Transportation and Rural Communities: Challenges and Opportunities for Expanding Mobility

A White Paper Developed by the U.S. Department of Transportation Health in Transportation Working Group

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About the U.S. DOT Health in Transportation Working Group

The U.S. Department of Transportation’s (U.S. DOT) Health in Transportation (HinT) Working Group examines and promotes the Department’s existing policies and programs to assist modal agencies address health-related topics that are raised by staff, project sponsors, and the public. The Working Group covers topics such as multimodal connectivity, safety, equity, accessibility, air quality, noise, and access to jobs and services.

The HinT Working Group includes participants from several U.S. DOT operating administrations, including the Federal Aviation Administration, Federal Highway Administration, Federal Transit Administration, National Highway Traffic Safety Administration, and the Office of the Secretary of Transportation.

The HinT Working Group developed this white paper as a resource for Working Group members and State and local transportation agencies to identify and pursue opportunities for improving transportation in rural communities, expanding mobility and supporting health.
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Executive Summary

In rural communities across the United States, transportation plays a critical role in providing access to jobs, community services, recreation, and health care. Many rural areas have long distances between destinations, low population density, limited transit availability, and limited infrastructure to accommodate bicyclists and pedestrians. As a result, residents of rural areas tend to rely primarily on cars for their transportation needs. This leaves people who do not have access to a car or do not drive with few options for getting around, limiting their ability to access jobs, health care, and other services.

People living in rural areas of the country tend to have both fewer transportation options and worse health outcomes than those living in urban areas. Rural Americans are at higher risk for numerous health conditions, including heart disease, cancer, unintentional injury, chronic lower respiratory disease, and stroke. Rural areas also have higher rates of motor vehicle crashes and lower levels of physical activity on average. Improving transportation safety, reliability, and affordability supports quality of life and health in rural areas by improving access to healthcare and other health-promoting destinations, increasing opportunities for physical activity, lowering rates of traffic injuries, and lessening exposure to air pollution.

This white paper, developed by the U.S. Department of Transportation’s Health in Transportation (HinT) Working Group, outlines challenges related to transportation in rural communities and opportunities for addressing these challenges. It also provides examples of agencies and organizations that have pursued innovative approaches to improving rural transportation. The white paper is a resource for HinT Working Group members and State and local transportation agencies to identify and pursue opportunities for improving transportation and health in rural areas.

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4 CDC, “About Rural Health.”
Rural Community Transportation Challenges

Limited transportation options in rural areas prevent people from accessing health care, accessing destinations that promote wellbeing, and getting exercise as part of their transportation activities. This white paper describes two overarching transportation and rural community challenges: mobility and active transportation.

**Mobility** refers to the ability of all residents, including people who do not drive, to get where they need to go with safe and reliable transportation options. Mobility challenges in rural areas include limited transportation choices for those who do not have access to a car or do not drive, limited availability of rural transit, and long distances to services and destinations.

**Active transportation** refers to nonmotorized transportation modes, including walking and biking. Active transportation enables people to get physical activity while traveling, which promotes wellbeing. Active transportation challenges in rural areas include lack of dedicated infrastructure for walking and biking, limited connections between key destinations, and long distances between destinations that make it difficult to walk or bike for everyday trips.
Figure 2: Bicyclists cross a rural road in Cape Cod, Massachusetts

Source: National Park Service

Rural Community Transportation Opportunities

The white paper identifies opportunities that local transportation and health departments, transit agencies, nonprofits, and other stakeholders can pursue to address these transportation challenges in rural areas. It also provides examples of agencies that have successfully pursued these strategies. These opportunities include:

- Implement volunteer transportation programs to provide transportation for those who do not drive.
- Expand app-based ridehailing services to rural areas.
- Pursue rural transit agency and health care provider partnerships around routing and scheduling, funding, and outreach to patients.
- Implement demand-responsive transit and microtransit programs to operate more flexibly and reach more people.
- Initiate travel training programs to provide residents with skills and information needed to use transit.
- Enable complete trips to allow rural residents to seamlessly travel from their origin to destination, even if they transfer multiple times or use several modes of transportation.
- Partner with intercity bus service providers to expand access to health care and services in other communities.
- Design active transportation infrastructure specific to the rural context.
- Pursue programs such as Complete Streets and Safe Routes to School to help link destinations with active transportation networks.
- Connect communities with outdoor recreation opportunities and public lands.
- Promote the use of e-bikes to help people travel longer distances on a bicycle.
Opportunities for Future Research

Additional research could further evaluate the impact of transportation strategies on rural communities and explore the potential of new and emerging transportation technologies and trends to improve rural transportation and quality of life. This white paper identifies the following topics for future research at the intersection of transportation and rural community health:

- **Partnerships**: Evaluate and compare types of rural transit agency and health care partnerships. Identify best practices for rural transit agencies to reduce transportation barriers to accessing health care services.
- **Healthy food access**: Assess transportation barriers to accessing healthy foods in rural areas and methods for improving access.
- **Ridehailing**: Assess how ridehailing service models might be adapted to provide new mobility options in rural areas. Consider how to address challenges related to low population density, accessible vehicles, equity, and cell phone access/coverage.
- **E-bikes**: Evaluate e-bike usage in rural areas and whether e-bikes are enabling residents of rural areas to get more physical activity by encouraging them to bike when they previously would drive.
- **Automated vehicles**: Analyze the potential for automated vehicles to improve mobility and provide access to health care for those who do not drive. Assess what potential business models or deployment scenarios might best facilitate improved access to health care in rural areas.
1. Introduction

In rural communities across the United States—home to nearly 20 percent of Americans\textsuperscript{5} and nearly 13 percent of American jobs\textsuperscript{6}—transportation plays a critical role in providing access to jobs, community services, recreation, and health care. Due to long distances between destinations, low population density, and limited infrastructure to accommodate bicyclists and pedestrians, residents of rural areas tend to rely primarily on cars for their transportation needs. Over 90 percent of passenger trips in rural areas occur in automobiles, compared with 84 percent in urban areas.\textsuperscript{7}

Transportation options for rural residents who do not or cannot drive are limited. Transit—in particular bus transit—plays a key role in connecting some rural residents with jobs and services. However, public transit service does not exist in many rural communities. Where transit does operate, buses often run on limited routes and schedules (e.g., no weekend service). Only four percent of rural households use public transit, compared to 31 percent of urban households.\textsuperscript{8} People who do not drive and do not have access to transit may rely on family or friends for rides, or they may forgo a trip altogether, limiting their access to jobs, health care, community services, and other destinations.

Figure 3: Rural areas encompass a variety of community types, from farmland and forested areas to small towns to exurban areas

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{rural_areas.png}
\caption{Rural areas encompass a variety of community types, from farmland and forested areas to small towns to exurban areas}
\end{figure}

Source: Wikimedia Commons

\textsuperscript{8} Walsh Center, \textit{Promising Practices}. 
**Rural Community Definitions**

Federal agencies use many different definitions for what is considered “rural” for the purposes of policy, funding, and research. For all of them, the basic answer is that “rural” is anything that does not fall within the boundaries of an “urban” area. However, agencies define urban areas differently.

The Census Bureau delineates two types of urban areas: urbanized areas (UAs), which have 50,000 or more people, and urban clusters (UCs), which have less than 50,000 people and more than 2,500 people. Anything outside of a UA or UC is considered rural. In 2021, the Census Bureau proposed a new UA definition to have a minimum threshold of 4,000 housing units or 10,000 people instead of a minimum threshold of 2,500 people.

Within U.S. Department of Transportation (DOT), the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) define urbanized areas as communities with more than 50,000 people, in line with the Census definition; however, under FHWA’s definitions, areas with population greater than 5,000 can also qualify as small urban areas, distinct from the Census’s urban clusters. Other agencies and grant programs use different population counts for what is considered rural.

These definitions of rural areas encompass a variety of types of communities, from farming communities to small towns to exurban areas (see Figure 3). This white paper does not choose a cut off point for what is considered a rural area, but rather describes transportation challenges and opportunities facing rural areas in general. The white paper notes when particular studies or programs discussed use certain definitions of rural areas. It also uses the terms rural and nonmetropolitan interchangeably.

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Road safety in rural areas is also a concern. According to data from the National Highway Traffic Safety Administration (NHTSA), in 2018 there were 16,411 traffic fatalities in rural areas. While fatalities in rural areas decreased 15 percent from 2009 to 2018 and traffic fatalities in urban areas increased during this timeframe, the trend continues to show disproportionately higher rates of traffic fatalities on rural
roads.\textsuperscript{9} Although rural areas represent only 19 percent of the population and 30 percent of vehicle miles traveled, 45 percent of all motor vehicle traffic fatalities in 2018 occurred in rural areas (see Table 1).

Improving transportation safety, reliability, and affordability supports wellbeing through increasing opportunities for physical activity, lowering rates of traffic injuries, and lessening exposure to air pollution.\textsuperscript{10} Transportation also provides key connections to health care and other health-promoting destinations, such as quality jobs, recreation, and social services.

**Table 1: Comparison of Rural and Urban Demographics and Transportation Statistics**

<table>
<thead>
<tr>
<th></th>
<th>Rural Areas</th>
<th>Urban Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Percentage of U.S. population</strong>\textsuperscript{11}</td>
<td>19%</td>
<td>81%</td>
</tr>
<tr>
<td><strong>Percentage of U.S. lane miles</strong>\textsuperscript{12}</td>
<td>68%</td>
<td>32%</td>
</tr>
<tr>
<td><strong>Percentage of U.S. motor vehicle traffic fatalities</strong>\textsuperscript{13}</td>
<td>45%</td>
<td>55%</td>
</tr>
<tr>
<td><strong>Population over age 65</strong>\textsuperscript{14}</td>
<td>18%</td>
<td>14%</td>
</tr>
<tr>
<td><strong>Passenger trips by automobile</strong>\textsuperscript{15}</td>
<td>90%</td>
<td>84%</td>
</tr>
<tr>
<td><strong>Households that use public transit</strong>\textsuperscript{16}</td>
<td>4%</td>
<td>31%</td>
</tr>
</tbody>
</table>


\textsuperscript{13} Ibid.


\textsuperscript{16} Walsh Center, Promising Practices.
Today, rural Americans are at higher risk for numerous health conditions than their urban counterparts. According to the Centers for Disease Control and Prevention (CDC), residents of nonmetropolitan areas are more likely to die from heart disease, cancer, unintentional injury, chronic lower respiratory disease, and stroke than urban residents (see Figure 4). CDC notes several reasons for these health disparities,

Rural Opportunities to Use Transportation for Economic Success (ROUTES)\textsuperscript{a}

In October 2019, U.S. DOT announced the creation of the Rural Opportunities to Use Transportation for Economic Success (ROUTES) initiative.

The initiative seeks to address disparities affecting rural communities and their transportation networks. These disparities include a disproportionately higher rate of traffic fatalities on rural roads.

The ROUTES initiative assists rural stakeholders in understanding how to access U.S. DOT grants and financing products and in developing data-driven approaches to better assess needs and benefits of rural transportation projects.

More information is available at https://www.transportation.gov/rural.


Including long travel distances to specialty or emergency care in rural areas; higher rates of motor vehicle crashes and opioid overdoses; higher rates of smoking, high blood pressure, and obesity; and lower physical activity and seatbelt use.\textsuperscript{18} In addition, the nonmetropolitan population is on average older and has lower education levels and lower income than the metropolitan population, factors that are associated with poorer health outcomes.\textsuperscript{19}

New transportation technologies, trends, and business models are expanding transportation opportunities in rural areas and strengthening the connections between transportation and wellbeing. For example, partnerships between transit agencies and health care providers are making it cheaper and more convenient for residents of rural areas who do not drive to access medical care. New transit service models such as dynamic routing have the potential to make rural transit cheaper to operate and more widely available. Ridehailing services (also known as transportation network companies) such as Uber and Lyft can provide transportation options for people who do not drive; in the future, automated vehicles may play this role. Increased attention to rural road safety and the importance of outdoor recreation to rural economies is leading to a renewed commitment to bicycle and pedestrian infrastructure in many rural areas. Finally, electric vehicles have the potential to bring many benefits to rural areas, from less pollution and improved air quality and health, to lower operating costs and maintenance needs for residents of rural areas.

\textsuperscript{18} CDC, “About Rural Health.”

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These and other transportation opportunities have the potential to improve the wellbeing of residents of rural areas by expanding access to health care, jobs, opportunities to socialize, and other community services; providing people who do not drive with additional transportation options; and providing enhanced opportunities for active transportation and physical activity.

This white paper outlines several transportation gaps in access to health care and health-promoting activities that people in rural communities may face, as well as opportunities for addressing these gaps. Expanding transportation opportunities in rural areas not only helps to improve wellbeing and access to health care facilities, but can also promote economic opportunity and quality of life in these communities.

Having a transportation system that promotes rural communities advances key U.S. DOT goals, including safety and innovation. Recognizing the critical role transportation plays in rural areas and the unique transportation challenges facing rural areas, U.S. DOT has launched the Rural Opportunities to Use Transportation for Economic Success (ROUTES) initiative to address disparities in rural transportation infrastructure and funding opportunities.20 Many existing U.S. DOT programs and funding opportunities directly address transportation in rural areas, such as the FTA Formula Grants for Rural Areas, FHWA Rural Road Safety Program, the Transportation Infrastructure Finance and Innovation Act (TIFIA) Rural Project Initiative, and the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program.

Other U.S. DOT funding programs, including Infrastructure for Rebuilding America (INFRA), Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD), the Consolidated Rail Infrastructure and Safety Improvements Program, the Grants for Buses and Bus Facilities Program, the Low- or No-Emission Vehicle Program, the Tribal Transit Program, and the Pilot Program for Innovative Coordinated Access and Mobility, can also provide funding to address transportation needs in rural areas. Numerous other programs address issues of concern to many rural areas, such as context sensitive design, older road user safety, and shared mobility, to name a few.

This white paper describes the transportation challenges faced by rural communities and provides examples and case studies of rural communities that have successfully navigated transportation challenges and improved the quality of life of residents. The white paper is organized into the following sections:

• **Section 2** discusses challenges and opportunities around rural mobility, or the ability of all residents, including people who do not drive, to get where they need to go with safe and reliable transportation options.

• **Section 3** describes challenges and opportunities related to physical activity and active

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20 “Rural Opportunities to Use Transportation for Economic Success (ROUTES),” United States Department of Transportation, last modified October 8, 2019, https://www.transportation.gov/rural.
transportation (including walking, biking, and using wheelchairs).

- **Section 4** describes further research opportunities around the topic of transportation in rural communities.

Transportation affects many aspects of life in rural communities, and this white paper does not attempt to document all rural transportation challenges and opportunities. The Appendix provides a list of existing resources for individuals who want to further explore a particular aspect of rural transportation or community health.
2. Rural Mobility

For people living in rural areas, a key transportation issue that affects residents is mobility, or the ability to move from place to place and destination to destination. Because of low population density and long distances between destinations, typically mobility needs in rural areas are met through access to a car, although equestrian, snowmobile, or off-road vehicles may be used in some areas. Residents of rural areas who do not have access to a personal vehicle or who do not have the ability to drive face significant mobility challenges and barriers to accessing health care facilities and other health-promoting destinations. Limited rural mobility options exist in the form of rural transit and intercity bus service and emerging transportation options such as ridehailing services.

This section describes three challenges related to rural mobility: reliance on car access and ability to drive, limited availability of rural transit, and long distances to services and destinations. It also discusses opportunities for addressing these challenges and highlights examples from agencies and organizations that have successfully done so.

2.1 Car Access and Ability to Drive

While a lack of transportation options affects many people living in rural areas, the problem is especially difficult for those who do not have access to a car or are unable to drive. One such group is older adults, who may no longer be able to drive or may choose to drive less frequently. The number of older adults is growing as baby boomers age and people are living longer. Older adults on average outlive their driving abilities by approximately six years for men and 10 years for women.21 As older adults stop or cut back on driving, they must look for alternate modes of transportation, which may be particularly challenging in rural areas that have less transit and lower population density. For example, a study in rural Vermont found that older adults preferred to travel by car because of greater flexibility in choosing when to travel and where to go, rather than being limited by transit travel schedules and destinations.22 Older adults may also require more frequent trips to health care providers, making reliable alternatives to driving more critical.

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A lack of transportation options poses barriers for older adults who wish to stay in their own homes and communities as they age (known as “aging in place”), especially if they do not live near health care facilities or community services.\(^{23}\) For example, the Southern New Hampshire Planning Committee found that when residents were asked about their concerns about aging in their community, 71 percent of seniors rated transportation as a concern.\(^{24}\)

Other groups with limited transportation options include people with disabilities and people with chronic health conditions, many of whom need frequent trips for treatments such as physical therapy, dialysis, or chemotherapy. People who use wheelchairs and walkers in particular might have difficulty finding accessible transportation, as not all vehicles can accommodate these mobility aids. People struggling with substance abuse also face transportation barriers, and might find themselves missing court dates, missing medical appointments, or simply being unable to reach health care facilities when they desire treatment.

### 2.1.1 Volunteer Transportation

Some communities have implemented volunteer transportation programs to address transportation gaps for rural residents who do not have access to a car or who cannot drive. Volunteer transportation programs can provide older adults, people with disabilities, and others with limited mobility with rides

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to medical appointments, the grocery store, or other destinations. For many people who live in rural areas and cannot drive, these volunteer transportation programs are their only means for accessing health care and key services. According to a survey by the National Aging and Disability Transportation Center (NADTC), 8 percent of older adults and 27 percent of people with disabilities reported using volunteer-based transportation services. Forty-three percent of older adults and 44 percent of younger adults with disabilities said that they would be interested in using these programs if they were available in their communities.25

Volunteer transportation can be informal (e.g., someone giving their neighbor who does not drive a ride to the grocery store) or more structured. Formalized programs tend to have training for volunteer drivers and a mechanism for requesting rides (e.g., a number to call to request rides in advance). Volunteer transportation programs can work well in rural areas because they can provide door-to-door service in areas where population densities are not high enough to support transit. Some programs also provide assistance to people at their destination (e.g., help with grocery shopping). Volunteer transportation programs rely on a variety of funding mechanisms, including Federal, State, or local government funds, fundraising, and passenger donations or fees.26 These programs may be operated by transportation agencies, health departments, nonprofits, or other community organizations.

**Case Study Highlight: All Points Transit, Colorado**

Operating since 1990, All Points Transit (APT) is a nonprofit offering transportation in four counties in rural Colorado. Serving primarily seniors and people with disabilities, APT offers door-to-door transportation service through its “dial-a-ride” program using a demand response model, as well as deviated fixed route transit service in the largest city it serves, Montrose.27 Participants sign up and register for the dial-a-ride program through a website or over the phone. They then are able to call for rides to the grocery store, medical appointments, or other destinations. Sixty-five percent of trips are for medical purposes.

APT recently added a volunteer transportation program to help fill in gaps in rides that it could not accommodate in the daily door-to-door service schedules with paid drivers. Volunteer drivers undergo a three-day training program to become certified, and APT provides a company vehicle for volunteers to share so that they do not have to use their personal vehicle.28

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26 NADTC, 2018 Transportation Trends.
28 NADTC, 2018 Transportation Trends.
2.1.2 Rural Ridehailing

While app-based ridehailing services (also known as transportation network companies, or TNCs) such as Uber and Lyft are transforming transportation systems in many cities, their use in rural areas is much lower. Just 19 percent of rural residents report ever having used ridehailing, compared to 45 percent of their urban counterparts. However, as a rapidly expanding form of transportation, in the near future ridehailing may offer opportunities for improving mobility in rural areas. One advantage of ridehailing is that it provides door-to-door service, which may be ideal for people with mobility challenges for whom walking to a bus stop is a challenge. Ridehailing trips can also be pre-arranged by a third party, such as a family member or social services agency, which may help people who do not have the ability to order a ride themselves to use this service. In some cases, ridehailing companies have partnered directly with health care services to provide rides for patients. However, most ridehailing vehicles are not wheelchair accessible (although accessible vehicles are being offered in some cities), and drivers are not required to provide assistance to passengers who need help getting in and out of the vehicle.

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Case Study Highlight: Northern Kentucky Area Development District

The Northern Kentucky Area Agency on Aging and Independent Living (NKAAAIL), part of the Northern Kentucky Area Development District, has partnered with Helping Hands Northern Kentucky, one of their in-home service providers, to develop an innovative program that uses ridehailing services to provide access to medical appointments for case managed senior adults living in their eight-county region. Helping Hands acts as the scheduler through a corporate account set up with Lyft and receives referrals directly from NKAAAIL staff. The pilot started in one county with a limited number of seniors who had no mobility restrictions or cognitive limitations. The pilot has since expanded to all eight counties and allows a “Transportation Navigator” to travel in the vehicle to support riders who have mobility or cognitive limitations. The program accounts for approximately 18 percent of NKAAAIL rides.

Although this program is available in all eight counties, it has been more successful in the urban and small-town areas of these counties than the rural areas. Early data analysis has revealed some of the causes to be fewer ridehailing drivers in the rural areas and a less cost-effective service due to far distances and lower number of case-managed clients in rural areas. While NKAAAIL continues to analyze the data, it has begun to look at expanding the use of ridehailing services beyond health care into workforce development programs, and offering this option to non-case managed seniors.

2.2 Limited Availability of Rural Transit

Long distances and lower population densities in rural areas make supporting a public transit system difficult economically, as transit is most cost-effective serving dense urban areas. This may lead to less frequent transit service, service in limited hours (e.g., not on evenings or weekends), or a smaller geographic range of service. Transit agencies operating fixed route systems are required by the Americans with Disabilities Act to provide complementary paratransit service to individuals with disabilities who are unable to use the fixed-route system. However, due to the high cost of fixed-route bus service, many rural transit systems opt for alternative service models, such as demand-responsive service (see sidebar on next page). Demand-responsive transit systems are not required to provide paratransit.

Due to limited public transit in rural areas, many residents have few options for getting around. One survey found that 43 percent of rural Americans cite lack of access to public transportation as a major

problem for getting around compared to just 19 percent of urban Americans.\textsuperscript{34} Transit agencies serving rural areas have employed several strategies to increase mobility, including demand-responsive transit and microtransit, travel training services, and partnerships with health care providers.

2.2.1 Demand-responsive Transit and Microtransit

Pursuing alternate rural transit operating models can allow transit to reach more people, improving transportation options and mobility for people who do not drive. Rather than operating fixed-route bus service with set routes and schedules, many transit agencies operating in rural areas choose to use a demand response model (sometimes referred to as “dial-a-ride” service). A demand-response transit service typically operates smaller vehicles, such as vans, and allows passengers to schedule service at a defined date and time (either by calling or online). For areas with low population density, demand-response transit may be more cost-effective because it only operates when and where passengers request service.\textsuperscript{35}

Recently, several companies have begun offering demand response transit that passengers request through a smartphone app, similar to ridehailing apps (this is also known as “microtransit”). These services typically require passengers to go to a designated pickup spot to group passengers together and make the routes more efficient. Although these services are

\textbf{Rural Transit Funding and Operating Models}

Several Federal Transit Administration programs provide significant funding for rural transit. These include:

- \textbf{Formula Grants for Rural Areas} (Section 5311): Capital, planning, and operating funds for public transit. Includes a set-aside for Tribal Transit Formula Grants.
- \textbf{Enhanced Mobility of Seniors & Individuals with Disabilities} (Section 5310): funding to states for assisting private nonprofit groups in meeting the transportation needs of older adults and people with disabilities.

\textit{Fixed-route} bus service, where vehicles operate according to a predetermined route and schedule, represents approximately 30 percent of rural public transit bus systems. Many rural transit systems use a \textit{demand response} model, where smaller vehicles operate on flexible routes with schedules that depend on passenger requests. Some systems also use a hybrid, or “\textit{flex route}” model, which operate according to predetermined routes and schedules but may deviate from these in order to accommodate stops at particular destinations (e.g., an employment center).\textsuperscript{a}

\textsuperscript{a} “Types of Transit Systems,” Rural Health Information Hub, accessed September 24, 2019, \url{https://www.ruralhealthinfo.org/toolkits/transportation/1/types-of-transit-systems#fixed-route}.


\textsuperscript{35} Rural Health Information Hub, “Types of Transit Systems.”
most common in urban areas, using apps to request demand response transit service could be an opportunity in rural areas as well.

### 2.2.2 Travel Training Programs

Travel training programs represent another opportunity for improving mobility by providing people with disabilities with skills and information that enable them to use transit. Travel training programs help teach people independent travel skills, provide information about local transit and other mobility services, familiarize people with how to use transit, or provide hands-on, one-on-one training to help people navigate transportation (including transit and walking). Although there are different models for operating travel training programs, many in rural areas use a volunteer model, where volunteers provide assistance and training to their peers (often in coordination with a nonprofit or social services agency).

### 2.2.3 Rural Transit Agency and Health Care Provider Partnerships

Another strategy to address transportation barriers to accessing medical care in rural areas is for rural transit agencies to partner directly with health care providers. These partnership strategies may include:

- Coordination with medical providers to ensure that the transit schedule and route aligns with medical services.
- Transit agencies providing support services like mobility consultations to patients.
- Financial agreements between health care providers and transit agencies, including financial support from medical providers who benefit from having service that connects patients to their offices.

**Case Study Highlight: Foothills Area Mobility System**

The Foothills Area Mobility System (FAMS) in Virginia launched a program in 2016 in partnership with three free clinics using an FTA Rides-to-Wellness grant. This program provides mobility management services to clients of the three free clinics, including providing information on available transportation options, assistance in scheduling transportation to clinics, and travel training to help individuals understand how to use and navigate transit (including providing mobility specialists to travel with individuals).

In February 2019, FAMS implemented a cloud-based database to collect, manage, and analyze information related to the transportation needs of FAMS users. This data is used to identify service gaps,

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37 NADTC, 2017 Transportation Trends.

and destination/origin information is used to inform transportation support conversations with non-traditional partners such as hospital systems and pharmacies. Specific disability and demographic statistical data is used to better understand the needs of FAMS users.

Figure 7. Foothills express bus

![Source: Foothills Area Mobility System](image)

### 2.2.4 Fostering Complete Trips

One strategy for promoting rural mobility is to ensure that individuals can easily get from their origin to destination even if they transfer multiple times or use several modes of transportation. A complete trip means that a user can get from point A to point B seamlessly, regardless of the number of modes, transfers, and connections. Elements of a complete trip may include trip planning, travel to a vehicle, boarding a vehicle, transfers, using stops and stations, and completing travel to a destination (see Figure 8). If one of these trip segments is inaccessible, unreliable, or inefficient, individuals may have difficulty completing their trip.

U.S. DOT’s [Complete Trip initiative](https://www.its.dot.gov/its4us/index.htm) aims to identify ways to provide more efficient, affordable, and accessible transportation services for people with disabilities, older adults and other underserved communities that often face greater challenges in accessing essential services (including people living in rural areas). The program includes funding for communities to showcase innovative business partnerships, technologies, and practices that promote complete trips and independent mobility for all.\(^39\)

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\(^39\) More information about the U.S. DOT Complete Trip program is available at [https://www.its.dot.gov/its4us/index.htm](https://www.its.dot.gov/its4us/index.htm)
2.3 Long Distances to Services and Destinations

In general, as population density declines, residents have to travel longer distances to access jobs and services like health care and grocery stores.\(^4^0\) For example, in rural communities with small populations, local medical care may be limited to primary and emergency care. The recent trend of rural hospital closures adds to this challenge.\(^4^1\) Patients may therefore have to travel long distances to access full-service hospital care and medical specialists. These long travel distances can create a burden for residents of rural areas, especially for those with chronic conditions that require routine and frequent medical appointments. For example, dialysis patients living in rural areas often experience long rides to and from dialysis centers, and often experience long wait times for rides home following treatment.\(^4^2\)

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\(^{4^0}\) Adaire et al., *Health Status*.

\(^{4^1}\) Innovations such as telemedicine, school-based health, and use of drones to deliver medical supplies may provide new opportunities related to health care access; however, discussion of the structure of health care services is beyond the scope of this white paper.

This transportation challenge has a particularly large impact on these patients since they require treatment several times per week.

People living in rural areas may also experience limited access to fresh fruits and vegetables. The lack of access to healthy foods in rural areas, and the presence of rural food deserts, is well documented in the United States and is increasingly a challenge as grocery stores in low-population rural areas continue to close.43 For residents of these communities, access to reliable transportation is critical in order to access fresh fruits and vegetables, which may not be readily available within their communities. Access to healthy food is associated with lower risk for obesity and other diet-related chronic conditions.44 People living in rural areas report higher rates of obesity and overweight than their non-rural counterparts; studies have found the prevalence of obesity to be 39.6 percent in rural areas compared with 33.5 percent in urban areas.45 Programs such as the Environmental Protection Agency’s Local Foods, Local Places initiative seek to improve and increase access to healthy food in rural areas.

Access to economic opportunities—and having reliable transportation access to sustain employment—is another critical issue for rural communities. Research has shown that individuals who experience unemployment also experience negative impacts to their physical and mental health.46 If a lack of transportation access limits employment opportunities for rural residents, their health is likely to be negatively impacted as a result.

Adequate transportation is also necessary to connect people living in rural areas to their communities. Social isolation due to a lack of social contact or feelings of loneliness can negatively affect health.47 Residents of rural areas without sufficient transportation options can face difficulty connecting with friends or neighbors or attending social events.48 This lack of transportation access can exacerbate social isolation and loneliness for people living in rural areas, contributing to negative health outcomes.

**Case Study Highlight: North Central Montana Transit**

Transit services that link rural communities to health care facilities, employment centers, and grocery stores when nearby options are not available can help to address the long distances between people’s

45 “Rural Obesity and Weight Control,” Rural Health Information Hub, last modified March 26, 2018, [https://www.ruralhealthinfo.org/topics/obesity-and-weight-control](https://www.ruralhealthinfo.org/topics/obesity-and-weight-control).
homes and these destinations. North Central Montana Transit operates fixed-route bus service in rural northern Montana throughout five counties and three tribal reservations. Serving more than 100 passengers per day, with rides averaging 80 miles each way, these routes connect rural residents to jobs, medical services, and several full-service grocery stores. These connections are especially important to the region, as 40 percent of riders do not have access to a personal vehicle. North Central Montana Transit is operated by the nonprofit organization Opportunity Link and was established in partnership with local and tribal government agencies, social service agencies, and educational institutions to address transportation gaps in the region.

Figure 9. North Central Montana Transit bus

Source: North Central Montana Transit

2.3.1 Intercity Bus

Intercity bus service can help to improve access to health care and other services when rural communities lack full-service hospitals or medical specialists. Intercity bus service provides connections between regions (in contrast, local bus service connects residents to destinations within a community or region). In the United States, intercity bus service is most often provided by private bus operators. However, in areas where it may not be economically viable for these private operators to serve,

49 Safe Routes to School National Partnership, *The Wheels on the Bus Go to the Grocery Store* (Fort Washington, MD: Safe Routes to School National Partnership, 2017), [https://www.saferoutespartnership.org/sites/default/files/resource_files/wheels_on_the_bus_0.pdf](https://www.saferoutespartnership.org/sites/default/files/resource_files/wheels_on_the_bus_0.pdf).
innovative approaches such as public-private partnerships in funding and relationships between transit agencies and health care providers can be used to provide this service. 50

Figure 10: Intercity bus stop in Alaska

Case Study Highlight: Travel Washington Intercity Bus Program

Since 2007, the Washington State Department of Transportation has operated the Travel Washington Intercity Bus Program. 51 The program is funded by a combination of 50 percent FTA funding and a 50 percent funding match from Greyhound Bus Lines. Travel Washington operates four lines that provide connections from rural communities to major transportation hubs and urban centers (see Figure 11). In combination with other intercity bus providers, Travel Washington fills gaps in the public transportation network to ensure that people living in rural areas have access to services, including health care services, which may not be available in their immediate communities.

Figure 11: Travel Washington intercity bus routes

Source: Washington State Department of Transportation
3. Active Transportation and Physical Activity

Residents of rural areas tend to have lower levels of physical activity and higher rates of obesity than the population overall. A survey by the CDC found that just 28.9 percent of adults living in rural counties report maintaining a normal body weight, compared with 34.2 percent of the U.S. population overall. Similarly, only 46.7 percent of adults in rural counties reported meeting aerobic physical activity recommendations, compared with 50.7 percent of the general population.

Active transportation – which includes walking, biking, and using wheelchairs – can help to increase physical activity and improve the health of people living in rural areas. Some rural areas and small towns already have high rates of walking and biking. For example, a study by the Rails-to-Trails Conservancy found that the share of work trips made by bicycle in small towns (population 2,500–10,000) was nearly double that of urban centers, while in communities with populations of 10,000–50,000 the rate of bicycling for all trips was equal to that in the urban core.

However, the land use and roadway design of many rural areas, lack of dedicated infrastructure for walking and biking, and long distances between destinations presents barriers to walking and biking. Opportunities for improving rural health through active transportation include expanding safe infrastructure for walking and biking, using active transportation to access key community destinations and recreational opportunities, and using e-bikes to travel longer distances.

3.1 Lack of Dedicated Infrastructure

Many roads in rural areas were designed for vehicular traffic and may not have sidewalks or other facilities to accommodate bicyclists and pedestrians. Due to a limited road network in rural areas, all types of traffic use the same roads, including bicyclists, motorcycles, cars, large trucks, and agricultural

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52 Normal body weight was defined as body mass index of 18.5–24.9 kg/m² that was calculated from self-reported height and weight.

53 The aerobic physical activity recommendations were defined as 150 minutes per week of moderate leisure time physical activity, 75 minutes per week of vigorous-intensity physical activity, or an equivalent combination of moderate and vigorous physical activity in the preceding 30 days (based on the 2008 Physical Activity Guidelines for Americans).


equipment. Without dedicated space on the roadway, particularly on roads with higher-speed traffic, many people feel uncomfortable walking and biking.\(^{57}\)

There also may be limited safe places for pedestrians to cross rural roads. This is of particular concern in town centers where people may need to cross to access destinations, as well as near transit stops and school bus stops. In small towns, the main street is often a county or State highway that carries high-speed traffic, which could discourage people from walking or biking for errands or other short trips.

Another barrier to active transportation in rural areas is the lack of roadway lighting. Many rural roadways do not have streetlights or reflective road markings. This lack of light may deter people from walking and biking at night due to safety concerns caused by this low visibility.

**Figure 12: A sign alerting motorists to the presence of pedestrians crossing the road in rural New Jersey**

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3.1.1 **Active Transportation Infrastructure for a Rural Context**

Designing active transportation infrastructure specific to the rural context can help people feel more comfortable walking and biking and improve safety. The FHWA [bicycle and pedestrian program](https://www.fhwa.dot.gov/bikeway) has multiple publications related to active transportation planning and design, accessibility, and performance measures. For example, the *Bikeway Selection Guide* helps practitioners make informed decisions about trade-offs relating to the selection of bikeway types. The *Small Town and Multimodal Networks* guide provides information about active transportation infrastructure design considerations for rural areas (see Figure 13). FHWA’s proven [safety countermeasures](https://www.its.dot.gov/activeinfrastructure/cost) include strategies that improve safety for people walking and biking, such as intersection treatments and road diets. NHTSA also provides pedestrian safety resources and resources for improving safety around [school bus stops](https://www.fhwa.dot.gov/policy/).  

A context-sensitive design approach helps to ensure that projects are developed with stakeholder input and incorporate the economic, social, and environmental resources of a community. Considering factors like the typical vehicle speed on the roadway, traffic volumes, and nearby destinations can help determine the appropriate type of infrastructure. Active transportation infrastructure can range from facilities that are physically separated from vehicle traffic (e.g., a shared-use path), to visually separated (e.g., a paved shoulder, shown in Figure 13), to mixed with traffic (e.g., a bicycle boulevard). Active transportation infrastructure also includes signage and lighting, which can alert motorists to the presence of bicyclists and pedestrians on the road.

Several federal funding opportunities are available for active transportation infrastructure in rural areas. The [Transportation Alternatives (TA) Set-Aside](https://www.its.dot.gov/activeinfrastructure/cost) program provides funds to States and to metropolitan planning organizations for bicycle and pedestrian facilities, recreational trail projects, and safe routes to school projects, among other activities. The TA Set-Aside is the single largest Federal-aid funding source for projects for walking and bicycling. Funding sources specifically related to recreation are discussed in Section 3.2.

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58 FHWA, *Small Town and Rural Multimodal Networks*.
Figure 13: Example of bicycle facility considerations for paved shoulders. Shoulders can support bicycle trips on roads too busy for shared roadway travel, but adequate shoulder width should be provided.

Source: FHWA Small Town and Multimodal Networks
Case Study Highlight: Iowa Bicycle and Pedestrian Long Range Plan

The Iowa Department of Transportation developed a Bicycle and Pedestrian Long Range Plan in 2018 that includes a statewide Complete Streets Policy and considerations for bicycle and pedestrian infrastructure projects in rural areas. For rural areas, the Complete Streets Policy establishes a needs test and cost-effectiveness requirement, based on factors such as consistency with planning documents, network connectivity, proximity to incorporated areas, access to destinations, current and estimated bicycle utilization, and percentage of total project cost. The plan’s facility selection matrices provide information on what types of bicycle facilities are appropriate for rural, suburban, or urban contexts given vehicle volumes and traffic speeds on a given road (see Figure 15).

Iowa DOT has applied the plan and Complete Streets policy to recent projects in rural areas. For example, for a resurfacing project on Iowa Route 48 between Shenandoah and Essex (see Figure 14), the initial design involved a four foot wide paved shoulder. Iowa DOT conducted the bicycle needs and cost-effectiveness tests and decided to alter the project to add an additional two feet of paved shoulder so that the road would better accommodate bicycles.

Figure 14: Iowa 48 prior to implementation of a resurfacing project

Source: Iowa DOT
For people to incorporate active transportation into their daily lives, it is important that safe active transportation networks connect to the places where people need to go, including work places, schools, parks, and other destinations. The CDC Community Preventative Services Task Force recommends that combining new or enhanced transportation systems (e.g., pedestrian and cycling paths) with new or enhanced land use design (e.g., proximity to a store, access to a public park) can help promote physical activity. The task force found that these combined transportation and land use approaches are associated with higher levels of transportation-related physical activity, recreational physical activity,
and total walking. In other words, active transportation routes (e.g., pedestrian, bicycle, and transit systems) should be linked with everyday destinations (e.g., grocery stores, schools, work places, or parks).

In many rural areas, if active transportation infrastructure does exist, it does not connect to these key community destinations. For example, a community might have a popular walking trail through a park, but to get to this trail most residents have to drive. Focusing on the places where people tend to go when expanding active transportation infrastructure can help facilitate more everyday trips by walking and biking, which can increase physical activity and improve overall health.

### 3.2.1 Active Transportation Networks

Existing programs can help to link destinations with active transportation networks in rural areas. For example, a Complete Streets approach is designed to enable safe access for all road users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. Many State and local transportation agencies have adopted Complete Streets policies and implementation plans, which help to ensure that when communities conduct roadway reconstruction and maintenance projects, bicycle and pedestrian infrastructure is considered.

Other programs are more targeted to certain segments of the population, but could improve safety for all. The Safe Routes to School initiative aims to make it safer and easier for students to walk and bike to school. Safe Routes to School programs operated by school districts and local governments cover a variety of activities, including educating students and the broader community about bicycle and pedestrian safety, holding events to encourage people to walk and bike, creating physical infrastructure improvements, and conducting enforcement to deter unsafe traffic behaviors. The program is funded with FHWA TA Set-Aside funds distributed through State DOTs to local governments and school districts through a competitive process. Many of the projects funded by Safe Routes to School have been in rural areas.

### 3.2.2 Outdoor Recreation Opportunities

Rural communities also have an opportunity to connect active transportation infrastructure with outdoor recreation. Outdoor recreation opportunities in rural areas abound, including at public lands such as National and State parks. The number of U.S. participants in nature-based outdoor recreation

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activities increased 7.1 percent from 1999 to 2009. These recreation activities support local economies in small towns and rural areas. Safe and connected walking and biking networks and transit helps both residents of rural areas and visitors to public lands get physical activity and experience other health benefits of spending time in these outdoor places.

Figure 16: Bicyclists using a recreational trail

Several resources and funding programs can help rural communities connect with nearby opportunities for recreation and facilitate increased active transportation. The Recreational Trails Program (RTP) provides funds to States to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses, including on Federal, State, and local public lands. The Land and Water Conservation Fund provides grants to State and local governments, and funds to Federal agencies to safeguard natural areas, water resources and cultural heritage, and to provide recreation opportunities. Specific to public lands, the National Park Service’s Active Transportation Guidebook provides resources and examples for national parks and their partners (including nearby communities) for expanding active transportation, including infrastructure, programs, and partnership opportunities. The Federal Lands Access Program (FLAP) provides funding to States to improve transportation facilities that provide access to, are adjacent to, or are located within Federal lands. Many projects funded with FLAP funding have improved walking and biking infrastructure in and around public lands.

Figure 17: A multi-use trail near Grand Teton National Park

Case Study Highlight: Singing River Trail, Alabama

The Singing River Trail is a proposed 70-mile multi-use trail connecting communities in three counties in northern Alabama. The trail would provide a major active transportation and recreation network for these communities, as well as celebrate Native American heritage and provide educational opportunities. The vision for the trail grew out of the Launch 2035 Initiative, a regional economic development partnership funded by local businesses and community organizations. The trail has the potential to improve health outcomes, as approximately one quarter of the residents in the three counties report that they are physically inactive, do not have access to exercise opportunities, and/or are obese.

To build support for the trail and inform a policy decision about whether to invest in it, Launch 2035 and partners conducted an economic and health impact analysis (see Figure 18). These analyses found that the trail would lead to $13.1 million in annual direct benefits, including $1.4 million in health benefits due to increased physical activity. In particular, the health analysis estimated:

- The potential demand for the trail by looking at the number of bicyclists and pedestrians on comparable trails in the South,
- The number of minutes of new physical activity (walking and biking) generated by the trail, and
- The health care/productivity cost savings from this increase in physical activity.
3.3 Long Distances between Destinations

Rural areas have low population density and often long distances between destinations. This can make it challenging for many people to walk and bike for everyday trips such as commuting to work or going to a store. People typically choose to walk and bike for shorter trips. According to the 2017 National Household Travel Survey, 94 percent of walking trips are under two miles, and 80 percent of biking trips are under three miles. Small towns often have destinations in close proximity, but in other types of rural areas the distances are much greater. As a result, residents may feel that walking or riding a bike for everyday trips is not feasible.

3.3.1 E-bikes

Electric bicycles (e-bikes) can help to address this challenge by allowing people to travel faster on a bicycle and cover more distance. E-bikes can encourage people who would otherwise choose to drive to ride a bike and increase the time they spend engaging in physical activity. For example, a survey in Europe found that people using e-bikes report longer trip distances and longer daily travel distances than riders of traditional bikes. A survey of e-bike owners in the United States found that the primary reasons for purchasing an e-bike were reducing physical exertion, being able to ride on hilly terrain, and replacing car trips.

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Despite making it easier to ride, particularly on hilly terrain, while carrying kids or cargo, or while traveling longer distances, most e-bikes still support physical activity. Many e-bikes require users to pedal in order to engage the electric assist feature, meaning that they are still getting physical activity. A literature review of studies on the health benefits of pedal-assist e-bikes found evidence that e-cycling provided physical activity of at least moderate intensity. This was lower than the intensity elicited during conventional cycling, but higher than that during walking.66

Federal, State, and local governments have different regulations governing the use of e-bikes for both on-road use and on off-road trails. Many State traffic codes specifically recognize e-bikes and regulate them similarly to traditional bicycles, which means that e-bikes are allowed where traditional bicycles are allowed. However, some States regulate e-bikes under laws applicable to mopeds or scooters, or do not clearly classify e-bikes.67

Federal land management agencies may have regulations that allow or restrict where e-bikes are allowed on their lands. Also, for trails funded under the Recreational Trails Program, e-bikes are considered motor vehicles under current law as of August 2021. If RTP funds are used for a nonmotorized trail, the trail manager must exclude e-bikes, although there have been proposals to amend the law.68

**Figure 19: E-bikes can enable people to travel longer distances than they would on a traditional bicycle**

Source: 123RF/Jozef Polc

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68 For more information on e-bike policies, see: https://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/framework.cfm
4. Opportunities for Future Research

This white paper has identified challenges related to transportation and rural communities and opportunities for addressing these challenges. Additional research could further evaluate the impact of transportation strategies on improving quality of life in rural areas and explore the potential of new and emerging transportation technologies and trends. This section describes potential areas for further research across the topics of transit and health care partnerships, access to healthy food, ridehailing, e-bikes, and automated vehicles.

4.1 Rural Transit Agency Health Care Partnerships

Existing research and case studies have demonstrated that rural transit agencies have been partnering with health care providers to reduce transportation barriers to health care services. However, these partnerships can vary substantially in terms of the types of services provided and the structure of the partnership between the transit agency and health care provider. Research that identifies, evaluates, and compares types of partnerships could be instructive in providing strategies and best practices for rural transit agencies to reduce transportation barriers to accessing health care services.

4.2 Improving Access to Healthy Foods in Rural Areas

Beyond connecting rural residents to grocery stores and other locations where they might access healthy foods, limited research exists assessing methods of addressing transportation barriers to accessing healthy foods in rural areas. For example, in urban areas such as Columbia, South Carolina, transit users can pick up fresh food boxes at the regional transit center each Tuesday. However, there are limited examples of innovative partnerships or methods of healthy food delivery like this in rural areas. Future research that seeks to address this research gap could advance understanding of healthy food access in rural communities and methods to improve access.

4.3 Rural Ridehailing Service Models

Ridehailing services have changed travel patterns for residents of urban areas over the past decade. However, these services have not been as widely available in rural areas. Future research could assess how ridehailing service models might be adapted to provide new mobility options in rural areas. Research into the applicability of ridehailing in rural areas could address challenges related to low population density, accessible vehicles, equity, and cell phone access/coverage.

4.4 E-Bike and Micromobility Opportunities

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As the use of e-bikes continues to grow, research could evaluate e-bike usage in rural areas and whether e-bikes are enabling residents of rural areas to get more physical activity by encouraging them to bike when they previously would drive. The use of e-bikes is also an important consideration for the planning and design of active transportation infrastructure; if e-bikes enable people to bike farther, infrastructure such as bike lanes and multiuse trails might be warranted in places where bicycle volumes were previously lower. Research could also explore how micromobility services, such as bike share and shared e-scooters, could be expanded to rural areas, and whether this would expand mobility for residents. Additionally, future research could explore the role and accessibility of other modes that are critical in certain rural areas, such as all-terrain vehicles and snowmobiles in some remote areas, and equestrian in certain religious communities.

4.5 Role of Automated Vehicles

Automated and connected vehicles have the potential to dramatically transform the transportation landscape, and that is no different in rural areas. Research could consider the potential for automated vehicles to improve mobility and provide access to health care for those who do not drive, as well as barriers such as accessibility. Research could also examine how automated vehicles could change the delivery of health care services in rural areas or what potential business models or deployment scenarios might best facilitate improved access to health care in rural areas. Research into automated and connected vehicles should also consider their impact on people walking and biking – for example, how automated vehicles can be programmed to safely navigate trail crossings. Related research could consider the use of drones for freight delivery, and how these could expand access to goods and services for people living in rural areas.
References


Appendix: Rural Transportation Resources

This white paper is intended to provide a high-level overview of the challenges and opportunities related to transportation and rural communities. Many resources, including Federal funding programs, provide more detailed information related to transportation, as well as opportunities to fund services to address transportation gaps in rural areas to improve health. This section provides links to additional resources on transportation and rural communities and a brief description of each resource.

Funding Programs

- **FHWA: Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD):** Competitive grants for the development of model deployment sites for large-scale installation and operation of advanced transportation technologies to improve safety, efficiency, system performance, and infrastructure return on investment.
- **FHWA: Federal Lands Access Program:** Provides funding to States to improve transportation facilities that provide access to, are adjacent to, or are located within Federal land, in partnership with Federal land management agencies.
- **FHWA: Recreational Trails Program:** Provides funds to States to develop and maintain recreational trails and trail-related facilities for both nonmotorized and motorized recreational trail uses, including on Federal, State, and local public lands.
- **FHWA: Transportation Alternatives (TA) Set-Aside:** The TA Set-Aside program provides funds to States and to metropolitan planning organizations for bicycle and pedestrian facilities, recreational trail projects, and safe routes to school projects, among other activities.
- **FRA: Consolidated Rail Infrastructure and Safety Improvements Program:** Funds a wide range of projects that improve the safety, efficiency and reliability of intercity passenger and freight rail systems.
- **FTA: Access and Mobility Partnership Grants:** Access and Mobility Partnership Grants seek to improve access to public transportation by building partnerships among health, transportation and other service providers.
- **FTA: CCAM Program Inventory:** This program inventory identifies 130 Federal programs that are able to provide funding for human services transportation for people with disabilities, older adults, and/or individuals of low income.
- **FTA: Enhanced Mobility of Seniors & Individuals with Disabilities (Section 5310):** Funding to states for assisting private nonprofit groups in meeting the transportation needs of older adults and people with disabilities.
- **FTA: Formula Grants for Rural Areas:** Provides capital, planning, and operating assistance to states to support public transportation in rural areas with populations of less than 50,000.
- **FTA: Grants for Buses and Bus Facilities Program:** Makes federal resources available to states and direct recipients to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities.
- **FTA: Low- or No-Emission Vehicle Program**: Provides funding to state and local governmental authorities for the purchase or lease of zero-emission and low-emission transit buses as well as acquisition, construction, and leasing of required supporting facilities.

- **FTA: Tribal Transit Program**: Provides funding to Federally-recognized tribes for capital, operating, planning, and administrative expenses for public transit projects that meet the growing needs of rural tribal communities.

- **OST: Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program**: Provides competitive grants for capital funding for road, rail, transit and port projects that create high-quality jobs, improve safety, protect our environment, and generate equitable economic opportunity.

- **OST: Infrastructure for Rebuilding America (INFRA)**: Provides funding for infrastructure projects, including for reconstruction, rehabilitation, acquisition of property, environmental mitigation, construction contingencies, equipment acquisition, and operational improvements directly related to system performance.

- **Build America Bureau: TIFIA Rural Project Initiative (RPI)**: Provides loans in support of eligible surface transportation projects in rural areas.

- **U.S. Department of Agriculture: Community Facilities Direct Loan & Grant Program**: This program provides affordable funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area, and does not include private, commercial or business undertakings.

- **U.S. Department of Interior: Land and Water Conservation Fund**: Provides grants to State and local governments, and funds to Federal agencies to safeguard natural areas, water resources and cultural heritage, and to provide recreation opportunities.

- **U.S. Department of Veterans Affairs: Veterans Transportation Program**: The Veterans Transportation Service (VTS) provides safe and reliable transportation to Veterans who require assistance traveling to and from VA health care facilities and authorized non-VA health care appointments. VTS also partners with service providers in local communities to serve Veterans’ transportation needs.

**U.S. DOT Resources**


- **FTA: Coordinating Council on Access and Mobility Initiatives**: Since the Coordinating Council on Access and Mobility (CCAM) was established, the CCAM has undertaken a variety of interagency efforts to improve the availability, accessibility, and efficiency of transportation.

- **FTA: Transportation Technical Assistance Coordination Library**: This online library helps rural and tribal transit agencies access information about public transportation coordination, coordinate among federally funded transit programs, and share resources across agencies to improve transit in their communities. It contains reports, training seminars, toolkits and other materials developed by FTA and FTA’s technical assistance centers.
- **FHWA: Rural and Small Community Planning**: This site provides links to a wide variety of information resources to support transportation planning efforts in communities and areas outside those regions covered by Metropolitan Planning Organizations.

- **ITS JPO: Complete Trip ITS4US Deployment Program**: This program is a department-wide initiative to expand access to transportation for people with disabilities, older adults, and individuals of low income. The Complete Trip portfolio seeks to identify ways to provide more efficient, affordable, and accessible transportation services for people with disabilities, older adults and other underserved communities that often face greater challenges in accessing essential services.

- **Mobility Services for All Americans**: Through the Mobility Services for All Americans (MSAA) initiative the U.S. DOT fosters partnerships among service providers, local governments and other public, private, and nonprofit organizations to share data and better manage resources to improve mobility.

### Other Federal Resources

- **CDC: Activity-Friendly Routes to Everyday Destinations**: Activity-friendly routes to everyday destinations is a strategy that improves the design of communities by connecting routes such as sidewalks, trails, bicycle lanes, and public transit to destinations such as grocery stores, schools, worksites, libraries, parks, or health care facilities.

- **CDC: HI-5 Interventions**: The Health Impact in 5 Years (HI-5) initiative highlights non-clinical, community-wide approaches that have evidence reporting 1) positive health impacts, 2) results within five years, and 3) cost effectiveness and/or cost savings over the lifetime of the population or earlier.

- **Environmental Protection Agency Smart Growth Technical Assistance Programs**: EPA offers a number of technical assistance programs that may help rural communities address transportation challenges related to health. Programs of particular interest to rural health and transportation include [Cool & Connected](#), [Healthy Places for Healthy People](#), [Local Foods, Local Places](#), and [Recreation Economy for Rural Communities](#).

### Other Resources

- **AARP Livable Communities: Rural Livability**: Articles and other resources from AARP’s Livable Communities initiative related to rural areas.

- **Placemaking on Main Street: Revitalizing Rural Communities**: A resource on placemaking in rural communities.

- **RuralTransportation.org**: An information clearinghouse website on rural transportation.

- **Rural Transportation Toolkit**: This toolkit compiles promising models and resources to support organizations implementing transportation programs in rural communities across the United States.