with about 44% reporting that they were very able to walk one-half mile and to climb two flights of stairs. However, more than one-third reported that they were not very able or not at all able to do these

activities. About 76% of respondents reported that they were in good, very good, or excellent health. Very few respondents reported that vision (11%) or memory (9%) problems were affecting their ability to drive safely. About one-third, however, reported that they had mobility problems that affected driving.

Table 6: Overall Health

	Alpena n=103	Hillsdale n=101	Huron n=89	Iron n=84	Marquette n=101	Mason n=105	Total n=583
Ability to walk 1/2 mile							
% Very able	39.2 (4.9)	46.7 (5.0)	39.3 (5.2)	39.9 (5.4)	50.5 (5.0)	50.4 (4.9)	43.6 (2.3)
% Somewhat	19.5 (3.9)	15.2 (3.6)	20.1 (4.3)	22.7 (4.6)	18.9 (3.9)	17.2 (3.7)	19.5 (1.9)
% Not very able	21.2 (4.1)	14.4 (3.5)	11.9 (3.4)	16.0 (4.1)	8.5 (2.8)	14.3 (3.4)	15.1 (1.7)
% Not at all able	20.2 (4.0)	22.6 (4.2)	27.5 (4.8)	21.5 (4.5)	22.1 (4.1)	16.1 (3.6)	21.3 (1.9)
Ability climb 2 flights of stairs							
Very able	44.9 (5.0)	45.8 (5.0)	39.3 (5.2)	42.3 (5.4)	55.3 (5.0)	47.7 (4.9)	45.1 (2.3)
Somewhat able	26.2 (4.4)	23.0 (4.2)	28.3 (4.8)	26.5 (4.9)	28.5 (4.5)	25.8 (4.3)	26.2 (2.0)
Not very able	14.5 (3.5)	15.4 (3.7)	20.6 (4.3)	18.7 (4.3)	5.8 (2.3)	13.8 (3.4)	15.6 (1.7)
Not at all able	13.5 (3.4)	15.8 (3.7)	11.7 (3.5)	11.2 (3.4)	9.4 (2.9)	12.1 (3.2)	12.2 (1.5)
Overall health							
Excellent	9.7 (2.9)	10.1 (3.0)	6.7 (2.7)	10.9 (3.4)	17.1 (3.8)	17.5 (3.8)	11.8 (1.5)
Very good	24.5 (4.3)	34.0 (4.7)	23.7 (4.5)	25.4 (4.8)	29.4 (4.6)	33.6 (4.7)	28.1 (2.0)
Good	39.6 (4.9)	32.2 (4.7)	47.3 (5.3)	35.5 (5.3)	30.5 (4.7)	29.9 (4.5)	35.7 (2.2)
Fair	21.5 (4.1)	16.3 (3.7)	15.5 (3.9)	18.1 (4.3)	17.2 (3.8)	15.5 (3.6)	17.6 (1.8)
Poor	4.7 (2.1)	6.4 (2.4)	6.9 (2.8)	10.1 (3.3)	5.8 (2.3)	1.7 (1.2)	6.4 (1.2)
% With mobility problems affecting driving	31.3 (4.6)	37.9 (4.9)	35.9 (5.1)	39.8 (5.4)	38.5 (4.9)	31.5 (4.6)	36.1 (2.2)
% With vision problems affecting driving	8.4 (2.7)	8.8 (2.8)	14.3 (3.8)	15.2 (3.8)	9.7 (2.9)	5.9 (2.2)	10.9 (1.5)
% With memory problems affecting driving	7.4 (2.6)	6.1 (2.4)	16.2 (4.0)	5.7 (2.5)	7.2 (2.5)	12.5 (3.3)	8.6 (1.2)

Table 7 reports the driving status of the rural older adult respondents. As can be seen in this table, about 63% drove regularly, 19% were no longer driving, and another 14% drove only occasionally or rarely.

Table 8 explores driving cessation issues among respondents who have stopped driving. Overall, most (45%) respondents who were no longer driving stopped driving more than 5 years ago. About 20% reported they had stopped driving within the past 2 years. A variety of reasons were given for stopping driving, with about one-third of respondents indicating that the main reason they stopped driving was for health

reasons, 17% cited not being comfortable with driving, 11% did not feel safe while driving, and 8% cited advice from a doctor.

Table 7: Driving Status							
	Alpena n=103	Hillsdale n=101	Huron n=89	Iron n=84	Marquette n=101	Mason n=105	Total n=583
% who drive							
Regularly	60.2 (4.8)	63.4 (4.8)	61.5 (5.2)	66.5 (5.2)	62.4 (4.8)	59.1 (4.8)	62.7 (2.2)
Occasionally	15.1 (3.6)	16.2 (3.7)	15.6 (3.9)	10.9 (3.4)	11.3 (3.2)	9.0 (2.9)	12.6 (1.5)
Rarely	3.0 (1.7)	1.0 (1.0)	0.0	1.2 (1.2)	4.1 (2.0)	1.0 (1.0)	1.6 (0.5)
Not drive anymore	17.3 (3.7)	17.1 (3.8)	19.8 (4.4)	17.8 (4.2)	20.2 (4.0)	23.7 (4.1)	19.1 (1.8)
Expect to in future	1.0 (1.0)	0.0	1.1 (1.1)	2.4 (1.7)	0.7 (0.7)	3.1 (1.8)	1.6 (0.6)
Never drove	3.4 (1.5)	2.3 (1.3)	0.8 (0.8)	0.0	1.4 (1.0)	4.2 (1.7)	1.8 (0.4)

Table 8: Questions for Former Drivers							
	Alpena n=20	Hillsdale n=18	Huron n=18	Iron n=18	Marquette n=23	Mason n=30	Total n=127
When was the last time you drove?							
< 3 months ago	11.1 (7.5)	16.2 (8.9)	5.3 (5.4)	0.0	0.0	0.0	4.1 (1.6)
3 mos-1 year ago	0.0	5.9 (5.6)	0.0	16.0 (8.9)	4.9 (4.9)	4.0 (4.0)	6.8 (2.2)
1-2 years ago	18.4 (8.8)	5.9 (5.9)	5.3 (5.4)	12.6 (8.5)	13.4 (7.5)	10.3 (5.8)	10.6 (3.2)
2-3 years ago	22.1 (9.9)	6.4 (6.4)	5.3 (5.4)	11.9 (8.1)	18.3 (8.5)	23.0 (7.9)	15.0 (3.5)
3-4 years ago	11.2 (7.6)	17.3 (9.4)	0.0	4.1 (4.2)	11.7 (6.7)	3.7 (3.7)	6.8 (2.3)
4-5 years ago	5.6 (5.6)	4.4 (4.5)	19.3 (10.2)	13.2 (8.9)	8.2 (5.8)	10.6 (6.0)	10.8 (3.4)
> 5 years ago	31.7 (10.6)	43.4 (12.2)	64.7 (11.9)	42.2 (12.1)	43.4 (10.8)	48.3 (9.4)	45.1 (5.0)
Main reason for stopping driving:							
Health	37.1 (11.3)	30.1 (11.5)	31.4 (11.3)	47.5 (12.3)	26.7 (9.2)	32.5 (8.8)	36.5 (4.9)
Not comfortable	18.5 (8.8)	23.6 (10.6)	26.7 (10.7)	12.6 (8.5)	14.9 (8.0)	14.6 (6.9)	17.1 (3.7)
Crash /near crash	5.6 (5.6)	0.0	6.4 (6.4)	0.0	11.7 (6.7)	4.0 (4.0)	3.7 (1.6)
License not renewed	5.5 (5.5)	4.4 (4.5)	0.0	0.0	5.1 (5.0)	0.0	1.8 (1.1)
Costs	5.6 (5.6)	4.4 (4.5)	0.0	6.0 (5.9)	8.4 (5.9)	6.6 (4.7)	5.4 (2.3)
Not safe driver	3.7 (3.8)	8.9 (6.3)	6.4 (6.4)	16.7 (9.2)	13.4 (7.5)	9.0 (5.1)	10.6 (3.3)
Family or friends	0.0	5.9 (5.9)	10.4 (7.4)	0.0	9.8 (6.7)	4.0 (4.0)	3.9 (1.6)
Advice from doctor	5.6 (5.6)	16.7 (9.2)	6.4 (6.4)	10.7 (7.6)	5.1 (5.0)	3.7 (3.7)	8.0 (2.9)
Other	18.4 (8.8)	5.9 (5.9)	12.9 (8.7)	6.6 (6.5)	5.1 (5.0)	25.6 (8.1)	13.0 (3.2)

Table 9 shows responses to driving related questions for those respondents who were still driving. Overall, respondents who were still driving tended to drive frequently: 52% reported driving at least 5-7 days per week, 29% drove 3-4 days per week, and 14% drove 1-2 days per week, with similar results found in each county. Respondents, however, did not tend to drive many miles each year, with about 50% driving less than 5,000 miles per year. Questions from the Driving Habits Questionnaire (Owsley,

Stalvey, Wells, & Sloane, 1999) showed that the large majority of drivers tended to drive no further than distant towns. However, 37% reported to have driven out-of-state in the past 3 months. About one-quarter of respondents had others who were dependent upon them to be a driver. Overall, respondents were very satisfied (68%) with their ability to travel to places that they want to go. About 7%, however, were either somewhat or very dissatisfied with their ability to get to places they want to go.

Table 9: Driving Related Questions

	Alpena n=78	Hillsdale n=80	Huron n=69	Iron n=65	Marquette n=76	Mason n=69	Total n=437
How often do you drive?							
5-7 day/week	43.6 (5.7)	54.9 (5.6)	49.3 (6.1)	50.8 (6.2)	56.6 (5.7)	56.5 (6.0)	51.5 (2.6)
3- 4 days/week	30.8 (5.3)	17.6 (4.3)	31.9 (5.7)	32.3 (5.8)	26.3 (5.1)	30.5 (5.6)	28.9 (2.4)
1-2 days/week	20.5 (4.6)	17.6 (4.3)	5.8 (2.8)	15.4 (4.5)	13.2 (3.9)	10.1 (3.7)	14.3 (1.9)
Few days/month	3.9 (2.2)	7.5 (3.0)	8.7 (3.4)	1.5 (1.5)	2.6 (1.9)	1.5 (1.5)	3.8 (0.9)
≤ 1 day a month	1.3 (1.3)	2.5 (1.8)	2.9 (2.0)	0.0	1.3 (1.3)	1.5 (1.5)	1.3 (0.5)
Don't know	0.0	0.0	1.4 (1.4)	0.0	0.0	0.0	0.2 (0.2)
Average miles/year							
0-2,000	33.3 (5.4)	25.1 (4.9)	26.1 (5.3)	24.6 (5.4)	39.5 (5.6)	23.3 (5.1)	27.6 (2.3)
2,000-4,999	20.5 (4.6)	13.8 (3.9)	17.4 (4.6)	29.2 (5.7)	14.5 (4.1)	17.4 (4.6)	20.7 (2.2)
5,000-9,999	19.2 (4.5)	18.8 (4.4)	27.5 (5.4)	20.0 (5.0)	14.5 (4.1)	21.7 (5.0)	20.3 (2.1)
10,000-14,999	15.4 (4.1)	18.8 (4.4)	15.9 (4.4)	12.3 (4.1)	15.8 (4.2)	21.7 (5.0)	16.0 (1.9)
15,000-19,999	6.4 (2.8)	8.8 (3.2)	4.4 (2.5)	6.2 (3.0)	4.0 (2.3)	4.3 (2.5)	5.9 (1.3)
20,000-24,999	2.6 (1.8)	4.7 (2.3)	1.4 (1.4)	3.1 (2.2)	4.0 (2.3)	4.3 (2.5)	3.3 (0.9)
25,000 or more	2.6 (1.8)	3.8 (2.1)	2.9 (2.0)	3.1 (2.2)	4.0 (2.3)	4.3 (2.5)	3.4 (0.9)
% who have you driven beyond immediate neighborhood in the past 3 months	98.7 (1.3)	98.7 (1.3)	97.1 (2.0)	98.5 (1.5)	94.7 (2.6)	97.1 (2.0)	97.8 (0.7)
% who have you driven to neighboring towns in the past 3 months	67.9 (5.3)	91.2 (3.2)	91.3 (3.4)	87.7 (4.1)	84.2 (4.2)	89.9 (3.7)	85.4 (1.8)
% who have you driven to more distant towns in the past 3 months	47.4 (5.7)	61.1 (5.5)	72.5 (5.4)	55.4 (6.2)	39.5 (5.6)	65.3 (5.8)	56.9 (2.6)
% who have you driven outside the state in the past 3 months	17.9 (4.4)	44.8 (5.6)	15.9 (4.4)	55.4 (6.2)	23.7 (4.9)	40.5 (6.0)	37.2 (2.5)
% who have someone depending on them to drive	32.1 (5.3)	28.8 (5.1)	26.1 (5.3)	20.0 (5.0)	21.1 (4.7)	11.6 (3.9)	22.9 (2.2)

% Overall satisfaction with ability to get to places you want to:	n=103	n=101	n=89	n=84	n=101	n=105	n=583
Very satisfied	78.8 (4.1)	67.5 (4.7)	71.3 (4.9)	54.8 (5.5)	65.6 (4.8)	78.5 (4.0)	67.7 (2.2)
Somewhat sat	16.5 (3.7)	22.2 (4.1)	20.4 (4.3)	35.6 (5.3)	24.3 (4.3)	15.0 (3.4)	24.0 (2.0)
Somewhat dissat	1.7 (1.2)	6.1 (2.4)	6.0 (2.6)	3.6 (2.1)	4.5 (2.0)	1.0 (1.0)	3.6 (0.8)
Very dissatisfied	3.0 (1.7)	2.1 (1.5)	1.1 (1.1)	5.9 (2.6)	4.8 (2.1)	3.5 (1.7)	3.8 (0.9)

Table 10: Subjective Isolation Scale

	Alpena n=103	Hillsdale n=101	Huron n=89	Iron n=84	Marquette n=101	Mason n=105	Total n=583
How often do you feel that you lack companionship?							
Never	69.1 (4.6)	63.4 (4.8)	67.7 (5.0)	67.2 (5.2)	61.8 (4.9)	74.5 (4.3)	67.7 (2.1)
Sometimes	19.2 (3.8)	22.1 (4.2)	22.7 (4.5)	21.8 (4.5)	24.1 (4.3)	21.1 (4.0)	21.6 (1.9)
Often	11.8 (3.2)	12.4 (3.3)	9.6 (3.3)	8.7 (3.0)	12.0 (3.2)	3.4 (1.7)	9.2 (1.3)
How often do you feel left out?							
Never	76.4 (4.2)	70.8 (4.6)	76.5 (4.5)	76.6 (4.7)	68.3 (4.7)	75.5 (4.2)	74.7 (2.0)
Sometimes	18.5 (3.8)	26.1 (4.4)	17.2 (4.0)	19.0 (4.3)	27.9 (4.5)	20.7 (4.0)	20.9 (1.8)
Often	3.0 (1.7)	3.1 (1.8)	5.2 (2.5)	4.5 (2.2)	3.8 (1.9)	2.8 (1.6)	3.8 (0.9)
How often do you feel isolated?							
Never	79.1 (4.0)	81.1 (3.9)	76.6 (4.5)	73.2 (4.9)	72.8 (4.5)	77.6 (4.1)	76.4 (2.0)
Sometimes	16.9 (3.7)	18.9 (3.9)	18.8 (4.2)	24.8 (4.8)	22.4 (4.2)	21.0 (4.0)	21.0 (1.9)
Often	3.0 (1.7)	0.0	2.2 (1.6)	2.0 (1.5)	3.8 (1.9)	1.4 (1.0)	2.0 (0.6)
Subjective Isolation Scale Score (3-9)	3.9 (0.1)	4.0 (0.1)	4.0 (0.2)	4.0 (0.2)	4.1 (0.1)	3.8 (0.1)	3.9 (0.1)

Feelings of isolation were explored through a set of questions addressing subjective social isolation with an established scale (Hughes et al., 2004). This scale consisted of three questions related to isolation in which a respondent answered never, sometimes, or often. An overall score for subjective isolation was derived from combining the answers from these questions, with scores ranging from 3-9. Higher scores indicate higher subjective isolation. The results of these questions are presented in Table 10. As can be seen in this Table, Michigan rural older adults scored relatively low on subjective isolation, with an overall score of 3.9 and little variability among counties. There is, however, a small group of respondents who reported often

feeling that they lacked companionship (9%), that they felt left out (4%), and felt isolated (2%).

The questionnaire also explored rural older adults' use of non-driving modes of transportation in the six counties. Tables 11-17 show these results. Table 11 shows the results for regular bus service use. Note that Iron County did not have regular bus service, so that county is not included in this table. The percentage of respondents reporting that their neighborhood had regular bus service varied widely by county, ranging from 3% (Hillsdale County) to 59% (Marquette County). Of those respondents that reported regular bus service in their neighborhood, most became aware of the service by seeing busses and bus stops (48% overall), followed by print media (15%), and family and friends (9%). Among those who reported being aware of the bus service in their neighborhood, about 20% reported that they had used the service. There was large variation in this percentage by county, ranging from 11% (Alpena County) to 33% (Mason County). Of those who reported having used the service,[2] nearly all reported using the bus less than twice a week. Respondents who had used the bus were nearly all "very" or "somewhat" satisfied with the service. The two most commonly given reasons for liking the bus service was that it went where respondents wanted to go and it was convenient. Few respondents gave a reason for disliking the bus service, but among those that did the top reasons given were that it took too long and was unreliable. Of those who had not used the bus service, more than 80% reported that the reason for not using the service was that they did not need to use it.

[2] Note that questions throughout this report about reason for non-use, frequency, satisfaction, and reasons for liking and disliking the transportation service were only asked of those respondents that reported having used some form of public/community transportation in the past 12 months and were aware of the specific transportation services in their neighborhood. As such, the reported percentages are for this group rather than for all older adults in the six rural Michigan counties. Questions about having used the various transportation services in the past year include all respondents who reported that the service was available in their neighborhood, except for these questions in Tables 49-52 which report use only among those who were screened as being current users of public/community transportation services.

Table 11: Regular Bus Service Use						
	Alpena	**Hillsdale**	**Huron**	**Marquette**	**Mason**	**Total**
Is there regular bus service in your neighborhood?	n=103	n=101	n=89	n=101	n=105	n=499
Yes	21.5 (4.1)	2.8 (1.6)	20.9 (4.2)	59.3 (4.9)	19.1 (3.9)	15.8 (1.2)
No	75.8 (4.3)	96.2 (1.9)	74.4 (4.6)	33.6 (4.8)	78.9 (4.0)	82.0 (1.3)
Don't know	2.7 (1.6)	0.0	3.6 (2.0)	7.2 (2.6)	2.0 (1.4)	2.0 (0.5)
How did you become aware of bus service?	n=22	n=3	n=20	n=60	n=20	n=125
Saw buses/stops	40.6 (10.8)	27.3 (29.8)	41.4 (11.4)	53.7 (6.5)	53.3 (11.5)	48.1 (4.7)
Friends or family	9.3 (6.4)	0.0	21.4 (9.7)	11.0 (4.0)	10.5 (7.2)	8.5 (2.6)
Telephone book	4.7 (4.7)	0.0	0.0	0.0	0.0	1.0 (1.0)
Print media	22.0 (9.0)	72.7 (29.8)	0.0	6.9 (3.4)	0.0	15.0 (3.3)
TV/radio	0.0	0.0	9.3 (6.5)	3.5 (2.4)	10.5 (7.2)	2.8 (1.4)
Organization	9.4 (6.5)	0.0	4.0 (4.0)	4.1 (2.4)	7.3 (5.2)	5.8 (2.1)
Other	14.0 (7.7)	0.0	24.0 (9.7)	20.9 (5.4)	14.8 (8.2)	18.1 (3.5)
Have you used this service?	n=19	n=3	n=18	n=55	n=18	n=113
% Yes	10.9 (14.3)	27.3 (48.0)	15.9 (16.8)	18.4 (10.1)	32.8 (22.0)	19.6 (7.5)
Frequency of regular bus use	n=2	n=1	n=3	n=11	n=6	n=23
3-4 days a week	0.0	100 (0.0)	0.0	10.5 (10.3)	0.0	7.7 (3.8)
1-2 days a week	100 (0.0)	0.0	27.0 (29.6)	31.0 (14.3)	49.4 (22.7)	43.7 (10.3)
A few days a month	0.0	0.0	0.0	31.1 (15.3)	31.5 (20.9)	22.2 (9.1)
Once/month or less	0.0	0.0	73.0 (29.6)	27.5 (14.4)	19.1 (18.6)	26.4 (9.4)
How satisfied are you with bus service?	n=2	n=1	n=3	n=11	n=6	n=23
Very satisfied	100 (0.0)	100 (0.0)	36.5 (34.9)	82.7 (12.0)	80.9 (18.6)	78.6 (8.9)
S/W satisfied	0.0	0.0	63.5 (34.9)	6.8 (7.0)	19.1 (18.6)	17.5 (8.2)
Very dissatisfied	0.0	0.0	0.0	10.5 (10.3)	0.0	3.8 (3.8)
What is the main thing you like about this regular bus service?	n=2	n=1	n=3	n=10	n=6	n=22
Goes where I want	100 (0.0)	100 (0.0)	27.0 (29.6)	38.3 (16.4)	0.0	33.1 (7.1)
Convenient	0.0	0.0	0.0	38.7 (16.4)	31.5 (20.9)	24.4 (9.3)
Reliable/punctual	0.0	0.0	36.5 (34.9)	0.0	0.0	5.1 (5.0)
Pleasant	0.0	0.0	0.0	0.0	17.9 (17.7)	6.4 (6.3)
Other	0.0	0.0	36.5 (34.9)	23.0 (14.8)	50.6 (22.7)	31.0 (10.8)
What is the main thing you dislike about this regular bus service?	n=2	n=1	n=3	n=11	n=6	n=23
Takes too long	50.0 (50.0)	0.0	0.0	0.0	31.5 (20.9)	16.7 (9.2)
Unreliable	0.0	0.0	27.0 (29.6)	0.0	0.0	3.6 (3.7)
Other	50.0 (50.0)	0.0	36.5 (34.9)	93.2 (7.0)	68.5 (20.9)	68.4 (10.7)
Don't know	0.0	0.0	0.0	6.8 (7.0)	0.0	2.5 (2.5)
Refused	0.0	100 (0.0)	36.5 (34.9)	0.0	0.0	8.7 (4.8)
Why haven't you used this regular bus service?	n=20	n=2	n=17	n=49	n=14	n=102

Don't need to	70.5 (10.5)	100 (0.0)	89.1 (7.6)	83.9 (5.3)	87.0 (9.2)	82.4 (3.9)
Too hard to use	5.3 (5.1)	0.0	4.6 (4.7)	4.2 (3.0)	0.0	3.7 (1.9)
Costs too much	5.2 (5.1)	0.0	0.0	0.0	0.0	1.3 (1.3)
Too long wait/ride	5.2 (5.2)	0.0	0.0	2.1 (2.1)	0.0	2.1 (1.5)
Other reason	13.9 (7.8)	0.0	6.3 (6.2)	9.8 (4.2)	7.9 (7.8)	9.6 (3.1)

Table 12 shows respondents' use of senior or retirement community transportation services among those who reported living in a senior or retirement community. No respondents lived in one of these types of communities in Hillsdale County or Iron County. As can seen in the remaining counties, only eight respondents lived in a retirement or senior community and all but three used the transportation services provided by the community. Because of these low numbers, the percentages are not very meaningful.

Table 12: Senior or Retirement Community Transportation

	Alpena n=1	**Huron n=2**	**Marquette n=4**	**Mason n=1**	**Total n=8**
Have you used this service? % Yes	0.0	100 (0.0)	40.3 (50.4)	100 (0.0)	58.5 (23.4)
Frequency of use		n=2	n=2	n=1	n=5
A few days a month		38.0 (47.1)	0.0	100 (0.0)	41.9 (24.3)
Once a month or less		62.0 (47.1)	100 (0.0)	0.0	58.1 (24.3)
How satisfied are you with this service?		n=2	n=2	n=2	n=5
Very satisfied		100 (0.00)	100 (0.00)	100 (0.00)	100 (0.00)
What is the main thing you like about this service?		n=2	n=2	n=1	n=5
Convenient		0.0	0.0	100 (0.0)	22.7 (2.7)
Don't have to ask others		0.0	50.0 (50.0)	0.0	13.4 (13.5)
Other		100 (0.0)	50.0 (50.0)	0.0	63.9 (14.1)
What is the main thing you dislike about this service?		n=2	n=2	n=1	n=5
Other		62.0 (47.1)	100 (0.0)	100 (0.0)	80.8 (21.6)
Refused		38.0 (47.1)	0.0	0.0	19.2 (21.6)

Table 13 shows the use of and experience with senior van and/or dial-a-ride service. As shown in this table, 56% of respondents overall reported that this service was available in their neighborhood, with 5% reporting that they did not know. There was large variability among counties on this question. Of those who knew about the

service, 32% became aware of it through seeing the service in action, 16% found out through some form of printed media, and 16% heard about it from family or friends. Of those who were aware of the service in their neighborhood, about 19% overall had used this service with large differences in use among the counties ranging from about 8% (Huron and Marquette Counties) to 35% (Hillsdale County). Those who had not used the service indicated that they did not need the service (59%), it was too hard to use (10%), or the service took too long (7%). Of those who had used the service, about one-half used it a few days a month or less, while 25% used it 3 times/week or more. Users of the service were overwhelmingly very or somewhat satisfied with it (93%). Users cited convenience (33%), pleasantness (17%), and reliability/punctuality (16%) as the top three reasons for liking the service. Few respondents reported disliking the service, but those that did reported that it took too long and was unreliable.

Table 13: Senior Van and Dial-a-Ride Use

	Alpena	Hillsdale	Huron	Iron	Marquette	Mason	Total
Is there dial-a-ride service in your neighborhood?	n=103	n=101	n=89	n=84	n=101	n=105	n=583
Yes	80.9 (4.0)	42.6 (5.0)	64.5 (5.1)	38.9 (5.4)	67.1 (4.7)	59.7 (4.9)	55.8 (2.2)
No	17.1 (3.8)	52.3 (5.0)	25.2 (4.6)	48.1 (5.5)	25.7 (4.4)	37.3 (4.8)	36.7 (2.2)
Don't know	1.0 (1.0)	3.0 (1.7)	9.1 (3.1)	8.2 (3.0)	7.2 (2.6)	2.0 (1.41)	5.2 (1.1)
How did you become aware of this service?	n=84	n=44	n=57	n=33	n=67	n=63	n=348
Saw vans	38.6 (5.4)	31.0 (7.1)	36.6 (6.5)	21.1 (7.3)	24.5 (5.3)	38.6 (6.3)	32.1 (2.7)
Friends or family	11.6 (3.4)	18.2 (5.9)	10.4 (4.1)	12.4 (5.9)	30.0 (5.7)	12.0 (4.1)	14.7 (2.0)
Telephone book	0.0	0.0	1.7 (1.7)	0.0	0.0	0.0	0.2 (0.2)
Print media	15.8 (4.0)	8.9 (4.3)	10.7 (4.2)	24.9 (7.7)	15.2 (4.5)	13.7 (4.5)	15.8 (2.2)
TV/radio	3.7 (2.1)	4.2 (2.9)	8.7 (3.7)	6.2 (4.3)	3.0 (2.1)	3.3 (2.3)	4.8 (1.3)
Organization	7.5 (2.9)	16.8 (5.8)	1.7 (1.7)	23.9 (7.5)	5.6 (2.8)	3.3 (2.3)	10.1 (1.9)
Other	20.3 (4.5)	18.6 (6.0)	22.9 (5.6)	3.1 (3.1)	15.3 (4.5)	24.5 (5.5)	17.1 (2.0)
Have you used this service?	n=77	n=43	n=55	n=30	n=57	n=62	n=324
% Yes	16.9 (8.1)	34.9 (14.2)	7.5 (7.1)	12.5 (11.7)	7.9 (6.8)	31.4 (11.5)	18.5 (4.3)
Why haven't you used this service?	n=7	n=1	n=2	n=3	n=10	n=0	n=23
Don't need to	44.5 (20.5)	0.0	100 (0.0)	74.5 (28.5)	56.8 (16.8)	0.0	59.4 (11.8)
Don't feel safe	0.0	0.0	0.0	0.0	10.6 (10.5)	0.0	3.1 (3.0)
Too hard to use	30.3 (19.1)	0.0	0.0	0.0	0.0	0.0	9.7 (6.2)
Costs too much	0.0	0.0	0.0	0.0	10.9 (10.8)	0.0	3.1 (3.1)
Too long wait/ride	0.0	0.0	0.0	25.5 (28.5)	0.0	0.0	7.2 (7.5)
Not avail. when needed	0.0	0.0	0.0	0.0	10.9 (10.8)	0.0	3.1 (3.1)
Other reason	25.2 (17.3)	100.0 (0.0)	0.0	0.0	0.0	0.0	11.2 (5.4)
Frequency of use	n=15	n=17	n=4	n=4	n=5	n=21	n=65

5-7 days a week	8.2 (8.1)	0.0	0.0	0.0	0.0	11.6 (7.8)	5.5 (3.1)
3-4 days a week	19.1 (10.5)	12.7 (8.8)	0.0	18.6 (20.2)	38.7 (24.7)	24.2 (9.8)	19.1 (5.3)
1-2 days a week	5.4 (5.5)	33.6 (12.0)	28.7 (27.3)	27.1 (26.5)	0.0	26.3 (9.8)	22.5 (5.9)
A few days a month	16.3 (9.2)	20.2 (10.8)	0.0	27.1 (26.5)	22.7 (22.0)	15.4 (8.5)	17.7 (5.6)
Once a month or less	43.0 (13.6)	33.5 (12.5)	47.6 (28.9)	27.1 (26.5)	38.7 (24.7)	22.6 (9.3)	32.1 (6.5)
Never	8.0 (7.9)	0.0	0.0	0.0	0.0	0.0	1.7 (1.7)
How satisfied are you with this service?	n=14	n=16	n=3	n=4	n=5	n=21	n=63
Very satisfied	73.5 (12.2)	82.7 (9.6)	31.2 (32.2)	45.7 (28.9)	38.0 (24.5)	100 (0.0)	76.8 (5.8)
S/W satisfied	5.9 (6.0)	17.3 (9.6)	68.8 (32.2)	54.3 (28.9)	0.0	0.0	16.0 (5.3)
S/W dissatisfied	20.6 (11.2)	0.0	0.0	0.0	23.4 (22.5)	0.0	5.3 (2.5)
Very dissatisfied	0.0	0.0	0.0	0.0	38.7 (24.7)	0.0	1.9 (1.2)
What is the main thing you like about this service?	n=11	n=16	n=2	n=4	n=2	n=21	n=57
Goes where I want	22.4 (14.3)	10.4 (7.3)	0.0	0.0	0.0	5.4 (5.4)	8.3 (3.6)
Convenient	29.4 (15.0)	17.3 (9.6)	68.8 (32.2)	27.1 (26.5)	0.0	43.5 (11.2)	32.7 (6.9)
Reliable/punctual	0.0	20.2 (10.8)	0.0	0.0	40.3 (48.1)	28.3 (10.3)	16.0 (4.7)
Pleasant	33.3 (14.9)	24.9 (11.3)	0.0	0.0	59.7 (48.1)	11.2 (7.6)	16.9 (4.7)
Don't have to ask others	0.0	0.0	31.2 (32.2)	0.0	0.0	5.8 (5.7)	3.7 (2.6)
Other	14.9 (10.4)	27.2 (11.9)	0.0	72.9 (26.5)	0.0	5.8 (5.7)	22.3 (5.6)
What is the main thing you dislike about this service?	n=14	n=16	n=3	n=4	n=5	n=21	n=63
Takes too long	14.6 (10.1)	5.2 (5.3)	37.6 (35.2)	0.0	0.0	9.6 (6.7)	9.1 (3.7)
Inconvenient	0.0	0.0	0.0	27.1 (28.5)	0.0	0.0	3.9 (3.9)
Unreliable/not punctual	26.6 (12.2)	0.0	0.0	0.0	15.3 (16.2)	5.8 (5.7)	8.0 (3.2)
Expensive	0.0	6.9 (6.9)	0.0	0.0	0.0	0.0	1.5 (1.5)
Unpleasant	8.7 (8.6)	0.0	0.0	0.0	0.0	0.0	1.7 (1.7)
Other	41.3 (13.8)	82.7 (9.6)	31.2 (32.2)	72.9 (26.5)	84.7 (16.2)	48.9 (11.4)	59.2 (6.7)
Don't know	0.0	0.0	0.0	0.0	0.0	20.8 (9.5)	7.1 (3.3)
Refused	8.7 (8.6)	5.2 (5.3)	31.2 (32.2)	0.0	0.0	15.0 (8.3)	9.5 (3.8)

Table 14 shows the use of and experience with volunteer driver programs where volunteers (often older adults themselves) drive people to destinations. As shown in this table, 50% of respondents overall reported that the service was not available and 17% did not know if the service was available in their neighborhood. Most rural older adults found out about the service through senior-related organizations, family or friends, or through print media. Overall, about 10% of respondents who reported that the service was available used this service. Those who had not used the service reported that they did not need the service. Those who had used the service generally used it less than 3 days per week and were very satisfied with it. The top reasons for liking the service was that it went to where people wanted to go and it was pleasant. The top reason for not liking the service was that it was inconvenient.

Table 14: Volunteer Driver Use							
	Alpena	**Hillsdale**	**Huron**	**Iron**	**Marquette**	**Mason**	**All**
Is there a volunteer driver service in your neighborhood?	n=103	n=101	n=89	n=84	n=101	n=105	n=583
Yes	17.5 (3.8)	33.7 (4.7)	34.8 (5.1)	25.0 (4.8)	46.5 (5.0)	38.1 (4.8)	30.6 (2.0)
No	59.2 (4.9)	44.6 (5.0)	39.3 (5.2)	59.5 (5.4)	33.7 (4.7)	46.7 (4.9)	50.3 (2.3)
Don't know	19.4 (3.9)	18.8 (3.9)	24.7 (4.6)	14.3 (3.8)	17.8 (3.8)	11.4 (3.1)	16.7 (1.7)
How did you become aware of this service?	n=18	n=34	n=31	n=21	n=47	n=40	n=191
Are volunteer driver	5.6 (5.6)	2.9 (2.9)	3.2 (3.2)	14.3 (7.8)	4.3 (3.0)	2.5 (2.5)	6.3 (2.2)
Friends or family	33.3 (11.5)	29.4 (7.9)	29.0 (8.3)	23.8 (9.5)	29.8 (6.7)	32.5 (7.5)	29.5 (3.7)
Print media	5.6 (5.6)	11.8 (5.6)	9.7 (5.4)	14.3 (7.8)	17.0 (5.5)	7.5 (4.2)	11.6 (2.6)
TV/radio	0.0	0.0	3.2 (3.2)	4.8 (4.8)	2.1 (2.1)	0.0	1.6 (1.0)
Organization	27.8 (10.9)	41.2 (8.6)	22.6 (7.6)	33.3 (10.5)	36.2 (7.1)	35.0 (7.6)	32.4 (3.8)
Other	22.2 (10.1)	14.7 (6.2)	22.6 (7.6)	4.8 (4.8)	8.5 (4.1)	20.0 (6.4)	14.6 (2.6)
Have you used this service?	n=16	n=25	n=26	n=19	n=41	n=29	n=156
% Yes	0.0	7.5 (10.2)	10.4 (11.5)	9.1 (12.4)	15.3 (10.8)	14.8 (12.4)	10.2 (5.0)
Why haven't you used this service?	n=2	n=9	n=4	n=2	n=6	n=11	n=34
Don't need to	100 (0.0)	77.8 (14.7)	75.0 (25.0)	100 (0.0)	100 (0.0)	81.8 (12.2)	87.0 (5.7)
Don't feel safe	0.0	0.0	25.0 (25.0)	0.0	0.0	0.0	3.2 (3.2)
Too hard to use	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Costs too much	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Too long wait/ride	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not avail. when needed	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other reason	0.0	22.2 (14.7)	0.0	0.0	0.0	18.2 (12.2)	9.8 (4.8)
Frequency of use		n=2	n=3	n=2	n=7	n=5	n=19
5-7 days a week		0.0	0.0	0.0	0.0	0.0	0.0
3-4 days a week		0.0	0.0	0.0	0.0	0.0	0.0
1-2 days a week		50.0 (50.0)	33.3 (33.3)	50.0 (50.0)	14.3 (14.3)	20.0 (20.0)	29.5 (14.9)
A few days a month		0.0	33.3 (33.3)	0.0	28.6 (18.4)	0.0	12.3 (6.7)
Once a month or less		50.0 (50.0)	0.0	0.0	57.1 (20.2)	80.0 (20.0)	40.3 (9.6)
Don't know		0.0	33.3 (33.3)	50.0 (50.0)	0.0	0.0	17.9 (13.8)
How satisfied are you with this service?		n=2	n=2	n=1	n=7	n=5	n=17
Very satisfied		50.0 (50.0)	100 (0.0)	100 (0.0)	100 (0.0)	100 (0.0)	94.9 (5.20)
Somewhat satisfied		50.0 (50.0)	0.0	0.0	0.0	0.0	5.1 (5.20)
What is the main thing you like about this service?		n=2	n=2	n=1	n=7	n=5	n=17
Goes where I want		0.0	0.0	0.0	14.3 (14.3)	80.0 (20.0)	30.1 (8.6)
Convenient		0.0	50.0 (50.0)	0.0	28.6 (18.4)	0.0	13.2 (7.6)
Reliable/punctual		50.0 (50.0)	0.0	0.0	28.6 (18.4)	0.0	11.7 (7.0)
Pleasant		50.0 (50.0)	0.0	0.0	14.3 (14.3)	20.0 (20.0)	20.5 (11.5)
Safe		0.0	50.0 (50.0)	0.0	0.0	0.0	7.8 (7.6)
Other		0.0	0.0	100 (0.0)	14.3 (14.3)	0.0	16.7 (5.0)

What is the main thing you dislike about this service?		n=2	n=2	n=1	n=7	n=5	n=17
Takes too long		0.0	0.0	0.0	0.0	0.0	0.0
Inconvenient		0.0	50.0 (50.0)	0.0	0.0	0.0	7.8 (7.6)
Unreliable/not punctual		0.0	0.0	0.0	0.0	0.0	0.0
Expensive		0.0	0.0	0.0	0.0	0.0	0.0
Unpleasant		0.0	0.0	0.0	0.0	0.0	0.0
Other		0.0	0.0	100 (0.0)	71.4 (18.4)	80.0 (20.0)	58.5 (9.6)
Don't know		50.0 (50.0)	0.0	0.0	14.3 (14.3)	20.0 (20.0)	18.3 (10.7)
Refused		50.0 (50.0)	50.0 (50.0)	0.0	14.3 (14.3)	0.0	15.4 (9.4)

Table 15 shows the use of and experience with taxi services. As shown in this table, reported neighborhood availability was about 30% overall with counties ranging from 2% (Iron County) to 76% (Alpena County). Most people became aware of the service in their neighborhood by seeing the taxis. Of those respondents with taxis in their neighborhood, very few respondents reported that they had used the taxi service (5%), with the highest use in Marquette County (8%). Almost 60% of those who did not use taxis reported that they did not need to, and 26% reported that taxis cost too much. Those that used taxis generally did so only rarely and only 24% usually paid a special senior discount or rate. A large majority of users (73%) reported being very or somewhat satisfied with the taxi service, with a wide range of reasons given for this satisfaction. The main reason for not liking the taxi service was that it was too expensive.

Table 15: Taxi Use

	Alpena	Hillsdale	Huron	Iron	Marquette	Mason	All
Is there a taxi service in your neighborhood?	n=103	n=101	n=89	n=84	n=101	n=105	n=583
Yes	75.8 (4.3)	6.6 (2.4)	3.4 (1.9)	2.4 (1.7)	58.5 (5.0)	52.6 (4.9)	29.4 (1.4)
No	22.1 (4.2)	88.4 (3.2)	92.5 (2.8)	96.4 (2.1)	37.3 (4.9)	39.0 (4.8)	66.8 (1.5)
Don't know	2.0 (1.4)	4.0 (2.0)	3.1 (1.8)	1.2 (1.2)	4.1 (2.0)	6.4 (2.4)	3.2 (0.7)
How did you become aware of this service?	n=79	n=7	n=3	n=2	n=59	n=55	n=205
Saw taxis	46.4 (5.7)	57.7 (20.3)	33.3 (33.3)	100 (0.0)	65.5 (6.2)	59.9 (6.7)	55.9 (3.5)
Friends or family	5.3 (2.4)	0.0	33.3 (33.3)	0.0	4.7 (2.7)	6.7 (3.3)	5.7 (1.6)
Telephone book	4.0 (2.3)	0.0	0.0	0.0	1.2 (1.2)	1.9 (1.9)	2.5 (1.1)
Print media	19.5 (4.6)	0.0	0.0	0.0	13.4 (4.5)	9.1 (3.9)	13.7 (2.4)
TV/radio	8.8 (3.2)	0.0	0.0	0.0	7.0 (3.4)	1.9 (1.9)	5.7 (1.6)
Internet	0.0	15.4 (15.2)	0.0	0.0	0.0	0.0	0.5 (0.5)
Organization	0.0	11.6 (11.9)	0.0	0.0	0.0	0.0	0.4 (0.4)

Other	12.4 (3.7)	15.4 (15.2)	0.0	0.0	5.3 (3.0)	11.5 (4.5)	10.3 (2.2)
Have you used this service?	n=79	n=7	n=3	n=2	n=59	n=55	n=205
% Yes	3.6 (2.1)	0.0	33.3 (33.3)	0.0	8.8 (3.6)	3.4 (2.4)	4.8 (1.4)
Why haven't you used this service?	n=18	n=2	n=0	n=0	n=7	n=16	n=43
Don't need to **Costs too much** **Other reason**	73.8 (10.7) 15.4 (8.6) 10.9 (7.6)	57.1 (49.0) 42.9 (49.0) 0.0			68.0 (19.8) 32.0 (19.7) 0.0	37.7 (12.7) 33.4 (12.6) 28.8 (11.7)	57.2 (7.7) 26.0 (7.1) 16.8 (5.9)
Frequency of use	n=3				n=6	n=2	n=12
3-4 days/week **Few days/month** **≥ 1 month** **Never**	0.0 37.5 (35.4) 62.5 (35.4) 0.0				33.7 (21.7) 0.0 66.3 (21.7) 0.0	0.0 0.0 60.5 (47.8) 39.5 (47.8)	12.6 (8.2) 11.7 (11.5) 67.1 (17.0) 8.5 (8.9)
Do you usually pay?	n=3				n=6	n=1	n=11
Regular rate **Special/Sr. rate**	100.0 (0.0) 0.0				66.9 (21.4) 33.1 (21.4)	100 (0.0) 0.0	75.8 (8.8) 24.2 (8.8)
How satisfied are you with this service?	n=3				n=6	n=1	n=11
Very satisfied **S/W satisfied** **S/W dissatisfied** **Refused**	75.1 (28.1) 24.9 (28.1) 0.0 0.0				13.3 (13.9) 19.8 (19.1) 47.1 (22.7) 19.8 (19.1)	0.0 100 (0.0) 0.0 0.0	41.8 (12.7) 30.8 (12.5) 19.3 (9.1) 8.1 (8.0)
What is the main thing you like about this service?	n=3				n=2	n=1	n=7
Convenient **Reliable/punct.** **Don't ask others** **Other**	0.0 37.5 (35.4) 0.0 62.5 (35.4)				0.0 0.0 59.7 (48.1) 40.3 (48.1)	0.0 0.0 0.0 100 (0.0)	14.6 (1.0) 17.7 (17.2) 11.2 (10.8) 56.5 (19.1)
What is the main thing you dislike about this service?	n=3				n=6	n=1	n=11
Takes too long **Inconvenient** **Expensive** **Other** **Refused**	37.5 (35.4) 0.0 0.0 62.5 (35.4) 0.0				0.0 19.8 (19.1) 60.4 (22.8) 0.0 19.8 (19.1)	0.0 0.0 100 (0.0) 0.0 0.0	12.8 (12.6) 8.1 (8.0) 39.0 (9.1) 32.0 (11.7) 8.1 (8.0)

Table 16 shows use of and experience with travel training and mobility management programs. Travel training programs are designed to give people hands-on experience using public/community transportation services, particularly using fixed-route transit. Only one respondent had participated in a travel training program.

Mobility management programs are designed to help people determine how to meet their mobility needs, particularly through a telephone call with a mobility manager who is familiar with transportation options in the client's community. Only 1% of respondents had used mobility management services.

Table 16: Travel Training and Mobility Management Experience							
Have you…	**Alpena n=103**	**Hillsdale n=101**	**Huron n=89**	**Iron n=84**	**Marquette n=101**	**Mason n=105**	**All n=583**
Participated in travel training program in last year?							
Yes	0.0	0.0	0.0	0.0	0.7 (0.7)	0.0	0.1 (0.1)
No	100 (0.0)	100 (0.0)	97.8 (1.6)	100 (0.0)	98.3 (1.2)	99.0 (1.0)	99.4 (0.3)
Don't know	0.0	0.0	1.1 (1.1)	0.0	0.0	0.0	0.1 (0.1)
Refused	0.0	0.0	1.1 (1.1)	0.0	1.0 (1.0)	1.0 (1.0)	0.4 (0.2)
Used mobility manager services in last year?							
Yes	1.0 (1.00)	1.1 (1.1)	3.4 (1.9)	0.0	3.1 (1.8)	1.0 (1.0)	1.2 (0.4)
No	99.0 (1.00)	98.9 (1.1)	96.6 (1.9)	100 (0.0)	96.2 (1.9)	98.0 (1.4)	98.5 (0.5)
Don't know	0.0	0.0	0.0	0.0	0.7 (0.7)	0.0	0.1 (0.1)
Refused	0.0	0.0	0.0	0.0	0.0	1.0 (1.0)	0.2 (0.2)

Table 17 shows the use of and experience with riding as a passenger. Nearly all respondents (89%) rode as a passenger in an automobile at least some of the time, with 24% riding as a passenger at least 3 days per week. Although, two-thirds of respondents most often drove their own car, 21% reported that they relied on riding as a passenger most often. When respondents rode as a passenger, about 50% of respondents were usually driven by a spouse, 22% were usually driven by a child, and 13% were usually driven by a friend.

Table 17: Riding as a Passenger Use and Experience							
	Alpena n=103	**Hillsdale n=101**	**Huron n=89**	**Iron n=84**	**Marquette n=101**	**Mason n=105**	**All n=583**
How often do you ride as a passenger?							
5-7 day/week	9.0 (2.9)	8.8 (2.8)	11.9 (3.4)	10.1 (3.3)	12.7 (3.3)	18.5 (3.9)	11.7 (1.4)
3- 4 days/week	14.8 (3.5)	6.9 (2.5)	8.6 (3.0)	13.3 (3.8)	21.6 (4.1)	13.5 (3.4)	12.9 (1.5)
1-2 days/week	22.9 (4.2)	18.9 (3.9)	28.3 (4.8)	21.3 (4.5)	23.0 (4.2)	21.8 (4.1)	22.3 (1.9)

Few days/month	15.8 (3.7)	29.2 (4.6)	21.4 (4.4)	21.4 (4.5)	20.2 (4.1)	13.3 (3.3)	20.1 (1.8)
≤ 1 day a month	21.1 (4.1)	18.4 (3.9)	21.0 (4.4)	24.3 (4.8)	15.3 (3.7)	23.3 (4.2)	21.4 (1.9)
Never	14.7 (3.5)	15.0 (3.6)	7.8 (2.9)	8.5 (3.1)	7.2 (2.6)	7.7 (2.6)	10.1 (1.4)
Don't know	1.7 (1.2)	0.8 (0.8)	0.0	0.0	0.0	1.0 (1.0)	0.6 (0.3)
Which do you rely on most often?							
Driving your own car	68.3 (4.6)	67.5 (4.7)	71.5 (4.9)	65.2 (5.2)	66.5 (4.7)	56.1 (4.9)	65.4 (2.2)
Riding as a passenger	20.5 (4.0)	15.8 (3.7)	15.2 (3.8)	23.3 (4.7)	26.5 (4.4)	21.7 (4.1)	20.8 (1.9)
Van/dial-a-ride	4.1 (1.8)	4.9 (2.0)	0.0	2.0 (1.5)	1.1 (1.1)	7.0 (2.4)	3.3 (0.7)
Regular bus	1.0 (1.0)	0.0	0.0	0.0	1.1 (1.1)	1.8 (1.3)	0.6 (0.3)
Volunteer drivers	0.0	0.8 (0.8)	1.3 (1.3)	0.0	0.0	0.0	0.3 (0.2)
Other	6.1 (2.3)	11.0 (3.2)	12.0 (3.6)	8.2 (3.0)	4.9 (2.2)	11.4 (3.0)	8.9 (1.3)
When you are a passenger, who most likely drives?	n=49	n=36	n=44	n=38	n=59	n=55	n=281
Spouse	63.1 (7.0)	54.7 (8.4)	45.7 (7.6)	41.6 (8.1)	42.4 (6.6)	57.3 (6.8)	50.1 (3.3)
Child	14.4 (5.1)	19.2 (6.7)	24.9 (6.6)	26.8 (7.4)	26.9 (5.8)	19.8 (5.3)	22.4 (2.8)
Grandchild	0.0	0.0	0.0	0.0	0.0	2.0 (2.0)	0.4 (0.4)
Other relative	5.8 (3.3)	7.6 (4.3)	11.4 (4.8)	11.1 (5.3)	5.4 (3.1)	0.0	7.0 (1.8)
Friend	8.0 (3.9)	13.4 (5.7)	10.2 (4.5)	13.3 (5.7)	18.0 (5.0)	17.1 (5.2)	13.4 (2.3)
Caretaker/hired help	6.6 (3.3)	0.0	2.8 (2.7)	4.6 (3.3)	0.0	1.9 (1.9)	3.1 (1.2)
Volunteer	0.0	0.0	2.8 (2.7)	0.0	1.8 (1.8)	2.0 (2.0)	1.0 (0.6)
Other	2.2 (2.2)	2.2 (2.2)	0.0	2.7 (2.7)	5.4 (3.1)	0.0	2.0 (1.0)

Table 18 shows questions related to trip purpose. Overall, respondents reported that trips for medical purposes were infrequent, with 90% taking these types of trips a few days per month or less. When respondents did travel to a medical appointment, about two-thirds drove themselves and 18% rode as a passenger. Three percent report taking a senior van or dial-a-ride. Shopping trips were very frequent with 71% of respondents overall reporting that they had taken at least one to two trips per week for this purpose. The modes of transportation most often used for shopping trips was driving themselves (72%), riding as a passenger (19%), and senior van/dial-a-ride (2%). Trips for personal or family business were moderately frequent, with 34% reporting these trips as less than once per month. A small percentage (8%) took these trips frequently (3 times a week or more). Nearly all of these trips were taken as a driver or as a passenger. Trips for social/recreational purposes were moderately frequent, with great variability among the reported frequencies. More than 90% of these trips were taken as a driver or as a passenger. Trips taken for religious purposes were frequent. Overall, 53% of respondents took these trips at least once per week. Another 23% reported that they never took trips for religious purposes. As with the other types of

trips, more than 90% of these trips were taken as a driver or as a passenger. Respondents were also asked about their perceived ability to get around if they could not drive themselves. More than 80% reported that they would be very or somewhat able to get around. There was, however, a small percentage that thought they would have difficulties getting around.

Table 18: Trip Purpose							
	Alpena	**Hillsdale**	**Huron**	**Iron**	**Marquette**	**Mason**	**Total**
How often do you take trips to the doctor/dentist?	n=103	n=101	n=89	n=84	n=101	n=105	n=583
5-7 day/week	1.0 (1.0)	0.0	0.0	0.0	0.0	1.0 (1.0)	0.3 (0.2)
3- 4 days/week	1.0 (1.0)	5.1 (2.2)	2.2 (1.6)	2.4 (1.7)	1.7 (1.2)	0.0	2.1 (0.7)
1-2 days/week	8.1 (2.7)	3.8 (1.9)	7.8 (2.9)	2.5 (1.8)	5.8 (2.3)	8.0 (2.7)	5.5 (1.0)
Few days/month	23.8 (4.2)	21.3 (4.1)	38.3 (5.2)	36.8 (5.3)	23.6 (4.3)	22.5 (4.2)	28.9 (2.1)
≤ 1 day a month	58.4 (4.9)	62.6 (4.9)	47.2 (5.4)	52.4 (5.5)	66.8 (4.7)	63.4 (4.8)	57.5 (2.3)
Never	6.7 (2.5)	1.0 (1.0)	2.5 (1.7)	3.8 (2.1)	2.0 (1.4)	5.2 (2.1)	3.8 (0.9)
Don't know	1.0 (1.0)	2.1 (1.5)	0.8 (0.8)	0.8 (0.8)	0.0	0.0	0.8 (0.4)
Which do you use for trips to the doctor/dentist?	n=95	n=94	n=85	n=79	n=99	n=99	n=551
Driving your own car	72.9 (4.5)	67.2 (4.9)	73.6 (4.9)	66.7 (5.3)	70.0 (4.6)	66.5 (4.7)	68.9 (2.2)
Riding as a passenger	13.2 (3.5)	10.4 (3.2)	13.8 (3.8)	24.6 (4.9)	18.6 (3.9)	16.7 (3.8)	17.5 (1.9)
Van/dial-a-ride	4.4 (2.0)	5.3 (2.1)	1.4 (1.4)	0.9 (0.9)	1.8 (1.3)	4.8 (2.1)	2.9 (0.7)
Regular bus	1.1 (1.1)	0.0	0.9 (0.9)	0.0	1.1 (1.1)	0.7 (0.7)	0.5 (0.3)
Volunteer drivers	0.0	0.8 (0.8)	0.0	0.0	0.0	0.0	0.1 (0.1)
Other	8.4 (2.8)	16.3 (3.9)	10.2 (3.5)	6.6 (2.8)	7.8 (2.7)	11.3 (3.0)	9.6 (1.3)
Don't know	0.0	0.0	0.0	1.3 (1.3)	0.7 (0.7)	0.0	0.5 (0.4)
How often do you take trips to go shopping?	n=103	n=101	n=89	n=84	n=101	n=105	n=583
5-7 day/week	4.0 (2.0)	3.0 (1.7)	1.1 (1.1)	3.6 (2.1)	5.1 (2.2)	2.0 (1.4)	3.2 (0.8)
3- 4 days/week	13.7 (3.4)	12.1 (3.3)	10.1 (3.2)	17.9 (4.2)	11.9 (3.3)	14.1 (3.5)	14.2 (1.7)
1-2 days/week	52.7 (5.0)	50.5 (5.0)	46.8 (5.3)	57.5 (5.4)	58.9 (4.9)	50.9 (4.9)	53.4 (2.3)
Few days/month	14.8 (3.6)	18.8 (3.9)	27.1 (4.7)	11.8 (3.6)	12.7 (3.3)	18.3 (3.8)	16.4 (1.6)
≤ 1 day a month	7.4 (2.6)	10.5 (3.0)	7.4 (2.9)	3.2 (1.9)	7.9 (2.7)	10.0 (2.9)	7.1 (1.1)
Never	6.4 (2.4)	4.0 (2.0)	7.6 (3.0)	5.1 (2.5)	3.5 (1.7)	4.8 (2.1)	5.2 (1.0)
Don't know	0.0	0.0	0.0	0.8 (0.8)	0.0	0.0	0.4 (0.3)
Which do use for trips to go shopping?	n=95	n=96	n=83	n=79	n=97	n=100	n=550

Driving your own car	75.9 (4.3)	74.2 (4.5)	77.4 (4.7)	71.9 (5.1)	71.0 (4.6)	65.2 (4.8)	72.3 (2.1)
Riding as a passenger	15.6 (3.7)	14.0 (3.5)	16.1 (4.1)	22.1 (4.7)	22.5 (4.2)	18.3 (3.9)	18.6 (1.9)
Van/dial-a-ride	2.9 (1.7)	2.8 (1.6)	0.0	0.9 (0.9)	0.0	6.6 (2.5)	2.3 (0.6)
Regular bus	0.0	0.0	0.0	0.0	1.1 (1.1)	1.9 (1.3)	0.4 (0.3)
Volunteer drivers	0.0	0.8 (0.8)	0.0	0.0	0.0	0.0	0.1 (0.1)
Other	5.5 (2.2)	8.3 (2.8)	5.7 (2.5)	3.9 (2.2)	5.4 (2.4)	8.1 (2.5)	5.9 (1.0)
How often do you take trips for family/personal business?	n=103	n=101	n=89	n=84	n=101	n=105	n=583
5-7 day/week	1.0 (1.0)	2.0 (1.4)	0.0	3.6 (2.1)	6.1 (2.4)	1.7 (1.2)	2.5 (0.8)
3- 4 days/week	4.0 (2.0)	6.8 (2.5)	5.6 (2.4)	8.5 (3.1)	5.1 (2.2)	3.0 (1.7)	5.9 (1.1)
1-2 days/week	18.8 (3.9)	13.9 (3.5)	17.0 (4.0)	12.1 (3.6)	18.5 (3.9)	24.2 (4.2)	16.8 (1.7)
Few days/month	29.2 (4.5)	21.1 (4.1)	23.6 (4.5)	24.9 (4.8)	23.6 (4.3)	14.8 (3.6)	23.0 (1.9)
≤ 1 day a month	32.6 (4.7)	36.9 (4.8)	39.3 (5.2)	32.8 (5.2)	30.5 (4.6)	34.9 (4.7)	34.3 (2.2)
Never	12.4 (3.3)	14.1 (3.4)	12.3 (3.6)	14.9 (4.0)	14.1 (3.5)	18.4 (3.7)	14.6 (1.6)
Don't know	0.0	3.2 (1.8)	1.1 (1.1)	2.0 (1.5)	2.0 (1.4)	3.0 (1.7)	1.9 (0.6)
Which do use for trips for family/personal business?	n=88	n=81	n=76	n=69	n=85	n=81	n=480
Driving your own car	65.7 (5.1)	74.8 (4.8)	71.9 (5.2)	67.9 (5.6)	63.5 (5.2)	62.5 (5.4)	67.6 (2.4)
Riding as a passenger	18.5 (4.1)	15.1 (3.9)	12.3 (3.9)	26.2 (5.3)	27.9 (4.8)	24.6 (4.8)	21.5 (2.1)
Van/dial-a-ride	2.0 (1.4)	0.0	0.0	0.0	0.0	4.5 (2.3)	1.1 (0.4)
Regular bus	1.2 (1.2)	0.0	0.0	0.0	1.3 (1.3)	0.0	0.3 (0.2)
Taxi	0.0	0.0	0.0	0.0	1.3 (1.3)	0.0	0.1 (0.1)
Volunteer drivers	0.0	0.0	1.6 (1.6)	0.0	0.0	0.0	0.2 (0.2)
Other	12.6 (3.5)	8.8 (3.2)	13.3 (4.0)	4.4 (2.5)	6.1 (2.7)	7.1 (2.7)	8.2 (1.3)
How often do you take trips for social/recreation activities?	n=103	n=101	n=89	n=84	n=101	n=105	n=583
5-7 day/week	4.0 (2.0)	3.0 (1.7)	1.9 (1.4)	4.8 (2.4)	5.1 (2.2)	4.7 (2.1)	4.1 (0.9)
3- 4 days/week	10.0 (3.0)	10.6 (3.1)	11.4 (3.4)	15.7 (4.0)	14.7 (3.6)	15.8 (3.6)	13.4 (1.6)
1-2 days/week	27.8 (4.5)	27.3 (4.5)	15.6 (3.9)	27.4 (4.9)	27.3 (4.5)	29.2 (4.5)	26.3 (2.0)
Few days/month	22.1 (4.1)	13.1 (3.4)	23.4 (4.5)	21.8 (4.6)	26.0 (4.4)	14.5 (3.5)	20.0 (1.8)
≤ 1 day a month	25.2 (4.3)	17.0 (3.8)	29.6 (4.9)	15.9 (4.0)	13.4 (3.4)	19.0 (3.9)	19.5 (1.8)
Never	9.8 (2.9)	27.0 (4.4)	13.8 (3.7)	8.7 (3.2)	12.5 (3.4)	14.8 (3.4)	13.5 (1.5)
Don't know	1.0 (1.0)	0.0	0.8 (0.8)	2.0 (1.5)	1.0 (1.0)	1.0 (1.0)	1.1 (0.5)
Which do use for trips for social/recreation activities?	n=91	n=71	n=73	n=72	n=88	n=86	n=481

Driving your own car	73.2 (4.6)	77.9 (4.9)	72.2 (5.4)	67.7 (5.5)	72.2 (4.7)	61.4 (5.3)	69.8 (2.3)
Riding as a passenger	17.7 (4.0)	14.8 (4.2)	15.1 (4.3)	23.3 (5.0)	24.6 (4.5)	27.8 (4.9)	21.2 (2.1)
Van/dial-a-ride	1.9 (1.4)	0.0	0.0	0.0	0.0	5.0 (2.2)	1.2 (0.5)
Regular bus	1.1 (1.1)	0.0	0.0	0.0	0.0	0.0	0.2 (0.2)
Volunteer drivers	0.0	0.0	0.0	1.0 (1.0)	0.0	0.0	0.3 (0.3)
Other	6.1 (2.5)	7.2 (3.1)	10.3 (3.7)	5.2 (2.6)	3.2 (1.9)	5.8 (2.4)	6.1 (1.2)
Don't know	0.0	0.0	1.4 (1.4)	1.4 (1.4)	0.0	0.0	0.6 (0.5)
How often do you take trips for school/religious activities?	n=103	n=101	n=89	n=84	n=101	n=105	n=583
5-7 day/week	1.0 (1.0)	1.0 (1.0)	0.0	1.2 (1.2)	2.0 (1.4)	0.7 (0.7)	1.0 (0.5)
3- 4 days/week	3.0 (1.7)	8.1 (2.8)	4.5 (2.2)	4.8 (2.4)	2.0 (1.4)	7.0 (2.6)	5.0 (1.0)
1-2 days/week	51.9 (5.0)	33.0 (4.7)	45.6 (5.3)	52.4 (5.5)	52.4 (5.0)	43.1 (4.9)	47.1 (2.3)
Few days/month	9.0 (2.9)	10.1 (3.0)	12.3 (3.5)	9.7 (3.3)	15.7 (3.7)	6.0 (2.4)	9.9 (1.4)
≤ 1 day a month	11.1 (3.1)	13.5 (3.4)	11.6 (3.5)	10.6 (3.4)	7.2 (2.6)	16.2 (3.6)	11.8 (1.5)
Never	23.9 (4.2)	33.3 (4.7)	21.8 (4.5)	18.0 (4.3)	18.5 (3.9)	26.0 (4.3)	23.0 (1.9)
Don't know	0.0	0.0	1.9 (1.4)	0.8 (0.8)	1.0 (1.0)	0.0	0.6 (0.3)
Which do use for trips for school/religious activities?	n=78	n=66	n=66	n=66	n=80	n=75	n=431
Driving your own car	71.2 (5.1)	79.6 (5.0)	78.5 (5.2)	75.2 (5.3)	73.5 (4.9)	58.9 (5.7)	72.6 (2.3)
Riding as a passenger	20.8 (4.6)	14.4 (4.3)	15.2 (4.5)	16.6 (4.6)	21.7 (4.6)	32.1 (5.5)	20.0 (2.1)
Van/dial-a-ride	2.2 (1.6)	1.2 (1.2)	0.0	0.0	0.0	1.4 (1.4)	0.7 (0.4)
Regular bus	0.0	0.0	1.1 (1.1)	0.0	0.0	0.0	0.1 (0.1)
Volunteer drivers	0.0	0.0	1.8 (1.8)	1.1 (1.1)	0.0	0.0	0.6 (0.4)
Other	5.8 (2.6)	4.9 (2.8)	3.3 (2.3)	6.1 (3.0)	3.5 (2.0)	6.7 (2.7)	5.4 (1.2)
Don't know	0.0	0.0	0.0	0.0	0.0	1.0 (1.0)	0.2 (0.2)
If you were unable to drive yourself/chose not to, how able would you be to get to places you would want to go?	n=79	n=80	n=70	n=67	n=77	n=72	n=445
Very able	55.7 (5.6)	42.6 (5.6)	41.4 (5.9)	35.8 (5.9)	56.1 (5.7)	55.5 (5.9)	45.9 (2.6)
Somewhat able	34.2 (5.4)	31.3 (5.2)	37.1 (5.8)	43.3 (6.1)	24.8 (5.0)	27.7 (5.3)	35.0 (2.5)
Not very able	6.3 (2.8)	18.5 (4.4)	18.6 (4.7)	14.9 (4.4)	13.0 (3.9)	11.2 (3.8)	13.7 (1.8)
Not at all able	3.8 (2.2)	2.5 (1.8)	0.0	6.0 (2.9)	3.5 (2.0)	4.2 (2.4)	3.8 (1.1)
Don't know	0.0	2.5 (1.8)	1.4 (1.4)	0.0	2.6 (1.8)	1.4 (1.4)	1.0 (0.4)

The questionnaire explored whether respondents had received any transportation assistance from an unpaid person in the past year and, if so, what this

assistance entailed. Table 19 shows these results. Overall, only 18% of respondents had received transportation assistance. Of those who had received help, the caregiver was primarily a child (54%), friend (15%), other relative (10%), and spouse (9%). About 62% of these caregivers were women and a large majority were age 69 or younger. Most of these caregivers lived outside of the respondents' homes, lived within 1 hour of the respondent, and had their own vehicle. Caregivers provided a wide range of assistance with transportation assistance being the most frequently reported type of assistance. Of those who provided transportation assistance, all drove the respondent.

Table 19: Care Recipients

	Alpena	Hillsdale	Huron	Iron	Marquette	Mason	All
Has anyone provided transportation assistance/ unpaid care in the last year?	n=103	n=101	n=89	n=84	n=101	n=105	n=583
Yes	17.5 (3.8)	14.7 (3.5)	19.1 (4.2)	22.2 (4.6)	17.8 (3.8)	13.3 (3.4)	18.0 (1.8)
No	81.5 (3.9)	85.5 (3.5)	80.9 (4.2)	77.8 (4.6)	82.2 (3.8)	86.0 (3.4)	81.7 (1.8)
Don't know	0.0	0.0	0.0	0.0	0.0	0.7 (0.7)	0.1 (0.1)
Care recipients	n=18	n=15	n=17	n=19	n=19	n=14	n=102
Relationship of caregiver to care recipient							
Spouse	11.6 (7.9)	12.1 (8.4)	17.5 (9.5)	0.0	21.1 (9.7)	7.5 (7.5)	8.6 (2.4)
Child	59.6 (12.0)	49.4 (13.5)	52.3 (12.6)	50.5 (11.9)	50.1 (11.9)	62.4 (13.7)	53.5 (5.7)
Grandchild	0.0	0.0	0.0	0.0	11.5 (7.8)	0.0	1.2 (0.8)
Other relative	5.7 (5.7)	6.9 (6.9)	0.0	21.8 (9.9)	0.0	0.0	9.7 (3.8)
Friend	5.7 (5.7)	19.0 (10.4)	23.1 (10.6)	16.3 (8.8)	5.7 (5.7)	15.0 (10.1)	14.6 (4.1)
Volunteer	5.9 (5.8)	12.7 (8.8)	0.0	6.0 (6.0)	11.7 (7.9)	0.0	5.8 (2.7)
Other	11.5 (7.9)	0.0	7.1 (7.0)	5.4 (5.4)	0.0	15.0 (10.1)	6.6 (2.8)
% Female caregivers	53.8 (12.2)	44.8 (13.3)	64.9 (12.0)	64.7 (11.3)	61.4 (11.7)	74.5 (11.8)	61.6 (5.4)
Caregivers age							
<50	17.2 (9.3)	26.4 (11.9)	23.1 (10.6)	10.9 (7.5)	40.3 (11.6)	23.1 (12.0)	19.8 (4.1)
50-69	59.7 (12.0)	40.2 (13.2)	47.7 (12.6)	83.7 (8.8)	32.5 (11.2)	61.9 (13.7)	62.2 (4.8)
70+	23.1 (10.4)	19.0 (10.3)	23.4 (10.6)	0.0	21.3 (9.8)	7.5 (7.5)	12.0 (2.8)
Don't know	0.0	14.4 (9.7)	0.0	0.0	5.9 (5.9)	0.0	2.3 (1.3)
% Caregiver lives outside of home	76.9 (10.4)	81.0 (10.3)	78.1 (10.1)	85.4 (8.2)	69.3 (10.9)	72.2 (12.5)	79.3 (4.3)
Distance caregiver lives from care recipient	n=14	n=12	n=13	n=16	n=13	n=10	n=78

20 min or less	57.5 (13.8)	61.0 (14.7)	61.0 (14.2)	80.2 (10.5)	77.9 (12.0)	88.9 (11.0)	72.8 (5.5)
20 min – 1 hour	27.5 (12.4)	21.3 (11.8)	24.0 (12.6)	19.8 (10.5)	8.3 (8.2)	0.0	18.4 (5.1)
1-2 hours	0.0	9.2 (9.1)	7.5 (7.5)	0.0	13.9 (9.7)	11.1 (11.0)	4.6 (2.1)
>2 hours	15.1 (10.2)	0.0	7.5 (7.5)	0.0	0.0	0.0	3.3 (1.8)
Don't know	0.0	8.5 (8.5)	0.0	0.0	0.0	0.0	1.0 (1.0)
% of caregivers helping with:	n=18	n=15	n=17	n=19	n=19	n=14	n=102
Telephone	11.5 (7.9)	6.9 (6.9)	28.9 (11.4)	14.6 (8.2)	11.5 (7.8)	12.8 (9.0)	14.5 (3.9)
Shopping	77.0 (10.3)	25.3 (11.6)	46.2 (12.6)	41.9 (11.7)	55.8 (11.9)	46.3 (13.9)	48.0 (5.5)
Food prep	34.6 (11.7)	26.4 (11.8)	43.0 (12.6)	30.4 (10.9)	13.5 (7.7)	33.6 (13.1)	30.9 (5.2)
Housekeeping	17.3 (9.3)	24.2 (11.2)	34.5 (12.0)	26.7 (10.6)	46.2 (11.9)	48.6 (14.0)	30.7 (5.1)
Laundry	5.9 (5.8)	19.0 (10.3)	24.3 (11.0)	26.7 (10.6)	19.4 (9.2)	28.3 (12.6)	21.7 (4.8)
Transportation	55.9 (12.1)	65.0 (12.9)	82.8 (9.5)	63.6 (11.4)	77.1 (10.3)	61.9 (13.7)	66.2 (5.4)
Medications	23.0 (10.3)	19.0 (10.3)	24.3 (11.0)	22.9 (10.2)	3.9 (3.9)	28.3 (12.6)	21.4 (4.8)
Other	0.0	0.0	5.8 (5.9)	0.0	0.0	5.2 (5.4)	22.2 (4.6)
Of caregivers who provides transportation	n=10	n=10	n=14	n=12	n=15	n=9	n=70
% caregivers providing the following type of transportation assistance:							
Ride in a car	100 (0.0)	100 (0.0)	100 (0.0)	100 (0.0)	100 (0.0)	100 (0.0)	100 (0.0)
Accompany	0.0	0.0	0.0	9.5 (9.4)	7.4 (7.4)	25.1 (16.1)	5.7 (2.8)
Arrange	0.0	0.0	5.2 (5.3)	9.5 (9.4)	12.5 (8.7)	16.9 (12.0)	8.6 (3.4)
Other	0.0	0.0	7.1 (7.1)	0.0	0.0	8.5 (8.7)	2.9 (2.0)
% Caregiver has own vehicle	n=18	n=15	n=17	n=19	n=19	n=14	n=102
	94.3 (5.7)	100 (0.0)	100 (0.0)	100 (0.0)	94.3 (5.7)	85.0 (10.2)	96.6 (1.7)

To better understand responses of Michigan rural older adults, we analyzed results based on factors believed to likely impact responses and to provide insight into recommendations: respondent sex, age, and recent use of public/community transportation.

Men versus Women

The following set of tables shows the results of the survey of rural older adults in the six study counties age 70 years and older by sex. Significantly different means and averages are denoted at the following significance levels: **** ($p < .0001$); *** ($p < .001$); ** ($p < .01$); * ($p < .05$). As shown in Table 20, men were slightly younger than women, more likely to be married and licensed to drive, and had more licensed drivers in their household and vehicles in the household.

Table 20: Demographics by Sex		
	Men n=200	**Women n=383**
Average age * **	77.2 ± 0.8	79.3 ± 0.7
% Married **	n=197	n=381
	73.9 ± 6.9	42.8 ± 5.5
% Live in own home/apartment	n=200	n=383
	96.4 ± 3.3	91.9 ± 3.0
% Lived 5+ yrs in same location	90.2 ± 4.5	90.7 ± 3.1
% Licensed to drive **	91.2 ± 4.0	77.6 ± 4.5
Avg. number of licensed drivers in household**	1.6 ± 0.1	1.2 ± 0.1
Average number of vehicles in household **	1.8 ± 0.1	1.3 ± 0.1
% households with no vehicles **	6.7 ± 3.9	20.7 ± 4.4
Of those not currently licensed - % licensed in past 5 years	n=22	n=95
	57.9 ± 24.4	52.3 ± 11.3
% Work outside home for pay	n=200	n=383
	6.4 ± 3.1	3.5 ± 2.3
Those who work, % full time	n=16	n=11
	31.6 ± 26.3	0.0 ± 0.0
% Volunteer in community	n=200	n=383
	45.2 ± 7.7	37.9 ± 5.4

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 21 shows the self-reported overall health of respondents by sex. Results indicated that rural older men were more likely than women to report being able to walk one-half mile and climb two flights of stairs. Ratings of overall health, however, did not significantly differ between men and women. Women were slightly more likely than men to report having mobility problems that affected driving.

Table 21: Overall Health by Sex		
	Men n=200	**Women n=379**
Ability to walk half a mile *		
% Very able	56.3 ± 7.7	37.0 ± 5.4
% Somewhat able	18.9 ± 6.2	20.0 ± 4.5
% Not very able	7.7 ± 4.3	19.2 ± 4.5
% Not at all able	17.1 ± 5.7	23.8 ± 4.7
Ability to climb 2 flights of stairs **		
Very able	59.6 ± 7.6	37.7 ± 5.4
Somewhat able	22.3 ± 6.5	28.7 ± 5.0
Not very able	10.4 ± 4.9	18.7 ± 4.4
Not at all able	7.7 ± 4.1	14.9 ± 3.9
Overall health		

Excellent	13.4 ± 5.4	11.1 ± 3.4
Very good	33.9 ± 7.3	25.1 ± 4.7
Good	35.5 ± 7.4	36.0 ± 5.3
Fair	11.4 ± 4.2	21.0 ± 5.3
Poor	5.8 ± 4.0	6.8 ± 2.9
% With mobility problems affecting driving *	36.1 ± 7.5	36.7 ± 5.4
% With vision problems affecting driving	11.4 ± 5.0	10.6 ± 3.5
% With memory problems affecting driving	10.0 ± 4.6	8.0 ± 2.7

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 22 shows the results of the driving-related questions by sex for those respondents who were still driving. The results showed that men drove more regularly, frequently, and annual miles than did women. Men also tended to drive farther distances from their home than women and were more likely to have someone who was dependent on them for driving. Men were also more satisfied with their personal mobility when compared to women.

Table 22: Drivers and Driving by Sex

	Men n=200	**Women n=364**
% who drive **		
Regularly	80.1 ± 6.1	55.2 ± 5.6
Occasionally	8.8 ± 4.7	15.2 ± 3.9
Rarely	0.5 ± 0.7	2.2 ± 1.6
Do not drive anymore	10.1 ± 4.2	25.0 ± 4.9
Do not drive but expect to drive in the future	0.5 ± 0.7	2.3 ± 1.9
Those who drive	n=173	n=263
Frequency of driving **		
5-7 days a week	70.2 ± 7.8	38.7 ± 6.5
3-4 days a week	18.9 ± 65.4	35.9 ± 6.4
1-2 days a week	7.9 ± 4.7	18.8 ± 5.2
A few days a month	2.5 ± 3.4	4.7 ± 2.3
Once a month or less	0.4 ± 0.9	1.9 ± 1.5
Average miles per year **		
0-2,000	11.0 ± 5.7	41.0 ± 6.6
2,001-5,000	14.9 ± 6.3	25.9 ± 6.2
5,001-10,000	29.5 ± 7.6	14.7 ± 4.7
10,001-15,000	22.0 ± 6.3	12.5 ± 4.6
15,001-20,000	10.1 ± 4.9	3.1 ± 2.4
20,001-25,000	6.6 ± 3.8	1.1 ± 1.7
Over 25,000	5.8 ± 3.6	1.8 ± 2.0
% who have driven in immediate neighborhood in the past 3 months *	n=173	n=263
	99.6 ± 0.9	96.9 ± 2.2

% who have driven to neighboring towns in the past 3 months * **	93.6 ± 4.0	79.7 ± 5.2
% who have driven to more distant towns in the past 3 months ** **	70.5 ± 7.7	47.8 ± 6.6
% who have outside the state in the past 3 months * **	49.0 ± 8.2	29.0 ± 6.2
% who have someone depending on them to drive *	28.6 ± 7.4	18.8 ± 5.0
Satisfaction with ability to get to places you want to go to *	n=198	n=379
% very satisfied	72.7 ± 7.1	65.9 ± 5.3
% satisfied	21.4 ± 6.6	25.8 ± 5.0
% dissatisfied	4.8 ± 3.8	3.0 ± 1.5
% very dissatisfied	1.2 ± 1.1	5.3 ± 2.8

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 23 shows self-reported data from respondents who were no longer driving by sex. As can seen, there were very few differences between men and women on the last time the respondents drove or the reasons for stopping driving, except that women were significantly more likely than men to cite not being comfortable with driving as the main reason for stopping driving.

Table 23: Questions for Former Drivers by Sex

	Men n=26	**Women n=100**
When was the last time you drove?		
< 3 months ago	6.7 ± 7.9	11.9 ± 7.7
1-2 years ago	11.0 ± 11.7	10.6 ± 7.4
2-3 years ago	9.2 ± 10.7	16.5 ± 8.2
3-4 years ago	9.0 ± 9.7	6.4 ± 5.0
4-5 years ago	10.5 ± 11.2	10.9 ± 15.6
> 5 years ago	53.5 ± 20.7	43.6 ± 10.9
Main reason for stopping driving: % who indicated:		
Health	53.4 ± 21.9	47.3 ± 11.0
Not comfortable*	4.4 ± 6.5	27.6 ± 9.5
Crash /near crash	4.8 ± 5.7	3.9 ± 3.6
License not renewed	11.0 ± 11.7	6.0 ± 5.5
Costs	17.1 ± 18.6	6.3 ± 5.5
Family or friends	6.6 ± 9.6	10.9 ± 7.2
Advice from doctor	17.5 ± 14.8	15.4 ± 8.8
Other	0.0 ± 0.0	0.0 ± 0.0

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 24 shows the Subjective Isolation Scale results by sex. There were no differences between men and women on these results, with respondents reporting little feelings of being isolated.

Table 24: Subjective Isolation Scale by Sex		
	Men n=198	**Women n=378**
How often do you feel that you lack companionship?		
Never	73.3 ± 6.8	66.2 ± 5.3
Sometimes	18.4 ± 6.1	23.8 ± 4.8
Often	8.3 ± 4.1	10.0 ± 3.3
How often do you feel left out?	n=199	n=380
Never	79.6 ± 6.3	72.8 ± 4.9
Sometimes	17.0 ± 5.8	23.2 ± 4.6
Often	3.4 ± 3.2	4.0 ± 2.1
How often do you feel isolated?	n=198	n=381
Never	79.6 ± 6.3	75.4 ± 4.8
Sometimes	20.0 ± 6.3	21.7 ± 4.7
Often	0.3 ± 0.7	2.9 ± 1.8
Subjective Isolation Scale Score (3-9)	3.8 ± 0.2	4.0 ± 0.2

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 25 shows issues related to use of buses by sex. Men and women differed little between responses on these questions, except that women were more likely to report that they had regular bus service in their neighborhood. Note that the questionnaire also explored issues related to the use of senior or retirement community transportation. This type of transportation, however, was only used by eight women and no men so no comparisons by sex could be conducted and these data are not reported.

Table 25: Regular Bus Use by Sex		
	Men	**Women**
Is there regular bus service in your neighborhood? * **	n=199	n=382
Yes	10.9 ± 3.6	18.5 ± 3.4
No	88.8 ± 3.7	78.6 ± 3.7
Don't know	0.3 ± 0.6	0.3 ± 0.6
How did you become aware of bus service?	n=32	n=92

Saw buses/stops	36.8 ± 17.2	52.2 ± 10.7
Friends or family	10.1 ± 9.6	8.0 ± 6.0
Print media	22.5 ± 15.5	12.7 ± 7.0
TV/radio	5.4 ± 7.3	2.0 ± 2.8
Organization	5.8 ± 8.0	5.8 ± 4.9
Other	19.4 ± 14.1	19.2 ± 8.3
Have you used this service in the last 12 months?	n=32	n=81
% Yes	13.7 ± 11.4	21.8 ± 9.2
Why haven't you used this regular bus service?	n=26	n=75
Don't need to	89.2 ± 11.8	81.2 ± 9.0
Too hard to use	3.3 ± 6.4	3.9 ± 4.5
Other reason	7.6 ± 10.2	14.9 ± 8.3
Frequency of regular bus use	n=5	n=18
3-4 days a week	20.6 ± 35.9	4.7 ± 0.9
1-2 days a week	32.8 ± 45.6	46.2 ± 22.6
A few days a month	0.0 ± 0.0	27.3 ± 21.6
Once a month or less	46.7 ± 50.9	21.7 ± 20.5
How satisfied are you with bus service?	n=5	n=18
Very satisfied	60.1 ± 49.5	82.9 ± 19.3
S/W satisfied	19.3 ± 38.1	17.1 ± 19.3
Very dissatisfied	20.6 ± 35.9	0.0 ± 0.0
What is the main thing you like about this regular bus service?	n=4	n=18
Goes where I want	41.2 ± 56.1	31.6 ± 12.6
Convenient	25.9 ± 42.2	24.2 ± 20.6
Other	32.9 ± 56.1	44.2 ± 21.8
What is the main thing you dislike about this regular bus service?	n=4	n=16
Takes too long	0.0 ± 0.0	23.0 ± 25.1
Unreliable/not punctual	22.3 ± 49.2	0.0 ± 0.0
Other	77.7 ± 49.2	77.0 ± 25.1

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 26 shows the results for questions regarding use of senior vans and dial-a-ride services by sex. Of the respondents who had this service in their neighborhood, women were significantly more likely than men to use these types of services (24% versus 9%). All other comparisons were non-significant.

Table 26: Senior Van and Dial-a-Ride Use by Sex		
	Men	**Women**
Is there dial-a-ride service in your neighborhood?	n=195	n=379
Yes	57.2 ± 7.7	57.0 ± 5.4
No	36.8 ± 7.5	37.9 ± 5.4
Don't know	6.0 ± 4.1	5.1 ± 2.5
How did you become aware of this service?	n=111	n=331
Saw vans	32.2 ± 9.5	34.7 ± 6.6
Friends or family	15.6 ± 6.9	15.4 ± 5.1
Print media	13.6 ± 7.3	18.2 ± 5.9
TV/radio	6.2 ± 4.3	4.5 ± 3.4
Organization	11.5 ± 7.3	10.2 ± 4.8
Other	20.9 ± 7.9	16.9 ± 4.7
Have you used this service? **	n=114	n=210
% Yes	8.8 ± 5.8	23.9 ± 5.9
Why haven't you used this service?	n=4	n=16
Don't need to	77.6 ± 19.4	67.0 ± 18.9
Other reason	22.4 ± 19.4	33.0 ± 18.9
Frequency of use	n=10	n=54
5-7 days a week	21.1 ± 26.5	2.3 ± 4.6
3-4 days a week	20.2 ± 22.3	19.2 ± 11.6
1-2 days a week or less	58.8 ± 32.2	78.0 ± 12.3
How satisfied are you with this service?	n=10	n=53
Very satisfied	79.3 ± 22.7	76.3 ± 12.6
S/W satisfied	10.0 ± 18.7	17.3 ± 11.6
S/W dissatisfied	6.5 ± 12.8	5.0 ± 5.3
Very dissatisfied	4.3 ± 8.6	1.4 ± 2.7
What is the main thing you like about this service?	n=8	n=49
Goes where I want	11.2 ± 21.0	7.7 ± 7.6
Convenient	31.7 ± 32.1	32.9 ± 15.0
Reliable/punctual	32.7 ± 32.4	12.6 ± 8.9
Other	24.4 ± 38.6	46.8 ± 15.5
What is the main thing you dislike about this service?	n=9	n=42
Takes too long	11.1 ± 20.8	10.8 ± 9.4
Unreliable/not punctual	28.3 ± 30.6	5.2 ± 5.5
Other	60.6 ± 34.2	83.1 ± 10.6

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 27 shows the use of and experience with volunteer driver services by respondent sex. Of the rural older adults who had this service in their neighborhood, very few rural older adults (about 10%) had used this service and there were no significant differences by sex.

Table 27: Volunteer Driver Use by Sex		
	Men	**Women**
Is there a volunteer driver service in your neighborhood?	n=195	n=373
Yes	35.8 ± 7.3	28.9 ± 4.9
No	49.1 ± 7.8	52.8 ± 5.5
Don't know	15.2 ± 5.4	18.2 ± 4.2
How did you become aware of this service?	n=72	n=112
You're a volunteer driver	6.4± 6.9	6.7 ± 6.1
Friends or family	38.9 ± 12.6	25.2 ± 8.8
Print media	12.7 ± 8.4	11.8 ± 7.1
TV/radio	0.9 ± 1.7	2.2 ± 3.2
Organization	23.0 ± 11.0	40.9 ± 10.1
Other	18.2 ± 9.7	13.2 ± 6.1
Have you used this service?	n=66	n=90
% Yes	9.4 ± 8.2	10.8 ± 6.2
Why haven't you used this service?	n=7	n=23
Don't need to	100 ± 0.0	95.4 ± 8.9
Don't feel safe	0.0 ± 0.0	4.6 ± 8.9
Frequency of use	n=5	n=12
1-2 days a week	49.3 ± 47.8	29.6 ± 21.5
A few days a month	15.8 ± 28.2	14.5 ± 18.8
Once a month or less	35.0 ± 42.6	55.9 ± 27.0
How satisfied are you with this service?	n=5	n=12
Very satisfied	100 ± 0.0	92.5 ± 15.4
S/W satisfied	0.0 ± 0.0	7.5 ± 15.4
What is the main thing you like about this service?	n=5	n=12
Goes where I want	35.0 ± 42.6	36.9 ± 28.3
Pleasant	40.9 ± 47.5	14.4 ± 27.6
Other	24.1 ± 38.6	48.8 ± 34.8
What is the main thing you dislike about this service?	n=1	n=0
Inconvenient	100 ± 0.0	

Table 28 shows use of and experience with taxis by sex. Women respondents were more likely than men to report that taxi services were available in their neighborhood. Of the respondents who had these services in their neighborhood, about 5% of both of men women had used the service but women were overwhelmingly more satisfied with the service. Respondents did not differ by sex on the other questions related to use of taxis.

Table 28: Taxi Use by Sex		
	Men	**Women**
Is there a taxi service in your neighborhood?**	n=199	n=380
Yes	27.7 ± 5.8	30.6 ± 3.9
No	71.9 ± 5.8	64.7 ± 4.1
Don't know	0.4 ± 0.8	4.7 ± 2.1
How did you become aware of this service?	n=58	n=116
Saw taxis	78.5 ± 10.8	60.2 ± 9.1
Friends or family	4.9 ± 5.5	7.7 ± 4.8
Print media	14.0 ± 9.3	17.3 ± 7.0
TV/radio	1.3 ± 2.5	9.5 ± 5.5
Other	1.3 ± 2.6	9.5 ± 5.5
Have you used this service?	n=58	n=116
% Yes	5.1 ± 5.0	5.0 ±3.8
Why haven't you used this service?	n=8	n=28
Don't need to	86.2 ±25.3	63.1 ± 17.8
Costs too much	13.8 ± 25.3	36.9 ± 17.8
Frequency of use	n=4	n=7
More than once a month	42.5 ± 42.5	19.0 ± 32.6
Once a month or less	57.5 ± 42.5	81.0 ± 32.6
Do you usually pay?	n=4	n=7
Regular rate	67.4 ± 19.9	79.9 ± 21.8
Special or senior rate	32.6 ± 19.9	20.1 ± 21.8
How satisfied are you with this service? **	n=3	n=7
Very satisfied or somewhat sat	43.5 ± 30.5	91.9 ± 15.5
S/W dissatisfied	56.5 ± 30.5	8.1 ± 15.5
What is the main thing you like about this service?	n=1	n=2
Convenient	100.0 ± 0.0	0.0 ± 0.0
Reliable/punctual	0.0 ± 0.0	61.3 ± 0.0
Don't have to ask others	0.0 ± 0.0	38.7 ± 0.0
What is the main thing you dislike about this service?	n=2	n=5
Takes too long	0.0 ± 0.0	27.9 ± 9.6
Inconvenient	0.0 ± 0.0	17.6 ± 30.8
Expensive	100.0 ± 0.0	54.6 ± 26.8

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 29 shows the responses to questions regarding riding as a passenger in a personal car by sex. Women rode as a passenger significantly more often than men. For both sexes, the person most likely to be driving when the respondent was riding as a passenger was the spouse. When asked about the second most likely driver, women were more likely to report a child, while men were more likely not to report a second most likely driver of any kind.

Table 29: Riding as a Passenger by Sex		
	Men n=200	**Women n=380**
How often do you ride as a passenger? ****		
5-7 day/week	10.5 ± 4.7	12.6 ± 3.6
3- 4 days/week	7.0 ± 3.9	16.5 ± 4.2
1-2 days/week	15.2 ± 5.5	26.8 ± 5.0
Few days/month	19.4 ± 6.3	20.9 ± 4.5
≤ 1 day a month	29.9 ± 7.1	17.3 ± 4.4
Never	18.0 ± 5.8	5.9 ± 2.5
Which do you rely on most often? ****		
Driving your own car	84.0 ± 5.7	55.9 ± 5.5
Riding as a passenger	6.9 ± 4.2	28.7 ± 5.1
Van/dial-a-ride	2.8 ± 2.6	3.6 ± 1.7
Regular bus	0.3 ± 0.6	0.7 ± 0.8
Volunteer drivers	0.5 ± 0.9	0.2 ± 0.3
Other	5.6 ± 3.2	10.9 ± 3.5
Which do you rely on second-most often? ****		
Driving your own car	2.4 ± 2.6	11.9 ± 3.6
Riding as a passenger	20.0 ± 6.0	22.2 ± 4.4
Van/dial-a-ride/regular bus	1.5 ± 1.6	0.9 ± 0.9
Other	12.1 ± 4.4	23.3 ± 4.5
No other	63.9 ± 7.1	41.6 ± 5.5
When you are a passenger, who most likely drives?	n=66	n=213
Spouse	50.9 ± 13.5	50.3 ± 7.4
Child	22.3 ± 11.6	22.6 ± 6.3
Grandchild/other relative	5.8 ± 7.0	8.0 ± 4.3
Friend	17.6 ± 9.9	12.1 ± 5.0
Other	3.4 ± 3.9	7.0 ± 3.9
Besides the first person, when you are a passenger, who else is likely to drive you? **	n=62	n=203
Spouse	9.7 ± 8.4	0.4 ± 0.8
Child	19.1 ± 11.1	27.2 ± 6.9
Grandchild	1.4 ± 2.7	4.1 ± 2.4
Other relative	10.0 ± 8.8	13.7 ± 5.4
Friend	22.2 ± 11.1	23.0 ± 6.3
No one else	36.6 ± 13.4	30.1 ± 7.2
Other	1.0 ± 2.0	1.6 ± 1.6

Significance levels: **** $p < .0001$; *** $p < .001$; ** $p < .01$; * $p < .05$.

Table 30 shows the results about the frequency and the mode respondents used to travel for trips of various purposes by sex. Men and women did not differ significantly on the frequency with which they took trips for doctors/dentists, shopping, family/personal business, social/recreational activities, or school/religious activities. However, men and women differed significantly on how they traveled for these trip purposes. In all cases, men were more likely to be the driver and women were more likely to be a passenger. Men were also significantly more likely to take trips out of the local community or county when compared to women.

Table 30: Trip Purpose by Sex		
	Men	**Women**
How often do you take trips to the doctor/dentist?	n=199	n=373
3-7 day/week	3.1 ± 2.7	2.1 ± 1.6
1-2 days/week	7.2 ± 3.7	4.8 ± 2.3
Few days/month	31.3 ± 7.3	28.4 ± 5.1
≤ 1 day a month	56.0 ± 7.7	60.2 ± 5.5
Never	2.5 ± 2.5	4.6 ± 2.4
Which do you use for trips to the doctor/dentist? ****	n=194	n=355
Driving your own car	82.1 ± 6.1	61.9 ± 5.6
Riding as a passenger	7.8 ± 4.7	23.1 ± 5.0
Van/dial-a-ride	1.9 ± 1.8	3.5 ± 1.8
Regular bus	0.6 ± 0.8	0.5 ± 0.7
Other	7.5 ± 4.0	11.1 ± 3.4
How often do you take trips to go shopping?	n=199	n=381
5-7 day/week	5.3 ± 3.6	2.0 ± 1.6
3- 4 days/week	16.2 ± 5.7	13.2 ± 4.0
1-2 days/week	54.1 ± 7.7	53.5 ± 5.5
Few days/month	12.5 ± 4.7	18.6 ± 4.2
≤ 1 day a month	8.5 ± 4.2	6.4 ± 2.3
Never	3.4 ± 2.8	6.3 ± 2.8
Which do use for trips to go shopping? ****	n=192	n=356
Driving your own car	88.4 ± 5.0	63.7 ± 5.5
Riding as a passenger	6.9 ± 4.0	25.3 ± 5.1
Van/dial-a-ride	1.5 ± 1.7	2.7 ± 1.7
Regular bus	0.3 ± 0.6	0.5 ± 0.7
Other	2.9 ± 2.6	25.3 ± 5.1
How often do you take trips for family/personal business?	n=198	n=368

5-7 day/week	3.0 ± 2.6	2.3 ± 1.9
3- 4 days/week	7.7 ± 4.2	5.1 ± 2.7
1-2 days/week	20.1 ± 6.0	15.7 ± 4.0
Few days/month	25.0 ± 6.7	23.0 ± 4.8
≤ 1 day a month	30.1 ± 7.1	38.3 ± 5.5
Never	14.0 ± 5.6	15.6 ± 4.1
Which do use for trips for family/personal business? ****	n=172	n=304
Driving your own car	87.9 ± 5.4	56.8 ± 6.1
Riding as a passenger	6.5 ± 4.2	30.6 ± 5.8
Van/dial-a-ride	1.2 ± 1.6	1.0 ± 1.0
Regular bus	0.4 ± 0.7	0.3 ± 0.6
Other	4.1 ± 3.2	11.2 ± 3.6
How often do you take trips for social/recreation activities?	n=198	n=370
5-7 day/week	6.3 ± 3.7	3.1 ± 2.1
3- 4 days/week	15.9 ± 5.8	12.8 ± 3.8
1-2 days/week	27.8 ± 6.6	26.8 ± 5.1
Few days/month	22.3 ± 6.8	19.7 ± 4.4
≤ 1 day a month	19.0 ± 5.7	20.8 ± 4.5
Never	8.7 ± 4.5	16.9 ± 3.9
Which do use for trips for social/recreation activities? ****	n=180	n=297
Driving your own car	88.2 ± 5.2	59.9 ± 6.2
Riding as a passenger	7.2 ± 4.3	30.2 ± 5.8
Van/dial-a-ride/regular bus	0.5 ± 1.0	1.9 ± 1.4
Other	4.1 ± 3.1	8.0 ± 3.3
How often do you take trips for school/religious activities?	n=199	n=373
5-7 day/week	1.8 ± 2.3	0.6 ± 0.7
3- 4 days/week	6.3 ± 3.8	4.5 ± 2.3
1-2 days/week	44.1 ± 7.7	50.3 ± 5.6
Few days/month	11.0 ± 4.9	9.7 ± 3.2
≤ 1 day a month	14.2 ± 5.5	10.9 ± 3.4
Never	22.6 ± 6.3	24.0 ± 4.7
Which do use for trips for school/religious activities? ****	n=151	n=275
Driving your own car	88.4 ± 5.7	64.3 ± 6.2
Riding as a passenger	5.4 ± 4.3	28.4 ± 5.8
Van/dial-a-ride/regular bus	1.0 ± 1.4	0.8 ± 1.0
Other	5.3 ± 3.8	6.4 ± 3.4
How often do you take trips out of your local community? ***	n=199	n=373

5-7 day/week	4.9 ± 2.8	2.3 ± 1.8
3- 4 days/week	8.3 ± 4.7	3.5 ± 1.9
1-2 days/week	19.3 ± 5.6	10.7 ± 3.2
Few days/month	27.0 ± 6.9	27.4 ± 5.1
≤ 1 day a month	35.4 ± 7.4	43.7 ± 5.6
Never	5.1 ± 3.1	12.4 ± 3.5
How often do you take trips out of your county? *	n=120	n= 160
5-7 day/week	5.2 ± 3.8	4.1 ± 3.9
3- 4 days/week	9.4 ± 6.7	3.1 ± 3.2
1-2 days/week	21.6 ± 8.4	18.4 ± 6.5
Few days/month	43.8 ± 9.8	36.8 ± 8.3
≤ 1 day a month	17.9 ± 7.4	30.8 ± 8.0
Never	2.1 ± 2.4	6.8 ± 3.9

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 31 shows data about issues related to the care that respondents were receiving by sex. There were few differences between men and women for these questions except that for those who received care, men were more likely than women to receive this care from a friend, while women were more likely to receive care from a child. Men were more likely than women to require help with using the telephone, while women were more likely than men to need help with shopping.

Table 31: Care Recipients by Sex

	Men	**Women**
Has anyone provided transportation assistance or unpaid care to you in the last 12 months?	n=200	n=381
Yes	17.0 ± 6.1	18.6 ± 4.3
No	83.0 ± 6.1	81.4 ± 4.3
Care recipients	n=30	n=72
Relationship of caregiver to care recipient *		
Spouse	7.6 ± 7.6	9.1 ± 6.3
Child	37.2 ± 19.8	61.7 ± 12.9
Other relative	20.4 ± 18.0	6.1 ± 6.8
Friend	26.5 ± 17.9	8.7 ± 7.6
Other	8.3 ± 9.2	14.4 ± 10.0
% Female caregivers	65.5 ± 19.6	61.7 ± 12.9
Caregivers age		
<50	10.7 ± 10.1	26.1 ± 11.5
50-69	80.5 ± 12.7	59.3 ± 12.5
70+	8.9 ± 8.8	14.6 ± 7.9
% Caregiver lives outside of home	75.1 ± 17.6	82.6 ± 8.8

Distance caregiver lives from care recipient	n=21	n=56
20 min or less	78.6 ± 19.2	71.3 ± 13.4
20 min or more	21.4 ± 19.2	28.7 ± 13.4
% Caregiver has own vehicle	n=30	n=71
	97.3 ± 5.2	97.7 ± 3.3
% of caregivers helping with:	n=30	n=71
Telephone *	26.3 ± 17.9	8.7 ± 6.6
Shopping *	30.3 ± 19.0	56.9 ± 12.8
Food prep	30.6 ± 18.5	31.1 ± 12.3
Housekeeping	29.8 ± 18.1	31.1 ± 12.0
Laundry	24.9 ± 17.6	20.0 ± 11.0
Transportation	62.0 ± 19.9	68.3 ± 12.4
Medications	20.7 ± 17.1	21.7 ± 11.3
Other	2.3 ± 4.5	1.0 ± 2.0
Caregiver provides transportation	n=19	n=51
% caregivers providing the following type of transportation assistance:		
Ride in a car	100 ± 0.0	100 ± 0.0
Accompany	0.0 ± 0.0	10.5 ± 10.9
Arrange	3.2 ± 6.3	9.7 ± 10.4
Other	3.7 ± 7.2	1.5 ± 2.9

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Respondent Age Group

This next set of tables show the results of the survey of rural older adults in the six study counties by two age groups: age 70-79 and age 80 and older. Table 32 compares respondent demographics. There were several demographic differences between the two age groups. As can be seen, respondents in the younger age group were more likely to be married, more likely to be licensed to drive, and to have more drivers and vehicles in the household.

Table 32: Demographics by Age Group		
	Age 70-79 n=343	**Age 80+ n=240**
Average age ****	74.2 ± 0.3	85.1 ± 0.5
% Married ****	65.5 ± 5.6	36.8 ± 6.9
% Live in own home/apartment	93.9 ± 3.2	92.9 ± 3.0
% Lived 5+ yrs in same location	92.5 ± 3.1	87.6 ± 4.3
% Licensed to drive ****	89.0 ± 3.5	72.9 ± 6.0
Avg. number of licensed drivers in household ****	1.6 ± 0.1	1.1 ± 0.1
Average number of vehicles in household ****	1.7 ± 0.1	1.1 ± 0.2
% households with no vehicles ****	10.0 ± 3.5	24.1 ± 5.9
Of those not currently licensed - % licensed in past 5 years	n=42	n=75
	55.3 ± 16.4	52.0 ± 12.9
% Work outside home for pay	n=343	n=240
	5.1 ± 2.5	3.8 ± 2.6
Those who work, % full time	n=18	n=9
	13.6 ± 15.5	20.0 ± 27.1
% Volunteer in community	n=343	n=240
	44.0 ± 5.8	35.3 ± 6.9

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 33, shows the self-reported health by age group. As expected, respondents in the younger age group reported being in significantly better health overall, as well as greater ability to walk one-half mile and climb two flights of stairs. Respondents in the older age group were significantly more likely to report having mobility or memory problems that affected their driving.

Table 33: Overall Health by Age Group		
	70-79 n=340	**80+ n=239**
Ability to walk half one-half mile ****		
% Very able	55.1 ± 5.8	27.6 ± 6.3
% Somewhat able	18.4 ± 4.7	21.2 ± 5.7
% Not very able	12.4 ± 3.9	19.2 ± 5.7
% Not at all able	14.1 ± 3.8	32.0 ± 6.7
Ability to climb 2 flights of stairs ****		
Very able	53.3 ± 5.8	33.9 ± 6.7
Somewhat able	23.4 ± 4.9	30.9 ± 6.7
Not very able	15.5 ± 4.4	16.0 ± 5.1
Not at all able	7.7 ± 2.8	19.2 ± 5.7
Overall health *		
Excellent	14.7 ± 4.1	7.8 ± 3.7
Very good	30.9 ± 5.4	24.3 ± 5.9
Good	34.3 ± 5.5	38.0 ± 7.0
Fair	14.5 ± 4.1	22.2 ± 6.0
Poor	5.6 ± 2.8	7.7 ± 4.0
% With mobility problems affecting driving **	30.6 ± 5.4	44.9 ± 7.1
% With vision problems affecting driving	8.7 ± 3.3	14.2 ± 5.0
% With memory problems affecting driving *	6.6 ± 2.8	11.6 ± 4.2

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 34 shows the responses to driving-related questions by age group. Overall, respondents in the younger age group drove more frequently and more miles per year, traveled further away from home, and were more satisfied with their ability to get to the places that they wanted to go.

Table 34: Driving by Age Group		
	70-79 n=336	**80+ n=228**
% who drive ****		
Regularly	77.0 ± 4.8	45.4 ± 7.2
Occasionally	9.4 ± 3.0	18.1 ± 5.8
Rarely	0.9 ± 0.9	2.7 ± 2.4
Do not drive anymore	10.2 ± 3.5	33.4 ± 6.7
Do not drive but expect to drive in the future	2.5 ± 2.0	0.4 ± 0.9
Those who drive	n=292	n=144
Frequency of driving ***		
5-7 days a week	57.1 ± 6.2	40.8 ± 8.9
3-4 days a week	29.1 ± 5.8	28.7 ± 8.3
1-2 days a week	9.6 ± 3.5	23.5 ± 8.0
A few days a month	3.0 ± 1.8	5.3 ± 3.9
Once a month or less	1.1 ± 1.1	1.7 ± 2.0
Average miles per year ****		
0-2,000	20.7 ± 4.8	43.6 ± 9.3
2,001-5,000	22.0 ± 5.5	19.9 ± 7.4
5,001-10,000	22.0 ± 5.2	18.7 ± 7.3
10,001-15,000	19.3 ± 4.8	11.0 ± 5.9
15,001-20,000	7.5 ± 3.5	3.2 ± 2.7
20,001-25,000	4.9 ± 2.8	0.4 ± 0.8
Over 25,000	3.6 ± 2.3	3.1 ± 3.4
% who have driven in immediate neighborhood in the past 3 months	98.5 ± 1.6	97.0 ± 2.4
% who have driven to neighboring towns in the past 3 months ***	90.2 ± 3.3	76.0 ± 7.9
% who have driven to more distant towns in the past 3 months ****	66.9 ± 5.9	38.1 ± 8.9
% who have outside the state in the past 3 months ****	45.2 ± 6.1	21.6 ± 8.1
% who have someone depending on them to drive	23.9 ± 5.3	20.7 ± 7.1
Satisfaction with ability to get to places you want to go to ***	n=341	n=236
% very satisfied	76.0 ± 5.1	57.0 ± 7.1
% satisfied	17.6 ± 4.7	34.0 ± 6.9
% dissatisfied	3.3 ± 2.2	4.1 ± 2.7
% very dissatisfied	3.1 ± 2.0	4.9 ± 3.6

Significance levels: **** $p < .0001$; *** $p < .001$; ** $p < .01$; * $p < .05$.

Table 35 shows responses to questions asked of respondents who no longer drove by age group. There were no age group differences in the responses to when respondents last drove. Respondents in the younger age group were, however, more likely to have given up driving for health reasons when compared to drivers in the older age group.

Table 35: Questions for Former Driver by Age Group		
	70-79 n=43	**80+ n=83**
When was the last time you drove?		
3 months-1 year ago	11.4 ± 11.5	10.7 ± 7.7
1-2 years ago	10.3 ± 11.0	10.9 ± 7.9
2-3 years ago	12.2 ± 11.4	16.8 ± 8.8
3-4 years ago	9.0 ± 8.8	5.7 ± 4.7
4-5 years ago	8.4 ± 8.2	12.2 ± 9.1
> 5 years ago	48.7 ± 16.8	43.6 ± 12.0
Main reason for stopping driving: % who indicated:		
Health **	66.7 ± 15.9	38.3 ± 11.9
Not comfortable	14.8 ± 10.0	28.3 ± 10.9
Crash/near crash	0.0 ± 0.0	6.2 ± 4.9
License not renewed	11.7 ± 11.7	4.3 ± 3.8
Costs	13.5 ± 13.6	5.3 ± 4.6
Family or friends	8.9 ± 9.8	10.8 ± 8.0
Advice from doctor	13.0 ± 11.7	17.3 ± 9.9

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 36 shows respondents' feelings of social isolation by age group. Respondents in the older age group were significantly more likely to report that they lacked companionship and felt left out. Not surprisingly, respondents in the older age group also had a significantly higher Subjective Isolation Scale score, when compared to those under age 80.

Table 36: Subjective Isolation Scale by Age Group		
	70-79 n=339	**80+ n=237**
How often do you feel that you lack companionship? ****		
Never	78.0 ± 4.7	55.1 ± 7.1
Sometimes	15.5 ± 4.2	31.3 ± 6.6
Often	6.5 ± 2.6	13.6 ± 4.9
How often do you feel left out? *	n=342	n=237
Never	79.8 ± 4.6	68.4 ± 6.6
Sometimes	17.4 ± 4.3	26.4 ± 6.2
Often	2.8 ± 2.0	5.2 ± 3.2
How often do you feel isolated?	n=342	n=237
Never	79.0 ± 4.8	73.7 ± 6.4
Sometimes	19.3 ± 4.6	23.9 ± 6.2
Often	1.8 ± 1.4	2.4 ± 2.2
Subjective Isolation Scale Score (3-9) ***	3.7 ± 0.1	4.2 ± 0.1

Significance levels: **** $p < .0001$; *** $p < .001$; ** $p < .01$; * $p < .05$.

Table 37 shows issues related to the use of buses by age group. Although few people in either age group used the bus, there were no differences between age groups on these questions. Note also that a similar set of questions was asked about respondents' use of senior or retirement community transportation services. Only eight respondents reported using these types of services and only two were in the younger age group. Therefore, there were too few respondents for meaningful statistical analysis.

Table 37: Regular Bus Use by Age Group		
	70-79	**80+**
Is there regular bus service in your neighborhood?	n=342	n=239
Yes	13.6 ± 3.1	19.1 ± 4.4
No	85.0 ± 3.2	78.1 ± 4.7
Don't Know	1.4 ± 1.0	2.8 ± 1.9
How did you become aware of bus service?	n=63	n=61
Saw buses/stops	47.8 ± 12.9	49.2 ± 13.1
Friends or family	11.8 ± 8.6	5.1 ± 4.9
Print media	16.3 ± 9.6	13.8 ± 8.9
TV/radio	4.3 ± 4.8	1.3 ± 2.6
Organization	4.9 ± 5.6	6.9 ± 6.3
Other	15.0 ± 9.3	23.8 ± 10.9
Have you used this service in the last 12 months?	n=58	n=55
% Yes	13.0 ± 9.3	26.6 ± 12.0
Why haven't you used this regular bus service?	n=56	n=45
Don't need to	89.2 ± 7.8	75.9 ± 13.2
Too hard to use	3.0 ± 4.1	4.6 ± 6.5
Too long wait/ride	1.5 ± 2.9	2.8 ± 5.4
Other reason	6.3 ± 6.3	16.7 ± 11.7
Frequency of regular bus use	n=7	n=16
1-4 days a week	36.9 ± 37.7	59.0 ± 25.5
A few days a month	19.0 ± 34.7	23.9 ± 21.4
Once a month or less	44.1 ± 40.4	17.1 ± 19.0
How satisfied are you with bus service?	n=7	n=16
Very satisfied	100 ± 0.0	67.4 ± 23.5
S/W satisfied	0.0 ± 0.0	26.7 ± 21.7
Very dissatisfied	0.0 ± 0.0	5.9 ± 11.5
What is the main thing you like about this regular bus service?	n=7	n=15
Goes where I want	24.5 ± 31.2	37.9 ± 24.3
Convenient	19.0 ± 34.7	27.5 ± 22.1
Other	56.5 ± 40.6	34.6 ± 26.2
What is the main thing you dislike about this regular bus service?	n=6	n=14
Takes too long	13.4 ± 22.7	21.8 ± 25.6
Other	86.6 ± 22.7	78.2 ± 25.6

Significance levels: **** $p < .0001$; *** $p < .001$; ** $p < .01$; * $p < .05$.

Table 38 shows responses related to the use of senior van and dial-a-ride services by age group. Respondents did not differ on responses to these questions.

Table 38: Senior and Dial-a-Ride Use by Age Group		
	70-79	**80+**
Is there dial-a-ride service in your neighborhood?	n=337	n=237
Yes	58.4 ± 5.7	55.3 ± 7.0
No	35.9 ± 5.6	39.8 ± 7.0
Don't know	5.7 ± 2.8	4.9 ± 3.4
How did you become aware of this service?	n=200	n=131
Saw vans	32.1 ± 6.7	36.8 ± 9.1
Friends or family	18.0 ± 5.8	11.5 ± 5.1
Print media	16.4 ± 6.0	17.0 ± 7.2
TV/radio	5.4 ± 3.4	4.6 ± 4.4
Organization	9.4 ± 4.8	12.6 ± 7.1
Other	18.7 ± 5.5	30.1 ± 8.8
Have you used this service?	n=200	n=124
% Yes	16.3 ± 5.6	22.1 ± 7.1
Why haven't you used this service?	n=7	n=15
Don't need to	53.4 ± 38.0	64.8 ± 22.2
Other reason	46.6 ± 38.0	35.2 ± 22.2
Frequency of use	n=32	n=32
3-7 days a week	23.9 ± 14.5	26.5 ± 16.4
1-2 days a week	18.6 ± 16.1	28.2 ± 16.4
A few days a month	20.7 ± 17.1	14.4 ± 12.1
Once a month or less/never	36.9 ± 19.0	30.9 ± 16.9
How satisfied are you with this service?	n=31	n=32
Very satisfied	78.6 ± 16.7	74.7 ± 13.9
S/W satisfied	16.1 ± 15.6	15.8 ± 11.6
S/W dissatisfied	3.2 ± 6.1	7.8 ± 8.6
Very dissatisfied	2.1 ± 4.1	1.7 ± 3.3
What is the main thing you like about this service?	n=29	n=28
Goes where I want	12.5 ± 11.6	2.8 ± 5.6
Convenient	40.0 ± 20.5	23.4 ± 16.2
Reliable/punctual	17.5 ± 13.0	14.1 ± 13.4
Other	29.9 ± 19.2	59.7 ± 18.8
What is the main thing you dislike about this service?	n=26	n=25
Takes too long	13.1 ± 12.5	8.9 ± 12.0
Unreliable/not punctual	8.0 ± 10.8	12.9 ± 11.8
Other	79.0 ± 15.2	78.2 ± 15.4

Table 39 shows responses to questions about the use of volunteer driver services by age group. Of those who reported that there was a volunteer driver service in their neighborhood, respondents in the 80 and older age group were significantly

more likely to report having used this service than respondents in the 70-79 age group (19% versus 6%). Respondents did not differ on the rest of these issues.

Table 39: Volunteer Driver Use by Age Group		
	70-79	**80+**
Is there a volunteer driver service in your neighborhood?	n=332	n=236
Yes	33.9 ± 5.5	27.7 ± 6.1
No	50.1 ± 5.9	53.6 ± 7.0
Don't know	16.1 ± 4.2	18.7 ± 5.3
How did you become aware of this service?	n=115	n=69
You're a volunteer driver	7.6 ± 6.0	4.7 ± 7.0
Friends or family	31.0 ± 9.3	30.1 ± 12.3
Print media	14.3 ± 7.4	8.3 ± 6.4
TV/radio	0.6 ± 1.1	3.6 ± 5.2
Organization	31.3 ± 9.2	38.1 ± 13.0
Other	15.3 ± 7.0	15.1 ± 8.4
Have you used this service?*	n=97	n=59
% Yes	5.7 ± 5.5	18.8 ± 9.7
Why haven't you used this service?	n=18	n=12
Don't need to	94.2 ± 11.3	100.0 ± 0.0
Don't feel safe	5.8 ± 11.3	0.0 ± 0.0
Frequency of use	n=4	n=13
1-2 days a week	0.0 ± 0.0	49.0 ± 25.8
A few days a month	0.0 ± 0.0	20.4 ± 22.8
Once a month or less	100.0 ± 0.0	30.6 ± 22.1
How satisfied are you with this service?	n=4	n=13
Very satisfied	100.0 ± 0.0	93.1 ± 12.8
S/W satisfied	0.0 ± 0.0	6.9 ± 12.8
What is the main thing you like about this service?	n=4	n=11
Goes where I want	72.6 ± 42.4	18.9 ± 25.0
Other	27.5 ± 42.4	81.1 ± 25.0
What is the main thing you dislike about this service?	n=0	n=1
Inconvenient	0.0 ± 0.0	100.0 ± 0.0

Table 40 shows respondents' use of taxis by age group. Of the respondents who had this service in their neighborhood, respondents in the older age group were significantly more likely to report that they had used taxis (9%) than those in the

younger age group (2%). Responses did not differ by age group on the rest of these questions.

Table 40: Taxi use by Age Group		
	70-79	**80+**
Is there a taxi service in your neighborhood?	n=333	n=225
Yes	30.1 ± 4.1	31.3 ± 5.6
No	69.9 ± 4.1	68.7 ± 5.6
How did you become aware of this service?	n=106	n=68
Saw taxis	68.0 ± 9.1	63.7 ± 11.2
Friends or family	5.3 ± 4.3	9.1 ± 6.7
Telephone book	2.7 ± 3.2	3.4 ± 4.6
Print media	14.5 ± 6.9	18.9 ± 9.4
TV/radio	8.6 ± 5.4	3.9 ± 4.5
Other	0.9 ± 1.9	1.1 ± 2.2
Have you used this service? **	n=120	n=85
% Yes	1.7 ± 1.96	9.3± 6.1
Why haven't you used this service?	n=20	n=16
Don't need to	60.7 ± 23.0	80.2 ± 21.2
Costs too much	39.3 ± 23.0	19.8 ± 21.2
Frequency of use	n=3	n=9
3-4 days a week	0.0 ± 0.0	16.0 ± 19.7
A few days a month	0.0 ± 0.0	14.9 ± 29.0
Once a month or less	59.4 ± 56.4	69.2 ± 34.5
Never	40.6 ± 56.4	0.0 ± 0.0
Do you usually pay?	n=2	n=9
Regular rate	100 ± 0.0	72.0 ± 18.0
Special or senior rate	0.0 ± 0.0	28.0 ± 18.0
How satisfied are you with this service?	n=1	n=9
Very satisfied	0.0 ± 0.0	48.3 ± 28.6
S/W satisfied	0.0 ± 0.0	35.7 ± 28.3
S/W dissatisfied	100 ± 0.0	16.0 ± 18.9
What is the main thing you like about this service?	n=0	n=7
Convenient		14.6 ± 2.0
Reliable/punctual		17.7 ± 33.7
Don't have to ask others		11.2 ± 21.1
Other		56.5 ± 37.5
What is the main thing you dislike about this service?	n=1	n=9
Takes too long	0.0 ± 0.0	14.9 ± 28.5
Inconvenient	0.0 ± 0.0	9.4 ± 17.8
Expensive	100 ± 0.0	38.8 ± 17.1
Other	0.0 ± 0.0	37.0 ± 27.3

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 41 shows the information related to riding as a passenger in a private vehicle. Respondents in the oldest age group were less likely to report that they drove their own car and more likely to report they rode as a passenger, when compared to respondents in the older age group. When riding as a passenger, younger respondents were more likely to report being driven by a spouse than older respondents. In addition, older respondents were more likely to report being driven by a child than respondents in the younger age group.

Table 41: Riding as a Passenger by Age Group		
	70-79 n=340	**80+ n=234**
How often do you ride as a passenger?		
5-7 day/week	12.4 ± 3.4	11.1 ± 4.9
3- 4 days/week	10.7 ± 3.5	16.7 ± 5.4
1-2 days/week	21.3 ± 4.8	24.6 ± 6.1
Few days/month	19.1 ± 4.7	22.2 ± 5.8
≤ 1 day a month	25.0 ± 5.2	17.1 ± 5.4
Never	11.5 ± 3.7	8.3 ± 3.8
Which do you rely on most often? ****		
Driving your own car	76.1 ± 4.8	51.2 ± 7.1
Riding as a passenger	14.2 ± 3.9	30.7 ± 6.7
Van/dial-a-ride	3.4 ± 2.0	3.2 ± 2.1
Regular bus	0.2 ± 0.4	1.1 ± 1.3
Other	6.1 ± 2.8	13.8 ± 4.8
Which do you rely on second-most often? **		
Driving your own car	8.4 ± 2.9	8.7 ± 4.5
Riding as a passenger	25.1 ± 4.8	16.2 ± 5.2
Van/dial-a-ride/regular bus	0.3 ± 0.4	3.3 ± 2.0
Other	16.6 ± 4.2	22.3 ± 5.5
No other	49.5 ± 5.7	49.5 ± 7.1
When you are a passenger, who most likely drives? **	n=160	n=119
Spouse	63.8 ± 8.2	33.8 ± 9.8
Child	17.1 ± 6.4	29.2 ± 9.4
Other relative	3.9 ± 3.5	11.9 ± 6.9
Friend	10.9 ± 5.2	16.7 ± 7.6
Caretaker/hired help	1.8 ± 2.8	4.7 ± 3.8
Volunteer	0.7 ± 1.4	1.3 ± 1.9
Other	1.8 ± 2.8	2.3 ± 2.3

Besides the first person, when you are a passenger, who else is likely to drive you?		
Spouse	3.1 ± 2.5	1.7 ± 3.4
Child	30.4 ± 7.9	28.4 ± 9.3
Grandchild	2.3 ± 2.3	2.6 ± 2.4
Other relative	7.3 ± 4.3	14.4 ± 7.3
Friend	20.2 ± 6.4	20.0 ± 8.3
No one else	29.6 ± 7.9	27.3 ± 9.3
Other	7.1 ± 4.8	5.4 ± 3.6

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 42 shows results related to the frequency and the mode respondents' used to travel for trips of various purposes by age group. There were several differences between the age groups. Respondents in the younger age group less frequently took trips for shopping and more frequently took trips for social/recreational activities. In general, those in the younger age group were more likely than older respondents to drive themselves to destinations, while those in the older age group were more likely to ride as a passenger. Younger respondents were also significantly more likely to take trips out of the local community when compared to the older age group.

Table 42: Trip Purpose by Age Group

	70-79	**80+**
How often do you take trips to the doctor/dentist?	n=337	n=235
5-7 day/week	0.3 ± 0.5	0.4 ± 0.8
3- 4 days/week	2.4 ± 1.7	1.7 ± 2.0
1-2 days/week	5.8 ± 2.3	5.4 ± 3.4
Few days/month	27.5 ± 5.3	32.3 ± 7.7
≤ 1 day a month	59.6 ± 5.7	57.2 ± 7.1
Never	4.4 ± 2.4	3.0 ± 2.5
Which do you use for trips to the doctor/dentist? ****	n=322	n=227
Driving your own car	80.4 ± 4.8	53.4 ± 7.3
Riding as a passenger	11.3 ± 3.9	26.4 ± 6.6
Van/dial-a-ride/regular bus	2.4 ± 1.6	4.9 ± 2.6
Other	5.9 ± 2.8	15.2 ± 4.9
How often do you take trips to go shopping? * **	n=341	n=239

5-7 day/week	2.5 ± 2.0	4.1 ± 2.6
3- 4 days/week	16.6 ± 4.5	10.8 ± 4.7
1-2 days/week	51.7 ± 5.8	56.6 ± 7.0
Few days/month	20.0 ± 4.5	11.3 ± 4.2
≤ 1 day a month	7.1 ± 2.9	7.2 ± 3.1
Never	2.1 ± 1.4	9.9 ± 4.3
Which do use for trips to go shopping? ***	n=332	n=216
Driving your own car	78.7 ± 4.8	63.0 ± 7.1
Riding as a passenger	13.2 ± 4.0	27.2 ± 6.7
Van/dial-a-ride/regular bus	2.8 ± 1.7	2.6 ± 2.2
Other	5.2 ± 2.7	7.2 ± 3.0
How often do you take trips for family/personal business?	n=334	n=232
5-7 day/week	2.8 ± 2.1	2.1 ± 2.2
3- 4 days/week	7.2 ± 3.2	4.4 ± 3.1
1-2 days/week	17.6 ± 4.4	16.8 ± 5.2
Few days/month	24.7 ± 4.9	22.4 ± 6.3
≤ 1 day a month	36.9 ± 5.7	33.1 ± 6.7
Never	10.9 ± 3.8	21.1 ± 5.8
Which do use for trips for family/personal business? ***	n=298	n=178
Driving your own car	75.1 ± 5.3	57.0 ± 8.1
Riding as a passenger	16.7 ± 4.6	30.0 ± 7.6
Van/dial-a-ride/regular bus	1.5 ± 1.3	1.2 ± 1.4
Other	6.7 ± 3.1	11.7 ± 4.6
How often do you take trips for social/recreation activities? *	n=338	n=230
5-7 day/week	4.9 ± 2.5	3.2 ± 2.9
3- 4 days/week	13.6 ± 4.1	14.3 ± 5.3
1-2 days/week	30.7 ± 5.4	21.8 ± 6.2
Few days/month	21.6 ± 4.9	19.1 ± 5.7
≤ 1 day a month	19.8 ± 4.5	20.7 ± 5.8
Never	9.4 ± 3.4	20.9 ± 5.4
Which do use for trips for social/recreation activities? ****	n=302	n=175
Driving your own car	79.1 ± 4.8	56.3 ± 8.3
Riding as a passenger	15.3 ± 4.2	32.0 ± 8.0
Van/dial-a-ride/regular bus	1.3 ± 1.2	1.5 ± 1.7
Other	4.3 ± 2.6	10.2 ± 4.6
How often do you take trips for school/religious activities?	n=339	n=233

5-7 day/week	0.6 ± 0.7	1.6 ± 2.0
3- 4 days/week	5.8 ± 2.7	4.2 ± 3.1
1-2 days/week	48.2 ± 5.8	47.9 ± 7.2
Few days/month	12.1 ± 3.8	7.3 ± 3.6
≤ 1 day a month	13.3 ± 3.9	10.2 ± 4.4
Never	19.9 ± 4.6	28.8 ± 6.3
Which do use for trips for school/religious activities? *	n=267	n=161
Driving your own car	78.1 ± 5.5	64.7 ± 8.0
Riding as a passenger	16.2 ± 4.8	26.4 ± 7.5
Van/dial-a-ride/regular bus	0.7 ± 1.0	1.2 ± 1.3
Other	5.0 ± 3.3	7.7 ± 3.9
How often do you take trips out of your local community? ****	n=341	n=231
5-7 day/week	4.4 ± 2.4	1.5 ± 1.5
3- 4 days/week	6.4 ± 3.1	3.4 ± 2.5
1-2 days/week	14.8 ± 3.6	12.3 ± 4.8
Few days/month	31.7 ± 5.5	20.6 ± 5.9
≤ 1 day a month	38.8 ± 5.7	43.6 ± 7.2
Never	3.9 ± 1.9	18.7 ± 5.4
How often do you take trips out of your county?	n=195	n=85
5-7 day/week	4.8 ± 3.6	4.2 ± 4.1
3- 4 days/week	6.9 ± 4.5	3.4 ± 3.9
1-2 days/week	17.0 ± 5.5	26.1 ± 11.0
Few days/month	44.1 ± 7.7	29.8 ± 10.5
≤ 1 day a month	24.2 ± 6.6	27.6 ± 10.7
Never	3.0 ± 2.2	8.8 ± 6.3

Significance levels: **** $p < .0001$; *** $p < .001$; ** $p < .01$; * $p < .05$.

Table 43 shows responses to questions related to the care that respondents were receiving by age group. Respondents in the older age group were significantly more likely to have received transportation assistance or unpaid care in the past year when compared to those in the younger age group. Of those who were receiving care, those in the younger age group were more likely to have received care from a spouse, while those in the older age group were more likely to have received care from child. As expected, the caregivers' ages tended to be lower for respondents in the older age group.

Table 43: Care Recipient by Age Group		
	70-79	**80+**
Has anyone provided transportation assistance or unpaid care to you in the last 12 months? ****	n=342	n=239
Yes	11.4 ± 3.7	27.8 ± 6.5
No	88.6 ± 3.7	72.2 ± 6.5
Care recipients	n=40	n=62
Relationship of caregiver to care recipient **		
Spouse	22.0 ± 12.4	0.6 ± 1.2
Child	43.8 ± 16.6	59.2 ± 14.1
Other relative	10.7 ± 13.5	11.0 ± 9.5
Friend	19.4 ± 15.1	11.7 ± 8.5
Other	4.0 ± 5.7	17.4 ± 11.2
% Female caregivers	54.2 ± 17.5	68.3 ± 13.6
Caregivers age **		
<50	29.3 ± 15.8	15.8 ± 9.6
50-69	45.3 ± 17.3	79.5 ± 10.3
70+	25.4 ± 13.3	4.7 ± 4.7
% Caregiver lives outside of home *	65.7 ± 14.6	88.8 ± 9.7
Distance caregiver lives from care recipient	n=23	n=54
20 min or less	69.1 ± 20.4	75.5 ± 13.1
20 min – 1 hour	20.5 ± 18.6	17.7 ± 12.1
1-2 hours	3.5 ± 6.9	5.1 ± 5.2
>2 hours	6.8 ± 9.4	1.7 ± 3.3
% Caregiver has own vehicle	n=40	n=61
	93.5 ± 7.4	100.0 ± 0.0
% of caregivers helping with:	n=40	n=62
Telephone	14.5 ± 10.5	14.5 ± 10.4
Shopping	49.2 ± 16.7	47.3 ± 14.1
Food prep	38.7 ± 16.2	26.3 ± 12.9
Housekeeping	27.9 ± 12.4	32.2 ± 13.6
Laundry	24.2 ± 14.3	20.1 ± 12.1
Transportation	62.5 ± 17.0	68.4 ± 13.2
Medications	16.0 ± 11.1	24.6 ± 13.1
Other	3.8 ± 5.3	0.0 ± 0.0
Caregiver provides transportation	n=27	n=43
% caregivers providing the following type of transportation assistance:		
Ride in a car	100 ± 0.0	100 ± 0.0
Accompany	11.0 ± 11.6	5.2 ± 10.4
Arrange	9.9 ± 9.4	6.5 ± 10.3
Other	6.1 ± 8.6	0.0 ± 0.0

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Respondents' Recent Use of Public/Community Transportation Services

As a final way to better understand the mobility issues for older adults living in the six Michigan rural counties, we analyzed some of the questions based on whether or not the respondent was a recent user of public/community transportation services. Respondents were grouped in two categories based on their response to the following screening question: "*In the last 12 months, have you used any type of public or community transportation in your county of residence such as a bus, van, dial-a-ride, taxi with special fares for seniors, volunteer driver program, or other form of specialized transportation provided by human services or other organizations?*" Recall, that the sample was designed so that roughly 25% of respondents in each county answered "yes" to this question. Those who answered "yes" were included in a category labeled "User" (n=129) and those who answered "no" were put into a category called "Non-User" (n=454). Thus, respondents in the non-user category have either not used public/community transportation services in the past or have never used them.

Table 44 shows respondent demographics by use of use of public/community transportation. As can be seen from this table, the demographics of the two groups varied greatly. Respondents who were users of public/community transportation were significantly older, less likely to be married, more likely to be women, less likely to live in their own home, less likely to have lived at the same location for 5 or more years, less likely to be a licensed driver, had fewer drivers and vehicles in the household, and were less likely to be volunteering in the community.

Table 44: Demographics by Public/Community Transportation Use		
	User n=129	**Non-User n=454**
Average age ****	81.1 ± 1.2	78.1 ± 0.6
% Married ****	23.9 ± 7.6	60.6 ± 5.0
% Female **	75.8 ± 8.1	62.1 ± 4.9
% Live in own home/apartment ****	82.0 ± 7.5	96.2 ± 2.1
% Lived 5+ yrs in same location ****	78.8 ± 7.8	93.2 ± 2.5
% Licensed to drive ****	42.0 ± 9.4	91.8 ± 2.9
Avg. number of licensed drivers in household ****	0.7 ± 0.2	1.5 ± 0.1
Avg. number of vehicles in household ****	0.7 ± 0.2	1.6 ± 0.1
% households with no vehicles ****	50.0 ± 9.2	7.8 ± 3.0
Of those not currently licensed - % licensed in past 5 years	n=81	n=36
	49.9 ± 11.6	58.7 ± 19.1
% Work outside home for pay	n=129	n=454
	2.3 ± 2.6	5.1 ± 2.2
Those who work, % full time	n=3	n=24
	0.0 ± 0.0	17.4 ± 15.1
% Volunteer in community ****	n=129	n=454
	23.0 ± 7.9	44.5 ± 5.1

Significance levels: **** $p < .0001$; *** $p < .001$; ** $p < .01$; * $p < .05$.

Table 45 shows self-reported health by use of public/community transportation. Those who had used public/community transportation in the past year were in significantly poorer health than non-users. Public/community transportation users were also significantly more likely to report that they had mobility and vision problems that affected driving.

Table 45: Overall Health by Public/Community Transportation Use		
	User n=129	**Non-User n=454**
Ability to walk half a mile ****		
% Very able	19.3 ± 7.3	49.5 ± 5.1
% Somewhat able	17.9 ± 7.5	20.0 ± 4.2
% Not very able	21.2 ± 7.5	13.7 ± 3.6
% Not at all able	41.6 ± 9.2	16.8 ± 3.9
Ability to climb 2 flights of stairs ****		
Very able	26.6 ± 8.3	49.9 ± 5.1
Somewhat able	27.0 ± 8.4	26.3 ± 4.5
Not very able	21.6 ± 8.0	14.4 ± 3.7
Not at all able	24.7 ± 7.9	9.5 ± 3.1
Overall health		
Excellent	9.8 ± 5.8	12.4 ± 3.3
Very good	20.9 ± 7.7	29.9 ± 4.6
Good	36.4 ± 9.0	35.7 ± 4.9
Fair	23.5 ± 7.8	16.3 ± 3.9
Poor	9.4 ± 5.4	5.8 ± 2.6
% With mobility problems affecting driving ***	51.2 ± 9.3	33.1 ± 4.9
% With vision problems affecting driving ****	25.7 ± 8.1	7.5 ± 2.9
% With memory problems affecting driving	13.0 ± 6.0	7.7 ± 2.6

Significance levels: **** $p < .0001$; *** $p < .001$; ** $p < .01$; * $p < .05$.

Table 46 explores respondents' answers to questions about driving as a function of their recent use of public/community transportation services. Public/community transportation users were significantly more likely to be non-drivers. Of those who were still driving, recent users of public/community transportation drove less frequently, drove fewer miles, were less likely to have driven to distant towns, and were less satisfied with their ability to go to places that they want to go.

Table 46: Drivers and Driving by Public/Community Transportation Use		
	User n=115	**Non-User n=449**
% who drive ****		
Regularly	24.9 ± 8.7	72.7 ± 4.6
Occasionally or rarely	8.6 ± 6.4	15.8 ± 3.6
Do not drive anymore	62.3 ± 9.9	10.4 ± 3.3
Do not drive but expect to drive in the future	4.1 ± 4.8	1.1 ± 1.1
Those who drive	n=34	n=402
Frequency of driving **		
5-7 days a week	35.4 ± 17.0	52.9 ± 5.4
3-4 days a week	55.7 ± 17.8	26.8 ± 4.8
1-2 days a week or less	8.9 ± 8.7	20.3 ± 4.3
Average miles per year *	n=34	n=389
Less than 5,000	86.5 ± 11.3	69.3 ± 5.0
More than 5,000	13.5 ± 11.3	30.7 ± 5.0
% who have driven in immediate neighborhood in the past 3 months	98.2 ± 3.5	98.0 ± 1.5
% who have driven to neighboring towns in the past 3 months	86.0 ± 10.9	85.3 ± 3.7
% who have driven to more distant towns in the past 3 months *	34.7 ± 17.4	58.9 ± 5.3
% who have outside the state in the past 3 months	31.8 ± 18.5	37.7 ± 5.1
% who have someone depending on them to drive	27.4 ± 14.8	22.5 ± 4.4
Satisfaction with ability to get to places you want to go to ****	n=125	n=452
% very satisfied	48.0 ± 9.4	72.8 ± 4.7
% satisfied	37.3 ± 9.4	21.3 ± 4.3
% dissatisfied	7.0 ± 4.4	2.9 ± 1.8
% very dissatisfied	7.6 ± 4.8	3.0 ± 2.0

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 47 shows reports on the past driving of those who no longer drove by use of public/community transportation. The groups did not differ on their responses to these questions.

Table 47: Questions for Former Drivers by Public/Community Transportation Use		
	User n=81	**Non-User n=46**
When was the last time you drove?		
3 months-1 year ago	9.7 ± 8.1	12.6 ± 10.6
1-2 years ago	7.4 ± 5.5	14.8 ± 12.3
2-3 years ago	10.6 ± 6.8	20.7 ± 13.0
3-4 years ago	9.5 ± 6.8	3.7 ± 5.0
4-5 years ago	10.1 ± 7.0	11.8 ± 12.0
> 5 years ago	52.7 ± 11.9	36.5 ± 15.8
Main reason for stopping driving:		
% who indicated:		
Health	48.3 ± 11.7	48.6 ± 16.6
Not comfortable	23.9 ± 9.5	22.9 ± 13.6
Crash /near crash	5.8 ± 4.9	1.8 ± 3.5
License not renewed	6.7 ± 5.5	7.2 ± 8.8
Costs	8.2 ± 6.1	8.2 ± 10.9
Family or friends	10.3 ± 7.6	9.9 ± 10.4
Advice from doctor	16.9 ± 9.3	14.3 ± 12.7

Significance levels: **** $p < .0001$; *** $p < .001$; ** $p < .01$; * $p < .05$.

Table 48 shows feelings of isolation by use of public/community transportation. Overwhelmingly, users of public/community transportation reported more frequent feelings of a lack of companionship, feelings of being left out, and feelings of isolation when compared to the other group. The users of public/community transportation also had a significantly higher overall Subjective Isolation Scale score.

Table 48: Subjective Isolation Scale by Public/Community Transportation Use		
	User n=124	**Non-User n=452**
How often do you feel that you lack companionship? * **		
Never	51.7 ± 9.4	72.5 ± 4.6
Sometimes	31.8 ± 8.6	19.7 ± 4.2
Often	16.6 ± 7.6	7.8 ± 2.6
How often do you feel left out? * **	n=129	n=450
Never	60.0 ± 9.1	78.7 ± 4.2
Sometimes	32.2 ± 8.5	18.4 ± 4.0
Often	7.8 ± 5.6	2.8 ± 1.7
**How often do you feel isolated? ** **	n=129	n=450
Never	63.9 ± 9.1	79.9 ± 4.2
Sometimes	33.2 ± 9.0	18.3 ± 4.1
Often	2.9 ± 3.1	1.8 ± 1.3
Subjective Isolation Scale Score (3-9) ** **	4.5 ± 0.3	3.8 ± 0.1

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 49 shows issues related to use of buses. There were no statistically significant differences between users and non-users in terms of their awareness of a regular bus service in their neighborhood or how they became aware of that service. Note that the percentages reported for use in the past year and reasons for non-use are presented for the entire "user" group to gain a better understanding of the behaviors of recent users of public/community transportation. About two-thirds of users of public/community transportation services reported having used buses. The primary reason for not using buses was that people did not need to.

Note also that a set of questions explored use of senior or retirement community transportation services. Only eight respondents were aware of these services and only five had used them. All of these respondents were recent users of public/community transportation, so no statistical analyses were performed and these data are not reported.

Table 49: Regular Bus Use		
	User	**Non-User**
Is there regular bus service in your neighborhood?	n=129	n=452
Yes	22.7 ± 7.1	14.3 ± 2.6
No	75.1 ± 7.3	83.8 ± 2.7
Don't know	2.2 ± 2.5	1.9 ± 1.1
How did you become aware of bus service?	n=34	n=90
Saw buses/stops	43.2 ± 17.7	50.3 ± 10.6
Friends or family	12.4 ± 10.8	7.1 ± 5.7
Print media	10.0 ± 10.7	16.9 ± 8.0
TV/radio	2.4 ± 4.8	3.0 ± 3.4
Organization	10.3 ± 10.4	4.2 ± 4.2
Other	21.6 ± 14.8	18.4 ± 8.1
Have you used this service in the last 12 months?	n=34	
% Yes	65.8 ± 17.1	
Why haven't you used this regular bus service?	n=56	
Don't need to	89.2 ± 7.8	
Too hard to use	3.0 ± 4.1	
Other reason	7.8 ± 6.8	

Table 50 shows awareness and use of senior van and/or dial-a-ride services. Public/community transportation users were significantly more likely to report being aware of these services in their neighborhoods and most respondents became aware of these services by seeing the vans in their neighborhoods. About three-quarters of the users of public/community transportation services had utilized these services in the past year. Those who had not used the services reported that they did not need them.

Table 50: Senior Van and Dial-a-Ride Use		
	User	**Non-User**
Is there dial-a-ride service in your neighborhood? **	n=128	n=446
Yes	71.0 ± 8.3	53.8 ± 4.9
No	24.7 ± 7.8	40.6 ± 4.9
Don't know	4.3 ± 3.9	5.6 ± 2.5
How did you become aware of this service?	n=83	n=248
Saw vans	33.6 ± 10.6	34.0 ± 6.3
Friends or family	13.0 ± 6.9	16.2 ± 4.9
Print media	12.6 ± 8.3	17.8 ± 5.5
TV/radio	5.2 ± 6.4	5.1 ± 2.9
Organization	14.3 ± 9.3	9.5 ± 4.4
Other	21.3 ± 8.9	17.3 ± 4.7
Have you used this service?	n=88	
% Yes	73.7 ± 9.7	
Why haven't you used this service?	n=22	
Don't need to	61.4 ± 23.5	
Don't feel safe	3.1 ± 6.2	
Too hard to use	10.0 ± 12.5	
Costs too much	3.2 ± 6.3	
Too long wait/ride	7.5 ± 15.1	
Not avail. when needed	3.2 ± 6.3	
Other reason	11.5 ± 11.0	

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 51 shows awareness and use of volunteer driver services. Users of public/community transportation in general were significantly more likely to report that this type of service was available in their neighborhood than non-users. Users of public/community transportation were also significantly more likely to report that they became aware of volunteer driver services through a senior-related organization, when compared to respondents who had not recently used public/community transportation. About one-third of users of public/community transportation services reported using volunteer drivers in the past year, and a variety of reasons were given for not using the service.

Table 51: Volunteer Driver Use		
	User	**Non-User**
Is there a volunteer driver service in your neighborhood? *	n=126	n=442
Yes	42.8 ± 9.3	28.7 ± 4.5
No	44.6 ± 9.3	53.1 ± 5.1
Don't know	12.6 ± 5.9	18.2 ± 3.9
How did you become aware of this service? *	n=52	n=132
You're a volunteer driver	1.9 ± 3.7	8.2 ± 6.0
Friends or family	22.0 ± 11.6	33.7 ± 9.0
Print media	7.0 ± 6.7	13.9 ± 6.8
Organization	44.8 ± 14.8	29.9 ± 8.7
Other	24.3 ± 13.4	14.3 ± 5.8
Have you used this service?	n=53	
% Yes	33.5 ± 14.5	
Why haven't you used this service?	n=30	
Don't need to	96.4 ± 7.0	
Don't feel safe	3.6 ± 7.0	

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 52 shows use of taxi services. As can be seen, those who were users of public/community transportation services were significantly more likely to report being aware of taxi services in their neighborhoods. Users and non-users did not differ in terms of how they became aware of taxi services in their neighborhood. About 16% of public/community transportation users reported that they had used taxis in the past year. Those who did not use taxis reported that they did not need to.

Table 52: Taxi Use		
	User	**Non-User**
Is there a taxi service in your neighborhood? *	n=128	n=451
Yes	38.1 ± 8.4	27.6 ± 3.2
No	57.5 ± 8.6	69.5 ± 3.4
Don't know	4.4 ± 3.5	2.9 ± 1.6
How did you become aware of this service?	n=42	n=130
Saw taxis	59.0 ± 15.4	69.3 ± 7.9
Friends or family	13.0 ± 10.2	5.1 ± 3.8
Telephone book	1.3 ± 2.5	3.5 ± 3.3
Print media	19.8 ± 12.7	15.4 ± 6.3
TV/radio	6.9 ± 7.7	6.8 ± 4.4
Have you used this service?	n=53	
% Yes	16.4 ± 9.9	
Why haven't you used this service?	n=36	
Don't need to	68.7 ± 15.7	
Costs too much	31.3 ± 15.7	

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 53 shows responses related to the experience of riding as a passenger by use of public/community transportation. There were no differences in how frequently respondents in each group rode as a passenger. Those who had not recently used public/community transportation were significantly more likely to report that they relied on driving their own car most often. When asked about who is the driver when the respondent rode as a passenger, users of public/community transportation services were more likely to report that the driver was a child or friend, while non-users were more likely to report that the driver was a spouse. Note also that the questionnaire included questions about the use of transit travel training programs and mobility management services. Only one respondent had participated in travel training and less than five respondents in each group had used mobility management services. The numbers were too small to conduct valid statistical analyses and these data are not shown in the report.

Table 53: Riding as a Passenger by Public/Community Transportation Use		
	User n=124	**Non-User n=450**
How often do you ride as a passenger?	12.4 ± 6.9	11.7 ± 3.1
5-7 day/week	12.2 ± 5.5	13.3 ± 3.5
3- 4 days/week	31.5 ± 8.9	20.7 ± 4.1
1-2 days/week	22.5 ± 8.2	19.9 ± 4.1
Few days/month	14.0 ± 6.2	23.5 ± 4.4
≤ 1 day a month	7.5 ± 4.6	10.8 ± 3.1
Which do you rely on most often? ****		
Driving your own car	22.6 ± 7.8	75.9 ±4.5
Riding as a passenger	31.8 ± 8.8	18.5 ± 4.0
Other	45.6 ± 9.3	5.7 ± 2.5
Which do you rely on second-most often? ****		
Driving your own car	4.9 ± 5.3	9.4 ± 2.9
Riding as a passenger	19.7 ± 7.5	21.8 ± 4.0
Other	46.4 ± 9.2	14.4 ± 3.4
No other	28.9 ± 8.3	54.3 ± 4.9
When you are a passenger, who most likely drives? ****	n=68	n=208
Spouse	9.2 ± 7.5	62.1 ± 7.3
Child	31.8 ± 11.2	20.3 ± 6.3
Other relative	18.5 ± 11.4	4.6 ± 3.4
Friend	27.2 ± 11.9	10.0 ± 4.6
Caretaker/hired help	6.8 ± 5.9	2.1 ± 2.5
Other	6.5 ± 8.0	0.9 ± 1.0
Besides the first person, when you are a passenger, who else is likely to drive you?		
Spouse	1.0 ± 2.0	2.9 ± 2.6
Child	21.4 ± 10.9	31.8 ± 7.1
Grandchild	5.2 ± 4.7	1.7 ± 1.6
Other relative	12.9 ± 7.9	9.8 ± 4.7
Friend	20.5 ± 9.6	20.0 ± 6.0
No one else	29.8 ± 12.3	28.3 ± 6.9
Other	9.1 ± 8.2	5.6 ± 3.3

Significance levels: **** $p < .0001$; *** $p < .001$; ** $p < .01$; * $p < .05$.

Table 54 shows trip frequency and transportation modes for various trip purposes by whether or not the respondent was a user of public/community transportation. Users of public/community transportation reported less frequently taking trips for shopping, family/personal business, social/recreational activities, attending school/church, and for any purpose out of the local community. Users of public/community transportation services were significantly more likely to report riding as a passenger or using some

other non-driving form of transportation to take trips for all purposes explored in the questionnaire. Non-users of public/community transportation were significantly more likely to drive themselves for all trip purposes.

Table 54: Trip Purpose by Public/Community Transportation Use		
	User	**Non-User**
How often do you take trips to the doctor/dentist?	n=126	n=446
3- 4 days/week or more	1.2 ± 1.8	2.7 ± 1.7
1-2 days/week	5.8 ± 4.1	5.6 ± 2.2
Few days/month	30.3 ± 8.7	29.2 ± 4.8
≤ 1 day a month	58.6 ± 9.2	58.6 ± 5.1
Never	4.0 ± 3.5	3.8 ± 2.0
Which do you use for trips to the doctor/dentist? ****	n=120	n=429
Driving your own car	24.4 ± 8.8	79.5 ± 4.4
Riding as a passenger	26.1 ± 8.4	15.6 ± 4.0
Other	49.5 ± 9.6	4.9 ± 2.3
How often do you take trips to go shopping? ***	n=128	n=452
5-7 day/week	0.8 ± 1.5	3.7 ± 2.0
3- 4 days/week	6.5 ± 5.1	16.0 ± 3.8
1-2 days/week	50.8 ± 9.3	54.4 ± 5.1
Few days/month	18.4 ± 7.1	16.0 ± 3.6
≤ 1 day a month	13.7 ± 6.2	5.6 ± 2.1
Never	9.9 ± 5.3	4.2 ± 2.2
Which do use for trips to go shopping? ****	n=115	n=433
Driving your own car	30.1 ± 9.5	81.9 ± 4.1
Riding as a passenger	32.1 ± 8.9	15.7 ± 4.0
Other	37.8 ± 9.6	2.4 ± 1.5
How often do you take trips for family/personal business? **	n=123	n=443
5-7 day/week	0.7 ± 1.3	2.9 ± 1.8
3- 4 days/week	0.6 ± 1.2	7.3 ± 2.8
1-2 days/week	16.6 ± 7.1	17.5 ± 3.8
Few days/month	21.9 ± 8.3	24.2 ± 4.4
≤ 1 day a month	36.0 ± 9.2	35.2 ± 4.9
Never	24.3 ± 8.0	13.0 ± 3.6
Which do use for trips for family/personal business? ****	n=92	n=384
Driving your own car	30.6 ± 10.8	75.7 ± 4.8
Riding as a passenger	36.1 ± 10.5	18.9 ± 4.5
Other	33.3 ± 10.3	5.4 ± 2.3
How often do you take trips for social/recreation activities? ****	n=126	n=442

5-7 day/week	2.1 ± 2.5	4.7 ± 2.3
3- 4 days/week	1.8 ± 5.3	15.3 ± 3.8
1-2 days/week	14.2 ± 6.9	30.1 ± 4.7
Few days/month	19.7 ± 7.0	20.8 ± 4.3
≤ 1 day a month	24.2 ± 8.1	19.2 ± 4.0
Never	31.9 ± 8.7	9.9 ± 3.0
Which do use for trips for social/recreation activities? ****	n=86	n=391
Driving your own car	30.8 ± 10.9	77.7 ± 4.7
Riding as a passenger	37.4 ± 10.6	18.7 ± 4.4
Other	31.8 ± 10.7	3.7 ± 2.1
How often do you take trips for school/religious activities? **	n=127	n=445
5-7 day/week	0.6 ± 1.3	1.1 ± 1.1
3- 4 days/week	0.9 ± 1.7	6.1 ± 2.4
1-2 days/week	42.9 ± 9.4	49.3 ± 5.1
Few days/month	7.7 ± 5.3	10.7 ± 3.1
≤ 1 day a month	12.0 ± 5.7	12.1 ± 3.4
Never	35.8 ± 8.6	20.6 ± 4.2
Which do use for trips for school/religious activities? ****	n=77	n=349
Driving your own car	34.1 ± 12.1	80.3 ± 4.6
Riding as a passenger	33.1 ± 10.7	17.6 ± 4.5
Other	32.8 ± 12.0	2.0 ± 1.6
How often do you take trips out of your local community? ****	n=126	n=446
5-7 day/week	0.7 ± 1.3	3.8 ± 1.9
3- 4 days/week	5.5 ± 4.8	5.1 ± 2.4
1-2 days/week	6.3 ± 5.1	15.5 ± 3.3
Few days/month	15.4 ± 6.4	30.0 ± 4.8
≤ 1 day a month	52.3 ± 9.4	38.1 ± 5.0
Never	19.8 ± 7.0	7.5 ± 2.6
How often do you take trips out of your county?	n=35	n=243
3- 4 days/week or more	10.5 ± 14.3	10.5 ± 4.6
1-2 days/week	22.0 ± 16.0	18.9 ± 5.4
Few days/month	28.6 ± 16.0	41.3 ± 6.8
≤ 1 day a month	28.4 ± 14.8	25.2 ± 6.1
Never	10.5 ± 10.0	4.1 ± 2.5

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Table 55 shows issues related to the care and transportation assistance received by respondents as a function of recent use of public/community transportation. Users were significantly more likely to report that they had received informal care in the past

year. Of those receiving care in both groups, the groups did not differ on the characteristics of the caregiver and the type of assistance he or she provided.

Table 55: Care Recipients by Public/Community Transportation Use		
	User	**Non-User**
Has anyone provided transportation assistance or unpaid care to you in the last 12 months? *	n=129	n=452
Yes	25.0 ± 8.0	16.5 ± 3.9
No	75.0 ± 8.0	83.5 ± 3.9
Care recipients	n=32	n=64
Relationship of caregiver to care recipient		
Spouse	6.0 ± 8.4	9.5 ± 5.7
Child	60.8 ± 18.2	50.9 ± 13.6
Other relative	10.7 ± 14.9	10.9 ± 9.2
Friend	11.1 ± 10.9	15.9 ± 10.1
Volunteer	7.9 ± 8.8	5.0 ± 6.5
Other	3.5 ± 6.8	7.7 ± 7.0
% Female caregivers	62.9 ± 18.0	63.1 ± 13.1
Caregivers age		
<50	30.8 ± 17.4	18.2 ± 9.9
50-69	58.2 ± 19.0	68.5 ± 10.8
70+	11.0 ± 12.2	13.2 ± 6.6
% Caregiver lives outside of home	73.6 ± 17.9	82.4 ± 8.7
Distance caregiver lives from care recipient	n=25	n=52
20 min or less	57.9 ± 20.2	78.3 ± 12.7
20 min – 1 hour	24.7 ± 16.7	16.7 ± 12.0
1-2 hours	12.4 ± 14.2	2.2 ± 3.1
>2 hours	5.0 ± 9.6	2.8 ± 3.8
% Caregiver has own vehicle	n=33	n=68
	96.3 ± 7.1	98.0 ± 2.9
	n=33	n=102
% of caregivers helping with:		
Telephone	10.7 ± 12.1	15.9 ± 9.5
Shopping	54.1 ± 18.6	45.9 ± 13.2
Food prep	43.2 ± 18.6	26.6 ± 11.7
Housekeeping	44.1 ± 10.2	26.0 ± 11.5
Laundry	29.9 ± 17.9	18.8 ± 10.8
Transportation	65.4 ± 10.3	66.5 ± 12.5
Medications	18.7 ± 14.0	22.4 ± 11.7
Other	5.5 ± 7.5	0.0 ± 0.0
Caregiver provides transportation	n=23	n=47
% caregivers providing the following type of transportation assistance:		
Ride in a car	100 ± 0.0	100 ± 0.0
Accompany	11.5 ± 14.5	5.7 ± 9.1
Arrange	10.1 ± 11.2	6.9 ± 9.4
Other	8.4 ± 11.3	0.0 ± 0.0

Significance levels: **** p < .0001; *** p < .001; ** p < .01; * p < .05.

Structured Interviews with Public Transportation Agencies and Comprehensive List of Transportation Services

Structured interviews were conducted with two public transportation agencies in each of the six study counties. Comprehensive lists of public transportation service providers in each of these counties were also developed. The results of this task are presented by county. Structured interviews were conducted with the first two public transportation service providers listed for each county. The results of the structured interviews are provided for each of the agencies followed by the names and basic information for other public transportation service providers in the county. Note that many assisted living facilities and religious organizations also provide transportation services to their residents and congregations. We have not included these in the list as they do not technically provide public transportation services. A tabular listing of the public transportation service providers by county can be found in Appendix B.

Alpena County

Thunder Bay Transportation Authority

Structured Interview Results

The Thunder Bay Transportation Authority (TBTA) serves the City of Alpena with a dial-a-ride (DAR) service, as well as demand-response transportation to the three-county area of Alpena, Alcona and Montmorency. The Thunder Bay tri-county service is a demand-response, door-to-door service scheduled 24 hours in advance (the drivers are sent out with route sheets). The City of Alpena DAR is a curb-to-curb service (although door-to-door service can be provided if the customer requires that assistance) that is fully demand-response. DAR operates Monday through Friday, 7:00 AM to 7:00 PM, Saturday 8:00 AM to 7:00 PM, Sunday 9:00 AM to 6:00 PM, and every holiday (except Christmas) 9:00 AM to 3:00 PM. Fares for city residents are $1.50 regular/$0.75 reduced and for non-city residents $3.00 regular/$1.50 reduced. TBTA offers a 50% reduced fare for adults age 65 and older, and those age 90 and older ride for free.

TBTA contracts with Prell Services for its dispatchers, office staff, bus aides, and drivers. There are currently 35 vehicles in their fleet, five of which are minivans. One minivan is equipped with a lift that operates 6 days a week and handles many of the

dialysis patients who require rides to destinations more than 1 hour away. The other four minivans are used for Michigan Works and Job Access Reverse Commute programs. The rest of the fleet consists of buses that can transport between one and four wheelchairs.

TBTA's annual budget is $2.2 million with MDOT Act 51 and Federal 5311 funds comprising about 52% of that budget. The DAR is supported by a millage from the City of Alpena. Fares and contracts with mental health and other agencies comprise the rest of TBTA's budget.

IN 2011, TBTA provided 13,000 senior trips (pick up destination to drop-off destination per person) and 4,500 senior-disabled trips. Older adults using this service tend to travel for medical appointments, shopping, volunteering, work, recreation, and senior programs. TBTA coordinates with transit agencies in other counties when traveling into those counties, and also the Senior Center, Region Area Agency on Aging, and adult care homes and mental health facilities in Alpena County.

Lack of knowledge regarding the availability of transportation options is a barrier for older adults in the county. TBTA reported that it is a challenge to educate the public about their services, in particular those individuals who should no longer be driving. They also reported that marketing their services is extremely important for educating people in the community about their service and other services in the county (e.g. educating Medicaid clients about the transportation provided by the Department of Human Services). Although an Alpena County Older Persons grant gives TBTA $1,500 for free transportation vouchers, the organization finds it challenging to make agencies in the community aware of the services they provide. TBTA reported that there is a need for a mobility coordinator, but finds it challenging to recruit the right person for the position. Lack of funding is also a challenge for TBTA—cuts in funding have resulted in TBTA needing to increase the hourly rates among those with whom they contract, instead of raising fares. Liability issues also pose a challenge to providing door-through-door service, which limits service. Excessive snow was not reported to be a problem, as the city and county do a good job with snow removal. In cases where snow does disrupt service, riders are contacted regarding the situation.

TBTA reported that their vehicle fleet was adequate to meet their need, but notes that low-floor buses are helpful for seniors. The DAR service created a bus for medical appointments that takes as many people with medical appointments on a specific date as possible. TBTA believes that this service is working well but notes that one challenge with scheduling medical appointments is booking the return trip because patients are not usually sure when their appointment will end. TBTA services are frequently used for medical appointments, however TBTA believes that better coordination is needed between the different services available (e.g. people will call for an ambulance when they could use DAR).

TBTA reported that many of their older customers are living alone and/or do not have family close by to assist when they need help. TBTA believes that there is a negative stereotype associated with using public transportation, and in the future looks to implement a fixed-route trolley service that they believe will improve that image. The TBTA reported that they are looking into new services to meet the needs of their older adult customers. For example, TBTA has thought of creating a service where an aide rides along on the bus to assist customers, but is unsure how that service could be funded.

Alpena Department of Veteran Affairs

Structured Interview Results

The Department of Veteran Affairs (VA) in Alpena County operates a seven-passenger van that transports veterans to VA medical facilities in Saginaw, Ann Arbor, and Detroit. Currently, the VA office in Alpena has only two volunteer drivers (both in their sixties) that transport veterans only 1 day of the week, resulting in approximately 15-30 rides per month. The VA reported that because of liability and space issues, volunteer drivers are not allowed to assist the veterans and wheelchairs and oxygen cannot be transported. The van service is sponsored by Disabled American Veterans (DAV) which provides national coordination for the program through the DAV Transportation Network and assistance in acquiring vans. The Saginaw VA pays for repairs, maintenance, and fuel for the van. The VA solicits donations from the organizations that they serve (e.g., American Legion DAV, Veterans of Foreign Wars

[VFW], and Purple Heart) to cover the purchase price of new vans. Drivers are required to pass a driver training course and a physical at the Saginaw VA annually.

The VA reported that the van service sometimes cannot meet the needs of all veterans, as some medical clinics are only open on specific days, and some medical appointments may be overnight. Additionally, if a volunteer driver is not available to drive, the service is canceled for that day and veterans are notified. The VA believes that the van service is adequate to meet the needs of their clients, but more volunteer drivers are needed. The VA reported that recruiting volunteer drivers is a challenge because of the strict medical eligibility requirements for volunteer drivers. Eligible drivers must meet the same medical standards as commercial truck drivers. The VA reported that the van service formerly operated 5 days a week with 10 volunteer drivers, but because of more stringent medical eligibility requirements, the service was cut to two drivers. The VA believes that local trips for veterans are sufficiently provided by the county transit agency (TBTA) and taxis.

The VA reported that they think the transportation needs for veterans will increase because of the aging population in the county. The VA also believes that the van service will be discontinued in the future because of lack of funding and lack of eligible volunteers. The VA noted that one way to enhance the van service would be to increase the millage (tax) so the office could directly pay for the costs, including using paid drivers. However, the VA also noted that this would be costly and they would not want to put undue burden on the taxpayer.

<u>City Cab Company</u>

City Cab Company primarily provides curb-to-curb (drivers can assist passengers if asked) taxicab service in Alpena County. The cab service operates 24 hours a day, 7 days a week with a fleet of two four-door vehicles that can transport up to four passengers. City Cab will pick up customers usually within 15 minutes of their call for service, and will transport them anywhere in Michigan—although if the distance is more than 50 miles the customer must pay up front. Service is free for rides to the homeless shelter and 911 calls. Fares are $8.00 for one-way and $10.00 for round trips. Drivers must have a chauffeur's license and have prior experience driving a taxi.

Alpena Cab Company

The Alpena Cab Company operates a 24 hours a day, 7 days a week cab service that will pick up customers within 10-15 minutes of their call and transport them anywhere they need to go. Alpena Cab has a vehicle fleet of three passenger cars and one bus. The bus is generally not recommended for senior customers. Regular fare is $7.00 within Alpena City limits and an extra $1.50 per mile outside the city. Seniors can purchase pre-paid cards that are good for 1 month at the rate of 10 for $55 ($5.50 per ride within the City of Alpena). The discount does not extend outside the city limits. Drivers are independently contracted, and are trained by Alpena Cab management on how to help, hold, and balance customers as they get in and out of the taxi, how to fold wheelchairs and handle oxygen tanks, and where the safest seating is located inside the cab.

Alpena County Department of Human Services

This service provides transportation for Medicaid clients in the county. No further information could be obtained.

Huron County

Huron Transit Corporation/Thumb Area Transit

Structured Interview Results

The Huron Transit Corporation, also known as Thumb Area Transit (TAT), provides a mainly curb-to-curb (door-to-door as needed), demand-response public transportation service that transports customers anywhere in the county. TAT operates Monday through Friday 5:00 AM to 10:00 PM and Saturday 8:00 AM to 6:30 PM. Currently, TAT's vehicle fleet consists of 36 lift-equipped buses that are able to transport 20-28 passengers. Seniors, individuals with disabilities, and children pay half-fare for the service. The highest fare for a senior one-way trip is $2.25. Seniors and individuals with disabilities account for about 30% of riders.

TAT has inter-local agreements with two neighboring counties, allowing them to take customers across county lines for medical appointments and transfers to other transit services. Should TAT need to enter another county, first a transfer option is sought, and if a transfer cannot be arranged, TAT will take customers to their destination (usually medical appointments). Similar procedures are followed for those entering Huron County. Medical brokers will contact TAT to coordinate transportation, as well as the Department of Human Services and the Human Development Commission to coordinate transportation for adult day cares. TAT is a member of the Michigan Transit Pool.

TAT's transportation service is funded by Federal 5311 Formula Grants (18.5% of budget), State eligible reimbursement (36.2%), local millage (20%), and fares (30%). The countywide millage has been in effect since 1984. In 2011, TAT transported 11,016 seniors, 2,372 seniors with disabilities, and 73,237 non-seniors with disabilities. Seniors most often use TAT for medical appointments, shopping, social outings, family visits, work, and for senior meals.

TAT reported that they try to meet all of the transportation needs of their riders. TAT hired a staff member to do community outreach to ascertain the needs of older adults and to educate people about the service, which has resulted in increased ridership. TAT is also looking into setting up a travel training program to help people learn how to use the bus as well as joining with the 2-1-1 service (a service that individuals call to find travel services to meet their needs). TAT reported that their vehicle fleet was adequate, but believed that low-floor buses would be helpful for seniors' ingress and egress. TAT noted, however, that in some rural area sidewalks are absent, which decreases the benefits of low-floor buses. TAT also reported that sidewalks can be a challenge for riders when snow is not cleared in winter and it is at the driver discretion to help beyond curb-to-curb service.

TAT reported that senior ridership was up 25% from the previous year, possibly because of improved accessibility, extended hours, and the high gasoline prices. In the future, TAT anticipates an increased demand for transportation with seniors living longer. If door-through-door becomes needed, TAT would consider expanding this service, although liability and time constraint issues would need to be resolved. The

next service TAT hopes to implement is a Sunday service. When asked about what role MDOT might play in overcoming barriers and challenges for older adults, TAT reported that they do not know other than possibly evaluating their service, meeting with focus groups, or helping with a marketing program.

Human Development Commission

Structured Interview Results

The Human Development Commission (HDC) provides free, donation-funded, volunteer driver service and bussing for people age 60 years and older for medical appointments. The volunteer drivers provide door-to-door and door-through-door service, picking up older adults, transporting them to medical appointments, and then bringing them back home. The service area covers Huron, Tuscola, and Sanilac counties. In the first 7 months of 2012, HDC provided 3,354 rides to older adults. HDC does not transport wheelchairs. HDC reported that the major challenges they have with providing their services are adequate funding and having enough volunteer drivers. In the future, HDC foresees less funding and fewer volunteer drivers, but at the same time, an increase in older adults. HDC suggested that MDOT could help them by providing free vehicles that could be used by the volunteer drivers.

Huron Department of Veteran Affairs

The Huron Department of Veteran Affairs provides a van service that transports veterans (and their spouses and caregivers, if needed) to VA Medical Facilities in Saginaw, Ann Arbor, and Detroit for medical appointments. The transportation service consists of one non lift-equipped van that can transport up to five people but cannot transport wheelchairs or oxygen. Currently, Huron County Veteran Affairs has five volunteer drivers who operate the van, but cannot physically assist the veterans. Veterans are asked to arrive at the Veterans Affairs office parking lot for transport, but in the event they cannot do so, the volunteer drivers will pick them up at their homes. The van operates 5 days a week.

Huron County Department of Human Services

This service provides transportation for Medicaid clients in the county. No further information could be obtained.

Hillsdale County

City of Hillsdale Dial-a-Ride

Structured Interview Results

The City of Hillsdale Dial-a-Ride (HDAR) is a door-to-door, demand-response service offered to the City's residents to destinations in Hillsdale and a few doctor offices outside the city. Customers call HDAR to schedule a ride with usually a 20-30 minute wait time. Riders are encouraged to call 1 day ahead to schedule rides. HDAR operates three 17-passenger, lift-equipped buses during the hours of 7:15 AM to 4:15 PM Monday through Friday. Regular fare is $3.00 for adults and $1.50 for seniors and individuals with disabilities. HDAR provides 28,000-30,000 rides a year, and about 20% of those are for seniors. Seniors most often use the service for medical appointments and for shopping. Drivers are not permitted to physically assist or go into homes or other facilities. If a customer is in a wheelchair or using a walker, the driver will help get them on and off the bus. HDAR belongs to the Michigan Transit Pool.

HDAR is funded by a city millage (31% of budget), fares (16%), the state of Michigan (37%), and Federal funds (16%). HDAR coordinates once a year with the Hillsdale County Senior Services Center to provide free rides for seniors to an Easter breakfast and also provides free rides once a year to the annual fair. Some stores/doctor offices buy HDAR tickets and give them to their customers if they need a ride. Occasionally, if the Hillsdale County Senior Center's lift-equipped vehicles break down, HDAR can help pick up their clients.

Lack of funding prevents HDAR from taking customers outside the city and county. The city millage has been generally stable over the last 30 years. HDAR reported that there had been discussions of a countywide millage over the last 30 years but it has not ever been put up for a vote. HDAR finds their current vehicle fleet adequate and the city council adds or removes vehicles as needed. One challenge for

HDAR is difficulty with securing mobility chairs. HDAR reported that liability is the main reason why they do not offer door-through-door service.

HDAR reported that the seniors who utilize their services generally have no nearby family and are, therefore, most in need of transportation assistance. Hillsdale DAR foresees the need for transportation to increase, especially the need for lift-equipped vehicles, as an increased number of older adults will need wheelchairs and walkers in the future. HDAR believes that more funding from MDOT would allow for an expanded service area and could possibly allow seniors to ride for free.

Hillsdale County Senior Services Center

Structured Interview Results

The Hillsdale County Senior Services Center (HCSSC) offers door-to-door, non-emergency medical transportation (NEMT) for Hillsdale residents age 60 and older. Clients call the center with the details of their medical appointments, either inside or outside of the county, and the center finds a volunteer driver who is available to transport them to and from their appointment. Currently, the center has six volunteer drivers, all of whom are retirees. The HCSSC also has one paid driver that transports clients for social trips offered only to those who are ambulatory and reside outside the dial-a-ride area. The HCSSC offers some out-of-county trips as well, usually to a casino. Volunteer drivers utilize their own personal vehicles to transport clients, and receive a mileage stipend of 50 cents per mile. About one-half of their trips are out of the county, though social trips are usually in-county only.

The HCSSC gives each client 550 miles for NEMT. Once those miles have been utilized, those above poverty level pay a $5.00 flat fee plus $0.50/mile and riders below poverty level may make a suggested donation of $5.00 for in-county trips and $10.00 for out-county trips. If a client is in a wheelchair, the Center's Adult Day Care lift-equipped van may be used, but the HCSSC also has a working agreement with Reading Emergency Services (ambulance service) should they be unable to assist those with wheelchairs. HCSSC works with the hospital in Hillsdale and the Department of Human Services to provide rides as well.

The HCSSC's transportation service is funded by: a grant from the Federal Department on Aging (dispersed from the Region 2 Area Agency on Aging); a portion of a countywide millage they have been receiving since about 2000; rider fees; and private donations. In 2010-11 the HCSSC provided 1,035 rides (this includes NEMT, social trips, and the Center's Adult Day Care) and served 108 clients.

Some of the major challenges the HCSSC encounters are having enough volunteers to meet the transportation demand (they have lost some volunteers due to high gas prices) and a lack of funding to expand services and provide trips for more than medical services. Snow is not much of an issue for the program because they offer non-emergency transportation that can be rescheduled if necessary because of adverse weather. Additionally, legal issues have prevented the center from receiving their millage funds.

The lack of countywide public transportation is a major barrier for those in the county and a challenge for the senior center. In the future, HCSSC foresees an increased number of older adults staying home as long as possible instead of moving into assistance facilities, leading to an increased need for the services they provide. Because many older adults suffer physical limitations and need wheelchairs and walkers, HCSSC will likely have to expand services and increase their number of drivers and vehicles.

Key Opportunities, Inc.

Key Opportunities, Inc., a private non-profit company providing (pre)vocational training and employment opportunities, and transportation in Hillsdale County. Key Opportunities will pick up adults age 60 and older at specific Hillsdale locations and transport them to a Wal-Mart shopping complex once a month for about $5.00 a person. About 10 seniors use the service on average. Key Opportunities operates three 28-30 passenger buses and five vans; some are lift-equipped but not all. The service is funded through monies from MDOT, the low-income apartments where older adults live, and the fees for the service. The drivers of the vehicles must have a Commercial Driver License (CDL), and also pass routine physicals and random drug screening tests.

Hillsdale County Department of Human Services

The Department of Human Services (DHS) in Hillsdale County provides medical transportation for their Medicaid clients. The DHS will transport clients whenever they need a ride, including on weekends, as early as 4:00 AM and as late as 9:00 PM. Volunteer drivers pick up clients at their home and transport them to their medical appointments and back. The DHS estimates about 30%-40% of the rides they provide are for seniors. The service is offered to those in Hillsdale County, and usually to those outside the dial-a-ride area. Currently the DHS has six volunteer drivers providing rides. Volunteer drivers must have a valid driver's license and pass a background check. Drivers receive a mileage stipend of $0.55 cents per mile. Last year, the annual budget to provide the transportation service was approximately $13,000.

Hillsdale Department of Veteran Affairs

The Department of Veteran Affairs in Hillsdale County offers a van service for its veterans to transport them to any VA Medical Facility within a 100-mile radius. Volunteers drive the van to pick up veterans at their homes or a central meeting place. Veterans are encouraged to schedule their ride 7 days in advance. The van operates Monday through Friday and is free for veterans. Nearly all of the clients utilizing the van are older adults and the van cannot accommodate wheelchairs. Currently, the Department of Veteran Affairs has five volunteers, but only two are active. Volunteer drivers are required to pass a physical and a background check and have a valid driver's license.

Hillsdale Assembly of God

The Hillsdale Assembly of God offers a ride to Sunday service for those in the cities of Hillsdale and Jonesville. Anyone can utilize the service. Volunteers (must have a CDL) drive a 30-passenger bus and a non lift-equipped van paid for by the church's general funds. Ridership varies each Sunday. Currently, no older adults utilize the services, which are most used by children.

Iron County

Dickinson-Iron Community Service Agency

Structured Interview Results

The Dickinson-Iron Community Service Agency (DICSA) offers a demand-response, curb-to-curb and door-to-door transportation service for those age 60 and older in Dickinson and Iron Counties. DICSA operates on Monday, Wednesday, and Friday from 8:00 AM to 3:30 PM in Iron County. Older adults call their local senior center to schedule a ride, and are encouraged to schedule rides at least 24 hours in advance. The DICSA also offers a once-a-month shopping trip on their larger cutaway bus for those in Iron County to travel to Iron Mountain in Dickinson County. The cost is $12 a person round-trip and at least 6 older adults must take the trip or else the service in cancelled.

DICSA houses three minivans at the senior centers in Iron County, two in Crystal Falls (also a larger cutaway bus with a hydraulic lift for oversize wheelchair clients) and one in Iron River, MI. Fares are $4.00 for a local curb-to-curb round-trip, $6.00 if they are wheelchair-bound. Where space is available, the DICSA will accommodate non-seniors, charging $5.00 for a curb-to-curb local round-trip.

The transportation service is funded by MDOT Specialized Services for senior and handicapped transportation ($100,000 to operate the program in the two counties) and a Federal 5310 grant, which allows DICSA to apply for new vehicles as needed. DICSA projected that total fares for 2013 will be $13,500 (both counties combined). In 2011, DICSA provided 1,876 one-way trips for riders of all ages in Iron County, as well as 4,453 senior rides and 1,721 senior-handicapped rides in both Dickinson and Iron counties combined. Most trips were taken for either medical appointments or for shopping.

DICSA is self-insured and not a part of the Michigan Transit Pool. All drivers are trained on proper handling of wheelchairs and tying down chairs. Drivers can physically assist clients and can help load/unload groceries, etc. DICSA asks that riders with dementia have a caregiver ride with them.

DICSA used to operate their transportation service 5 days a week in Iron County, but because of low funding and high gasoline prices, they reduced their service to 3 days a week. DICSA reported that use of their service is high on those 3 days. The DICSA reported that their vehicle fleet is adequate for their needs, but because of the limited funding, there are some older adults in very rural areas that the DICSA cannot transport due to time and money restraints. With more funding, the DICSA reported that they would expand service days and hours.

In the future, DICSA expects the senior population and transportation needs to grow in Dickinson County, but is unsure the need will grow in Iron County because of the already low population, lack of growth of the older adult population, and the lack of jobs.

Iron County Department of Human Services

Structured Interview Results

The Department of Human Services (DHS) in Iron County offers a door-to-door transportation service for Medicaid clients. Volunteer drivers utilize their own vehicles to pick up clients at their homes and transport them to and from their medical appointments. Currently, there is one volunteer driver in Iron County who transports clients to appointments throughout the week and on some weekends. Volunteer drivers receive a mileage stipend of $0.55/mile. Clients are required to speak with their caseworker for approval and encouraged to schedule rides in advance for the service. Following that, DHS will contact volunteers to transport the clients. Volunteer drivers can transport wheelchairs and walkers, but cannot physically lift clients because of liability issues. There is no limit on how far a client can be transported, but trips out-of-state need approval from the Lansing office. About 90% of clients are seniors and about 25 trips are provided per month (some are repeat customers). Most of the volunteers are seniors or disabled younger adults that are able to drive. DHS coordinates with Upper Peninsula Health Plan (who also provides volunteer transportation to Medicaid clients) and DICSA.

Funding is a challenge for DHS and their transportation service is to be utilized as a last resort to medical appointments. Additionally, although DHS has a small

budget of about $1,500 in volunteer service dollars that occasionally allows them to transport a client for purposes other than medical, this does not happen often, as the budget must cover other activities as well. DHS used to provide some transportation to family events, birthdays, anniversaries, and other activities but discontinued this because of a lack of funds. DHS reported that recruiting volunteers was a challenge, due in part to the low mileage reimbursement rates and high gasoline prices. Clients often need to travel great distances to get the medical services they need, so keeping the mileage rate at a reasonable rate is critical to recruiting and maintaining volunteer drivers.

DHS anticipates that transportation needs will grow in the future with an increased number of older adults living longer and living at home instead of in a facility. DHS also finds the lack of a transit bus in Iron County to be a barrier for older adults to get to their appointments, the grocery store, and to other outings, as well as making it difficult for individuals to get from one side of the county to the other. DHS believes that with more funding, more services could be provided and perhaps MDOT could help with forming a transit service in Iron County, or give funding to another community agency to provide an escort service, especially for local trips.

Veteran Transportation Service

Two days a week a minibus from the Iron Mountain VA Medical Facility will pick up veterans in the cities of Crystal Falls, Florence, Eagle River and Iron River and transport them to and from the VA Medical Facility in Iron Mountain. The Veteran Transportation Service operates 2 16-passenger minibuses that can transport wheelchairs and oxygen. A minibus picks up approximately 10-12 veterans per week in Crystal Falls and Iron River (cities in Iron County), and of those about 95% are seniors. The minibuses travel on two set routes: one East and one West, and also takes call-ins on a first come, first served basis within 50 miles. Transportation service is available Monday through Friday, 5:00 AM to 8:00 PM. Paid employees drive the minibuses, and must pass classes at the VA including handling patients and customer courtesy. The service is free for veterans, the only criteria being that they have a scheduled

appointment at the VA Medical Facility. This service is funded directly from the Veterans Transportation Service.

Trico, Inc.

Trico, Inc provides a transportation service for their physically and mentally disabled clients to transport them to workshops, senior centers, and other companies where they are employed. At the time of this study, none of Trico's clients were older adults.

Marquette County

Marquette County Transit Authority

Structured Interview Results

The Marquette County Transit Authority, also known as MarqTran, offers fixed-route, deviated fixed-route and door-to-door transportation services. MarqTran operates fixed routes from Marquette to Ishpeming, Negaunee, and the K.I. Sawyer airport in Gwinn, as well as several fixed routes in the cities of Marquette and Ishpeming. Also provided is a door-to-door service within Marquette County. The deviated fixed-route service is designed to pick up seniors in rural communities on Fridays, and bring them to an existing fixed-route service in a larger town. MarqTran's services cover almost the entire county and an inter-local agreement technically allows them to enter any county in the Upper Peninsula if needed. However, the Trauma Medical Unit hospital is located in Marquette, so most often transit from elsewhere comes into Marquette County, instead of MarqTran traveling outside the county. MarqTran operates 365 days a year.

Seniors (60 years and older) pay half fare for all transportation service and ride the fixed-route buses for free on Wednesdays. For the door-to-door service, those ADA-qualified can call 7 days in advance to schedule a ride, those going to medical appointments may call 3 days in advance, those going to work can schedule 2 days in advance, and anyone else can schedule 1 day in advance. MarqTran's vehicle fleet includes 36 total vehicles, 25 of which are lift-equipped, including two three-passenger

minivans that can transport one to two wheelchairs. Their largest bus can transport 35 passengers (fixed route bus).

MarqTran is funded by a State Specialized Services grant ($46,000) to meet unmet needs for seniors and people with disabilities, a countywide millage (about 52% of funding), and fares (10-12% of funding). In 2011, approximately 15,715 rides were provided for seniors and 6,265 rides for seniors with disabilities. MarqTran does not track the destinations of riders travel, but noted that seniors most often needed rides for medical, shopping, and recreation. MarqTran is a member of the Michigan Transit Pool, and does not find issues with liability.

MarqTran reported that a lack of funding is a challenge for expanding services. MarqTran's millage is up for renewal in 2014 and in the past they have been successful with renewals, though they are unsure how much people want to be taxed in the future. To overcome the funding challenge in the future, MarqTran suggested that getting more community people and businesses involved, as perhaps businesses could help provide funding to get their employees to ride the bus to and from work. Currently, MarqTran is attempting to establish a regional transportation corporation with four counties and believes mobility management would be very helpful.

MarqTran reported that their vehicle fleet was adequate to meet their needs and noted that the state does a great job of making sure the fleet is up and running. MarqTran does not provide a formal travel training program for using their services, but will provide training for the service if requested, although they do not receive many requests. Snow is not a big issue as long as the roads are plowed, although if the weather is severe MarqTran will go to a limited service.

It was felt that currently most seniors in Marquette County could get where they need to go, but MarqTran expects transportation needs to grow and change as both ridership and seniors are increasing. Additional buses along with an expanded service area and overnight hours may be necessary as seniors will want more services than only those that meet their basic needs. In the future, MarqTran believes that MDOT could help overcome barriers and challenges by maintaining and increasing their level of involvement (funding and training to ensure compliance with laws and regulations),

continue to help with planning and surveys, and could also assist with MarqTran's expansion to regional service by helping coordinate funding and buses.

Retired Senior Volunteer Program

Structured Interview Results

The Retired Senior Volunteer Program (RSVP) provides non-emergency medical transportation for Marquette County residents age 60 years and older. Clients, senior centers, and other organizations call RSVP with the details of their appointment and RSVP finds a volunteer driver to transport them to their medical appointment and back. RSVP asks for a 2 business day notice when scheduling a ride. Currently the RSVP program has between 50 and 55 volunteer drivers. Because the volunteer drivers use their personal vehicles, RSVP asks that their clients are ambulatory and they prefer not to transport wheelchair-bound individuals but will sometimes do this if they can. Drivers can assist carrying bags or packages at their discretion. There is no fare for this service, but donations are accepted. Many of RSVP's transports are to medical centers or the hospital in Marquette and Bell Hospital in Ishpeming.

RSVP has signed agreements with 73 non-profit organizations and human service agencies that use their volunteers (RSVP has 283 total volunteers that assist on various projects, transportation is just one piece), and works closely with the four senior centers and the four senior apartment complexes in Marquette County to coordinate and provide transportation. In 2011, RSVP provided 759 rides to 151 clients, and in 2010 they provided 646 rides to 150 clients. RSVP offers accident liability insurance to cover additional costs that the volunteer drivers' private insurance does not cover.

The 2013 fiscal year budget for the RSVP program is $123,688. The RSVP program is funded by a portion of a countywide senior millage (19.5% of budget), Office of Services to the Aging (43%), federal funding (about 5%), and client donations. The County Board of Commissioners makes the final decision on where the county millage for seniors is distributed. RSVP's Federal funding (through Corporations for National and Community Service, Senior Corp, and United Way) was cut 20% in 2011 resulting in efforts to secure more funding.

RSVP transports only to destinations in Marquette County and reports that it is challenging to accommodate clients who need to travel to the VA Medical Facility in Iron Mountain which is located is another county. Snow can also present a problem, but RSVP mentioned that the senior center helps with snow removal and is good at identifying those that need help removing snow from their walk. The biggest challenge RSVP faces is having enough drivers to provide the needed rides. Recently they added a 2-business day notice for scheduling a ride which helps in finding available drivers. RSVP also believes that educating the public on the service would be an effective strategy for recruiting volunteers and making older adults aware of the service. Through funding from the Office of Services to the Aging and the Corporation for National and Community Service, RSVP must maintain insurance for their volunteers and that is one reason why RSVP considered their program to be so successful.

RSVP noted that public transit can be a challenge for older adults to use, because of scheduling issues, the jarring motion of the bus, and the inability of seniors to get shopping bags on and off the bus and into their homes. To overcome this barrier, RSVP mentioned that they would like to see MarqTran obtain a fleet of smaller vans that they could send out on a 1 day notice. RSVP also reported that wheelchair-bound clients are currently underserved and that purchasing larger passenger cars or vans with ramps would help meet this need. RSVP was unsure about how MDOT could help overcome their barriers, but mentioned they might be able to help in providing those smaller, more senior-friendly vehicles that could transport five to six seniors at a time to various locations.

RSVP believes that the transportation need and older adult population will continue to increase in Marquette County. Many clients currently served by RSVP are homebound with family/friends not available to assist, and some clients may not drive and/or be able to afford a personal vehicle. A survey of those that use the RSVP transportation service showed that most clients found the service extremely important in getting to medical services, and most of those surveyed responded that the service helped maintain their independence. Many of those surveyed also found a need for rides for shopping purposes.

Forsyth Senior Center

The Forsyth Senior Center provides older adults with rides to the grocery store and back. Three paid employees use their own personal vehicles to transport older adults from the senior centers or their home (within a 30 mile radius), to the local grocery store and back. Hours of operation are Monday through Friday 8:00 AM to 4:30 PM. The senior center provides approximately 12 rides per week and the service is free for seniors. This transportation service is funded by a county millage and state funds, with an annual budget of about $10,000. The Forsyth Senior Center refers seniors to RSVP for medical rides.

Marquette County Department of Human Services

The Marquette County Department of Human Services offers transportation services to its Medicaid clients. Volunteers use their own personal vehicles to pick up clients at their homes, transport them to medical appointments, and bring them back home. Volunteer drivers can provide either door-to-door or door-through-door services depending on the client's needs and wishes. Transportation can be scheduled Monday through Friday, and the service is provided 7 days a week. The service is free for Medicaid clients. Volunteer drivers must possess a valid driver's license and are reimbursed for mileage. DHS coordinates with the senior centers to coordinate transportation and refer non-Medicaid clients to other transportation options.

Marquette County Department of Veteran Affairs

Veterans (and sometimes their dependents if the veteran needs assistance during the trip) are transported from pick-up points in Marquette County and taken to the VA Medical Center in Iron Mountain and back. The veteran must be ambulatory as wheelchairs and oxygen cannot be transported. Veterans call the Department of Veteran Affairs to schedule a ride. Currently there are about 20 volunteer drivers, but there is always a need for more drivers. About 15 rides are provided per week (the van transports three passengers at a time, Monday through Friday) and about 90% of riders are seniors. The Disabled American Veteran (DAV) buys the vehicle through a grant

program at a reduced-cost. The DAV then pays for the vehicle through donations and fundraisers. Volunteer drivers must pass a physical and a background check.

Uptown Taxi

Uptown Taxi provides a door-to-door taxi service that operates 24 hours a day, 7 days a week. Customers call for service, with 20-minutes notice required for the regular van and 24 hours notice required for the lift-equipped van. The fare within Marquette City limits is $6.50 and for Marquette Township is $7.50—for outside Marquette city limits there is an additional charge of $2.00 per mile. There is an extra fee for the lift-equipped van. Seniors receive a $0.50 discount.

Checker Cab

Checker Cab is a taxi service that operates in Marquette County. No further information could be obtained.

Mason County

Ludington Mass Transit Authority

Structured Interview Results

The Ludington Mass Transit Authority (LMTA) provides a curb-to-curb, demand-response transportation service to those in the cities of Ludington and Scottville and the charter township of Pere Marquette. Approximately 42% of LMTA's ridership (about 70,000) are seniors (60 and older) or senior-disabled riders. The Mason County Central Schools (MCCS) operate a senior meals program for which LMTA will transport seniors for free to and from the senior center and bill MCCS once a month, but that is the only senior-focused program in which they participate. The bus can also be rented by the hour; however, doing so is extremely expensive. LMTA's vehicle fleet includes 19 buses, with the average bus holding 20 passengers. LMTA believes that its vehicle fleet is adequate to meet the needs of its riders. Those requiring help from an aide ride the bus for $1.00 with their aide riding free. LMTA is funded from a local city and township millage, fares, and Federal and State funds. LMTA is a member of the Michigan Transit

Pool. LMTA finds seniors ride often for medical service, shopping, restaurants, and church services.

LMTA does not currently provide travel training but believes it to be a good idea. Trying to recruit volunteers and coordinate a travel training program has proved to be difficult for LMTA. Other challenges for LMTA are the inability to provide out of county service or service to places beyond Ludington, Scottville, and Pere Marquette. Total ridership in 2011 was 165,000, an increase of 20% from the previous year that LMTA believed to be due to the high cost of fuel. LMTA considers their vehicle fleet to adequately meet its needs, but notes that smaller, more user-friendly vehicles that can get closer to homes and under overhangs at hospitals, would be beneficial to seniors. It was noted that winters can be harsh in Mason County, but LMTA reported that the city does a good job of keeping roads clear. If weather becomes severe, LMTA may go to a limited curb-to-curb service. LMTA reports that there are political barriers that are preventing expansion of service to other areas.

LMTA noted that MDOT could help them by educating community groups about the benefits and advantages of public transportation. LMTA believes that the transportation needs of the public and seniors, in particular, will change in the coming years, as many people do not have nearby families and depend on public transportation for their mobility needs. The biggest issue for LMTA is funding. LMTA reported that they have lost 12% of their funding in the last 12 years and cannot afford more full-time employees and fringe benefits.

<u>Scottville Area Senior Center</u>

Structured Interview Results

The Scottville Area Senior Center provides non-emergency, volunteer-based, door-to-door medical transportation services for Mason County residents age 60 and older. Clients call the senior center with details of their medical appointment and are matched with available volunteer drivers. The volunteer drivers use their own personal vehicles to transport older adults to medical facilities within a 100-mile radius of the county. The Center usually has about 7-8 volunteer drivers, each reimbursed $0.555/mile for transporting clients. Drivers can transport walkers and small wheelchairs

and may provide physical assistance as needed, although wheelchair-bound clients must be able to stand and pivot in order to get inside vehicles. There are no fees for the service, but donations are accepted and about 50% of clients donate. Because of the service area limitations of LMTA and the fact that many cannot drive or afford to drive, the majority of rides provided by the Center are to destinations outside Mason County, including: Muskegon, Grand Rapids, Traverse City, and Big Rapids. The budget for the transportation service during the last fiscal year was $50,054 and was funded by Federal and State funds (14% of budget), a county millage (64%), United Way (14%) and donations (8%). The senior center serves an average of 70 clients in one year.

The Scottville Area Senior Center's medical transportation is to be considered a last resort transportation service, and the center cannot provide rides for continued medical procedures such as dialysis, chemotherapy, radiation, and other similar procedures. A lack of funding prevents the Center from meeting the transportation needs of all older adults in the county, especially those who use larger wheelchairs or need physical assistance because they cannot stand or walk. Drivers may be physically limited themselves and cannot assist those clients. In addition, recruiting younger volunteers is a challenge, as retirees are those with the extra time to provide the service but might be physically limited and unable to help clients. A 2012 survey of the transportation program's clients showed that the program helped most clients feel more independent, and most reported that they would have to cancel one or more of their appointments if the service was not available.

There is no designation in the millage for the senior center, as it is the county commissioner who makes the decision on how millage funds are dispersed. The Scottville Senior Center anticipates changes for the better in the future. Specifically, it is thought that seniors will be living longer, healthier, and driving longer. All of these trends will contribute to people remaining independent longer, thus resulting in the senior center having more volunteers.

Hands Extended Loving People (H.E.L.P.) Ministry

The H.E.L.P. Ministry offers door-to-door medical transportation for adults age 55 and older. Volunteer drivers use their own personal vehicles to drive clients to their

medical appointments and back. This service is free. Volunteer drivers have travelled as far as Detroit, Battle Creek, and Bay City to get clients to their appointments. H.E.L.P. provides approximately 12-20 rides per month, translating to more than 144 rides per year. H.E.L.P. works with the Scottville Senior Center and the Department of Human Services; if those agencies cannot provide rides, H.E.L.P. will help transport clients.

Mason Country Department of Human Services

DHS provides volunteer-based, medical transportation to Medicaid clients in Mason County. Caseworkers match a volunteer driver with a client. The transportation service is curb-to-curb; drivers are not supposed to physically assist the clients. To be eligible for the service, clients must be outside the dial-a-ride area. Currently DHS has five volunteer drivers who can transport clients 7 days a week whenever they need transportation to their medical appointments. Drivers are reimbursed $0.50/mile. About 75% of the riders are seniors (about 12 senior rides a week). This service is free and is funded by Medicaid. DHS and senior centers attempt to coordinate efforts: senior centers will refer Medicaid clients to DHS and DHS will refer non-eligible clients to senior centers.

Town & Country Taxi

Town & Country Taxi is a door-to-door taxi service based in Ludington. Customers can call ahead to schedule a ride or call about 15 minutes ahead of time. Town and Country operates 24 hours a day, 7 days a week and will take customers anywhere they need to go. The fare is $2.00 per mile.

Group Discussions with Michigan Indian Tribal Representatives

Our group discussions with representatives of the Indian Tribes were organized around three main topics: transportation services provided to Tribal elders by Tribal departments; transportation needs and challenges of Tribal Elders; and opportunities for expanded transportation programs, funding, and/or increased coordination. Out of

these discussions, we identified some themes that came up (although not necessarily in every discussion). These themes are summarized below by topic.

Transportation Services Provided to Tribal Elders

- Tribal governments serve Tribal elders living not only in their government center location, but also in counties included in their larger service area. However, as might be expected, transportation services are focused primarily on elders living in the county seat.
- Transportation is available to Tribal elders through one or more Tribal departments, although the specific configuration and level of services vary across the Tribes. In general, the departments involved in providing transportation include Elder's, Health, and Human or Family Services, in some combination.
- The most commonly provided type of transportation service is for medical appointments at the Tribal health clinics. Travel for medical care outside the clinics, particularly to areas outside of the county, are more limited (e.g., to outlying area hospitals for dialysis or chemotherapy).
- There is some provision of transportation for non-medical related trips but these are more limited and are generally related to business such as legal or case management purposes rather than social, recreational or shopping purposes.
- Many departments have vehicles dedicated for transportation of Elders or people with disabilities. However, not all of these are wheelchair accessible and some are relatively old and in need of repair or replacement.
- Volunteers also play an important role in providing transportation to Tribal elders, as well as delivering meals to those who are home bound.

Transportation Needs and Challenges of Tribal Elders

- While medical-related transportation is provided by all Tribes through various departments, closures of some health facilities near Tribal elders have led to the need to travel farther for medical treatment.

- The greatest gaps in transportation are those for shopping, social/recreational, and cultural activities. Tribes are limited in their ability to provide transportation for these types of activities and local public transportation is often not available.
- Although many Tribal elders are not disabled, getting around can be especially challenging for those who are disabled.
- Local public and paratransit options for Tribal elders are limited in terms of geographic scope, hours of service, flexibility/convenience, and adequate shelters for waiting.
- Tribal housing developments are often outside the boundaries of local public and paratransit, and may have physical barriers for people with disabilities.
- Many Tribal elders rely on an informal network of family and friends, particularly for non-medical related transportation. However, the economic downturn has weakened such networks as many people have had to move to find employment or are no longer able to afford to maintain their own vehicles.
- Safe infrastructure for walking and biking is an important focus of Tribal planning but such improvements may be more beneficial to Tribal members overall than Tribal elders, especially those with impairments that limit their mobility.
- The larger societal trends of aging of the population and aging in place are also taking place in the Tribes and will contribute to increasing challenges for maintaining Tribal elder mobility.
- Furthermore, as Tribal populations age, increasing rates of medical conditions such as chronic obstructive pulmonary disease, heart disease, diabetes, and obesity will pose additional transportation challenges.

Opportunities for Expanded Transportation Programs, Funding, and/or Increased Coordination

- Tribal transportation planning serves as a valuable means to coordinate thinking about and responding to transportation needs of Elders as well as the general population of Tribal members. All of the Tribes are currently engaged in or preparing to conduct such planning.

- Multiple sources of funding continue to be considered to supplement limited Tribal resources for transportation planning and implementation efforts. However, these funds are in many cases shrinking. In addition, information about the requirements for funding (e.g., cost match, eligibility criteria) may be unclear or lacking.
- Innovative approaches are being employed or considered for enhancing current transportation/mobility initiatives for Tribal elders and others. These include: using mobility management to not only coordinate Tribal transportation, but also to document travel needs to facilitate future planning; promoting mobility through better land use planning and community design; placing a priority on building "green" transportation systems (e.g., electric cars, bikes, wheelchairs; solar-powered charging stations); pursuing multi-modal solutions to meeting the needs of Tribal elders and members more generally; and focusing on transportation needs within a broader health framework focusing on creating healthier environments.
- Involvement of MDOT in transportation planning/implementation is welcome and there is interest in exploring innovative roles for MDOT such as: providing hands–on technical assistance for pursuing funding opportunities from a broad array of government entities, with specific information on how grants might be combined or how cost match requirements for one grant could be met by other grants; assisting in synthesizing and understanding information rather than simply providing facts and reports; brokering meetings/communication between Tribes and Michigan governmental entities engaged in transportation planning or implementation; and continuing to foster activities that strengthen relationships with Tribal partners so that when issues arise, an infrastructure for communication is already in place to address them.

Conclusions

This study represents a detailed investigation into the transportation patterns, needs, and service use of rural older adults in Michigan. Based on the results of the literature review, demographic analysis, survey of older adults in six rural counties of Michigan, structured interviews with public transportation providers, and group discussions with Michigan Indian Tribes, several general conclusions can be made.

The challenges of providing safe mobility for older adults who live in rural areas will continue to be a critical societal issue in the coming decades. The population forecasts reported here show large increases in the number and percentage of older adults in rural areas of Michigan. These future older adults are expected to be holding their licenses longer, driving more, and will continue to prefer the personal automobile (either as a driver or passenger) for meeting their transportation needs. Unless more effective countermeasures are devised and implemented, the crash rates for older adults will continue to be high, especially for rural older drivers who drive very few annual miles.

When compared to urban and suburban areas, meeting the transportation needs of rural older adults will continue to be more challenging for a number of reasons. In rural areas, goods and services are further apart, so older adults need to travel more to meet their mobility needs. Rural roads are less safe and public and community transportation services are limited in many rural areas. Fiscal support for rural transportation services is more difficult to obtain. In addition, the families of rural older adults are less likely to live nearby, making it more difficult for families to provide transportation assistance. Thus, rural older adults are more likely to continue driving after they are no longer safe to do so, elevating the crash rate for rural older adults.

The issues of safe mobility for rural older adults can be framed by two complementary and interdependent goals: (1) to help rural older adults continue to drive for as long as they can safely do so; and (2) to identify, provide, and support public and community transportation services in rural areas for those who are no longer able or choose not to drive.

A comprehensive understanding of the transportation needs and patterns, including use of public and community transportation services, is needed for developing

and implementing solutions for maintaining safe mobility among rural older adults. The present survey of Michigan rural older adults adds greatly to this understanding. Our survey found that most rural older adult households have one to two vehicles, but 16% had no vehicle. More than one-half of households had two or more drivers, but 23% had no drivers. About two-thirds of older adults were regular drivers and 20% rarely or never drove. The survey found that large majorities of rural adults reported not having or not being aware of public and community transportation services in their neighborhoods including buses (82%), senior van/dial-a-ride (37%), volunteer drivers (50%), and taxis (67%). For rural older adults who did have these services available, very few utilized them. Nearly all rural older adults had not participated in a travel training program or used mobility management services. Rural older adults tended to make all trips either as a driver or riding as a passenger. Less than 20% of rural older adults were receiving informal transportation assistance. Of those who were receiving this type of care, the caregiver was most commonly the child of the older adult and all were being given rides in the caregiver's car.

The survey found some differences between rural older men and women. Rural older women tended to be older, less likely to be married, less likely to be licensed, and more likely to live in households with fewer cars and drivers. Rural older women drove less frequently, fewer days per week, fewer annual miles, stayed closer to home, and were less satisfied with their personal mobility. Women were generally more aware of transportation services in their neighborhoods and were slightly more likely to use these services. Women were more likely than men to ride as a passenger when taking trips for any purpose. Rural older women who were receiving informal care were more likely than rural older men to get this care from their children. Rural older men were more likely than women to receive care from a friend or other relative.

There were also differences between rural older adults age 70-79 and those age 80 and older. Rural older adults age 80 and older lived in households with fewer cars and licensed drivers, were generally in poorer health, drove less, and reported slightly greater social isolation. The oldest age-group of rural adults was also more likely to use the various public and community transportation services. The oldest respondents were more likely to report taking fewer trips (for all trip purposes) and more frequent riding as

a passenger for all types of trips. Among rural older adults who were receiving informal care, the oldest adults were less likely to get this care from a spouse, less likely to have the caregiver living in the same household, and the caregiver was generally younger.

The survey also compared rural older adults who had used some form of public/community transportation (users) to those who had not used public/community transportation services in the past year (non-users). Many differences were found. Users were older, generally not married, more likely to be female, less likely to own their own home, less likely to have lived in the same place for the past 5 years, had fewer drivers and vehicles in the house (50% had no vehicle in the household), and were less likely to be volunteering in the community. The health of users was generally worse than non-users, and users were significantly more likely to report having vision and mobility problems that affected driving. Two-thirds of users of public/community transportation were not driving anymore and those who were still driving were doing so less frequently, driving fewer miles, and traveling closer to home. Users of public/community transportation services were also significantly less satisfied with their overall mobility and reported significantly greater social isolation.

As might be expected, users of public/community transportation services were more aware of all forms of public and community transportation services. The top two reasons for liking bus services were that it went where respondents wanted to go and it was convenient. The top two reasons for liking senior vans/dial-a-ride services were that they were convenient and pleasant. Volunteer driver services were liked because this service went to where people wanted to go and it was pleasant. Taxis services were liked because they were reliable/punctual and respondents did not have to ask others for rides. The main reasons reported for not liking buses, senior vans/dial-a-ride, and volunteer driver services were that they took too long or they were inconvenient. Taxis were not liked because they were too expensive and they took too long. Users of public/community transportation services were also more likely than non-users to be riding as a passenger and the driver they rode with was less likely to be a spouse and more likely to be a friend or other relative when compared to non-users of public/community transportation. Users of public/community transportation services took significantly fewer shopping, family/business, social/recreational, and out of county trips

than did non-users and were much more likely to ride as a passenger or use another form of transportation than non-users for these trips. A significantly greater proportion of users reported receiving informal care or transportation assistance, but the characteristics of the caregiver or the type of care given did not differ by whether or not the respondent had recently used public/community transportation.

The results of the structured interviews with transportation providers in the six rural study counties also led to some general conclusions. In all of the study counties, transportation was reported to be a very important need of older adults. Each transportation provider that we interviewed reported that they had transportation services for older adults, some more than others, and all reported challenges to providing services. Several common themes emerged among the transportation providers in each county related to the challenges with providing services to older adults. They were:

- Lack of funding to expand or provide services
- Difficulty recruiting and maintaining volunteer drivers
- Inability to transport older adults out of the city and/or county
- Inability to transport those that need physical assistance
- Limited ability to transport wheelchairs or mobility chairs
- Difficulty educating the public on the transportation service
- Lack of coordination and/or knowledge of services between transportation service providers

Most of the transportation providers considered their vehicle fleet adequate to meet their current needs, and most reported that snow was not an issue for providing service as long as roads were plowed. Some mentioned that snow was a barrier for older adults in places where sidewalks were not present or not shoveled. Many transportation providers were members of the Michigan Transit Pool and/or did not report any liability issues, although some mentioned the liability associated with providing door-through-door service was a barrier that prevented them from offering that service. Most providers received some federal or state funding, a city or county millage, and/or donations. Those that received a millage reported that they were generally

stable, but some transportation providers reported legal and political challenges in obtaining millage funds, limiting their level of service.

All interviewees agreed that older adults most often traveled for medical, shopping, and social/recreational purposes. Although most providers agreed that older adults can usually get their basic transportation needs met, they also thought that older adults still faced challenges in using transportation services. The interviewees mentioned several barriers in providing transportation services to older adults, including the following:

- Physical restraints preventing them from getting onto or riding public transit;
- Lack of transportation to services beyond medical and basic needs;
- No transportation service in the area they live;
- Limited or no transportation for those in wheelchairs, mobility chairs or on oxygen;
- Financial barriers to utilizing public transit.

Many transportation providers also noted that they thought that independence was very important to older adults and transitioning from the personal automobile to a transportation service is difficult for many older adults. Providers reported that many older adults are on a fixed income and that reasonable pricing is a factor in utilizing public transportation. Some providers mentioned offering free transportation to seniors to increase their use of the service.

Many of the interviewees were unsure how MDOT could help them improve their services to older adults. The following suggestions, however, were reported by the services providers:

- Providing funding;
- Providing vehicles, including smaller or senior-friendly vans/buses;
- Educating the public on the need, benefits, and advantages of public transportation.

All but one of the interviewees expected that the population and transportation need of older adults in their county would grow in the future. Service providers expected

that these future trends would require transportation providers to expand services beyond their current service by extending the days and hours of service; increasing the number of vehicles including lift-equipped vehicles; recruiting more volunteer drivers; and offering trips for more than medical purposes if they were not already doing so.

Finally, the group discussions with Tribal representatives yielded a number of themes. All Tribes provided transportation services to Tribal elders through one or more of the Tribal departments that serve elders. The specifics of these services varied among the Tribes. Tribes mentioned a number of challenges associated with providing transportation to Tribal elders including: decreased ability to provide transportation for non-medical purposes; limitations of local public and paratransit options; decreased availability of informal family/friends transportation assistance; and an increasing number of elders. A number of opportunities for expanding transportation programs, funding, and increasing coordination were discussed.

Recommendations

General

1: Continued special focus on older adults who live in rural areas is warranted.

Background and rationale: The percentage of older adults who reside in rural areas is projected to increase significantly in the coming decades. This increase will be the greatest for those age 85 and older. The percentage of older adults involved in crashes in rural counties of Michigan is greater than in non-rural counties and this difference is likely to continue into the future. It is clear that older adults who live in rural areas are faced with unique and challenging transportation problems. In rural areas, goods and services are further apart, so older adults need to travel more to meet their mobility needs. Rural roads are less safe and public and community transportation services are limited in many rural areas. Fiscal support for rural transportation services is more difficult to obtain. Non-driving mobility options are limited in most rural areas and older adults who no longer drive must often meet their mobility needs by getting rides from family and friends. Families of rural older adults are less likely to live nearby, making it more difficult for families to provide transportation assistance. Thus, rural older adults are more likely to continue driving after they are no longer safe to do so, elevating the crash rate for rural older adults. Comparing current project results with the results of a recent statewide survey of Michigan older adults (Eby et al., 2011) shows that older adults who live in the six rural study counties had slightly worse health, were driving less regularly, and had a greater proportion of respondents who were at least somewhat dissatisfied with their mobility (1% versus 7%).

2: Differences among rural older adults themselves should be taken into account. The rural older adult population is the most heterogeneous of all age groups. In particular, rural older adults age 80 or older can be different from rural older adults age 70-79.

Background and rationale: The heterogeneity of both the rural and non-rural older adult population is well recognized. At the most basic level, differences between the oldest-old and the youngest-old need to be considered in developing measures to meet the

needs of Michigan's rural older population. The project found that rural older adults age 80 and older lived in households with fewer cars and licensed drivers, were generally in poorer health, drove less, and reported slightly greater social isolation. The oldest age-group of rural adults was also more likely to use the various public and community transportation services. In addition, the oldest respondents were more likely to report taking fewer trips (for all trip purposes) and more frequent riding as a passenger for all types of trips. Among rural older adults who were receiving informal care, the oldest adults were less likely to get this care from a spouse, less likely to have the caregiver living in the same household, and the caregiver was generally younger.

3: Gender should be considered when developing mobility solutions for rural older adults.

Background and rationale: Older men and older women differ in important ways with regard to rural population trends. Women in rural Michigan age 70 and older outnumber men and will continue to do so in the future. However, men are more likely to continue driving into old age. As noted in the literature review, it has been estimated that older women will outlive their ability to drive safely by 10 years, compared to 6 years for older men (Foley et al., 2002). The survey found differences between rural older men and women. Rural older women tended to be older, less likely to be married, less likely to be licensed, and more likely to live in households with fewer cars and drivers. Rural older women drove less frequently, fewer days per week, fewer annual miles, stayed closer to home, and were less satisfied with their personal mobility. Women were generally more aware of transportation services in their neighborhoods and were slightly more likely to use these services. Women were more likely than men to ride as a passenger when taking trips for any purpose. Rural older women who were receiving informal care were more likely than rural older men to get this care from their children. Rural older men were more likely than women to receive care from a friend or other relative.

Extending Safe Driving

Rural older drivers, like all older people, prefer getting around by personal automobile. Although some rural older drivers have difficulty driving safely because of declines in driving-related abilities, it is not age per se that leads to problems with driving. Instead it is medical conditions and/or the medicines used to treat these conditions that can make driving more dangerous. While many of these medical conditions are related to aging, there is significant variability among older adults in how certain conditions and medications affect driving skills and in the ability to overcome some of these declines. Thus, there is consensus that efforts should focus on helping older drivers extend the time over which they can safely drive, rather than restricting all older drivers simply because of their age (Molnar et al., 2007). Results from the present survey of older adults highlight the importance of driving among rural older adults.

4. Follow the recent recommendations for extending safe driving among Michigan older adults that are also relevant for rural older adults in Michigan.

Background and rationale: The research team has recently proposed a number of recommendations for keeping Michigan older adults driving for as long as they can safely do so (Eby et al. 2011). The following recommendations are also pertinent for Michigan's rural older adults: support the development of vehicle design guidelines to make cars more "older driver friendly"; be responsive to guidelines for roadway design that have been developed for older adults and find ways to implement them cost effectively; support continuing research and demonstration projects on quantifying the actual safety benefits of implementing recommended road improvements and complete streets legislation; when implementing roadway design improvements, include an educational/training component for the public that is tailored to the special needs and learning styles of older adults; when developing and distributing educational and training materials for older drivers, take into the account the role that caregivers play in providing transportation and mobility assistance to older adults; consider medical, allied health professionals, senior center, and community organizations frequented by rural older adults as viable partners for disseminating transportation safety information to older adults; and explicitly take into account needs, preferences, and unique behaviors

of older adults in the development and implementation of intelligent transportation systems (ITS) in rural areas.

5. Pursue opportunities to employ rural intelligent transportation system technologies designed to improve roadway safety.

Background and rationale: Given the preference for and continued reliance on the personal vehicle for meeting the mobility needs of rural older adults, any technology designed for improving rural roadway safety also will likely promote continued safe driving among rural older adults. The Research and Innovative Technology Administration (RITA) of the US Department of Transportation developed the Rural Safety Initiative, a program with a focus on reducing crashes and fatalities on rural roads. A large component of this initiative is the development of ITS technologies through a grant program. Many of these new rural ITS technologies are designed to improve safety through automated enforcement, educating drivers about road conditions, and driver feedback systems. Rural ITS technologies that are designed to prevent crashes caused by human errors have the greatest potential for improving the safe mobility of rural older adults. Many of these technologies, such as connected vehicle technology applications, are being researched currently.

6. Develop and disseminate educational information designed to help people understand the need to and advice for how to plan for the time when they can no longer drive.

Background and rationale:

While it is important to support efforts to keep rural older adults driving for as long as they can safely do so, nearly all older adults will eventually need to stop driving. According to one study, about 600,000 US older adults retire from driving each year, with women outliving their ability to drive safely by 10 years and men outliving this ability by 6 years (Foley, Heimovitz, Gurlnik, & Brock, 2002). Thus, analogous to retiring from employment, an inevitable consequence of a long life is giving up driving at some time. Many older adults recognize that they eventually will be unable to work or will choose not to work and plan for this significant change in their financial status. Yet, few plan for

how they will maintain mobility once they stop driving (Connell, Harmon, Janevic, & Kostyniuk, 2912; MacDonald & Hébert, 2010).

7. Provide support and resources to law enforcement to help them understand issues related to aging and driving and the important role law enforcement plays in maintaining safe driving among rural older adults.

Background and rationale: Although not specifically addressed in the project, law enforcement plays a critical role in maintaining safe driving among rural older adults. Law enforcement officers observe unsafe driving behaviors as they are happening and respond to crashes that involve older drivers. According to NHTSA (2007), law enforcement may not be aware of how age-related medical conditions affect driving, older driver crash statistics, how to process referrals for older driver with suspected declines in safe driving abilities, what information to give to families of older drivers, and the important role they play in documenting a history of driving problems for individual drivers.

Community Mobility Options for Older Adults

For rural older adults who are unable or choose not to drive, support for community mobility options will become increasingly important. A number of community mobility options have been developed to meet the mobility needs of older adults who no longer drive. As discussed by Eby et al. (2011) these options include: fixed-route public transit (e.g., buses); paratransit (e.g., dial-a-ride); private transit (e.g., many volunteer driver programs); and other alternatives such as walking, bicycling, or using small motorized vehicles such as golf carts (Kerschner & Hardin, 2006; Suen & Sen, 2004). The availability of these services varies considerably from community to community in rural areas. There is also significant variability in how these services operate, how much they cost, and how aware rural older adults are of them. Community mobility options for older adults in rural areas, when available, may be difficult to use, inconvenient, or simply unknown. Transportation systems are not always responsive to factors that may affect rural older adults such as physical limitations, failing health, costs, and not feeling comfortable using the transportation system. For the majority of older adults who stop

driving as a result of poor health, their poor health also precludes them from using public transit services even when it is available. Difficulties walking to the nearest bus stop or the inability to climb the stairs of a paratransit van are just two examples of how older adults may not be able to access public transportation options (Dickerson et al., 2007). The recommendations in this section, for the most part, have to do with overcoming these barriers.

It is important to keep in mind, that past work and the present study suggest that public transportation use is higher among women, minorities, the oldest old, those with low-income, and those in poorer health (Babka, Cooper, & Ragland, 2009; Rosenbloom, 2004). Thus in many ways, the ridership for public transportation can be characterized as being made up of some of the more vulnerable populations in our communities. At the same time, there are opportunities to improve all community mobility options in rural Michigan so they are better able to meet the needs of individuals of all levels of impairment and vulnerability and to appeal to larger segments of society before these individuals actually have a need to use them.

8. Follow the recent recommendations for improving community mobility options for Michigan older adults that are also relevant for rural older adults in Michigan.

Background and rationale: In a previous report on older adults in Michigan, we developed a list of recommendations for improving community mobility options statewide (Eby et al., 2011). Several of those recommendations apply to rural areas of Michigan. These include the following: investment in rural pedestrian infrastructure should focus not only on making communities more walkable but on improving travel routes from home to transit stations to reduce physical barriers to the use of transit; reduce other physical barriers to using rural public transit through measures such as improving vehicle entry through low floor vehicle design and increasing number of reserved seats for older adults; improve the training of rural transit operators; consider ways to expand voucher programs, especially for vulnerable populations; support improvements in marketing and outreach efforts to older adults to make them aware of what community mobility options are available (especially paratransit) and how they can be accessed; paratransit and specialized transportation services should explore cost

effective ways to provide more than just trips for medical purposes; continue to take a leadership role in fostering coordination of transportation services at the state level; and support continued inter-agency and citizen collaboration in planning and implementing mobility options for older adults, at the state, regional, and local levels, including collaboration within departments of state, regional, and local government, and with private sector safety, insurance, senior advocacy and healthcare organizations.

9. Encourage public transportation providers to develop, market, and formally evaluate travel training programs for older adults.

Background and rationale: This project found that among those with public/community transportation services in their neighborhoods, few rural older adults used the various services, with less than 20% having used the bus in the past year. Many older adults are not familiar with the benefits of traveling by public transportation or with the procedures and requirements for using public transportation services (Babka, Cooper, & Ragland, 2010; Burkhardt, McGavock, & Nelson, 2002; Ling & Murray, 2010; Tuokko, McGee, Stepaniuk, & Benner, 2007; Wolf-Branigin, Wolf-Branigin, Culver, & Welch, 2012). Training older people to use public transportation services (called travel training) has the potential to help older adults who cannot or choose not to drive maintain mobility and quality of life (Burkhardt, McGavock, & Nelson, 2002; Hardin, 2005). The survey of rural older adults in six rural Michigan counties found that only one respondent had participated in a travel training program. Although there have been few formal evaluations of travel training programs, those that have been done generally show that travel training: improves older adults' knowledge of how to use public transportation, increases the use of public transportation, and can save service providers money (Austin Resource Center for Independent Living,1995; Babka, Cooper, & Ragland, 2009; Shaheen, Allen, & Liu, 2009; Wolf-Branigin, Wolf-Branigin, Culver, & Welch, 2012).

10. Compile and update a comprehensive list of transportation service providers for older adults by county and make this list readily available and searchable.

Background and rationale: Many rural older adults are unaware of public/community transportation services that are available to them (Foster, Damiano, Momany, & McLeran, 2007; St. Louis, Zanier, Molnar, & Eby, 2011). In the survey of Michigan rural older adults, we found that few people were aware of services in their community and most found out about services by seeing them in action or by talking with family or friends. A comprehensive list of available transportation services would not only help people become aware of services, it would likely also promote the use of these services. Having the list searchable, such as on a website, would facilitate people finding services that are most relevant to individuals.

11. Encourage the development of and maximize the potential for rural volunteer driver programs.

Background and rationale: A recurring finding from this project is that rural older adults, like people of all ages, prefer to get around by personal automobile. Volunteer driver programs benefit older adults by allowing them to maintain their mobility in this way without sacrificing their autonomy. Programs that use both volunteer and paid drivers in private automobiles have the added benefit of leveraging the resources that individuals hold and would have spent on their personal vehicle if they had not stopped or reduced their driving. About two-thirds of rural older adults in the survey reported that volunteer driver programs were either not available or they did not know if they were available in their neighborhoods. An important barrier to the widespread adoption of such programs is the availability and affordability of liability insurance for drivers. Among the strategies for maximizing the potential of volunteer driver programs identified by the White House Conference on Aging (2005) were: developing and funding policies that cover volunteer drivers for door-to-door and door-through-door transportation services, by local and state governments; promoting community-based volunteer transportation options and protecting volunteer drivers from unreasonable insurance premiums; and fund development of volunteer-based transportation for older adults including liability protection for volunteers. Another barrier identified by providers of this type of service is

the lack of volunteers. Providing incentives for volunteers or maintaining a database of interested volunteers might facilitate this type of transportation service.

12. Encourage existing public/community transportation providers to develop new programs for older adults, particularly for services that provide trips for non-medical purposes.

Background and rationale: Many public and community transportation service providers limit services to trips for medical purposes, due in large part to the cost of providing transportation for other trip purposes. It is well established, however, that trips for non-medical purposes are integral for an individual's well-being (Dickerson et al., 2007). Among recent users of public/community transportation services in six rural counties of Michigan, we found that one-half utilized public/community transportation for medical-related trips but about one-third or fewer utilized these services for shopping, family/personal, social/recreational, or religious/school trips. This is likely an important contributing factor in why current users of public/community transportation services are significantly less satisfied with their overall mobility when compared to those who are not current users. Because of the financial barriers to providing these types of trips, the encouragement would likely include some form of financial support, such as a grant program. This encouragement could also take the form of a "toolkit" to help providers conceptualize and implement programs.

13. Continue/strengthen efforts to work with local and county transportation providers in rural areas to help them obtain federal funding from a broad array of government agencies.

Background and rationale: Obtaining program funding was considered to be a major challenge to many of the transportation providers interviewed for this study. This is consistent with findings from an analysis of transportation services for older adults in Michigan (Michigan Office of Services to the Aging, 2005) highlighted in the literature review. The analysis concluded that gaps in and barriers to services remain, largely due to lack of funding, particularly in some rural areas, as well as lack of coordination among transportation providers. Many transportation providers lack the experience and

resources needed to comprehensively seek out and apply for program funding. MDOT currently plays an important role in providing assistance to programs in these efforts through its Office of Passenger Transportation. Program managers within the office provide assistance to transit agencies and specialized services providers on program planning, budgeting, and service development and delivery, as well as grant preparation. These efforts should continue to be supported and strengthened.

14. Support efforts by local, county, and Tribal government programs to recruit and maintain volunteer drivers.

Background and rationale: One major challenge identified by transportation programs that use volunteer drivers is their ability to recruit and retain drivers. This has become especially challenging as fuel and vehicle maintenance costs have increased. Given the right incentives, however, there appears to be a pool of drivers who might be willing to serve as volunteer drivers. Results from the telephone survey indicated relatively high rates of volunteerism in the community throughout the six counties, ranging from 33% in Hillsdale County to 41% in Marquette County, suggesting that volunteering is important to people. Most older adults reported being licensed to drive (77-86% across all counties), with two-thirds of all older adults reporting that they drove regularly. Many of these drivers might be willing to consider volunteering for a transportation program in response to effective outreach efforts and adequate compensation to cover their vehicle costs (such as a gas card in addition to the mileage reimbursement).

Recommendations Specific to Indian Tribes

The project had a special focus on understanding the needs and issues related to Michigan Indian Tribes and older adults. Based on group interviews with representatives of Tribes and a review of the literature, we developed the following recommendations.

15. Continue to support and consider expanding the position of the MDOT Tribal Affairs Coordinator.

Background and rationale: The MDOT Tribal Affairs Coordinator plays an important role in developing and maintaining strong ties between the department and the Tribal governments in Michigan (MDOT, 2012). These ties, in turn, provide the foundation for effective communication, coordination, and problem solving between their governments. Discussions with the Tribes suggested that there is not only support for the continued role of the Coordinator as MDOT's liaison with the Tribes, but that there could be benefit in MDOT extending that role to include facilitating dialogue between the Tribes and other local and county government agencies (e.g., County Road Commission, transit operators) to foster greater coordination of services and better meet the needs of both community residents and Tribal members.

16. Provide technical support for identifying potential funding sources for Tribal transportation, as well as applying for these funds. Technical assistance should include developing and providing to Tribes a synthesis of funding information in a format that consolidates information across multiple government agencies and allows easy comparison of funding requirements.

Background and rationale: Information on funding sources and grant opportunities for Tribal transportation was not only considered to be of high priority in the Tribal group discussions held as part of this study, but was identified as the leading request among Title VI Aging and Tribal Transit Programs in recent discussions facilitated by National Center on Senior Transportation and the National Rural Transit Assistance Program (2011). Funding is available (either exclusively to Tribes or more broadly) from an array of US government agencies, with each agency offering multiple programs. For example, at the federal level, funding sources include not only the Department of Transportation, but also the Departments of Agriculture, Commerce, Education, Housing and Urban Development, Health and Human Services, Labor, and the Interior (Stoddard et al., 2012). As pointed out in the literature review, there are 62 federal programs that fund transportation services for low-income individuals, people with disabilities, and older adults (RITA, 2012). A synthesis of information about these funding programs, especially with regard to eligibility and match requirements, could be of great assistance to Tribes. In addition, there is an opportunity for MDOT to work with

Michigan's Tribal Technical Assistance Program to offer hands-on training in how to apply for the funds to Tribes with limited resources or lack of experience.

Recommendations for Implementation: Implementation Plan

For the purposes of the implementation plan, each recommendation from the project has been translated into a measure for increasing safe mobility of Michigan's rural older adults. For each measure, a description is provided of: 1) the target audience; 2) the activities necessary for successful implementation; 3) the potential barriers to implementation; 4) the criteria for judging the success of implementation; and 5) the estimated costs for implementation.

Measure 1: Continue special focus on the rural older adult segment of the population.

Implementation Component	Description
Target audience	The target audiences for this measure are MDOT, the GTSAC, OHSP, and other state/local transportation and planning offices. Other agencies and organizations should be active participants but transportation agencies should take leadership roles in undertaking the activities identified here.
Activities	1. Maintain dedicated position at MDOT focusing on older drivers, with special focus on rural issues. 2. Continue to maintain the older driver emphasis area as part of Michigan's Strategic Highway Safety Plan (i.e., Senior Mobility Workgroup), recognizing the rural issues. 3. Support conference workshops and sessions on rural older driver safety and mobility issues. 4. Support research projects focusing on rural older driver issues.
Barriers to implementation	No barriers are anticipated as this measure simply calls for a continuation of what is currently the status quo. The measure reinforces that there is compelling evidence for maintaining the current focus on rural older adults as a population with unique needs and preferences.
Criteria for success	Among the criteria for judging the success of implementation are having: a high level of support from top management and key stakeholders; a knowledgeable and committed person at MDOT who can provide enthusiastic leadership to mobilize key stakeholders; an active coalition comprised of a broad cross section of individuals from other agencies including state offices on aging, area agencies on aging, law enforcement, state and local planners, transportation service providers, social service agencies, the medical and public health communities, advocacy groups (e.g., AARP), and older adults themselves; a comprehensive and up-to-date plan of action for addressing rural older adult safe mobility for the state.
Estimated costs	There are minimal costs associated with this measure beyond what is already being budgeted and spent.

Measure 2: Take into account differences among older adults themselves, particularly between the rural youngest-old (70-79) and the oldest-old (80+).

Implementation Component	Description
Target audience	The target audiences for this measure are MDOT, the GTSAC, OHSP, and other state/local transportation and planning offices. Other agencies and organizations should be active participants but transportation agencies should take leadership roles in undertaking the activities identified here.
Activities	1. In conducting problem identification and other planning activities, disaggregate the rural older adult population to better understand differences between the oldest old and younger old instead of treating the population of rural adults age 70 and older as one entity. 2. In funding research projects on rural older adults, require such breakouts as appropriate and feasible within the scope of the project. 3. Educate key stakeholders about the heterogeneity of the rural older adult population and help disseminate findings relative to important group differences that could impact policy and practice. 4. Consider including separate strategies for the two segments of the rural older adult population, as appropriate, in planning efforts (e.g., the Senior Mobility Workgroup Action Plan). In cases where a given strategy focuses predominantly on a particular segment of the rural older adult population, this should also be made clear.
Barriers to implementation	Among the barriers to implementation are: budget limitations for research and analysis; research results that are not in a form for easy and practical dissemination to non-research audiences; limitations in data availability (e.g., insufficient sample sizes to make meaningful inferences).
Criteria for success	The criteria for judging the success of this measure include having interventions to help rural older adults that are empirically based and tailored to take into account important age differences among rural older adults.
Estimated costs	To the extent that this measure has to do with how we think about and frame the issue of rural older adult mobility, there are minimal costs associated with it. However, there will be added costs associated with ensuring that research samples and analyses have sufficient sample sizes so that age differences can be explored and implications for countermeasures can be identified.

Measure 3: Gender should be considered when developing mobility solutions for rural older adults.

Implementation Component	Description
Target audience	The target audiences for this measure are MDOT, the GTSAC, OHSP, and other state/local transportation and planning offices. Other agencies and organizations should be active participants but transportation agencies should take leadership roles in undertaking the activities identified here.
Activities	1. In conducting problem identification and other planning activities, examine differences by gender and identify implications for countermeasure development. 2. In funding research projects on rural older adults, require such breakouts as appropriate and feasible within the scope of the project. 3. Educate key stakeholders about the key gender differences that could impact policy and practice. 4. Consider including separate strategies for the two segments of the rural older adult population, as appropriate, in planning efforts (e.g., the Senior Mobility Workgroup Action Plan). In cases where a given strategy focuses predominantly on men or women, this should also be made clear. Examples of tailored interventions include: a) When developing programs and educational material for rural older adults, be aware that men are less likely to seek out information. b) When marketing transportation services, actively seek out ways of reaching rural older men, such as working with senior centers, VFWs, and fraternal organizations. c) Making non-driving transportation options more attractive to rural older men to overcome their reluctance to give up driving when driving skills decline to unsafe levels.
Barriers to implementation	Among the barriers to implementation are: budget limitations for research and analysis; research results that are not in a form for easy and practical dissemination to non-research audiences; limitations in data availability (e.g., insufficient sample sizes to make meaningful inferences).
Criteria for success	The criteria for judging the success of this measure include having interventions to help rural older adults that are empirically based and tailored to take into account important gender differences among rural older adults.
Estimated costs	The costs should be relatively minimal apart from ensuring adequate numbers of men and women in research samples.

Measure 4: ***Follow the recent recommendations for extending safe driving among Michigan older adults that are also relevant for rural older adults in Michigan.***

The implementation plans for this measure have been described in detail in a previous report (Eby et al. 2011).

Measure 5: ***Pursue opportunities to employ rural intelligent transportation system technologies designed to improve roadway safety*****.**

Implementation Component	Description
Target audience	The target audiences for this measure are traffic engineers and other professionals who develop and implement intelligent transportation system technologies. It should be noted that the ultimate audience for such technologies is all drivers in rural areas but with a particular focus on rural older drivers who may not be able to anticipate or easily recognize certain roadway features because of reduced or impaired vision, cognition, or psychomotor skills.
Activities	1. Maintain a dedicated position at MDOT focusing on older drivers, who can stay abreast with the outcomes of rural ITS demonstration programs. 2. Support conference workshops and sessions on evaluations of successful rural ITS technologies. 3. Seek out Federal grant opportunities. 4. Implement these technologies in rural areas of Michigan where appropriate and feasible. 5. Formally evaluate the effects of the new technology of reducing older driver crashes in rural Michigan.
Barriers to implementation	The main barrier to this measure is that most ITS technology is costly to install and implement.
Criteria for success	The criteria for success are: rural ITS systems that are installed and operating as intended; and the rural ITS system has significantly reduced crashes. A positive cost-benefit analysis would be another measure of success
Estimated costs	The cost of this measure would depend greatly on the technology that is implemented, although some or all of these costs could be offset through Federal grants. Formal evaluations of the system's effectiveness would cost between $500,000 and $750,000.

Measure 6: Develop and disseminate educational information designed to help people understand the need to and advice for how to plan for the time when they can no longer drive.

Implementation Component	Description
Target audience	The target audiences for this measure are MDOT, other organizations that focus on transportation and/or aging, and agencies and institutions that provide medical and health care services to older adults.
Activities	1. Conduct a detailed synthesis of the literature to better understand why people do or do not plan for driving retirement, efforts to get people to plan, and barriers to this type of planning. 2. Hire a university or other research partner to develop educational materials for both rural older adults and the families of rural older adults. 3. Pilot-test the information with rural older adults and revise accordingly. 3. Develop a systematic process for disseminating the information, including working with the partners that have access to rural older adults, including the medical professions, senior-related organizations, and fraternal organizations. 4. Formally evaluate the usefulness and effects of the educational materials.
Barriers to implementation	Potential barriers to implementation include: limited funding; competing priorities; and difficulty in getting partners to distribute information.
Criteria for success	Criteria for judging success include increased awareness of rural older adults about the need to plan for driving retirement and on how to do this, and the establishment of a self-sustaining dissemination effort.
Estimated costs	The estimated costs for the full development of the driving retirement materials is $250,000. The estimated cost for the evaluation is $200,000. The estimated cost for disseminating the materials ranges from $25,000 to $125,000 depending on the media used and the dissemination network chosen.

Measure 7: Provide support and resources to law enforcement to help them understand issues related to aging and driving and the important role law enforcement plays in maintaining safe driving among rural older adults.

Implementation Component	Description
Target audience	The target audiences for this measure are the Michigan State Police, OHSP, and other organizations that have a law enforcement focus.
Activities	1. Conduct a detailed review of programs designed to educate law enforcement officers about aging and driving, including the recently revised program by NHTSA. 2. Conduct a symposium or conference on law enforcement and older drivers, and include presentations about successful programs around the country. 3. Develop a list of promising approaches to educating law enforcement on older drivers. 4. Encourage MSP and other law enforcement agencies to have patrol officers participate in an educational program that has been shown to be effective.
Barriers to implementation	Potential barriers to implementation include: limited funding; competing priorities; and difficulty in getting law enforcement to participate.
Criteria for success	Criteria for judging success include having a recommended program (or programs) for training law enforcement about older drivers and having all patrol officers complete this training.
Estimated costs	The estimated costs for this measure are minimal. Most currently available programs are free to obtain. If the program requires an instructor, then there will be labor costs. The cost for a symposium/conference would range from $30,000 to $50,000.

Measure 8. Follow the recent recommendations for improving community mobility options for Michigan older adults that are also relevant for rural older adults in Michigan.

The implementation plans for this measure have been described in detail in a previous report (Eby et al. 2011).

Measure 9. Encourage public transportation providers to develop, market, and formally evaluate travel training programs for older adults.

Implementation Component	Description
Target audience	The audiences for this measure include public/community transportation operators themselves, as well as MDOT and other state/local transportation offices that provide guidance, funding, and other support to them.
Activities	1. Compile information on travel training programs from around the country. 2. Be aware of current work being done on developing effective travel training programs such as work that is being sponsored by the National Cooperative Highway Research Program of the Transportation Research Board. 3. Work with providers of public transportation to develop travel training programs that are specific to rural older adults. 4. Offer incentives to public/community transportation providers who implement, market, and evaluate travel training programs design for rural older adults. 5. Formally assess the effectiveness of these programs and make adjustments to the programs based on the assessment to make them more effective.
Barriers to implementation	The barriers to success are that public transportation providers may lack the funds or will to develop these materials.
Criteria for success	The criteria for success are that travel training materials designed specifically for rural older adults have been developed and more rural older adults are using public/community transportation services.
Estimated costs	The estimated costs are minimal. Properly designed and implemented travel training programs can save operators costs in the long run.

Measure 10. Compile and update a comprehensive list of transportation service providers for older adults by county and make this list readily available and searchable.

Implementation Component	Description
Target audience	The target audiences for this measure are MDOT and older Michigan residents who live in rural areas.
Activities	1. Contract with a University or other research entity to develop a comprehensive database of public/community transportation providers. The database should have several details about each service including, service area, eligibility, costs, and contact information. 2. Contract with a website development company or other software development entity to develop an easily used website or Smartphone application that allows users to search for services on a number of criteria. Ideally, the site would also allow the users to communicate with the providers directly through email or phone. This website could also be used in conjunction with a mobility manager. 3. Develop and implement a marketing strategy to increase awareness of the list among rural older adults. 4. Update the list of services and providers at least on an annual basis. 5. Formally evaluate the use and effectiveness of the website/Smartphone application.
Barriers to implementation	The barriers to implementation are that it will be difficult to keep the list updated and the initial design of a website/Smartphone application can be expensive.
Criteria for success	The criteria for success are that a comprehensive database of services has been developed and that the database is accessible and widely used.
Estimated costs	The estimated costs for the development of the list would be about $30,000 to $50,000. Annual updating of the list would cost about $20,000/year. Development of the website/Smartphone application would be about $75,000. Update of the website would be about $20,000/year.

Measure 11. Encourage the development of and maximize the potential for rural volunteer driver programs.

Implementation Component	Description
Target audience	The audiences for this measure include rural paratransit operators themselves and other providers of specialized transit services, as well as MDOT and other state/local transportation offices that provide guidance, funding, and other support to them.
Activities	1. Identify successful volunteer driver programs, demonstration projects, and/or toolkits, particularly those that have been evaluated in rural areas that can serve as models for program development in rural Michigan. 2. Develop a plan for leveraging FTA specialized transportation program funds to support demonstration projects designed to lead to wide-spread adoption on a regional and statewide basis (e.g., projects that result in a "toolkit" for other rural communities). 3. Identify other potential sources of funding. 4. Help identify rural community champions to lead grass-roots initiatives for establishing volunteer driver programs. 5. Support efforts to address barriers related to liability insurance for volunteer drivers.
Barriers to implementation	Potential barriers to implementation of this measure include: a lack of available funds; competing priorities for scarce funds; lack of a champion and/or support from key stakeholders; lack of availability and affordability of liability insurance for volunteer drivers.
Criteria for success	Among the criteria for success are: rural paratransit services that meet the service quality assessment measure of availability (i.e., frequency, hours/days available), acceptability (i.e., reliable, comfortable), adaptability (i.e., flexible and responsive to specific requests), accessibility (i.e., proximity, physically able to use), and affordability (i.e., not excessive money, time, or effort).
Estimated costs	The costs associated with this measure include the start up costs which range from minimal to substantial. However, using volunteer drivers to provide transportation for long-distance medical trips are often the most cost effective option (given the difficulty in providing group rides for this purpose) and may lead to cost savings.

Measure 12. Encourage existing public/community transportation providers to develop new programs for older adults, particularly for services that provide trips for non-medical purposes.

Implementation Component	Description
Target audience	The audiences for this measure include public/community transportation providers, as well as MDOT and other state/local transportation offices that provide guidance, funding, and other support to them.
Activities	1. Restructure trip purpose outcome categories for MI Travel Counts so that trips for medical purposes can be separated out, allowing for a better understanding of trip taking by rural Michigan older adults. 2. Develop a list of "best practice" rural public/community transportation programs that provide trips for more than medical purposes. 3. Develop a competitive grant program to help providers develop, implement, and ultimately sustain best practice programs in rural areas. 4. Support efforts for coordinated transportation services to make multipurpose trips more economically feasible.
Barriers to implementation	Barriers to implementation include limited resources and competing priorities; restrictions or inflexibility in programs; and challenges associated with creating a more coordinated system.
Criteria for success	Among the criteria for success are: increased availability of multipurpose trip options among public/community transportation programs in rural areas; public/community transportation services that meet the service quality assessment measure of adaptability (i.e., flexible and responsive to specific requests).
Estimated costs	Costs associated with changes to MI Travel Counts are minimal. Developing a list of best practice programs would be about $60,000. The competitive grant program costs are variable, depending on how much grant money is intended to support the program. Minimum costs for the grant program would likely be about $250,000.

Measure 13. Continue/strengthen efforts to work with local and county transportation providers in rural areas to help them obtain federal funding from a broad array of government agencies.

Implementation Component	Description
Target audience	The target audiences for this measure include MDOT (and the Office of Passenger Transportation in particular) and local and county transportation providers.
Activities	1. Identify unmet needs or opportunities for expanding the assistance provided by program managers. 2. Develop a plan for expanded/revised scope of work if necessary. 3. Implement plan. 4. Provide training and ongoing support and resources.
Barriers to implementation	The potential barriers to implementation of this measure include: a lack of available funds; competing priorities for scarce funds; lack of support from key stakeholders.
Criteria for success	Among the criteria for success are: increased outreach to a broad array of local and county transportation providers; successful grant applications; increased or improved transportation services.
Estimated costs	The costs associated with this measure are those for expanding the assistance provided by program managers.

Measure 14. Support efforts by local, county, and Tribal government programs to recruit and maintain volunteer drivers.

Implementation Component	Description
Target audience	The target audience for this measure is MDOT, local, county, and Tribal government transportation and aging programs, and the older adult population in rural areas.
Activities	1. Review current local, county, and Tribal programs using volunteer drivers to better understand the incentives and disincentives associated with being a volunteer driver, and what additional inducements could be effective to recruit and retain drivers. 2. Develop a plan for outreach, recruitment, and retention of volunteer drivers. 3. Identify and work with local, county, and Tribal government programs to adapt and implement the plan for their specific population. 4. Maintain on-going communication/support with programs.
Barriers to implementation	The barriers to implementation include limited resources and competing priorities; lack of time or interest by programs to pursue this approach; lack of interested or able older adults in a particular area to serve as volunteers.
Criteria for success	Adequate numbers of volunteer drivers; greater stability in programs using volunteer drivers; greater availability and flexibility of rides to older adults in rural areas.
Estimated costs	The costs associated with this measure will largely be for the incentives identified to encourage older adults to serve as volunteers. These costs will depend on what incentives are selected (e.g., providing gas cards would be modestly expensive). The costs associated with working with the programs would depend on whether these activities could be integrated into an existing position.

Measure 15. Continue to support and consider expanding the position of the MDOT Tribal Affairs Coordinator.

Implementation Component	Description
Target audience	The target audience for this measure is primarily MDOT, but also includes Michigan's Tribal governments and other and local and county transportation providers.
Activities	1. Determine whether position should be maintained at the current level or expanded. 2. If decision is made to expand, identify scope of additional responsibilities. 3. Continue to support position at current or expanded level of effort as appropriate.
Barriers to implementation	Among the barriers to implementation are limited funds to expand position if that course of action is desired, as well as competing priorities for time that would preclude the Tribal Affairs Coordinator taking on additional responsibilities.
Criteria for success	Among the criteria for success are: increased cooperation and coordination between MDOT and Michigan's Tribal governments, as well as improved cooperation and coordination between the Tribes and local and county governments with regard to transportation planning and implementation; increased availability of transportation options for Michigan's rural older adults and larger populations.
Estimated costs	Costs associated with this measure would depend on whether the position will be maintained at its current level or expanded. In the former case, the costs would be minimal.

Measure 16. Provide technical support for identifying potential funding sources for Tribal transportation, as well as applying for these funds. Technical assistance should include developing and providing to Tribes a synthesis of funding information in a format that consolidates information across multiple government agencies and allows easy comparison of funding requirements.

Implementation Component	Description
Target audience	The target audience for this measure is MDOT, Michigan's Tribes, and potentially the state's Tribal technical assistance program.
Activities	1. Hire a university or other research entity to conduct a synthesis of funding information in a format that consolidates information across multiple government agencies. 2. Work with this entity to ensure that the synthesis allows easy comparison of funding requirements and to update the synthesis on an annual basis. 3. Circulate the synthesis to appropriate Tribal representatives. 4. Develop a plan for providing hands-on technical assistance to Tribes for applying for funding (e.g., goals/objectives, effective outreach procedures, which entities will provide training and in what format, how effectiveness will be assessed). 5. Conduct outreach to inform Tribes of assistance opportunities. 6. Provide technical assistance as needed. 7. Conduct on-going monitoring and adjust training as needed.
Barriers to implementation	The barriers to implementation include limited resources and competing priorities; difficulties in keeping funding information up-to-date; lack of personnel to provide training; challenges associated with building relationships to identify needs and at the same time not duplicating services that are already available.
Criteria for success	Among the criteria for success are increased success of Tribes in identifying funding sources and applying for grants, and improved or expanded transportation programs and services as a result.
Estimated costs	The estimated costs for an outside entity to synthesize the funding information would be approximately $20,000-$40,000. The estimated costs for providing technical assistance could be minimal to substantial depending on the delivery model. To the extent that training is provided through Michigan's existing Tribal technical assistance program, costs could be less.

List of Acronyms, Abbreviations, and Symbols

AAA	American Automobile Association
AAPOR	American Association for Public Opinion Research
CATI	Computer Assisted Telephone Interviewing
CDL	Commercial Driver's License
DAR	Dial-a-Ride
DAV	Disabled American Veterans
DHS	Department of Human Services
DICSA	Dickinson-Iron Community Service Agency
FHWA	Federal Highway Administration
HCSSC	Hillsdale County Senior Services Center
HDAR	Hillsdale Dial-a-Ride
HDC	Human Development Commission
HELP	Hands Extended Loving People
ITS	Intelligent Transportation Systems
LMTA	Ludington Mass Transit Authority
MCCS	Mason County Central Schools
MDOT	Michigan Department of Transportation
MI	Michigan
NEMT	Non-Emergency Medical Transportation
ORBP	Office of Research and Best Practices
PEERRS	Program for Education and Evaluation in Responsible Research
PT	Public Transportation
RITA	Research and Innovative Technology Administration
RSVP	Retired Senior Volunteer Program
SAS	Statistical Analysis Software
TAT	Thumb Area Transit
TBTA	Thunder Bay Transportation Authority
UMTRI	University of Michigan Transportation Research Institute
US	United States
VA	Veterans Affairs
VFW	Veterans of Foreign Wars

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Appendix A: Literature Review and Demographic Analysis

TRANSPORTATION, MOBILITY, AND OLDER ADULTS IN RURAL MICHIGAN

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A deliverable for project number OR 10-037:
"Transportation Patterns of Older Drivers in Rural Michigan"

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Introduction

Mobility, or the ability to get from place to place, is important for everyone. Mobility enables people to conduct the activities of daily life, stay socially connected with their world, participate in activities that make life enjoyable, and maintain their quality of life. In most Western Nations and in the United States (US) in particular, mobility is closely linked with the ability to drive a personal automobile. This preference for cars is particularly pronounced in rural areas where there are generally fewer transportation options. The long distances between rural residences and necessary services can lead to significant unmet need for transportation options in rural communities. At the same time, providing public transportation in remote areas is especially complex and expensive (Kihl, Knox, & Sanchez, 1997), and even when available, public transportation may not be an adequate mode of travel for the older population. While the rural population in Michigan presents challenges for transportation planners; connecting rural areas with improved transportation systems is also a challenge for the nation as a whole. With the increased population of older rural residents, providing adequate mobility options will continue to be an especially important issue in the coming years.

According to US Census Bureau (2009), Michigan's population is aging. In 2000, Michigan older adult residents accounted for about 12% of the population. By 2030, Michigan older adults will represent about 20% of the population. This increase will be even greater for the oldest Michigan residents. Residents age 80 and older will account for slightly more than 5% of the population—up from 3% in 2000. Thus, Michigan is facing a coming wave of older adults who will: be driving more than the current cohort of older adults; be dependent on the motor vehicle for mobility; likely be experiencing declines in driving related skills; and want and expect to have their mobility needs met if driving is limited or no longer possible.

Table 1: Percentage of County Population that is Age 70 or Older (US Census Bureau, 2010)

County	Percent
Iron	19.2
Marquette	10.4
Hillsdale	10.7
Mason	13.3
Huron	15.7
Alpena	14.0
Michigan (all counties combined)	**9.5**

US Census Bureau (2010) data show that nationwide and in Michigan, older adults are increasingly living in rural areas. For example, Table 1 shows the percentage of people age 70 and older in the six rural counties in Michigan that are the specific focus of this project compared to all of Michigan. As can be seen in this table, all of the counties had a larger percentage of older adults than average in Michigan. Indeed, in three of these counties, more than one of every five individuals was an older adult. These relatively high concentrations of older adults are expected to increase in the coming years.

Older adults who live in rural areas are faced with unique transportation problems. It is well documented that community mobility services are limited or nonexistent in many rural areas (Dickerson, et al., 2007). Thus, it is likely that older adults are forced to continue driving longer than they can safely do so. Indeed, studies show that serious-injury and fatal crash risk can be twice as high for older adults in rural areas when compared to similar-aged cohorts in urban areas (see e.g., Boufous, et al., 2008; Thompson et al., 2010). Studies also show that rural older adults who are involved in injury crashes are more like to have health problems and declines in functional capacity as compared to urban older drivers in similar crashes (Griffin, 2004).

As the population of older adults in Michigan continues to grow, particularly in Michigan's rural counties, it is becoming increasingly critical that the Michigan Department of Transportation (MDOT), and other Michigan organizations understand the mobility needs of older adults and address these needs through transportation facility design, planning, and programs.

This report explores issues related to transportation and mobility in rural areas generally, and in rural areas of Michigan specifically. The information from this report is intended to assist Michigan in meeting the transportation needs of its rural older adult population. The report has two main sections. The first is a review of the literature that covers a number of topics including: aging in place; travel behavior; effects of driving cessation among rural older adults; rural community mobility; barriers to using public transportation; transportation coordination; mobility management; travel training; American Indian transportation issues; and rural transportation funding. The second part of this report presents the results of a demographic analysis of: six rural counties in Michigan that are the focus of our research study (Iron, Marquette, Hillsdale, Mason, Huron, and Alpena); all rural Michigan counties combined; and all of Michigan. The demographic analysis covers the following areas: the current population; population forecasts; older adult driver licensing; and older adult vehicle crashes.

Literature Review

Aging in Place

One reason why older adults commonly live in rural areas is that they prefer to age in place. That is, older adults tend to live in rural areas not because they are moving to rural areas to retire, but because they already live in rural areas and prefer to stay where they currently reside (Frey, 2007). According to Rosenbloom (2003) older adults have consistently become less likely to move over time, are less likely than younger adults to move, and do not move far when they do move. An AARP (2010) survey found that nearly 90% of those over age 65 wanted to stay in their residence for as long as possible and 80% believed that their current residence was the location where they will always live (Keenan, 2010). Thus, it is likely that the rural areas of Michigan will continue to have a larger proportion of older adults than urban areas of Michigan.

Travel Behavior of Rural Older Adults

Understanding the travel patterns of rural older adults is important for the development and implementation of adequate community mobility options. It is well-established that both urban and rural older adults use the personal automobile as their primary mode of transportation (Foster, 1995; Glasgow, 2000; Glasgow & Blakely, 2000; Pucher & Renne, 2005). For example, Foster (1995) found that only 0.3% of trips by rural older adults (age 75 and older) in an Iowa sample were taken using transit. Of those trips, transit was most often used for medical purposes (followed by social/recreation and shopping trips), suggesting non-driving transportation becomes more critical for rural older adults in the absence of access to an automobile to meet rural older adults' needs, especially for medical care. Further, studies have found rural older adults travel more miles than their counterparts in urban areas (Hanson, 2004; Hildebrand, Myrick, & Creed, 2000), most often travel for shopping, social/recreation, and personal business (Foster, 1995; Hanson, 2004; Hanson & Hildebrand, 2011b; Hough, Cao, & Handy, 2008), and often travel during non-peak times of day (Hanson, 2004; Hildebrand et al., 2000).

Despite the prevalence of and preference for the personal automobile by rural older adults (either as driver or passenger), there is still a need for non-driving community mobility options in rural areas to meet mobility needs. One study found that rural older drivers would not make 34% of trips they normally make if they lost access to a personal vehicle (Hanson & Hildebrand, 2011b). Mattson (2010) found rural older adults have a desire for taking more trips and cite a lack of transportation as the limiting factor to meeting those desires. A Canadian study of rural older drivers (age 54-92)

found that more than one-half of respondents reported that they would rely on friends and family to make the trips they currently make as drivers, and 70% reported that more transportation options were needed in rural areas in addition to being able to rely on family and friends (Hanson & Hildebrand, 2011b). Focus groups in rural New York found that older adults (75 and over) who were not currently driving or had never driven, relied primarily on rides from friends and family but also on public buses and senior-specific paratransit services (Glasgow & Blakely, 2000). Other work has found that rural older adults who have a large social network were better able to meet their mobility needs than those without such networks who had to rely on other community mobility options (Hough, 2007). Thus, it appears that rural older adults prefer to drive to meet their mobility needs, and, when they cannot drive they prefer to get rides from family or friends. In both cases, many rural older adults are not taking as many trips as they would like and would possibly use community mobility options if they were available.

Adverse Effects of Driving Cessation among Rural Older Adults

As people age, they begin to experience age-related health conditions that can make it difficult to safely operate an automobile (Eby, Molnar, & Kartje, 2009). Several studies have shown that driving reduction or cessation can be a very stressful experience for many older adults, resulting in a poor psychological outlook and reduced quality of life (see Whelan, Langford, Oxley, Koppel, & Charlton, 2006). Driving cessation has been associated with reduced independence and mobility (Adler & Rottunda, 2006), increased social isolation (Liddle, McKenna, & Broome, 2004), and increased depressive symptoms (e.g., Fonda, Wallace, & Herzog, 2001; Marottoli et al., 1997; Ragland, Satariano, & MacLeod, 2005). Not surprisingly, one study found rural older adults (age 71-91) continued to drive against advice and despite deteriorating health for fear of losing their independence and becoming socially isolated (Johnson, 2002). Prior to giving up driving, many rural older adults also begin to avoid driving situations that make them uncomfortable, which often results in a reduction in the ability to meet mobility needs. For example, a study in Canada found that one-half of rural older adults who responded to a survey reported that they avoided driving at night and 40% avoided driving on major highways (Hanson & Hildebrand, 2011a). Because of the adverse consequences associated with driving reduction and cessation, coupled with the dependence on the personal automobile for continued mobility, it is in society's best interest to keep older adults driving for as long as they can safely do so and to provide good community mobility options when driving is no longer possible (Dickerson et al., 2007).

Older adults living in rural areas face special transportation challenges because of the limited public and paratransit services available, and the long distances they must often travel to reach health and social services destinations and to participate in social,

religious, and other enrichment activities. According to the National Council on Disability (2005), approximately 40% of the rural population has no public transportation at all, and another 25% has only minimal service. Alternatively, urban residents have access to 25 times more public transportation service than those in rural areas and are also closer in proximity to necessary goods and services. Due to the lack of transportation options in rural areas, caregivers tend to be the primary driver for many older people living in such areas (St. Louis, Zanier, Molnar, & Eby, 2011). In addition, older adults living in rural areas are more likely to be older (age 85 and older), in worse heath, and have a lower income than older adults in urban and suburban areas (Molnar, Eby, St. Louis, & Neumeyer, 2007).

Rural Community Mobility

Implementing transportation systems in rural areas is challenging. Rural transit is defined as transportation services available to the public in communities of fewer than 50,000 residents (Federal Highway Administration [FHWA], 2001). This includes traditional transit systems, demand response transit for older adults and the disabled, passenger rail, intercity bus, ferries, commercial scheduled air service, and car and van pooling. Passenger transportation in rural areas is provided by a variety of private sector, not-for-profit organizations, and various public agencies (FHWA, 2001).

Transportation providers in rural areas face a number of challenges in delivering cost-effective accessible services to the public, including limited funding, limited trip purposes, client-only transportation, limited days and hours of service, lack of long distance transportation, high cost of transportation, limited use of advanced technologies, and limited driver training (Easter Seals Project ACTION, 2006; Foster, Damiano, Momany, & McLeran, 2007). Rural communities are commonly served by county governments, whose responsibilities often cover vast areas but are often limited by small tax bases. The greater distances to cover, coupled with small populations, makes traditional public transportation options economically infeasible in most rural areas (Casavant & Painter, 1998). Generating local matching funds also remains one of the greatest barriers facing many rural transit systems. Because of the inability to match funds at a local level, some states cannot spend all of their Federal Transit Agency funds (Michigan Office of Services to the Aging, 2005).

Barriers to Using Rural Public Transportation

Transportation options for older adults in rural areas, when available, may be difficult to use, inconvenient, or simply unknown. Transportation systems are not always responsive to factors that may affect rural older adults such as physical limitations, failing health, costs, and not feeling comfortable using the transportation system. For

the majority of older adults who stop driving as a result of poor health, their poor health also precludes them from using public transit services even when it is available. Difficulty walking to the nearest bus stop or the inability to climb the stairs of a paratransit van are just two examples of how older adults may not be able to access public transportation options (Dickerson et al., 2007). Additionally, some older adults may need an escort to assist them physically to get to their destination or to be with them for emotional support.

Focus groups participants (age 65 and older) in rural areas reported that the main benefits to using a public bus, door-to-door paratransit, senior citizens bus, and church/business volunteer transportation were low costs and increased social interactions (Glasgow & Blakely, 2000). Participants also noted that many community mobility options were often inconvenient, limiting, or unable to accommodate certain disabilities. A survey of rural older adults in North Dakota also cited inconvenience as well a lack of adequate shelter at stops as the main problems with public transportation (Mattson, 2010). Another barrier to rural public transportation use is that many older adults are unaware of the services that are available to them in their community. As many of one-half of rural older adults reported that they were unaware of many of the community mobility options that are in their community (Foster et al., 2007; St. Louis et al., 2011).

Transportation Coordination

In Michigan, transportation is provided by a combination of agencies, including a number of countywide public transit systems, Community Action Agencies, Commissions on Aging, and other small providers. Transportation services in the Upper Peninsula tend to focus on providing services to seniors and there are many areas that have limited to no transportation services. However, the majority of Michigan's older adults have access to some sort of publicly-funded transportation service (St. Louis, Zanier, Molnar, & Eby, 2011). An analysis of transportation services for older adults in Michigan (Michigan Office of Services to the Aging, 2005) concluded that Michigan has an extensive transportation network for older adults, with every county having some form of older adult transportation service. At the same time, the report concluded that gaps in and barriers to services remain, largely due to lack of funding, particularly in some rural areas, as well as lack of coordination among transportation providers.

In the face of significant transportation needs and severely limited resources, a key challenge for rural communities is to use existing resources as effectively as possible (Burkhardt, Nelson, Murray, & Koffman, 2004). To provide the rural older adult population with a broad array of transportation options, it is necessary to coordinate transportation services and programs among federal, state, and local agencies.

Individual transportation services and programs within communities and regions should be viewed as part of a system (Eby, Molnar, & Kartje, 2009). Lack of coordination among transportation providers can make it difficult to navigate through the multiple transportation agencies in a region to determine which one will provide service. Strategies that have been found to be effective in promoting and facilitating transportation coordination include: establishing broad-based coalitions and partnerships; coordinating planning through ongoing relationships with planning and development agencies; leveraging funding from a variety of sources; paying careful attention to the specific objectives and regulations of federal transportation programs, given that much of the funding originates with federal programs aimed at unique needs of individual populations; and integrating new technologies into operations to improve efficiency and responsiveness to users (US Department of Health and Human Services, 2005). Several states and communities have implemented many of these recommendations, however, lack of coordination of transportation services continues to be the leading obstacle to meeting the mobility needs of the people who need the services most (Research and Innovative Technology Administration, RITA, 2012).

Travel Training

Providing older adults with information about transit before they stop driving and offering travel training are two approaches that may help increase use of public transit (Cevallos, Skinner, Joslin, & Ivy, 2010). Travel training programs vary widely around the US and other countries, with some offering only on-line instructions while others start with a comprehensive analysis of an individual's needs and capabilities and then offer customized training including instruction while actually using the public transportation system (Hardin, 2005). Most programs are targeted at older adults and people with disabilities. Some programs use other older adults as travel trainers (Cevallos, Skinner, Joslin, & Ivy, 2010). Travel training programs are becoming very popular although few have been formally evaluated. The few studies that have evaluated a travel training program have found that public transit use did increase among older adults after they had received such training (Shaheen, Allen, & Liu, 2009; Stepaniuk, Tuokko, McGee, Garrett, & Benner, 2008).

A number of transportation service providers in Michigan have developed travel training programs to assist riders with navigating the system, including *The Ride* in Ann Arbor Transportation authority and *The Rapid* in Grand Rapids. In some cases, older adults volunteer to teach potential riders how to use the transportation system by providing riders with information about the different transportation options as well as riding with older adults to ensure they are comfortable with the route. Participants will sometimes receive compensation, such as free bus passes (Michigan Office of Services to the Aging, 2005).

In addition to helping rural older adults use fixed route transit system, these programs can also save transportation agencies money. A recent cost-benefit study of three travel training programs in the Western US found that all had positive cost-benefit ratios ranging from 1.45 to 3.98, meaning that at least among the three agencies studied, travel training services resulted in cost savings (Wolf-Branigin, Wolf-Branigin, Culver, & Welch, 2012).

American Indian Transportation Issues

American Indians and Alaska Natives comprise 0.6% of the population of Michigan (US Census Bureau, 2010). Many American Indian tribes in Michigan are located in rural areas, requiring transportation options for tribal members living on these reservations. Tribal transportation programs are a coordinated effort between tribes and transportation providers to meet the needs of often isolated tribal communities by using the most efficient and cost-effective method (FHWA, 2005). According to the American Indian Disability Technical Assistance Center (AIDTAC, 2002), Indian tribes may have unique issues regarding transportation for older adults and people with disabilities. These issues include: most tribes have no, or poorly organized, transportation assistance programs; tribes generally do not have their own infrastructure for public transit; roads on Indian land are often unpaved and lack pedestrian facilities; many tribes do not have cooperative relationships with the states in which they reside; issues of sovereignty and jurisdiction, including land and water issues, can hinder state and tribal relations; and tribes must interact with the federal, county, local governments, and tribal governments to create or improve the transportation system which can be a significant barrier for providing effective transportation services on tribal land.
On most of the more than 300 American Indian reservations in the US, there is no existing infrastructure for public transit systems. Many rural tribes also have to travel on isolated dirt or gravel roads that are poorly maintained. While the main road on a reservation may be paved, roads to homes or outlying areas of the reservation may not be (Brusin & Dwyer, 2002). Long-range planning for infrastructure and transportation programs is necessary to allow a better connection between rural tribal communities with needed services both within and outside of the reservation.

Hensley-Quinn and Shawn (2006) highlighted a particularly successful tribal transit program in rural New Mexico. The Pueblo of Laguna reservation spans 547,000 acres and expands into three counties. The Pueblo of Laguna *Shaa'srk'a Transit Program* serves the community through demand-response, fixed route, modified fixed route services to meet the transit needs of the rural community members. Service is provided to ensure access to employment, education, medical care, family-social services and

recreation (New Mexico Department of Transportation [NMDOT], 2011). Shaa'srk'a Transit's fleet is comprised of four 15-passenger vans (three of which are wheelchair accessible) and a mini-van (Hensley-Quinn & Shawn, 2006). Coordination is a key contributor to the success of this program. Shaa'srk'a coordinates rides with the Community Health Representative Program, local Indian Health Services hospital, and the Department of Education (NMDOT, 2011).

Blackfeet Transit of Montana is another successful tribal transit program (Hensley-Quinn & Shawn, 2006). Nearly 9,000 members of the Blackfeet Tribe live on a 1.5 million acre reservation in Northwest Montana. The transit system has been in operation since 1978 and currently provides approximately 24,000 rides to people with disabilities, those going to medical appointments, older adults, and people transitioning from welfare to work. Blackfeet Transit is a demand-response system with a full-time dispatcher. The program includes two mini-vans that are each able to transport seven people and two paratransit buses with wheelchair lifts that can transport 13 passengers. Funding for the program is provided by both federal and local dollars (Hensley-Quinn & Shawn, 2006).

A variety of federal programs exist for assisting American Indian tribal communities with transportation planning and implementation. The US government officially recognizes 563 tribes as sovereign nations, and this recognition grants tribes the eligibility to use federal funds for transportation assistance (Hensley-Quinn & Shawn, 2006). A comprehensive list of funding sources and grant opportunities for transportation assistance within American Indian tribal communities has been published by the National Center on Senior Transportation (NCST, 2011).

MDOT maintains ongoing government-to-government communication with 12 federally recognized sovereign tribal governments whose lands are situated within Michigan, most in rural areas of Michigan. The population of American Indians in Michigan is approximately 62,000. MDOT has a Tribal Affairs Coordinator whose primary role is to serve as a point of contact for tribal governments and to facilitate communication and problem resolution on transportation-related topics (MDOT, 2012).

Stakeholder and public meetings with tribal leaders throughout Michigan revealed that the transportation needs of these tribes are similar to the needs of most people who live in rural areas, but they can often be more pronounced due to the unique conditions on some reservations (MDOT, 2007). For instance, reservations often span hundreds of miles, creating vast distances across the tribal communities as well as great separation from business outside of the reservation. The geographic distances make tribal transportation services more difficult to initiate and maintain. Through collaboration with the tribal communities, the issues of greatest importance were found to be connecting

the transportation system to support economic growth and making the system physically and economically accessible to all (MDOT, 2007).

Rural Transportation Funding

The federal government has dedicated programs to assist with transportation issues in areas where less than 50,000 people reside. One federal program that provides funding for rural areas is the Transportation for Elderly Persons and Persons with Disabilities Program (Section 5310). Funding from this program goes to states to assist private nonprofit groups in meeting the transportation needs of older adults and persons with disabilities when the transportation service provided is unavailable, insufficient, or inappropriate to meeting these needs (USDOT, 2012c). The state agency ensures that local applicants and project activities are eligible and in compliance with Federal requirements and that private transportation providers have an opportunity to participate. Once the application is approved, funds are available for state administration of its program and for allocation to individual sub-recipients within the state (USDOT, 2012c).

The Rural Transit Assistance Program (RTAP) provides a source of funding to assist in the design and implementation of training and technical assistance projects and other support services tailored to meet the needs of transit operators in rural areas. RTAP funds support rural transit activities in four categories: training, technical assistance, research, and related support services (USDOT, 2012b).

The Section 5311 Formula Grants for Other than Urbanized Areas is a rural program that provides funding to states for the purpose of supporting public transportation in rural areas. The goal of the program is to provide the following services: enhance the access of people in rural areas to health care, shopping, education, employment, public services, and recreation; assist in the maintenance, development, improvement, and use of public transportation systems in rural areas; encourage and facilitate the most efficient use of all transportation funds used to provide passenger transportation in rural areas through the coordination of programs and services; assist in the development and support of intercity bus transportation; and provide for the participation of private transportation providers in rural transportation. Section 5311 provides funds for the Rural Transit Assistance Program and the Tribal Transit Program (USDOT, 2012a).

Currently, there are 62 federal programs that fund transportation services for low-income individuals, people with disabilities, and older adults (RITA, 2012). In a continued effort to ensure all people have the ability to get to the places they want and need to go, the 6-year surface transportation reauthorization budget proposal increases

support for transportation in rural communities. The budget proposal highlights several areas in which the federal government proposes to allocate funding. The FHWA is proposing a minimum of approximately $250 million for rural road safety, and another $15.6 billion is eligible through the Flexible Investment Program of the National Highway Program (Office of Management and Budget, 2012). This funding would go toward improvements that offer enhanced transportation access in rural areas. Under the FTA, rural communities would receive almost $766 million to support important public transportation services, which represents, a 43% increase over FY 2010. FTA is offering continued support for rural transit service to communities with less than 50,000 in population, with particular attention to intercity bus services (Office of Management and Budget, 2012). The proposed funding for developing more comprehensive transportation networks in rural areas is encouraging not just for transportation planners, but also for the aging population and caregivers of older adults who no longer drive.

Demographic Analysis

Population

In 2010, the population of the state of Michigan was reported by the US Census to comprise 9,883,630 people. As shown in Table 2 (US Census Bureau, 2010), nearly 10% of all Michigan residents were age 70 or older. Among these, 59% were between the ages of 70-79 years and 7% are age 90 or older. About one-half of Michigan residents were male and this percentage dropped with increasing age, where at age 90 or older only 27% were male. Table 2 also shows population data for all 58 Michigan counties that have been defined by the state as rural (State of Michigan, 2001). Note that the percentages show that these rural counties were composed of slightly more older adults and males when compared to Michigan overall.

Table 2. Older Adult Population in Michigan and Rural Counties of Michigan in 2010

	Population	Age 70+	Age 70-74	Age 75-79	Age 80-84	Age 85-89	Age 90+
Michigan	9,883,640	942,905	306,084	244,085	200,855	126,935	64,946
% State	--	9.5	32.5	25.9	21.3	13.7	6.9
% Male	49.1	41.1	46.0	43.0	40.2	34.9	26.7
All Rural MI Counties	1,779,476	210,487	74,236	55,249	42,103	25,418	13,481
% All Rural Counties	--	11.8	35.3	26.3	20.0	12.1	6.4
% Male	50.5	44.2	48.9	46.6	42.6	37.0	27.4

Table 3 shows the 2010 distribution of older adults in the six Michigan counties that are the focus of this project by 5-year age intervals, as well as the proportion of males in each group (US Census Bureau, 2010). It is clear from this table that the percentage of adults age 70 and older ranges from about 11% to 19%, which is higher than for Michigan overall and slightly higher than for all rural counties, combined. The percentage of older adult males is about 42-43% in the six counties, which is about the same as all rural counties in Michigan. As with the data shown in Table 2, the percentage of older adult males decreases with age group (less than 30% in all six counties).

Table 3. Older Adult Population in the Six Rural Counties in 2010

County	Population	Age 70+	Age 70-74	Age 75-79	Age 80-84	Age 85-89	Age 90+
Alpena	29,598	4,152	1,365	1,137	840	515	295
% County	--	14.0	32.9	27.4	20.2	12.4	7.1
% Male	49.1	42.0	47.8	44.7	40.5	34.4	22.7
Hillsdale	46,688	4,983	1,796	1,344	883	601	359
% County	--	10.7	36.0	27.0	17.7	12.1	7.2
% Male	49.6	43.2	49.1	44.6	40.8	35.4	27.9
Huron	33,118	5,187	1,685	1,343	1,090	709	363
% County	--	15.7	32.5	25.9	21.0	13.7	7.0
% Male	49.6	42.8	47.7	45.5	41.4	35.4	29.2
Iron	11,871	2,281	624	546	522	373	216
% County	--	19.2	27.7	23.9	22.9	16.4	9.5
% Male	49.0	41.3	48.9	43.2	42.5	32.7	26.9
Marquette	67,077	6,943	2,269	1,759	1,447	923	536
% County	--	10.4	32.7	25.3	20.8	13.3	7.7
% Male	50.5	43.2	47.9	46.2	41.9	37.4	28.0
Mason	28,705	3,787	1,381	953	706	461	286
% County	--	13.2	36.5	25.2	18.6	12.2	7.6
% Male	49.4	43.8	49.2	46.1	44.5	31.5	29.0

Table 4 shows other 2010 demographics for all rural counties in Michigan combined, all of Michigan, and for the six Michigan study counties (US Census Bureau, 2010). As can be seen, median household income in the six counties was lower than for Michigan overall. The percent of households below the poverty level range from 14% to 18% in the six counties, which was about the same for Michigan overall and all rural counties in Michigan. Education levels were also about the same in the six counties as in Michigan

and rural Michigan. The six counties and all the rural counties, however, were much less racially diverse than Michigan overall. The percent of African Americans in the six counties and all rural counties was less than 2%, compared to about 14% for the state overall.

Table 4. Demographic Data for the Six Counties in 2010

	Median Household Income (2009)	% Below Poverty Level	% High School Graduates	% Bachelor Degree or Higher	% White	% African American	% Native American	% Asian
All Rural Counties	n/a	17.2	86.3	15.7	93.4	1.9	1.5	0.5
Michigan	$45,254	16.1	87.4	24.5	78.9	14.2	0.6	2.4
Alpena	$35,710	16.6	87.1	15.3	97.5	0.3	0.5	0.5
Hillsdale	$38,094	16.8	86.1	14.3	97.0	0.5	0.4	0.4
Huron	$22,301	15.4	84.2	13.4	97.5	0.4	0.3	0.4
Iron	$33,650	16.9	88.2	14.2	97.1	0.1	0.9	0.3
Marquette	$41,576	14.0	90.9	28.6	93.8	1.7	1.7	0.6
Mason	$38,073	17.8	87.4	19.1	94.8	0.6	1.0	0.5

Population Forecasts

County level population projections for 2015-2040 for Michigan counties by age and sex were developed by the University of Michigan Institute for Research on Labor, Employment and Economy (2012) and provided by MDOT Statewide &Urban Travel Analysis Section. Tables 5-10 show population projections (both numbers and percentages of county population) for Michigan's older adult populations by age group, sex, and year (in 5-year increments up to 2040) in each of the six study counties. Note that in nearly each county (except Iron County), the projections showed increasing numbers and percentages of older adults in the future. This trend was particularly pronounced for males and for adults age 85 and older. In Iron County, the projections showed slight decreases in the number and percentages of older adults residing in the county in the next 30 years.

Table 5. Alpena County Population Forecasts by Age, Sex, and Year							
	Year						
All	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
70-84	3,286	3,329	3,669	4,105	4,369	4,362	4,003
85+	835	947	954	1,003	1,105	1,268	1,470
70+	4,120	4,276	4,623	5,108	5,474	5,630	5,473
70+ (% county)	13.9	14.9	16.3	18.1	19.3	19.8	19.4
85+ (% county)	2.8	3.3	3.4	3.6	3.9	4.5	5.2
Male							
70-84	1,456	1,496	1,659	1,853	1,982	1,947	1,754
85+	239	295	320	344	386	450	540
70+	1,695	1,791	1,978	2,198	2,368	2,397	2,294
70+ (% county)	11.7	12.8	14.4	16.0	17.2	17.4	16.7
85+ (% county)	1.7	2.1	2.3	2.5	2.8	3.3	3.9
Female							
70-84	1,830	1,833	2,010	2,252	2,388	2,415	2,249
85+	595	652	635	659	718	818	930
70+	2,425	2,485	2,645	2,910	3,106	3,233	3,179
70+ (% county)	16.0	16.9	18.2	20.0	21.3	22.1	21.9
85+ (% county)	3.9	4.4	4.4	4.5	4.9	5.6	6.4

Table 6. Hillsdale County Population Forecasts by Age, Sex, and Year							
	Year						
All	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
70-84	4,050	4,620	5,184	5,839	6,191	6,118	5,708
85+	948	1,211	1,464	1,683	1,976	2,396	2,815
70+	4,998	5,831	6,648	7,522	8,167	8,514	8,524
70+ (% county)	10.7	12.6	14.5	16.6	18.1	18.9	18.9
85+ (% county)	2.0	2.6	3.2	3.7	4.4	5.3	6.2
Male							
70-84	1,834	2,090	2,360	2,641	2,778	2,779	2,600
85+	300	405	497	592	712	851	1,003
70+	2,134	2,495	2,857	3,233	3,490	3,630	3,603
70+ (% county)	9.2	10.9	12.6	14.4	15.7	16.4	16.3
85+ (% county)	1.3	1.8	2.2	2.6	3.2	3.9	4.5
Female							
70-84	2,217	2,532	2,825	3,199	3,414	3,341	3,110
85+	648	806	968	1,091	1,265	1,545	1,812
70+	2,865	3,338	3,793	4,290	4,678	4,885	4,922
70+ (% county)	12.2	14.3	16.4	18.6	20.4	21.3	21.4
85+ (% county)	2.8	3.5	4.2	4.7	5.5	6.7	7.9

Table 7. Huron County Population Forecasts by Age, Sex, and Year							
	Year						
All	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
70-84	4,146	4,327	4,652	4,946	5,024	4,853	4,349
85+	992	1,107	1,121	1,196	1,325	1,472	1,607
70+	5,138	5,434	5,773	6,142	6,349	6,325	5,956
70+ (% county)	15.5	17.2	19.0	20.6	21.5	21.7	20.8
85+ (% county)	3.0	3.5	3.7	4.0	4.5	5.1	5.6
Male							
70-84	1,847	1,946	2,105	2,243	2,337	2,237	1,974
85+	329	376	393	424	461	526	609
70+	2,175	2,322	2,498	2,667	2,798	2,763	2,583
70+ (% county)	13.2	14.8	16.6	18.1	19.3	19.3	18.4
85+ (% county)	2.0	2.4	2.6	2.9	3.2	3.7	4.3
Female							
70-84	2,300	2,382	2,547	2,703	2,687	2,615	2,375
85+	663	731	729	772	865	946	998
70+	2,963	3,113	3,275	3,475	3,551	3,562	3,373
70+ (% county)	17.8	19.5	21.3	23.0	23.7	24.0	23.1
85+ (% county)	4.0	4.6	4.7	5.1	5.8	6.4	6.9

Table 8. Iron County Population Forecasts by Age, Sex, and Year							
	Year						
All	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
70-84	1,690	1,792	1,941	1,974	1,891	1,824	1,662
85+	524	587	549	551	650	662	700
70+	2,215	2,379	2,490	2,525	2,540	2,486	2,361
70+ (% county)	18.8	19.5	19.2	18.0	16.7	15.2	13.6
85+ (% county)	4.4	4.8	4.2	3.9	4.3	4.1	4.0
Male							
70-84	742	815	901	914	866	820	756
85+	165	190	181	188	243	253	261
70+	907	1,006	1,082	1,102	1,108	1,073	1,018
70+ (% county)	15.3	16.5	16.7	15.7	14.6	13.2	11.8
85+ (% county)	2.8	3.1	2.8	2.7	3.2	3.1	3.0
Female							
70-84	950	977	1,040	1,062	1,026	1,004	906
85+	359	397	368	363	407	409	438
70+	1,308	1,373	1,408	1,424	1,433	1,414	1,344
70+ (% county)	22.2	22.6	21.8	20.3	18.8	17.2	15.3
85+ (% county)	6.1	6.5	5.7	5.2	5.3	5.0	5.0

Table 9. Mason County Population Forecasts by Age, Sex, and Year							
	Year						
All	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
70-84	2,996	3,425	3,948	4,412	4,672	4,572	4,228
85+	803	836	864	1,016	1,207	1,481	1,709
70+	3,799	4,261	4,811	5,428	5,879	6,053	5,937
70+ (% county)	13.2	14.5	16.0	17.8	19.2	19.8	19.5
85+ (% county)	2.8	2.8	2.9	3.3	3.9	4.9	5.6
Male							
70-84	1,340	1,535	1,738	1,933	2,058	1,971	1,837
85+	254	290	302	368	421	540	617
70+	1,594	1,824	2,040	2,301	2,479	2,511	2,453
70+ (% county)	11.3	12.7	13.9	15.5	16.7	16.9	16.7
85+ (% county)	1.8	2.0	2.1	2.5	2.8	3.6	4.2
Female							
70-84	2,357	2,708	3,007	3,191	3,044	2,638	2,209
85+	919	1,043	1,269	1,483	1,663	1,777	1,701
70+	3,276	3,751	4,276	4,674	4,707	4,415	3,911
70+ (% county)	22.4	25.0	27.8	29.9	29.9	28.1	25.0
85+ (% county)	6.3	7.0	8.2	9.5	10.6	11.3	10.9

Table 10. Marquette County Population Forecasts by Age, Sex, and year							
	Year						
All	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
70-84	5,543	6,299	7,438	8,676	9,795	9,896	9,133
85+	1,455	1,762	1,893	2,130	2,422	3,119	3,976
70+	6,997	8,061	9,331	10,807	12,217	13,016	13,108
70+ (% county)	10.5	11.3	12.4	13.9	15.4	16.4	16.7
85+ (% county)	2.2	2.5	2.5	2.7	3.1	3.9	5.1
Male							
70-84	2,556	2,983	3,543	4,068	4,473	4,416	4,040
85+	468	590	648	762	900	1,189	1,498
70+	3,024	3,573	4,191	4,830	5,373	5,606	5,537
70+ (% county)	9.0	10.0	11.2	12.5	13.7	14.4	14.4
85+ (% county)	1.4	1.7	1.7	2.0	2.3	3.1	3.9
Female							
70-84	2,988	3,318	3,895	4,607	5,320	5,479	5,092
85+	987	1,172	1,245	1,369	1,522	1,930	2,478
70+	3,974	4,489	5,140	5,975	6,842	7,409	7,571
70+ (% county)	11.9	12.6	13.6	15.2	17.1	18.5	19.0
85+ (% county)	3.0	3.3	3.3	3.5	3.8	4.8	6.2

Table 11. Michigan Population Forecasts by Age, Sex, and Year						
	Year					
Overall	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
70-84	823,728	964,410	1,144,150	1,282,635	1,339,502	1,315,950
85+	230,893	244,468	263,842	311,233	393,450	483,350
70-84 (% by state)	8.3	9.7	11.4	12.7	13.2	12.9
85+ (% by state)	2.3	2.5	2.6	3.1	3.9	4.7
Male						
70-84	359,965	425,575	505,847	566,285	590,587	579,658
85+	75,802	80,710	89,111	108,099	139,745	173,324
70-84 (% by state)	7.4	8.7	10.3	11.5	11.9	11.7
85+ (% by state)	1.6	1.7	1.8	2.2	2.8	3.5
Female						
70-84	463,763	538,835	638,312	716,350	748,915	736,292
85+	155,091	163,758	174,732	203,134	253,705	310,027
70-84 (% by state)	9.2	10.6	12.5	13.9	14.4	14.1
85+ (% by state)	3.1	3.2	3.4	3.9	4.9	5.9

Table 11 shows the population forecast for Michigan by age and year. These forecasts also predicted that the older adult population in Michigan will continue to grow both in the number and percentage of older adults. As with the six rural counties, this growth will be greater for the older age group. Growth in the proportion of both older males and females is predicted, with greater growth in the oldest age group.

Table 12 shows the population forecasts for the 58 rural counties in Michigan combined by age, sex, and year. Similar to what was found in the six study counties, the population forecasts showed that rural counties in Michigan can expect large increases in both the numbers and percentages of older adults over the next several decades. Again, this growth will be largest for men and for those age 85 and older.

Table 12. All Rural Counties Population Forecasts by Age, Sex, and Year						
	Year					
All	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
70-84	189,605	216,035	241,917	257,610	257,451	242,978
85+	46,398	50,321	57,094	67,492	80,992	94,460
70-84 (% by all rural counties)	10.7	12.1	13.6	14.5	14.5	13.7
85+ (% by all rural counties)	2.6	2.8	3.2	3.8	4.6	5.3
Male						
70-84	86,393	98,080	109,550	116,641	116,107	109,280
85+	16,125	17,729	20,294	24,051	29,218	34,377
70-84 (% by all rural counties)	9.6	10.9	12.2	13.0	12.9	12.2
85+ (% by all rural counties)	1.8	12.0	2.23	2.7	3.3	3.8
Female						
70-84	103,277	118,030	132,461	141,076	141,442	133,785
85+	30,273	32,592	36,800	43,441	51,774	60,083
70-84 (% by all rural counties)	11.7	13.3	15.0	16.0	16.1	15.2
85+ (% by all rural counties)	3.4	3.7	4.2	4.9	5.9	6.8

Older Adult Driver Licensing

The demographic analysis also analyzed 2010 driver licensing trends by age group and sex in the six study counties, all rural counties combined, and for Michigan overall using Michigan driver license data (Michigan Department of State, 2010). Table 13 shows the results. In the 70-75 age group, nearly all older adults held a driver license in the six counties, all rural counties, and Michigan overall, except for women in Michigan overall. For this group, only 91% held licenses, indicating that older women were more likely to be licensed in rural areas of Michigan. As age increased, the percentages of the population that held a driver license decreased, with significant decreases for older adults age 90 and older.

Table 13. Percent of Population that are Licensed to Drive by Age Group, Six Counties, All Rural Counties, and Michigan Overall in 2010					
	Age Group				
	70-74	75-79	80-84	85-89	90+
Alpena - all	99.1	95.1	91.6	74.4	39.7
Men	97.6	100	97.4	94.4	70.2
Women	100	90.9	87.6	63.9	30.7
Hillsdale-all	99.0	94.1	94.1	73.7	45.7
Men	100	100	100.0	89.7	76.0
Women	97.9	89.1	86.8	65.0	34.0
Huron-all	98.8	97.4	88.4	82.1	64.4
Men	100	99.5	98.9	98.4	83.0
Women	96.4	95.6	81.1	71.4	56.6
Iron	96.5	89.2	82.0	69.7	43.5
Men	100	94.1	86.9	97.5	77.6
Women	93.1	85.5	78.3	56.2	31.0
Marquette	94.1	87.5	82.6	63.5	41.0
Men	96.1	93.7	91.9	78.6	58.7
Women	92.2	82.2	75.9	54.5	34.2
Mason	98.5	95.3	89.1	81.8	46.4
Men	99.3	100	94.0	100	66.3
Women	97.7	87.2	85.2	69.6	38.9
All Rural Counties - all	97.5	95.3	89.0	76.1	50.7
Men	98.4	98.4	96.5	92.3	78.3
Women	95.9	90.9	82.3	65.9	39.7
Michigan- all	93.3	88.6	82.3	70.6	46.9
Men	96.2	94.7	91.8	87.7	75.0
Women	90.6	83.6	75.8	61.2	36.6

Motor Vehicle Crashes

Table 14 shows the number of crash-involved drivers in Michigan, in all Michigan rural counties, and in each of the six study counties from 2008-2010. Data from Michigan Vehicle Crash Files (University of Michigan Transportation Research Institute, 2009, 2010, 2011) that contain every police-reported vehicle crash in the state were used for this analysis. Note that these data do not indicate fault in the crash. They simply mean that the driver was involved in a crash. This table shows that the percentage of crash involved older drivers was about 5% each year. In rural areas, the percentage was slightly higher. Iron County had the highest older driver crash involvement.

Table 14. Number of Crash-Involved Drivers 2008-2010 by Age and Year			
	2010	**2009**	**2008**
	All drivers Drivers age 70+ % drivers age 70+	**All drivers Drivers age 70+ % drivers age 70+**	**All drivers Drivers age 70+ % drivers age 70+**
Michigan	480,181 25,610 5.3	481,073 24,913 5.2	522,677 25,072 4.8
Rural Counties	83,108 5,450 6.6	88,405 5,779 6.5	5,643 93,365 6.0
Alpena	1,230 87 7.1	1,242 97 7.8	1,366 131 9.6
Hillsdale	2,229 137 6.4	2,228 114 5.1	2,472 129 6.2
Huron	2,065 144 7.0	2,166 161 7.4	2,084 129 6.2
Iron	757 64 8.5	644 64 9.9	764 72 9.4
Marquette	3,168 229 7.2	3,279 199 6.1	3,312 207 6.3
Mason	1,756 124 7.1	1,889 153 8.1	2,092 137 6.5

The analysis also examined the casualties of severe injury crashes of older adult residents for 3 years from 2008 to 2010. Table 15 shows the statewide number of traffic crash casualties by travel mode and whether the victim suffered a fatal or incapacitating injury. An incapacitating injury is defined as an injury that has been classified as level A on the KABCO scale used in Michigan's UD-10 police accident reports. The number of casualties for all ages is shown, as is the number and percent of total that are age 70 and older. As can be seen, older adult traffic-crash causalities was variable, but they tended to decrease over the 3-year period.

Table 15. Michigan Statewide Crash-Related Deaths and Incapacitating Injuries, Total, and Age 70+			
	2010	**2009**	**2008**
	All Ages Age 70+ % age 70+	**All Ages Age 70+ % age 70+**	**All Ages Age 70+ % age 70+**
Driver Killed	627 95 15.2	549 86 15.7	634 104 16.4
Driver Incapacitating Injury	4,222 285 6.8	4,263 290 6.8	4,596 302 6.6
Passenger Killed	182 22 12.1	182 18 9.9	207 26 12.6
Passenger Incapacitating Injury	1,522 83 5.5	1,616 84 5.2	1,495 103 6.9
Bicyclist Killed	29 2 6.9	19 4 21.0	25 0 0
Bicyclist Incapacitating Injury	166 5 3.0	201 5 2.5	171 4 2.3
Pedestrian Killed	135 23 17.0	121 10 8.3	114 13 11.4
Pedestrian Incapacitating Injury	425 17 4.0	431 21 4.9	463 23 5.0
Total	7,308 532 7.3	7,382 518 7.0	7,705 575 7.5

Table 16 shows the number of traffic-crash casualties by travel mode and whether the victim suffered a fatal or incapacitating injury for all 58 rural Michigan counties combined. These data showed that causalities were variable from year-to-year and do not seem to be decreasing as was found in the statewide data.

Table 16. Michigan Rural Counties Crash-Related Deaths and Incapacitating Injuries, Total, and Age 70+			
Year	**2010**	**2009**	**2008**
	All Ages Age 70+ % age 70+	**All Ages Age 70+ % age 70+**	**All Ages Age 70+ % age 70+**
Driver Killed	202 25 12.4	172 34 19.8	190 24 12.6
Driver Incapacitating Injury	1,401 114 8.1	1,226 80 6.5	1,304 109 8.4
Passenger Killed	67 7 10.4	57 7 12.3	49 6 12.2
Passenger Incapacitating Injury	478 33 6.9	537 34 6.3	471 36 7.6
Bicyclist Killed	7 0 0	1 0 0	8 0 0
Bicyclist Incapacitating Injury	34 0 0	28 0 0	27 0 0
Pedestrian Killed	20 5 25.0	17 3 17.6	20 2 10.0
Pedestrian Incapacitating Injury	65 4 6.2	50 2 4.0	51 5 9.8
Total	2,274 188 8.3	2,088 160 7.7	2,120 182 8.6

The crash data for the six study counties showed that there were very few traffic-crash-related fatalities or incapacitating injuries in these counties during 2008-2010. Therefore, Table 17 shows the numbers by whether the person was a driver, passenger, or pedestrian.

Table 17. Fatalities and Incapacitating Injuries Sustained by Persons Age 70+ in the Six Study Counties						
	2010		2009		2008	
	Fatal	Incapacitating	Fatal	Incapacitating	Fatal	Incapacitating
Alpena	0	1 passenger	1 driver	2 drivers 1 passenger	0	5 drivers
Hillsdale	2 drivers	3 drivers 2 passengers 1 pedestrian	1 driver	4 drivers 3 passengers	1 driver	3 drivers 2 passengers
Huron	1 pedestrian	2 drivers	1 driver	0	1 driver	0
Iron	0	1 pedestrian	1 driver	2 drivers	0	0
Marquette	0	3 drivers 1 pedestrian	0	1 driver 2 passengers	0	3 drivers
Mason	0	1 driver 2 passengers	0	1 passenger	0	7 drivers 4 passengers

Because the numbers of fatalities are low when considering small geographic regions and the fact that whether a person sustains an incapacitating injury or is killed in a crash is often a matter of chance, both fatalities and incapacitating injuries crashes are often combined for analysis. Table 18 shows the serious crash casualty rates (fatal and incapacitating injuries combined over 3 years), for Michigan overall, all rural Michigan counties, and each of the six study counties per 1,000 population. The severe crash casualty rate for people age 70 and older was lower than for the entire state, for the rural counties, and for five of the six study counties. The casualty rates in rural counties and in four of the study counties, however, were higher than for the overall state rate, suggesting that severe older adult crashes were elevated in rural areas of Michigan. One should note that the numbers of the casualties in the age 70 and older category were low and a single casualty can affect the overall rate.

Table 18. Serious Crash Casualty Rate per 1,000 Persons		
	Total Population	Population Age 70+
State of Michigan	0.0755	0.0575
All Rural Counties of Michigan	0.1214	0.0841
Alpena	0.0743	0.0802
Hillsdale	0.1257	0.1471
Huron	0.0926	0.0321
Iron	0.1292	0.0583
Marquette	0.0899	0.0480
Mason	0.1440	0.1320

Discussion

This report reviewed important issues about transportation, mobility, and older adults who reside in rural areas, particularly in Michigan. Because Michigan American Indian tribal land also tends to be located in rural areas, the report also addresses the unique transportation issues that are faced by American Indians. This report also includes a detailed analysis of census, licensing, and crash data in Michigan and presents results for older people as a function of Michigan overall, all 58 rural Michigan counties, and by the six study counties that are the focus of the current project.

It is appropriate for MDOT to focus resources, programs, and research on issues related to safe mobility for older people who live in rural areas of Michigan for several reasons. A greater proportion of people who live in rural Michigan counties are age 70 and older and the number and percent of rural older adults is expected to increase for the next several decades. There is good evidence that older adults who live in rural areas are not satisfying all of their mobility needs, particularly those who no longer drive. Public transit services are inadequate in many rural areas and the barriers to using public transit in rural areas are unique and challenging to overcome.
There is also good reason for further investigating the transportation challenges faced by American Indian tribes in rural Michigan. These tribes may have unique issues regarding safe transportation for older adults including a lack of transportation infrastructure and issues of sovereignty and jurisdiction. Further research into issues is an important first step in improving the mobility for tribal members who are elderly.
In conclusion, as the population of older adults in rural Michigan continues to grow, it is becoming increasingly critical that state organizations, such as MDOT, better understand and monitor the mobility needs of older adults and address these needs through transportation facility design, planning, and programs.

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Appendix B: List of Public Transportation Service Providers in the Six Rural Michigan Counties

ALPENA

Thunder Bay Transportation Authority	
Type of Service	Thunder Bay: Door-to-door, demand-response; Dial-a-Ride (DAR): Demand response, mostly curb-to-curb.
Population Served	General Public.
Area(s) Served	Thunder Bay: Alpena, Alcona and Montmorency counties; DAR: City of Alpena.
Days/Hours of Operation	DAR: Monday-Friday 7 AM-7 PM, Saturday 8 AM-7 PM, Sunday 9 AM-6 PM, Holidays (except Christmas) 9 AM-3 PM.
Vehicle Fleet	35 vehicles, most lift-equipped.
User Eligibility	Not available (N/A)*
Scheduling	Thunder Bay: 24 hour notice DAR: Customers call when ride is needed, can call in advance to book reoccurring trips.
User Fees	Thunder Bay: Fares vary. DAR: City: $1.50 Regular/$0.75 reduced; non-city: $3.00 Regular/$1.50 reduced. Those 65 and over pay the reduced fare. Those age 90 and over use either service for free.
Drivers (Paid/Volunteer)	Paid.
Budget	$2.2 million annually
Funding Source(s)	MDOT Act 51; Federal 5311; City millage (DAR); Farebox; contracts.
Coordination/Partnerships	Coordinates with senior center, Region 9 Area Agency on Aging, Adult Care Homes and transit providers in other counties as needed.
Ridership Data	2011: 13,000 senior trips, 4,500 senior-disabled trips
Trip Purpose	Mostly shopping, medical, volunteering, work, recreation, senior programs.
Training (Drivers/Riders)	Drivers go through regular training; Help riders at local facilities practice using the wheelchair lift.
Contact Information	989-354-2487

*For items marked "N/A," the information for that field was either not provided, available, or obtained.

Department of Veteran Affairs	
Type of Service	Medical transportation for veterans to VA Medical Centers in Saginaw, Ann Arbor, and Detroit.
Population Served	Veterans.
Area(s) Served	Van operates in 9-county area.
Days/Hours of Operation	Tuesdays.
Vehicle Fleet	1 Van.
User Eligibility	Veterans. Cannot transport wheelchairs or oxygen.
Scheduling	Clients call office to schedule ride.
User Fees	Free.

Drivers (Paid/Volunteer)	Volunteer.
Budget	N/A
Funding Source(s)	Saginaw VA pays for maintenance on the van. Donations from organizations cover the cost of the van.
Coordination/Partnerships	N/A
Ridership Data	About 15-30 rides per month.
Trip Purpose	Medical appointments.
Training (Drivers/Riders)	Drivers must pass annual training at Saginaw VA.
Contact Information	989-354-9671

City Cab Company	
Type of Service	Curb-to-curb taxicab service.
Population Served	General public.
Area(s) Served	Will take client anywhere in Michigan.
Days/Hours of Operation	24 hours a day, 7 days a week.
Vehicle Fleet	Two vehicles that hold up to 4 passengers.
User Eligibility	No restrictions.
Scheduling	Clients call number, taxi picks them up within 15 minutes on average.
User Fees	Fare: $8.00 one-way, $10.00 there and back. Free service to homeless shelter and 911 calls. If ride is more than 50 miles, customer must pay up front.
Drivers (Paid/Volunteer)	Paid.
Budget	N/A
Funding Source(s)	N/A
Coordination/Partnerships	N/A
Ridership Data	N/A
Trip Purpose	Any type of trip. Seniors mostly travel for doctor's appointments and grocery shopping.
Training (Drivers/Riders)	Drivers must have chauffeur's license.
Contact Information	989-358-8294

Alpena Cab Company	
Type of Service	Taxi service that provides physical assistance for customers as needed.
Population Served	General public.
Area(s) Served	No restrictions.
Days/Hours of Operation	24 hours a day, 7 days a week.
Vehicle Fleet	3 passenger vehicles, 1 bus.
User Eligibility	No restrictions.
Scheduling	Wait of 10-15 minutes, users can also call ahead to schedule.
User Fees	Fare: $7.00 within city limits, $1.50/mile outside city.

	Seniors can purchase pre-paid cards 10 for $55 ($5.50 a ride).
Drivers (Paid/Volunteer)	Paid; drivers are independently contracted.
Budget	N/A
Funding Source(s)	N/A
Coordination/Partnerships	N/A
Ridership Data	About 40-45% are seniors, with rides mostly occuring between 8 AM-5 PM.
Trip Purpose	Shopping trips are frequent.
Training (Drivers/Riders)	Drivers trained on helping people into taxi, folding wheelchairs, handling oxygen tanks, safest seating positions, buckling passengers.
Contact Information	989-354-4601

Department of Human Services	
Type of Service	Transportation service.
Population Served	Medicaid clients.
Area(s) Served	Alpena County.
Days/Hours of Operation	N/A
Vehicle Fleet	N/A
User Eligibility	N/A
Scheduling	N/A
User Fees	N/A
Drivers (Paid/Volunteer)	N/A
Budget	N/A
Funding Source(s)	N/A
Coordination/Partnerships	N/A
Ridership Data	N/A
Trip Purpose	N/A
Training (Drivers/Riders)	N/A
Contact Information	989-354-7200

HILLSDALE

Hillsdale Dial-a-Ride	
Type of Service	Door-to-door demand-response transportation.
Population Served	City of Hillsdale residents.
Area(s) Served	City of Hillsdale.
Days/Hours of Operation	Monday-Friday 7:15 AM-4:15 PM.
Vehicle Fleet	3 17-passenger, lift-equipped buses.
User Eligibility	City residents.
Scheduling	Customers call to schedule a ride, usually 20-30 minutes wait time. Riders encouraged to call 1 day ahead.

User Fees	$3.00/adults, $1.50 seniors and individuals with disabilities.
Drivers (Paid/Volunteer)	Paid.
Budget	N/A
Funding Source(s)	City millage; fares; State of Michigan; Federal funds.
Coordination/Partnerships	Hillsdale County Senior Services Center.
Ridership Data	About 28,000-30,000 riders a year, about 20% of those are for seniors.
Trip Purpose	Seniors often ride for medical and shopping purposes.
Training (Drivers/Riders)	N/A
Contact Information	517-437-3385

Hillsdale County Senior Services Center	
Type of Service	Door-to-door, non-emergency medical transportation.
Population Served	Hillsdale residents age 60 and older.
Area(s) Served	Hillsdale County.
Days/Hours of Operation	N/A
Vehicle Fleet	Volunteers' own personal vehicles.
User Eligibility	Age 60 and older.
Scheduling	Clients call Center to schedule a ride.
User Fees	Clients receive 550 miles from Center; following that, those above poverty level pay $5.00 plus $0.50 a mile and those below poverty level can make a suggested donation of $5.00 (in-county trips) and $10.00 (out-county trips).
Drivers (Paid/Volunteer)	Volunteer.
Budget	N/A
Funding Source(s)	Federal Department on Aging, portion of countywide millage; rider fees; private donations.
Coordination/Partnerships	The center has a working agreement with Reading Emergency Services should they be unable to assist with wheelchairs, and also coordinates with the hospital in Hillsdale and the Department of Human Services.
Ridership Data	2011: 1,035 rides provided (includes the Center's NEMT, social trips and Adult Day Care) and served 108 clients.
Trip Purpose	Medical appointments.
Training (Drivers/Riders)	N/A
Contact Information	517-437-2422

Hillsdale Assembly of God	
Type of Service	Transportation to Sunday Service.
Population Served	General public.
Area(s) Served	City of Hillsdale and City of Jonesville.
Days/Hours of Operation	Sunday.
Vehicle Fleet	Bus (30-passenger) and 1 van (non lift-equipped).

User Eligibility	N/A
Scheduling	N/A
User Fees	Free.
Drivers (Paid/Volunteer)	Volunteer.
Budget	N/A
Funding Source(s)	Church's general funds.
Coordination/Partnerships	None.
Ridership Data	Ridership varies from 5-20 each Sunday.
Trip Purpose	Sunday services.
Training (Drivers/Riders)	Drivers must have CDL license.
Contact Information	517-849-2187

Key Opportunities	
Type of Service	Transportation to Walmart once per month.
Population Served	Older adults 60 and older.
Area(s) Served	Hillsdale County.
Days/Hours of Operation	Once a month. First Tuesday of the month.
Vehicle Fleet	3 28-30 passenger buses; 5 vans. Some vehicles are lift-equipped.
User Eligibility	60 and older.
Scheduling	N/A
User Fees	Varies, average fee is $5.00.
Drivers (Paid/Volunteer)	Paid.
Budget	N/A
Funding Source(s)	MDOT; the low-income housing where seniors live; user fees.
Coordination/Partnerships	N/A
Ridership Data	Average of 10 seniors ride per month.
Trip Purpose	Walmart shopping trip.
Training (Drivers/Riders)	Drivers must have CDL. Drivers go through continued training, routine physicals, random drug screenings.
Contact Information	517-437-4469

Department of Human Services	
Type of Service	Medical transportation.
Population Served	Medicaid clients.
Area(s) Served	Hillsdale County.
Days/Hours of Operation	Monday-Friday, weekends as needed.
Vehicle Fleet	Volunteers' private vehicles.
User Eligibility	Medicaid client outside dial-a-ride area.
Scheduling	Clients contact DHS to schedule a ride.
User Fees	Free.
Drivers (Paid/Volunteer)	Volunteer.
Budget	$13,000 in 2011.
Funding Source(s)	Medicaid.

Coordination/Partnerships	Hillsdale County Senior Services Center occasionally.
Ridership Data	Around 30-40% of rides are for seniors.
Trip Purpose	Medical appointments.
Training (Drivers/Riders)	Drivers must have valid driver's license and insurance. Background checks are done.
Contact Information	517-439-2200

Department of Veteran Affairs	
Type of Service	Medical transportation.
Population Served	Veterans.
Area(s) Served	Any VA medical center within 100 mile radius.
Days/Hours of Operation	Monday-Friday.
Vehicle Fleet	Van; cannot transport wheelchairs.
User Eligibility	Veterans.
Scheduling	Encouraged to schedule 7 days in advance.
User Fees	Free.
Drivers (Paid/Volunteer)	Volunteer.
Budget	N/A
Funding Source(s)	VA.
Coordination/Partnerships	N/A
Ridership Data	About 99.9% of clients are seniors.
Trip Purpose	Medical, any VA facility.
Training (Drivers/Riders)	Drivers go through physical exam at VA; pass background check.
Contact Information	517-437-3630

HURON

Huron Transit Corporation/Thumb Area Transit	
Type of Service	Curb-to-curb demand-response public transportation.
Population Served	General public.
Area(s) Served	Huron County.
Days/Hours of Operation	Monday-Friday 5:00 AM-10:00 PM, Saturday 8:00 AM-6:30 PM.
Vehicle Fleet	36 lift-equipped buses.
User Eligibility	Public.
Scheduling	Demand response.
User Fees	Seniors, persons with disabilities, and children pay half-fare. Highest fare for a senior one-way trip is $2.25.
Drivers (Paid/Volunteer)	Paid.
Budget	N/A
Funding Source(s)	Federal 5311; State; local millage; fares.
Coordination/Partnerships	Medical brokers; Department of Human Services; Human

	Development Commission.
Ridership Data	2011: 11,016 seniors, 2,372 seniors with disabilities, 73,237 non-seniors with disabilities transported. Seniors and individuals with disabilities account for 30% of riders.
Trip Purpose	Seniors often ride for medical appointments, shopping, social outings, family visits, work and senior meals.
Training (Drivers/Riders)	Looking into setting up travel training program.
Contact Information	989-269-2121

Human Development Commission	
Type of Service	Door-to-door and door-through-door medical transportation.
Population Served	Older adults 60 and older.
Area(s) Served	Huron, Tuscola, Sanilac Counties.
Days/Hours of Operation	N/A
Vehicle Fleet	Transportation buses and personal vehicles.
User Eligibility	60 years and older in the area served; no wheelchairs.
Scheduling	Clients contact the HDC to schedule a ride.
User Fees	Free.
Drivers (Paid/Volunteer)	Volunteer.
Budget	N/A
Funding Source(s)	Donations.
Coordination/Partnerships	Will give verbal referrals and help with arrangements.
Ridership Data	In first 7 months of 2012: 3,354 rides.
Trip Purpose	Medical appointments.
Training (Drivers/Riders)	N/A
Contact Information	989-269-9502

Department of Human Services	
Type of Service	Medical transportation.
Population Served	Medicaid clients.
Area(s) Served	N/A
Days/Hours of Operation	N/A
Vehicle Fleet	N/A
User Eligibility	N/A
Scheduling	N/A
User Fees	N/A
Drivers (Paid/Volunteer)	N/A
Budget	N/A
Funding Source(s)	N/A
Coordination/Partnerships	N/A
Ridership Data	N/A
Trip Purpose	N/A
Training (Drivers/Riders)	N/A

Contact Information	989-269-9201

Department of Veteran Affairs	
Type of Service	Transportation to VA Medical Centers in Saginaw, Ann Arbor and Detroit.
Population Served	Veterans (and their spouses and/or caregivers if needed).
Area(s) Served	N/A
Days/Hours of Operation	5 days a week.
Vehicle Fleet	1 van, non lift-equipped that can transport up to 5 passengers; cannot transport wheelchairs or oxygen.
User Eligibility	Veterans.
Scheduling	Veterans call with information of appointments.
User Fees	Free.
Drivers (Paid/Volunteer)	Volunteers (cannot physically assist veterans).
Budget	N/A
Funding Source(s)	N/A
Coordination/Partnerships	N/A
Ridership Data	N/A
Trip Purpose	Medical appointments.
Training (Drivers/Riders)	N/A
Contact Information	989-269-8911

IRON

Dickinson-Iron Community Service Agency	
Type of Service	Demand response, curb-to-curb and door-to-door transportation.
Population Served	Primarily adults over age 60.
Area(s) Served	Dickinson and Iron Counties.
Days/Hours of Operation	Monday, Wednesday, Friday 8:00 AM-3:30 PM in Iron County.
Vehicle Fleet	3 minivans and 1 cutaway with a hydraulic lift in Iron County.
User Eligibility	People age 60 and older. Ask that riders with dementia have a caregiver with them.
Scheduling	Clients call their local senior center. Request 24 hours notice.
User Fees	Local curb-to-curb roundtrip: $4.00 ($6.00 if in wheelchair). $5.00 for non-senior local round-trip.
Drivers (Paid/Volunteer)	Paid.
Budget	$100,000 to operate in Dickinson and Iron Counties.
Funding Source(s)	MDOT Specialized Services; Federal 5310.
Coordination/Partnerships	N/A
Ridership Data	2011: 1,876 one way trips for riders of all ages in Iron;

	4,453 senior riders and 1,721 senior-handicapped rides in Dickinson and Iron combined.
Trip Purpose	Mostly medical and shopping.
Training (Drivers/Riders)	N/A
Contact Information	906-774-5888

Department of Human Services	
Type of Service	Door-to-door medical transportation.
Population Served	Medicaid clients.
Area(s) Served	Iron County.
Days/Hours of Operation	Varies as needed.
Vehicle Fleet	Volunteers' private vehicles.
User Eligibility	Medicaid client.
Scheduling	Clients speak with caseworkers for approval and to schedule.
User Fees	Free.
Drivers (Paid/Volunteer)	Volunteer.
Budget	N/A
Funding Source(s)	Medicaid.
Coordination/Partnerships	Upper Peninsula Health Plan and Dickinson Iron Community Services Agency.
Ridership Data	About 90% of clients are seniors; about 25 trips provided per month.
Trip Purpose	Medical appointments.
Training (Drivers/Riders)	N/A
Contact Information	906-265-9958

Veteran Transportation Service	
Type of Service	Transportation to VA Medical Facility in Iron Mountain, MI.
Population Served	Veterans.
Area(s) Served	Two days a week there are pick-ups in Crystal Falls, Florence, Eagle River, and Iron River, Michigan.
Days/Hours of Operation	Monday-Friday 5:00 AM-8:00 PM.
Vehicle Fleet	2 16-passenger minibuses that can transport wheelchairs and oxygen.
User Eligibility	Veteran, but must have scheduled appointment at VA Medical Facility.
Scheduling	Two days a week there are pick-ups in Crystal Falls, Florence, Eagle River, and Iron River, Michigan; call-ins are also taken on first-come, first-served basis within 50 miles.
User Fees	Free.
Drivers (Paid/Volunteer)	Paid.
Budget	N/A

Funding Source(s)	Veterans Transportation Service.
Coordination/Partnerships	N/A
Ridership Data	Van picks up about 10-12 seniors per week in Crystal Falls and Iron River, MI and of those about 95% are seniors.
Trip Purpose	Medical appointments.
Training (Drivers/Riders)	Drivers must pass classes at VA including handling clients and customer courtesy.
Contact Information	906-774-3300

Trico, Inc.	
Type of Service	Transportation service for their physically and mentally disabled clients to workshops, senior centers and other companies where they are employed.
Population Served	N/A
Area(s) Served	N/A
Days/Hours of Operation	N/A
Vehicle Fleet	N/A
User Eligibility	N/A
Scheduling	N/A
User Fees	N/A
Drivers (Paid/Volunteer)	N/A
Budget	N/A
Funding Source(s)	N/A
Coordination/Partnerships	N/A
Ridership Data	N/A
Trip Purpose	N/A
Training (Drivers/Riders)	N/A
Contact Information	906-774-5718

MARQUETTE

Marquette County Transit Authority (MarqTran)	
Type of Service	Fixed route, deviated fixed-route, and door-to-door transportation service.
Population Served	General Public.
Area(s) Served	Marquette County; interlocal agreement allows for entry into other counties in Upper Peninsula if needed.
Days/Hours of Operation	Deviated fixed-route on Fridays. Door-to-door hours: Marquette Buses: 6:15 AM-7:30 PM weekdays, 8:15 AM-7:30 PM Saturdays, 8:45 AM-4:45PM Sunday. Ishpeming-Negaunee buses: 6:30 AM-6:30 PM weekdays,

	8:00 AM-5:00 PM Saturdays, 9:00 AM-5:00 PM Sundays. Gwinn-Little Lake-K.I. Sawyer Area: 6:00 AM-7:00 PM Mon-Sat. Operates 365 days a year.
Vehicle Fleet	36 vehicles, 25 are lift-equipped.
User Eligibility	N/A
Scheduling	Door-to-door service: ADA-qualified can schedule 7 days in advance; those going to medical appointments can schedule 3 days in advance; those going to work can schedule 2 days in advance; anyone else can schedule 1 day in advance.
User Fees	Seniors pay half-fare and ride free on Wednesdays.
Drivers (Paid/Volunteer)	Paid.
Budget	N/A
Funding Source(s)	State Specialized Services grant; countywide millage; fares.
Coordination/Partnerships	N/A
Ridership Data	2011: 15,715 senior rides and 6,265 rides for seniors w/ disabilities.
Trip Purpose	Senior most often ride for medical, shopping and recreation purposes.
Training (Drivers/Riders)	N/A
Contact Information	906-225-1112

Retired Senior Volunteer Program (RSVP)	
Type of Service	Non-emergency medical transportation.
Population Served	Adults age 60 and older.
Area(s) Served	Marquette County.
Days/Hours of Operation	Rides as needed.
Vehicle Fleet	Volunteers' private vehicles.
User Eligibility	60 years and older, Marquette County resident, ambulatory.
Scheduling	Clients call RSVP to schedule ride; RSVP asks for 2 business days notice.
User Fees	Free (donations accepted).
Drivers (Paid/Volunteer)	Volunteer.
Budget	FY2013 budget is $123,688.
Funding Source(s)	Countywide senior millage; Office of Services to the Aging; Federal funding; client donations.
Coordination/Partnerships	Works closely with senior apartment complexes and senior centers.
Ridership Data	2011: 759 rides to 151 clients; 2010: 646 rides to 150 clients.
Trip Purpose	Medical appointments.

Training (Drivers/Riders)	N/A
Contact Information	906-485-1742

Forsyth Senior Center	
Type of Service	Transportation to grocery store and back.
Population Served	Older adults.
Area(s) Served	30 miles radius from senior center.
Days/Hours of Operation	Monday-Friday 8:00 AM-4:30 PM.
Vehicle Fleet	3 paid employees utilize their own personal vehicles.
User Eligibility	Over 60 years of age and ambulatory.
Scheduling	Older adults contact the Center.
User Fees	Free.
Drivers (Paid/Volunteer)	Paid.
Budget	Annual budget for transportation about $10,000.
Funding Source(s)	County millage and state funds.
Coordination/Partnerships	Refers seniors to RSVP for medical rides.
Ridership Data	About 12 rides a week.
Trip Purpose	Grocery shopping at local grocery store.
Training (Drivers/Riders)	Drivers must have valid driver's license and insurance. Background checks are conducted.
Contact Information	906-346-9862

Department of Human Services	
Type of Service	Door-to-door/door-through-door medical transportation.
Population Served	Medicaid clients.
Area(s) Served	Marquette County.
Days/Hours of Operation	7 days a week.
Vehicle Fleet	Volunteers' own personal vehicles.
User Eligibility	Medicaid client.
Scheduling	Transportation scheduled Monday-Friday.
User Fees	Free.
Drivers (Paid/Volunteer)	Volunteer.
Budget	N/A
Funding Source(s)	Medicaid.
Coordination/Partnerships	Senior centers.
Ridership Data	N/A
Trip Purpose	Medical appointments.
Training (Drivers/Riders)	Drivers must possess valid driver's license.
Contact Information	906-228-9691

Department of Veteran Affairs

Type of Service	Transportation to VA Medical Center in Iron Mountain, MI.
Population Served	Veterans (and dependants if veteran needs assistance).
Area(s) Served	Marquette County.
Days/Hours of Operation	Monday-Friday.
Vehicle Fleet	Van (cannot transport wheelchairs and oxygen).
User Eligibility	Veteran, must be ambulatory.
Scheduling	Veterans call the Department of Veteran Affairs to schedule a ride.
User Fees	Free.
Drivers (Paid/Volunteer)	Volunteer.
Budget	N/A
Funding Source(s)	DAV buys vehicle at reduced cost and pays for it by donations and fundraisers.
Coordination/Partnerships	N/A
Ridership Data	About 15 rides provided per week, 90% of riders are seniors.
Trip Purpose	Medical appointments.
Training (Drivers/Riders)	Volunteers must pass physical and background check.
Contact Information	(906) 226-3576

Uptown Taxi	
Type of Service	Door-to-door taxi service.
Population Served	General public.
Area(s) Served	Marquette County and beyond.
Days/Hours of Operation	24 hours a day, 7 days a week.
Vehicle Fleet	2 vans (1 lift-equipped).
User Eligibility	N/A
Scheduling	Clients call 20 minutes ahead for non lift-equipped van and 24 hours ahead for lift-equipped van.
User Fees	Marquette City limits: $6.50; Marquette Township: $7.50, once outside of Marquette City limits: $2.00 extra per mile. Lift-equipped van is extra. Seniors receive a $0.50 discount.
Drivers (Paid/Volunteer)	Paid.
Budget	N/A
Funding Source(s)	N/A
Coordination/Partnerships	N/A
Ridership Data	N/A
Trip Purpose	N/A
Training (Drivers/Riders)	N/A
Contact Information	906-362-2331

Checker Cab	
Type of Service	Taxi service.

Population Served	N/A
Area(s) Served	Marquette County.
Days/Hours of Operation	N/A
Vehicle Fleet	N/A
User Eligibility	N/A
Scheduling	N/A
User Fees	N/A
Drivers (Paid/Volunteer)	N/A
Budget	N/A
Funding Source(s)	N/A
Coordination/Partnerships	N/A
Ridership Data	N/A
Trip Purpose	N/A
Training (Drivers/Riders)	N/A
Contact Information	906-226-7777

MASON

Ludington Mass Transit Authority	
Type of Service	Curb-to-curb, demand-response transportation.
Population Served	General public.
Area(s) Served	Cities of Ludington and Scottville, Pere Marquette charter township.
Days/Hours of Operation	Monday-Friday 6:00 AM-7:00 PM, Saturday 8:00 AM-4:00 PM, Sunday 8:00 AM-2:00 PM.
Vehicle Fleet	19 buses (average bus holds 20 passengers).
User Eligibility	N/A
Scheduling	Customers call to schedule a ride, would prefer customers to call ahead 30-60 minutes.
User Fees	$1.00 fare for those that need aides, aides ride free.
Drivers (Paid/Volunteer)	Paid.
Budget	N/A
Funding Source(s)	Local city and township millage; fares; Federal and State funds.
Coordination/Partnerships	Mason County Central Schools for senior meals program.
Ridership Data	About 42% (70,000) of ridership are seniors (age 60 and older) or senior-disabled. In 2011: total ridership 165,000.
Trip Purpose	Seniors often ride for medical, shopping, restaurant and church purposes.
Training (Drivers/Riders)	N/A
Contact Information	231-845-1231

Scottville Area Senior Center	
Type of Service	Non-emergency door-to-door medical transportation.
Population Served	Adults age 60 and older.
Area(s) Served	Mason County.
Days/Hours of Operation	Monday-Friday 8:00 AM-4:30 PM.
Vehicle Fleet	Volunteer drivers' own vehicles.
User Eligibility	Mason County resident age 60 and over with no other means of transportation.
Scheduling	Clients call senior center with details of their medical appointment.
User Fees	Free (donations accepted).
Drivers (Paid/Volunteer)	Volunteer.
Budget	$50,054 last fiscal year.
Funding Source(s)	Federal and State funds; county millage; United Way; donations.
Coordination/Partnerships	No formal relationships.
Ridership Data	Average 70 clients in a year. Through the first 8 months of the fiscal year of 2012, 212 trips were provided.
Trip Purpose	Medical appointments.
Training (Drivers/Riders)	Offer training to employees that is available to volunteers as well (e.g. first aid, CPR).
Contact Information	231-757-4705

Hands Extended Loving People (H.E.L.P.) Ministry	
Type of Service	Door-to-door medical transportation.
Population Served	Adults age 55 and older.
Area(s) Served	Mason County.
Days/Hours of Operation	N/A
Vehicle Fleet	Volunteers' own personal vehicle.
User Eligibility	People age 55 and older.
Scheduling	Clients call to schedule ride.
User Fees	Free.
Drivers (Paid/Volunteer)	Volunteer.
Budget	$5,000
Funding Source(s)	Council on Aging; Consumers Energy
Coordination/Partnerships	Scottville Senior Center and Department of Human Services.
Ridership Data	About 12-20 rides provided a month/ over 144 rides a year.
Trip Purpose	Medical appointments.
Training (Drivers/Riders)	Safety and sensitivity training for drivers.
Contact Information	231-843-6811

Department of Human Services

Type of Service	Curb-to-curb medical transportation.
Population Served	Medicaid clients.
Area(s) Served	Mason County.
Days/Hours of Operation	7 days a week.
Vehicle Fleet	Volunteers' own personal vehicles.
User Eligibility	Clients must be outside dial-a-ride area.
Scheduling	Clients call caseworkers to schedule a ride.
User Fees	Free.
Drivers (Paid/Volunteer)	Volunteer.
Budget	N/A
Funding Source(s)	Medicaid.
Coordination/Partnerships	Senior centers.
Ridership Data	About 75% of riders are seniors; about 12 senior rides a week.
Trip Purpose	Medical appointments.
Training (Drivers/Riders)	Drivers must have valid driver's license and insurance.
Contact Information	231-873-7240

Town and Country Taxi	
Type of Service	Door-to-door taxi service.
Population Served	General public.
Area(s) Served	Based in Ludington, will go anywhere.
Days/Hours of Operation	24 hours a day, 7 days a week.
Vehicle Fleet	3 cabs.
User Eligibility	No restrictions.
Scheduling	Clients can schedule a ride or call about 15 minutes ahead.
User Fees	$2.00 per mile.
Drivers (Paid/Volunteer)	Paid.
Budget	N/A
Funding Source(s)	N/A
Coordination/Partnerships	No.
Ridership Data	N/A
Trip Purpose	Anywhere.
Training (Drivers/Riders)	Drivers must have chauffeur's license.
Contact Information	231-425-3134