

# Rural Transportation: Challenges and Opportunities

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## Purpose

Transportation, as it relates to health and health care, is widely acknowledged to have unique features in rural communities, but there is limited research on specific challenges and potential policy interventions to alleviate them. This policy brief uses survey data from 113 key informants across all fifty states to describe challenges and opportunities related to rural transportation.

## Key Findings

- 113 key informants from all fifty states reported rural transportation challenges across six distinct, interrelated themes: infrastructure (mentioned by 63%), geography (46%), funding (27%), accessibility (27%), political support and public awareness (19%), and socio-demographics (11%).
- Most key informants highlighted problems across multiple themes, illustrating the complexity of meeting the transportation needs of rural residents.
- Improving rural access to transportation services is, in the opinion of nearly all key informants, an area of critical importance to rural populations.
- Policy interventions should aim to improve awareness of existing transportation services; address accessibility for all riders; share best practices between states, communities, and health care facilities to improve efficiency; and build partnerships that cross traditional organizational and sector boundary lines.

## Background and Policy Context

Transportation has long been cited as a concern for rural residents, but is rarely the focus of health services research.<sup>1</sup> As a social determinant of health, access to high-quality, affordable transportation is fundamental to mental, physical, and emotional well-being. For individuals with disabilities, those with low incomes, older adults, and others who may not have reliable access to a vehicle or be able to safely drive themselves, public and private transportation is critical to access health services, obtain food and other necessities, and engage with their communities.<sup>2</sup> Medicaid is currently an important source of transportation for individuals who qualify, providing emergency and non-emergency medical transportation. However, exact benefits vary by state, and the Centers for Medicare & Medicaid Services only permit reimbursement for “loaded” miles in which the beneficiary is in the vehicle.<sup>3</sup> This puts rural transportation providers at a distinct disadvantage, since they need to bear the burden of driving more unreimbursed miles to pick up a passenger. The Federal Transit Administration’s Section 5310 and 5311 programs are also important sources of transportation assistance in rural areas, providing federal matching dollars for public transportation for individuals with disabilities and rural areas, respectively.<sup>4</sup> However, these also rely on some funding and coordination at the state level, leading to disparities in access to and quality of transportation programs by state, and they alone may not be sufficient to address all rural transportation challenges.

In both rural and urban settings, transportation clearly impacts the usage of health care services, because individuals without reliable transportation are more likely to delay and forgo necessary appointments, preventive care, and health maintenance activities.<sup>5</sup> A study of more than 1,000 households in North Carolina found that those with a driver’s license had 2.3 times more health visits for chronic care and 1.9 times more visits for regular checkup care than those who did not have a driver’s license, and those who had family or friends who could

provide them with transportation had 1.6 times more visits for chronic care than those who did not.<sup>6</sup> Without reliable options for transportation, older adults are particularly vulnerable to isolation, which can lead to increased risk of morbidity and mortality. For example, feeling socially isolated is associated with significantly worse self-rated mental and physical health, even after controlling for health characteristics.<sup>7</sup> Transportation is also vitally important to the provision of in-home care, including the mobility of the health care workforce throughout rural areas, and to the ability of informal caregivers to reach their loved ones and provide necessary resources and support. The issues of transportation and access to care are exacerbated in rural areas where distances are greater and transportation infrastructure is more limited. Beyond health care access, transportation impacts the well-being of rural residents from issues as varied as accessing food, social support, education, employment, recreation, and community services.

Despite the importance of travel and mobility, transportation services are seriously lacking in many rural areas.<sup>8</sup> Nearly four percent of rural households — almost two million rural residents — do not have access to a car;<sup>9-10</sup> rural areas are also much less likely to have access to public transportation services.<sup>8</sup> Provision of transportation services varies by state and locality, and policies (such as the aforementioned “loaded miles” policy) may act as a disincentive for transportation providers to enter the market. The National Rural Health Association cited transportation as a key policy concern for older adults’ well-being in their 2014 legislative agenda,<sup>11</sup> but research is lacking on specific rural transportation challenges and potential policy solutions.

## Approach

For this study, we surveyed key informants in all fifty states by phone (n=39) and email (n=74). Fifty of those informants were from State Offices of Rural Health, and 63 were from programs funded by the U.S. Administration on Aging and the Centers for Medicare & Medicaid Services, including Aging and Disability Resource Centers and Area Agencies on Aging. The latter programs were selected because they work closely with transportation providers and have trained options counselors to advise about transportation services in local areas. Further, they were chosen because they focus on older adults and people with disabilities, two populations with pronounced difficulty accessing transportation, and because these programs operate on the local level in all fifty states, making it possible to do a national study. We also con-

sulted with state and national experts in this area, from organizations including the Association of Programs for Rural Independent Living (APRIL), the Minnesota Department of Transportation, the Minnesota Department of Human Services, and Liberty Mobility Now (a rural transportation provider).

The surveys were conducted by three of the project team members between November 2016 and May 2017. Telephone surveys lasted an average of 5-10 minutes. The survey included five questions on challenges to rural transportation and potential policy responses. In particular, we asked key informants to describe what they view to be the biggest rural transportation challenge facing their state or rural community. We also asked a follow-up question about whether or not key informants expected transportation issues to change in the coming five years and, if so, how. Following the interviews, we used content analysis techniques to identify common themes across interview responses. Three of the researchers on the team independently coded survey responses and then worked together to find consensus across codes. Several key informants suggested potential policy interventions, which we discuss in the discussion below. We also scoured the literature on federal, state, and local transportation policy to inform our interviews and the policy interventions proposed.

## Results

Six themes emerged from the interviews describing different types of rural transportation challenges: infrastructure (mentioned by 63% of key informants), geography (46%), funding (27%), accessibility (27%), political support and public awareness (19%), and socio-demographics (11%). We describe each of these in detail, along with illustrative quotations, below.

### *Infrastructure*

Transportation infrastructure was the most frequently-cited challenge mentioned among the key informants we interviewed. This included concerns about roads, vehicle and transportation equipment and quality, and sufficient personnel. Seventy-one key informants (63%) cited a lack of equipment and personnel; in particular, several described not having enough vehicles, especially accessible vehicles for individuals with disabilities, and not having enough options for affordable non-medical transportation. Some of the issues with infrastructure were closely related to where services are located; many key informants discussed how existing transportation programs, providers, vehicles, and drivers are concentrated in urban areas,

leaving a dearth of options in rural parts of the state. As a result, some key informants discussed an overreliance by rural populations on emergency departments and ambulance services for non-emergency health care access, because of a lack of other options, including accessible vehicles for individuals with mobility impairments. Illustrative quotes are provided in Box 1.

### *Geography*

Fifty-two key informants (46%) described challenges related to the physical landscape of their communities; for example, traveling over mountains, around water, and across long distances when the rural populations were especially dispersed (e.g., frontier areas). Weather (e.g., snowy conditions in winter) was another common, related geographic barrier. Some key informants cited bad traffic as a transportation challenge in rural areas of their state, owing to tourism in small rural towns with limited options for infrastructure (Hawaii) and, in one state, oil field traffic (Texas). See Box 2 for illustrative quotes.

### *Funding*

Underlying many of the issues we heard about were problems with funding, both lack of public and private investment in transportation programs and personal problems affording the transportation that is available. Thirty-one key informants (27%) lamented issues with transportation funding, including recent or impending federal and state budget cuts for transportation. These also related to affording transportation infrastructure, especially for accessible transportation, mentioned above. Other funding issues included cost-prohibitive services; for many low-income rural residents,

### **Box 1: Infrastructure**

*"People needing to go to out of town appointments have to rely on volunteers. Volunteers aren't plentiful & when available aren't always willing to drive 2 hours to Seattle (for instance)." – Washington*

*"There basically is no provided transportation by local governments or any cab service in our rural areas." – Virginia*

*"If elderly and don't qualify for medical assistance, there is no transportation available." – Pennsylvania*

*"The ruralness of the area and the small numbers of people make it difficult for programs to sustain." – Oklahoma*

*"Half of Alaska lives in rural Alaska, many in small villages with no organized transportation systems. Many folks don't have cars and get around on ATVs." – Alaska*

### **Box 2: Geography**

*"Many, many isolated, very small frontier communities. [There are] no big cities in Wyoming. Largest city is Cheyenne, population 62,000." – Wyoming*

*[There is a] big canyon you have to cross to get to rural areas." – Utah*

*"[The biggest challenge is the] distance between communities. Some counties are 1.5 hours one way." – Ohio*

*Drastic changes of severe weather can greatly challenge the availability of transportation methods, especially in the winter." – Michigan*

*"Our terrain is definitely a unique challenge for our state. There are many places that a bus just can't feasibly drive; if the roads are covered in snow and ice, no one is getting out for possibly days because the mountainous back roads are just too dangerous or impassable." – Kentucky*

*"Close to 90% of our state's population lives in a mountainous area. Getting from point A to point B, even if it is a short distance in mileage, can take twice as long due to the winding, twisting mountainous terrain". – West Virginia*

*"During certain high tourist times, traffic can get very bad in certain rural areas, making even short trips last much longer than expected." – Hawaii*

**Box 3: Funding**

*"Funding is a primary barrier— rural service is inherently expensive – large geographic coverages, long miles and low productivity." – Oregon*

*"Fuel tax and registration fees are insufficient to provide for maintaining a robust infrastructure, let alone anything for expansion of transit programs. The state has resorted to heavy borrowing which leaves less money available in the segregated fund." – Wisconsin*

*"The state of Maine has reduced or eliminated reimbursement and funding for transportation services due to budget cuts to the Office of MaineCare Services." – Maine*

*"If they're not on Medicaid, there's not a good alternative because a lot of [rural residents] can't afford the non-emergency transportation that's provided." – Georgia*

**Box 4: Accessibility**

*"I'd say the biggest challenge for the populations I serve, the elderly and disabled, are having transportation routes that accommodate the individual's physical limitations, time restraints, and needs (such as needing to be at the pharmacy in the AM, doctor visit at noon, and senior center for dinner at 5pm before getting home)." – Vermont*

*"Individualized appointments are not an option. Doctor appointments need to be grouped by area. Many of these appointments are with specialized care physicians, which are often an hour or more away. When using the transportation services everyone has to go and come at the same time which makes for a very long day." – Alabama*

*"Very often they begin their ride an hour before the actual appointment as the transportation services transport multiple individuals. On the flip side, they will need to call for return pick up and may spend an additional hour or more getting home. This is tiring." – Connecticut*

*"A lot of people are not able to get on the [public transportation] bus, because they have a wheelchair or need help walking from their door to the bus." – Iowa*

even a relatively low-cost transportation option may be unaffordable. Limitations on what insurance — especially Medicaid — will pay for when it comes to medical transportation affect the usage of those services among rural populations across the country. Box 3 shows illustrative quotes for this theme.

*Accessibility*

Even in cases where transportation options were available, several key informants described problems with the accessibility and convenience of that transportation, an issue that was cited by 30 (27%) of the key informants we interviewed. For example, multiple key informants described issues for people with mobility impairments if the transportation options were not door-to-door, and noted that this is particularly an issue in rural areas where sidewalks are less common and public transportation routes are more limited; people with disabilities cannot always travel to the nearest bus stop or pick-up location. Some may not even be able to walk independently to their curb or the end of the driveway to get in the vehicle and options are sparse for transportation that will assist someone from their door into a vehicle. Other key informants described issues related to grouped travel especially for rural populations; because there are so few transportation providers, vehicles, and routes, when people need to use a shared van or bus, they are often grouped with others traveling and may spend the entire day out of their home for one short doctor's appointment or errand. Some existing services only provide patients with one-way transportation to a health care facility, leaving them to arrange for transportation home on their own. See Box 4 for quotes illustrating this theme.

*Political Support and Public Awareness*

Twenty-one key informants (19%) discussed barriers related to broader policy problems and public awareness of transportation options. Among these were a lack of federal, state, and local political support for improving transportation and a lack of public awareness of available transportation options and challenges. Providing ongoing, updated public information about transportation in areas without local newspaper, radio, or television is difficult, as there is no local

media to disseminate that information. Although most providers have some kind of online presence, many residents in rural communities do not have access to the Internet, and getting the word out is extremely difficult. In some areas where rural options existed, it was reported that transportation providers were unable or unwilling to cross county or state lines or other designated boundaries due to service area and reimbursement or company policies. Some key informants signaled that this was related to a sense of ownership over the program and its vehicles by individual communities; if they had invested so much into developing a transportation system, why should it leave their boundaries? However, this approach is problematic because it requires coordinating multiple providers to complete travel. These boundary constraints leave many rural residents in the position of having to either cobble together complicated transportation routes to get to farther-away specialist appointments, or forgo that care altogether. Box 5 contains illustrative quotes for this theme.

#### *Socio-demographics*

Finally, transportation challenges are clearly affected by the unique characteristics of the rural population in any given state or community. Twelve key informants (11%) describe rural transportation challenges related to the socio-demographic composition of their community, including populations in their states that are aging, with increasing difficulty driving themselves; those with high rates of poverty that struggle to afford transportation; and large rural populations spread over vast areas. These key informants also described cultural challenges. For example, some rural populations value stoicism, personal pride, and independence to the point where they refuse to ask for assistance and continue to drive, even if their health may make doing so unsafe. Key informants raised concerns about insular communities in rural areas, where people are reluctant to travel to other communities or to share transportation resources between communities. See Box 6 for quotes to illustrate this theme.

## **Discussion and Implications**

In our survey of 113 key informants from all fifty states, we heard myriad challenges related to rural transportation across six distinct, but inter-

### **Box 5: Political Support and Public Awareness**

*"The Rural Transit System has multiple regions and drivers are not allowed to cross regional borders. While the regions are cooperative with each other and work to arrange inter-regional transportation, it is difficult to coordinate transfers between regions." – Texas*

*"The large number of county governments in Georgia (159) may complicate collaborative approaches." – Georgia*

*"It's hard to connect people between towns. While we have lots of transportation options that will drive people within towns, we only have two programs that will take people from one town to another." – Arizona*

*"The challenges include the lack of transportation outside of parish lines so those in rural areas have a very hard time finding transportation to medical appointments outside of their parish." – Louisiana*

*"Callers constantly express frustration regarding the limited route opportunities and the expensive costs charged when traveling from county to county." – Mississippi*

### **Box 6: Socio-Demographics**

*"Approximately one-third of the state's land area is American Indian Reservation land. Because these counties are among the poorest in the nation, they also have a high percentage of people who do not own vehicles." – South Dakota*

*"Arkansas is a poor state with a median annual income that is ranked third lowest of all states in the country, so obtaining some type of transportation with costs involved to the individual would not be an option for most older adults and individuals with disabilities residing in rural areas." – Arkansas*

*"People do not like to ask for help; pride is a barrier." – Michigan*

*"One of the greatest challenges to Alaska transportation is the insular nature of our communities." – Alaska*

related themes: infrastructure, geography, funding, accessibility, political support and public awareness, and socio-demographics. The majority of key informants highlighted problems across multiple themes, illustrating the complexity of meeting the transportation needs of rural residents, especially older adults, people with disabilities, and low-income populations, all of whom face additional challenges related to affordable and accessible transportation.

In a follow-up question in the survey, in which key informants were asked whether they anticipate any changes to transportation issues in the coming five years, several key informants stated that they do not expect the transportation challenges they face to get better. Most key informants despondently suggested they did not anticipate transportation issues changing at all in the next five years, and, if so, transportation problems will only get worse as they face increased budget cuts and an aging population.

However, some key informants offered potential policy interventions that could help to improve transportation in rural communities. On the local level these included the need for creative community solutions, such as:

- Using vehicles across programs (e.g., using a school bus to deliver meals during the day and/or summer break); implementing these approaches will require flexibility on the part of program administrators, communities, and participants. They will also require addressing insurance liability issues and expenses; however, paying for additional insurance may be more cost-effective than implementing a new transportation program from scratch. Additionally, some of these vehicles may not be fully accessible for individuals with mobility impairments, so there may need to be additional reasonable accommodations made to accommodate rural residents with disabilities, especially if these are used for medical transportation.
- Using volunteers to meet transportation needs, although they cautioned that volunteers are aging also, especially those who are retired and have time to help others. Furthermore, the number of volunteers who are willing and able to drive long distances is limited. Lessons learned from other rural volunteer services programs, such as volunteer fire departments and emergency services, may be instructive in designing rural volunteer transportation programs.

On the federal level, several key informants mentioned their hope that telehealth and new technologies will be

useful in addressing some of the transportation challenges faced by rural communities. For example:

- Expanding the use of telemedicine and remote monitoring technology to meet health care needs without needing to travel to clinics or hospitals.
- Broadening the reach of new technologies to provide transportation to rural residents, such as ride-hailing services (similar to Uber and Lyft), and driverless cars.

Improving access to telehealth and technology in rural areas will require improving access to broadband Internet and addressing reimbursement issues for health care delivered remotely.

Key informants cautioned that solutions involving new technologies will need to be implemented with rural-specific issues in mind, such as gaps in access to broadband Internet and addresses and remote roads that may not easily register with GPS technology for driverless cars. They will also need to be implemented with rural socio-demographic challenges in mind, including an aging and lower-income population and potential cultural resistance to adopting new technologies. However, some of this is already happening: Liberty Mobility Now is a new company working to deliver ride-hailing services to rural areas.<sup>12</sup> LibreTaxi is a similar service that is targeting underserved, rural communities around the globe.<sup>13</sup> More research is needed to identify how well such innovation models are doing at addressing rural transportation challenges and where gaps remain.

### *Implications*

Our findings clearly indicate that transportation is an issue of significant concern for rural health stakeholders nationwide. As the median age of rural populations continues to increase, hospital consolidations continue to move a wider range of specialty services from local hospitals to tertiary care centers, and individual expectations for on-demand transportation become increasingly commonplace, transportation will become an even more pressing concern for rural residents, communities, and health care facilities.

Additional research is needed regarding best practices for communicating existing rural transportation services to potential users; sharing model programs between states, communities, and health care facilities to improve efficiency; and building partnerships that cross traditional organizational and sector boundary lines (e.g., between schools and health care facilities, between public, private, and faith-based organizations). Further, as transportation

models change in rural communities, empirical evidence will need to be generated to demonstrate whether, and how, they are working and where gaps remain. Finally, while there are policy interventions identified in this brief, they are not exhaustive and only reflect what we heard from this group of key informants. There are other transportation solutions worth pursuing; for example, health care providers may want to become more involved in providing transportation to reduce missed appointments and increase continuity of care.

Although some of the identified challenges to rural transportation (geography, socio-demographics, culture) are difficult or impossible for policymakers to remedy, others are well-within their reach. Addressing issues of funding, insurance reimbursement, coordinating services, and transportation infrastructure (extending down to basic elements such as transportation routes and availability/accessibility of sidewalks) would potentially have a positive impact on the health and well-being of rural residents. Fully addressing rural transportation issues will also require creative solutions for transporting individuals across city, county, and state lines when necessary.

Moving forward, the key to innovation lies in changing the policy conversation surrounding the intersection of transportation and health from one of convenience to one of necessity. By thinking of and discussing transportation as a primary social determinant of rural health, public support and political will for addressing the issue will more likely reflect the urgency and need indicated by nearly all of our survey key informants who deal with these concerns first-hand on a daily basis. ■

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