

ISSUES WITH LACK OF TRANSPORTATION OPTIONS FOR  
SUBURBAN-DWELLING OLDER ADULTS: A MODERN  
CONUNDRUM

Honors Thesis

*Presented in Partial Fulfilment of the Requirements  
For the Degree of Bachelor of Social Work*

In the College of Health and Human Services  
at Salem State University

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Commonwealth Honors Program  
Salem State University  
2016

### **Abstract**

Although there is increased life expectancy among baby boomers, many experience physical illness and debilitating issues that may decrease their mobility. These issues often result in them not being able to drive safely and may require them to explore additional transportation supports. Many older adults in Massachusetts live in suburban communities. Little is known about the impact of lack of transportation supports in the suburbs on older adults. The purpose of this research study was to determine whether there was declined activity, emotional and financial effects, on suburban-dwelling older adults who did not have access to adequate transportation supports.

Adults 65 years and older (N=57), were recruited from senior centers (N=2), in suburban communities that do not have adequate access to much public transportation, through convenience sampling (word of mouth). Responses from the surveys revealed that most people still owned and operated their own cars. Those who didn't drive used town-owned senior transportation. In conclusion, the majority of people senior centers in suburban areas had access to transportation to some extent but thought that access was limited, and additional affordable transportation options would be beneficial.

*Keywords:* transportation, older adults, suburbs

Issues with Lack of Adequate Transportation Supports for Suburban-dwelling Older  
Adults: A Modern Conundrum

The way in which we currently address supporting transportation needs for community residing older adults must be revisited. The outcomes of this research supports past findings on the need for change (Silverstein & Turk, 2015). The number of older adults who now live in the suburbs is high. Silverstein and Turk (2015) recognised that the aging population was relocating from urban communities to the suburbs where there is little transportation; what implications will this have on suburban- dwelling older adult?

Most older adults and retired baby boomers live in the suburbs (Choi, Adams, & Kahana, 2012; Kim, 2011). Over the years, the suburbs have been the home to many Americans who are looking for larger living spaces and the opportunity to raise their families and children to a higher social position. Coughlin and D'Ambrosio (2012) noted that the second World War marked the era where families sought homes with larger floor plans which lead to an exodus from urban and rural areas to suburban communities that boasted homes that were larger than urban apartments and that came with garages. Previous studies have shown that suburbanization has impacted older adults access to transportation options (Choi, Adams, & Kahana, 2012) and (Pekmezaris, 2013) noted that there is less transportation options in suburban communities compared urban towns which limits older adults to driving their cars.

A growing number of adults are living longer. Roche (2002) explained the increase in life expectancy in the United States over the last century, to have changed from 46 to 79 for women and 46 to 73 for men. Late adulthood describes the developmental stage of people aged 65 and above. The age range for this population is wide, and is subsequently divided into three subgroups.

These subgroups consist of young-old (age 65-74), middle-old (age 75-84), and oldest-old (over 85) (Hutchinson, 2012).

Past research indicated that as people move from the young-old stage into old-old age stage, they needed more help. The current age of retirement is 65 (Hutchinson, 2012) and Social Security benefits are the main source of income for many older adults (Setzfand & Watson, 2015). Smith (2000) indicates older adults will need help in various areas ranging from finance to driving. This does happen to some people because not everyone will need help as they experience aging. Others, however, do not ever become disabled and remain able to drive until they die.

Persons born during the post-World War II period in the mid 1940's to 1964 are called baby boomers (Whitebourne & Whitebourne, 2014). During age 60 and beyond, the body starts to slow down. People usually decrease their workload in their sixties and by age 70 - the last leg of life's journey, the body really starts to slow, the bones and structure start to get frail and deteriorate and organs stop working. Approximately 10,000 people turn 65 on a daily basis. The continuous growth of the baby boomer group will be evidenced by the projection that older adults will represent 22% of the population by 2020 (Madachy, 2003).

As of 2011, the first baby boomer turned 65. As individuals get older, they become physically debilitated, which causes lifestyle changes and their ability to transport themselves independently. Becoming physically disabled during old age only happens to some people. Others, however, do not ever become disabled and remain able to drive until they die. Despite physical competence, dementia makes them unable to drive.

Because of the fact that people in the late adulthood stage of life are living longer, often many seniors are confronted with challenges caused by various chronic illnesses. The prevalence of chronic health conditions increases with age. Many of the illnesses are progressive with long

term effects forcing older adults to stop driving and explore transportation supports. This means older adults will need to rely on family and friends or use public transportation supports. Pekmezaris et al., (2013) points out that seniors with poor health have issues getting to supermarkets, pharmacies, doctor appointments, and family and friends. This means seniors will have to either rely on family and friends or use public transportation which are the senior shuttle, paratransit, and taxi.

Hutchinson (2012) found that the deterioration in the lifestyle for older adults falling in the 65 and older group was as a direct result of chronic illnesses such as cancer, diabetes, heart and respiratory diseases, stroke and pneumonia. Whitebourne & Whitebourne (2014) studied the prevalence of chronic conditions across the three late adulthood developmental stages and found that arthritis is the most significant problem that aging population faces. In 2010, heart disease was the leading cause of death amongst people that fell in the 75 and over age group representing 50% of deaths and 24% in the base year (Whitbourne & Whitbourne, 2014). As a result of these chronic conditions, affected older adults may need to assess transportation supports to visit the doctors, purchase food, and take care of personal needs.

Nowadays, suburban living which was viewed as ideal living is presenting with issues regarding adequate transportation supports for their older adults. While many older adults depend on public transportation, results have shown that private transportation via motor cars whether self-driven or otherwise was a more common method of transportation among older adults (Dahan-Oliel et al., 2010). Although options exist in these suburban towns, they are not adequate, they are limited and not very flexible. This is therefore as a direct result of suburbanization of the ageing population which makes easy access to transit options an onerous task (Choi et al., 2012).

The purpose of the study is to assess emotional and financial effects, as well as, declined activity involvement that the lack of adequate transportation options has on older adults in suburban areas. The topic is important to be explored because it examines an issue about adequate transportation options for seniors based on their location. This study will answer the following question, “Issues with Lack of Adequate Transportation Options for Suburban Dwelling Older Adults: A Modern Conundrum.”

### **Literature Review**

#### **Transportation Options and the Suburbs**

For many Americans 65 years and older, private means of transportation has become the main method of transportation (Choi et al., 2012) whether executed by self or with the assistance of family or friends (Dahan-Oliel, 2010). There is greater dependence on family and friends for the provision of transportation for older people who do not drive (Kostyniuk & Shope, 2003). This will cause them to become dependent on family and friends or public transportation which are few and not very user accessible. In further support of this point, Choi et al., (2012) explained that public transportation is not flexible and access is restricted.

The reason for this may be because important benefits such as mobility, convenience and security derived from using a private car can only be assessed from only a few public transportation options (Choi et al., 2012). On the other hand, other studies imply that available public transportation options may help older drivers decide to stop driving sooner and do this without becoming isolated (Choi et al., 2012).

A car as a means of transportation is purported to signify good quality of life in that it allows for engagement in a myriad of activities (Currie et al., 2009). In further support of this point Choi et al., (2012) notes that public transportation is not flexible and access is restricted. The

frequency with which older adults experience difficulties in accessing transportation is on the rise, as the number of older adults living independently in the community is increasing (Dahan-Oliel et al., 2010). Once there is some type of obstacle in accessing certain transportation modes such as taxis and public transport, it is expected that their use would be limited (Dahan –Oliel, 2010). Unreliable and untimely transportation services are common complaints by frequent users of public transportation (Kostyniuk & Shope, 2003). Research suggests that older adults would use public transportation if it is accessible and the level of service is fair (Currie & Delbose, 2009).

### **Emotion**

Feelings of sadness, loss of identity and shock are usually the experiences of individuals whose driver's license have been cancelled (Haltiwanger & Underwood, 2011). As older adults continue to age, they will experience a variety of age related physical changes that may require them to seek transportation supports. Absence of transportation results in older adults feeling isolated and depressed (Kostyniuk & Shope, 2003), there are also feelings of isolation resulting from lack of transportation access (Pekmezaris et al., 2012), and people who used to be mobile and met their own needs become dependent on others (Rosenbloom, 1999). As older adults continue to age, they will experience a variety of age related physical changes that may require them to seek transportation supports.

Many older drivers were unprepared for the day that they had to stop driving. Baby boomers are particularly concerned with having more supports because they are mostly planning for their future and for when they can no longer drive. Currie et.al, (2009) found that for an ageing population such as this, having continuous access to transportation options is critical and government policy is now concentrated on it with increased momentum.

In comparing suburban and urban seniors, Pekmezaris et al., (2013), notes the high probability of seniors in suburban communities were facing certain specific problems as against seniors dwelling in rural and urban communities. With transportation issues present, seniors are less likely to be able to freely visit friends which makes them feel isolated easily (Pekmezaris, 2013). Living with a spouse who drives acts as transportation resource (Nordbakke & Schwanen, 2015). There were feelings of security amongst couples as long as one person could drive. Feelings of being a burden exist when older adults have to accept rides from others whether family or friends (Choi et al., 2012).

### **Financial**

Although some older adults will have ways and means to satisfy the conditions of retirement, a significant portion will not (Rosenbloom, 2004). Overall, research shows status of current baby boomers as opposed to past generations indicating that baby boomers are more likely to have better life expectancy and better quality of life and are more financially stable than past generations (Currie et al., 2009). Older people are living longer because of increased income, enhanced education, and improved medical care and public health interventions.

On the other hand, some researchers indicate that the levels of poverty in suburban areas over the past ten years, are rapidly increasing than in urban cities (R. Pekmezaris et al., 2013). More women are now approaching retirement higher on the pay scale than men (Rosenbloom, 1999). Although research suggests that the use of public transportation will decline (Currie & Delbose, 2010), policy makers are urged maintain and develop older adults driving skills and abilities as well as ensuring car ownership remains affordable (Nordbakke & Schwanen, 2015).

### **Declined Activity Involvement**

Older adults who do not own their own cars, experience a decline in activity (Nordbakke & Schwanen, 2015). Findings reveal that not driving at all lessens independence and gives rise to people being identified as disabled (Choi et al., 2012). Declined activity appears to be a result of the effects of inadequate transport options. People living independently in the community is also a factor of declined social and community involvement (Dahan-Oliel et al., 2010). The possibility of these problems negatively affecting seniors is great as they may prevent them from community-wide events as well as social events (Dahan –Oliel, 2010). For older adults to remain active in their communities they will need assistance with transportation supports to maintain community involvement (Dahan-Oliel, 2010).

### **Method**

#### **Procedure**

The Institutional Research Board (IRB) at Salem State University granted approval for this study on February 17, 2016. Formal letters of request to distribute surveys were sent to two Senior centers and both centers agreed to participate. Flyers advertising the date and time that the researcher would be at the center distributing surveys were posted at the centers. On the agreed date and time scheduled with Senior Centre staff, the researcher set up a table with the surveys, informed consents, and pens. Senior centers were used as recruitment sites because they provided access to a diverse mix of older adults, aged 65 and older required for the sample.

When participants arrived at the table, they were screened for eligibility then given informed consent forms to read and sign before completing the survey. Seniors helped themselves to the four-page questionnaire and a pen. Participants either sat at the table set up or on couches around the room. The researcher was available to answer any questions and to collect the

completed instruments. Individuals had the right to withdraw from the study with no questions asked if they felt uncomfortable answering any questions the survey. Forty-four surveys (81%) were completed in-person at two senior centres (n=2). Nineteen percent of participants (n=10) were recruited by word of mouth and then sent electronic copies of the survey and informed consent via email.

The recruitment strategies were chosen in order to produce a diverse sample representative of suburban-dwelling older adults aged 65 years and older from various ethnic, social and financial backgrounds. Surveys were conducted on February 23 and March 4, 2016. Participants' names or identifying data were not required.

### **Subjects**

The sample consisted of 57 older adults. The average age was 76.5 (n=54) with an average age range of 65-97 years. Participants were recruited from two senior centres in communities with commuting distance from Boston, Massachusetts that had few transportation options. The majority of the participants in the study were females 89% and 11% were males. Eighty-nine percent of respondents were retired and the other 11% were either employed full-time or part-time or disabled.

### **Instruments**

A 24 item questionnaire was created by the researcher for this study. The survey took approximately 10 minutes to complete. The survey asked about demographic information including age, gender, marital status, year of birth, race, and employment status. The instrument further asked questions about the impact of lack of adequate transportation supports on emotions, finances, and social life. The questions were mostly 'yes' or 'no', multiple choice, and brief open-ended responses. The survey was anonymous.

### **Data Analysis**

The raw data was entered in an Excel spreadsheet. Descriptive statistics were used to explore age, gender, emotional, and financial effects. Variables including results from primary, the

kinds of means of transportation that exists, their costs, supports, social life and ability to drive were analyzed and descriptive statistics was used to report various patterns in the data.

## **Results**

### **Demographic Data**

Participants included 54 adults aged 65 and older ( $M=76.5$  years;  $SD=7.85$ ). Forty-six percent of respondents ( $n=25$ ) were in the young- old age group (65-74), (37%) ( $n=20$ ) were in the middle-old age group (75-84), and (17%) ( $n=9$ ) were in the 85 and older, oldest-old group. See Figure 1. The age range of the participants was 65-97 years old. There were more females (89%) than males (11%). 87.5% of the participants identified as white, 7.4% as black, 4% as Native American, and 1% as biracial. Fifty-four percent of the participants were widowed ( $n= 29$ ), (19%) ( $n=10$ ) married, (11%) ( $n=6$ ) never married, (7%) ( $n=4$ ) separated, and (4%) ( $n=2$ ) divorced. Regarding employment status, the majority (87%) of respondents were retired, employed full-time (6%), employed part-time (2%), and (2%) disabled.

### **Transportation Access**

Seventy-four percent ( $n=41$ ) of the participants owned a vehicle. Of that amount, ( $n=21$ ) were in the young-old age 65-74 (51%), ( $n=18$ ) middle-old age 75-84 (44%) and ( $n=2$ ) old-old age 85 years and older (5%). Of the entire sample ( $n=54$ ), most of the respondents (39%) who owned a vehicle were in the young-old cohort. The majority (84%) of seniors in the young-old cohort ( $n=25$ ) owned a vehicle. The majority 90% of the middle-old age ( $n=20$ ), and 22% of the old-old age ( $n=9$ ) owned a vehicle. Of the participants who owned a car, but were used alternative means by through which a spouse drove them ( $n=4$ ) 10%, and someone drove them using their own car ( $n=1$ ) 2%. Of those who didn't own a vehicle ( $n=13$ ), the majority ( $n=7$ ) were 85 and older 54%, ( $n=4$ ) were in young-old group 31%, and ( $n=2$ ) 15% were people in the middle-old group age 75-

84. People who did not own a vehicle stated reasons that they gave up driver's license (n=7) because they are too old to drive 54%, lost license during field test (n=2) 15%, and can't afford to drive a car (n=4) 31%.

When participants were asked about their primary means of transportation, 69% (n=37) of participants responded that they used their personal cars. Of those who did not use their personal car (n=17), 53% the senior shuttle- a local bus service operated by the Council on Aging (COA) of the town (n=9), (n=5) used family and friends 29%, and the remaining 18% (n=3) either walked or used taxis. (See Table 1). Fifty percent of respondents (n=27) thought their current access to transportation was not adequate. The other 50% thought it was adequate because they still owned and drove a car. Though the COA shuttle was the only reliable, affordable, and available means of public transportation which many said it was not enough. Participants reported that the service provided by the COA shuttle was time expensive, there was a lot of waiting involved, and everyone had to travel at the same time. For these reasons participants did not think their access to transportation was adequate using only the senior center shuttle. Most of the drivers in the young-old category, 21 of 25 (84%) reported that they owned a car so they were unable to provide a response whether they were satisfied with the available transportation in their area.

Figure 1 Age Group and Sex of Participants

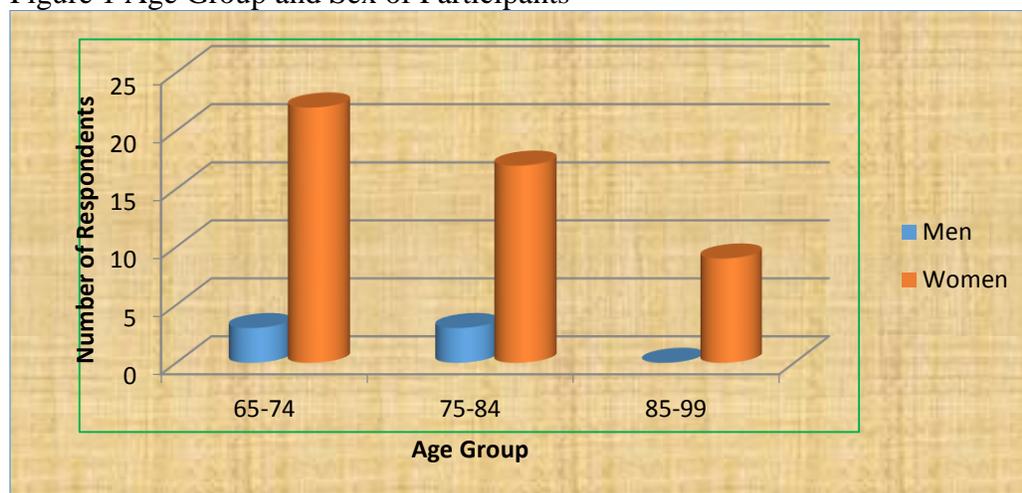


Table 1

<b>Characterization of Participants (N = 54)</b>			
	65-74 years old (n = 25)	75-84 years old (n = 20)	85-99 years old (n= 9)
<b>Gender</b>			
Male	3	3	0
Female	22	17	9
<b>Marital Status</b>			
Married	4	6	0
Widowed	10	10	9
Never Married	5	1	0
Divorced	2	0	0
Separated	3	1	0
Single	1	0	0
No Response	0	1	0
<b>Employment Status</b>			
Employed Full-time	2	1	0
Employed Part-time	1	1	0
Retired	21	17	9
Not Employed	1	0	0
Disabled/Not able to work	1	0	0
<b>Vehicle Ownership</b>			
Yes	21	17	2
No	4	3	7
No Response	0	0	0
<b>Primary Transport</b>			
Car	23	13	1
Family & Friends	3	1	1
Council on Aging Bus	0	5	4
Taxi	1	0	0
Walk	1	0	1
<b>Race</b>			
Black/African America	1	0	0
White	28	17	9
White/Black American	1	0	0
Native American	0	1	1
Latino	0	0	0
Asian/Pacific Islander	0	0	0
Other	0	0	0

When participants were asked what kinds of transportation already exist in their towns, they named four kinds of transportation options: 1) taxi, 2) Dial a Bat, and 3) Greater Attleboro

Taunton Regional Transit Authority (GATRA). Both Dial a Bat and GATRA are both public paratransit services that offer fixed route services and schedules. These options do not offer bus service on Sundays and holidays.

The participants who identified forms of transportation that already exist were asked to give feedback on how they worked for them. (See Table 2). Majority of respondents were aware that some form of transportation was available in their area. Overall, most of the respondents (n=26) agreed that their current access to transportation was adequate 48%, those who thought access was not enough (n=24) 44% and of the total number of respondents, only (n=4) (7%) did not respond. Sixty-five percent of respondents (n= 35) knew of some kind of transportation option in their area and only (n=1) 2% was unaware. The remaining (33%) participants didn't respond to whether or not transportation was available. Safety and reliability of available options were positively reported by (n=24) 44% of respondents. Only (n=2) responded negatively towards safety and reliability 4%. Respondents (n= 22) who accessed transportation using the paratransit in their area (41%) stated it was affordable while (7%) disagreed (n=4).

The cost of transportation provided by the senior centers varied by town. Prices ranged from \$1 to \$2 round trip, \$40 round trip per month, and \$15 for 20 rides. Respondents who used taxi, paratransit, and senior shuttle reported that taxis were expensive costing up to \$150 round trip to Boston. A cheaper alternative to travel to Boston is via the GATRA. The service cost \$15 and provides seniors with transportation to the city to attend medical appointments. The draw back to this option is that it time expensive because there is a lot of waiting involved because everyone rides together. Mass Health, veterans pass, and family were some of the means that the older adults used to pay to public transportation.

Approximately 30 of 54 participants (56%) reported having family living close to them. Adult son, daughter, niece, nephew, brother, sister, and in-laws were some of the nearest family and relatives living between 1 to 150 miles. Less than 15% of the participants reported that their family was not supportive. Less than (30%) of the respondents indicated that their friends lived in a different state. The majority of the participants' friends lived either in the same town or adjacent towns. When participants were asked if they went for walks in their towns, 44 of 54 reported that they went for walks (81%), not very often and only when the weather is good.

Table 2

Participants feedback on the available types of transportation

<b>Opinions on Functionality</b>						
<b>Question Sample</b>	<b>No Response (n)</b>	<b>No Response (%)</b>	<b>Yes (n)</b>	<b>Yes (%)</b>	<b>No (n)</b>	<b>No (%)</b>
Is access adequate	4	7%	26	48%	24	44%
Is transport available	18	33%	35	65%	1	2%
Are you satisfied	25	46%	17	31%	12	22%
Is it safe	28	52%	24	44%	2	4%
Is it reliable	28	52%	24	44%	2	4%
Is it Affordable	28	52%	22	41%	4	7%

Although 81% of the participants walked in their communities and 4% didn't take walks (n=2) due to physical issues with their legs. More than half of the older adults declared that although they didn't go for walks, they were still able to drive. Compared to other age groups, the results showed that many drivers in the young -old age group (n=21) did not provide a response whether or not they were satisfied with the available transportation options. However, most reported that transportation supports have improved compared to many years ago and degree of contentment was based on whether individuals had their personal means of transport.

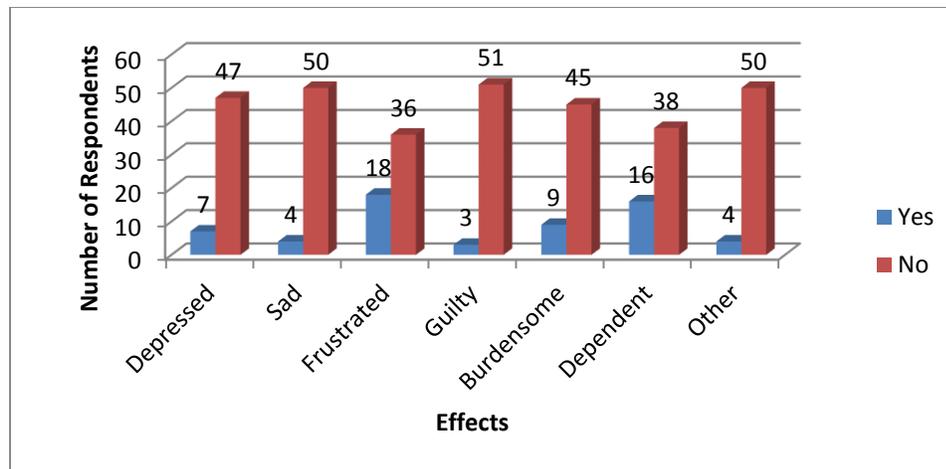
### **Emotional Effects of not having adequate transportation**

Figure 2 depicts how suburban- dwelling older adults feel about not having adequate transportation supports because there are very few options available in suburban areas. The graph shows that respondents (n=18) felt more frustrated from not having adequate transportation supports 33%, (n=9) burdensome 26%, depressed (n=7) 17%, and (n=4) felt sad 11%.

In addition to the options provided, participants also expressed that they were angry, uncomfortable, fearful, and annoyed with not having adequate supports in their communities.

Older adults who were disabled (n=2) 4% and did not drive, experienced all the emotions provided on the questionnaire. Respondents (n=38) 70% who used their personal car did not have an emotional response to not having adequate transportation options in their town. Being able to still drive and owning a car reflected in the way people felt about transportation options. Those who felt they had steady transportation did not respond. Surprisingly, 55% of adults in the middle-old age cohort (75-85) (n=11), didn't have any emotional response to not having adequate transportation supports in their community. However, some persons indicated their concerns for transportation supports after driving cessation, while others indicated it would be nice to have options and alternatives. Not having adequate transportation supports did not have any emotional effects on 52% of the participants surveyed.

Figure 2 Emotional effects of not having adequate transportation



### Financial Impact

Only 35% (n=19) participants responded to how not having adequate transportation financially affected them. The majority of respondents (n=31) 57% had no response to experiencing financial effects. The senior shuttle and paratransit were the only two affordable options that were available. However, they stopped operating early and that they operated along specific routes making it difficult for some senior to access. Nine percent of seniors (n=5) reported that they were less active because they weren't able to get places due to expensive taxi and time expensive public bus service. Other respondents (15%) claimed there were not many choices available in their area to compare prices (n=8). Another 15% stated they experience declined involvement due to financial effects of not having adequate transportation. Four percent (n=2) had other responses to the financial effects of lack of adequate transportation. See Figure 3.

There are various reasons why older adults do not drive. Nineteen percent of participants reported that they did not drive (n=10). Twenty 20% of those respondents (n=2) reported that they did not drive because of cataracts; 20% reported they had leg issues/problems (n=2), 10% (n=1) said they were too old, 10% had arthritis (n=1), 10% (n=1) gave up driver's license, 20% (n=2) failed test and loss license as a result and 10% (n=1) stated they did not own a car.

Figure 3 shows the financial effects of not having adequate transportation.

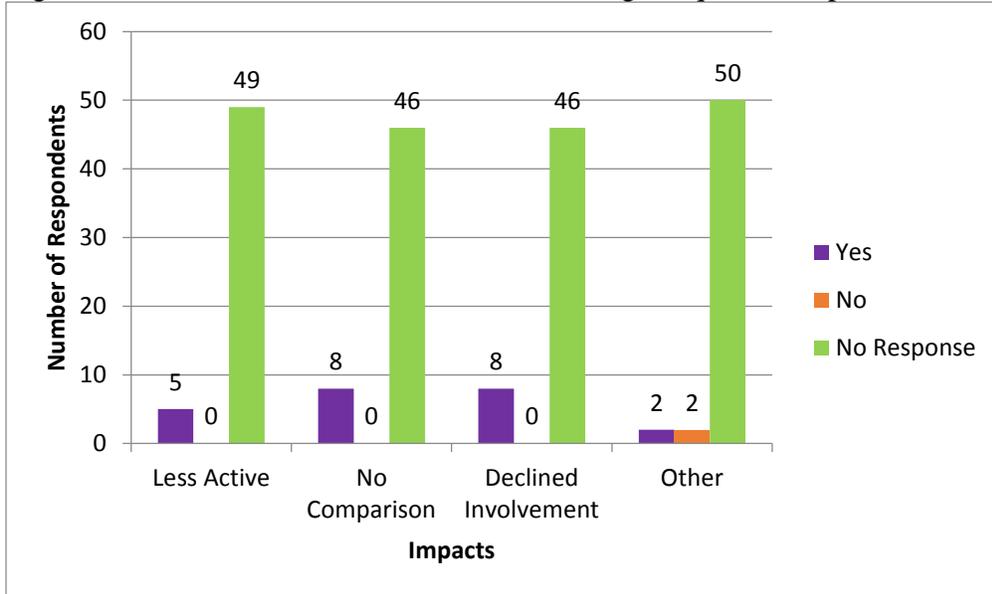
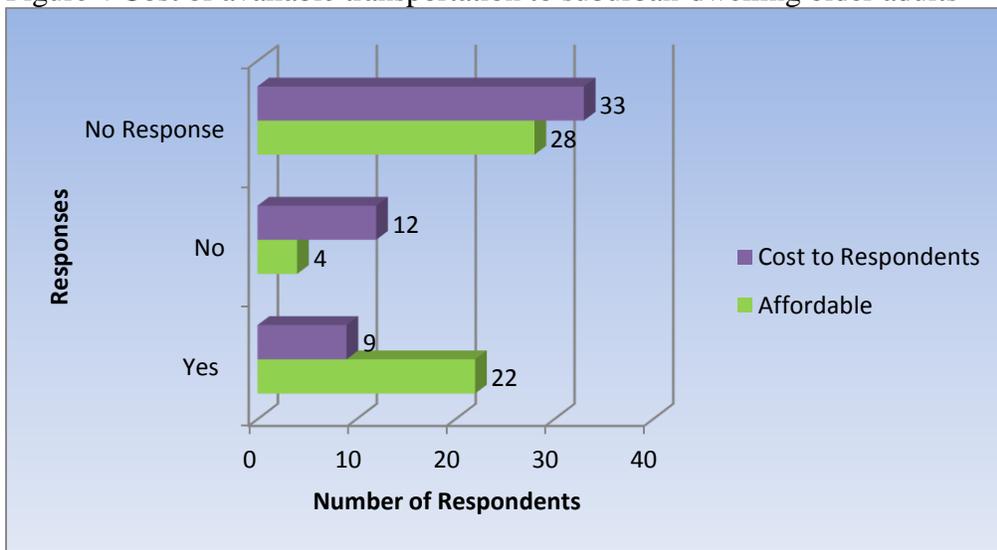


Figure 4 Cost of available transportation to suburban-dwelling older adults



Participants were asked how much was the cost for the transportation that already exists. Figure 4 illustrates the range of responses on whether or not costs were affordable. Of the respondents that said 'yes' there was a cost to respondents (n=9), more than twice that amount agreed it was affordable. The results revealed that majority of the participants (n=33) 61%, did not respond to the cost of transportation. Only 12% disagreed that the cost of available transportation in their area was affordable (n=7). Respondents believed that the options that are currently available is necessary, would be great and an asset if affordable. Others would be willing to pay for other services other than taxi which is reported to be very costly and usually comes from another town close by.

When participants were asked if they had access to taxis, shuttles or public transportation in their area, the majority said 'yes' (n=36) 67%. Participants indicated that car, senior bus, taxi, paratransit, family and friends are their most recent means of transportation. Respondents have identified a number of physical accessibility stating that the available paratransit bus transportation had steep steps and narrow doors that were not convenient for seniors.

When participants were asked to give their thoughts on the availability of additional transportation supports in their area, they stated that there should be more transportation options with more accommodating times, the paratransit buses should cover the entire town, and should have later hours of operation. Others felt their area could use more local transportation that operates with a later schedule.

Fifty-six percent of respondents reported that they lived close to family (n=30). Participants (n=33) thought that their family members are supportive 61%. The proportion of respondents who said that their families or a relative lived close by, indicated that they provided assistance as much as possible. When asked who was the family member who lived close by, 39% (n=21) noted

daughter, 13% (n=7) son, 7% spouse (n=4), and the other 11% were siblings, nieces, nephews and in-laws (n=8). Family members provided help ranging from transportation to medical appointments, activities, and food shopping. Respondents indicated that their nearest relative lived between half a mile to 40 miles away.

Seventy-four percent of the respondents lived independently (n=40) and 26% lived with family (n=14). Participants who reported where their friends lived they lived all over the state of Massachusetts. Fifty-seven percent (n=31) of the older adults stated that their friends lived in the same town as them, (n=23) lived in adjacent towns 43%, (n=24) 44% lived in nonadjacent town, (n=15) 28% lived in a different state. Although most older adults lived independently, the results indicate that most of them lived within close proximity to family and friends. This is an indicator that many older adults have supports within reasonable reach.

### **Discussion**

The research findings suggest that issues with lack of adequate transportation options for suburban dwelling older adults have emotional, financial, and social effects on suburban dwelling older adults to some extent. People who had to depend on friends and family or had to use the public options felt mostly frustrated and were not as involved in their communities. Not everyone experienced emotional effects by the lack of supports because most older adults were still driving.

This supports empirical literature which has found that suburban dwelling seniors were affected emotionally and financially; and depended on family and friends as a means of transportation supports due to the absence of adequate supports. Kostyniuk & Shope (2003) noted that older adult who do not drive depended on friends and family for transportation supports; as a result, experienced feelings of sadness, loss of identity and shock (Haltiwanger & Underwood, 2011) and while some older adults will have ways and means to satisfy the conditions of retirement, a significant portion will not (Rosenbloom, 1999).

### **Age and Transportation Needs**

The study shows that a small percent (15%) of the older adults surveyed experienced a decline in activities as a result of a lack of access to transportation supports. The evidence from the research shows that most older adults living in the suburbs are still driving themselves (Dahan-Oliel, 2010). It is possible that these findings demonstrate that suburban dwelling older adults are mostly still driving and the majority of old-old participants were no longer driving.

The results highlighted that people in the old-old cohort were most likely to use the public transportation options in their area. Even though 80% of participants in the 64-74 age group still independently transported themselves, they were most concerned about not having adequate transportation options in the future. They were fearful of not being able to access their communities and were uncomfortable with the idea of having to depend on others.

The findings suggest having affordable transportation would be an asset because senior who do not drive can maintain independence without requiring supports from peers or family. Because the current services were time expensive, not every user-friendly, towns should begin to evaluate the available services to be more accommodating in terms of flexible schedules, routes, and vehicles that accommodate the varying physical needs that older adults experience.

Policymakers should consider increasing coverage areas and increase stops to accommodate older adults who are not within reasonable walking distance from fixed routes. The research findings provide an opportunity for suburban towns to begin planning on expanding the transportation coverage and options. Research shows older adults are likely to public transportation if service is reasonable and accessible (Currie & Delbose, 2010).

### **Transportation and community involvement**

Many suburban Transportation is one of the main concerns amongst suburban-dwelling older adults and the need for additional supports in their area. The findings suggest having additional affordable transportation options would be an asset. Older adults would not have to feel pressured into keeping their license longer than they have to and in the event where they can no longer drive, they will be able to maintain their independence and not have to entirely depend on

family and friends. They remain active in their communities without becoming isolated. The few transportation options that were available didn't go to other towns. Schedules often required advanced planning which forced people to be rigid with their time. The options were not very user-friendly doors on the paratransit buses were often not wide enough and steps were steep for seniors to climb.

The study shows that older adults are maintaining their independence until much later in life. Respondents in the young-old age group were more likely to be thinking and expressing that current transportation options are not adequate and that there is a need for more supports. As a main focal point of rehabilitation, mobility via different modes of transportation must be encouraged (Dahan-Oliel et al., 2010). Lack of financial resources is a factor why older adults are not involved in community activities (Nordbakke & Schwanen, 2015).

### **Limitations**

There were several limitations to this study. Nonresponse was a major limitation to this survey. Incomplete questionnaires and a lack of responses to essential questions weakened the survey which could impact the validity of the research. Unlike interviews, pen and paper surveys do not provide the opportunity to clarify responses because respondents will respond to their interpretation of the questions or leave them blank.

The instrument itself was too long for the population surveyed and many of the items were not totally relevant to the research purpose. Although there were 24 questions, more than 50% were open-ended and multiple choice responses which could be overwhelming for older adults. Also, the format of the items in the survey and overall layout appeared cramped and difficult to interpret.

The majority (89%) of those who completed the survey were females (n=44) which could reflect gender bias in the study. The majority of the participants in the survey (74%) still drove themselves and did not have an immediate reason to tap into transportation supports. This might also impact the validity of the research, as a portion of older adults who may need supports were unaccounted for in the study for the very reason of not having access to transportation to leave

their homes. Sampling was another major limitation. Because many of the participants came from senior centers and people need to drive to get to them, they may not have been the best places to find seniors who do not drive. As a result, this has impacted the small sample size for people who did not drive.

A strength of this study is that it raises awareness about the issue that older adults living in suburbs are currently facing on a small scale emotional, financial and social effects from not having adequate transportation supports that are more user accessible. Not having adequate transportation options have the potential to become a long-term problem for suburban towns who are currently addressing immediate transportation needs which are not entirely user-friendly. The limitations of this study will help to develop new focus questions for future research regarding the issues with lack of adequate transportation supports for suburban-dwelling older adults.

### **Future Research**

More research needs to be done regarding the emotional, financial, and social effects of not having adequate transportation options for older adults who reside in suburban communities. In addition, further studies could be done to explore transportation supports that are user-friendly, time efficient, and will accommodate the varying physical needs that older adults sometimes experience. Pekmezaris (2013) notes the importance of understanding the needs of suburban-dwelling older adults and urges that future research needs to be conducted in order to prevent an overload of resources that may arise from the needs of a growing older adult population.

While pen and paper surveys are an appropriate form for older adults, many might not be conversant with the use of the Worldwide Web and email. Therefore, questions should be brief and straightforward, and surveys should be short and time inexpensive. The survey should look professional with a good simple layout that will encourage completeness.

Future research should take into consideration having two same sample sizes for each cohort e.g., who do drive and who do not drive, in order to get a better comparison. Future researchers could consider the qualitative form of research, and ask specific questions about how

people are affected financially, emotionally and socially by a lack of adequate transportation options.

### **Conclusion**

The findings showed that some participants welcomed the idea of having adequate supports for when they are no longer able to drive. With regards to research on the topic, most researchers focused on driving cessation and the illnesses that give rise to the issue. Though there was not a lot of available research on this specific topic, the available ones had similar findings.

In summary, most suburban-dwelling older adults aged 65 and above are independently transporting themselves using their own vehicle. Those who didn't drive themselves had some form of physical disability, didn't own a car, believed themselves to be too old to drive or had their license revoked. Older adults living in suburban communities believed that their access to transportation was adequate. However, the issues with the lack of adequate transportation supports are valid and have emotional and financial effects as well declined activity involvement among seniors.

Some individuals experienced financial issues as a result of having to travel distance outside the coverage area of the available services. The emotional effects are experienced mainly by the folks who rely on public transportation and rides from friends and family. Though rides are affordable on town operated senior transportations, access after a certain time is unavailable and using the service can be time-consuming. It was discovered that older adults felt mostly burdensome as a result of having to depend on others due to not having access to adequate transportation supports. It is important to note that although the majority of suburban-dwelling older adults are not faced with issues of inadequate transportation supports, some planning be done ahead of time since the older population is increasing at a fast rate.

The study shows that suburban towns should begin to look more closely at expanding transportation supports given that such options might be older adults only connection to the outside world. It is important that are not time expensive and should be more user-friendly to accommodate the varying needs of their aging community.

More research could be done to bring awareness to the transportation needs of older suburban-dwelling adults who are still able to drive, but are looking for additional affordable transportation support options. In order to maintain a quality of life and promote independent living for the growing older adult population, it is important that towns begin to focus on expanding transportation options. Focus should be placed on the young-old age because of the rate of growth of 10,000 people per day and the middle-old age cohort, who the finding show to be less concerned about transportation supports in their area.

### **Acknowledgement**

The searcher would like to express sincere gratitude to the faculty sponsor, Rebecca Mirick, Ph.D., of the School of Social Work; reader, Kristina Turk, M.S, NPML and Joanna Gonsalves, Ph.D., Department of Psychology, Salem State University for their contribution and expertise during the research. In addition, I would like to thank Professor Michael Cebarano, Department of Mathematics, Massasoit Community College for his assistance with the analysis of the data. The completed study was presented at the 22nd Undergraduate Research Conference, UMass Amherst (April 2016) and the Undergraduate Research Symposium, Salem State University (May 2016).

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