Rural Evaluation Brief

The Walsh Center
for Rural Health Analysis
NORC AT THE UNIVERSITY OF CHICAGO

Promising Practices for Increasing Access to Transportation in Rural Communities

Access to safe, reliable, affordable, and convenient transportation improves the livability of rural communities and quality of life for rural residents.[1] Transportation connects residents of rural communities to employment, education, health care, child care, recreation, and other activities of daily life. Transportation also supports rural economic growth in agriculture, tourism, and service industries.[2]

The personal vehicle is central to the transportation landscape in rural communities. Over 90% of passenger trips in rural areas occur in automobiles, compared to 84% of trips in urban areas. Public transit is limited in rural communities: 4% of rural households use public transit compared to 31% of urban households.[3] Public transit includes fixed-route services, such as buses, which operate on a predetermined route and schedule; demand-response services, also known as dial-a-ride, which use automobiles, buses, and vans that are dispatched on demand as well as paratransit for people who cannot use fixed-route services (e.g., people with disabilities); and flex-route services, where drivers deviate from a fixed route upon request.[4]

Transportation safety is also an issue in rural communities due to limited investments in infrastructure and the increasing use of rural roads over time. An estimated 40% of roads in rural areas are currently inadequate for travel, while nearly 50% of bridges over 20 feet long are currently considered structurally deficient.[2] The lower population density in rural communities further contributes to challenges constructing and maintaining transportation systems due to a lack of funding for rural transit projects.

Transportation is a significant challenge for many rural residents who cannot or do not wish to drive, or do not have access to public transit or other transportation modes that meets their needs. The Health Resources and Services Administration's (HRSA) Federal Office of Rural Health Policy (FORHP) funds rural communities as part of the Section 330A Outreach Authority grant program to address unique health care challenges and increase access to health care services. The Section 330A grant programs are focused on outreach and service delivery; network

planning and development; clinical training, recruitment, and retention; emergency services; community and health care services outreach; and benefits counseling, among other services. Many grantees also address social determinants of health, including access to transportation, as a secondary focus area of their projects.

One of the lessons learned from the experiences of the Section 330A program is that there is a need to identify and compile promising practices and resources for rural communities to address community-specific challenges and concerns. The experiences of Section 330A grantees suggest promising strategies that can be adapted and applied in other rural communities. Grantees have successfully implemented a

Key Findings

- Transportation is a significant challenge for rural residents who cannot or do not wish to drive, or who do not have access to public transit or other modes of transportation that meet their needs.

- Barriers to accessing transportation services in rural communities include long travel distances, low population density, and safety and infrastructure issues.

- Rural communities are implementing programs that provide transportation to people on demand, for any reason.

- Mobility on demand models utilize technologies such as smartphones and mobile apps to increase access to transportation.

- Rural communities are implementing ride-sharing programs using volunteer drivers.

- When implementing rural transportation programs, it is important to collaborate with organizations that are working on transportation issues in the community.

- Rural transportation programs are exploring options to reduce social isolation for older adults and people with disabilities.

The Rural Transportation Toolkit is available at:
https://www.ruralhealthinfo.org/toolkits/transportation

range of transportation program models. Examining and compiling promising practices and resources for rural transportation programs can help guide program development, implementation, and sustainability.

Purpose of the Project

The purpose of this issue brief is to summarize promising rural transportation program models and share lessons learned from rural communities. The project focused on conducting a literature review of rural transportation programs and studying the experiences of rural transportation programs to identify promising practices, resources, and programs. This project culminated in the Rural Transportation Toolkit, a web-based toolkit of rural transportation program models and resources. The toolkit is hosted on the Rural Health Information Hub (RHIhub) website, available at: https://www.ruralhealthinfo.org/toolkits. Rural communities that are interested in implementing transportation programs may access the toolkit for information on programs, considerations, and resources.

Transportation Program Models in Rural Communities

This project identified 15 promising rural transportation program models. These models are implemented in rural communities and are designed to (1) increase access to transportation, (2) help populations overcome transportation barriers, and (3) improve transportation safety or infrastructure. Rural communities may implement a program that blends several models, depending on their target population, community needs and characteristics, and resources.

Models to Improve Access to Transportation

Models to improve the availability of and access to transportation in rural communities include: public transportation, volunteer models, voucher models, coordinated services models, mobility on demand, ridesharing models, connector services, and mobility management. These models help rural residents travel to schools, businesses, worksites, child care, houses, recreational sites, and shopping, among other destinations.

Public Transportation Model. Public transportation systems provide transit services to the public via bus, rail, or other mode on a regular and continual basis. The most common mode of public transit in the U.S. is fixed-route bus systems, which operates on a predetermined route and schedule.[5] In rural communities, 32% of bus services provide fixed route services.[6] However, fixed-route bus services in rural communities do not operate 24 hours a day, 7 days a week, and residents who have mobility limitations or who do not live or work near bus stops may be unable to access bus routes. Fixed-route bus systems are often supported by demand-response services—the second

largest type of transportation in the U.S.—and the main transit provider in rural areas and communities with low population density.[5] Flex-route transportation systems, also called deviated fixed-route systems, where buses leave their regular routes on request, are provided by 43% of rural bus services.[6] Rural communities may lack sufficient resources to expand public transportation.

Volunteer Model. Many rural transportation programs rely on volunteers to serve as drivers.[7] Volunteer models provide demand-response transportation, often for older adults or people who have disabilities. Some provide door-to-door assistance to their passengers, which is particularly helpful to older adults and passengers with disabilities. Passengers request a ride from one location to another at a specific time – often for medical appointments, shopping, and social or recreational activities. Passengers are usually required to schedule a ride in advance. Volunteers often drive their own vehicles. Rural transportation programs implementing a volunteer model must coordinate driver recruitment, background checks, training, and scheduling. Programs may reimburse drivers for the cost of mileage and gas, or offer a voucher for transportation services.

Voucher Model. In the voucher model, eligible riders exchange tickets or coupons for a ride from a participating transportation provider. These programs vary in structure—programs may offer free rides or reduced fares; eligibility may be based on age, disability, income, or geographic location; and transportation modes may include public transportation and ridesharing. Voucher programs allow riders to choose transit services that meet their unique needs and preferences. The success of voucher programs is dependent upon the availability of transportation programs in the community and coordination between these organizations.

Coordinated Services Model. This model involves coordinating and sharing resources, knowledge, and funding to improve transportation services.[8] Coordinated services models can fill gaps in transportation services and use limited resources more efficiently. Key partners for coordinated services models include human service agencies, non-profits, worksites, transit providers, and local or regional economic development agencies.

Mobility on Demand. This model is designed to improve the integration and connectivity of transportation systems. Mobility on demand utilizes technologies such as smartphones and mobile apps to increase access to transportation options, increase convenience, simplify payments, and lower costs. Mobility on demand models are designed to improve the efficiency and effectiveness of transportation services.

Ridesharing Model. Ridesharing is a type of demand-response transportation model that involves sharing a vehicle between one or more organizations (vehicle sharing), combining passenger trips with a common destination (carpooling and vanpooling), or using technology to arrange shared rides on short notice or en-route (real-time ridesharing). Ridesharing programs may work with drivers who use their personal

vehicles to provide rides. Many rural ridesharing programs use volunteer drivers and offer free or low-cost services. These programs help to fill gaps in transportation for people who cannot or do not wish to drive and who do not have access to other modes of transportation in the evenings, on weekends, and on holidays.

Connector Services Model. Also called feeder services, connector services provide transportation to or from another transportation system (for example, to or from a bus stop). In rural areas, the connector services model is implemented to help community members reach long-distance transportation (i.e., airports or inter-city buses), specific destinations (i.e., health centers or hospitals), or urban locations. An important consideration for ensuring the success of connector services is effective marketing and advertising, so that the public is aware of the routes available to them.

Mobility Management Model. In the mobility management model, organizations help people to connect to different transportation options in the community. Important goals of this model include improving efficiency, reducing costs, and maximizing use of resources. Mobility management programs may utilize mobility coordinators who are knowledgeable about the transportation services available in a particular community or county. Mobility coordinators can remove the burden of navigating different transportation systems and help riders to understand the services they are eligible for in their area.

Models to Overcome Transportation Barriers

Models such as mobile clinics, telehealth, school and workplace-based health programs, and home visiting programs are designed to help populations overcome transportation barriers in rural communities. These models focus on reducing the need to travel and increasing access to health care services and community supports.

Mobile Clinics. Mobile clinics are self-contained vans, recreational vehicles, or other vehicles that have been repurposed to provide clinical services in rural areas to populations that may lack access to specific health care services. Examples of the services provided by rural mobile clinics include dental services, diabetes screenings, immunizations, and x-rays, among others. Mobile clinics regularly visit schools and other community sites to deliver these services, and can help people who would otherwise have to travel long distances to see a provider.

> *"[Transportation] is a lifeline... [being able to travel] back and forth to appointments and treatments is a matter of life or death – it is definitely a matter of quality of life."*
>
> *- Rural transportation program leader*

Telehealth. Telehealth is "the use of electronic information and telecommunication technologies to support and promote long-distance clinical health care, patient and professional health-related education, public health, and health administration."[9] Using telehealth, providers deliver care to their patients from a distance, thereby connecting people to health care services and reducing the need to travel for health care. It has been used to provide services including mental health care, chronic disease management, and obstetric care. Telehealth can be used in a provider's office or in a patient's home through remote patient monitoring systems. Reimbursement and credentialing are two important considerations for telehealth programs, as is the availability of reliable broadband infrastructure.

School- and Workplace-Based Health. Schools and workplaces provide accessible health care to rural populations who experience transportation challenges. School-based health centers are located in or near schools, and provide services to students of all ages.[10] The types of services vary depending on capacity and state regulations, but may include primary care, physical exams, mental health counseling, immunizations, vision and dental screenings, and health education. Similarly, workplace-based clinics are located in or near worksites and enable employees to access health care services.

Home Visiting Programs. Home visiting is a strategy to reach people who are less likely to seek health care and social services. Populations targeted for home visiting programs include older adults, pregnant and postpartum mothers, families with infants or young children, and tribal populations.[11,12] By bringing health care and other resources directly to homes, these programs can support healthy child development and help older adults to live independently in their homes. Often, these models employ community health workers to conduct home visits.

Models to Improve Transportation Safety or Infrastructure

Rural program models designed to improve transportation safety or infrastructure include active transportation models, models that increase access to public transportation, and road safety models.

Active Transportation Models. Active transportation refers to any human-powered mode of transit, such as walking and biking. This model is an inexpensive way for residents to exercise, explore their communities, and commute to work or school. In some rural communities, walking and biking for transportation is almost as common as in cities.[13] Infrastructure for biking and walking, including protected bike lanes and crosswalks, is important for ensuring pedestrian and biker safety.

Models that Increase Access to Public Transportation. Only 11% of rural residents reported having public transit services available near their home, compared to 83% of residents of central cities in Metropolitan Statistical Areas (MSAs).[6] Strategies to increase access to public transportation may include: integrating bicycle lanes, pedestrian paths, and transit systems; introducing features like wheelchair lifts that enable

people with disabilities to access transportation; and installing signage, schedules, and other markers to increase awareness of public transportation.

Road Safety Models. While there has been an overall decrease in motor vehicle-related deaths between 2005 and 2015, rural areas continue to experience more motor vehicle traffic deaths than urban areas.14 This disparity could be due to higher speeds on rural roads, fewer road safety features, and longer response times for emergency vehicles. Rural communities can implement strategies to lower traffic speeds and volumes to improve safety for drivers, pedestrians, bicyclists, and others who share roadways. Policies and strategic design elements are important for rural road safety models.

Implementation Considerations

When implementing a rural transportation program, careful planning is crucial. One of the most important considerations is funding. Financial resources are required to pay for staff wages, insurance, technology, and vehicle maintenance and fuel, among other costs. Program staff include mobility managers, human resources and hiring managers, customer service representatives, data managers, dispatchers, and drivers.

Collaboration with other transportation organizations in the community and stakeholders that serve the target population is also important. Partnerships facilitate coordination of services, improving the reach and efficiency of the program. Partnerships are also important for promoting and marketing the transportation program, and an effective way to build ridership and community buy-in for the program. Information on program eligibility, cost, coverage, and schedule should be widely disseminated so all potential riders are aware of and may utilize the service. Rural transportation program leaders also noted the importance of identifying a champion for the program.

Safety is also a key consideration for implementing and maintaining a rural transportation program. Policies and practices should be implemented to ensure the safety of program staff and riders. To promote safety, programs should require that drivers carry a valid driver's license, comply with insurance policies, and complete a background check. Rural transportation programs also offer trainings for drivers on topics ranging from cultural sensitivity and home visiting to identifying victims of abuse and human trafficking. One rural volunteer driver program provides training on "understanding the rider's point of view." This program emphasized the importance of

> *"Transportation is always someone else's problem, not [your] responsibility. There should be a change in attitude to make it everyone's responsibility because if everyone chips in, it can be a lot more affordable."*
>
> *– Rural transportation program leader*

building relationships between the driver and rider, which contributed to riders' satisfaction with, and the overall success of, the volunteer driver program.

Depending on the program's goals and resources, transportation services may only be offered for specific transportation needs, such as accessing health care services. It is critical to understand which services are covered by insurance, and the limitations of insurance. Additionally, some of these programs only operate during business hours. This can leave a gap in services for people who need to travel for other reasons or during other times. Rural communities are implementing transportation programs that help to fill these gaps by offering transportation to anyone, at any time, for any reason. Some programs provide transportation to people on-demand, while others require rides to be scheduled days or weeks in advance.

Technology is important for supporting rural transportation programs. Mobile applications can help coordinate transportation services. Geographic information systems (GIS) can facilitate the development of fixed routes, assess traffic patterns, or visualize usage areas. Other types of technology used to reduce transportation barriers include telehealth, which connects people to health care from a distance, and drones, which are a novel method for bringing health care supplies and pharmaceuticals to rural communities.[15] Dispatchers may also use technology, such as GIS or computer-aided dispatching and scheduling, to schedule rides and determine transportation routes.[16] For additional information on implementation, see Module 4: Implementation Considerations for Rural Transportation Programs in the Rural Transportation Toolkit.

Program Evaluation Strategies

Evaluation is important for building the evidence base of "what works" in rural communities related to transportation. Evaluations may focus on process, outcomes, and impact. Process measures focus on measuring how services are provided, for example: number of passenger trips, mileage cost, operational cost per vehicle and per passenger, safety incidents, and punctuality.[17] Outcome measures focus on measuring program results or overall achievements, for example: access to health and social services, awareness of available services, avoided health care costs, policies and legislation, and return on investment.

Rural transportation programs may have limited funds to conduct rigorous evaluations. Rural transportation programs are collecting data using satisfaction surveys, offered on a regular basis or annually. Volunteer driver programs may collect information from both drivers and riders in an application; this data is also useful for evaluation purposes. When conducting evaluations of rural transportation programs, it is important to involve all stakeholders that are affected by the program, such as: drivers and passengers, health care and social service agencies, advocacy groups, government agencies,

transit service providers, transit interest groups, neighborhood organizations, elected officials, local businesses, environmental groups, and funders.

In general, it can be challenging to quantify the value of different transportation options in rural communities. Many impacts are difficult to measure (e.g., reducing social isolation among older adults, and providing transportation to people who would otherwise not seek health care services).

Sustainability Strategies

Rural transportation programs may require financial support from a number of organizations. Common funding sources include: federal, state, and local government agencies; associations; foundations; health care providers; faith-based organizations; and entrepreneurs. These funds may be used for different purposes. For example, federal transit grant programs help private, non-profit organizations to meet the transportation needs of older adults and people with disabilities (Section 5310) and support transportation programs in rural and tribal areas that serve populations with less than 50,000 residents (Section 5311). Other federal agencies have grant and loan programs that can be used for transportation infrastructure and planning in rural areas. Medicaid may cover non-emergency medical transportation. Foundations and philanthropic organizations provide funding to support administrative costs, research, and coalition building. To access information about these resources, visit Module 6: Sustainability of Rural Transportation Programs in the Rural Transportation Toolkit.

To support sustainability of the program, some rural transportation programs charge riders a fee to use the service. The fee may be a flat fee or based on the number of miles traveled. Many programs offer services at no cost to the rider or will waive the fee if the rider is unable to pay. Other key issues to consider include: sustaining partnerships, tracking program data, and monitoring community trends and changes in population demographics that may impact the program.

"We don't ever want to duplicate [the transportation services] that are already there. We are only going to fill in the gaps and work with counties to help get the transportation that is needed in each county."

- Rural transportation program leader

Rural Implications

Rural transportation program leaders emphasized the importance of building a strong network of transportation partners—and complementing other programs in the community rather than competing with them for existing resources. Rural transportation programs may refer people who need rides to other organizations, if they cannot assist

them, and may also share drivers. Coordination can increase rural residents' access to different destinations and increase the affordability of the service.

Rural communities may lack transportation services that meet the needs of people who cannot or do not wish to drive; those who do not have access to a personal vehicle; and populations such as older adults, veterans, tribal populations, people with low incomes, and people with disabilities. In addition, transportation services are lacking for individuals who need to travel long distances to reach specialty health care services.

Rural communities have a higher percentage of adults aged 65 years and older compared to the nation as a whole.[18] With a growing older adult population in many rural communities, there is an increasing demand for transportation programs that provide door-to-door or door-through-door assistance. There is also a need to increase the number of vehicles in rural communities that are accessible (for example, able to accommodate walkers or wheel chairs). It will also be important to study the impact of emerging technologies and automated vehicles on transportation access in rural communities.

Further, rural transportation programs are exploring how to expand services to reduce social isolation for older adults and people with disabilities living in rural communities. Research shows that nearly three times as many socially isolated, high-need adults (those with chronic conditions or physical or cognitive limitations) delayed seeking health care due to a lack of transportation.[19]

With transportation playing a key role in the health and wellbeing of rural populations, it is important to identify promising rural transportation models and practices. This project, and the resulting Rural Transportation Toolkit, provides information and resources that can support rural communities in implementing programs that increase access to, and safety of, transportation services.

Methodology

Researchers at the NORC Walsh Center for Rural Health Analysis implemented this project by (1) reviewing the literature on rural transportation programs; (2) conducting semi-structured telephone interviews with representatives from organizations that have implemented rural transportation programs; and (3) developing a web-based toolkit containing resources and promising practices.

The literature review was conducted to provide insight on strategies that have been effective in, or could be adapted for, increasing access to transportation in rural areas. From this literature review, we developed a semi-structured interview protocol. The protocol addressed program goals, activities, use of promising or evidence-based approaches, lessons learned, challenges, facilitators, evaluation activities, sustainability plans, and dissemination strategies. We conducted interviews with nine representatives from rural transportation programs,

including two Section 330A grantees. Some programs shared resources (e.g., program brochures, flyers and other materials) for inclusion in the online toolkit. NORC completed the interviews between May and November 2017.

In the second phase of this project, we analyzed the interviews and compiled resources from the literature to develop the toolkit. The toolkit is organized into seven topic areas or "modules." The modules are: 1) introduction to rural transportation; 2) promising transportation program models; 3) rural transportation program clearinghouse; 4) implementation considerations; 5) evaluation considerations; 6) sustainability strategies; and 7) dissemination of approaches for rural transportation programs.

The product of this research is the Rural Transportation Toolkit, a compilation of information, resources, and models for increasing access to transportation in rural areas. The literature on evidence-based rural transportation programs in rural communities is limited. Therefore, the Rural Transportation Toolkit represents promising practices, rather than evidence-based practices, and provides information and resources for rural communities interested in implementing a rural transportation program. This issue brief presents the key themes that emerged from this project related to rural transportation programs.

To access the Rural Transportation Toolkit, visit:
https://www.ruralhealthinfo.org/toolkits/transportation

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References

1. Brooks J, Edrington S, Sharma S, Visishth S, Cherrington L. Literature review: Transit and livability in rural America. Texas A&M Transportation Institute. November 2014. https://groups.tti.tamu.edu/transit-mobility/files/2016/09/Tech-Memo-1-UTC-Rural-Livability-Literature-Review-Final-compressed.pdf. Accessed April 3, 2018.

2. Dye Management Group, Inc. Role of regional planning organizations in transportation planning across boundaries: Key issues for rural transportation planning. Prepared for the Federal Highway Administration. Published July 2001. Updated June 28, 2017. https://www.fhwa.dot.gov/planning/publications/rural_areas_planning/ruralguide.pdf. Accessed April 2, 2018.

3. Mattson J. Rural transit fact book 2016. Upper Great Plains Transportation Institute. October 2017. https://www.surtc.org/transitfactbook/downloads/2017-rural-transit-fact-book.pdf. Accessed April 3, 2018.

4. AARP. Rural public transit: Why is this important? March 11, 2012. https://www.aarp.org/content/dam/aarp/livable-communities/act/transportation/public-transit-in-rural-communities-aarp.pdf. Accessed April 3, 2018.

5. 2015 national transit summary and trends. Office of Budget and Policy. Federal Transit Administration, U.S. Department of Transportation. October 2016. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/2015%20NTST.pdf. Accessed April 3, 2018.

6. American Public Transportation Association (APTA). Rural communities: Expanding horizons. 2012. http://www.apta.com/resources/reportsandpublications/Documents/Rural-Communities-APTA-White-Paper.pdf. Accessed April 3, 2018.

7. Kerschner H. Volunteer driver programs. Grantmakers in Aging. https://www.giaging.org/issues/volunteer-driver-programs/. Accessed April 3, 2018.

8. Burkhardt JE, Nelson CA, Murray G, Koffman D. Toolkit for rural community coordinated transportation services. Transit Coordinated Cooperative Research Program. Transportation Research Board. Washington, DC: 2004. http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_101.pdf. Accessed April 2, 2018.

9. Health Resources & Services Administration. Telehealth programs. November 2015. https://www.hrsa.gov/rural-health/telehealth. Accessed April 3, 2018.

10. The Community Guide. Health equity: School-based health centers. https://www.thecommunityguide.org/findings/promoting-health-equity-through-education-programs-and-policies-school-based-health-centers. Accessed April 3, 2018.

11. Health Resources and Services Administration. Home visiting. Reviewed June 2017. https://mchb.hrsa.gov/maternal-child-health-initiatives/home-visiting-overview. Accessed April 10, 2018.

12. Administration for Children and Families. Tribal home visiting. https://www.acf.hhs.gov/ecd/home-visiting/tribal-home-visiting. Accessed April 10, 2018.

13. Rails to Trails Conservancy. Active transportation beyond urban centers. 2012. https://www.railstotrails.org/resourcehandler.ashx?id=4141. Accessed April 3, 2018.

14. QuickStats: Age-adjusted rate of motor vehicle traffic deaths, by urbanization of county of residence— 2005 and 2015. MMWR 2017;66:567. DOI: http://dx.doi.org/10.15585/mmwr.mm6621a6.

15. Mead A. The sky's the limit: Potential drone usage in rural healthcare. The Rural Monitor. April 5, 2017. https://www.ruralhealthinfo.org/rural-monitor/rural-healthcare-drones. Accessed April 2, 2018.

16. National Rural Transit Assistance Program. Scheduling and dispatching training package for rural transit systems. 2012. http://demopro.nationalrtap.org/resources/training_modules/634703471921160781_schedulingdispatching_tr.pdf. Accessed April 3, 2018.

17. Transit Cooperative Research Program. Guidebook for rural demand-response transportation: Measuring, assessing, and improving performance. 2009. https://www.nap.edu/catalog/14330/guidebook-for-rural-demand-response-transportation-measuring-assessing-and-improving-performance. Accessed April 3, 2018.

18. Rural Health Information Hub. Rural aging. Reviewed July 10, 2017. https://www.ruralhealthinfo.org/topics/aging. Accessed April 3, 2018.

19. Lewis C, Shah T, Abrams MK. Sick and alone: High-need, socially isolated adults have more problems, but less support. The Commonwealth Fund. January 12, 2018. http://www.commonwealthfund.org/publications/blog/2018/jan/sick-and-alone-socially-isolated-adults. Accessed April 3, 2018.