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Expanding possibilities for people with vision loss

Project VISITOR

Visually Impaired Seniors' Independent Travel Opportunities and Resources

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ABSTRACT

The research team for the Visually Impaired Seniors' Independent Travel Opportunities and Resources (Project VISITOR) conducted a survey of organizations and individuals across the United States to identify current promising practices, challenges, and solutions related to transportation for seniors with vision loss. The study is taking place in two phases. This report contains the findings for Phase One, which consisted of an online survey disseminated to a purposive sample of agencies serving seniors with vision loss in the United States. Based on 32 responses from urban, exurban and rural areas throughout the country, we find that many senior citizens who are blind or have low vision lack transportation options. Only a few urban/exurban respondents agreed that affordable transportation services exist for seniors with vision loss in their communities and less than half agreed that transportation options are convenient. Transportation in rural/frontier areas, where it exists, appears to be much more limited. But respondents in both urban and rural communities were hopeful that transportation options will improve in the future, due to driverless cars; the proliferation of Uber and Lyft, which might be good options for some as they become more familiar with accessible smart phone technology to schedule rides; and the growing demand for transportation options as the population ages. Phase Two will consist of a telephone survey of seniors with low vision about their experiences using different modes of transportation

1. Introduction

A. Background

The research team for the Visually Impaired Seniors' Independent Travel Opportunities and Resources (Project VISITOR) conducted a survey of organizations and individuals across the United States to identify current promising practices, challenges, and solutions related to transportation for seniors with vision loss.

According to the 2015 National Health Interview Survey, over 50 percent of American adults with vision trouble are over age 55, and over 60 percent of the adults who are blind are over age 55. The proportion of Americans experiencing blindness or vision loss increases with age, a consequence of adult-onset and age-related vision conditions including macular degeneration, diabetic retinopathy, and glaucoma. Various eye conditions are more or less prevalent among different racial and ethnic populations and subgroups; in general, the prevalence of vision loss has been found to be higher among women and to correlate with poverty, impacting those with the fewest resources to manage their eye conditions, access resources, and prevent further vision loss (Kirtland et al., 2015).

One consequence of severe vision loss among adults is the loss of the ability to drive, whether someone voluntarily decides to stop driving or becomes ineligible for a driver's permit based upon a vision screening. Older adults are already at greater risk of isolation and depression, and the loss of the independence afforded by driving can further exacerbate these conditions for seniors with vision loss. Seniors with and without vision loss have needs and desires for independent travel – whether to a doctor's appointment, to a part time job, to visit relatives, or to enjoy dinner and a movie with friends. Seniors who live alone, or with a partner who does not drive, often do not have regular opportunities to ask for rides from friends or family, or they may feel that asking for such help – especially for nonessential travel – places a burden on others. Thus, access to affordable, reliable forms of independent travel is particularly essential for seniors with vision loss.

Little is known about the complete range of transportation opportunities and innovations in place across the United States to offer independent travel for seniors with vision loss. The research team, comprised of a range of researchers, experts, and stakeholders, recognizes that seniors living in urban/suburban and exurb areas are more likely to have access to a greater range of transportation options than seniors living in rural or frontier areas. (See the definitions section for definitions of these terms.) The team is eager to better understand urban, exurban and rural differences and to identify other factors that facilitate or inhibit the availability and use of transportation services.

The research team has designed a two-stage, mixed-method research project to add to the general knowledge of blindness/visual impairment and rehabilitation professionals, policy makers, and community planners about best practices, challenges, and solutions for transportation for seniors with vision loss across the United States. In Phase One, we surveyed providers of services to people with low vision, including rehabilitation teachers, orientation and mobility (O&M) specialists and other agency representatives about transportation that people with low vision or blindness could use in their urban, exurban, or rural service area. We asked them about the availability of service, whether the service is affordable and convenient, and the challenges people with low vision might face in using each service. In Phase Two, we will interview 75 seniors with low vision or blindness to ascertain what services they use, the availability of services and the challenges they face in using the services. This report summarizes our Phase One findings.

B. Definitions

For the purposes of this survey, "seniors with vision loss" will include all the following:

- People with vision loss 65 years of age or older who do not drive
- People with vision loss who do not drive and who are eligible for services from specialized services for older adults with vision loss, such as their state's Older Blind Program. (Each state can determine its own age of eligibility; many states offer services to people with low vision 55 years of age or older).

- Exurb (for "extra-urban") refers to a ring of prosperous communities beyond traditional suburbs that are commuter towns for an urban area. In the United States, exurban areas typically have much higher college education levels than closer-in suburbs. They also typically have average incomes much higher than nearby rural counties, and some have some of the highest median household incomes in their respective metropolitan area. However, depending on local circumstances, some exurbs have higher poverty levels than suburbs nearer the city.
- Urban and suburban areas are densely populated and developed with a mix of commercial residential, and other land uses (e.g., areas of 50,000+ people or clusters of 2,500 to 50,000 people)
- Rural and frontier areas are those non-urban/suburban areas away from dense population centers or clusters. Frontier areas are extremely rural, sparsely populated areas (six or fewer people per square mile).

2. Method

A. Phase One

Phase One consisted of an online survey to be disseminated to agencies, centers, and organizations serving seniors with vision loss in the United States. (The survey is at :
https://docs.google.com/forms/u/3/d/1FemCfByD7xXvpmGJn2nHx2aNI03C9SOpXPfqYfQwaAs/edit?usp=drive_web.)

The purposive sample of agencies, centers, and organizations receiving the survey included:

- All community-based organizations in the AFB Directory of Services (http://www.afb.org/directory), except for organizations solely focused on services to children/students and parents, braille/media production, distance education, early intervention, or employment
- The community-based organizational members of Vision Serve Alliance, "a consortium of Executive Directors/CEOs of 501(c)(3) nonprofits throughout the United States that provide unique and specialized services to people who are blind or with severe vision loss" (https://www.visionservealliance.org)
- Organizations whose employees/leaders are subscribers to aging/vision loss-focused listservs including the 21st Century Agenda on Aging and Vision Loss.

Recruitment materials (Appendix A) and the introductory information in the survey indicated that the survey is for organizations that provide residential, community-based, or in-home services to seniors with vision loss. The project's staff recorded the geographic areas served by the 32 agencies completing the online survey. We received surveys from all major regions of the United States: New England, Mid-Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain, and Pacific (Table 1). Appendix B provides additional information on the methodology.

Table 1. Survey Response Representation

Ten Smallest Counties in the U.S.	-Nye, Storey, and Mineral Counties, Nevada -Hot Springs, Goshen, Johnson, Niobrara, and Platte Counties, Wyoming -Highland and Bath Counties, Virginia
Largest Cities in the United States	-Philadelphia, Pennsylvania -Chicago, Illinois -Atlanta, Georgia -Boston, Massachusetts -Washington D.C. -Dallas, Texas
Geographic Regions of the United States	-New England – Massachusetts -Mid-Atlantic – New York counties -East North Central - Michigan, Ohio, Wisconsin -West North Central – Minnesota, Nebraska, Missouri, Kansas -South Atlantic – Washington DC, Virginia, Florida -East South Central - Tennessee -West South Central – Texas, Louisiana -Mountain – Wyoming, Nevada -Pacific- Washington State, California
All areas with respondents	
California	San Joaquin County
Florida	Pinellas County
Illinois	Chicago
Kansas	Sumner, Cowley, Butler, and Harvey Counties and City of Sedgewick,
Louisiana	Orleans, Jefferson, St. Bernard, St. Charles, St. John the Baptist, St. Tammany, and Plaquemines Parishes
Maryland	D.C. Metro area
Massachusetts	Entire state
Michigan	Oceana, Osceola, Barry, Ottawa, Montcalm, Mecosta Counties and Cities of Detroit, Allegan, Kent, Newaygo Lake, Ionia, Muskegon, and Mason
Missouri	St. Louis city and county, St. Charles, and Jefferson County
Nebraska	Southeast Nebraska
Nevada	Washoe, Carson, Douglas, Lyon, Storey,

	Churchill, Mineral, Pershing, Clark, Nye, and White Pine Counties; Unincorporated Clark County and Cities of Boulder City, Henderson, Las Vegas, N. Las Vegas
New York	Chenango, Chemung, Delaware, Fulton, Jefferson, Lewis, Herkimer, Madison, Montgomery, Oneida, Otsego, Steuban, and Schuyler; Cities of Utica, Rome, Watertown, Amsterdam, Gloversville, Cooperstown, Lowville, Alexandria Bay
Ohio	Cities of Hamilton, Clermont, Brown, Butler, Warren, Clinton, Highland, Adams, Boone, Kenton, Campbell
Tennessee	All counties in west Tennessee and the City of Memphis
Texas	Dallas County
Virginia	Bland, Bath, Dickenson, Grayson, Buchanan, Lee, Russell, Highland, Smyth, Scott, and Wise Counties; Cities of Bristol, Norton, Wytheville, Tazewell, and Staunton and the Hampton Roads area
Washington	Pierce, King, Snohomish, Skagit, San Juan, Island, Kitsap
Wisconsin	Washington and Ozaukee Counties; Cities of Milwaukee, Racine, Waukesha, and Kenosha
Wyoming	Entire State

The survey included yes/no, multiple-choice and short-answer open-ended response questions and consisted of three sections, organized with skip-logic so participants could quickly skip over sections of the survey which were not relevant to their organization. After requesting basic organizational information, the first two sections asked about transportation services available in urban/suburban and rural/frontier areas the organization serves, including:

- Paratransit
- Public bus transportation
- Specialized ride-sharing programs such as SilverRide: https://www.silverride.com/
- Volunteer driver programs such as those affiliated with ITN America: https://www.itnamerica.org/

- Taxi and Transportation Network Companies like Uber or Lyft

- Shuttles and other services offered by residential senior living programs

- Rides provided by service providers to transport clients to their programs.

The final section included questions about innovative practices, funding, and other future opportunities for increasing/expanding transportation services for seniors with vision loss. Respondents completed the survey on the Google Forms online platform. Responses from the completed surveys were analyzed using descriptive and inferential statistics and thematic, qualitative analyses. Findings – especially from the open-ended questions and qualitative analyses – will inform the design of the survey in Phase Two.

B. Phase 2

We asked participants whether their organizations would help recruit individual seniors with vision loss for Phase Two of the study. If the organization agreed, research staff will contact the agency to obtain names for Phase Two recruitment.

Following key tenets of mixed-methods research, Phase Two of the study will build on and help to validate the findings of the Phase One survey. In Phase Two, we will design a telephone survey to gather feedback, opinions, and experiences from 75 seniors with blindness or low vision who do not drive about their transportation use. The survey questions will be refined and expanded based on the responses from the organizational participants in the Phase One survey. This will enable the research team to design a survey which focuses on those experiences and contexts most likely to be pivotal to transportation best practices, challenges, and solutions actually experienced by seniors with vision loss.

3. Findings

A. Introduction

We received 32 completed surveys; 19 represented private non-profit agencies that serve individuals with blindness or low vision, nine represented state agencies for the blind, two represented agencies that serve people with disabilities including people who are blind or low vision, one represented a residential program for the blind and one represented an Area Agency on Aging. Of the 29 respondents who completed the urban portion of the questionnaire, 21 said some to about half and 6 said most lived in an urban area; 21 said some to about half lived in exurbs. Of the respondents who answered the rural portion of the questionnaire, 18 said that some to about half lived in a rural area and 12 said that some to about half of the population lived in exurbs (Figures 1 and 2).

Figure 1. Population of Urban/Suburban Respondents Living in Urban and Exurban Area
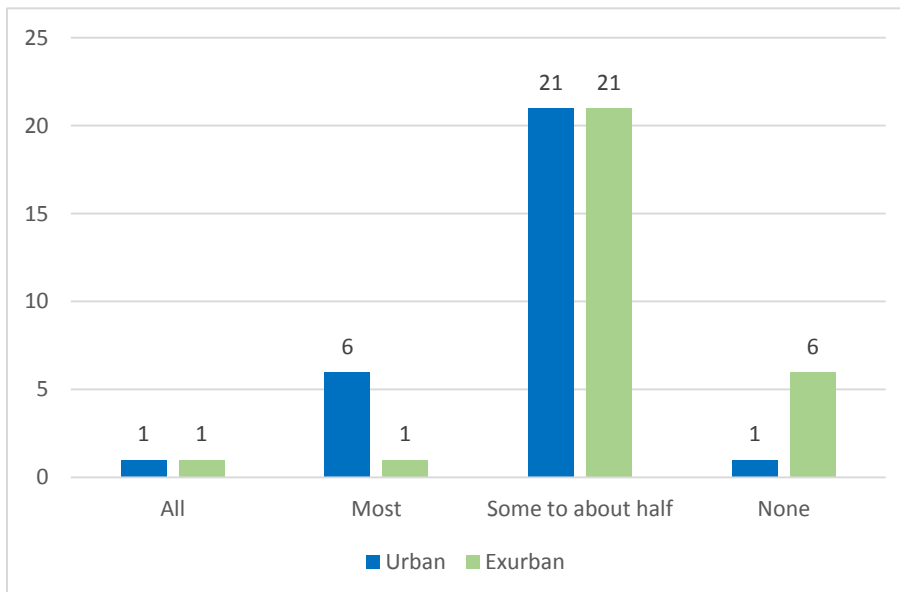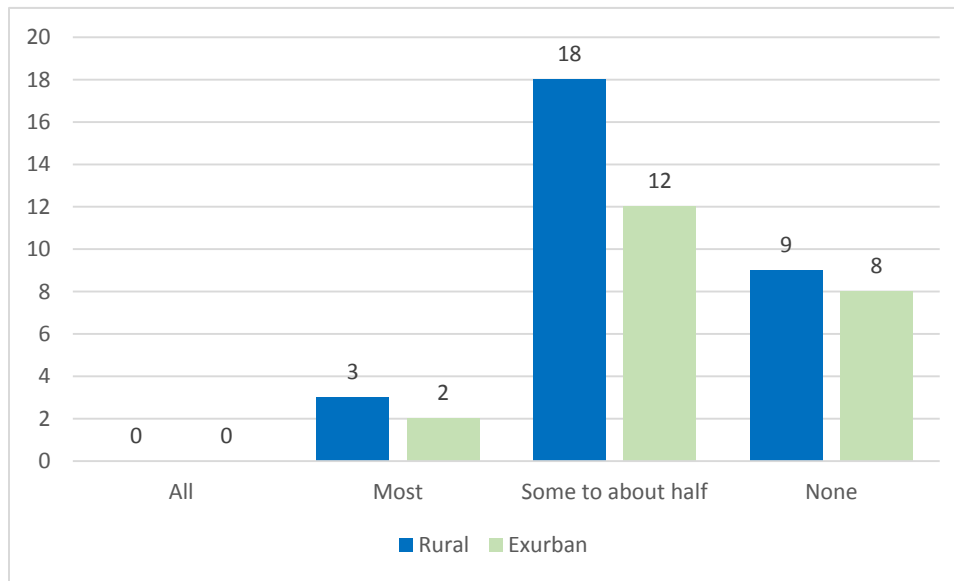
Figure 2. Population of Rural/Frontier Respondents Living in Rural and Exurban Area

Respondents said their agency provided several types of transportation support to their elderly clients. Many provided more than one type of support (Table 2). O&M is a profession specific to blindness and low vision that teaches safe, efficient, and effective travel skills, generally with use of a white cane. Travel training is a service offered to help seniors and individuals with disabilities learn to travel independently via one or more methods of public transportation. Travel training can be offered to people with various disabilities and is sometimes provided by transit authorities or agencies serving the general disability or elderly populations, whereas O&M training is offered to blind or low vision people by specialist trained in O&M. Although 20 respondents said O&M training is available and 19 said travel training is available, several said these services are limited due to lack of funding and others said it is available on request only.

Table 2. *Types of Support Provided to Elderly Clients with Vision Loss*

Scheduling for agency activities	7
Completing paperwork for eligibility of paratransit or other service	7
Referrals to transportation providers	11
Assistance with scheduling to non-agency activities	1
Paying for transportation (if person cannot afford)	2
O&M training (provided directly or available from another agency)	20
Travel training (provided directly or available from another agency)	19

We asked respondents their reaction to the statement, "Within the range of publicly available services, there are affordable transportation services for people with vision loss." Six of 27 urban respondents agreed and 9 disagreed (Table 3). When rural respondents were asked this question, no one said there is affordable transportation in their area. When asked the same question about convenience, twelve urban respondents agreed and seven disagreed, as compared with zero and three rural respondents, respectively.

Table 3. *Affordable and Convenient Transportation Options for Seniors with Vision Loss*

	Urban/Suburban	Rural/Frontier
Affordable services exist in my area		
Strongly agree/agree	6	0
Neutral	12	3
Disagree/strongly disagree	9	3
Convenient services exist in my area		
Strongly agree/agree	12	0
Neutral	9	3
Disagree/strongly disagree	7	3

We asked urban and rural respondents to estimate the percentage of older people with vision loss who have access to local transportation to places they need to go, places they want to go, and who have no access to local transportation (Table 4). The majority of urban respondents said some or about half had access to transportation to places they need to go, the majority of respondents said some had access to places they want to go, and almost no one completely lacked transportation options. But rural respondents felt quite differently. The vast majority said that almost no one had transportation to access places they need or want to go (78 and 82

percent, respectively. Almost one-third of respondents said that most seniors with visual impairments had no access to local transportation.

Table 4. *Estimates of the Percentage of Seniors with Visual Impairments Who Have Access to Local Transportation*		
	Urban/Suburban	**Rural/Frontier**
Access places they need to go	(n = 22)	(n = 18)
Almost all	0	0
Most	18	0
About half	27	6
Some	41	17
Almost none	14	78
Access to places they want to go	(n=21)	(n=17)
Almost all	0	0
Most	10	0
About half	10	6
Some	52	12
Almost none	29	82
No access to local transportation	(n=24)	(n=19)
Almost all	0	26
Most	13	32
About half	17	16
Some	25	0
Almost none	46	26

In the next two sections, we review the types of transportation services available in urban/exurban and rural/frontier areas, what types of trips passengers can take, perceptions of respondents as to the affordability and convenience of the service and the challenges and restrictions of each. We close each section with perceptions of respondents on the future of transportation for elderly passengers with visual impairments in their service area. Table 5 provides results for urban/suburban respondents and Table 6 provides results for rural/frontier respondents.

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Table 5. *Urban/Suburban Transportation Findings*

	Paratransit	Public Transit	Shared Ride	Volunteer Driver	Subsidized Taxi, Uber, Lyft	Residential Senior Transportation	Service Provider[1]
Service is Available							
Yes	29	29	15	13	12	25	11
No	1	1	8	11	1	0	9
Unknown	0	0	7	6	0	5	10
Able to access							
Non-emergency Medical Care	28	29	13	10	11	19	
Shopping for essentials	27	27	12	10	11	20	
Exercise & leisure	28	26	11	7	11	10	
Socialization	23	27	10	7	11	11	
Work or job training	25	27	11	5	11	6	
Service is affordable							
Agree/strongly agree	17	17	6	2	3	8	3
Neutral	10	6	6	6	6	6	1
Disagree/strongly disagree	2	5	2	1	2	0	0
Service is Convenient							
Agree/strongly agree	7	1	4	4	5	14	8
Neutral	11	9	8	2	3	5	0
Disagree/strongly disagree	11	19	2	5	4	1	0
Challenges							
Demand exceeds service availability	13	5	5	6		6	4
scheduling not flexible	18	8	8	5		11	3
Service not dependable	17	2	2	2		1	2
Scheduling rides not accessible	5	5	5	1		0	0
Restrictions							
Distance		20		5	1	14	
Jurisdictional		7		5	2	10	
Destination		14		5	2	13	
Time		10		5	0	16	
Day		2		5	0	0	
Total number of trips		8		2	0	7	

Table 6. *Rural/Exurban Transportation Findings*

	Paratransit	Public Transit	Shared Ride	Volunteer Driver	Subsidized Taxi, Uber, Lyft	Residential Senior transportation	Service Provider
Service is Available							
Yes	7	7	3	5	2	8	5
No	12	15	13	12	6	2	10
Unknown	4	1	7	6	2	13	8
Able to access							
Non-emergency Medical Care	5	7	3	5	1	6	
Shopping for essentials	6	7	3	5	1	4	
Exercise & leisure	4	4	3	2	1	3	
Socialization	4	6	3	2	1	3	
Work or job training	4	5	3	3	1	1	
Service is affordable							
Agree/strongly agree	4	3	1	0	1	0	2
Neutral	2	1	1	2	0	2	2
Disagree/strongly disagree	0	3	0	0	0	0	1
Service is Convenient							
Agree/strongly agree	1	1	1	2	0	3	4
Neutral	4	1	1	3	0	0	0
Disagree/strongly disagree	2	5	0	0	1	4	1
Challenges							
Demand exceeds service availability	3		2	4	0	4	4
scheduling not flexible	5		2	3	0	2	2
Service not dependable	1		1	2	0	2	2
Scheduling rides not accessible	2		0	0	1	1	1
Restrictions							
Distance		4		2		6	
Jurisdictional		6		3		3	
Destination		2		2		6	
Time		7		3		7	
Day		0		2		0	
Total number of trips		2		0		4	

B. Urban/Exurban findings

Paratransit Service

Twenty-nine urban respondents said that paratransit service is available in their area. Almost all respondents said that paratransit riders could access a variety of services, including medical services, shopping and leisure, but only 23 said passengers could use the service for socialization. Seventeen respondents strongly agreed or agreed that the service is affordable but only seven respondents said service is convenient to use.

Respondents voiced a number of challenges their clients faced when using paratransit service. Of the 29 respondents, 18 said the scheduling is not flexible enough and 17 said the service is not dependable. Thirteen said demand exceeds service availability, but the system for scheduling rides seems to be accessible in most places--only five respondents said it is not accessible.

In short-answer responses, survey participants voiced a number of other challenges paratransit users face. Four respondents mentioned that the paratransit service area is limited and did not cover areas outside the city, such as suburbs or exurbs. Four respondents said that service is not available at times when it is requested, for example, to attend church on Sunday or to socialize during the evenings. Two respondents mentioned that the requirement to schedule transportation anywhere from 24 hours to a week in advance is burdensome and does not allow for flexible travel; one said that, "This does not allow for change of plans due to weather, or other unforeseen events."

Others said that paratransit service is provided "curb to curb" not "door to door" and that some drivers do not offer the hands-on help that seniors with visual impairments may need. One respondent described situations her clients faced: "He has been taken to the wrong location and is not always made aware of it. He has waited for his pick up and missed a ride, even though it was where he was told to wait, because the driver went to a different place."

Another respondent commented, "Sometimes drivers don't follow their directions to come up to the door and they depart, saying the passenger wasn't there, when really the passenger was inside waiting for her ride." Other respondents said that some drivers have more compassion than others and assist by providing door-to-door assistance or helping the person cross a busy street, although this may not be sanctioned by the paratransit provider.

Others mentioned extensive wait times on the telephone to schedule a ride, long waits for the vehicle to arrive and excessive times spent in the vehicle as passengers are picked up and dropped off, since paratransit is generally shared ride. One respondent said that rides are not guaranteed: "One of my clients was informed she can be bumped from a scheduled ride. Another client has just not been picked up on two occasions."

One respondent mentioned that regular bus service has been cut and why this is problematic for paratransit riders. The Americans with Disabilities Act (ADA) requires that paratransit service be provided within three-fourths of a mile of a regular bus route and during the same days and hours as regular route bus service.[1] He explained, "Public transportation was cut at the beginning of the market crash of 2008. Paratransit is only required to operate within so many miles of a regular bus line. As a result, we have fingers of service next to areas of non-service. The city has grown since 2008, but many square miles of development have never been added to the bus service area. A certified rider can only be picked up from within the service area, but can be transported to outside the service area, not the other way around."

 Despite these challenges, almost all service providers recommend to senior citizens with vision impairments that they use paratransit service, though a couple said they recommend paratransit use only if the traveler is unable to use the regular route bus system. For many, paratransit is the only option and helps them to be active in the community. One respondent said, "The cost is a good deal for door-to-door service," and other said that paratransit enables

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[1] See Frequently Asked Questions, Federal Transit Administration, United States Department of Transportation at https://www.transit.dot.gov/regulations-and-guidance/civil-rights-ada/frequently-asked-questions.

seniors who can't drive to be more independent. One respondent mentioned that paratransit is a good option, but some prefer to travel with family or friends.

1. Public Bus Transportation

Twenty-nine respondents also said that regular route public transit is available in their area. Almost all respondents said passengers could use regular route service to travel to all services and activities listed in the survey (Table 5). Seventeen respondents to the question on affordability said public transit is affordable, but only one said it is convenient to use.

When asked about challenges using regular route bus service, eight participants said the scheduling was not flexible, five said that scheduling rides is not accessible and that the demand exceeds service availability. In terms of restrictions, 20 respondents selected "distance", most likely meaning that the bus stop was too far away from the person's home. Fourteen selected destination (probably because buses do not go to all desired destinations) and ten selected time restrictions.

When asked for comments on regular route service, six respondents mentioned that buses are not available throughout the service area and five said the service is available during limited days and hours—not available during the evenings or on Sundays. One respondent pointed out that service is available fairly frequently in inner cities but generally stops at the city line or is only available once a day outside the city limits. Others said that seniors with visual impairments might have difficulty getting to and finding the bus stop because the stop is too far away or not clearly marked. Another respondent cited difficulty reading bus schedules or knowing which bus to board as issues. Others said some streets are difficult or impossible to cross. One respondent said, "You might be able to get to a bus stop on one side of the street but be unable to cross the street when the bus drops you off on the return trip."

Responses to the question about whether the provider would recommend use of regular route service were mixed and many would make the recommendation on a case by case basis. Some

said taking the bus is a low cost and convenient way to travel if the traveler lives near a bus line, buses run frequently, and the traveler is confident about traveling independently, including crossing streets. One respondent pointed out that using the bus is sometimes faster than using paratransit services and it is "sometimes the best and only option". Another said, "It provides more spontaneity than paratransit services." Others said it would depend upon how far the traveler lived from the bus stop, how many transfers were involved to get to the destination, whether a bus bench is provided at the stop and the environment at the traveler's destination. One respondent put it this way

> I would recommend using public transit only if route and access to bus stops is
> convenient and consistent and the rider is healthy and confident. I would not
> recommend using public transit if the rider is unable to cross streets and walk to the bus
> stop, deal with severe winter weather, is not heading to a destination near a bus line or
> doesn't speak English.

Another said it would depend upon the health, balance, and hearing of her client. One respondent said, "The routes are limited and confusing to navigate. Many older adults report not feeling safe using public transportation."

2. Shared Ride Services

Half of the urban respondents said that there is a shared ride service available in their area, but seven respondents didn't know whether or not shared ride service is available. Most of those who said it is available (between 11 and 13 of these respondents) said their clients could access the variety of services listed in Table 5. Six of 15 respondents agreed that the service is affordable but only four agreed that shared ride services are convenient to use.

When asked about challenges to using shared ride services, eight respondents said that scheduling is not flexible enough, five said that demand exceeds the availability of services and an equal number said the system for scheduling rides is not accessible.

When asked about challenges, respondents pointed out that these shared ride services are usually not available for elders because they require the use of a smart phone and most elders do not have them or know how to use them. But one person said, "We need to consider/use all alternatives." And another added, "If they could access it, it's less expensive than cabs and more reliable." Another commented that, "Shared ride programs provide greater flexibility than paratransit or public transportation options and could provide an alternative for individuals who have issues using paratransit or public transportation systems.

3. Volunteer Driver Programs

Thirteen respondents said a volunteer driver program or programs exist in their area, eleven said they do not exist and six were unsure. Ten respondents said that passengers could use volunteer services to access non-emergency medical care and shopping for essentials; fewer said these services could be used for leisure, socialization or employment. Only two respondents agreed that these programs are affordable and only 4 said they are convenient.

When asked about challenges in using volunteer driver programs, six said the demand exceeded available service and five said the scheduling is not flexible enough. Five respondents pointed to a number of service restrictions, including distance, jurisdictional, destination, and the time or day service is available. Only a few respondents made additional comments on volunteer driver programs. One person said there are strict financial restrictions on who can use them, and another said the availability of these services is very limited. Two respondents said the agency's clients don't use that service because there are not enough volunteers. Another mentioned that agency has concerns about whether the drivers have insurance and if their clients would be covered in case of an accident. Another mentioned that rides can be cancelled at the last minute if the driver is ill or has personal conflicts.

But there were also a number of positive comments about volunteer driver programs. Several respondents said they would recommend volunteer driver services because volunteers provide individuals with flexibility as well as assistance that goes beyond driving, such as door to door

assistance, grocery shopping, reading mail, or taking walks for leisure. One said the service is reliable and safe. Another said his organization provides volunteers for driving individuals to grocery stores, leisure and activities other than medical appointments, most likely because other transportation is available for medical appointments. One agency representative mentioned an interesting option—that the older traveler recruits her own volunteer and the transit system pays the driver mileage. The respondent said, "The system works well because the driver is someone the senior knows and is comfortable with."

4. Taxi, Uber, and Lyft Services

Twelve respondents said that subsidized taxi, Lyft, or Uber services are available in their community. Eleven respondents said the service could be used for all trip destinations listed. Most respondents were neutral or disagreed that these services are affordable and about half said they were convenient to use. Five respondents said scheduling is inaccessible and four said the service is limited by county or jurisdiction. Only one or two respondents pointed to other problems, such as the system is not dependable, scheduling is not flexible, and demand exceeds supply. This data was not reported for unsubsidized taxi, Uber or Lift services due to large numbers of missing data.

A few respondents used the comments option to describe subsidized taxi, Lyft or Uber service. One respondent said, "In Washington, DC there is a system called Transport DC that provides individuals a $5 cab ride within the District. For the first half of the month, individuals may use the service to get anywhere in the District; during the second half of the month, the services may only be used for healthcare, employment or education. I would recommend these services. They are flexible and provide an affordable and convenient option for getting around DC. This is especially true for last minute medical appointments because same day service is available and easy to schedule."

Another respondent explained that in her city, half price taxi vouchers are available for those who are income eligible for medical appointments and grocery shopping. Taxi service is limited

if the individual lives outside the central city—the taxi may never arrive. Another problem is that assistance is limited and at the discretion of the driver. For example, drivers may be unwilling to carry grocery bags, limiting the amount of shopping the senior can do at one time.

Another respondent said that a blindness consumer organization provides half-price taxi vouchers, but the taxi is sometimes early or late for pick-up. Another respondent said that a program in Reno, Nevada offers a 75 percent discount for Taxi rides.[2] Another city provides discounted taxi service but will only pick up in certain areas.

When asked about additional challenges, one respondent said that discounted taxi tickets are limited for each individual, so people save them for emergencies, but riders must be aware of the expiration date on the voucher.

A number of respondents also commented on unsubsidized taxi or Uber/Lyft services. Most said taxis are convenient but not very affordable. Respondents had mixed reactions to unsubsidized Lyft and Uber services. The consensus seemed to be that the services are convenient, providing flexibility and same-day, immediate service but are more costly than regular bus or paratransit service. Taxis are easy to schedule but more expensive; Lyft and Uber are cheaper, but many seniors do not have a cell phone and cannot schedule them. One respondent put it this way, "I would recommend using Uber or Lyft if the rider is comfortable with the scheduling process and technology. The service is convenient and prompt. Lyft and Uber have many attentive drivers. I would not recommend for some passengers due to higher cost, variable conditions of some vehicles, and the fact that some drivers are not knowledgeable about blindness etiquette."

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[2] This is a subsidized taxi program where seniors can get vouchers worth $60 for $15, once per month. The program is funded by the one fourth percent of county sales tax allocated to transportation. See https://www.rtcwashoe.com/public-transportation/washoe-senior-ride/

A couple of respondents recommended that unsubsidized Lyft, Uber and taxi service be used occasionally, in conjunction with paratransit services. Although the cost is high, if it is used in conjunction with other transportation options, the cost can be more manageable.

5. Residential Senior Transportation

Twenty-five respondents said residential senior living programs offer transportation services in their service area. Most said it could be used for medical appointments or shopping, but less than half said it could be used for leisure, socialization or employment. Eight respondents agreed that the transportation is affordable; seven respondents said it is provided at no charge to residents. Most said it is convenient to use.

This transportation appears to be fairly restrictive. Sixteen respondents said there are time restrictions and fourteen said there are distance restrictions. Others said there are trip purpose or jurisdictional restrictions.

When asked about challenges, 11 respondents said that scheduling is not flexible enough and six said the demand exceeds service availability. In short answers, one respondent commented that residential service is generally a good option for residents to use. Another said service is convenient, reliable, and familiar. The passenger can travel with friends and feels safe. Service is dependable and inexpensive.

But others said that only a few senior living programs offer this service. One commented that, "Service providers can suddenly change the time or destination. They don't allow enough time for those with visual impairments to shop (as they may shop more slowly than others). Another pointed out that the service is only available at certain times and to limited destinations. Advance scheduling is required.

6. Service Provider Transportation

Eleven respondents said that some service agencies provide transportation to and from their activities but ten did not know if that service is available. Most respondents who answered the question said that service is affordable and all who responded said it is convenient to use. Four respondents said that the demand exceeds service availability.

Respondents listed a few types of agency-based services available in their service area, including:

- Medicaid and some insurance plans will provide transportation for medical purposes
- Agencies for the blind will provide transportation to their programs, generally when other options are not available
- Senior centers offer transportation to and from their activities
- Vocational rehabilitation agencies will reimburse clients for some training-related travel
- Other agencies provide transportation specific to their clientele, including developmental disabilities agencies, drug abuse programs, churches or medical providers
- Private companies will transport clients, but they are very expensive
- Airport limousines can sometimes transport passengers from airports to clinics or other popular destinations.

One respondent described the limitations of one transportation service:

The Lighthouse has a program to transport passengers on a fee for service basis, but the service is comprised of just one person and one vehicle. This person is responsible to schedule the rides, drive the vehicle, maintain the vehicle and complete paperwork. There are challenges due to insufficient funding. The agency lacks software to manage the rides. The agency does not have a separate person answering the phone for scheduling. Callers requesting rides are required to leave a phone message and wait for

the driver to return the call. The service is relatively inexpensive, it serves more parishes than regular bus service and paratransit, and it offers hand to hand service.

7. Expectations for Future Transportation

Most respondents expressed the view that transportation for people with vision impairments will improve in the future. Three respondents said their regional transit authority is planning to expand public transportation or paratransit services in the near future; the planned expansion will increase transportation options for everyone, including those with low vision. One commenter pointed to a number of factors that would make a difference:

> The existence and increased activity of county and regional transportation coordinating committees could increase the availability of transportation. The increase in the number of aging individuals and the number of organizations offering residential and care opportunities in this region will increase transportation options. There is also an increase in new initiatives by local businesses and community groups to improve "liveability" indexes of some municipalities, including more accessible pedestrian routes through initiatives like Safe Streets.

Another commenter said, "I hope that more accessible opportunities become available for individuals to travel independently. I imagine talking crosswalks signs may become more common. My city has also begun to improve their curb cut outs to make them more accessible."

 Several commenters pointed to the proliferation of Lyft and Uber services, which offer additional transportation options in urban communities. One commenter said that scheduling rides will become more accessible and another said that use of technology and development of driverless cars will increase transportation opportunities dramatically. Another said, "Hopefully, people will depend less on family and friends to supply their transportation needs because of

these additional options." Another said, "Through an increase in education about services offered there is potential to increase the number of older blind and low vision travelers."

On the negative side, one commenter worried that cuts in federal funding could reduce available services. In like manner, another said that lack of funding for O&M services and public transit systems will limit transportation options for older adults, especially those with disabilities in addition to vision loss. Another worried that, "With the rise of Uber and Lyft, regular bus service and paratransit services may decrease."

C. Rural/Frontier Findings
1. Paratransit Service

Only seven of the 23 respondents to the question said that paratransit service is available in their community; 12 said it is not available and four did not know. Six respondents said paratransit service could be used for shopping; five said it could be used for non-emergency medical care; and four said it could be used for leisure, socialization and work or job training. Four respondents agreed that paratransit services are affordable, but only one agreed that services are convenient to use.

Respondents said there are many challenges in using paratransit service in their area. Five said the scheduling is not flexible enough, three said the demand exceeds the availability of service and one or two said the system for scheduling rides is not accessible or service is not dependable. A couple of respondents commented that paratransit service is not available throughout the entire service area. One respondent explained, "paratransit is not available absolutely everywhere....some areas 'opted out' due to higher taxation to pay for it and for other reasons." One commented that paratransit service operates only one day a week and if too few passengers request a ride the trip is cancelled. Another mentioned the lengthy time spent in the vehicle as other passengers are picked up and dropped off. Another said, "If individuals live in some counties, the transportation must be scheduled at least two weeks ahead. If an individual has a job or medical appointment that extends beyond 5:00 P.M. service

is not available to take them home. Still, respondents would recommend the service to their clients; even though it is limited and not very convenient to use it is sometimes the only option and enables riders to travel outside their immediate community.

2. Public Bus Transportation

Seven of the 23 people who answered the question said that public bus transportation is available in their community; 15 said it is not available and one did not know. All seven said the service could be used to access non-emergency medical care and shopping; six said the service could be used for socialization and four or five said it could be used to access leisure, training and employment. Only three respondents agreed that the service is affordable, and five of the seven respondents said that the service is not convenient to use.

Seven respondents said that regular buses run at limited times and six said there are jurisdictional restrictions. Some respondents commented that public transit is more affordable than other options, but the days and hours of service are limited to weekdays, once a day in some instances and there is often no service during the evenings and on weekends. Some rural areas are not covered by public buses and they do not run very frequently. Some service requires advance reservation. Commenters would recommend public transit service to their clients if the transportation is available when and where the person needs it or if no other option is available. One commenter said, "I'd recommend it to some clients, but not all. People are variable, both those with vision loss and those with good vision." Another said, I would recommend it if no other option is available and the bus is convenient for both ends of that desired trip, but I would not recommend it to most clients because direct access is rarely available to the passenger's ultimate destination. It is a very limited service with restricted time options, especially if the passenger is making a round-trip." She added that passengers may not have received O&M or travel training to familiarize them with transfer points and destination neighborhoods and they may be less familiar with them, since time, distance and cost might limit the frequency of their bus travel.

3. Shared Ride Service

Three respondents said that shared ride services are available in their community, 13 said they are not available and 7 did not know. The three that said the services are available said they could be used to access all activities listed. Of the two who answered the affordability and convenience questions, only one said the service is affordable and convenient.

Two of the three people said that demand exceeds the availability of service and that the service is not flexible. One respondent said the service is not dependable. One commented that the existing service rarely meets the client's needs and does not generally recommend the service.

4. Volunteer Driver Programs

Five respondents said that volunteer driver services are available in their community, 12 said they are not available and six did not know. All five respondents said the service could be used for non-emergency medical appointments and shopping; three said it could be used for work or job training and two said it could be used for socialization and leisure. Three respondents said that service is available at no charge and two said it is convenient to use.

But the services appear to be fairly restrictive. Four respondents said that demand exceeds service availability and three said the scheduling is not flexible enough. Three also said there are jurisdictional and time restrictions and two said there are distance, destination or day restrictions. One respondent commented that riders are restricted to a certain number of trips per month. Another said that passengers find their own drivers and the transit district reimburses them for mileage. One commenter would recommend the service because the passenger generally receives good service and the driver will take the passenger to the exact destination. But the driver may not be aware of the specific needs of a visually impaired person and the ride may not be available at the day and time the trip is requested. Another respondent commented that she would recommend using the service if it is the only option.

5. Taxi, Uber and Lyft Service

Two respondents said that taxi, Uber or Lyft service is available in their community; two said it is not available and six did not know. Only one person responded to the trip purpose question and said the subsidized service could be used for any purpose.

Three respondents mentioned distance or time restrictions for subsidized taxi, Uber or Lyft service and two mentioned trip destination restrictions. One person said there are limits on the total number of trips a passenger could take. One person said the system for scheduling trips is not accessible to seniors with low vision.

Three respondents expanded on these restrictions in comments. Two said there are distance restrictions; only up to 25 miles round trip is allowed. Others said there are also jurisdictional restrictions, where vehicles cannot cross city or county lines or purpose or destination restrictions. Some service is only available between 9:00 AM and 5:00 PM on weekdays.

Rural respondents also commented on unsubsidized taxi, Uber or Lyft services. Even where it is available, unsubsidized taxi, Lyft and Uber services have some limitations for people with vision impairments, although sometimes they are the only option. Some taxi service only operates from 9 AM to 5 PM during weekdays and it is often costly. Many older people find it difficult to use Lyft or Uber because they do not have a smart phone.

6. Residential Senior Transportation

Eight of 23 respondents said there are residential senior living transportation programs in their service area, two said there are not and 13 did not know. Five said this transportation is provided at no cost but four disagreed that the services are convenient to use. Six respondents

said the services allow passengers to access non-emergency medical care and four said they could use the service to go shopping. Three said passengers could use the service for socialization and leisure.

But services appear to be fairly restrictive. Seven respondents said there were time restrictions and six said there were purpose or distance restrictions. Others mentioned limitations on number of trips allowed and jurisdictional restrictions. Four responders said that the demand exceeds the availability of service. Only one respondent commented on this question, saying that she would recommend the service to her clients if it is the only option.

7. Service Provider Transportation

Finally, five respondents said service providers offered transportation to and from agency-sponsored activities, ten said no agencies offered this service and eight did not know. Two agreed that services are affordable and four said they are convenient.

Respondents listed a few types of agency-based services available in their service area, including:

- Agencies for the blind provide transportation to their programs, generally when other options are not available and only for appointments
- Senior centers offer transportation to and from their activities, but it is very limited
- American Cancer Society provides transportation for cancer treatment related trips
- Senior services volunteer drivers (RSVP), Lyon's Clubs and other fraternal organizations provide limited transportation.

One commenter said that a private nonprofit agency provides transportation that is easy to qualify for and very reliable. Others said family and friends provide transportation. One commenter said, "Occasionally, family members or friends are available to provide transportation, and I would most likely recommend this option since this is a safe form of transportation chosen by the individual."

8. Expectations for Future Transportation

Respondents had mostly positive comments on the future of transportation in rural and frontier areas. A couple of respondents expected Lyft and Uber service to expand and hoped that the scheduling would become more accessible, especially as senior citizens gain familiarity with smart phone technology and how it can be used by people with low vision. One respondent said that the local public transportation service plans to implement a paratransit system. One respondent commented that, "Hopefully, more funding will be available to provide transportation for individuals in different areas, and transportation will be available, so individuals can travel through different counties more easily." Another said that driverless cars could help to solve the transportation problem. And still another suggested that greater use of technology such as tele-medicine could reduce the need for actual travel. On the negative side, one commenter mentioned that a lack of funding for rehabilitation teachers and O&M training could have a negative impact on clients' ability to travel independently.

4. Conclusions

While several different types of transportation operate in urban and rural areas, this report makes clear that many senior citizens who are blind or have low vision lack transportation options. Even among urban/exurban respondents, which represent areas where transportation is more plentiful, only six of 27 agreed that affordable transportation services exist for seniors with visual impairments. Only 12 (less than half of them) agreed that there are convenient transportation options in their communities. Although urban/exurban respondents said almost no one completely lacked transportation options, the majority said only some to about half of seniors with vision loss had transportation to places they need to go, and the majority of respondents said only some seniors with vision loss had access to places they want to go

Even in urban or suburban areas, people with visual impairments face many challenges in using the transportation options that exist. The problems with paratransit services, which are designed specifically for people with disabilities, are that the scheduling is not flexible enough and services are not dependable. The ADA mandates that paratransit service be provided within three-quarters of a mile of regular bus service and during the same days and hours of regular route bus operation. But if there is limited bus service in suburban or exurban areas, or if the jurisdiction has decided not to provide bus service at all, then paratransit service will not exist either. The ADA also mandates that paratransit not be restricted by trip purpose; yet several respondents said that paratransit service is not available for all types of trips.

Many seniors with low vision have difficulty using regular bus service, even where it exists, because the bus stops are not close enough to their home or destination, they have difficulty finding the bus stops, or cannot read and understand printed bus schedules. Others said buses are not available throughout the service area and have limited days and hours of operation. Other transportation modes come with problems as well. Respondents said that demand exceeds available levels of service for shared ride, volunteer driver and senior residential transportation programs; these programs also are limited by jurisdiction and often by hours of operation. Taxis are generally convenient to schedule and use but can be costly. Uber and Lyft are a bit cheaper but are not available for seniors who are not conversant with the scheduling technology.

Transportation in rural/frontier areas, where it exists, appears to be very limited. Not one rural respondent agreed that affordable and convenient transportation services exist for seniors with low vision in their community! The vast majority (14 of 18 respondents) said that almost no one had transportation to access places they need or want to go and almost one-third of respondents said that most seniors with visual impairments had no access to local transportation. Only seven rural respondents said that regular bus or paratransit service is available, and fewer said shared ride or volunteer services are available. When they are available, these services are restricted by jurisdiction, only operate during certain days and

hours, and demand exceeds the availability of service. Although eight respondents said residential senior transportation is available, it can only be used by residents and also is very limited in destination, jurisdiction and time of day. Taxis, where available, are more costly in rural areas because of the distances to destinations; Uber or Lyft is sometimes available but seniors who are not conversant with smart phone technology face the same issues with scheduling described above.

A surprising study finding is the number of service providers who said they did not know if a particular mode of transportation is available in their community. Thirteen rural and five urban respondents did not know whether senior residences provide transportation; ten urban and eight rural respondents did not know whether service providers offer transportation and six urban and six rural providers did not know whether volunteer driver programs are available in their area. One reason this might be true is that most survey respondents were staff of specialized programs that provide rehabilitation services to people with vision impairments and may not have fully researched available transportation options. Some respondents staffed programs with statewide coverage and might be unlikely to have heard about local programs throughout the service area. Efforts to educate agency staff and their clients about available transportation may enable more seniors to use it, keeping in mind that demand often already exceeds supply.

Respondents in both urban and rural communities were hopeful that transportation options for seniors with low vision will improve in the future. A few said that driverless cars could dramatically increase transportation options for seniors who do not drive. Others said Uber and Lyft might be good options for some as they become more familiar with how to use technology, including speech output and large text built into some smart phones, to schedule rides. Respondents also hoped that the growing senior citizen population will increase the demand for, and hopefully result in a greater supply of, transportation and available options.

Limitations of this study: This study has several limitations. We recruited respondents from email lists of staff of agencies that provide services to blind or low vision seniors. We do not

know how accurately their perceptions and opinions represent transportation services in their communities. Our sample is voluntary and non-representative and may not reflect the views of all service providers. We received 32 responses--Fewer than expected. The survey is quite long and may have resulted in "survey fatigue" particularly in the rural portion of the survey. Respondents did not answer all questions and some questions were not asked consistently across transportation modes. The total number of responses differs by each item, making comparisons across urban and rural communities and across transportation modes difficult. The number of responses for some questions in the rural portion of the survey is very small. For these reasons, we chose not to display percentages.

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Appendices

Appendix A

Phase 1 Recruitment Materials

The American Foundation for the Blind and the 21st Century Agenda on Aging and Vision Loss are seeking organizations providing services to older people with vision loss to participate in a research study titled Project VISITOR: Visually Impaired Seniors' Independent Travel Opportunities and Resources.

Your responses to this survey will help us to identify best practices, challenges, and solutions for transportation services for older people with vision loss across the country. Following this survey of organizations, agencies, and centers serving older people with vision loss, the Project VISITOR research team will use information gained from the analysis of the survey responses to develop a telephone survey for older people with vision loss.

Who should participate?

Organizations that provide community-based, residential, or in-home services to older people with vision loss in any part of the United States should participate. If your organization oversees services but is not directly interacting with older people with vision loss, please share this opportunity with the organizations you work with which do interact with consumers/customers/patients.

What's required?
- **If your organization has separate service providers serving different geographic areas**, identify one person per geographic area at your organization/agency/center who is knowledgeable about transportation options available to older people with vision loss in that portion of your service area(s).
- Otherwise, **if your organization does not assign staff members to different geographic areas**, identify one person at your organization/agency/center who is knowledgeable about transportation options available to older people with vision loss in your service area(s).
- Ask this person/these people to complete the online survey at https://docs.google.com/forms/u/3/d/1FemCfByD7xXvpmGJn2nHx2aNI03C9SOpXPfqYf QwaAs/edit?usp=drive_web. The survey should take between 10 and 60 minutes, depending on the types of areas you serve (urban/suburban, rural/frontier, or both) and the range of transportation services available in those areas.
- When responding to the survey:
    - Provide name and contact information for someone at your agency who could respond if the research team needs to follow up.
    - Consider whether your agency/organization/center would be able to assist the Project VISITOR team in recruiting older people with vision loss to take

part in a phone survey a few months from now. If you are interested in being contacted about recruitment, indicate this in the online survey.

What's the benefit?
- To thank you for your time and effort, the Project VISITOR team will randomly select 5 organizations from among all those who complete the survey. The selected organizations will each receive a certificate good for one admission to the AFB Leadership Conference in 2019 or 2020, a $325 value (does not include travel expenses, hotel, or meals). AFB's Leadership Conferences include presentations and networking opportunities focusing on research, policy, and leadership relevant to services and supports for older people with vision loss.
- Following the analysis of the survey data, findings will be shared with all participating organizations via a summary report. The Project VISITOR team anticipates that the findings will be very useful to policy makers as well as scholars, advocates, agencies, and organizations in the field of blindness/visual impairment.

Where do we sign up?
- Simply visit https://docs.google.com/forms/u/3/d/1FemCfByD7xXvpmGJn2nHx2aNI03C9SOpXPfqYfQwaAs/edit?usp=drive_web to get started.

What if we have questions?
- Please feel free to contact Rebecca Sheffield (Primary Investigator for Project VISITOR). This project has been approved by the Institutional Review Board of the American Foundation for the Blind.

Please share this invitation with other organizations which may also be interested in participating! Thank you!

Appendix B

Methodology

At a minimum, the research team sought to receive responses from:

- Representatives of agencies serving urban/exurban and rural/frontier areas in each of the nine geographic divisions recognized by the U.S. Census Bureau
- Representatives of agencies serving urban/exurban seniors in the 10 largest metropolitan areas in the United States
- Representatives of Agencies serving rural/frontier seniors in 10 counties from a list of 426 counties selected based upon being both A) in the top quartile of all U.S. counties based upon percentage of residents over age 65, and B) in the bottom quartile of all U.S. counties based upon population density.

The research team hoped to receive at least 50 survey responses and set an original deadline of October 31, 2018. We received insufficient responses by that deadline, so extended the deadline several times. We contacted service providers by email and telephone and asked AFB staff to contact service providers they knew in geographic areas where we had received no responses to the survey. We finally closed data collection on January 11, 2019, after receiving 32 responses. Location of responses is shown in Table 1.