EMERGING TECHNOLOGIES AND OPPORTUNITIES FOR IMPROVED MOBILITY AND SAFETY FOR RURAL AREAS

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16. Abstract Safe, accessible, and efficient transportation is a prerequisite for health and prosperity. In comparison to the nation's urban areas, rural communities face unique challenges in providing transportation that effectively serves their residents. The purpose of this study is to identify and address unmet safety and mobility needs in rural areas. To identify unmet needs and reflect the diversity of the rural U.S., the study develops eight rural county types, in recognition that unmet needs and the strategies used to address them are not uniform. Multiple strategies are identified as part of the study, several of which are showcased in case studies from around the country. Improving broadband is a common theme across the strategies, highlighting the technology's critical role in improving safety and mobility in rural areas.			
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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS

AA	Alcoholics Anonymous
AASHTO	American Association of State Highway and Transportation Officials
ACS	American Community Survey
ADRC	Aging and Disability Resource Center
AUD	Alcohol Use Disorder
AV	Autonomous Vehicle
CID	Criminal Investigation Division
DOT	Department of Transportation
DSL	Digital Subscriber Line
EMS	Emergency Medical Services
ERS	Economic Research Service, U.S. Department of Agriculture
FARS	Fatality Analysis Reporting System
FCC	Federal Communications Commission
FHWA	Federal Highway Administration
FOB	Field Operations Bureau
FORHP	Federal Office of Rural Health Policy
HPMS	Highway Performance Monitoring System
HPTS	Office on Transportation Policy Studies
GAO	U.S. Government Accountability Office
GIS	Geographic Information System
GPS	Global Positioning System
ICU	Intensive Care Unit
ITS	Intelligent Transportation Systems
LPI	Leading Pedestrian Interval
LRSP	Local Road Safety Plan
MaaS	Mobility-as-a-Service
MARV	Meals and Reading Vehicles
MOD	Mobility-on-Demand
MPH	Miles per Hour
MSA	Metropolitan Statistical Area
NACTO	National Association of City Transportation Officials
NEMT	Non-Emergency Medical Transportation
NHTS	National Household Travel Survey
NHTSA	National Highway Traffic Safety Administration
OMB	Office of Management and Budget
PM4RA	Performance Measures for Rural Access Transportation
PPE	Personal Protective Equipment
PCP	Primary Care Physician
PRISM	Promoting Realistic Individual Self-Management

PRTC	Peoples Rural Telephone Cooperative
ROUTES	Rural Opportunities to Use Transportation for Economic Success
RRFB	Rectangular Rapid Flash Beacon
RUCC	Rural-Urban Continuum Code
SUV	Sport Utility Vehicle
TNC	Transportation Network Company
TRIP	Transportation Resource Improvement Partners
UAS	Unmanned Aerial Systems
UAV	Unmanned Aerial Vehicles
UIC	Urban Influence Codes
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
V2I	Vehicle-to-Infrastructure
VMT	Vehicle Miles Traveled
WSP	Washington State Patrol

EXECUTIVE SUMMARY

Safe, accessible, and efficient transportation enhances the quality of life and provides opportunities for people and businesses to thrive. Both rural and urban communities face unique challenges in providing transportation options to their residents. The purpose of this study is to explore the potential of new technologies and opportunities in providing solutions in rural areas. Rather than focusing on how technologies deployed in urban areas might be transferred to rural areas, the study approaches the topic through a rural lens. This means specifying rural needs and their potential costs then identifying the most appropriate strategies to address them.

Multiple strategies are identified as part of this study, several of which are exemplified in case studies from around the country. This study presents the many unmet safety, mobility, and access needs in rural counties. Improving broadband is a common theme across the strategies, which demonstrates the critical role of broadband in improving safety and mobility in rural areas.

Defining Rural Area Types (See Chapter 2)

Rural America is very diverse, spanning from the remote areas of Alaska to small towns in the Appalachian Mountains. A key requirement for identifying rural mobility and safety needs is accurately classifying rural areas.

Rural America covers nearly 83 percent of the country's land area and is home to about 21 percent of the U.S. population. Rural America also carries a disproportionately high percentage of total vehicle miles traveled (VMT), about 27 percent, in the U.S. This study develops **eight rural county types** (listed in Table 1) and one metropolitan county type, expanding on existing U.S. Census Bureau definitions of population size and density to reflect rural America's wide range of social and cultural characteristics.

Table 1. Classification characteristics of county types, ordered by total population.

County Type	Description	Number of Counties	Percent of U.S. Population[2]	Percent of VMT[2]
Fringe	Adjacent to a metro county	762	6.3%	8.6%
Micropolitan	City/town population 20K to 50K	412	6.0%	7.3%
Destination	Offer recreational opportunities; popular among retirees	219	2.6%	3.1%
Rural Towns	City/town population under 20K	261	1.7%	2.2%
Agriculture & Extraction	Mining- or farming-oriented	347	1.3%	2.1%
Older-Age	One-third of population over 60	64	1.2%	1.5%
Tribal	Half of land area is Tribal	94	0.9%	1.3%
Remote	Less than 10 people per square mile; no towns over 2,500	274	0.7%	1.1%
All Rural Counties		**2,433**	**20.7%**	**27.2%**

Note: Rows may not sum to totals due to rounding.
Acronym used in table: VMT = vehicle miles traveled
[1] 2017 American Community Survey (ACS)
[2] 2018 Highway Performance Monitoring System (HPMS)

Figure 1 shows the location of the eight county types across the U.S. The data used to generate this map is available in Appendix B.

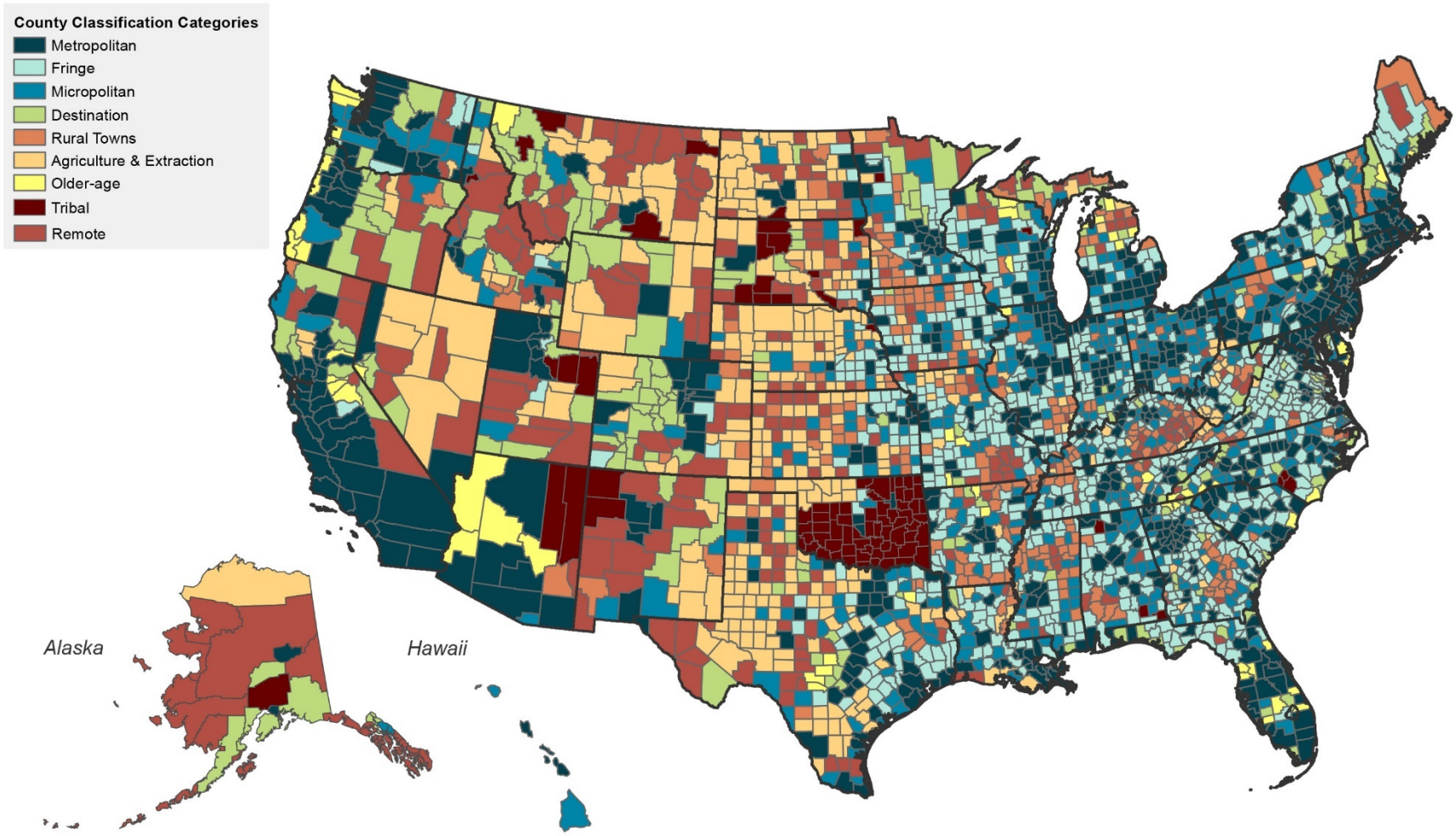

Figure 1. U.S. counties shaded according to their county type.

Source: Research team analysis.

Unmet Needs (See Chapter 3)

An unmet need represents a performance gap between rural places and urban places. Measuring these needs is necessary for understanding rural America's safety and mobility challenges and for identifying strategies that have the greatest chance of success.

Rural America has dozens of unmet needs that fall into the categories of safety, mobility, and access. This study prioritized these needs according to the largest gaps between rural and urban counties. Table 2 lists the **eight unmet needs** selected for analysis in this study along with their associated performance measures.

Table 2. Prioritized needs and performance measures.

Category	Unmet Need	Performance Measures
Safety Needs	Vehicle occupant safety	Fatality rates
	Behavior-related vehicle fatalities	Rates of fatal crashes involving speeding, drunk driving, distracted driving, and restraint or helmet use
	Pedestrian and cyclist safety	Fatality rates
	Emergency response times	Minutes after request until responders arrived
Mobility and Access Needs	Access to medical care	Travel time to general medical facilities, hospitals, intensive care, primary care, and substance abuse treatment
	Access to food	Distance to supermarkets
	Access to K-12 and higher education	Travel time to education institutes
	Broadband availability and quality	Availability of qualifying download/upload speeds

The analysis across the eight types of rural counties reveals fatality rates and emergency response times that are generally worse than in metropolitan areas and much worse for some rural communities. For example, for all rural area types, up to 28.9 percent of fatal crashes involve a drunk driver, compared to the 18.7 percent of such crashes in metropolitan areas. Fatality rates for all rural counties are 50 percent higher than Metropolitan counties and nearly twice as high in Tribal counties. Similarly, emergency response times in Remote counties average twice as long as Metropolitan counties.

Compared with metropolitan areas, rural areas also tend to have less access to healthcare, food, education, and broadband as measured by travel time, distance, and available download/upload speeds, respectively. For example, in five of the eight rural county types, the average travel time to a general medical facility exceeds 30 minutes and, in one type, averages 43 minutes, compared with 25.7 minutes in metropolitan areas. Across the mobility and access indicators identified in Table 2, rural areas underperform the national average, though there is also significant variation between the rural area types. Additionally, though some rural area types significantly lag compared to metropolitan areas, the residents of some counties have even far less access than the average for their rural area type.

The performance measures in Table 2 show the criteria used for analyzing rural safety and mobility needs. These criteria are also used in analyzing the potential impact of strategies employed to address unmet needs.

Strategies & Case Studies (See Chapters 4 & 5)

A strategy is broadly defined as a technology, system, or business model that helps address an unmet need in rural transportation safety and mobility. Strategies built on emerging technologies and opportunities can address unmet needs faster or at a lower cost than strategies of the past.

The study identifies and prioritizes strategies that can help address unmet needs in rural America. Prioritization of strategies is based on multiple factors, including potential impact on the corresponding unmet need, scalability, and feasibility. Strategies fall into four categories:

- **Vehicles.** These strategies build on emerging vehicle technologies and mobility options available in urban areas but not available in most rural areas. Crash investigations by unmanned aerial systems is one example. Strategies like these can help address access limitations by adapting proven solutions to new settings.
- **Improved communications.** Communications strategies facilitate or expedite information exchange among systems and devices, resulting in safety or mobility benefits. Examples include vehicle speed feedback signs and telehealth treatment clinics.
- **Infrastructure and program development.** These strategies involve installation of or upgrades to supportive transportation infrastructure. They also include the development of specialized programs to address safety and mobility needs. Examples include mobility-on-demand programs and auto-activated flash beacons at crosswalks.
- **Broadband.** Broadband strategies focus on improving the availability and quality of high-speed internet and offer opportunities to integrate broadband into new and existing infrastructure. The need for improved broadband is common across many strategies. As Figure 2 shows, broadband availability is lower in rural counties than in urban counties.

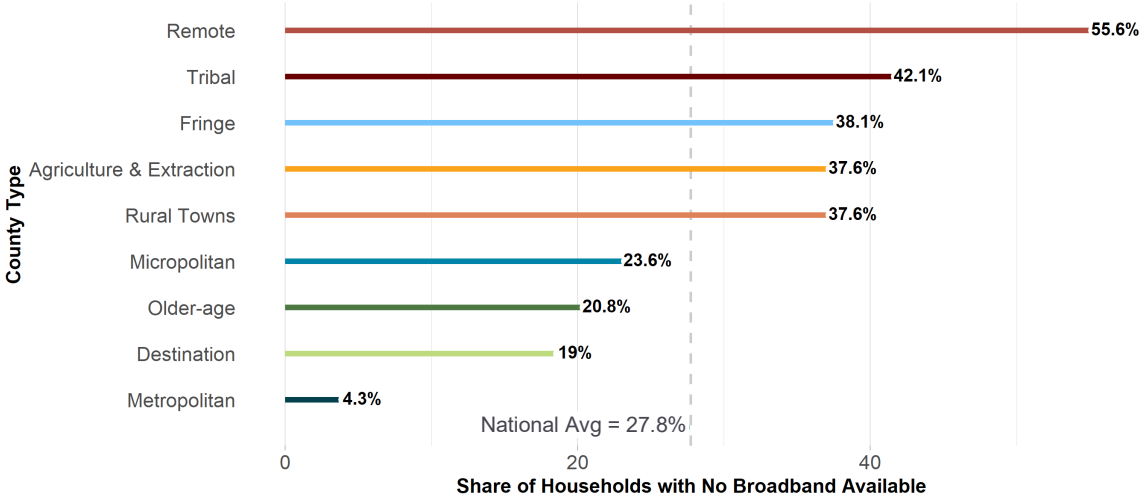

Figure 2. Share of households with no broadband available by county type.

Source: Research team analysis of FCC Connect2Health (developed from FCC Form 477, December 2015).

To highlight successful examples of strategies implemented throughout the rural U.S., the study includes the five case studies shown in Figure 3. These case studies help address nearly all the unmet needs identified, cover several county types, and are geographically dispersed.

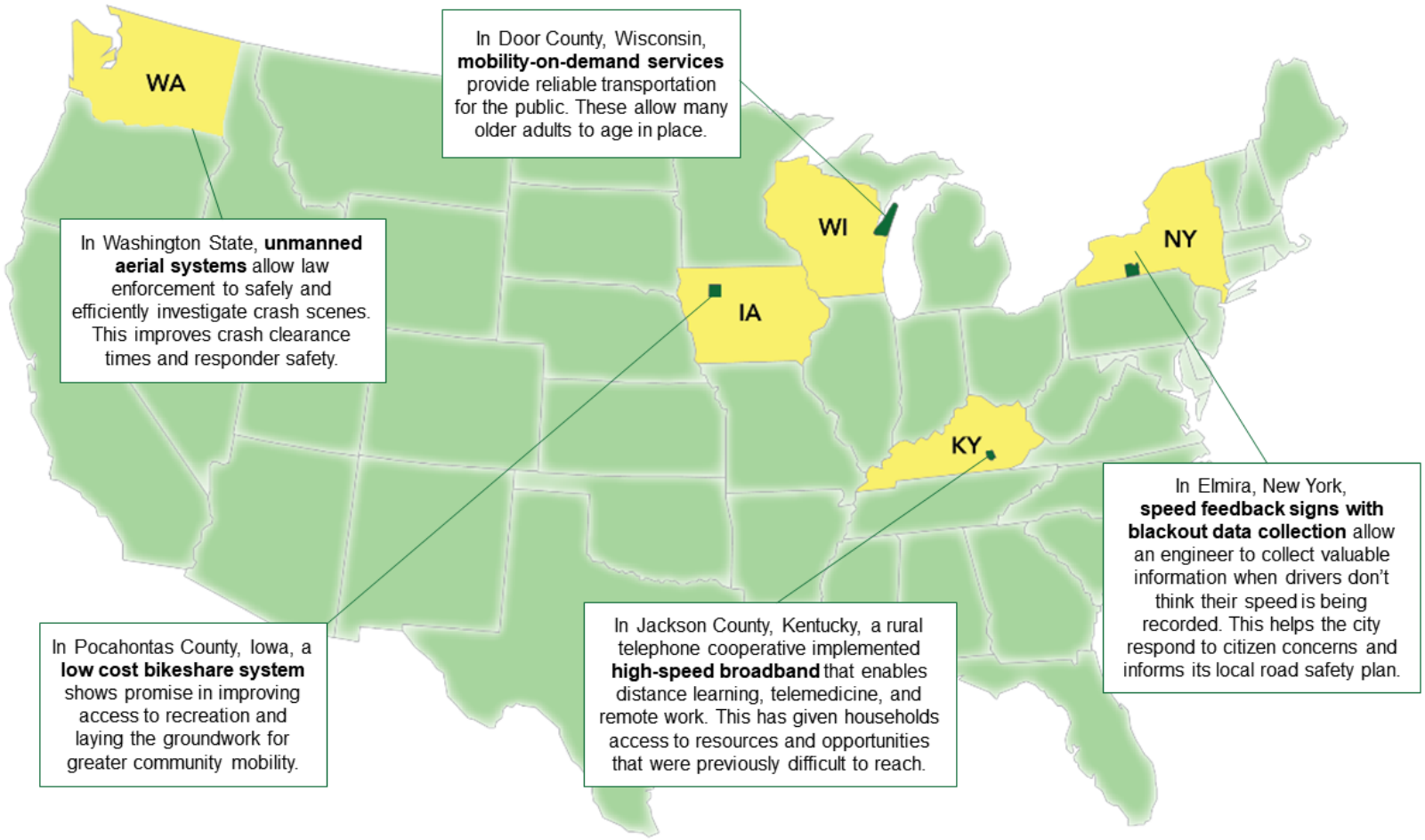

Figure 3. Case study locations and their descriptions.

Research Findings (See Chapter 6)

This study presents new detail on performance shortcomings for rural areas compared to metropolitan areas across various rural settings. The unmet needs to address these challenges are most acute in Remote counties, Agriculture & Extraction counties, and Tribal counties, where significant performance gaps exist. For example, Tribal counties have the highest vehicle fatality rate among all county types, at 1.9 fatalities per 100 million VMT. Similarly, rates of speeding-related fatal crashes are highest in Remote and Agriculture & Extraction counties, ranging from 23.5 to 25.5 percent of all fatal crashes. These county types also have relatively low access to medical facilities, education, and jobs.

By identifying these shortcomings, a rural lens can be applied to examine how new technologies and opportunities might be applied to close these gaps. Though requiring different solutions from metropolitan areas, rural areas deserve the same safety, mobility, and access. Emerging solutions offer new opportunities to address the unique challenges of rural areas, sometimes in very different ways than these technologies are being deployed in large cities.

The strategy analysis shows that, as new and emerging technologies continue to become available and cost-friendly, they can provide promising tools for improving access, mobility, and safety for rural residents. However, without access to broadband, many strategies cannot be implemented. Broadband today is synonymous with the economic benefits brought by the interstates of previous generations. Greater broadband deployments in rural areas will unlock new transportation options and transportation alternatives (such as telehealth), which together could improve connectivity and access in the way highway construction did 50 years ago.

Another common theme relates to the need for infrastructure to support non-motorized transportation in rural areas. Several strategies in the vehicle category involve more access to bicycles as an alternative transportation mode, but rural areas often lack bike lanes, separated trails, or other facilities that encourage bicycle use. Entities interested in these modes may also need to consider how to include supportive infrastructure, and in some cases vehicles, so rural residents have the same safe, healthy, low-cost, and environmentally friendly transportation choices as many metropolitan areas and equity is improved for all areas.

Finally, this research has shown that successful urban strategies cannot simply be transferred to a rural location without consideration of the infrastructure, resources, and challenges that exist in the rural environment. This research, as demonstrated in the case studies presented in Chapter 5, underscores the need for programs and expertise that are customized to rural transportation agencies and networks.

CHAPTER 1. INTRODUCTION AND APPROACH

This extensive study sheds new light on safety, mobility, and access needs in rural areas of the U.S. and identifies dozens of strategies that could be used to address such needs. The study also presents several case studies that demonstrate specific strategies in action. Uniquely, this research identifies the strategies appropriate for rural areas rather than simply applying urban solutions in the rural context.

This chapter provides a background on the purpose and motivations for the study, an overview of the research objectives, and a description of the study methodology, including the impact the COVID-19 pandemic had on the research. The methodology combines quantitative data analysis with qualitative discussions and literature reviews, which resulted in a nuanced understanding of the rural U.S. and its unique needs.

Background

New approaches are needed to improve our understanding of rural areas. Emerging technologies are providing solutions to many transportation-related issues, especially in urban areas, but the feasibility and net benefits of technology-driven transportation solutions in a rural context are relatively unknown. The application of such solutions in rural communities is hampered by several factors including low density, local awareness, and funding availability, which can be explained in part by limited research on successes and failures. Specific emerging technologies could provide many opportunities for greater safety, mobility, and access in rural communities.

The purpose of this study is to explore the potential of new technologies and opportunities in providing solutions in rural areas. The study intentionally approaches the topic through a rural lens, rather than on how technologies deployed in urban areas might be transferred to rural areas. In practice, this means specifying rural needs and their potential costs then identifying the most appropriate strategies to address them.

Research Overview and Objectives

This research provides a common understanding of the unmet safety, mobility and access needs of rural communities and their potential costs and of the applications of emerging modes and technologies that can improve rural safety, mobility, and access. Relationships are explored among the transportation technology, socioeconomics, infrastructure, travel behavior, and safety and mobility outcomes in rural areas.

The study uses data analysis, literature reviews, and case studies to accomplish several things. First, it analyzes the unique challenges faced in the rural U.S. Second, it provides insights into opportunities to turn the unique challenges of rural transportation into opportunities, including identifying dozens of strategies that may be specifically applicable to rural areas. For purposes of the study, a strategy is broadly defined as a technology, system, business model, process, or other means that helps facilitate enhanced transportation safety, mobility, and/or access. Finally, the study presents case studies that highlight lessons learned from the implementation of specific strategies. As discussed later in this report, the study found that limited access to quality broadband in rural areas is a common theme and major inhibitor to progress.

The study was guided by the following objectives:

- **Address distinct needs across diverse rural areas.** Rural areas in the U.S. have diverse populations and social/cultural characteristics. For instance, some are home to major extractive industries while others have tourism-dependent economies. Some are remote communities with limited access to resources while others are small towns at the fringes of metropolitan areas. To recognize the diversity of the rural U.S., this study defines eight distinct rural county types.
- **Consider disparate safety outcomes in the rural U.S.** Rural communities are disproportionately negatively affected by road safety issues. Of the 37,133 people who lost their lives in U.S. highway crashes in 2017, 15,565 of these deaths occurred in rural areas, making the fatality rate twice as high as in urban areas (NHTSA 2019). Adapting emerging transportation technologies and new opportunities to rural areas is a way to address this imbalance. Specifically, this research analyzes relationships among technology, infrastructure, travel patterns, and safety to better understand how to address unmet needs in rural areas through the application of emerging technologies and opportunities.
- **Recognize the unique mobility and access challenges facing rural populations.** For many residents of rural areas, access to medical care, food, education, broadband internet, and other essential goods and services is challenging. Rural mobility and access are limited by greater distances between destinations and fewer alternative means of travel for those without access to a personal vehicle (Mattson 2017). This study identifies emerging technologies and opportunities that can help address these gaps in mobility and access.

This research enhances the understanding of transportation planners and policymakers about rural communities and their unique transportation needs and opportunities. They can use insights from this research to inform how new technologies and opportunities to address mobility and safety issues in rural areas are incorporated into transportation programs and initiatives.

Impact of COVID-19 on Research

The research presented in this study was initiated in 2019, several months prior to the beginning of the COVID-19 pandemic. The pandemic and resulting social distancing requirements had a significant impact on the collection of case study data. The original plan was to complement phone conversations and publicly available data with in-person conversations and site visits in fall 2020. Though the study considered adjusting the timing of these in-person discussions to accommodate the pandemic, ultimately a decision was made to collect all data remotely (i.e., by telephone and video conference) due to the uncertainty of travel restrictions and personal safety. Though the case studies may be less comprehensive because the researchers could not collect details on site or take photographs, this approach ensured the safety of case study participants and researchers during the pandemic.

The pandemic also created the opportunity for rural residents to experiment with technology-driven solutions for mobility challenges. For example, in 2020, many underserved, rural communities in North Carolina were provided access to used school buses equipped with Wi-Fi hotspots to support telework, distance learning, and telehealth services (Childress 2020). Similarly, the pandemic has accelerated the testing and deployment of certain applications of

unmanned aerial system (UAS) delivery that could be used to increase safety and access. In North Carolina, for example, a UAS has been used to deliver personal protective equipment (PPE) to health care providers across the state during the pandemic.

Document Organization

The rest of this report is organized as follows, with each chapter building on preceding content:

- Chapter 2 defines eight distinct rural county types to be compared to Metropolitan counties and to one another in the subsequent analysis of mobility and safety needs.
- Chapter 3 uses the rural classification system to analyze mobility and safety performance measures that help identify unmet safety and mobility needs in rural areas.
- Chapter 4 presents strategies that have the potential to address the unmet mobility and safety needs.
- Chapter 5 contains case studies highlighting examples of rural organizations using various strategies to address unmet needs in their communities.
- Chapter 6 synthesizes and compiles the information gathered across the four preceding chapters.

CHAPTER 2. RURAL AREA CLASSIFICATION SYSTEM

There is significant diversity in social, cultural, and socioeconomic characteristics among rural areas in the U.S. In considering this diversity, research has tried to answer the question, "What is rural?" This study further refines this question by defining eight distinct rural county types to be compared with metropolitan areas and one another. This classification is critical to identifying unmet safety, mobility, and access needs, and to determine possible solutions appropriate for the communities where they are implemented.

Purpose of Classification System

Existing urban-rural classification systems lack the detail and organization necessary to analyze safety, mobility, and access needs in different types of rural areas. There are also inconsistent definitions of rural and urban areas across various entities, and many existing classification systems are based solely on population characteristics. This study developed a rural classification system that reflects the diversity of the rural United States and that can be used to compare how successful the possible solutions could be in one type of rural community or another.

By using quantitative analysis to define and group rural areas, this classification system reveals safety, mobility, and access gaps; helps identify gaps unique to rural areas as a group; and facilitates the understanding of potential mobility and safety outcomes. Specifically, the classification system is used to identify unmet needs (Chapter 3), potential strategies (Chapter 4), and case studies (Chapter 5). The system is flexible enough that it can be updated with the latest data to study how rural areas change over time.

Classification Process

The study reviewed existing urban-rural classification systems to build on those already in use. Appendix A provides extensive detail on the existing classification systems considered. Four of the systems reviewed that most influenced this classification system are the Office of Management and Budget (OMB) Metropolitan Statistical Area (MSA) definitions, the U.S. Department of Agriculture Economic Research Service (USDA ERS) Rural-Urban Continuum Codes (RUCC), the USDA ERS Urban Influence Codes (UIC), and the USDA ERS County Typologies.

The OMB definitions are a compact set of three categories (metropolitan, micropolitan, and non-core) based on U.S. Census Bureau population and commuting data. The ERS RUCC system offers greater nuance by considering population and adjacency to metropolitan areas. The ERS UIC system includes 12 categories that consider population, adjacency to metropolitan areas, and the presence of towns and other population clusters that are deemed too small to be considered urban. Finally, the ERS Economic Dependence County Typology system provides the greatest variety of information using many dimensions of data related to a county's employment and earnings by major industry sector.

Each existing classification system was evaluated according to four considerations:

- **Spatial detail.** Spatial detail refers to the geographic units of analysis. Classification systems require a common unit of analysis across all classification categories. The research team considered existing classification systems with spatial detail ranging from counties to Census

blocks, block groups, and tracts. Ultimately, a county-based classification system was proposed to enable analysis using most national data sets.

- **Categorical detail.** Categorical detail refers to the number and complexity of classification categories. The research team considered existing classification systems with as many as 12 categories and as few as three. This study required a classification system with enough categories to support meaningful insights about rural mobility and safety while also not obscuring important detail with too much variation. For this reason, a classification system with five to 10 categories was proposed.
- **Flexibility.** Based on the review of existing classification systems and their data sources, it was determined that the classification system needed to be flexible enough to permit different permutations and accommodate future changes in the rural U.S. Specifically, it should allow analysts to aggregate classification categories and geographic units of analysis to meet specific research needs and to also allow analysts to work with new data releases. For these reasons, the categories are defined using data sources that are updated regularly rather than according to static classifications from a single point in time.
- **Compatibility.** Finally, existing classification systems were evaluated according to their ability to support the objectives of this study, that is, to expand FHWA's understanding of critical transportation issues and to identify potential solutions to improve mobility and safety in rural communities. No existing system was directly compatible with this study.

As part of the review of existing classification systems, a test was carried out to determine how a set of preliminary, county-level performance measures reveal differences in transportation outcomes and characteristics within each classification system. These measures included vehicle crash rates, commute distance/duration, median household income, and several other important factors.

Adopted Classification System

The adopted classification system contains eight rural county types. The Metropolitan category is also included to enable comparisons between urban areas and various rural areas.

The four county types immediately following Metropolitan are based on population size, density, and spatial or economic relationship with a metropolitan area. The remaining four are based on distinct characteristics known to influence mobility and safety performance. Each county was assigned to one county type. Appendix B presents a map of county types across the U.S.

- **Metropolitan:** Metro counties were initially defined by their presence in a metropolitan statistical area (MSA) and whether they have a population density greater than 1,000 people per square mile or a total population greater than 250,000. However, all counties defined by the OMB as part of a Metropolitan area that did not meet the criteria for inclusion in any other category were also defined as Metropolitan. This was necessary to ensure that all U.S. counties were classified according to their dominant characteristics.
- **Fringe:** Fringe counties are non-metropolitan counties that are either adjacent to Metropolitan counties based on ERS RUCC Codes or are within MSAs but relatively rural (more than 50 percent of the population live outside of an urbanized area or cluster or the population density is lower than 100 people per square mile).
- **Micropolitan:** As defined by OMB as a Micropolitan area, Micropolitan counties contain one or more urbanized area with a population over 10,000 but less than 50,000 or are

adjacent to and linked economically with such a county. (Counties containing an urbanized area with a population between 10,000 and 20,000 are classified as Rural Towns.)

- **Rural Towns:** Rural Towns are not adjacent to a metropolitan area but have a population of 2,500 to 20,000, which the ERS RUCC Codes and ERS UIC Codes define as urban.
- **Remote:** Met at least one of the following parameters:
    - Population density is less than ten people per square mile, as defined by the U.S. Census Bureau for highly rural areas.
    - A UIC defines the county as a non-metropolitan rural area that does not contain a town of at least 2,500 people.
- **Agriculture & Extraction:** These are mining- and farming-oriented counties as defined by USDA ERS economic dependence typology codes.
- **Older-Age:** These are counties in which 33 percent or more of the population is over 60 years of age. Study researchers chose the 95th percentile to capture counties with unusually large Older-Age populations compared to total population (i.e., counties with the most extreme 5 percent).
- **Destination:** Destination is defined using the methodology for ERS economic dependence typology codes. In simple terms, data on employment, earnings, and seasonal housing were used to identify counties with a large amount of recreational activity. American Community Survey (ACS) data on migration were also used to determine if counties are popular among retirees.
- **Tribal:** These are counties in which 50 percent or more of the land area is designated as Tribal territory, including American Indian, Alaska Native, and Native Hawaiian.

Counties were assigned to individual categories in the order listed above to ensure counties with the most unique characteristics were separated out first (e.g., Tribal counties could also be considered Remote).[1]

Table 3 illustrates differences among the proposed categories, in order of total population. Non-metropolitan (rural) counties account for about 21 percent of the U.S. population but 83 percent of the total land area. Average population density among the rural categories ranges from 76.6 people per square mile in Micropolitan counties to 9.5 people per square mile in Remote counties. Rural counties also have a higher share of national VMT, at 27.2 percent, though they are home to only 20.7 percent of the population.

[1] Four counties were manually reclassified based on professional judgment because they had population characteristics that make them outliers within their original category. The Agriculture & Extraction county of Lafayette Parish, Louisiana, was reclassified as Metropolitan due to its relatively high population density. The Agriculture & Extraction county of St. Tammany Parish, Louisiana, and the Destination counties of St. Johns County, Florida, and Baldwin County, Alabama, were reclassified as Fringe due to relatively high populations and proximity to metropolitan counties.

Table 3. Classification characteristics of rural counties ordered by total population.

County Type	Description	Counties	% of U.S. Population (2017 ACS)	People per Sq. Mile (2017 ACS)	% of U.S. Land Area	% of VMT (2018 HPMS)
Fringe	Adjacent to a metro county	762	6.3%	54.6	11.2%	8.6%
Micropolitan	City/town population under 50K	412	6.0%	76.6	8.5%	7.3%
Destination	Recreational opportunities; popular among retirees	219	2.6%	44.3	11.5%	3.1%
Rural Towns	City/town population under 20K	261	1.7%	39.5	4.9%	2.2%
Agriculture & Extraction	Mining- or farming-oriented	347	1.3%	12.7	15.6%	2.1%
Older-Age	1/3 of population over 60	64	1.2%	66.9	2.3%	1.5%
Tribal	Half of land area is Tribal	94	0.9%	34.4	4.0%	1.3%
Remote	Less than 10 people per sq. mile; no towns over 2,500	274	0.7%	9.5	24.8%	1.1%
All Rural		**2,433**	**20.7%**	**19.9**	**82.8%**	**27.2%**
Metropolitan	Inside metro statistical area	709	79.2%	819.4	17.0%	72.8%
All Counties		**3,142**	**100%**	**79.4**	**100%**	**100%**

Note: Row totals may not sum to 100 percent due to rounding.
Acronyms used in table: American Community Survey (ACS), Highway Performance Monitoring System (HPMS), vehicle miles traveled (VMT).

Key Takeaways

The classification system builds on existing typologies by further identifying many of the unique characteristics of rural areas that inform transportation needs and issues. The system includes geospatial and socioeconomic characteristics like population size, density, and spatial or economic relationship with a metropolitan area. It also includes characteristics related to economics and culture that are known to influence mobility and safety. The classification system highlights the wide variation in rural counties across the U.S. and that rural transportation technologies and opportunities cannot be deployed using a one-size-fits-all approach.

CHAPTER 3. UNMET NEEDS ANALYSIS

The research team used the rural classification system developed for this study to analyze and prioritize the eight commonly cited unmet safety and mobility needs in rural areas. Metrics of transportation safety, mobility, and access were evaluated to better understand these unmet needs. The analysis supported development of the strategies and case studies presented in this study, which adds to the body of existing research on rural transportation. After measuring the magnitude of rural safety, mobility, and access gaps, the study also estimated the costs of not addressing certain unmet needs.

What Are Unmet Needs?

Some rural communities face challenges that can limit their development and growth relative to the nation's urban areas. These challenges can be thought of as unmet needs. For this transportation study, an unmet need represents a gap between rural transportation needs, available transportation features, and system performance. Prior to this research, FHWA had already identified some of these gaps, including the higher rate of vehicle and nonoccupant fatalities in rural areas compared with urban areas.

Process for Identifying Unmet Needs for Performance Measure Calculation

Using the eight rural county types, the research team conducted a comprehensive literature review and scan of practices to identify well-documented mobility and safety needs for further study. Needs selected for analysis cover a range of safety issues and mobility and access issues across the country. The review also focused on needs with potential technological solutions for which data could be identified for quantitative analysis. Performance measures were analyzed for eight unmet rural needs—four safety needs and four mobility and access needs. Appendix C provides additional information on needs that were explored but not selected for analysis.

Unmet Safety Needs

This section provides an overview of the four identified unmet safety needs, including the performance measures associated with each need. Appendix D provides additional detail on unmet needs and performance measures, particularly findings for county types with the greatest unmet needs.

1. Vehicle Occupant Safety

Performance Measure: Vehicle Fatality Rate

Forty-six percent of U.S. highway fatalities occur on rural roads, though rural America is home to a far smaller share of the Nation's total population (U.S. Department of Transportation 2020). For this reason, it is important to analyze how vehicle fatality rates differ in rural and urban areas.

Vehicle occupant safety was analyzed using a single performance measure. The annual vehicle fatalities per 100 million vehicle miles traveled, or vehicle fatality rate, is calculated using data from the National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS).

Analysis Findings

Annual fatality rates are higher in rural counties than in metropolitan counties. These are high-level findings from the analysis:

- Tribal counties have the highest vehicle fatality rate per VMT among the nine county types, at 1.9 fatalities per 100 million VMT.
- Remote counties and Agriculture & Extraction counties have the next highest rates, at 1.8 and 1.7 fatalities per 100 million VMT, respectively.
- For comparison, the Metropolitan county rate is 1.0 fatality per 100 million VMT.

Source: Study team analysis of FARS data grouped by the study's classification system.

If crash rates in rural areas reached parity with Metropolitan counties, there could be 4,100 fewer vehicle occupant fatalities per year. The actual human cost of these fatalities is incalculable. The monetizable cost is approximately $47.6 billion—$11.6 million per fatality—using U.S. Department of Transportation values for fatal crashes (U.S. Department of Transportation 2021).

2. Behavior-Related Vehicle Fatalities

Performance Measures: Rate of Speeding, Rate of Drunk Driving, Rate of Distracted Driving, and Rate of Restraint Use in Fatal Crashes.

Fatalities caused by driver behavior are all more common in rural areas than in urban areas. Unfortunately, rural areas often have fewer resources for education and enforcement programs to discourage dangerous driver behavior; with less prevention, more drivers are comfortable making risky decisions (Martin 2018). For these reasons, it is important to consider how emerging technologies can help address this unmet need. The study analyzed behavior-related vehicle fatalities using four performance measures: speeding, drunk driving, distracted driving, and restraint use.

Analysis Findings

Fatalities caused by speeding, drunk driving, distracted driving, and traveling without safety restraints are all more common in rural areas than in urban areas. The following are high-level findings from the analysis:

- **Speeding:** Nationally, about 20 percent of fatal crashes involve speeding. Rates of speeding-related fatal crashes are higher than the national average in Remote, Agriculture & Extraction, and Destination counties, where they range from 23.5 to 25.5 percent. The rate in Rural Towns counties is 16.4 percent, the only rate lower than in Metropolitan counties (17.7 percent).
- **Drunk Driving:** Rates of fatal crashes that involved a drunk driver are highest in Remote, Agriculture & Extraction, Destination, and Tribal counties, where they range from 22.6 to 28.9 percent and are above the national average of 19.6 percent. All rural county types have higher rates than the 18.7 percent in Metropolitan counties.
- **Distracted Driving:** In all rural county types except Destination counties, the average rate of fatal crashes involving a distracted driver is higher than the 9 percent national average. Remote counties and Agriculture & Extraction counties have the highest rates, at 14.7 percent and 13.5 percent, respectively. All nine rural county types (including Destination) have a higher rate than the 8.4 percent in Metropolitan counties.
- **Restraint Use:** In all rural county types, the average percentage of occupants involved in fatal crashes who were unrestrained or unhelmeted is higher than the 39.7 percent average for Metropolitan counties. Remote counties have the highest average rate, at 54.6 percent.

Source: Study team analysis of FARS data grouped by the study's classification system.

Using a similar methodology as described in the previous section, the estimated annual costs of not addressing certain behavior-related vehicle fatalities in rural areas include the following (in 2018 dollars):

- 900 speeding-related fatalities valued at $9.7 billion
- 1,100 drunk driving-related fatalities valued at $11.9 billion
- 200 distracted driving-related fatalities valued at $2.1 billion
- 1,000 unrestrained occupant fatalities valued at $9.6 billion

3. Pedestrian and Cyclist Safety

Performance Measures: Pedestrian Fatality Rate and Cyclist Fatality Rate

Rural roads can be unsafe for pedestrian and cyclists. Small communities may lack the infrastructure necessary for safe walking, cycling, and wheelchair rolling. Pedestrians and cyclists are also at risk because vehicles tend to travel at high speeds on low-volume roadways (Safe Routes to School National Partnership n.d.). Lack of funding is another obstacle to creating safe walking and cycling conditions in rural areas (Villwock-Witte 2019). Another is that most destinations in rural areas tend to be far apart and connected by high-speed arterial roads. The following analysis describes the differences in pedestrian and cyclist safety for rural and urban counties.

Pedestrian and cyclist safety were analyzed using two performance measures: pedestrian fatalities per 100 million miles walked and cyclist fatalities per 100 million bicycle miles traveled. In addition to FARS data, these performance measures used confidential 2017 National Household Travel Survey (NHTS) data on the number of miles traveled by mode.

Analysis Findings

Nearly all rural county types have higher pedestrian and cyclist fatality rates than Metropolitan counties. The following are high-level findings from the analysis:

- **Pedestrians:** Fringe counties and Agriculture & Extraction counties stand out as the most dangerous for pedestrians, with over 45 fatalities per 100 million miles walked (over 2.5 times the average in Metropolitan counties). Micropolitan counties are relatively safe for pedestrians.
- **Cyclists:** Tribal counties have the highest bicycle fatality rate among the nine county types, at 95 fatalities per 100 million bicycle miles traveled. This rate is 10 times the national average and the average for Metropolitan counties. Destination counties and Rural Town counties have relatively low cyclist fatality rates.

Source: Study team analysis of FARS crash data combined with confidential NHTS 2017 sample data and grouped by the study's classification system.

Using a similar methodology as described in the previous sections, the estimated annual costs of not addressing pedestrian and cyclist safety in rural areas include the following (in 2018 dollars):

- 279 pedestrian fatalities valued at $2.7 billion
- 60 cyclist fatalities valued at $576 million

4. Emergency Response Times

Performance Measure: Average EMS Crash Response Time

Emergency medical services (EMS) are a safeguard to ensure people have access to time-sensitive, life-saving medical treatments for injuries resulting from crashes. However, in rural places where EMS service areas tend to be geographically large and sparsely populated, response times can be lengthy. This unmet need was measured though a single performance measure: average EMS response time to a crash in minutes.

Analysis Findings

All rural county types have greater EMS response times than in Metropolitan counties. The following are high-level findings from the analysis:

- Three rural county types have higher EMS response times than the national average of 13 minutes: Remote counties (17.7 minutes), Agriculture & Extraction counties (14.9 minutes), and Tribal counties (14.5 minutes).
- Fringe counties, Rural Town counties, and Destination counties all have average EMS response times of 12.4 minutes, slightly lower than the national average but still almost four minutes longer than in Metropolitan counties.

Source: Study team analysis of FARS data grouped by the study's classification system.

Improving EMS response times in rural counties could generate costs savings by saving more lives. Research has found that, for the most critical incidents, a one-minute delay in response times can increase mortality rates by 1 percent to 2 percent (RapidSOS 2015). Additionally, for medical conditions that affect the passage of blood to the heart and brain (e.g., cardiac arrest, stroke), each minute of response delay can increase treatment costs by 7 percent. These costs include longer stays in an intensive care unit (ICU), additional procedures, and slower recoveries.

In rural counties, 47.4 percent of crashes had an emergency response time of more than 10 minutes. In Metropolitan counties, only 24.2 percent of crashes had response times greater than 10 minutes. This suggests that, in addition to lives saved, there could be significant cost savings if response times were lower in rural counties.

Unmet Mobility and Access Needs

This section provides an overview of the four identified unmet mobility and access needs, including a sample of the performance measures associated with each need. These unmet mobility and access needs have been amplified by the COVID-19 pandemic. Appendix D provides additional detail on unmet needs and performance measures, particularly findings for county types with the greatest number of unmet needs.

1. Access to Medical Care

Performance Measures: Travel time to medical facility, Hospital proximity, Percent of counties without an ICU, ICU Bed Rate, Primary Care Physician Rate.

Access to medical care is an increasing concern for rural residents, in part because of ongoing rural hospital closures (Ollove 2020). The following analysis shows that, compared to urban residents, rural residents live farther, on average, from medical facilities. These include hospitals and facilities providing primary care, dental services, mental health services, prenatal care, and substance abuse treatment.

This unmet need was measured using seven performance measures:

- **General medical facilities:** Average travel time in minutes to a general medical facility
- **Hospitals:** Percentage of the population living more than 30 minutes from a hospital (with emergency department)
- **Intensive care:** Percentage of counties without intensive care unit (ICU) beds
- **Intensive care:** Average number of ICU beds per 10,000 people
- **Primary care:** Primary care physicians (PCPs) per 10,000 people
- **Substance abuse treatment:** Average distance in miles to a substance abuse treatment facility that provides medication-assisted treatment
- **Substance abuse treatment:** Average distance in miles to a syringe services program

Analysis Findings

Across several performance measures, rural counties have lower overall access to medical care than Metropolitan counties. The following are high-level findings from the analysis:

- **General medical facilities:** Agriculture & Extraction counties have the longest average travel time to a general medical facility, at nearly 43 minutes. All rural county types except Older-Age counties have travel times greater than the average of 25.7 minutes for Metropolitan counties.
- **Hospitals:** In the average Remote county, over one-third of the population lives more than 30 minutes from a hospital. This is the highest percentage among all county types and over four times the average in Metropolitan counties. Agriculture & Extraction and Destination counties also have relatively low hospital access.
- **Intensive care:** More than 90 percent of Remote counties have no ICU beds, compared to only 11 percent of Metropolitan counties. Rates vary widely for all other county types. Agriculture & Extraction counties have the fewest of all county types, at 0.3 ICU beds per 10,000 people. By comparison, Metropolitan counties have an average of 2.5 ICU beds per 10,000 people.
- **Primary care:** Fringe counties have the lowest number of PCPs per 10,000 people (4.3 PCPs) and Metropolitan counties have the greatest (7.9 PCPs). All rural county types have a lower rate than the national average of 7.3 PCPs per 10,000 people.
- **Substance abuse treatment:** In the average Remote county, the nearest facility that offers medication-assisted treatment is over 48 miles away, over five times the distance in the average Metropolitan county (8.9 miles). All rural county types have greater average distances than the Metropolitan county average and national average of 8.8 miles. Agriculture & Extraction counties have the greatest average distance to a syringe services program, at 164 miles. This is 89 miles farther than the national average and 92 miles farther than the average in Metropolitan counties.

Sources: Study team analysis of NHTS data (general medical facilities), Centers for Medicare and Medicaid Services (hospitals), Kaiser Family Foundation (intensive care), Federal Communications Commission (primary care), and the Foundation for AIDS Research (substance abuse treatment) grouped by the study's classification

The potential costs of not addressing access to medical care could include the following (in 2018 dollars):

- $200 per missed appointment for physicians, which could be passed on to patients (Gier 2017)
- $524.6 million in annual travel time costs

In addition, rural residents may experience negative health impacts stemming from the relatively long distances they travel for medical care. One study found that 7.7 percent of surveyed patients delayed medical care because of distance to a provider (Syed, Gerber and Sharp 2013). As many as 4.7 million rural residents could delay medical care because of distance to a medical facility. Assuming conservatively that people make two trips to a non-emergency medical appointment per year, the annual per-capita travel time is 134 minutes in rural counties and 103 minutes in Metropolitan counties. This difference can be monetized using USDOT values for personal travel time of $15.20 per person-hour (in 2018 dollars) (U.S. Department of Transportation 2020).

2. Access to Food

Performance Measure: Grocery store proximity.

In 2019, 12.1 percent of rural households were food insecure compared with 10.5 percent of all U.S. households (Coleman-Jensen, et al. 2020). The single performance measure in this category is the average share of the population living 10 miles or more from a supermarket.[2]

Analysis Findings

Residents of rural counties are more likely to live farther than 10 miles from a supermarket than their urban counterparts. The following are high-level findings from the analysis:

- In the average Agriculture & Extraction county, over 35 percent of the population lives more than 10 miles from a supermarket.
- All rural county types have lower access to supermarkets than the average Metropolitan county, where only 1 percent of the population lives more than 10 miles from a supermarket.

Source: Study team analysis of USDA Economic Research Service data grouped by the study's classification system.

[2] Defined by the U.S. Department of Agriculture as a "supermarket, supercenter, or large grocery store" (https://www.ers.usda.gov/data-products/food-access-research-atlas/documentation/).

The potential cost of not addressing access to food could include the following (in 2018 dollars):

- $58.3 million annually if the average vehicle trip to a supermarket was one mile farther in rural counties than in Metropolitan counties

Similar to medical care access, shorter distances to supermarkets could save residents travel time. Approximately 7.7 million people in rural counties live more than 10 miles from a supermarket, compared to 2.5 million people in Metropolitan counties. Considering that the primary shopper in a household makes 1.5 store trips per week and the average household contains 2.6 people,[3] rural residents could collectively make 153.5 million more supermarket trips that are 10 miles longer than their urban counterparts (Food Marketing Institute 2015). The analysis conservatively assumes that the average vehicle trip to the supermarket is one mile farther in rural counties than in Metropolitan counties and travel speeds are 40 miles per hour (a 1.5-minute savings per trip).

3. Access to Education and Jobs

Performance Measures: Average travel time to school, Community college proximity, Four-year college proximity.

In rural communities, transportation can be a challenge for both K-12 and post-secondary students, creating a potential barrier for rural students to acquire the same education as their urban peers (Smith 2017). The study analyzed access to three types of education: average travel time in minutes to a K-12 school, percentage of the population living over 30 minutes from a community college, and percentage of the population living over 30 minutes from a four-year college.

[3] 2018 American Community Survey 1-Year Estimates

Analysis Findings

Across three performance measures, rural counties have lower overall access to education than Metropolitan counties. The following are high-level findings from the analysis:

- **K-12 schools:** Most rural county types have slightly higher travel times to K-12 schools than in Metropolitan counties. Fringe counties have the greatest average travel time, at 23.8 minutes. The national average is 20 minutes, and the average for Metropolitan counties is 19.7 minutes.
- **Community colleges and vocational schools:** In Remote and Agriculture & Extraction counties, over 80 percent of the population lives more than 30 minutes from a community college or vocational school. Only 20 percent of the population in the average Metropolitan county lives that far.
- **Four-year colleges and universities:** Over 75 percent of the population of the average Remote county lives more than 30 minutes from a four-year college or university. The second highest is Agriculture & Extraction counties, with 68% of their population living more than 30 minutes.

Sources: Study team analysis of NHTS (K-12 schools) and National Center for Education Statistics (post-secondary schools) data grouped by the study's classification system.

The potential costs of not addressing access to higher education could include the following (in 2018 dollars):

- $8.4 billion in foregone annual earnings if 1 percent of the rural population did not pursue an associate degree because of distance to the nearest community college or vocational school[4]
- $19.1 billion in foregone annual earnings if 1 percent of the rural population did not pursue a bachelor's degree because of distance to the nearest four-year college or university

This analysis is based on research showing that lower levels of postsecondary education could result in lower lifetime earnings or higher chances of falling into poverty (Smith 2017). Someone with an associate degree will earn about $12,600 more per year than someone with only a high school diploma (in 2018 dollars) (Carnevale, Rose and Cheah 2011). Someone with a bachelor's degree will earn about $28,700 more per year than someone with only a high school diploma.

[4] Assumed to be 666,000 people, all of whom have high school diplomas and no postsecondary education.

4. Broadband Availability

Performance Measures: Broadband availability rate, Average service speeds.

Although broadband has the potential to provide significant benefits for rural communities, many rural residents lack access to fast and reliable internet service. This represents a significant missed opportunity since broadband supports many transportation technologies and can sometimes replace trips through telehealth and remote learning. (Chapter 5 presents a case study on broadband and remote learning.)

Broadband availability was measured in two ways: percentage of the population without broadband and the most common download and upload speed by county. The Federal Communications Commission (FCC) considers access to broadband as reliable internet service with a minimum download speed of 25 megabytes per second and a minimum upload speed of 3 megabytes per second.

Analysis Findings

The average rural county has lower broadband availability than the average Metropolitan County. The following are high-level findings from the analysis:

- In the average Remote county, about 56 percent of households have no broadband available. This is higher than the national average of 27.8 percent and the average for Metropolitan counties of 4.3 percent.
- The share of households without broadband is higher than the national average in five of eight rural county types: Tribal, Fringe, Agriculture & Extraction, Rural Towns, and Remote.
- Remote counties have significantly lower download and upload speeds than Metropolitan counties.

Source: Study team analysis of FCC Connect2Health data grouped by the study's classification system.

One benefit of broadband is how it enables telemedicine appointments via video. The potential cost of not addressing broadband availability includes the following (in 2018 dollars):

- $1.1 billion in foregone annual travel time savings from not having the ability to replace in-person medical appointments with telemedicine (other benefits are difficult to monetize)

The study estimated the cost of not being able to replace trips to medical appointments with telemedicine using the same methodology as for estimating costs of medical facility travel times. The analysis assumes that by using telemedicine the average rural household could make one trip to a non-emergency medical appointment per year instead of two.

Influence of Vehicle Availability on Unmet Needs

Across all the unmet safety, mobility, and access needs, travel distances to medical care, food, education, and other needs are greater in rural areas than in urban areas. Long distances are an obstacle for rural residents, especially if they lack access to a vehicle, transit, or some other

means of travel. Most rural transit agencies offer only demand response services that require passengers to plan and schedule a ride well in advance. Therefore, even when transit service is available in a rural area, it is often not a viable option for spontaneous trips. Because personal vehicles offer more flexibility than transit service, the study analyzed vehicle availability levels for all nine county types.

The analysis found that rural counties tend to have higher levels of vehicle availability (i.e., at least one privately owned vehicle available per household) than Metropolitan counties. Though many rural residents lack access to a vehicle, this finding implies vehicle availability itself is not a significant unmet need compared to urban areas. (In other words, fewer households lack access to a vehicle in rural areas than in urban areas.)

However, this is not to suggest that increasing vehicle availability (or access to reliable vehicles) in rural counties would not improve mobility. For example, the USDA's Food Research Atlas measures the share of housing units without a vehicle and located farther than a half-mile from a supermarket. In the average Remote county, the share is 5.6 percent, the highest among rural county types. In the average Metropolitan county, the share is 4.3 percent.

Key Takeaways

Key unmet safety needs in rural areas include vehicle occupant safety, behavioral safety issues such as speeding, pedestrian and cyclist safety, and EMS response times.

Unmet mobility/access needs include access to medical care, access to food, access to jobs and education, and access to quality broadband. These unmet needs also exist in urban areas but tend to be more pronounced in rural areas due to long distances between communities and other geographic, demographic, and socioeconomic characteristics. Many of these needs have also been exacerbated by the COVID-19 pandemic.

Places with the greatest unmet needs are Remote counties, Agriculture & Extraction counties, and Tribal counties. Across all county types, broadband was found to play a significant role, either in limiting or enabling efforts to meet the seven other unmet needs.

CHAPTER 4. STRATEGIES TO ADDRESS UNMET NEEDS

Various strategies can help address unmet safety, mobility, and access needs. A strategy is broadly defined as a technology, system, business model, process, or other means that helps facilitate enhanced transportation safety, mobility, and/or access. A more in-depth discussion of the strategies is included in Appendix E.

Strategy Development

Strategies were developed based on the knowledge of the project team and extensive outreach to rural organizations to gather novel or promising examples. The strategies highlighted in the following sections show strong potential for improving rural mobility, access, and safety based on the following screening questions:

- Does it solve a clear, unmet need?
- Does it impact many people?
- Is it scalable/feasible?
- Does it apply an emerging technology/opportunity?
- Does it impact more than one type or rural county?
- Is there a known example in practice?

The strategies fall into four categories:

- Broadband (strategies B-1 through B-4)
- Vehicles (strategies VEH-1 through VEH-16)
- Improved communications (strategies C-1 through C-9)
- Infrastructure and program development (strategies I&P-1 through I&P-16)

Broadband is a common need across all four strategy areas. Another common need is for the infrastructure to support non-motorized transportation in rural areas. Successful urban strategies cannot simply be transferred without considering the infrastructure, resources, and challenges of rural areas, such as large geographic areas, tough terrain, low population density, lack of cell service and/or broadband, and fewer route options. This underscores the need for programs and expertise customized to rural transportation agencies and networks.

Broadband Strategies

Broadband generally describes high-speed internet access that is continuously available and faster than dial-up internet service. It includes several types of transmission technologies, such as a digital subscriber line (DSL), cable modem, fiber, wireless, and satellite (Federal Communication Commission 2014). This study identified numerous strategies that relate to broadband across all categories (including vehicles, improved communications, and infrastructure and program development). In particular, the presence, absence, or quality of broadband service directly impacts the ability to meet unmet needs with emerging business models, technologies, and other innovative solutions.

Much of the rural U.S. still lacks a high-speed connection to the internet. Even if a connection were available, it remains unaffordable for some low-income individuals. Furthermore, though the central core of a small, rural community may have access, individual homes in less-populated areas may not due to topographic limitations or because for-profit companies do not find it commercially viable to offer these connections.

Having a fast, reliable connection to workplace systems means employees can work remotely. Without high-speed internet, rural job opportunities are more limited. Broadband also expands access to many educational, job training, and healthcare services. Connecting all residents in rural areas with high-speed internet bolsters economic opportunities and quality of life.

The research identified four broadband strategies:

- Wi-Fi hotspots (B-1)
- Fiber installations during rehabilitation/maintenance of roadways (B-2)
- Fiber installations during multi-use trail implementation (B-3)
- Rural connectivity hubs (B-4).

B-1 Wi-Fi hotspots: Often broadcast from public entities like libraries, Wi-Fi hotspots provide access for those without wireless connection or who cannot afford to pay for the connection (Halpern 2019). During the COVID-19 pandemic, some communities helped close the connectivity gap by using school buses equipped with Wi-Fi hotspots to provide internet access to rural and underserved areas. Students could access classes and residents could connect to telehealth providers, apply for jobs, and gain access to other critical services (Childress 2020).

B-2 Fiber installations during rehabilitation/maintenance of roadways: Bundling projects can often mitigate costs and contribute to accelerating the connectivity of more rural residents. According to a U.S. Government Accountability Office (GAO) report, "Utah DOT, in comparing two rural broadband deployment projects, estimated cost savings of roughly 15.5 percent per mile when conduit and fiber were installed during a road project rather than being installed independent of a road project" (U.S. Government Accountability Office 2012). However, this approach generally benefits the communities and residences near highways and interstates but not more remote locations.

B-3 Fiber installations during multi-use trail implementation: Installing fiber when constructing trails is another approach that may enhance the rural transportation network and support USDOT's multi-modal transportation efforts. Multi-use trail networks for cyclists, pedestrians, and other users are often designed to connect small, rural communities and shorten the distances users must typically travel to gain connectivity (Godavarthy, Hough and Libberton, et al. 2019), (Kerr-Tar Regional Council of Governments 2018). Furthermore, users feel safer while using the trail because they have access in emergency situations.

B-4 Rural connectivity hubs: Hubs are centralized locations where residents can access broadband for a variety of activities. In Cook County, Minnesota, considered the "end of the line" for broadband service in the state, a converted church called North Shore Campus serves as a rural connectivity hub by allowing students to take online college courses (Vogel 2011).

Chapter 5 includes a case study of a rural connectivity hub in Jackson County, Kentucky.

Vehicle Strategies

Sixteen strategies involve technologies installed in vehicles or services that are provided by various types of vehicles in new ways:

- In-vehicle speed limit and speed information (VEH-1)
- Unmanned aerial systems/vehicles (VEH-2)
- Meals and reading vehicles (VEH-3)
- Carsharing (VEH-4)
- Ridesharing (VEH-5)
- Microtransit (VEH-6)
- Transportation network companies (VEH-7)
- Mobility-on-demand (VEH-8)
- Consolidated pick-up of rural students (VEH-9)
- Extension of bus lines (VEH-10)
- Intelligent carpool mapping systems (VEH-11)
- E-scooters (VEH-12)
- Bicycle libraries (VEH-13)
- Bikeshare (VEH-14)
- Connected vehicles (VEH-15)
- Autonomous vehicles (VEH-16)

VEH-1 In-vehicle speed limit and speed information: Recent technological advances such as expanded informational and warning messages can warn drivers if they are operating a vehicle at unsafe speeds or miss the posted speed limit if a sign was obstructed.

VEH-2 Unmanned aerial systems/vehicles (UAS/UAV): Also called drones, these are becoming popular for a myriad of safety, mobility, and access applications. UAS applications include delivery of medical supplies and equipment (Mendoza 2020), delivery of groceries (Vincent 2020) (de Leon 2020), infrastructure inspection and monitoring (Wells and Lovelace 2018), and crash investigations (The Pew Charitable Trusts 2018) (National Operations Center of Excellence 2020) (Banse 2019) (Gettinger 2018). UAS are often deployed to avoid having to place a person in a potentially unsafe situation.

Chapter 5 includes a case study on how the Washington State Patrol has used UAS to reduce the time needed to collect crash and crime scene data, in turn reducing road closure times.

VEH-3 Meals and reading vehicles (MARVs): Old school buses are used to transport food and books so children can eat healthy meals and have access to educational materials. Historically, MARVs helped address these access needs during the summer when school was out of session, and the same model is being employed during the COVID-19 pandemic. An example is in Iola, Kansas, where every summer buses provide books and food to children living outside the core of the small community (Robert Wood Johnson Foundation n.d.).

The following five strategies (**VEH-4, VEH-5, VEH-6, VEH-7,** and **VEH-8)** provide alternative access to private automobile travel or a similar travel experience by using small vehicles in some type of shared concept to increase mobility. These strategies have been frequently deployed in urban areas but may need to operate differently to be successful in rural settings.

VEH-4 Carsharing: This service provides individuals "temporary access to a vehicle without the costs and responsibilities of ownership… Typically, the carsharing operator provides insurance, gasoline, parking, and maintenance. Generally, participants pay a fee each time they use a vehicle" (Federal Highway Administration 2020). Car rental agencies have begun to identify and address barriers to providing vehicles to low-income families, such as working cooperatively with lenders as in a carsharing program in Needles, California (Godavarthy and Hough 2019). Car rental agencies typically require a credit card, not a debit card, which may make carsharing inaccessible for many rural residents. Some carsharing entities, like CarShare Vermont, are helping address the specific needs of users, by offering pickup trucks, recreational vehicles, or fuel-efficient vehicles (CarShare Vermont 2020).

VEH-5 Ridesharing: The term ridesharing refers to activities like carpooling and vanpooling where multiple travelers with similar origins and destinations ride together either in an arranged trip (vanpooling) or by joining a private trip (carpooling) but differs from carsharing, for which the vehicle is common to multiple users rather than the trip purpose or destination. Most commonly, people use rideshare for commuting to work or for higher education. A rural rideshare service using electric vehicles has been implemented in agricultural communities in California's San Joaquin Valley (EVgo 2018). Technology has especially increased informal carpooling possibilities by providing marketplaces for drivers and riders to find each other. This matching is sometimes referred to as social carpooling, and apps offering this technology have been deployed in suburban and small urban settings.

VEH-6 Microtransit: "This is a privately owned and operated shared transportation system that can have fixed routes and schedules, as well as flexible routes and on-demand scheduling. The vehicles generally include vans and buses" (Federal Highway Administration 2020). A microtransit strategy may offer a more flexible service than ridesharing (VEH-5) while using a larger vehicle and more trip consolidation that transportation network companies (VEH-7). Microtransit has been successfully implemented in Wilson, North Carolina, where on-demand vans replaced a traditional bus system, resulting in greater transit coverage for the rural community and an increase in ridership (Via 2021).

VEH-7 Transportation network companies (TNCs): Also called ridesourcing, these companies "provide prearranged and on-demand transportation services for compensation, which connect drivers of personal vehicles with passengers" (Federal Highway Administration 2020). Though the concept of ridesharing emerged in the 1980s, the use of technology such as smartphones has made ridesharing more convenient and easily accessible (Villwock-Witte 2019). TNCs are different than ridesharing, as there is an expectation by drivers to earn income (Villwock-Witte 2019). More recently, TNCs have provided non-emergency medical transport (NEMT) for grocery access and to enable access to jobs and education.

VEH-8 Mobility-on-demand (MOD): This strategy is "a multimodal, integrated, and connected transportation system in which mobility is a commodity and service" (Federal Highway Administration (FHWA) 2020). The MOD model integrates the various modes of transportation available within a community. A central agency serves as the hub and organizes available transportation options to schedule and coordinate rides for individuals.

Chapter 5 includes an example of a MOD system in Door County, Wisconsin, and describes how the system, Door-Tran, coordinates a variety of transportation solutions for residents.

VEH-9 Consolidated pick-up of rural students: This strategy would consolidate rural K-12 students into a single location, shortening the first mile/last mile access to education by achieve an economy of scale that allows an economical bus service to replace longer individual trips. Parents "in one rural school district… banded together and hired their own school bus to take students to another district" to enable their children to have access to better education (Meltzer 2018).

VEH-10 Extension of bus lines: The last mile can impact a student's ability to get to higher education. When an institution of higher education provides an extension of bus lines, connectivity can improve and allow an individual to pursue such opportunities. Public transportation is still primarily viewed as an urban need, but recently there have been emerging opportunities, like at the University of Arkansas Fort Smith, that extend beyond the suburban barrier.

VEH-11 Intelligent carpool mapping systems: Geographic information system (GIS)-based mapping systems assist users in coordinating rides among other users. Using GIS, a map could be created to show where a user needs to be picked up and dropped off. This would allow users to easily find others nearby who need a ride for an essential trip. Some GIS systems can provide additional information such as trip distance or other transportation options.

The following three strategies (**VEH-12, VEH-13,** and **VEH-14**) present methods to improve access to active transportation modes. These strategies work better in communities that have some infrastructure to support active transportation (e.g., bicycle lanes, multi-use paths, protected cycle tracks, bicycle racks) or where low-volume roadways exist and the culture can facilitate safe travel.

VEH-12 E-scooters: E-scooters use a motor and recent advancements in technology for payment. E-scooters require less physical activity than walking or cycling and have become particularly popular in communities with universities or private high schools, suggesting the appeal of additional mobility to these user groups. Rural applications include Bozeman, Montana, a small urban area in a Destination county where e-scooters can be used to access key commercial districts and downtown (Loveridge 2020). Morehead, Kentucky, is another example.

VEH-13 Bicycle libraries: These services loan bicycles to users, often through a library in a community or visitor center. Bicycle libraries have been a mobility solution in rural areas, as a feasible step between individual bike ownership and the bikesharing systems more common in urban areas. Bicycle libraries often simply require a user to sign a liability release form. Examples of bicycle libraries are found in Iola, Kansas; Machias, Maine; Millicent, Maine; and

Newkirk, Oklahoma (Robert Wood Johnson Foundation n.d.), (Gedon 2019), (Villwock-Witte 2019).

VEH-14 Bikeshare: Bikeshares provide rentals to users for short-term use and has grown in popularity in the U.S. since 2010. With technology, applications (apps) associated with bikeshare systems can provide information about the availability of bicycles at stations. There are both docked and dockless systems. A docked system requires that the bicycle be returned to a station, whereas a dockless system allows users to leave a bicycle at their destination. An app usually accompanies such a system so the user can find either a bicycle (dockless system) or a station (docked system). Bikesharing often assists with first mile/last mile gaps not serviced by public transportation; however, in a rural area, bikesharing may better suit small communities with active transportation infrastructure already in place.

Chapter 5 includes an example of a bikeshare system in Pocahontas, Iowa.

VEH-15 Connected vehicles: These systems "enable safe, interoperable networked wireless communications among vehicles, the infrastructure, and passengers' personal communications devices" (U.S. Department of Transportation n.d.). There have been limited implementations to date in rural areas. The standout example is Wyoming's Connected Vehicle Pilot Deployment Program, which uses vehicle-to-infrastructure (V2I) communication to provide "roadside alerts, parking notifications and dynamic travel guidance" (U.S. Department of Transportation n.d.). Other ongoing studies, including the National Cooperative Highway Research Program's 08-120, *Initializing the Systems Engineering Process for Rural Connected Vehicle Corridors,* contribute to filling the gap (The National Academies of Sciences, Engineering, and Medicine n.d.). A 2017 study, *Rural Connected Vehicle Gap Analysis: Factors Impeding Developing and Recommendations for Moving Forward*, helped identify the need for connected vehicles in the rural context (Intelligent Transportation Society of America 2017).

VEH-16 Autonomous vehicles (AVs): These systems use automation so vehicles can operate with little or no human assistance (Federal Highway Administration 2020). In rural areas, AVs can provide significant safety benefits, even without full automation. SAE International automation levels 1 through 3 require drivers to maintain control while offering several forms of assistance that help avoid human error, including acceleration, braking, and steering assistance. The University of Iowa is currently researching automated driving systems (ADS) with the goal of testing ADS on rural roadways to improve mobility and quality of life for rural residents (University of Iowa 2021).

Improved Communication Strategies

Nine strategies facilitate or expedite information exchange among systems, devices, and users, resulting in safety or mobility benefits to users:

- Automated speed enforcement (C-1)
- Real-time feedback of speeding information on local display boards with blackout data collection (C-2)
- Crash detection technologies (C-3)

- Railroad crossings notifications via smartphone apps (C-4)
- Mobility-as-a-Service (C-5)
- Telehealth treatment clinics (C-6)
- Direct digital connections between small farmers and consumers (C-7)
- Apps from on-scene communication (C-8)
- Technical assistance with ITS technology planning, implementation, and maintenance (C-9)

C-1 Automated speed enforcement: In rural areas, there are a limited number of patrol officers and many miles of roadway to cover. Automated speed enforcement systems have been employed to reduce resource requirements while also reminding drivers of the posted speed limit.

C-2 Real-time feedback of speeding information on local display boards with blackout data collection: These devices display the driver's speed and remind them of the posted speed limit. Some jurisdictions have had additional success by alternating between live and blacked-out (i.e., no information conveyed to the motorist) to get a "true" measure of speed when drivers do not think their speed is being captured. Such test results may warrant additional law enforcement efforts to address speeding.

Chapter 5 describes how Elmira, New York, uses real-time feedback of speeding information on local display boards with blackout data collection.

C-3 Crash detection technology: Technologies like automated crash notification systems or smartphone apps like SOSmart or Life360 notify a response center of a crash or vehicle breakdown. These systems can be activated by a user or activate automatically during a crash and can improve emergency response times to the scene. As discussed in Chapter 3, average emergency response times are nearly 18 minutes in Remote counties, greater than the national average of 13 minutes. Response times in Agriculture & Extraction counties and Tribal counties are also greater than the national average. Crash detection technology can therefore be critical to improving patient outcomes and limiting travel disruptions in these areas.

C-4 Railroad crossings notifications via smartphone apps: The Google Maps and Waze smartphone apps have expanded their capabilities to provide alerts to users when they are approaching a railroad crossing (Moreno 2021). In rural areas where railroad crossings do not have warning signage or gates, these apps could provide vital safety information to travelers.

C-5 Mobility-as-a-service (MaaS): This system creates a unified location where users can schedule and pay for their trip from multiple transportation agencies. MaaS helps inform users of all their transportation options, improving access to mobility in rural areas (Foenix: Mobility Rising n.d.).

C-6 Telehealth treatment clinics: These services use digital information and technologies like smartphones and computers for remote access to health care services and providers. These programs can be particularly effective in rural areas where an individual may otherwise need to drive long distances to healthcare. Telehealth has been successfully used for patient counseling, monitoring chronic conditions, and basic medical care. In 2012, the Eastern Montana Telemedicine Network began the Promoting Realistic Individual Self-Management (PRISM)

program for diabetes patients. This program improved patient outcomes by using telehealth to promote blood sugar monitoring, diet management, and counseling (Holloway, et al. 2011). As a result of COVID-19, telehealth clinics have become more common.

C-7 Direct digital connection between small farmers and consumers: Directly connecting farmers and consumers can both alleviate transportation challenges for farmers in delivering products to market and improve consumers access to fresh and affordable produce. Such apps have been previously developed to improve access to fresh local food (Somers 2019). One example is the California-based app CropSwap, which helps connect consumers with local farmers and ranchers. The app offers a simple way to buy fresh produce, with plans to launch subscription-based CropBoxes in the future (NS Agriculture 2020).

C-8 Apps for on-scene communication: Improved communications between EMS and a medical center can allow paramedics at a crash scene to communicate critical patient information to the medical center (allowing for speedier treatment once the patient arrives) and ensure that a patient is transported to the appropriate medical facility. For example, Pulsara or BeOn allow for enhanced communications among all healthcare providers and work to improve patient outcomes.

C-9 Technical assistance with ITS technology planning, implementation, and maintenance: Technology is rapidly changing, and implementation or maintenance can often be intimidating and time-consuming. One way to make technology, particularly intelligent transportation systems (ITS), more widely available and used is to provide technical assistance to rural agencies.

Infrastructure and Program Development Strategies

Sixteen strategies involve the installation of or upgrades to supportive infrastructure or the development of a specialized program to address a safety or mobility need:

- Paved shoulders for bicycles (I&P-1)
- Protected cycle tracks (I&P-2)
- Clear, continuous shoulder delineation (I&P-3)
- Waived match requirements for pedestrian/cycling facilities (I&P-4)
- Value capture funding for pedestrian/cycling facilities (I&P-5)
- Prioritization methods that ensure competitiveness of pedestrian/cycling facilities (I&P-6)
- Connecting high school, middle school, and elementary schools with pedestrian/cycling pathways (I&P-7)
- Mobile health clinics (I&P-8)
- Tactical pilots and temporary installations (I&P-9)
- Rural complete streets (I&P-10)
- Mumblestrips (I&P-11)
- Auto-activated rapid flash beacons (I&P-12)
- Solar-powered, user-activated lighting (I&P-13)
- Rural mobility hubs (I&P-14)
- Technology training in local road safety plans (LRSPs) (I&P-15)
- Maintenance of signs and lane-markings (I&P-16)

I&P-1 Paved shoulders for bicycles: In very rural areas, interactions between cyclists and motorized vehicles can be very infrequent due to low average annual daily traffic. Expanding shoulders can allow separation between motor vehicles and cyclists. Administrators in a very small community in New Hampshire selected this option as an alternative to other cycle and pedestrian provisions (Villwock-Witte 2019).

I&P-2 Protected cycle tracks: Protected cycle tracks are street-level bikeways that provide physical protection from street traffic (National Association of City Transportation Officials n.d.). Different than having sufficient pavement width for bicycles, the track is a designated bicycle-specific lane along with physical elements to reinforce the separation, such as a vertical barrier or different elevation As stated in FHWA's *Small Town and Rural Multimodal Networks Guide,* "the greater the speed and volume of motor vehicle traffic, the greater the amount of separation…desired" (Dickman, et al. 2016).

I&P-3 Clear, continuous shoulder delineation: Clear markings and other methods for distinguishing shoulders from travel lanes can provide space for cyclists while also ensuring that wider pavement widths do not encourage higher speeds (Dickman, et al. 2016).

I&P-4 Waived match requirements for pedestrian/cycling facilities: Funding can be a significant hurdle for many state, regional, and local agencies when improving pedestrian and bicycle facilities (e.g., updates of early designs) and/or extending the network. Furthermore, funding sources, historically used successfully at the local level because they did not require matching funds (e.g., Safe Routes to School), have been reduced and combined with other funding sources (Villwock-Witte 2019).

I&P-5 Value capture funding for pedestrian/cycling facilities: For value capture funding partnerships, a private entity pays the up-front costs of the infrastructure, generally supported by a bond that is repaid with the additional revenue the community expects to receive from tourism-based taxes such as lodging and transient guest taxes (Quantified Ventures n.d.).

I&P-6 Prioritization methods that ensure competitiveness of pedestrian/cycling facilities: Active transportation projects through a state department of transportation may not be as high a priority as auto-focused projects, which tend to "dominate the ratings" (Raulerson, et al. 2018). Equitable prioritization is imperative so multi-modal projects are not overlooked. A scoring process that includes pedestrian/cycling prioritization criteria or provides a greater weight to projects with multi-modal aspects can allow these projects to compete with auto-focused projects (Raulerson, et al. 2018).

I&P-7 Connecting high school, middle school, and elementary schools with pedestrian/cycling pathways: Older children may be responsible for picking up a younger sibling after school. Walking or cycling may be the only option, so safe pathways are needed for the older child to travel to the younger child's school.

I&P-8 Mobile health clinics: Historically, the model for medical care required the patient to travel to where services are provided. Mobile health clinics bring the service to the patient and have been deployed to provide a range of services including immunizations, screenings, oral health services, laboratory services, or counseling (Rural Health Information Hub 2013).

I&P-9 Tactical pilots and temporary installations: Temporary "pop-up" installations can be an effective strategy to try out new safety mitigations. "By using mostly temporary materials… interventions are low-risk: if it doesn't work, just take it down" (National Association of City Transportation Officials (NACTO) n.d.), (Watson and Owen 2020)). This approach may include using flexible posts to create a cycling lane on roadways that have enough space. Most often, these installations work best in small communities rather than very rural roadways.

I&P-10 Rural complete streets: The infrastructure in a community can influence how safe pedestrians and cyclists feel. Infrastructure components are more bicycle- and pedestrian-friendly include mini-roundabouts, posted (and enforced) school speed limits, leading pedestrian intervals (LPIs), rectangular rapid flash beacons (RRFBs) to allow for crossing of major arterials, chicanes, speed humps and speed tables, bump-outs, and reducing the radius of corners (thereby reducing the speed at which a vehicle can make a turn).

I&P-11 Mumblestrips: These installations provide drivers with an audible and tactile warning that they are leaving a traveling lane or the edge of a road. Mumblestrips produce less exterior noise "than a traditional rumblestrip[s]...Depending on the design, mumblestrips could also reduce interior noise levels" (ch2m 2015).

I&P-12 Auto-activated rapid flash beacons: These RRFBs do not require user-activation; instead they "supplement warning signs at unsignalized intersections or mid-block crosswalks" (National Association of City and Transportation Officials n.d.).

I&P-13 Solar-powered, user-activated lighting: Ensuring that pedestrians are visible on a roadway network increases safety. Some agencies prefer to provide fixed lighting only when a pedestrian/cyclist is present. Solar-powered, user-activated devices can improve conspicuity while minimizing light pollution, as was done by the Lummi Nation in Washington State (Sunna Design 2017).

I&P-14 Rural mobility hubs: These hubs, which can be physical or virtual, are designed as a central location where a variety of transportation options can be accessed, including local/regional public transportation systems, intercity/interstate public transportation systems (e.g., bus and railroad), bikeshare, rideshare, transportation network companies, e-scooters, and other mobility options.

I&P-15 Technology training in local road safety plans (LRSPs): This approach can empower local agencies to leverage technologies that improve safety and operations at significantly lower costs than traditional methods (e.g., geometric modifications).

I&P-16 Maintenance of signs and lane-markings: With the large number of lane-miles in the rural U.S., maintaining lane markings and signs in these rural areas is an ongoing challenge, especially in areas that experience extreme weather. However, automated driving systems, advanced safety features, and autonomous vehicles are likely to further increase the value of high-quality pavement markings. These systems may also provide data to identify maintenance issues.

Key Takeaways

This study identified 45 strategies across four categories: vehicles, improved communications, infrastructure and program development, and broadband. Though itself a broad category, broadband was found to be an essential component of many strategies, including but not limited to Wi-Fi hotspots, fiber installations during roadway/trail work, rural connectivity hubs, carpool mapping systems, e-scooters, bike programs, microtransit, and mobility-on-demand.

Some strategies rely on the availability of new technologies, while others adapt existing tools in new ways to address unique rural needs. Though many of these strategies lack concrete implementation examples or evaluation data, they can be the basis of models to be explored for use in rural areas. Because the strategies also vary in terms of their sophistication and scale, communities of all sizes have many possible options for implementation.

CHAPTER 5. CASE STUDIES

Case studies illustrate promising examples by describing a specific technology or opportunity in practice. The five case studies prepared as part of this study and shown in Figure 4 are aligned with FHWA priorities of improving safety, mobility, and access in rural communities across the U.S. They were selected because they represent a majority of the unmet needs described in Chapter 3, are geographically dispersed, and have a range of the county typologies. Though some commonalities may exist, these case studies were chosen because they are unique examples of how strategies have been implemented.

Case Study Development

When this study began, the intent was to conduct on-site visits and hold discussions with case study participants to gain an in-depth understanding of each case study under consideration. Unfortunately, because the COVID-19 pandemic prevented on-site investigations, phone discussions were conducted instead. In addition to impacting how information was gathered, COVID-19 impacted services described in several of the case studies.

The following sections highlight case studies on bikesharing in Pocahontas, Iowa; the use of unmanned aerial systems (UAS) in Washington State; mobility on demand (MOD) in Door County, Wisconsin; access to broadband in Jackson County, Kentucky; and intelligent transportation systems (ITS) for speed management in Elmira, New York (Figure 4).

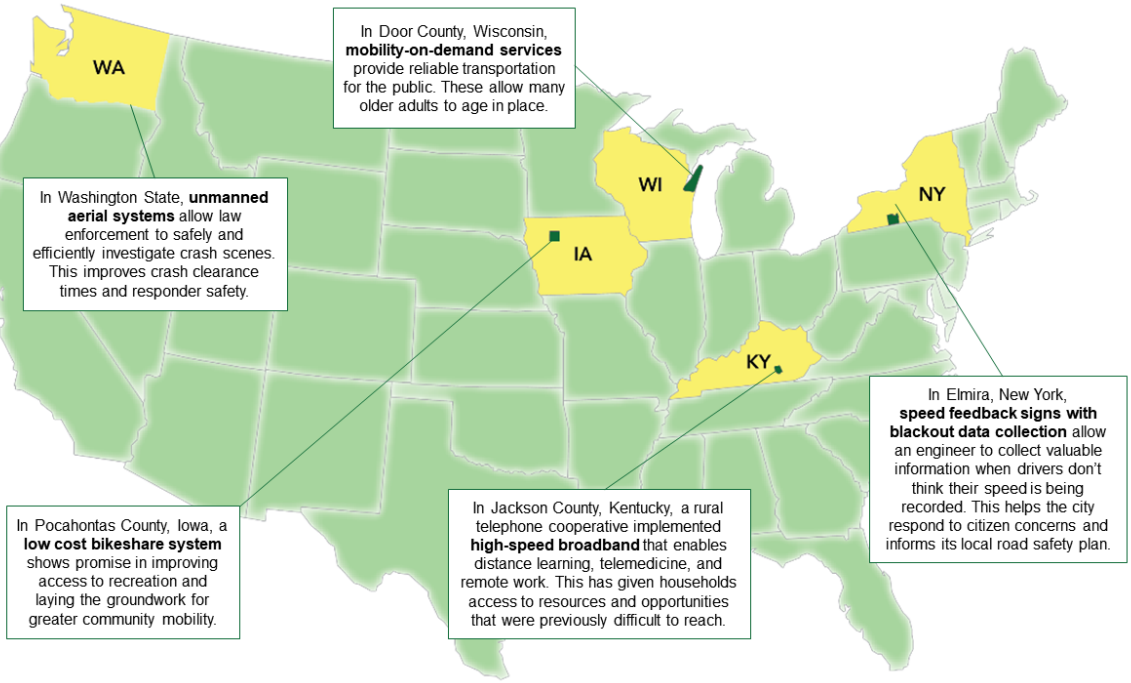

Figure 4. Case study locations and their descriptions.

Pocahontas Bikeshare

Location	Pocahontas County, Iowa
Rural Classification	Remote
Primary Strategy	Bikeshare
Unmet Needs Addressed	Access to Medical Care, Food, Education, and Jobs

The City of Pocahontas (population 1,789) is located in northwestern Iowa and is the county seat of Pocahontas County (Figure 5). Pocahontas County is classified as a Remote county, with a total population of 6,800.

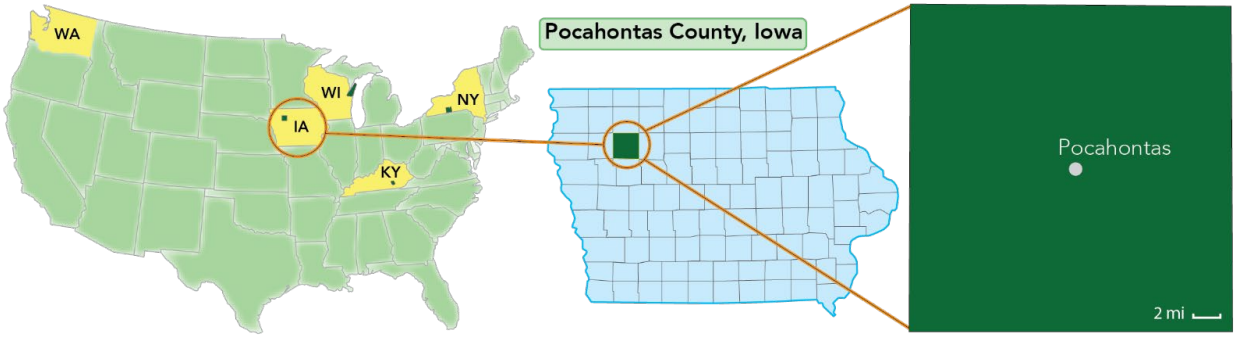

Figure 5. Pocahontas County, Iowa

Development and Successful Implementation

Launched in 2018, the Pocahontas bikeshare system had three main goals: to provide "big city" amenities in a rural community, to build support for the development of a county bike trail, and to increase foot traffic on Main Street.

The pilot bikeshare launched with 15 bikes but was expanded to 25 during the 2019 deployment. The system uses a hybrid model, which allows bicycles to be locked to traditional, branded bike racks that have been geofenced at designated parking locations (to enable a trip to be completed). Two stations are centered along Main Street (including in front of the theater) and one near the park. These locations allow users to bike downtown during their lunch break, connect to the community park, run errands, or access businesses on Main Street. Initially, users paid a rental fee ($2 per hour plus transaction fees), but in 2019 the system was free. The system has been supported by a combination of user fees, grant funding, city funding, advertisements on the bicycles, and in-kind donations (e.g., volunteers who provide bike maintenance).

Impacts on Travel, Mobility, and Safety

In 2019, over 400 riders used the system, averaging about 75 riders per month. Most use has been recreational, so, to date, the system has primarily increased access to recreational locations and mobility for leisure trips rather than utilitarian trips. Local stakeholders describe adoption of the system as limited, and it is not clear whether the community had insufficient interest or knowledge in the system's availability. The system was not deployed in 2020 due to COVID-19; nonetheless, the City of Pocahontas is interested in continuing the system in 2021 and exploring

ways to increase local usage, such as by offering more types of bicycles. The system vendor has also begun to offer bikeshare systems in other small communities, which suggests the system in Pocahontas has potential as a successful model for expanding mobility options in non-urban locations.

Lessons Learned

Though still relatively new, the system has enthusiastic support from its initial champions, who have helped keep the system moving forward and remain committed to deploying it in the future. Other lessons learned include the following:

- Even if residents see an increased number of bikes on the streets, they may not realize they are available for public rental. Targeting or ongoing marketing and promotion may be necessary.
- Gaps in internet access exist in many communities in the county. Expanding the bikeshare system may not be viable in areas without broadband.
- Complementary local programs can offer technical and other forms of support. For example, one program provided support for implementation of planning documents, like the development of trail networks.

Washington State Unmanned Aerial Systems (UAS)

Location	Washington State
Rural Classification	Various
Primary Strategy	Unmanned Aerial Systems
Unmet Needs Addressed	Vehicle Occupant Safety, Emergency Response Times

Washington State has a total population of 7.6 million people, with just over half residing in the Seattle metropolitan area (Figure 6). Outside of the Puget Sound region, the remainder of the state consists mostly of rural and small urban communities dispersed among mountains and farmlands. Recently, the state has seen large increases in the number of drivers on the road, contributing to a three-percent increase in vehicle miles traveled and more traffic congestion.

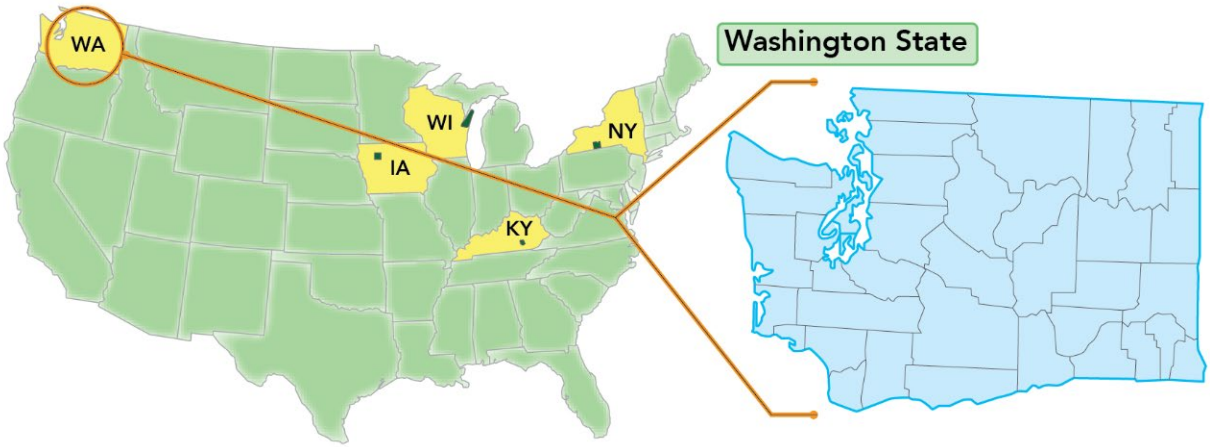

Figure 6. Washington State

Methods to reduce crashes and the associated time to respond to and clear a crash are vital. The use of UAS to expedite crash investigations can have a large impact on reducing congestion and associated secondary crashes, especially in high traffic volume corridors. Considering the lack of viable detour routes in rural areas, UAS may also prove just as beneficial for rural areas, where the systems can access hard-to-reach locations and expedite emergency response.

Development and Successful Implementation

In 2016, the Washington State Patrol (WSP) Criminal Investigation Division (CID) began to evaluate the potential use of UAS to improve crash and crime scene investigations in the state. WSP worked with leadership among the governor's staff, American Civil Liberties Union, Washington Association of Prosecuting Attorneys, and other stakeholders to develop UAS policy and procedures and establish clear goals for a UAS program. The WSP UAS program was developed with three primary goals: reduce road closure times associated with crash and crime scene investigations, improve data collection to be used for scene reconstruction, and improve officer safety.

In 2017, WSP conducted an initial pilot project to test the effectiveness of UAS for crash and crime scene data collection along the I-5 corridor in the Puget Sound region. Finding the first pilot project a success, WSP expanded the UAS program statewide to 42 detectives and to field operations bureau (FOB) troopers. In 2018, a second pilot project examined the expanded use of UAS statewide. After a second successful pilot project, WSP fully deployed the UAS program with over 110 troopers and detectives statewide. With rotating schedules for troopers, there is always someone available with a UAS who can respond to a scene.

The UAS device is stored in the vehicle of a WSP trooper. Once on the scene, the trooper can determine which evidence is critical and deploy the UAS in around 20 minutes. The trooper can set the crime scene or crash scene area on the UAS program, then the UAS can independently fly around the scene and take multiple photos. These photos are then imported into a software program and stitched together to create a seamless model of the scene that allows the trooper to mark the images with evidence and notes.

After testing several models, the program used UAS models that range in price from $1,600 to $6,000 each. There are also significant costs for the software licenses, approximately $3,000 per year per license. However, thus far, maintenance costs have been minimal.

WSP and the Washington State Department of Transportation have collaborated in developing an automated program to create pilot logs that document UAS deployments (a Federal Aviation Administration requirement) to streamline flight logs. As of this date, WSP has not yet deployed that software program due to fiscal constraints.

Impacts on Travel, Mobility, and Safety

To date, WSP has documented numerous time-saving impacts and associated safety benefits. During the second pilot project, UAS were utilized in 126 investigations and resulted in a significant reduction in road closure times. In 2018 alone, the WSP UAS program was estimated to decrease road closure times by 200.5 hours, which equates to an estimated savings in travel time of $4.2 million. In 2019, WSP performed a thorough review of the data, and staff

documented an 80% reduction in total investigatory time or the time required for detectives to measure and collect necessary roadway evidence as part of a crash investigation, thus resulting in shorter delays to motorists.

As traffic back-ups associated with crashes have been shown to result in secondary crashes, which can be severe, the safety benefits achieved by more efficiently clearing a scene can be substantial. Similarly, by reducing the exposure of emergency personnel to traffic, additional safety benefits are achieved.

Lessons Learned

The UAS program in Washington has been particularly successful, because project leaders set clear goals and boundaries for when a UAS can be used by WSP. These clear goals not only helped frame the UAS program, but also provided transparency with the public that was successful in building trust. This trust has resulted in little public pushback for the UAS program.

In addition, the WSP UAS program grew using incremental steps. Pilot projects were implemented, then the program was slowly expanded first beyond the Puget Sound region then among troopers. This process allowed WSP to track successes and learn what worked prior to full deployment. Throughout the pilot projects and full deployment of UAS, WSP has continued to track data, which has helped to quantify the benefits and market the continued use of UAS at the agency.

Door County Mobility-on-Demand (MOD)

Location	Door County, Wisconsin
Rural Classification	Older Age
Primary Strategy	Mobility on Demand
Unmet Needs Addressed	Access to Medical Care, Food, Education, and Jobs

Door County, Wisconsin, is a peninsula in Wisconsin with Lake Michigan on the east and Green Bay on the west (Figure 7). Most of Door County's population of 27,500 is concentrated near the City of Sturgeon Bay, with the remaining population dispersed throughout the peninsula.

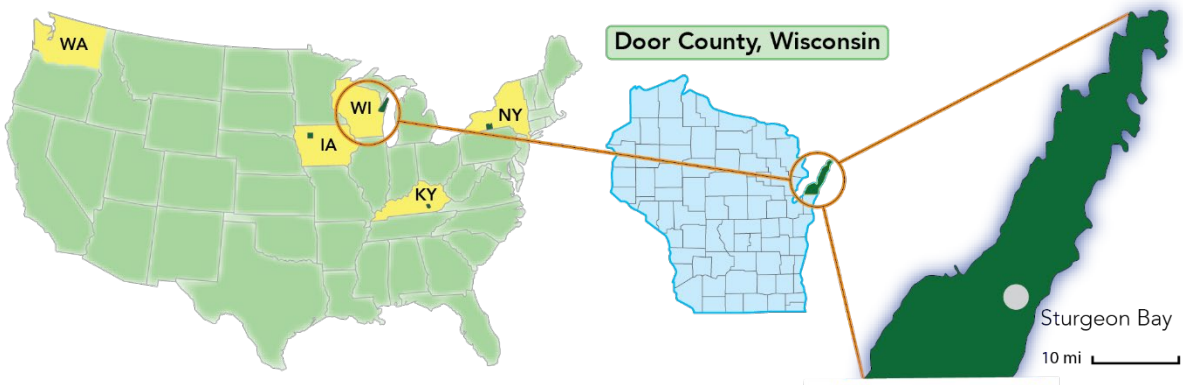

Figure 7. Door County, Wisconsin

Door County is a popular area for vacationers and retirees. As a county with a relatively high population of seniors (age 60 and older), access to public transportation and other mobility options is critical to ensuring that seniors can continue to age in place while remaining independent and active in their community.

Development and Successful Implementation

As early as 1998, transportation was identified as a critical need in Door County. Over the past 20 years, community stakeholders have progressively developed a system of services to meet the mobility needs of residents and tourists in Sturgeon Bay and throughout the peninsula.

Door-Tran, as the overarching mobility-on-demand provider, coordinates a network of programs. Door-Tran fields thousands of calls annually, providing information and referrals to individual services that include the following:

- **Door2Door**, an on-demand, shared ride service operated by the county, has wheelchair-accessible vans. It provides rides in five zones across the peninsula, and fares are based on the number of zones traveled through.
- **ADRC Bus.** The Door County Aging and Disability Resource Center (ADRC) bus is also operated by the county. It is a demand response service geared toward serving older adults, but it is being rebranded for broader public use.
- **Connector buses** comprise a private, regularly scheduled fixed-route service from six small communities to the City of Sturgeon Bay. This service is designed for and primarily serves clients of a nonprofit organization for people with special needs.
- The **half-price voucher program** allows users to buy discounted rides with private transportation vendors like cabs and shuttles.
- The **half-price gas voucher program** is designed to assist financially at-risk people with personal transportation costs so they can continue to travel to their jobs.
- The **vehicle purchase/repair loan program** provides short-term loans of up to $3,000 for low-income residents who need support to drive to school or work.
- A countywide **Volunteer Driver program** provides rides to medical appointments and other essential needs for residents regardless of income. Another program with volunteer drivers provides rides for veterans to the Veterans Administration hospital.

Impacts on Travel, Mobility, and Safety

By providing coordination and support to a range of programs, Door-Tran has greatly expanded mobility options for older, low-income, veteran, and other populations needing transportation assistance across the county. As examples, in 2019 Door2Door provided approximately 43,000 annual rides, the ADRC Bus provided nearly 6,000, and the Volunteer Driver program provided 1,100.

Lessons Learned

The Door County example shows that providing mobility for a community should be approached as a dynamic system that brings together a myriad of partners who can speak to the needs of their user groups. The approaches used by the county continue to evolve due to ongoing collaboration

among stakeholders (now called the Transportation Resource Improvement Partners or TRIP) and the addition of a newly created county Transportation Department. Other lessons learned in Door County include the following:

- Funding sources for the system should evolve and be flexible enough to adapt to variations in funding availability. Transportation programs should explore diverse and creative funding sources. Training can enhance success with securing grant funding.
- Community recognition of transportation as a critical need helps attract partners and builds ongoing, local support.
- Multi-disciplinary forums that meet periodically (like TRIP) help maintain momentum for program development.
- When programs are added or changed, expanded marketing and public awareness campaigns are needed to help users understand their options. This is particularly important when eligibility for services changes.
- Volunteer drivers are more likely to stay engaged if they can have flexibility with their schedules and the number of hours they volunteer. Drivers who receive recognition and appreciation for their efforts are also more likely to continue with these programs.
- Private transportation providers have concerns about losing customers to public services. Voucher programs can help private providers stay competitive.

Jackson County Broadband

Location	Jackson County, Kentucky
Rural Classification	Remote
Primary Strategy	Broadband Availability, Rural Connectivity Hub
Unmet Needs Addressed	Access to Medical Care, Education, and Jobs

Jackson County, with a population of approximately 13,400, is in eastern Kentucky (Figure 8). McKee, the county seat, is one of the largest communities in the county, with a population of about 850.

Figure 8. Jackson County, Kentucky.

Jackson County is categorized as a Remote county with high rates of poverty and unemployment, due in part to plant closures and losses of other local jobs over the last two decades. Most Jackson County residents work outside the county, commuting 30 minutes or more on average. In addition, there are few nearby educational institutions for those looking for

job training or college degrees. Over 20 percent of the population lives more than 30 minutes from the nearest vocational school and 30 percent live more than 30 minutes from a university.

Access to affordable, high-speed internet can support both e-learning and remote work, which can in turn expand economic opportunities for residents. The Peoples Rural Telephone Cooperative (PRTC) recognized the local need and has worked to make high-speed broadband available to rural residents in Jackson County.

Development and Successful Implementation

The PRTC recognized the need to replace its copper lines for the telephone connections to residents. Instead of replacing these lines with copper, PRTC leadership chose to invest in fiber. It took approximately six years to connect every household in the county, PRTC's goal, including some households in the most remote parts of the county that required a mule to carry the fiber to provide the connection.

PRTC estimates a cost of about $50,000 per mile to bring fiber to all residents of Jackson County. The new broadband connectivity was largely funded through grants from several sources, including the U.S. Department of Agriculture and federal stimulus programs.

As a result of the success in Jackson County, the PRTC is working on connecting all residents in neighboring Owsley County. PRTC has also begun to install fiber in three additional neighboring counties.

Impacts on Travel, Mobility, and Safety

The wide availability of broadband in Jackson County and Owsley County has facilitated local access to numerous educational, employment, and health care opportunities, including the following:

- The creation of a Veteran's Virtual Living Room in the Jackson County Library, where veterans can access telemedicine services from a VA Medical Center and GED testing services.
- The development of a "maker's space" technology center at the library where residents can use new technologies such as 3D printers. (Opening of the center was delayed due to COVID-19.)
- The opening of a Teleworks USA Hub in Jackson County. Teleworks USA provides periodic workshops to train people on basic computer use, technical support, customer service, and other needs based on the current availability of job opportunities.
- New learning opportunities in Owsley County. The Owsley County School District connected 100 percent of its students to virtual learning and is piloting virtual internships.
- Infrastructure for improved incident response. With fiber now available in Jackson County and some surrounding counties, local agencies can plan for the implementation of next generation 911 systems that expedite emergency services.

Lessons Learned

In large part, the leadership of PRTC's CEO led to the success of the broadband installation. This indicates the need for a champion at the highest levels of an organization to identify and remain dedicated to achieving the goal. Additional lessons learned include the following:

- Securing grant funding requires time, effort, a learning curve, and often multiple attempts.
- Providing broadband to every household does not mean that every family will use it. It may take time to overcome resistance to or distrust of connecting to the internet.
- Some skills such as grant writing and technical support could not be easily leveraged locally. Providing flexible work arrangements to staff can help retain skilled employees.

ITS for Speed Management in Elmira, New York

Location	Elmira, New York
Rural Classification	Metropolitan
Primary Strategy	Speed Feedback Signs with Blackout Data Collection
Unmet Needs Addressed	Vehicle Occupant Safety, Behavior-Related Vehicle Fatalities

Elmira, New York, is located in Chemung County near the southern border with Pennsylvania (Figure 9). The county has about 83,500 residents. Chemung County is categorized as a Metropolitan county because of its proximity to Binghamton. However, Elmira and the surrounding towns are primarily in rural areas.

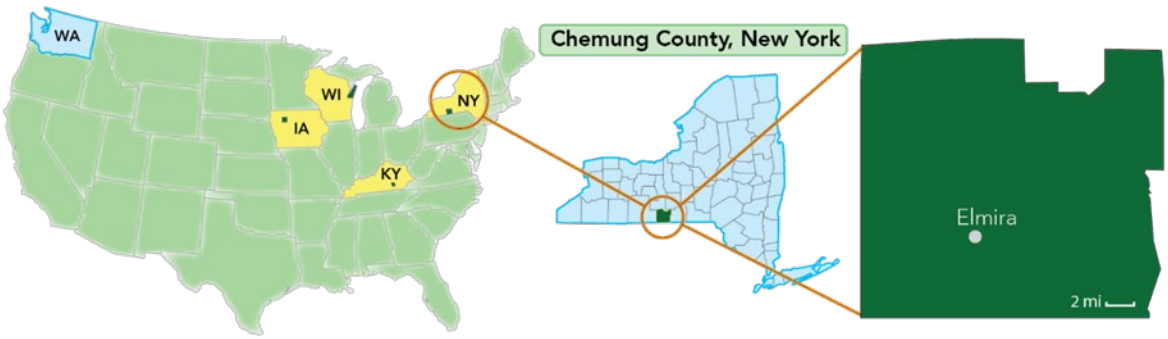

Figure 9. Elmira and Chemung County, New York.

According to Chemung County's Local Road Safety Plan, motor vehicle crashes are the fourth leading cause of death (Storm, Ercisli and Neuner 2019). Speed and aggressive driving have been identified as emphasis areas, and Elmira and Chemung County have a strong interest in countermeasures to address these issues.

Development and Successful Implementation

Elmira and Chemung County were selected as a case study due to their innovative use of technology that is accessible, low-cost, and relatively common to state, county, and local agencies and includes portable dynamic message signs and permanently mounted speed feedback signs. In 2000, Chemung County staff observed intelligent transportation system (ITS) speed

management signs in use in nearby Ithaca, New York, and began efforts to implement a similar program. It was also the start of ongoing collaboration between these and other peer communities to pursue more local authority for speed control measures.

The county deployed speed feedback signs in Elmira to provide drivers with information about their driving speeds. Twelve mobile signs and six permanent signs have been installed since the start of the program. The signs measure the speed of approaching vehicles and display it to drivers as they pass. Some of the signs can also collect data for further analysis.

During the initial deployment, one of the signs malfunctioned and did not display speeds to drivers, even though it was collecting the speed data. Upon further analysis, county staff documented higher speeds when drivers thought the signs were turned off. This led to another valuable use of the technology—documenting "true" driving speeds of motorists when they think they are not being monitored.

The initial signs have limitations that prevent seamless data collection and remote transmission of data to county computers. As the speed feedback signs are being replaced, the county is working to procure replacement signs with enhanced collection capabilities. Long-term, the county would also like to enhance data transmission capabilities, but this is dependent on upgrades to cell and broadband networks in the area.

Impacts on Travel, Mobility, and Safety

Elmira's use of ITS devices to support speed management has achieved speed reductions and generated additional, informative data that may help in planning refinements or complementary strategies. Speed continues to be a problem at the local level, even though the authority to significantly reduce the speed limits (e.g., down to 15 mph) tends to remain at the state level. Strategies like ITS technologies provide feasible alternatives to speed limit reductions for local agencies.

Lessons Learned

One of the main lessons learned from this example is that local agencies can use ITS equipment they already own to capture additional, useful information at no additional cost. Other lessons learned include the following:

- Data collected from speed feedback signs can help to either confirm or refute speeding complaints by providing evidence regarding the perception or reality of speeding behavior. It also allows pinpointing the days and times when speeding most often occurs.
- After removal of mobile speed feedback signs, drivers sustained a speed reduction for approximately two more weeks. Therefore, there is a diminishing effect.
- ITS signs to support speed management are one of many strategies to reduce speeds, and local road agencies can consider using and integrating multiple approaches.

Key Takeaways

Strategies highlighted in these case studies address unmet needs in rural communities that speak to FHWA priorities of improving safety, access, and mobility in these communities across the country. Key takeaways from the case studies include the following:

- Contrary to what is typically found in large, urban areas, the bikeshare system in Pocahontas, Iowa, was largely implemented to justify recreational facilities in the community.
- New transportation offerings should be followed by targeted marketing. Pocahontas identified a need to engage residents as well as an opportunity to market the bikeshare system as an attractive amenity to potential visitors. For Door County, Wisconsin, marketing changes to the public transportation system were used to address public misperceptions, as many residents believed that the ADRC bus served only a specific age group.
- Case studies in Washington State, Chemung County, and Door County emphasized the importance of working with the public. Washington State Patrol emphasized the need to ensure trust and transparency with the deployment of its UAS program. Representatives from Chemung County noted attending public meetings to better understand public concerns regarding potential speed management tools (e.g., the inclusion of speed feedback signs).
- Both the Washington State Patrol and Pocahontas, Iowa, used a pilot to test the emerging technology and opportunity. In addition, Door County's system has evolved over time, with changes to state and federal legislation that have impacted funding for the system and consequently the hours of operation.
- The COVID-19 pandemic significantly impacted Pocahontas, Iowa; Door County, Wisconsin; and Jackson County, Kentucky. Pocahontas's bikeshare system did not operate in 2020. Some Door County volunteers who help provide transportation to residents sheltered at home to protect themselves. The launch of a "maker's space" in Jackson County, largely enabled by the broadband available in the community, has been delayed by around a year in response to the pandemic.
- There is significant value in convening a multi-disciplinary group of individuals on a periodic but sustained basis (e.g., once every four months). Such groups ensure that everyone has a voice at the table, works together to address needs uniquely understood by each participant, and continues to collaboratively identify solutions. Such examples were seen in Door County, Chemung County (Elmira, New York), and Washington State.
- Not every application for funding is successful. However, there may be opportunities to "tweak" applications (as was done in Jackson County, Kentucky) by asking for feedback on how a grant application can be improved. Jackson County leveraged the grant writing skills of professionals but still adjusted or improved applications based on feedback. The Jackson County case study also revealed grant writing expertise as an unmet need in some rural areas and smaller towns.
- Additional training opportunities can also support grant applications. Door County and Jackson County identified conferences and events that served as the driving force behind writing an agency's first grant (Door County) and creating a virtual living room (Jackson County).

- The case studies highlighted that strategies are more effective if their use is monitored over time to determine if implemented strategies are working as expected and if changes are needed to improve results.
- Engaging high-level leadership facilitates success. The Washington State example engaged the governor's office. The implementation of broadband connectivity in Kentucky was led at the highest level of the utility company.
- Planning initiatives can support the implementation of new strategies. Local planning efforts in Door County documented the need for transportation services, which became a driving force behind the services provided. Similarly, the City of Pocahontas was planning to implement a bike path and created the bikeshare system as a way to document use that would show support for bike facilities.
- As seen with the speed feedback and dynamic message signs used in Elmira, New York, and the unmanned aerial systems in Washington State, new technologies continue to reveal opportunity for innovative uses to address needs.

CHAPTER 6. RESEARCH FINDINGS

The purpose of this study was to explore the potential of new technologies and opportunities to provide safety and mobility solutions in rural areas. This section summarizes findings from the major components of the study. Through a combination of quantitative and qualitative data collection and analysis, the study adds significant knowledge to the existing body of research on unmet transportation needs in rural areas, effective strategies to address them, and innovative practices in place across the U.S.

Rural Area Classification

To capture the geographic, economic, and demographic diversity of the rural U.S., this study categorized rural counties into eight types. The resulting rural classification system described in Chapter 2 supports analysis of mobility and safety needs by revealing mobility and safety gaps across rural classes. The rural classification was also used to identify potential strategies and case studies.

Unmet Needs in Diverse Rural Areas

The analyses presented in Chapter 3 and Appendix D demonstrate that there are many unmet safety, mobility, and access needs in rural counties. Some key takeaways from this analysis include the following:

- Many of the unmet needs are most acute in Remote counties, where performance measures indicate significant gaps compared with the national average and mean estimates for urban counties. Agriculture & Extraction counties also appear to have some of the greatest needs among rural counties. Approximately 6.3 million people live in these two county types.
- The 94 Tribal counties in the U.S. have significant unmet needs, especially related to vehicle fatality rates, traveling without a seatbelt or motorcycle helmet, and cyclist safety. Tribal counties also have relatively low access to general medical facilities and substance abuse treatment facilities.
- The performance measures for Destination, Rural Towns, Fringe, and Older-Age counties are closer to the national average than other rural county types across most performance measures. Exceptions include the following:
    - Destination counties have higher rates of speeding- and drunk-driving-related crashes as well as longer distances to a hospital as compared to the national average.
    - Fringe counties have relatively higher pedestrian fatality rates and relatively low access to medical care and available broadband.
    - Rural Towns counties have relatively low access to available broadband.
    - Older-Age counties have higher cyclist fatality rates.
- Micropolitan counties tend to fare the best relative to other rural county types. This is perhaps unsurprising since they share many characteristics with Metropolitan counties, including the presence of urbanized areas, well-developed transportation networks, and broad resource availability (i.e., food, healthcare, education, and broadband).

- Across all county types, broadband was found to play a significant role, often limiting or enabling efforts to meet unmet needs with emerging business models, technologies, and other innovative, twenty-first century solutions.

Strategies for Addressing Unmet Needs

Chapter 4 identified strategies that can potentially address the unmet needs identified in prior tasks. Strategies identified were grouped into four categories: broadband, vehicle, communication technologies, and infrastructure and program development. Between four and sixteen strategies were identified for each of the four categories, as summarized in Appendix G.

Even though broadband is itself a broad category, it was found to be common and essential for many strategies, including but not limited to the following:

- Wi-Fi hotspots
- Fiber installations during roadway/trail work
- Rural connectivity hubs
- GIS-based carpool mapping systems
- E-scooters
- Bicycle libraries
- Bikeshare
- Microtransit
- Mobility-on-demand

One important takeaway from the strategy analysis is that as new and emerging technologies continue to become available and more affordable, they can provide a promising strategy to improve access, mobility, and safety for rural residents. However, without access to broadband, many of these strategies are out of reach. Broadband today is similar to the economic benefits brought by the interstates of previous generations.

Broadband, when quality is sufficiently high, may serve as an alternative to transportation for certain activities. State departments of transportation have worked with private sector companies to install broadband in their rights-of-way. Furthermore, broadband can enable the various business models that are becoming common in urban areas but have not taken hold in rural areas because of limited amounts of this supporting infrastructure. Broadband is fundamental for growing innovation in improving access and safety in the rural transportation sector.

Given the connection between broadband availability and the implementation of many of the other recommended strategies, transportation agencies and other stakeholder organizations may want to consider complementary initiatives focused on facilitating and incentivizing implementation of high-speed internet in rural communities. As broadband can improve access to many needs in addition to transportation (such as education, health care, etc.), there may be opportunities to develop initiatives across multiple federal agencies and funding sources. It is particularly important for rural areas to find innovative funding mechanisms since broadband profitability can be difficult to achieve in areas of low density. Future research could focus specifically on finding new ways to fund broadband.

Another common theme among these strategies is related to the need for infrastructure to support non-motorized transportation in rural areas. For example, several strategies in the vehicle category involve an increase in access to bicycles as an alternative transportation mode, but rural areas often lack bike lanes, separated trails, or other facilities that encourage bicycle use. Entities that are interested in these modes may also need to consider inclusion of supportive infrastructure.

ITS for speed management highlights another innovative approach that addresses speeding, which is a common rural problem. Addressing speeding on rural roads is of interest to FHWA due to the disproportionate number of fatalities compared to more urban areas.

Case Study Findings

The research summarized in Chapter 5 highlights how rural entities have worked to address unmet needs (many of which are FHWA priorities) in their communities using some of the strategies discussed previously in this report. The provision of bikeshare in the small, rural community of Pocahontas, Iowa, though currently primarily serving recreational trips, has the potential to be used for more utilitarian trips. Improving access to recreation facilities and improving mobility are both FHWA priorities.

The provision of broadband in Jackson County, Kentucky, and public transportation in Door County, Wisconsin, help residents access healthcare, an FHWA priority. The innovative use of speed feedback signs in Elmira, New York, helps address safety by aiming to reduce speeding. The reduction of road closure times enabled by efficient crash scene data collection by UAS in Washington State improves delay times and the safety experience of motorists. Improving safety with innovative technology like UAS is another FHWA priority.

Each case study was chosen to highlight a primary strategy addressing a single unmet need, but all demonstrate how communities use strategies to address multiple unmet needs at once.

Lessons Learned and Future Opportunities

This research provides important lessons and opportunities for the implementation and expansion of promising solutions for rural safety and mobility needs. Some of the key lessons and opportunities include the following:

- **Improved rural broadband availability:** Broadband is clearly critical for improving safety, mobility, and availability in rural areas. As emerging technologies continue to become available and more affordable, they can provide promising solutions for rural residents. However, without access to broadband, many technology-based strategies are out of reach. As made clear by feedback from case study organizations and from sources reviewed, broadband today is synonymous with the economic benefits brought by the interstate highways of previous generations.
- **Cooperation among multi-disciplinary groups:** Mobility-on-demand in Door County, Wisconsin; safety innovations in Chemung County, New York; and unmanned aerial systems in Washington State were all shown to benefit from convening multi-disciplinary groups of individuals. Incentivizing cooperation among such groups may help to identify

and subsequently address needs and solutions in a community. The success and longevity of such groups could be models for helping expand transportation solutions to other parts of the country.

- **Grant writing resources and assistance:** Skilled grant writing has enabled agencies to leverage opportunities, but this need cannot always be satisfied by many rural agencies. Providing support or incentives to agencies to write grants (and to provide feedback on how unsuccessful grants could have been improved) may foster opportunities for innovative mobility and safety solutions in rural communities.
- **Bicycle and pedestrian infrastructure:** Bicycle and pedestrian infrastructure in rural communities helps programs like the Pocahontas bikeshare succeed. This type of infrastructure helps alleviate relatively high pedestrian and cyclist fatality rates in rural communities and improve access to medical care, food, jobs, and education in some places.

This research project has shown that successful urban strategies cannot simply be transferred to a rural location without consideration of the infrastructure, resources, and challenges that exist in the rural environment. It underscores the need for programs and expertise customized to rural transportation agencies and networks, as demonstrated in the comprehensive research conducted for this study and by the successful projects exemplified in the five case studies.

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APPENDIX A. RURAL AREA CLASSIFICATION SYSTEMS REVIEWED

This appendix describes existing rural-urban classification systems and the data used to support these systems. The systems and supporting reports scanned include the following:

- U.S. Census Bureau Urban Area Classifications
- Office of Management and Budget (OMB) Metropolitan Statistical Area Definitions
- USDA ERS Rural-Urban Continuum Codes
- USDA ERS Urban Influence Codes
- USDA ERS County Typology Codes
- FHWA Developing Performance Measures for Rural Access Transportation (PM4RA)
- USDA ERS Rural-Urban Commuting Area Codes
- USDA Business and Industry Loan Program
- Federal Office of Rural Health Policy (FORHP) Classification
- NCHRP 20-122: Rural Transportation Issues: Research Roadmap Report
- NCHRP 582: Best Practices to Enhance the Transportation-Land Use Connection in the Rural U.S.
- Place Matters: Challenges and Opportunities in Four Rural Americas (University of New Hampshire)
- Transportation, Economic Development, and Quality of Life in Rural America (Rural Policy Research Institute)
- Putting Smart Growth to Work in Rural Communities (International City/County Management Association)
- FHWA Planning for Transportation in Rural Areas
- USDOT Rural Opportunities to Use Transportation for Economic Success (ROUTES)

U.S. Census Bureau Urban Area Classifications

The U.S. Census defines rural as "open country and settlements with fewer than 2,500 residents." This excludes urban areas, which are defined as either all urbanized areas with populations over 50,000, or urban clusters with populations between 2,500 and 49,999 people. The U.S. Census Bureau also defines urban areas as "core census block groups or blocks that have a population density of at least 1,000 people per square mile and surrounding census blocks that have an overall density of at least 500 people per square mile." Urban area boundaries do not necessarily align with county boundaries, ZIP codes, or other common geographic units, which can make it difficult to work with some datasets. As with the OMB classification described next, this classification system is also too coarse for this research effort. However, it is included here because it is a standard method of classification and could be useful for verifying high-level trends in data across urban and rural areas.

Office and Management and Budget (OMB) Metropolitan Statistical Area Definitions

The Office of Management and Budget (OMB) definition of rural areas is among the most used urban-rural classification systems. OMB defines rural areas simply as counties existing outside of metropolitan and micropolitan areas (metropolitan/micropolitan counties containing one or more urbanized area with a population over 50,000/10,000-49,999 or are adjacent to and linked economically with such a county). OMB defines a linked county as one where at least 25 percent of workers commute to a metropolitan/micropolitan area. This OMB definition involves

classifying many rural areas as part of metropolitan counties, possibly leading to an undercount of the rural population. The FHWA PM4RA study defines rural areas as metropolitan counties with population densities of less than 50 people per square mile, or non-metropolitan counties that meet the OMB's county-based definition of rural areas.

As with the Census classification system discussed above, this system is too coarse for this research effort. However, it is included here because, like the Census system, it is a standard classification method and could be useful for verifying high-level trends in data across urban and rural areas. Relative to the Census system, it is useful because it assigns a category (i.e., metropolitan, micropolitan, or non-core) to each county rather than each Census tract.

USDA ERS Rural-Urban Continuum Codes

The U.S. Department of Agriculture (USDA) Economic Research Service (ERS) has developed multiple rural/urban classification systems that are more nuanced than a simple binary definition. The first classification system is the Rural-Urban Continuum Codes (RUCC) system, which assigns every U.S. county one of the nine following codes based on size and proximity to metropolitan areas, with multiple implications for economic opportunities and resources:

- Metro Counties: Areas 1-3 define counties in areas having populations greater than 1 million (Area 1), 250,000 to 1 million (Area 2), and fewer than 250,000 (Area 3).
- Non-metro Counties: Areas 4-5 define counties with populations greater than 20,000 and proximity (Area 4) or not (Area 5) to a metropolitan area
- Non-metro Counties: Areas 6-7 define counties with populations between 2,500-19,999 and proximity (Area 6) or not (Area 7) to a metropolitan area.
- Non-metro Counties: Areas 8-9 define rural counties with populations under 2,500 and proximity (Area 8) or not (Area 9) to an area with a population greater than 250,000.

As with any classification system based on population, it is important to note that population estimates are a snapshot in time and do not capture ongoing in-migration and out-migration. Populations based on the latest Census count may not reflect the true population in all areas. One related limitation of population-based measures is that communities that are shrinking or growing may be quite different from one another in terms of resources, infrastructure, and demographics—nuances that can be belied by their similar populations.

Generally, the ERS RUCC codes are useful to this effort for the following reasons:

- They capture not only population, but also adjacency to metropolitan areas, which has implications for commuting patterns.
- RUCC codes capture differences between rural counties that are/are not near more populous metropolitan areas. Broadly speaking, these two types will be characterized by different travel times (i.e., longer commutes in areas adjacent to metros) and varying access to medical care and other services (i.e., less access to grocery stores further from metropolitan areas).
- RUCC codes present a gradient of "more urban" to "more rural" places, which provides a useful overview of how performance measures vary between urban and rural counties.

USDA ERS Urban Influence Codes
The USDA has defined Urban Influence Codes (referenced above), which divide U.S. counties into finer, non-metropolitan gradations according to size (metropolitan, micropolitan, or non-core), proximity to a more populated area, and presence (or absence) of a town within the county.[5] These codes provide pre-calculated adjacency information relevant to mobility and safety research. The latest codes were developed in 2013 and will be updated in 2023. The 12 urban influence codes are listed below.

- Large metro area with at least 1 million residents or more
- Small metro area with fewer than 1 million residents
- Micropolitan adjacent to a large metro area
- Non-core adjacent to a large metro area
- Micropolitan adjacent to a small metro area
- Non-core adjacent to a small metro with a town of at least 2,500 residents
- Non-core adjacent to a small metro and does not contain a town of at least 2,500 residents
- Micropolitan not adjacent to a metro area
- Non-core adjacent to micro area and contains a town of 2,500-19,999 residents
- Non-core adjacent to micro area and does not contain a town of at least 2,500 residents
- Non-core not adjacent to a metro/micro area and contains a town of 2,500 or more residents
- Non-core not adjacent to a metro/micro area and does not contain a town of at least 2,500

USDA ERS County Typology Codes
The ERS County Typology Codes, last updated in 2015, classify rural counties according to economic and policy types. The intent of this classification system is to provide policy-relevant information about diverse county conditions to policymakers and researchers. To do so, these codes define counties according to a range of economic and social characteristics.

The codes classify all U.S. counties according to six mutually exclusive categories of economic dependence, and six overlapping categories of policy-relevant themes. The economic dependence types include the following:

- Farming-dependent counties
- Mining-dependent counties
- Manufacturing-dependent counties
- Federal/state government-dependent counties
- Recreation counties
- Nonspecialized counties

[5] In this classification, the ERS builds on OMB's classification of counties as metropolitan, micropolitan, or neither (non-core). A metropolitan area contains a core urban area with a population of 50,000 or more. A micropolitan area contains an urban core of at least 10,000 (but less than 50,000) in population. All counties that are not part of a Metropolitan Statistical Area (MSA) are considered non-core.

The policy-relevant types are listed below. These types are not mutually exclusive; counties may be none, one, or more than one type.

- Low education counties
- Low employment counties
- Persistent poverty counties
- Persistent child poverty counties
- Population loss counties
- Retirement destination counties

The ERS County Typology codes are useful to this effort for the following reasons:

- They describe counties according to their economic and social characteristics rather than population and adjacency to more populous areas.
- These county types may be combined with other classifications to explore differences between, for example, farming-dependent counties within metropolitan areas and farming-dependent counties outside of metropolitan areas.
- They support analysis of relationships between performance measures such as access and safety and social characteristics such as poverty and education.

FHWA Developing Performance Measures for Rural Access Transportation (PM4RA)
This FHWA report provides measures for assessing rural access at the national level. In this document, FHWA defines rural:

- According to Urban Influence Codes from USDA ERS to capture differences in economic development and access, and
- As metropolitan counties with a population density less than 50 people per square mile, or non-metropolitan counties following the OMB county-based definition.

Regarding geographic units, the report notes that counties are practical for national-level analyses because much data are available at the county level (e.g., County Business Patterns, Census data, travel survey data, Highway Performance Monitoring System data). However, smaller and more detailed census units (urban areas, tracts, blocks) are useful for regional or local analyses and case studies, although they require more intensive data processing and analysis. Census units also offer the advantage that they are more uniform in size than counties, which can vary widely within and between states.

USDA ERS Rural-Urban Commuting Area Codes
USDA's Rural-Urban Commuting Area (RUCA) codes provide census tract detail on commuting ties to urban areas of different sizes for sub-county analysis. The ten primary RUCA codes are presented below, along with secondary codes that subdivide primary codes to identify areas where classification categories overlap based on secondary commuting flows.

- 1. Metropolitan area core: primary flow within an urbanized area (UA)
- 1.0 No additional code
- 1.1 Secondary flow 30% to 50% to a larger UA
- 2. Metropolitan area high commuting: primary flow 30% or more to a UA

- 2.0 No additional code
- 2.1 Secondary flow 30% to 50% to a larger UA
- 3. Metropolitan area low commuting: primary flow 10% to 30% to a UA
- 3.0 No additional code
- 4. Micropolitan area core: primary flow within an urban cluster of 10,000 to 49,999 (large UC)
- 4.0 No additional code
- 4.1 Secondary flow 30% to 50% to a UA
- 5. Micropolitan high commuting: primary flow 30% or more to a large UC
- 5.0 No additional code
- 5.1 Secondary flow 30% to 50% to a UA
- 6. Micropolitan low commuting: primary flow 10% to 30% to a large UC
- 6.0 No additional code
- 7. Small town core: primary flow within an urban cluster of 2,500 to 9,999 (small UC)
- 7.0 No additional code
- 7.1 Secondary flow 30% to 50% to a UA
- 7.2 Secondary flow 30% to 50% to a large UC
- 8. Small town high commuting: primary flow 30% or more to a small UC
- 8.0 No additional code
- 8.1 Secondary flow 30% to 50% to a UA
- 8.2 Secondary flow 30% to 50% to a large UC
- 9. Small town low commuting: primary flow 10% to 30% to a small UC
- 9.0 No additional code
- 10. Rural areas: primary flow to a tract outside a UA or UC
- 10.0 No additional code
- 10.1 Secondary flow 30% to 50% to a UA
- 10.2 Secondary flow 30% to 50% to a large UC
- 10.3 Secondary flow 30% to 50% to a small UC
- Not coded: Census tract has zero population and no rural-urban identifier information

These codes identify influence areas of metropolitan, micropolitan, and small-town cores, similar in concept to the non-metropolitan adjacent codes found in the Rural-Urban Continuum Codes and Urban Influence Codes. These tracts can be consolidated into various subcategories (i.e., small/large metro areas). Tracts may be too granular for a national study (one cannot, for example, intersect HPMS data with tracts) but could still be used to identify which counties should be considered urban fringe. Given these characteristics, RUCA offers many advantages. Specifically, it provides sub-county classifications, considers functional relationships in addition to population and population density, and offers an adjustable taxonomy to fit unique needs.

USDA Business and Industry Loan Program

The USDA established eligibility criteria for its Business and Industry Loan Program starting in 2002. Specifically, eligible rural areas are those outside of "places of 50,000 or more people and their adjacent and contiguous urbanized areas." This scheme applies a combination of Census Places and Census Urban Areas. Census Places may be incorporated, in which case they conform

to Census-defined boundaries, or unincorporated areas, in which case they conform to locally determined boundaries.

As a simple binary system, this classification system offers limited value to this project. However, the definition of contiguous urban areas is distinct among the classification systems considered here, although it builds on the general U.S. Census Bureau classifications discussed above.

Federal Office of Rural Health Policy (FORHP) Classification

The Federal Office of Rural Health Policy (FORHP) in the Department of Health and Human Services (HHS) accepts all non-metropolitan counties as rural, but it also uses RUCA codes to identify additional rural areas. Specifically, tracts inside metropolitan counties with RUCA codes 4 through 10 are considered rural. Though this approach allows for a more nuanced definition of rural census tracts, RUCA codes are insufficient for certain very large tracts. For this reason, FORHP has also designated 132 large area census tracts with RUCA codes 2 or 3 as rural. These tracts are at least 400 square miles in area with a population density of no more than 35 people per square mile.

Like other binary systems, the disadvantage of this classification system is its lack of nuance among different types of rural areas. However, this system presents a useful option for overcoming measurement challenges associated with the Census and OMB definitions. Though the Census definition may classify suburban areas as rural, the OMB definition suffers from the opposite problem: classifying rural areas in metropolitan counties as urban. The FORHP system overcomes these challenges by sorting metropolitan counties into rural and non-rural categories according to commuter flows, so it offers the most nuanced binary system for classifying Census areas.

NCHRP 20-122: Rural Transportation Issues: Research Roadmap Report

This project aims to help transportation agencies inform policy-driven investment decisions by identifying critical rural transportation issues that can be addressed by NCHRP and other research programs. Acknowledging the diverse nature of rural communities, one important part of this roadmap was stakeholder engagement in communities that are representative of the nation as a whole. To accomplish this, the report identifies six overlapping rural community types that were considered in the development of this report's proposed classification system. The six types include the following:

- Resource Oriented
- Exurban
- Tourism Based
- Frontier and Remote
- Beyond the Lower 48
- Tribal Lands and Alaska Native Villages

NCHRP 582: Best Practices to Enhance the Transportation-Land Use Connection in the Rural U.S.

This study classifies rural counties into three types based on their growth rate and primary economic drivers. These categories include the following:

- Exurban/growing counties: located in proximity to urban areas
- Destination counties: those with natural environments and amenities that tend to attract tourists, second-home owners, and retirees
- Production counties: those that depend on economic drivers that are declining such as mining, agriculture, and manufacturing

As with the ERS County Typology Codes, this classification system offers the opportunity to consider counties according to economic characteristics rather than simply population and commuter behavior (although exurban counties are defined according to their proximity to urban areas). However, the ERS County Typology Codes offer a greater variety of production-dependent counties (e.g., mining, farming, and manufacturing). Combining and reconciling these classifications systems may offer an opportunity to take advantage of both systems.

Place Matters: Challenges and Opportunities in Four Rural Americas (University of New Hampshire)

This research included an extensive survey of rural residents and socioeconomic, demographic, and related factors to identify the following types of rural places:

- Amenity-rich
- Declining resource-dependent
- Chronically poor
- Transitional, with both amenity-driven growth and resource-based decline

Five sets of issues were evaluated to provide a matrix for understanding each type of rural places. These five issues are economic changes, demographic changes, civil institutions, environment and natural resources, and infrastructure. The study identifies regions that meet the criteria for the four types of rural places and also defines counties within each of these regions for further analysis.

Transportation, Economic Development, and Quality of Life in Rural America (Rural Policy Research Institute)

This report identifies a complex classification system based on the following types of indicators:

- Demand indicators including growing population, agriculture dependence, tourism dependence, poverty rates, percentage of the population between the ages of five and 18, and the ratio of residents without automobiles.
- Supply indicators including spatial characteristics such as rural road miles as a percentage of total road miles, public transit availability, distance to commercial air service, and distance to a hospital.

- Outcome indicators including economic development, cost of living, access, safety, health, sustainability, and walkability. An example of a county-level outcome indicator would be the five-year average gross domestic product (GDP) growth rate.

Putting Smart Growth to Work in Rural Communities (International City/County Management Association)
This study uses a qualitative categorization of rural communities based on their economic, geographic, and design characteristics. These community types include the following:

- Gateway communities (i.e., near high-amenity recreation areas)
- Resource-dependent communities
- Edge communities (i.e., located at the fringe of a metropolitan area but well- connected
- Traditional Main Street (i.e., compact street networks and historic landmarks)
- Second home and retirement communities

FHWA Planning for Transportation in Rural Areas
This study defines rural as "non-metropolitan areas outside the limits of any incorporated or unincorporated city, town, or village," and establishes the following categories:

- Basic rural (dispersed counties with few major populations centers)
- Developed rural (dispersed counties with one or more populations centers with over 5,000 people)
- Urban boundary rural (counties that border metropolitan areas)

USDOT Rural Opportunities to Use Transportation for Economic Success (ROUTES)
Rural Opportunities to Use Transportation for Economic Success (ROUTES) is a recent initiative of the U.S. Department of Transportation to address economic and safety disparities in rural transportation. The program is guided by the ROUTES Council, which will oversee the ROUTES Infrastructure Management Team in carrying out the following activities:

- Collecting input from stakeholders on the benefits rural projects offer for safety and economic development, as well as the type and degree of assistance rural projects require.
- Providing user-friendly information to rural communities to assist them in understanding and applying for DOT discretionary grants.
- Improving DOT's data-driven approaches to better assess needs for and benefits of rural transportation infrastructure projects.

Because ROUTES held its first meeting in November 2019, it has not yet adopted or developed a specific classification of rural areas. However, subsequent tasks in this project could involve using data or other information from ROUTES as the program grows.

APPENDIX B. COUNTY CLASSIFICATION MAP

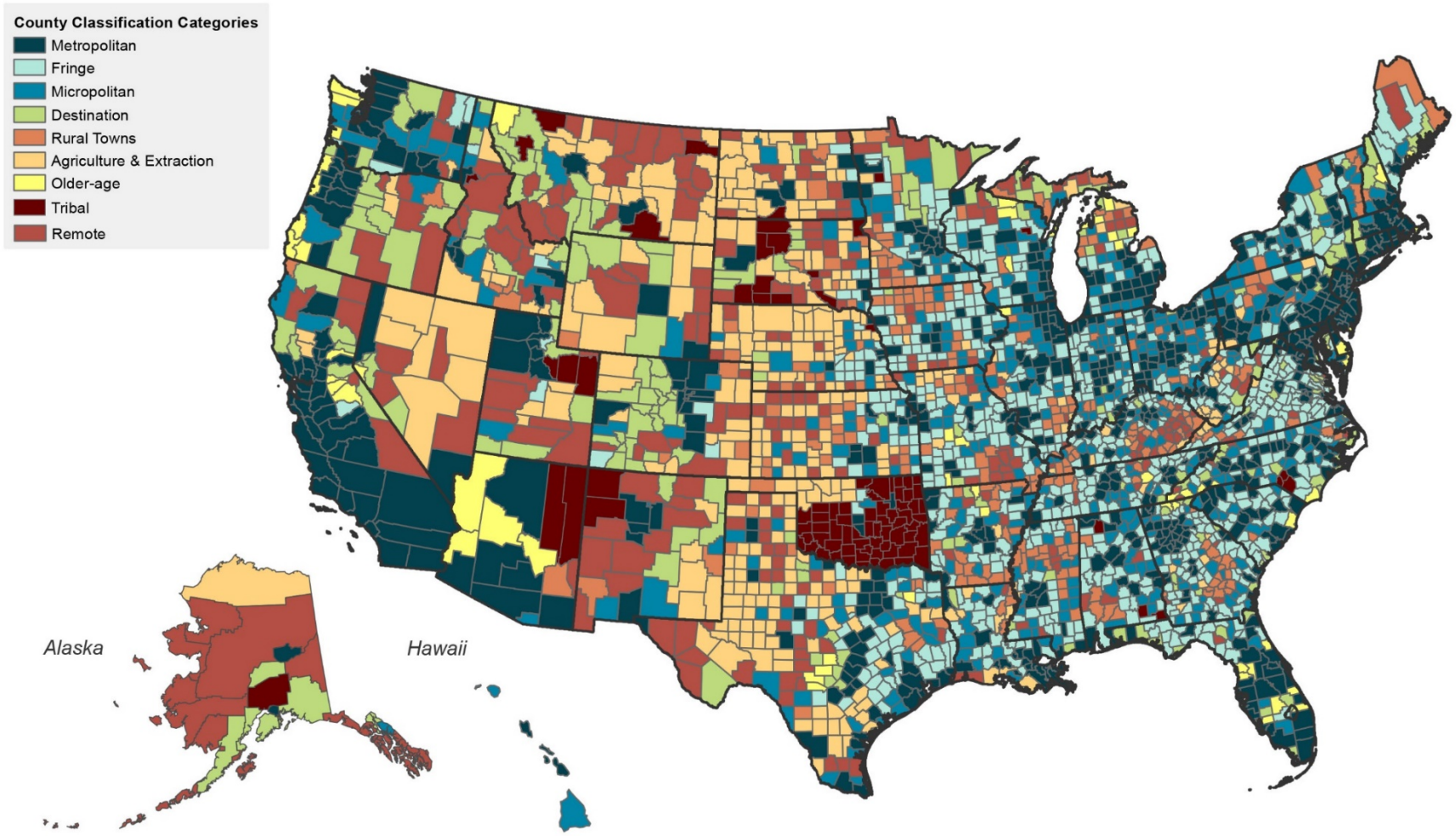

Figure 10. U.S. counties shaded according to their classification category.

County Classification Map Data

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
28151	Washington County, Mississippi	46637	8579	17.5	Micropolitan
28111	Perry County, Mississippi	11920	12227	100	Fringe
28019	Choctaw County, Mississippi	8195	8294	100	Remote
28057	Itawamba County, Mississippi	23252	20293	86.3	Rural Towns
28015	Carroll County, Mississippi	9963	10254	100	Micropolitan
28043	Grenada County, Mississippi	20929	11300	52.2	Rural Towns
28063	Jefferson County, Mississippi	6874	7599	100	Fringe
28041	Greene County, Mississippi	10208	14326	100	Fringe
28093	Marshall County, Mississippi	34431	30225	83.4	Fringe
28119	Quitman County, Mississippi	7201	4376	57	Fringe
28011	Bolivar County, Mississippi	31910	18220	54	Rural Towns
28073	Lamar County, Mississippi	60529	30263	50.4	Fringe
28081	Lee County, Mississippi	83971	38672	45.4	Micropolitan
28113	Pike County, Mississippi	39093	23810	59.4	Micropolitan
28135	Tallahatchie County, Mississippi	11041	11949	80.9	Rural Towns
28129	Smith County, Mississippi	15975	16188	100	Fringe
28131	Stone County, Mississippi	17761	14088	78.8	Fringe
28149	Warren County, Mississippi	46555	19622	40.9	Micropolitan
28023	Clarke County, Mississippi	15876	16299	100	Micropolitan
28069	Kemper County, Mississippi	9667	10163	100	Micropolitan
28097	Montgomery County, Mississippi	10071	6223	59.8	Rural Towns
28105	Oktibbeha County, Mississippi	49148	17999	36.4	Micropolitan
28109	Pearl River County, Mississippi	54262	38615	69.9	Micropolitan
28079	Leake County, Mississippi	22192	18830	81.2	Fringe
28103	Noxubee County, Mississippi	10627	8229	74	Rural Towns
28099	Neshoba County, Mississippi	28899	21761	73.9	Rural Towns

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
28121	Rankin County, Mississippi	145894	50206	33.9	Metropolitan
28137	Tate County, Mississippi	28028	21827	77.4	Fringe
28077	Lawrence County, Mississippi	12619	12502	100	Fringe
28107	Panola County, Mississippi	34032	27190	78.9	Fringe
28161	Yalobusha County, Mississippi	12233	9737	79.3	Rural Towns
28017	Chickasaw County, Mississippi	16915	14768	85.3	Rural Towns
28029	Copiah County, Mississippi	28568	18884	65.6	Fringe
28039	George County, Mississippi	23204	20582	88.3	Fringe
28049	Hinds County, Mississippi	239245	37233	15.3	Metropolitan
28101	Newton County, Mississippi	21375	19008	87.1	Rural Towns
28145	Union County, Mississippi	28087	21230	75.6	Fringe
28125	Sharkey County, Mississippi	4409	4647	100	Fringe
28139	Tippah County, Mississippi	21887	18478	83.8	Fringe
28035	Forrest County, Mississippi	74905	22621	29.6	Metropolitan
28045	Hancock County, Mississippi	46433	19556	42.6	Metropolitan
28071	Lafayette County, Mississippi	52987	24126	45.6	Micropolitan
28055	Issaquena County, Mississippi	1053	1397	100	Agriculture & Extraction
28087	Lowndes County, Mississippi	57481	25444	42.6	Micropolitan
28083	Leflore County, Mississippi	29280	5556	17.7	Micropolitan
28157	Wilkinson County, Mississippi	7904	9191	100	Fringe
28047	Harrison County, Mississippi	195006	45475	22.8	Destination
28065	Jefferson Davis County, Mississippi	11385	11822	100	Fringe
28085	Lincoln County, Mississippi	33876	24169	69.5	Micropolitan
28123	Scott County, Mississippi	28161	20540	72.2	Fringe
28159	Winston County, Mississippi	17929	14027	75.9	Rural Towns
28163	Yazoo County, Mississippi	23580	12408	44.6	Metropolitan
28009	Benton County, Mississippi	8173	8296	100	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
28037	Franklin County, Mississippi	7674	7833	100	Remote
28061	Jasper County, Mississippi	16472	16601	100	Micropolitan
28067	Jones County, Mississippi	67681	41955	61.4	Micropolitan
28095	Monroe County, Mississippi	35379	25070	69.6	Rural Towns
28133	Sunflower County, Mississippi	22663	12583	45.8	Rural Towns
28155	Webster County, Mississippi	9739	9972	100	Remote
28001	Adams County, Mississippi	28945	11815	37.2	Destination
28025	Clay County, Mississippi	19537	11234	55.5	Rural Towns
28031	Covington County, Mississippi	18838	19442	100	Fringe
28053	Humphreys County, Mississippi	8450	4357	49.8	Fringe
29123	Madison County, Missouri	12001	8102	65.5	Fringe
29229	Wright County, Missouri	18102	14015	76.6	Fringe
29217	Vernon County, Missouri	20225	12235	58.3	Rural Towns
29195	Saline County, Missouri	22640	10694	45.8	Micropolitan
29147	Nodaway County, Missouri	21735	10024	43.4	Micropolitan
29041	Chariton County, Missouri	7321	7694	100	Agriculture & Extraction
29079	Grundy County, Missouri	9870	4636	45.5	Rural Towns
29141	Morgan County, Missouri	19764	20240	100	Destination
29223	Wayne County, Missouri	13191	13452	100	Remote
29017	Bollinger County, Missouri	12195	12394	100	Fringe
29031	Cape Girardeau County, Missouri	77096	23806	30.5	Metropolitan
29205	Shelby County, Missouri	5845	6108	100	Remote
29225	Webster County, Missouri	37152	27271	73.9	Fringe
29005	Atchison County, Missouri	5180	5382	100	Remote
29013	Bates County, Missouri	16061	12815	77.3	Fringe
29015	Benton County, Missouri	18789	16275	86.5	Older-age
29035	Carter County, Missouri	6142	6258	100	Remote

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
29057	Dade County, Missouri	7455	7628	100	Fringe
29115	Linn County, Missouri	12076	8181	66.5	Rural Towns
29091	Howell County, Missouri	39699	28994	72.2	Rural Towns
29101	Johnson County, Missouri	49811	27422	50.4	Micropolitan
29105	Laclede County, Missouri	35094	21445	60.5	Micropolitan
29125	Maries County, Missouri	8754	9013	100	Fringe
29161	Phelps County, Missouri	43977	20730	46.2	Micropolitan
29165	Platte County, Missouri	97990	14984	15.8	Metropolitan
29187	St. Francois County, Missouri	59676	26228	39.8	Micropolitan
29003	Andrew County, Missouri	17198	10650	61.3	Fringe
29033	Carroll County, Missouri	8751	5836	64.5	Fringe
29061	Daviess County, Missouri	8106	8297	100	Fringe
29103	Knox County, Missouri	3885	4000	100	Remote
29127	Marion County, Missouri	27993	7162	24.8	Micropolitan
29151	Osage County, Missouri	13482	13703	100	Fringe
29181	Ripley County, Missouri	13638	13969	100	Remote
29219	Warren County, Missouri	33732	20962	63	Fringe
29007	Audrain County, Missouri	23862	10664	41.2	Micropolitan
29043	Christian County, Missouri	83838	36778	44.8	Metropolitan
29077	Greene County, Missouri	284574	40014	14	Metropolitan
29081	Harrison County, Missouri	8336	6081	70.4	Agriculture & Extraction
29185	St. Clair County, Missouri	9114	9457	100	Agriculture & Extraction
29001	Adair County, Missouri	25021	9691	37.9	Rural Towns
29199	Scotland County, Missouri	4806	4863	100	Agriculture & Extraction
29211	Sullivan County, Missouri	6143	6411	100	Agriculture & Extraction
29045	Clark County, Missouri	6703	6917	100	Micropolitan
29099	Jefferson County, Missouri	221679	67252	30.2	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
29111	Lewis County, Missouri	9832	10138	100	Micropolitan
29143	New Madrid County, Missouri	17477	10390	56.9	Rural Towns
29157	Perry County, Missouri	18835	10680	55.6	Fringe
29173	Ralls County, Missouri	10152	9856	96.1	Micropolitan
29177	Ray County, Missouri	22561	17262	75.2	Fringe
29189	St. Louis County, Missouri	986618	11401	1.1	Metropolitan
29209	Stone County, Missouri	31168	27585	88.7	Older-age
29009	Barry County, Missouri	35196	26128	73.3	Fringe
29019	Boone County, Missouri	175186	32447	18.8	Metropolitan
29039	Cedar County, Missouri	13776	10505	75.3	Fringe
29055	Crawford County, Missouri	23952	18070	73.3	Fringe
29093	Iron County, Missouri	9890	7685	74.9	Remote
29117	Livingston County, Missouri	13847	5510	36.6	Fringe
29135	Moniteau County, Missouri	14602	8356	52.7	Fringe
29149	Oregon County, Missouri	10576	8787	80.5	Remote
29159	Pettis County, Missouri	41735	15952	37.8	Micropolitan
29186	Ste. Genevieve County, Missouri	17669	13640	76.1	Fringe
29175	Randolph County, Missouri	22913	11326	45.2	Micropolitan
29069	Dunklin County, Missouri	29745	15815	50.5	Rural Towns
29071	Franklin County, Missouri	101932	56757	55.6	Fringe
29089	Howard County, Missouri	9985	6508	64.1	Fringe
29095	Jackson County, Missouri	685127	26214	3.8	Metropolitan
29131	Miller County, Missouri	24715	20058	79.8	Fringe
29169	Pulaski County, Missouri	39677	23529	44	Micropolitan
29171	Putnam County, Missouri	4740	4829	100	Agriculture & Extraction
29213	Taney County, Missouri	54288	23786	43.9	Destination
29215	Texas County, Missouri	24247	25440	99.2	Rural Towns

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
29021	Buchanan County, Missouri	86052	11966	13.4	Metropolitan
29025	Caldwell County, Missouri	8852	9034	100	Agriculture & Extraction
29027	Callaway County, Missouri	42130	27757	62	Fringe
29037	Cass County, Missouri	101904	32690	32.4	Metropolitan
29049	Clinton County, Missouri	19987	15470	76.2	Fringe
29053	Cooper County, Missouri	16044	9355	53.2	Fringe
29059	Dallas County, Missouri	16263	13428	81.9	Fringe
29075	Gentry County, Missouri	6513	6826	100	Agriculture & Extraction
29085	Hickory County, Missouri	9287	9219	100	Fringe
29113	Lincoln County, Missouri	55030	40594	74.8	Fringe
29133	Mississippi County, Missouri	12032	4654	32.7	Fringe
29137	Monroe County, Missouri	8551	8707	100	Agriculture & Extraction
29145	Newton County, Missouri	57555	37759	64.4	Fringe
29153	Ozark County, Missouri	9181	9492	100	Remote
29163	Pike County, Missouri	16244	10083	54.4	Fringe
29183	St. Charles County, Missouri	388010	22126	5.8	Metropolitan
30017	Custer County, Montana	11629	2165	17.9	Remote
30041	Hill County, Montana	16315	6639	40	Remote
30075	Powder River County, Montana	1589	1783	100	Agriculture & Extraction
30067	Park County, Montana	16144	7580	47.7	Destination
30085	Roosevelt County, Montana	11000	4502	39.7	Tribal
30005	Blaine County, Montana	6621	6619	100	Remote
30051	Liberty County, Montana	2258	2359	100	Agriculture & Extraction
30083	Richland County, Montana	11360	5117	44.2	Agriculture & Extraction
30099	Teton County, Montana	6005	6064	100	Agriculture & Extraction
30101	Toole County, Montana	4339	2212	43	Remote
30025	Fallon County, Montana	2762	3108	100	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
30019	Daniels County, Montana	1728	1793	100	Remote
30045	Judith Basin County, Montana	1951	1991	100	Agriculture & Extraction
30093	Silver Bow County, Montana	34218	3968	11.4	Agriculture & Extraction
30023	Deer Lodge County, Montana	8518	3078	33.6	Destination
30043	Jefferson County, Montana	11591	11558	100	Remote
30055	McCone County, Montana	1609	1694	100	Remote
30107	Wheatland County, Montana	2116	2102	100	Agriculture & Extraction
30087	Rosebud County, Montana	9169	9326	100	Agriculture & Extraction
30011	Carter County, Montana	1296	1169	100	Agriculture & Extraction
30021	Dawson County, Montana	8880	2624	27.6	Remote
30007	Broadwater County, Montana	5791	5667	100	Remote
30047	Lake County, Montana	29592	24278	83.4	Tribal
30073	Pondera County, Montana	5974	3613	58.1	Agriculture & Extraction
30111	Yellowstone County, Montana	155588	25973	16.7	Metropolitan
30081	Ravalli County, Montana	41711	34722	84.6	Older-age
30105	Valley County, Montana	7414	4218	55.2	Remote
30027	Fergus County, Montana	11096	5428	47.4	Remote
30061	Mineral County, Montana	4128	4257	100	Destination
30069	Petroleum County, Montana	432	485	100	Agriculture & Extraction
30089	Sanders County, Montana	11397	11364	100	Destination
30109	Wibaux County, Montana	1149	1121	100	Agriculture & Extraction
30059	Meagher County, Montana	1942	1853	100	Destination
30009	Carbon County, Montana	10442	10399	100	Destination
30029	Flathead County, Montana	97486	48871	51.5	Destination
30071	Phillips County, Montana	4083	4192	100	Remote
31001	Adams County, Nebraska	31302	7073	22.5	Micropolitan
31109	Lancaster County, Nebraska	305693	24908	8.3	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
31011	Boone County, Nebraska	5212	5353	100	Agriculture & Extraction
31149	Rock County, Nebraska	1311	1443	100	Agriculture & Extraction
31007	Banner County, Nebraska	696	764	100	Agriculture & Extraction
31163	Sherman County, Nebraska	2982	3074	100	Agriculture & Extraction
31147	Richardson County, Nebraska	7860	4111	50.6	Rural Towns
31093	Howard County, Nebraska	6405	6362	100	Agriculture & Extraction
31089	Holt County, Nebraska	10080	6732	64.7	Agriculture & Extraction
31065	Furnas County, Nebraska	4703	4888	100	Remote
31073	Gosper County, Nebraska	1979	1970	100	Agriculture & Extraction
31151	Saline County, Nebraska	14022	7279	51.1	Fringe
31153	Sarpy County, Nebraska	174125	9081	5.3	Metropolitan
31173	Thurston County, Nebraska	7094	6969	100	Tribal
31177	Washington County, Nebraska	20027	12405	61.2	Fringe
31015	Boyd County, Nebraska	2015	2033	100	Agriculture & Extraction
31031	Cherry County, Nebraska	5737	3026	52.5	Agriculture & Extraction
31053	Dodge County, Nebraska	36126	9233	25.1	Micropolitan
31059	Fillmore County, Nebraska	5339	5661	100	Fringe
31069	Garden County, Nebraska	1805	1911	100	Agriculture & Extraction
31091	Hooker County, Nebraska	665	728	100	Remote
31123	Morrill County, Nebraska	4682	4862	100	Agriculture & Extraction
31127	Nemaha County, Nebraska	6897	3736	52.1	Rural Towns
31159	Seward County, Nebraska	16848	10356	60.4	Fringe
31171	Thomas County, Nebraska	645	687	100	Remote
31043	Dakota County, Nebraska	20104	4397	21.1	Metropolitan
31181	Webster County, Nebraska	3489	3658	100	Agriculture & Extraction
31003	Antelope County, Nebraska	6295	6398	100	Agriculture & Extraction
31023	Butler County, Nebraska	7896	5420	65.7	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
31035	Clay County, Nebraska	6135	6315	100	Fringe
31041	Custer County, Nebraska	10702	7259	67.7	Agriculture & Extraction
31067	Gage County, Nebraska	21281	9618	44.4	Micropolitan
31081	Hamilton County, Nebraska	9041	4664	51.1	Fringe
31099	Kearney County, Nebraska	6483	3625	54.6	Rural Towns
31101	Keith County, Nebraska	8037	3828	47.1	Destination
31119	Madison County, Nebraska	34537	9815	27.9	Micropolitan
31135	Perkins County, Nebraska	2872	2891	100	Agriculture & Extraction
31155	Saunders County, Nebraska	20752	13908	66.5	Fringe
31179	Wayne County, Nebraska	9335	3969	42.1	Fringe
31103	Keya Paha County, Nebraska	792	810	100	Agriculture & Extraction
31107	Knox County, Nebraska	8252	8482	100	Agriculture & Extraction
31111	Lincoln County, Nebraska	35016	10931	30.5	Micropolitan
31139	Pierce County, Nebraska	7026	7202	100	Micropolitan
31165	Sioux County, Nebraska	1266	1303	100	Agriculture & Extraction
31025	Cass County, Nebraska	25279	18621	73	Fringe
31051	Dixon County, Nebraska	5665	5782	100	Agriculture & Extraction
31057	Dundy County, Nebraska	1984	1886	100	Agriculture & Extraction
31077	Greeley County, Nebraska	2384	2482	100	Agriculture & Extraction
31079	Hall County, Nebraska	60505	8993	14.6	Metropolitan
31131	Otoe County, Nebraska	15658	8705	55.1	Fringe
31145	Red Willow County, Nebraska	10542	3433	31.6	Rural Towns
31045	Dawes County, Nebraska	8823	3611	39.9	Remote
31033	Cheyenne County, Nebraska	9754	3679	36.3	Rural Towns
31047	Dawson County, Nebraska	23524	6423	26.7	Rural Towns
31117	McPherson County, Nebraska	454	498	100	Agriculture & Extraction
31125	Nance County, Nebraska	3457	3570	100	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
31167	Stanton County, Nebraska	5938	4460	73.5	Agriculture & Extraction
31175	Valley County, Nebraska	4172	4204	100	Remote
31083	Harlan County, Nebraska	3387	3492	100	Agriculture & Extraction
31009	Blaine County, Nebraska	480	504	100	Agriculture & Extraction
31019	Buffalo County, Nebraska	48477	15558	32.3	Micropolitan
31049	Deuel County, Nebraska	1875	1940	100	Agriculture & Extraction
31087	Hitchcock County, Nebraska	2804	2901	100	Remote
31141	Platte County, Nebraska	32780	10266	31.4	Micropolitan
31169	Thayer County, Nebraska	4950	5230	100	Remote
31013	Box Butte County, Nebraska	10919	2830	25	Rural Towns
32001	Churchill County, Nevada	23094	8328	34.7	Remote
32005	Douglas County, Nevada	47558	14999	31.6	Older-age
32027	Pershing County, Nevada	4701	6698	100	Agriculture & Extraction
32009	Esmeralda County, Nevada	976	822	100	Destination
32013	Humboldt County, Nevada	16688	6544	37.9	Agriculture & Extraction
32021	Mineral County, Nevada	4376	1436	31.9	Remote
32033	White Pine County, Nevada	8265	5351	53.3	Agriculture & Extraction
32007	Elko County, Nevada	51606	19972	37.9	Agriculture & Extraction
32017	Lincoln County, Nevada	4633	5184	100	Remote
32023	Nye County, Nevada	43244	14913	35.3	Agriculture & Extraction
32029	Storey County, Nevada	3899	3624	92.6	Destination
32031	Washoe County, Nevada	447876	18778	4.3	Metropolitan
32003	Clark County, Nevada	2117691	27032	1.3	Metropolitan
32510	Carson City, Nevada	52450	2639	4.8	Destination
32019	Lyon County, Nevada	52889	19129	36.9	Destination
33005	Cheshire County, New Hampshire	75502	49487	65	Micropolitan
33013	Merrimack County, New Hampshire	145891	80374	54.6	Micropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
33009	Grafton County, New Hampshire	88832	61609	68.7	Destination
33015	Rockingham County, New Hampshire	302730	74849	24.9	Metropolitan
33001	Belknap County, New Hampshire	59876	39970	66.3	Destination
33019	Sullivan County, New Hampshire	42621	27656	64.2	Rural Towns
33011	Hillsborough County, New Hampshire	406704	85864	21.2	Metropolitan
33017	Strafford County, New Hampshire	126907	40697	32.4	Metropolitan
33007	Coos County, New Hampshire	29809	20967	66.2	Destination
33003	Carroll County, New Hampshire	47371	42755	90.2	Older-age
34025	Monmouth County, New Jersey	619534	23469	3.7	Metropolitan
34037	Sussex County, New Jersey	141186	57746	39.8	Metropolitan
34011	Cumberland County, New Jersey	141856	36242	23	Metropolitan
34013	Essex County, New Jersey	781825	116	0	Metropolitan
34029	Ocean County, New Jersey	586854	16993	2.9	Metropolitan
34015	Gloucester County, New Jersey	289683	24282	8.3	Metropolitan
34033	Salem County, New Jersey	62167	29316	45.3	Metropolitan
34031	Passaic County, New Jersey	500479	12264	2.4	Metropolitan
34007	Camden County, New Jersey	501770	8266	1.6	Metropolitan
34003	Bergen County, New Jersey	923738	948	0.1	Metropolitan
34041	Warren County, New Jersey	105433	40163	37.6	Metropolitan
34017	Hudson County, New Jersey	664118	0	0	Metropolitan
34005	Burlington County, New Jersey	432010	29966	6.7	Metropolitan
34027	Morris County, New Jersey	490337	33828	6.8	Metropolitan
35039	Rio Arriba County, New Mexico	39092	19795	49.8	Remote
35047	San Miguel County, New Mexico	27441	13243	46.9	Remote
35057	Torrance County, New Mexico	15134	15421	98.8	Remote
35035	Otero County, New Mexico	60523	19260	29.6	Micropolitan
35006	Cibola County, New Mexico	25527	15136	55.3	Remote

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
35019	Guadalupe County, New Mexico	3703	1969	44.1	Destination
35003	Catron County, New Mexico	3530	3556	100	Remote
35029	Luna County, New Mexico	23890	10021	40.6	Micropolitan
35031	McKinley County, New Mexico	72507	42516	57.4	Tribal
35055	Taos County, New Mexico	32709	19337	58.4	Destination
35017	Grant County, New Mexico	27607	12323	42.4	Older-age
35007	Colfax County, New Mexico	11816	6639	52.4	Remote
35015	Eddy County, New Mexico	56799	11761	20.9	Agriculture & Extraction
35033	Mora County, New Mexico	4563	4592	100	Remote
35037	Quay County, New Mexico	8323	3534	41.6	Destination
35027	Lincoln County, New Mexico	19313	10480	53.2	Older-age
35025	Lea County, New Mexico	68127	14722	21	Agriculture & Extraction
35049	Santa Fe County, New Mexico	147297	37279	25.2	Metropolitan
35051	Sierra County, New Mexico	10881	3845	34	Remote
35053	Socorro County, New Mexico	16894	8599	49.7	Remote
35013	Do<U+FFFD>a Ana County, New Mexico	211873	41219	19.3	Metropolitan
36095	Schoharie County, New York	31286	26151	82.8	Fringe
36067	Onondaga County, New York	459222	58934	12.6	Metropolitan
36019	Clinton County, New York	76283	52372	64.2	Micropolitan
36099	Seneca County, New York	31836	20462	58.7	Micropolitan
36079	Putnam County, New York	98561	20444	20.5	Metropolitan
36033	Franklin County, New York	45937	32129	62.7	Rural Towns
36069	Ontario County, New York	108574	52076	47.5	Metropolitan
36081	Queens County, New York	2283272	0	0	Metropolitan
36101	Steuben County, New York	95781	59401	60.4	Micropolitan
36041	Hamilton County, New York	4550	4715	100	Destination
36115	Washington County, New York	58820	42350	67.9	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
36013	Chautauqua County, New York	127138	57922	43.9	Micropolitan
36047	Kings County, New York	2588145	39	0	Metropolitan
36061	New York County, New York	1621687	0	0	Metropolitan
36107	Tioga County, New York	48665	32744	65.7	Fringe
36011	Cayuga County, New York	74300	43969	55.8	Micropolitan
36073	Orleans County, New York	38540	25560	60.9	Fringe
36091	Saratoga County, New York	224396	67390	30	Metropolitan
36087	Rockland County, New York	321618	2323	0.7	Metropolitan
36021	Columbia County, New York	59273	45534	73.3	Destination
36049	Lewis County, New York	26366	23641	86.8	Fringe
36063	Niagara County, New York	209648	47916	22.4	Metropolitan
36119	Westchester County, New York	956399	31839	3.3	Metropolitan
36025	Delaware County, New York	45062	36503	78.4	Fringe
36031	Essex County, New York	35351	28954	74.9	Fringe
36057	Montgomery County, New York	48655	20379	40.9	Micropolitan
36059	Nassau County, New York	1346651	2612	0.2	Metropolitan
36085	Richmond County, New York	469981	0	0	Metropolitan
36097	Schuyler County, New York	17804	14996	81.2	Fringe
36109	Tompkins County, New York	102106	45376	43.3	Metropolitan
36017	Chenango County, New York	47740	41227	83.4	Fringe
36023	Cortland County, New York	47652	21705	44.3	Micropolitan
36045	Jefferson County, New York	102603	57228	48	Metropolitan
36065	Oneida County, New York	223217	76810	33	Metropolitan
36103	Suffolk County, New York	1474764	39094	2.6	Metropolitan
36121	Wyoming County, New York	37721	26394	64.1	Fringe
36015	Chemung County, New York	82378	21222	24.2	Metropolitan
36075	Oswego County, New York	118412	74669	61.8	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
36077	Otsego County, New York	59581	43136	70.6	Destination
36117	Wayne County, New York	89965	55872	60.7	Fringe
36001	Albany County, New York	303585	29881	9.7	Metropolitan
36007	Broome County, New York	191590	51423	26.1	Metropolitan
36029	Erie County, New York	908252	86782	9.4	Metropolitan
36053	Madison County, New York	70843	42659	58.9	Fringe
36105	Sullivan County, New York	73075	56323	74.2	Destination
36037	Genesee County, New York	57637	35430	59.9	Micropolitan
36071	Orange County, New York	369400	84023	22.3	Metropolitan
37079	Greene County, North Carolina	18693	21093	100	Fringe
37121	Mitchell County, North Carolina	14928	12654	82.6	Remote
37041	Chowan County, North Carolina	13943	9854	67.6	Fringe
37027	Caldwell County, North Carolina	80953	28053	34.4	Metropolitan
37035	Catawba County, North Carolina	155210	46816	30.3	Metropolitan
37049	Craven County, North Carolina	95269	28958	27.7	Metropolitan
37065	Edgecombe County, North Carolina	52689	24888	45.3	Metropolitan
37085	Harnett County, North Carolina	124420	70833	55.9	Micropolitan
37089	Henderson County, North Carolina	112521	36980	33.3	Metropolitan
37095	Hyde County, North Carolina	4764	5676	100	Destination
37119	Mecklenburg County, North Carolina	1049025	10788	1.1	Metropolitan
37131	Northampton County, North Carolina	19359	18287	89.4	Micropolitan
37159	Rowan County, North Carolina	137263	53819	38.8	Metropolitan
37181	Vance County, North Carolina	44050	24127	54.1	Micropolitan
37053	Currituck County, North Carolina	25369	24555	98.3	Destination
37179	Union County, North Carolina	225679	59645	27.3	Metropolitan
37067	Forsyth County, North Carolina	368426	26837	7.3	Metropolitan
37127	Nash County, North Carolina	92708	44879	47.6	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
37017	Bladen County, North Carolina	33495	31619	91.2	Fringe
37055	Dare County, North Carolina	35552	10166	29	Destination
37185	Warren County, North Carolina	19127	20231	100	Fringe
37195	Wilson County, North Carolina	80243	31471	38.7	Micropolitan
37015	Bertie County, North Carolina	18355	16737	83.2	Rural Towns
37073	Gates County, North Carolina	11488	11567	100	Fringe
37075	Graham County, North Carolina	8445	8644	100	Remote
37117	Martin County, North Carolina	22902	18323	78.1	Fringe
37115	Madison County, North Carolina	21170	19172	90.6	Fringe
37137	Pamlico County, North Carolina	12045	12948	100	Destination
37143	Perquimans County, North Carolina	13305	13466	100	Micropolitan
37149	Polk County, North Carolina	20167	18784	92.3	Older-age
37151	Randolph County, North Carolina	141697	80302	56.2	Fringe
37157	Rockingham County, North Carolina	90156	56801	61.9	Fringe
37169	Stokes County, North Carolina	45435	35138	75.7	Fringe
37187	Washington County, North Carolina	11994	8517	67.8	Rural Towns
37029	Camden County, North Carolina	10303	10284	99.5	Micropolitan
37043	Clay County, North Carolina	10787	10581	100	Remote
37051	Cumberland County, North Carolina	301654	43624	13.4	Metropolitan
37071	Gaston County, North Carolina	214551	41481	19.6	Metropolitan
37081	Guilford County, North Carolina	519628	65010	12.7	Metropolitan
37099	Jackson County, North Carolina	42044	29953	73.1	Micropolitan
37125	Moore County, North Carolina	92497	47151	50.7	Destination
37155	Robeson County, North Carolina	131714	84378	62.6	Tribal
37167	Stanly County, North Carolina	59742	41034	67.7	Micropolitan
37183	Wake County, North Carolina	1038477	60934	6.1	Metropolitan
37199	Yancey County, North Carolina	17520	17614	100	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
37037	Chatham County, North Carolina	69132	45287	65.9	Fringe
37111	McDowell County, North Carolina	44205	31611	70.3	Micropolitan
37101	Johnston County, North Carolina	189560	94407	52	Fringe
37103	Jones County, North Carolina	9628	10076	100	Fringe
37145	Person County, North Carolina	38867	29553	75.5	Fringe
37019	Brunswick County, North Carolina	125893	51053	43	Older-age
37009	Ashe County, North Carolina	26523	23020	84.9	Destination
37013	Beaufort County, North Carolina	46872	31216	65.6	Micropolitan
37107	Lenoir County, North Carolina	56047	26321	45	Micropolitan
37109	Lincoln County, North Carolina	80832	43549	54.6	Fringe
37133	Onslow County, North Carolina	155873	49428	26.3	Metropolitan
37135	Orange County, North Carolina	142298	40065	28.5	Metropolitan
37161	Rutherford County, North Carolina	65558	40653	61	Micropolitan
37163	Sampson County, North Carolina	62900	54419	85	Fringe
37197	Yadkin County, North Carolina	37387	32001	84.7	Fringe
37011	Avery County, North Carolina	15019	15780	88.8	Destination
37023	Burke County, North Carolina	87354	38168	42.7	Metropolitan
37033	Caswell County, North Carolina	21862	22896	99.2	Fringe
37059	Davie County, North Carolina	41666	29123	70.3	Fringe
37061	Duplin County, North Carolina	58660	51777	86.5	Fringe
37063	Durham County, North Carolina	300915	16571	5.6	Metropolitan
37105	Lee County, North Carolina	59036	25514	42.8	Micropolitan
37129	New Hanover County, North Carolina	221731	4791	2.2	Destination
37191	Wayne County, North Carolina	119941	57753	46.4	Metropolitan
37165	Scotland County, North Carolina	33225	17216	48.4	Tribal
37083	Halifax County, North Carolina	50388	28978	54.7	Micropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
37001	Alamance County, North Carolina	159436	44491	28.6	Metropolitan
38013	Burke County, North Dakota	2211	2245	100	Agriculture & Extraction
38061	Mountrail County, North Dakota	10082	9782	100	Agriculture & Extraction
38105	Williams County, North Dakota	33725	10430	32.5	Agriculture & Extraction
38007	Billings County, North Dakota	946	901	100	Agriculture & Extraction
38043	Kidder County, North Dakota	2456	2424	100	Agriculture & Extraction
38019	Cavalier County, North Dakota	3724	3855	100	Agriculture & Extraction
38037	Grant County, North Dakota	2327	2361	100	Agriculture & Extraction
38067	Pembina County, North Dakota	6843	7128	100	Remote
38091	Steele County, North Dakota	1910	1955	100	Agriculture & Extraction
38041	Hettinger County, North Dakota	2408	2660	100	Agriculture & Extraction
38045	LaMoure County, North Dakota	4027	4149	100	Agriculture & Extraction
38059	Morton County, North Dakota	29970	9500	31.9	Metropolitan
38017	Cass County, North Dakota	172777	17427	10.4	Metropolitan
38025	Dunn County, North Dakota	4331	4399	100	Agriculture & Extraction
38029	Emmons County, North Dakota	3298	3422	100	Agriculture & Extraction
38051	McIntosh County, North Dakota	2546	2801	100	Agriculture & Extraction
38063	Nelson County, North Dakota	2842	3045	100	Agriculture & Extraction
38077	Richland County, North Dakota	16125	8545	52	Micropolitan
38079	Rolette County, North Dakota	14484	14616	100	Remote
38099	Walsh County, North Dakota	10624	6808	62.1	Fringe
38001	Adams County, North Dakota	2291	2384	100	Agriculture & Extraction
38009	Bottineau County, North Dakota	6446	6650	100	Agriculture & Extraction
38003	Barnes County, North Dakota	10637	4408	39.6	Remote
38027	Eddy County, North Dakota	2239	2377	100	Agriculture & Extraction
38035	Grand Forks County, North Dakota	68409	11762	16.8	Metropolitan
38053	McKenzie County, North Dakota	12443	10996	100	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
38057	Mercer County, North Dakota	8441	5684	65	Agriculture & Extraction
38055	McLean County, North Dakota	9438	9578	100	Remote
38069	Pierce County, North Dakota	4041	1550	35.2	Destination
38073	Ransom County, North Dakota	5207	5446	100	Remote
38085	Sioux County, North Dakota	4382	4422	100	Tribal
38011	Bowman County, North Dakota	3131	3247	100	Remote
38033	Golden Valley County, North Dakota	1825	1825	100	Agriculture & Extraction
38047	Logan County, North Dakota	1850	1944	100	Agriculture & Extraction
38095	Towner County, North Dakota	2215	2310	100	Agriculture & Extraction
38093	Stutsman County, North Dakota	20166	5824	27.6	Rural Towns
38023	Divide County, North Dakota	2283	2432	100	Remote
38031	Foster County, North Dakota	3208	3362	100	Remote
38081	Sargent County, North Dakota	3844	3931	100	Remote
38087	Slope County, North Dakota	704	765	100	Agriculture & Extraction
38089	Stark County, North Dakota	30530	8300	27.3	Agriculture & Extraction
39053	Gallia County, Ohio	29810	24728	81.4	Micropolitan
39077	Huron County, Ohio	57919	29535	50.3	Micropolitan
39009	Athens County, Ohio	65238	27937	43.2	Micropolitan
39001	Adams County, Ohio	27601	25042	89	Fringe
39103	Medina County, Ohio	176076	52446	29.8	Metropolitan
39159	Union County, Ohio	52468	26862	50	Metropolitan
39021	Champaign County, Ohio	38385	27712	70.8	Micropolitan
39125	Paulding County, Ohio	18768	15552	81.9	Fringe
39057	Greene County, Ohio	161844	24425	14.9	Metropolitan
39049	Franklin County, Ohio	1267350	16673	1.4	Metropolitan
39101	Marion County, Ohio	59873	19881	30.3	Micropolitan
39115	Morgan County, Ohio	14516	12095	81.5	Fringe
39169	Wayne County, Ohio	115073	58925	51	Micropolitan
39175	Wyandot County, Ohio	21844	12835	57.4	Rural Towns

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
39017	Butler County, Ohio	374831	34957	9.3	Metropolitan
39067	Harrison County, Ohio	15045	13073	84.1	Fringe
39083	Knox County, Ohio	60574	34070	55.7	Micropolitan
39139	Richland County, Ohio	114683	39088	32.1	Metropolitan
39163	Vinton County, Ohio	13033	13234	100	Fringe
39063	Hancock County, Ohio	74840	23438	31.1	Micropolitan
39045	Fairfield County, Ohio	150076	52201	34.7	Metropolitan
39039	Defiance County, Ohio	37984	16887	43.9	Micropolitan
39069	Henry County, Ohio	26889	19299	69.1	Fringe
39081	Jefferson County, Ohio	66141	26389	39	Metropolitan
39137	Putnam County, Ohio	33707	28929	84.7	Fringe
39027	Clinton County, Ohio	41568	22858	54.6	Micropolitan
39047	Fayette County, Ohio	28257	13752	47.8	Micropolitan
39129	Pickaway County, Ohio	52972	28361	49.9	Metropolitan
39091	Logan County, Ohio	44922	25900	56.9	Micropolitan
39153	Summit County, Ohio	536440	21009	3.9	Metropolitan
39143	Sandusky County, Ohio	58404	26565	44.1	Micropolitan
39149	Shelby County, Ohio	48488	25020	51.1	Micropolitan
27033	Cottonwood County, Minnesota	11185	7244	62.3	Rural Towns
27139	Scott County, Minnesota	141741	24079	17.2	Metropolitan
27039	Dodge County, Minnesota	20487	10536	51.8	Fringe
27157	Wabasha County, Minnesota	21320	13787	64.5	Fringe
27117	Pipestone County, Minnesota	9028	5318	57.3	Fringe
27035	Crow Wing County, Minnesota	63094	39690	62.7	Destination
27107	Norman County, Minnesota	6426	6639	100	Agriculture & Extraction
27171	Wright County, Minnesota	131954	42233	32.5	Metropolitan
27103	Nicollet County, Minnesota	33575	8463	25.6	Metropolitan
27041	Douglas County, Minnesota	36789	19439	52.8	Micropolitan
27051	Grant County, Minnesota	5897	5956	100	Remote

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
27069	Kittson County, Minnesota	4192	4435	100	Agriculture & Extraction
27079	Le Sueur County, Minnesota	27841	17262	62.2	Fringe
27087	Mahnomen County, Minnesota	5478	5505	100	Tribal
27025	Chisago County, Minnesota	53334	30032	55.6	Fringe
27127	Redwood County, Minnesota	15074	10725	69.1	Rural Towns
27173	Yellow Medicine County, Minnesota	9701	8170	80.8	Rural Towns
27153	Todd County, Minnesota	24252	19020	78.4	Fringe
27007	Beltrami County, Minnesota	45590	30636	67.1	Destination
27013	Blue Earth County, Minnesota	65685	17584	26.9	Metropolitan
27055	Houston County, Minnesota	18451	10754	57.4	Fringe
27073	Lac qui Parle County, Minnesota	6653	6891	100	Agriculture & Extraction
27077	Lake of the Woods County, Minnesota	3758	3918	100	Remote
27111	Otter Tail County, Minnesota	57341	42413	73.6	Micropolitan
27161	Waseca County, Minnesota	17785	9543	50.2	Fringe
27137	St. Louis County, Minnesota	196847	74581	37.1	Destination
27003	Anoka County, Minnesota	345055	46154	13.5	Metropolitan
27145	Stearns County, Minnesota	155688	56475	36.9	Metropolitan
27081	Lincoln County, Minnesota	5539	5788	100	Agriculture & Extraction
27089	Marshall County, Minnesota	9322	9417	100	Remote
27095	Mille Lacs County, Minnesota	25283	18332	70.8	Destination
27163	Washington County, Minnesota	249965	36067	14.5	Metropolitan
27017	Carlton County, Minnesota	34328	19623	55.2	Fringe
27065	Kanabec County, Minnesota	15851	12330	77.4	Fringe
27071	Koochiching County, Minnesota	12464	6042	47	Remote
27097	Morrison County, Minnesota	32602	23891	72.8	Destination
27131	Rice County, Minnesota	63236	16897	25.9	Micropolitan
27147	Steele County, Minnesota	36309	11181	30.6	Micropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
27125	Red Lake County, Minnesota	3985	4043	100	Fringe
27001	Aitkin County, Minnesota	15655	15771	100	Fringe
27043	Faribault County, Minnesota	13621	11016	77.6	Fringe
27101	Murray County, Minnesota	8246	8470	100	Remote
27067	Kandiyohi County, Minnesota	41983	18827	44.5	Micropolitan
27075	Lake County, Minnesota	10397	7153	67	Remote
27133	Rock County, Minnesota	9187	4997	52.3	Fringe
27143	Sibley County, Minnesota	14787	14918	100	Fringe
27155	Traverse County, Minnesota	3249	3387	100	Agriculture & Extraction
27005	Becker County, Minnesota	33380	25101	75.5	Fringe
27053	Hennepin County, Minnesota	1226779	26968	2.2	Metropolitan
27015	Brown County, Minnesota	24876	8837	34.9	Micropolitan
27023	Chippewa County, Minnesota	11821	6096	50.3	Rural Towns
27029	Clearwater County, Minnesota	8714	8791	100	Fringe
27057	Hubbard County, Minnesota	20732	17151	83.4	Older-age
27059	Isanti County, Minnesota	38665	23918	62.3	Fringe
27091	Martin County, Minnesota	19756	10927	54	Rural Towns
27099	Mower County, Minnesota	39155	14117	35.9	Micropolitan
27115	Pine County, Minnesota	27562	25982	89.3	Fringe
27109	Olmsted County, Minnesota	151291	24937	16.6	Metropolitan
27159	Wadena County, Minnesota	13355	9215	67	Rural Towns
27009	Benton County, Minnesota	39249	15807	40	Metropolitan
27047	Freeborn County, Minnesota	30077	13209	42.8	Rural Towns
27085	McLeod County, Minnesota	35580	16705	46.6	Micropolitan
27121	Pope County, Minnesota	10804	10984	100	Fringe
27149	Stevens County, Minnesota	9696	4638	47.3	Rural Towns
27151	Swift County, Minnesota	9286	6358	67.4	Rural Towns

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
28051	Holmes County, Mississippi	17907	16031	86.8	Fringe
28005	Amite County, Mississippi	12360	12629	100	Micropolitan
28013	Calhoun County, Mississippi	14381	14745	100	Remote
28141	Tishomingo County, Mississippi	19228	19420	100	Fringe
28153	Wayne County, Mississippi	20300	16318	79.6	Rural Towns
48015	Austin County, Texas	29298	19315	66.3	Fringe
48261	Kenedy County, Texas	595	400	100	Remote
48355	Nueces County, Texas	355767	22966	6.4	Metropolitan
48089	Colorado County, Texas	20703	12973	62.6	Fringe
48409	San Patricio County, Texas	66274	13149	19.7	Metropolitan
48379	Rains County, Texas	11410	10285	93.2	Destination
48381	Randall County, Texas	131586	18432	14.4	Metropolitan
48385	Real County, Texas	3295	3371	100	Remote
48411	San Saba County, Texas	5290	2775	49.4	Remote
48413	Schleicher County, Texas	3061	3162	100	Agriculture & Extraction
48431	Sterling County, Texas	1103	1339	100	Agriculture & Extraction
48507	Zavala County, Texas	11935	4665	38	Rural Towns
48057	Calhoun County, Texas	21584	9750	44.7	Micropolitan
48065	Carson County, Texas	6003	5724	95.2	Remote
48155	Foard County, Texas	1373	1275	100	Destination
48161	Freestone County, Texas	18047	13137	66.5	Agriculture & Extraction
48175	Goliad County, Texas	7428	7549	100	Agriculture & Extraction
48193	Hamilton County, Texas	8044	5278	64.4	Fringe
48197	Hardeman County, Texas	3940	3928	100	Agriculture & Extraction
48335	Mitchell County, Texas	6308	3335	36.7	Agriculture & Extraction
48045	Briscoe County, Texas	1546	1536	100	Remote
48285	Lavaca County, Texas	19506	16036	81.3	Fringe
48445	Terry County, Texas	11528	3143	24.7	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
48243	Jeff Davis County, Texas	2172	2204	100	Remote
48247	Jim Hogg County, Texas	5253	914	17.4	Remote
48339	Montgomery County, Texas	551489	117934	22.7	Metropolitan
48111	Dallam County, Texas	7204	1680	23.5	Remote
48479	Webb County, Texas	269779	6933	2.6	Metropolitan
48011	Armstrong County, Texas	1853	1955	100	Remote
48069	Castro County, Texas	7696	3560	45.8	Agriculture & Extraction
48273	Kleberg County, Texas	30628	6074	18.9	Micropolitan
48489	Willacy County, Texas	20254	7573	34.6	Micropolitan
48107	Crosby County, Texas	5780	5899	100	Remote
48151	Fisher County, Texas	3860	3831	100	Remote
48131	Duval County, Texas	10856	7732	67	Agriculture & Extraction
48031	Blanco County, Texas	11176	10812	100	Destination
48241	Jasper County, Texas	34587	27796	78.2	Fringe
48271	Kinney County, Texas	3419	721	20.5	Remote
48117	Deaf Smith County, Texas	18691	3400	17.7	Micropolitan
48167	Galveston County, Texas	321952	19323	6.1	Metropolitan
48283	La Salle County, Texas	6471	3465	46.4	Agriculture & Extraction
48393	Roberts County, Texas	885	928	100	Remote
48457	Tyler County, Texas	18777	16734	78.1	Fringe
48483	Wheeler County, Texas	5413	5714	100	Agriculture & Extraction
48037	Bowie County, Texas	88388	33043	35.4	Metropolitan
48043	Brewster County, Texas	9131	3198	34.9	Destination
48263	Kent County, Texas	707	785	100	Destination
48423	Smith County, Texas	222704	69171	31.6	Agriculture & Extraction
48105	Crockett County, Texas	3559	867	22.7	Agriculture & Extraction
48199	Hardin County, Texas	55918	28671	51.5	Fringe
48227	Howard County, Texas	31813	7354	20.1	Micropolitan
48289	Leon County, Texas	17003	16861	100	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
48337	Montague County, Texas	19113	11444	58.9	Agriculture & Extraction
48365	Panola County, Texas	23205	17284	72.7	Agriculture & Extraction
49027	Millard County, Utah	12592	9321	73.9	Remote
49053	Washington County, Utah	159135	23116	15.2	Destination
49025	Kane County, Utah	7231	3984	54.9	Destination
49019	Grand County, Utah	9551	2394	25.4	Destination
49033	Rich County, Utah	2344	2293	100	Destination
49051	Wasatch County, Utah	30371	7441	26.9	Tribal
49003	Box Elder County, Utah	52612	16022	31.1	Metropolitan
49021	Iron County, Utah	49288	10661	22.6	Micropolitan
49041	Sevier County, Utah	20778	13443	64.7	Agriculture & Extraction
49057	Weber County, Utah	244878	13950	5.8	Metropolitan
49013	Duchesne County, Utah	19847	13901	68.2	Tribal
49037	San Juan County, Utah	15035	11875	77.9	Remote
49035	Salt Lake County, Utah	1113227	9862	0.9	Metropolitan
49047	Uintah County, Utah	35968	17272	46.8	Tribal
49009	Daggett County, Utah	494	1117	100	Remote
49011	Davis County, Utah	337396	3031	0.9	Metropolitan
49055	Wayne County, Utah	2659	2723	100	Remote
49007	Carbon County, Utah	20152	6965	33.7	Agriculture & Extraction
49015	Emery County, Utah	10194	7829	73.6	Agriculture & Extraction
49029	Morgan County, Utah	11391	6667	62.8	Fringe
49005	Cache County, Utah	121573	18565	15.7	Metropolitan
49017	Garfield County, Utah	4809	5024	100	Remote
49023	Juab County, Utah	10816	4558	43.5	Remote
50021	Rutland County, Vermont	58688	36661	61	Micropolitan
50019	Orleans County, Vermont	26226	23100	85.3	Rural Towns
50013	Grand Isle County, Vermont	6961	6994	100	Destination
50017	Orange County, Vermont	28854	28062	97.2	Micropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
50007	Chittenden County, Vermont	160646	41716	26	Metropolitan
50015	Lamoille County, Vermont	25197	25082	100	Destination
50027	Windsor County, Vermont	54690	42340	75.6	Rural Towns
50005	Caledonia County, Vermont	30016	23047	74.4	Rural Towns
50025	Windham County, Vermont	42696	29833	68.2	Rural Towns
50001	Addison County, Vermont	36693	29026	78.4	Fringe
50023	Washington County, Vermont	57957	31154	52.8	Micropolitan
51185	Tazewell County, Virginia	40839	22546	51.9	Micropolitan
51610	Falls Church city, Virginia	14025	0	0	Metropolitan
51685	Manassas Park city, Virginia	16399	0	0	Metropolitan
51735	Poquoson city, Virginia	11773	783	6.5	Metropolitan
51183	Sussex County, Virginia	7927	11767	100	Fringe
51820	Waynesboro city, Virginia	21789	540	2.5	Metropolitan
51770	Roanoke city, Virginia	98347	6	0	Metropolitan
51775	Salem city, Virginia	24691	0	0	Metropolitan
51710	Norfolk city, Virginia	217930	0	0	Metropolitan
51037	Charlotte County, Virginia	11961	12225	100	Fringe
51059	Fairfax County, Virginia	1130253	15857	1.4	Metropolitan
51081	Greensville County, Virginia	8444	10164	87	Fringe
51095	James City County, Virginia	72580	11506	15.9	Metropolitan
51167	Russell County, Virginia	27178	24712	88.2	Rural Towns
51173	Smyth County, Virginia	30447	23756	75.3	Rural Towns
51678	Lexington city, Virginia	6262	0	0	Fringe
51031	Campbell County, Virginia	54682	33542	61.1	Fringe
51089	Henry County, Virginia	50992	31624	60.7	Micropolitan
51099	King George County, Virginia	25375	18569	73.2	Fringe
51103	Lancaster County, Virginia	10713	11044	100	Destination
51105	Lee County, Virginia	22615	24842	99.6	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
51115	Mathews County, Virginia	8693	8836	100	Destination
51119	Middlesex County, Virginia	10360	10696	100	Destination
51149	Prince George County, Virginia	33049	19937	53.4	Fringe
51165	Rockingham County, Virginia	79096	46381	59.3	Fringe
51169	Scott County, Virginia	21277	18383	82.1	Fringe
51181	Surry County, Virginia	6594	6790	100	Fringe
51011	Appomattox County, Virginia	15503	15279	100	Fringe
51067	Franklin County, Virginia	55887	50289	89.2	Fringe
51097	King and Queen County, Virginia	7052	7175	100	Fringe
51121	Montgomery County, Virginia	97345	24239	24.9	Metropolitan
51127	New Kent County, Virginia	20540	20021	100	Destination
51049	Cumberland County, Virginia	9776	9434	96	Fringe
51075	Goochland County, Virginia	21324	21276	97	Fringe
51083	Halifax County, Virginia	34067	27133	77.1	Fringe
51113	Madison County, Virginia	12976	13157	100	Fringe
51153	Prince William County, Virginia	448890	18585	4.2	Metropolitan
51175	Southampton County, Virginia	16352	17691	98	Fringe
51091	Highland County, Virginia	2214	2248	100	Agriculture & Extraction
51025	Brunswick County, Virginia	14752	12457	75.5	Fringe
51033	Caroline County, Virginia	27984	23347	78.4	Fringe
51073	Gloucester County, Virginia	36563	24003	64.6	Fringe
51131	Northampton County, Virginia	11673	12121	100	Destination
51141	Patrick County, Virginia	17534	18264	100	Fringe
51145	Powhatan County, Virginia	25915	28357	99.7	Fringe
51163	Rockbridge County, Virginia	22306	20460	91.6	Older-age
51171	Shenandoah County, Virginia	42695	28645	66.6	Fringe
51061	Fauquier County, Virginia	68738	39240	57.5	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
51036	Charles City County, Virginia	6975	7023	100	Fringe
51047	Culpeper County, Virginia	49128	30445	61.9	Fringe
51053	Dinwiddie County, Virginia	27981	19838	71.2	Fringe
51079	Greene County, Virginia	19215	9752	51.2	Fringe
51085	Hanover County, Virginia	103968	39835	39.1	Metropolitan
51111	Lunenburg County, Virginia	11325	12466	100	Remote
51137	Orange County, Virginia	35074	20238	57.8	Fringe
51595	Emporia city, Virginia	5164	345	6.3	Fringe
51197	Wythe County, Virginia	28755	21937	75.3	Fringe
51550	Chesapeake city, Virginia	225316	17799	7.6	Metropolitan
51660	Harrisonburg city, Virginia	52674	0	0	Metropolitan
51003	Albemarle County, Virginia	104770	47044	45	Metropolitan
51019	Bedford County, Virginia	77524	60066	78.4	Fringe
51023	Botetourt County, Virginia	32906	21216	64.1	Fringe
51195	Wise County, Virginia	36774	22631	56.7	Rural Towns
51520	Bristol City, Virginia	16659	7	0	Metropolitan
51740	Portsmouth city, Virginia	90274	0	0	Metropolitan
51830	Williamsburg city, Virginia	14574	0	0	Metropolitan
51005	Alleghany County, Virginia	15030	8289	52.4	Fringe
51035	Carroll County, Virginia	29585	28775	97.1	Rural Towns
51191	Washington County, Virginia	53587	39228	71.7	Fringe
51133	Northumberland County, Virginia	12223	12251	100	Remote
51139	Page County, Virginia	23537	19116	80.2	Fringe
51187	Warren County, Virginia	39123	19653	50.4	Fringe
51510	Alexandria city, Virginia	153088	0	0	Metropolitan
51630	Fredericksburg city, Virginia	28263	330	1.2	Metropolitan
51650	Hampton city, Virginia	129937	341	0.2	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
51013	Arlington County, Virginia	227332	0	0	Metropolitan
51670	Hopewell city, Virginia	22051	0	0	Metropolitan
51027	Buchanan County, Virginia	21234	23106	100	Agriculture & Extraction
51069	Frederick County, Virginia	83915	36882	44.8	Metropolitan
51179	Stafford County, Virginia	138531	27655	19.8	Metropolitan
51199	York County, Virginia	64018	4047	6.1	Metropolitan
51760	Richmond city, Virginia	221071	0	0	Metropolitan
51125	Nelson County, Virginia	14764	14850	100	Destination
51143	Pittsylvania County, Virginia	60450	53418	85.6	Micropolitan
51720	Norton city, Virginia	3935	104	2.6	Rural Towns
51065	Fluvanna County, Virginia	24981	16415	62.9	Fringe
51007	Amelia County, Virginia	12761	12855	100	Fringe
51840	Winchester city, Virginia	27573	0	0	Metropolitan
51001	Accomack County, Virginia	32432	33021	100	Fringe
51063	Floyd County, Virginia	15559	15578	100	Fringe
51077	Grayson County, Virginia	14979	15075	99.9	Remote
51135	Nottoway County, Virginia	13959	8155	52.3	Fringe
54033	Harrison County, West Virginia	67583	25476	37	Micropolitan
54069	Ohio County, West Virginia	41970	10006	23.1	Metropolitan
54013	Calhoun County, West Virginia	7373	7513	100	Agriculture & Extraction
54065	Morgan County, West Virginia	17498	17453	100	Destination
54081	Raleigh County, West Virginia	73901	30716	39.3	Metropolitan
54007	Braxton County, West Virginia	13934	14463	100	Fringe
54001	Barbour County, West Virginia	16568	14037	83.7	Fringe
54047	McDowell County, West Virginia	17696	17583	86	Agriculture & Extraction
54099	Wayne County, West Virginia	40561	26806	65.2	Fringe
54109	Wyoming County, West Virginia	21629	20086	88.9	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
54035	Jackson County, West Virginia	28842	20807	71.4	Fringe
54055	Mercer County, West Virginia	60043	25166	40.7	Micropolitan
54097	Upshur County, West Virginia	24408	15828	64	Rural Towns
54101	Webster County, West Virginia	8463	8834	100	Remote
54003	Berkeley County, West Virginia	112989	34945	31.6	Metropolitan
54019	Fayette County, West Virginia	43011	26119	57.9	Fringe
54023	Grant County, West Virginia	11534	9195	78.7	Remote
54027	Hampshire County, West Virginia	22867	23483	100	Fringe
54089	Summers County, West Virginia	12070	9677	72.1	Fringe
54009	Brooke County, West Virginia	22528	9913	42.1	Metropolitan
54017	Doddridge County, West Virginia	7814	8391	100	Agriculture & Extraction
54025	Greenbrier County, West Virginia	34765	24721	69.7	Destination
54031	Hardy County, West Virginia	13785	11211	80.5	Fringe
54049	Marion County, West Virginia	56118	23564	41.5	Micropolitan
54057	Mineral County, West Virginia	27052	17813	64.6	Fringe
54059	Mingo County, West Virginia	24657	23077	89.7	Agriculture & Extraction
54029	Hancock County, West Virginia	29434	9127	30.3	Metropolitan
54041	Lewis County, West Virginia	16089	11324	69	Agriculture & Extraction
54067	Nicholas County, West Virginia	25185	22510	87.2	Fringe
54075	Pocahontas County, West Virginia	8248	8662	100	Remote
54095	Tyler County, West Virginia	8833	8284	91.1	Rural Towns
54083	Randolph County, West Virginia	27267	18359	62.4	Rural Towns
54091	Taylor County, West Virginia	16517	10191	59.7	Micropolitan
54105	Wirt County, West Virginia	5797	5845	100	Fringe
54015	Clay County, West Virginia	8739	8941	100	Fringe
54021	Gilmer County, West Virginia	6912	5232	60.7	Remote
54061	Monongalia County, West Virginia	103692	27793	26.9	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
54063	Monroe County, West Virginia	13369	12023	88.5	Fringe
54103	Wetzel County, West Virginia	15514	8611	53.9	Fringe
54011	Cabell County, West Virginia	93830	20935	21.6	Metropolitan
54039	Kanawha County, West Virginia	183858	47914	25.2	Metropolitan
54071	Pendleton County, West Virginia	6883	7371	100	Destination
54077	Preston County, West Virginia	31037	30561	90.5	Fringe
53035	Kitsap County, Washington	247858	42555	16.7	Metropolitan
53033	King County, Washington	2150148	66708	3.2	Metropolitan
53051	Pend Oreille County, Washington	13105	10792	83.1	Fringe
53055	San Juan County, Washington	16420	16015	100	Tribal
53075	Whitman County, Washington	48344	12892	27.5	Micropolitan
53077	Yakima County, Washington	246443	58254	23.5	Metropolitan
53015	Cowlitz County, Washington	104104	29263	28.7	Metropolitan
53019	Ferry County, Washington	7507	7667	100	Remote
53041	Lewis County, Washington	76128	45569	60.7	Micropolitan
53027	Grays Harbor County, Washington	69085	28407	40.1	Micropolitan
53029	Island County, Washington	76076	37177	46.9	Destination
53069	Wahkiakum County, Washington	4143	4067	100	Fringe
53021	Franklin County, Washington	88570	11708	13.3	Metropolitan
53025	Grant County, Washington	94335	36093	38.7	Micropolitan
53073	Whatcom County, Washington	215299	53908	25.9	Metropolitan
53047	Okanogan County, Washington	41107	33027	80	Destination
53037	Kittitas County, Washington	44375	17033	40.1	Micropolitan
53005	Benton County, Washington	192772	19713	10.6	Metropolitan
53013	Columbia County, Washington	3946	1365	34.3	Remote
53003	Asotin County, Washington	22131	1477	6.7	Metropolitan
53023	Garfield County, Washington	2201	2215	100	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
53045	Mason County, Washington	61437	38671	63.7	Micropolitan
53065	Stevens County, Washington	43953	34573	79.2	Fringe
53063	Spokane County, Washington	488776	66215	13.7	Metropolitan
53007	Chelan County, Washington	75098	20306	27.2	Destination
55105	Rock County, Wisconsin	160473	32909	20.4	Metropolitan
55137	Waushara County, Wisconsin	22926	21638	89.5	Fringe
55001	Adams County, Wisconsin	18974	20215	100	Older-age
55007	Bayfield County, Wisconsin	14887	14985	100	Destination
55065	Lafayette County, Wisconsin	16652	16853	100	Fringe
55081	Monroe County, Wisconsin	44652	26171	57.7	Fringe
55093	Pierce County, Wisconsin	41329	21973	53.6	Fringe
55141	Wood County, Wisconsin	72672	27001	36.7	Micropolitan
55003	Ashland County, Wisconsin	15500	8834	54.9	Remote
55015	Calumet County, Wisconsin	49642	13627	27.5	Metropolitan
55037	Florence County, Wisconsin	4281	4481	100	Micropolitan
55055	Jefferson County, Wisconsin	84168	28737	34.1	Micropolitan
55059	Kenosha County, Wisconsin	166347	18022	10.7	Metropolitan
55051	Iron County, Wisconsin	5609	4012	67.8	Destination
55019	Clark County, Wisconsin	34017	31576	91.7	Fringe
55109	St. Croix County, Wisconsin	87149	46128	53.2	Fringe
55083	Oconto County, Wisconsin	37298	30436	81.3	Fringe
55069	Lincoln County, Wisconsin	27260	15400	54	Micropolitan
55135	Waupaca County, Wisconsin	49990	33812	64.9	Fringe
55005	Barron County, Wisconsin	44686	29967	65.9	Fringe
55113	Sawyer County, Wisconsin	16093	13840	84.2	Remote
55047	Green Lake County, Wisconsin	18570	14000	74.3	Fringe
55077	Marquette County, Wisconsin	15047	15050	100	Fringe

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55075	Marinette County, Wisconsin	40067	25534	61.8	Micropolitan
55101	Racine County, Wisconsin	190880	23962	12.3	Metropolitan
55139	Winnebago County, Wisconsin	165033	22767	13.4	Metropolitan
55041	Forest County, Wisconsin	8800	9127	100	Destination
55043	Grant County, Wisconsin	50694	33423	64.5	Micropolitan
55107	Rusk County, Wisconsin	14048	10983	76.6	Fringe
55117	Sheboygan County, Wisconsin	112970	32610	28.3	Metropolitan
55067	Langlade County, Wisconsin	18952	11484	59.2	Fringe
55087	Outagamie County, Wisconsin	183418	45026	24.7	Metropolitan
55123	Vernon County, Wisconsin	30217	26018	85.7	Fringe
55021	Columbia County, Wisconsin	55565	34349	60.7	Fringe
55061	Kewaunee County, Wisconsin	20233	14788	72.3	Fringe
55009	Brown County, Wisconsin	256837	37203	14.5	Metropolitan
55073	Marathon County, Wisconsin	134237	58372	43	Metropolitan
55085	Oneida County, Wisconsin	34822	26662	75	Older-age
55121	Trempealeau County, Wisconsin	29061	26444	89.6	Fringe
55129	Washburn County, Wisconsin	15506	13057	83.2	Rural Towns
55027	Dodge County, Wisconsin	83538	43084	48.6	Micropolitan
55127	Walworth County, Wisconsin	102339	35403	34.2	Micropolitan
55023	Crawford County, Wisconsin	15584	10232	62.4	Rural Towns
55071	Manitowoc County, Wisconsin	79001	31152	38.9	Micropolitan
55111	Sauk County, Wisconsin	62880	29247	46.1	Micropolitan
55013	Burnett County, Wisconsin	15127	15328	100	Fringe
55017	Chippewa County, Wisconsin	61275	29282	46.1	Metropolitan
55029	Door County, Wisconsin	27118	19155	69	Older-age
55031	Douglas County, Wisconsin	42817	16935	38.8	Metropolitan
55053	Jackson County, Wisconsin	19414	14919	72.2	Fringe

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55049	Iowa County, Wisconsin	23457	19041	79.9	Fringe
55089	Ozaukee County, Wisconsin	87781	21769	24.9	Metropolitan
55103	Richland County, Wisconsin	17403	12741	72.1	Fringe
56005	Campbell County, Wyoming	47215	14048	29.1	Agriculture & Extraction
56019	Johnson County, Wyoming	8428	4203	49	Destination
56025	Natrona County, Wyoming	79386	11794	14.4	Metropolitan
56009	Converse County, Wyoming	13944	7804	55.4	Agriculture & Extraction
56027	Niobrara County, Wyoming	2142	2463	100	Remote
56039	Teton County, Wyoming	22995	10647	46.4	Destination
56037	Sweetwater County, Wyoming	43847	4913	10.9	Agriculture & Extraction
56031	Platte County, Wyoming	8571	5160	58.6	Remote
56033	Sheridan County, Wyoming	29572	10655	35.5	Destination
56003	Big Horn County, Wyoming	11668	11930	100	Agriculture & Extraction
56011	Crook County, Wyoming	7339	7248	100	Agriculture & Extraction
56029	Park County, Wyoming	28904	12825	44.2	Destination
56001	Albany County, Wyoming	37890	4515	11.9	Micropolitan
56007	Carbon County, Wyoming	14709	6600	41.6	Destination
56015	Goshen County, Wyoming	13093	6216	46	Remote
56041	Uinta County, Wyoming	20416	9009	43.1	Rural Towns
56043	Washakie County, Wyoming	7961	2992	36	Remote
56017	Hot Springs County, Wyoming	4579	1516	31.5	Remote
56013	Fremont County, Wyoming	39434	20931	51.4	Remote
56035	Sublette County, Wyoming	9929	10057	100	Agriculture & Extraction
56045	Weston County, Wyoming	6739	3927	54.5	Remote
1099	Monroe County, Alabama	21279	17348	79	Rural Towns
1079	Lawrence County, Alabama	32920	30561	91.3	Tribal
1081	Lee County, Alabama	157838	42281	27.4	Metropolitan

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1107	Pickens County, Alabama	18877	20365	100	Fringe
1119	Sumter County, Alabama	12846	13166	100	Fringe
1023	Choctaw County, Alabama	12945	13323	100	Remote
1091	Marengo County, Alabama	19318	13939	69.3	Rural Towns
1113	Russell County, Alabama	56501	21107	35.4	Metropolitan
1039	Covington County, Alabama	36786	26408	69.7	Fringe
1041	Crenshaw County, Alabama	13656	13977	100	Fringe
1077	Lauderdale County, Alabama	91710	45892	49.3	Metropolitan
1085	Lowndes County, Alabama	10139	10580	100	Fringe
1083	Limestone County, Alabama	90107	52302	57.6	Fringe
1115	St. Clair County, Alabama	85382	63113	72.8	Fringe
1133	Winston County, Alabama	23541	20501	84.9	Fringe
1043	Cullman County, Alabama	81446	59536	73.2	Micropolitan
1051	Elmore County, Alabama	76330	43880	54.2	Fringe
1071	Jackson County, Alabama	51593	40561	77	Micropolitan
1121	Talladega County, Alabama	77590	45390	55.8	Micropolitan
1129	Washington County, Alabama	16520	16834	100	Fringe
1031	Coffee County, Alabama	49581	24027	47.2	Tribal
1103	Morgan County, Alabama	117351	46165	38.6	Metropolitan
1021	Chilton County, Alabama	43609	38108	86.7	Fringe
1033	Colbert County, Alabama	54038	23941	43.9	Metropolitan
1045	Dale County, Alabama	46406	25182	50.9	Micropolitan
1055	Etowah County, Alabama	102146	38807	37.5	Metropolitan
1049	DeKalb County, Alabama	70443	64051	90.1	Micropolitan
1075	Lamar County, Alabama	13767	14086	100	Fringe
1111	Randolph County, Alabama	22324	18334	81.3	Fringe
1097	Mobile County, Alabama	408043	83109	20	Metropolitan

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1127	Walker County, Alabama	63756	48506	74.1	Fringe
1029	Cleburne County, Alabama	14760	15080	100	Fringe
1063	Greene County, Alabama	8371	8553	100	Fringe
1005	Barbour County, Alabama	22882	18227	67.8	Micropolitan
1011	Bullock County, Alabama	9978	5530	51.4	Fringe
1015	Calhoun County, Alabama	113561	39060	33.7	Metropolitan
1025	Clarke County, Alabama	24098	18953	76	Rural Towns
1101	Montgomery County, Alabama	221976	23730	10.5	Metropolitan
1095	Marshall County, Alabama	94296	50411	53.3	Micropolitan
1067	Henry County, Alabama	16821	15085	87.8	Fringe
1089	Madison County, Alabama	352428	57594	16.4	Metropolitan
1123	Tallapoosa County, Alabama	40110	30555	74.2	Micropolitan
1131	Wilcox County, Alabama	10533	11098	100	Remote
2068	Denali Borough, Alaska	2189	1921	100	Destination
2122	Kenai Peninsula Borough, Alaska	57071	45601	79.3	Destination
2016	Aleutians West Census Area, Alaska	5549	NA	NA	Remote
2060	Bristol Bay Borough, Alaska	875	957	100	Remote
2150	Kodiak Island Borough, Alaska	13024	4380	31.3	Remote
2188	Northwest Arctic Borough, Alaska	7708	4434	57.5	Remote
2050	Bethel Census Area, Alaska	17768	13211	73.9	Remote
2185	North Slope Borough, Alaska	9735	5757	59.3	Agriculture & Extraction
2220	Sitka City and Borough, Alaska	8550	1858	20.9	Remote
2090	Fairbanks North Star Borough, Alaska	92697	30672	30.9	Metropolitan
2130	Ketchikan Gateway Borough, Alaska	13510	3197	23.2	Remote
2170	Matanuska-Susitna Borough, Alaska	101435	49229	50.3	Tribal
2180	Nome Census Area, Alaska	9687	6485	66.1	Remote
2070	Dillingham Census Area, Alaska	4957	4988	100	Remote

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
2100	Haines Borough, Alaska	2512	2566	100	Destination
2282	Yakutat City and Borough, Alaska	689	635	100	Remote
2110	Juneau City and Borough, Alaska	31651	6982	21.5	Micropolitan
2164	Lake and Peninsula Borough, Alaska	1375	1631	100	Destination
2240	Southeast Fairbanks Census Area, Alaska	6748	6931	100	Remote
2290	Yukon-Koyukuk Census Area, Alaska	5385	5547	100	Remote
2020	Anchorage Municipality, Alaska	284984	12393	4.1	Metropolitan
2013	Aleutians East Borough, Alaska	3420	NA	NA	Remote
2230	Skagway Municipality, Alaska	1061	0	NA	Destination
2198	Prince of Wales-Hyder Census Area, Alaska	6474	0	NA	Remote
2195	Petersburg Borough, Alaska	3245	0	NA	Remote
2158	Kusilvak Census Area, Alaska	8189	NA	NA	Remote
4013	Maricopa County, Arizona	4222760	96613	2.4	Metropolitan
4009	Graham County, Arizona	34003	17626	46.4	Rural Towns
4023	Santa Cruz County, Arizona	46251	12553	26.9	Micropolitan
4012	La Paz County, Arizona	20560	11396	56.3	Older-age
4015	Mohave County, Arizona	203056	46699	23	Older-age
4005	Coconino County, Arizona	139384	43323	31.5	Metropolitan
4027	Yuma County, Arizona	201230	21198	10.4	Metropolitan
4011	Greenlee County, Arizona	9459	4352	46.6	Remote
4021	Pinal County, Arizona	393843	88039	21.9	Metropolitan
5123	St. Francis County, Arkansas	22931	13867	51.6	Micropolitan
5145	White County, Arkansas	78216	42689	54.3	Micropolitan
5099	Nevada County, Arkansas	8274	6034	69.2	Rural Towns
5037	Cross County, Arkansas	16771	9783	56.8	Fringe
5043	Drew County, Arkansas	18080	9052	48.6	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
5027	Columbia County, Arkansas	23463	13758	57.5	Rural Towns
5125	Saline County, Arkansas	116834	41844	36.2	Metropolitan
5141	Van Buren County, Arkansas	16494	16851	100	Fringe
5065	Izard County, Arkansas	12628	13486	100	Remote
5079	Lincoln County, Arkansas	8877	13970	100	Fringe
5083	Logan County, Arkansas	21508	15594	71	Fringe
5035	Crittenden County, Arkansas	48496	10349	20.9	Metropolitan
5047	Franklin County, Arkansas	17473	14708	82.6	Fringe
5109	Pike County, Arkansas	10663	11024	100	Remote
5069	Jefferson County, Arkansas	65809	22352	30.9	Metropolitan
5097	Montgomery County, Arkansas	8851	9082	100	Destination
5127	Scott County, Arkansas	10381	7523	70.4	Fringe
5131	Sebastian County, Arkansas	126433	26385	20.8	Metropolitan
5007	Benton County, Arkansas	257463	60968	25.2	Metropolitan
5017	Chicot County, Arkansas	10148	6068	54.3	Rural Towns
5071	Johnson County, Arkansas	26106	18559	71.4	Rural Towns
5077	Lee County, Arkansas	7773	6262	63.5	Rural Towns
5041	Desha County, Arkansas	11822	3853	31.4	Fringe
5049	Fulton County, Arkansas	11967	11266	92.9	Rural Towns
5051	Garland County, Arkansas	97099	35915	36.9	Destination
5115	Pope County, Arkansas	63040	34441	54.5	Micropolitan
5117	Prairie County, Arkansas	8107	8304	100	Agriculture & Extraction
39161	Van Wert County, Ohio	28009	14438	50.7	Micropolitan
39167	Washington County, Ohio	59959	34623	56.6	Micropolitan
39171	Williams County, Ohio	35763	23728	63.6	Fringe
39011	Auglaize County, Ohio	45251	17941	39.1	Micropolitan
39029	Columbiana County, Ohio	100407	46359	43.9	Micropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
39037	Darke County, Ohio	51110	34607	66.3	Micropolitan
39123	Ottawa County, Ohio	40272	20350	49.4	Micropolitan
39051	Fulton County, Ohio	41907	23913	56.2	Fringe
39065	Hardin County, Ohio	31357	17608	55.4	Fringe
39079	Jackson County, Ohio	32188	21149	64.6	Rural Towns
39095	Lucas County, Ohio	427387	20285	4.7	Metropolitan
39117	Morrow County, Ohio	34725	31229	88.8	Fringe
39121	Noble County, Ohio	11972	8981	62.5	Remote
39135	Preble County, Ohio	40877	28788	69.2	Fringe
39147	Seneca County, Ohio	54541	26448	47.5	Micropolitan
39151	Stark County, Ohio	368713	50837	13.5	Metropolitan
39003	Allen County, Ohio	101212	27196	25.9	Metropolitan
39031	Coshocton County, Ohio	36166	22446	61.5	Micropolitan
39033	Crawford County, Ohio	41449	14980	35.3	Micropolitan
39041	Delaware County, Ohio	196084	36518	19.3	Metropolitan
39059	Guernsey County, Ohio	38803	24316	61.4	Micropolitan
39073	Hocking County, Ohio	27852	20349	70.8	Fringe
39107	Mercer County, Ohio	40406	25053	61.4	Rural Towns
39141	Ross County, Ohio	71337	45270	58.7	Micropolitan
39035	Cuyahoga County, Ohio	1238780	7329	0.6	Metropolitan
39093	Lorain County, Ohio	300305	35709	11.7	Metropolitan
39109	Miami County, Ohio	103851	31999	30.8	Metropolitan
39113	Montgomery County, Ohio	523759	23091	4.3	Metropolitan
39155	Trumbull County, Ohio	198233	55958	27.3	Metropolitan
39173	Wood County, Ohio	128595	38289	29.5	Metropolitan
39007	Ashtabula County, Ohio	95162	45986	46.4	Micropolitan
40001	Adair County, Oklahoma	21980	18480	83.3	Tribal
40137	Stephens County, Oklahoma	43403	19277	43.3	Tribal
40025	Cimarron County, Oklahoma	2169	2294	100	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
40019	Carter County, Oklahoma	47761	27378	56.1	Tribal
40053	Grant County, Oklahoma	4322	4501	100	Agriculture & Extraction
40055	Greer County, Oklahoma	4911	3239	52.7	Tribal
40087	McClain County, Oklahoma	38320	28793	77.2	Tribal
40091	McIntosh County, Oklahoma	19535	17537	87.3	Tribal
40099	Murray County, Oklahoma	13493	6308	45.7	Tribal
40103	Noble County, Oklahoma	11318	6471	56.3	Fringe
40115	Ottawa County, Oklahoma	31112	15831	49.3	Tribal
40135	Sequoyah County, Oklahoma	40967	27555	66.6	Tribal
40145	Wagoner County, Oklahoma	77559	28365	37.5	Tribal
40151	Woods County, Oklahoma	8518	3408	36.7	Agriculture & Extraction
40015	Caddo County, Oklahoma	28199	23445	80	Tribal
40101	Muskogee County, Oklahoma	66135	28768	41.1	Tribal
40107	Okfuskee County, Oklahoma	11107	9035	74.1	Tribal
40013	Bryan County, Oklahoma	45305	27284	61.3	Tribal
40059	Harper County, Oklahoma	3821	3812	100	Agriculture & Extraction
40071	Kay County, Oklahoma	44207	11131	24.5	Tribal
40035	Craig County, Oklahoma	13712	8759	60.1	Tribal
40143	Tulsa County, Oklahoma	637949	30091	4.8	Metropolitan
40017	Canadian County, Oklahoma	134839	29166	22.5	Tribal
40057	Harmon County, Oklahoma	2617	2798	100	Tribal
40077	Latimer County, Oklahoma	10287	7837	73.3	Tribal
40113	Osage County, Oklahoma	45898	28536	59.5	Tribal
40139	Texas County, Oklahoma	20998	9849	45.1	Rural Towns
40127	Pushmataha County, Oklahoma	11001	11125	100	Tribal
40047	Garfield County, Oklahoma	60115	13509	21.4	Agriculture & Extraction
40069	Johnston County, Oklahoma	10920	11103	100	Tribal

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
40121	Pittsburg County, Oklahoma	42445	23168	51.9	Tribal
40129	Roger Mills County, Oklahoma	3687	3761	100	Tribal
40153	Woodward County, Oklahoma	19961	9367	43.5	Agriculture & Extraction
40021	Cherokee County, Oklahoma	48204	29028	60	Tribal
40041	Delaware County, Oklahoma	41731	33620	81.1	Tribal
40045	Ellis County, Oklahoma	4022	4150	100	Agriculture & Extraction
40051	Grady County, Oklahoma	54215	34405	63.9	Tribal
40119	Payne County, Oklahoma	80177	27076	33.7	Micropolitan
40125	Pottawatomie County, Oklahoma	70067	36387	50.7	Tribal
40037	Creek County, Oklahoma	70352	38102	53.9	Tribal
40141	Tillman County, Oklahoma	7160	3907	51.2	Tribal
40149	Washita County, Oklahoma	11149	8691	75.3	Tribal
40033	Cotton County, Oklahoma	5791	3661	59.5	Tribal
40075	Kiowa County, Oklahoma	8811	5756	61.7	Tribal
40079	Le Flore County, Oklahoma	48757	36274	72.9	Tribal
40089	McCurtain County, Oklahoma	32567	22888	69.3	Tribal
40093	Major County, Oklahoma	7607	7750	100	Agriculture & Extraction
40097	Mayes County, Oklahoma	40545	31591	77.4	Tribal
40109	Oklahoma County, Oklahoma	769559	48083	6.3	Metropolitan
40039	Custer County, Oklahoma	28709	8946	30.3	Tribal
40007	Beaver County, Oklahoma	5332	5486	100	Agriculture & Extraction
40085	Love County, Oklahoma	9848	9773	100	Tribal
40009	Beckham County, Oklahoma	20823	7736	32.7	Tribal
40023	Choctaw County, Oklahoma	14707	10148	66.9	Tribal
40065	Jackson County, Oklahoma	23936	6435	24.8	Tribal
40081	Lincoln County, Oklahoma	34484	31888	92.1	Tribal
41047	Marion County, Oregon	329419	42700	13.1	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
41029	Jackson County, Oregon	213001	42168	20.1	Metropolitan
41023	Grant County, Oregon	7057	7180	100	Remote
41031	Jefferson County, Oregon	22209	14008	63.1	Destination
41005	Clackamas County, Oregon	404088	71405	18.1	Metropolitan
41043	Linn County, Oregon	122151	37762	31.6	Metropolitan
41057	Tillamook County, Oregon	25404	17639	69.6	Older-age
41001	Baker County, Oregon	15493	6585	41	Destination
41033	Josephine County, Oregon	84845	37589	45	Older-age
41059	Umatilla County, Oregon	72563	22295	29.1	Micropolitan
41041	Lincoln County, Oregon	47515	17444	37.6	Older-age
41009	Columbia County, Oregon	50587	21570	43.6	Metropolitan
41055	Sherman County, Oregon	1604	1710	100	Remote
41065	Wasco County, Oregon	25464	8437	33.1	Destination
41039	Lane County, Oregon	367170	62791	17.5	Metropolitan
41045	Malheur County, Oregon	26944	14699	48.4	Remote
41067	Washington County, Oregon	578338	31472	5.6	Metropolitan
41049	Morrow County, Oregon	11205	5131	45.9	Remote
41007	Clatsop County, Oregon	37746	14605	39	Destination
41015	Curry County, Oregon	22341	8651	38.7	Older-age
41021	Gilliam County, Oregon	1901	1932	100	Agriculture & Extraction
41037	Lake County, Oregon	7274	4964	63.3	Remote
41061	Union County, Oregon	25800	10815	42.1	Rural Towns
42045	Delaware County, Pennsylvania	555873	2611	0.5	Metropolitan
42119	Union County, Pennsylvania	39603	19213	42.8	Micropolitan
42127	Wayne County, Pennsylvania	47956	45281	88.1	Fringe
42043	Dauphin County, Pennsylvania	271146	36167	13.3	Metropolitan
42053	Forest County, Pennsylvania	3253	7518	100	Destination
42089	Monroe County, Pennsylvania	166617	63788	38.4	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
42101	Philadelphia County, Pennsylvania	1561749	0	0	Metropolitan
42129	Westmoreland County, Pennsylvania	351430	91136	25.4	Metropolitan
42013	Blair County, Pennsylvania	122398	29512	23.4	Metropolitan
42021	Cambria County, Pennsylvania	131110	44083	32	Metropolitan
42011	Berks County, Pennsylvania	411827	98194	23.7	Metropolitan
42061	Huntingdon County, Pennsylvania	41313	31413	68.7	Micropolitan
42073	Lawrence County, Pennsylvania	86325	35791	40.3	Micropolitan
42087	Mifflin County, Pennsylvania	45761	23493	50.5	Micropolitan
42041	Cumberland County, Pennsylvania	240538	54061	22.2	Metropolitan
42003	Allegheny County, Pennsylvania	1211450	30613	2.5	Metropolitan
42109	Snyder County, Pennsylvania	40152	26944	66.8	Rural Towns
42115	Susquehanna County, Pennsylvania	41061	35225	84	Agriculture & Extraction
42039	Crawford County, Pennsylvania	84726	55531	63.7	Micropolitan
42049	Erie County, Pennsylvania	269960	55743	20	Metropolitan
42057	Fulton County, Pennsylvania	14476	14632	100	Fringe
42067	Juniata County, Pennsylvania	24325	20396	82.3	Fringe
42107	Schuylkill County, Pennsylvania	136535	53159	36.5	Micropolitan
42131	Wyoming County, Pennsylvania	27336	23477	83.5	Fringe
42001	Adams County, Pennsylvania	100752	54596	53.7	Fringe
42005	Armstrong County, Pennsylvania	65802	45746	67.5	Agriculture & Extraction
42035	Clinton County, Pennsylvania	38504	18160	45.7	Micropolitan
42025	Carbon County, Pennsylvania	63085	30392	47.2	Destination
42027	Centre County, Pennsylvania	156606	51143	32.2	Metropolitan
42097	Northumberland County, Pennsylvania	88397	32749	34.9	Micropolitan
42095	Northampton County, Pennsylvania	299058	38389	12.8	Metropolitan
42023	Cameron County, Pennsylvania	4647	2275	47.4	Remote
42121	Venango County, Pennsylvania	51664	29310	54.8	Micropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
42007	Beaver County, Pennsylvania	165469	43750	25.8	Metropolitan
42017	Bucks County, Pennsylvania	620719	55334	8.8	Metropolitan
42069	Lackawanna County, Pennsylvania	207587	34685	16.3	Metropolitan
42083	McKean County, Pennsylvania	39765	27038	63.5	Rural Towns
42051	Fayette County, Pennsylvania	128811	64224	47.9	Metropolitan
42091	Montgomery County, Pennsylvania	807341	23964	2.9	Metropolitan
42059	Greene County, Pennsylvania	34658	25292	66.8	Agriculture & Extraction
42075	Lebanon County, Pennsylvania	136947	36211	26.6	Metropolitan
42079	Luzerne County, Pennsylvania	310131	63718	20	Metropolitan
42093	Montour County, Pennsylvania	17656	10023	53.8	Fringe
42037	Columbia County, Pennsylvania	65477	27420	40.9	Metropolitan
42019	Butler County, Pennsylvania	184588	78029	42	Metropolitan
42065	Jefferson County, Pennsylvania	43542	27435	61.5	Rural Towns
42071	Lancaster County, Pennsylvania	532279	113368	21.3	Metropolitan
42099	Perry County, Pennsylvania	45411	40386	88.5	Fringe
42105	Potter County, Pennsylvania	16698	17206	100	Rural Towns
42117	Tioga County, Pennsylvania	40808	38093	90.1	Fringe
44007	Providence County, Rhode Island	625245	34814	5.5	Metropolitan
44001	Bristol County, Rhode Island	48247	561	1.1	Metropolitan
44005	Newport County, Rhode Island	79524	9959	12.1	Metropolitan
45003	Aiken County, South Carolina	165080	60957	37	Metropolitan
45071	Newberry County, South Carolina	37638	25636	67.8	Micropolitan
45037	Edgefield County, South Carolina	24221	19466	73.3	Fringe
45027	Clarendon County, South Carolina	32529	29238	85.7	Fringe
45029	Colleton County, South Carolina	36842	28543	75.6	Fringe
45085	Sumter County, South Carolina	102764	34497	32	Metropolitan
45063	Lexington County, South Carolina	283329	70239	25.3	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
45011	Barnwell County, South Carolina	21289	18126	82.5	Fringe
45015	Berkeley County, South Carolina	203299	57388	29	Metropolitan
45031	Darlington County, South Carolina	66532	39164	57.8	Fringe
45043	Georgetown County, South Carolina	61025	25231	41.5	Older-age
45091	York County, South Carolina	256998	56319	23	Metropolitan
45007	Anderson County, South Carolina	194567	73125	37.9	Metropolitan
45025	Chesterfield County, South Carolina	45612	34025	73.8	Fringe
45047	Greenwood County, South Carolina	69170	27636	39.8	Micropolitan
45051	Horry County, South Carolina	319239	90772	30.4	Metropolitan
45055	Kershaw County, South Carolina	63932	36431	57.7	Fringe
45075	Orangeburg County, South Carolina	87736	57457	63.8	Micropolitan
45001	Abbeville County, South Carolina	24431	19617	78.6	Micropolitan
45009	Bamberg County, South Carolina	14453	8275	54.5	Rural Towns
45017	Calhoun County, South Carolina	14594	14878	100	Fringe
45033	Dillon County, South Carolina	30550	21635	69.5	Fringe
45079	Richland County, South Carolina	385108	36424	9.1	Metropolitan
45039	Fairfield County, South Carolina	22450	17994	78.3	Fringe
45049	Hampton County, South Carolina	18418	16012	78.5	Fringe
45045	Greenville County, South Carolina	493904	60854	12.6	Metropolitan
45057	Lancaster County, South Carolina	87588	41542	50	Metropolitan
45035	Dorchester County, South Carolina	152568	28926	19.5	Metropolitan
45041	Florence County, South Carolina	137026	53630	38.5	Metropolitan
45059	Laurens County, South Carolina	65487	42710	64.2	Fringe
45065	McCormick County, South Carolina	8401	9846	100	Fringe
45077	Pickens County, South Carolina	122047	43082	35.8	Metropolitan
45087	Union County, South Carolina	27188	18219	65.4	Fringe

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45089	Williamsburg County, South Carolina	30164	26789	81.9	Fringe
46003	Aurora County, South Dakota	2623	2745	100	Agriculture & Extraction
46051	Grant County, South Dakota	7174	4009	55.4	Rural Towns
46123	Tripp County, South Dakota	5339	2673	48.5	Remote
46071	Jackson County, South Dakota	3240	3274	100	Tribal
46099	Minnehaha County, South Dakota	183963	24938	13.6	Metropolitan
46033	Custer County, South Dakota	8305	8445	100	Destination
46069	Hyde County, South Dakota	1290	1396	100	Agriculture & Extraction
46025	Clark County, South Dakota	3610	3645	100	Agriculture & Extraction
46049	Faulk County, South Dakota	2260	2357	100	Remote
46077	Kingsbury County, South Dakota	4879	5075	100	Remote
46129	Walworth County, South Dakota	5371	2008	36.4	Destination
46027	Clay County, South Dakota	13731	3389	24.3	Micropolitan
46037	Day County, South Dakota	5353	5588	100	Agriculture & Extraction
46043	Douglas County, South Dakota	2832	2973	100	Agriculture & Extraction
46063	Harding County, South Dakota	1292	1250	100	Agriculture & Extraction
46089	McPherson County, South Dakota	2266	2429	100	Remote
46109	Roberts County, South Dakota	10106	10374	100	Tribal
46119	Sully County, South Dakota	1331	1438	100	Agriculture & Extraction
46083	Lincoln County, South Dakota	54610	15086	29.3	Metropolitan
46079	Lake County, South Dakota	12414	5550	44.9	Fringe
46081	Lawrence County, South Dakota	24959	9095	36.9	Destination
46029	Codington County, South Dakota	27661	6276	22.5	Micropolitan
46019	Butte County, South Dakota	10074	4961	48.2	Remote
46031	Corson County, South Dakota	4168	4182	100	Tribal
46045	Edmunds County, South Dakota	3830	3983	100	Remote

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
46021	Campbell County, South Dakota	1435	1386	100	Agriculture & Extraction
46007	Bennett County, South Dakota	3397	3430	100	Tribal
46055	Haakon County, South Dakota	2043	1847	100	Agriculture & Extraction
46075	Jones County, South Dakota	735	975	100	Agriculture & Extraction
46093	Meade County, South Dakota	26136	10240	38	Metropolitan
46125	Turner County, South Dakota	8107	8272	100	Fringe
46013	Brown County, South Dakota	38282	11096	28.9	Micropolitan
46061	Hanson County, South Dakota	3392	3419	100	Agriculture & Extraction
46087	McCook County, South Dakota	5360	5649	100	Agriculture & Extraction
46095	Mellette County, South Dakota	2016	2100	100	Remote
46105	Perkins County, South Dakota	2864	3033	100	Agriculture & Extraction
46103	Pennington County, South Dakota	106524	22516	20.8	Destination
46127	Union County, South Dakota	15042	9227	61.4	Fringe
46097	Miner County, South Dakota	2185	2316	100	Agriculture & Extraction
46137	Ziebach County, South Dakota	2814	2078	73.5	Tribal
46039	Deuel County, South Dakota	4240	4312	100	Agriculture & Extraction
46009	Bon Homme County, South Dakota	5544	7023	100	Remote
46015	Brule County, South Dakota	5085	5309	100	Remote
46047	Fall River County, South Dakota	6574	3420	50	Remote
46053	Gregory County, South Dakota	4147	4217	100	Agriculture & Extraction
46102	Oglala Lakota County, South Dakota	14316	NA	NA	Tribal
47119	Maury County, Tennessee	88665	35568	41.6	Metropolitan
47173	Union County, Tennessee	19119	19113	100	Fringe
47125	Montgomery County, Tennessee	182466	37503	19.7	Metropolitan
47043	Dickson County, Tennessee	51552	34266	67.8	Fringe
47129	Morgan County, Tennessee	18798	21635	99.9	Fringe

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47061	Grundy County, Tennessee	13152	13425	100	Fringe
47123	Monroe County, Tennessee	45368	34411	76.1	Fringe
47079	Henry County, Tennessee	31792	21528	66.8	Rural Towns
47029	Cocke County, Tennessee	35050	23889	67.5	Micropolitan
47033	Crockett County, Tennessee	14283	9883	67.4	Fringe
47041	DeKalb County, Tennessee	19361	15100	78.4	Fringe
47095	Lake County, Tennessee	4831	7631	100	Rural Towns
47093	Knox County, Tennessee	452543	48998	10.9	Metropolitan
47101	Lewis County, Tennessee	11772	8357	70.2	Fringe
47107	McMinn County, Tennessee	51968	31755	60.3	Micropolitan
47117	Marshall County, Tennessee	31912	20582	65.8	Micropolitan
47131	Obion County, Tennessee	30107	19055	61.6	Rural Towns
47143	Rhea County, Tennessee	32266	22201	68	Micropolitan
47151	Scott County, Tennessee	21629	17712	80.6	Fringe
47167	Tipton County, Tennessee	60558	33970	55.1	Fringe
47001	Anderson County, Tennessee	74862	26179	34.7	Metropolitan
47045	Dyer County, Tennessee	37057	16261	42.9	Micropolitan
47049	Fentress County, Tennessee	17818	17855	100	Remote
47053	Gibson County, Tennessee	47974	23605	47.7	Fringe
47065	Hamilton County, Tennessee	353438	35200	10	Metropolitan
47105	Loudon County, Tennessee	51272	20620	40.6	Older-age
47149	Rutherford County, Tennessee	304664	49176	17	Metropolitan
47159	Smith County, Tennessee	19244	15754	82.9	Fringe
47189	Wilson County, Tennessee	131604	48229	38.5	Metropolitan
47163	Sullivan County, Tennessee	155098	40143	25.6	Metropolitan
47177	Warren County, Tennessee	39922	24533	61.4	Micropolitan
47179	Washington County, Tennessee	125278	33355	26.4	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
47005	Benton County, Tennessee	15960	12667	78.5	Rural Towns
47013	Campbell County, Tennessee	39122	21964	55	Fringe
47015	Cannon County, Tennessee	13798	11161	81.1	Destination
47047	Fayette County, Tennessee	39148	30836	79	Fringe
47067	Hancock County, Tennessee	6420	6657	100	Fringe
47091	Johnson County, Tennessee	15884	15218	85.2	Fringe
47103	Lincoln County, Tennessee	33368	24383	72.5	Fringe
47127	Moore County, Tennessee	6229	6311	99.9	Micropolitan
47051	Franklin County, Tennessee	41169	28823	69.6	Micropolitan
47009	Blount County, Tennessee	127292	41226	32.6	Metropolitan
47019	Carter County, Tennessee	55364	23304	41	Metropolitan
47057	Grainger County, Tennessee	22870	22864	100	Fringe
47097	Lauderdale County, Tennessee	23529	16063	58.7	Fringe
47099	Lawrence County, Tennessee	42479	32076	75.9	Micropolitan
47115	Marion County, Tennessee	28141	21878	77	Fringe
47133	Overton County, Tennessee	21723	18552	84.2	Rural Towns
47165	Sumner County, Tennessee	177908	48155	27.9	Metropolitan
47169	Trousdale County, Tennessee	9220	8002	100	Fringe
47187	Williamson County, Tennessee	218175	39785	19.4	Metropolitan
47027	Clay County, Tennessee	7591	7765	100	Remote
47059	Greene County, Tennessee	67428	44551	65.2	Micropolitan
47157	Shelby County, Tennessee	924453	25909	2.8	Metropolitan
47175	Van Buren County, Tennessee	5601	5633	100	Remote
47077	Henderson County, Tennessee	27510	21392	76.4	Fringe
47081	Hickman County, Tennessee	23088	24384	100	Fringe
47089	Jefferson County, Tennessee	52299	31336	59.5	Fringe
47153	Sequatchie County, Tennessee	14498	10852	73.8	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
47155	Sevier County, Tennessee	95359	53878	56.6	Destination
47017	Carroll County, Tennessee	27518	23564	83.1	Fringe
47023	Chester County, Tennessee	16949	11339	65.2	Fringe
47037	Davidson County, Tennessee	677542	22804	3.4	Metropolitan
47087	Jackson County, Tennessee	11419	11568	100	Micropolitan
47135	Perry County, Tennessee	7762	7822	100	Fringe
47145	Roane County, Tennessee	52183	26897	51	Fringe
47121	Meigs County, Tennessee	11851	11701	100	Fringe
47063	Hamblen County, Tennessee	62906	13788	21.9	Metropolitan
47075	Haywood County, Tennessee	17548	8623	47.4	Micropolitan
48143	Erath County, Texas	40979	18596	46.3	Micropolitan
48039	Brazoria County, Texas	342641	76175	22.5	Metropolitan
48345	Motley County, Texas	1156	1153	100	Remote
48129	Donley County, Texas	3322	3543	100	Agriculture & Extraction
48013	Atascosa County, Texas	48397	29004	60.7	Agriculture & Extraction
48083	Coleman County, Texas	8358	4345	51.5	Remote
48353	Nolan County, Texas	14785	4929	32.7	Micropolitan
48229	Hudspeth County, Texas	3377	3211	100	Remote
48325	Medina County, Texas	46905	29481	61.6	Fringe
48475	Ward County, Texas	11477	3242	27.9	Agriculture & Extraction
48213	Henderson County, Texas	79500	47662	60.1	Micropolitan
48203	Harrison County, Texas	65875	37745	56.1	Micropolitan
48327	Menard County, Texas	2074	2147	100	Remote
48277	Lamar County, Texas	48942	23317	47.1	Micropolitan
48149	Fayette County, Texas	24647	16672	67.1	Fringe
48491	Williamson County, Texas	523527	58661	12	Metropolitan
48373	Polk County, Texas	44229	35775	77.6	Fringe
48391	Refugio County, Texas	7070	4431	60.7	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
48055	Caldwell County, Texas	39420	16837	42.3	Metropolitan
48487	Wilbarger County, Texas	12720	2840	21.9	Micropolitan
48383	Reagan County, Texas	3716	500	13.3	Agriculture & Extraction
48189	Hale County, Texas	32366	8020	23.1	Micropolitan
48419	Shelby County, Texas	25304	20267	79.4	Rural Towns
48399	Runnels County, Texas	10093	4245	40.8	Fringe
48407	San Jacinto County, Texas	27678	27099	100	Fringe
48451	Tom Green County, Texas	112652	18239	15.6	Metropolitan
48469	Victoria County, Texas	90951	24252	26.6	Metropolitan
48473	Waller County, Texas	49757	28860	61.6	Fringe
48485	Wichita County, Texas	116887	14118	10.7	Metropolitan
48493	Wilson County, Texas	47533	39841	85.9	Fringe
48219	Hockley County, Texas	22950	9395	39.8	Agriculture & Extraction
48323	Maverick County, Texas	57698	5278	9.3	Micropolitan
48329	Midland County, Texas	162946	19154	12.3	Agriculture & Extraction
48297	Live Oak County, Texas	10652	12091	100	Agriculture & Extraction
48299	Llano County, Texas	20429	8814	45.2	Older-age
48147	Fannin County, Texas	31300	23805	70.5	Micropolitan
48255	Karnes County, Texas	12806	5722	38.4	Agriculture & Extraction
48041	Brazos County, Texas	214943	25231	12.1	Metropolitan
48067	Cass County, Texas	29691	22397	74	Fringe
48165	Gaines County, Texas	20212	12246	63	Agriculture & Extraction
48179	Gray County, Texas	21117	4468	19.4	Micropolitan
48313	Madison County, Texas	10531	9343	67.4	Fringe
48237	Jack County, Texas	7684	4712	53.2	Agriculture & Extraction
48259	Kendall County, Texas	41551	22612	58.2	Destination
48035	Bosque County, Texas	17776	14440	81.2	Agriculture & Extraction
48029	Bexar County,	1895810	84239	4.5	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
	Texas				
48017	Bailey County, Texas	6895	1987	28.8	Agriculture & Extraction
48023	Baylor County, Texas	3517	3592	100	Remote
48061	Cameron County, Texas	419590	35400	8.4	Metropolitan
48121	Denton County, Texas	803126	52026	6.9	Metropolitan
48477	Washington County, Texas	34144	18421	53.5	Micropolitan
48343	Morris County, Texas	12272	9993	78.4	Fringe
48429	Stephens County, Texas	8895	3702	39.4	Agriculture & Extraction
48201	Harris County, Texas	4581010	53886	1.2	Metropolitan
48003	Andrews County, Texas	17725	2884	16.5	Agriculture & Extraction
48171	Gillespie County, Texas	25851	13692	53.7	Older-age
48177	Gonzales County, Texas	20384	13358	65.3	Agriculture & Extraction
48305	Lynn County, Texas	5766	3273	56.7	Agriculture & Extraction
48503	Young County, Texas	17825	6160	33.6	Rural Towns
48505	Zapata County, Texas	14334	3370	23.5	Agriculture & Extraction
48221	Hood County, Texas	56208	17711	32.8	Agriculture & Extraction
48223	Hopkins County, Texas	35802	21418	59.6	Micropolitan
48357	Ochiltree County, Texas	10285	1496	13.9	Agriculture & Extraction
48269	King County, Texas	228	262	100	Agriculture & Extraction
48275	Knox County, Texas	3590	3858	100	Destination
48309	McLennan County, Texas	244239	56848	23.4	Metropolitan
48073	Cherokee County, Texas	49308	32093	63	Micropolitan
48095	Concho County, Texas	3068	4050	100	Remote
48119	Delta County, Texas	5149	5238	100	Fringe
48137	Edwards County, Texas	2043	1879	100	Remote
48133	Eastland County, Texas	18007	10968	60.3	Agriculture & Extraction
48253	Jones County, Texas	12690	16976	85.1	Fringe
48389	Reeves County, Texas	12925	2080	14.5	Agriculture & Extraction
48403	Sabine County, Texas	10370	10350	100	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
48421	Sherman County, Texas	3026	3084	100	Agriculture & Extraction
48437	Swisher County, Texas	6830	2848	37.6	Agriculture & Extraction
48231	Hunt County, Texas	91346	50115	56.6	Fringe
48063	Camp County, Texas	12760	7759	61.5	Fringe
48195	Hansford County, Texas	5463	2222	40.3	Remote
48187	Guadalupe County, Texas	152940	38524	26.2	Metropolitan
48077	Clay County, Texas	10321	7736	74.6	Fringe
48217	Hill County, Texas	34754	26577	76.3	Fringe
48347	Nacogdoches County, Texas	64791	30339	46.5	Micropolitan
48369	Parmer County, Texas	9772	5946	60	Rural Towns
48377	Presidio County, Texas	7123	2823	40.5	Remote
48465	Val Verde County, Texas	46335	4975	10.2	Micropolitan
48135	Ector County, Texas	157175	14552	9.5	Agriculture & Extraction
48173	Glasscock County, Texas	1430	1291	100	Agriculture & Extraction
48185	Grimes County, Texas	24066	18722	68.9	Fringe
48085	Collin County, Texas	941564	46411	5.2	Metropolitan
48005	Angelina County, Texas	85457	37805	43.1	Micropolitan
48101	Cottle County, Texas	1623	1415	100	Agriculture & Extraction
48209	Hays County, Texas	202381	58675	31.7	Metropolitan
48295	Lipscomb County, Texas	3424	3553	100	Agriculture & Extraction
48321	Matagorda County, Texas	36342	13299	36.4	Micropolitan
48371	Pecos County, Texas	13694	6322	39.8	Agriculture & Extraction
48397	Rockwall County, Texas	92892	14081	16	Metropolitan
48401	Rusk County, Texas	48744	35521	65.9	Agriculture & Extraction
48447	Throckmorton County, Texas	1556	1608	100	Agriculture & Extraction
48471	Walker County, Texas	56813	31812	45.6	Micropolitan
48499	Wood County, Texas	42880	31796	74.2	Older-age
48007	Aransas County, Texas	24388	6808	27.3	Older-age

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
48075	Childress County, Texas	5805	2350	33.1	Rural Towns
48081	Coke County, Texas	3177	3254	100	Remote
48099	Coryell County, Texas	57922	14677	19.4	Metropolitan
48211	Hemphill County, Texas	4018	1127	27	Agriculture & Extraction
48341	Moore County, Texas	21627	3724	16.8	Rural Towns
48349	Navarro County, Texas	47811	25378	52.7	Micropolitan
48405	San Augustine County, Texas	8094	8610	100	Remote
48417	Shackelford County, Texas	3285	3343	100	Agriculture & Extraction
48427	Starr County, Texas	63359	14924	23.7	Micropolitan
48461	Upton County, Texas	3577	3454	100	Agriculture & Extraction
48021	Bastrop County, Texas	80461	49849	63.9	Fringe
48191	Hall County, Texas	3016	3147	100	Remote
48159	Franklin County, Texas	10584	7328	69.1	Rural Towns
48163	Frio County, Texas	15733	4110	22.2	Agriculture & Extraction
48281	Lampasas County, Texas	20242	13760	68.3	Fringe
48319	Mason County, Texas	4150	4071	100	Destination
48125	Dickens County, Texas	2092	2218	100	Remote
48439	Tarrant County, Texas	2004359	25060	1.3	Metropolitan
48001	Anderson County, Texas	44353	38647	67.1	Rural Towns
48239	Jackson County, Texas	14591	9111	61.8	Fringe
48331	Milam County, Texas	24164	13628	56.2	Fringe
48093	Comanche County, Texas	13292	9683	71.5	Agriculture & Extraction
48047	Brooks County, Texas	6638	2285	31.8	Remote
19029	Cass County, Iowa	12928	7213	53.6	Fringe
19035	Cherokee County, Iowa	11115	7265	61.4	Fringe
19047	Crawford County, Iowa	16939	8924	51.8	Rural Towns
19057	Des Moines County, Iowa	39099	10762	26.7	Micropolitan
19065	Fayette County, Iowa	19592	14358	70.6	Fringe
19085	Harrison County, Iowa	13895	11619	81.1	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
19109	Kossuth County, Iowa	14834	9992	65.6	Rural Towns
19129	Mills County, Iowa	14759	8835	59.6	Fringe
19133	Monona County, Iowa	8567	6405	71.2	Fringe
19139	Muscatine County, Iowa	42418	10962	25.6	Micropolitan
19143	Osceola County, Iowa	6027	3630	58.4	Destination
19153	Polk County, Iowa	469486	22573	4.9	Metropolitan
19187	Webster County, Iowa	35010	12532	33.9	Micropolitan
19169	Story County, Iowa	96229	15931	16.9	Metropolitan
19193	Woodbury County, Iowa	101406	17853	17.5	Metropolitan
19013	Black Hawk County, Iowa	131725	17916	13.5	Metropolitan
19075	Grundy County, Iowa	12179	12375	100	Fringe
19097	Jackson County, Iowa	19194	10378	53.3	Fringe
19105	Jones County, Iowa	19410	11854	58	Fringe
19111	Lee County, Iowa	33491	14332	40.6	Micropolitan
19131	Mitchell County, Iowa	10422	7243	67.2	Rural Towns
19181	Warren County, Iowa	48755	20120	42	Metropolitan
19161	Sac County, Iowa	9686	10035	100	Agriculture & Extraction
19149	Plymouth County, Iowa	24760	15656	62.9	Fringe
19041	Clay County, Iowa	16065	5663	34.3	Rural Towns
19045	Clinton County, Iowa	46770	15489	32.2	Micropolitan
20183	Smith County, Kansas	3602	3769	100	Agriculture & Extraction
20067	Grant County, Kansas	7513	1547	19.8	Rural Towns
20095	Kingman County, Kansas	7346	4781	62.1	Fringe
20131	Nemaha County, Kansas	9830	7635	75.2	Fringe
20149	Pottawatomie County, Kansas	22964	13490	58.9	Fringe
20021	Cherokee County, Kansas	20122	10199	49.1	Fringe
20015	Butler County, Kansas	63928	26804	40.5	Metropolitan
20105	Lincoln County, Kansas	3034	3167	100	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
20191	Sumner County, Kansas	22730	14788	62.9	Fringe
20195	Trego County, Kansas	2772	2902	100	Remote
20205	Wilson County, Kansas	8646	6562	72.7	Remote
20207	Woodson County, Kansas	3161	3157	100	Agriculture & Extraction
20135	Ness County, Kansas	2905	3105	100	Agriculture & Extraction
20141	Osborne County, Kansas	3501	3756	100	Remote
20011	Bourbon County, Kansas	14432	7086	48	Fringe
20075	Hamilton County, Kansas	2616	2603	100	Agriculture & Extraction
20097	Kiowa County, Kansas	2458	2513	100	Agriculture & Extraction
20177	Shawnee County, Kansas	174799	28232	15.8	Metropolitan
20181	Sherman County, Kansas	5899	1481	24.2	Remote
20193	Thomas County, Kansas	7710	2434	30.8	Rural Towns
20125	Montgomery County, Kansas	32452	14792	43.4	Micropolitan
20127	Morris County, Kansas	5481	5698	100	Fringe
20153	Rawlins County, Kansas	2471	2584	100	Remote
20163	Rooks County, Kansas	4924	5155	100	Agriculture & Extraction
20025	Clark County, Kansas	1992	2144	100	Agriculture & Extraction
20053	Ellsworth County, Kansas	5423	3458	54.1	Rural Towns
20077	Harper County, Kansas	5527	5818	100	Remote
20167	Russell County, Kansas	6857	2856	41.1	Rural Towns
20111	Lyon County, Kansas	32892	8734	26.3	Micropolitan
20145	Pawnee County, Kansas	5638	2191	31.7	Rural Towns
20001	Allen County, Kansas	12425	7378	57.2	Rural Towns
20033	Comanche County, Kansas	1708	1954	100	Remote
20049	Elk County, Kansas	2528	2694	100	Agriculture & Extraction
20063	Gove County, Kansas	2574	2727	100	Remote
20079	Harvey County, Kansas	33909	10766	30.9	Metropolitan
20083	Hodgeman County, Kansas	1810	1916	100	Agriculture & Extraction

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20093	Kearny County, Kansas	3876	3915	100	Agriculture & Extraction
20185	Stafford County, Kansas	4099	4297	100	Agriculture & Extraction
20113	McPherson County, Kansas	27950	12719	43.5	Rural Towns
20139	Osage County, Kansas	15685	13312	83.5	Fringe
20071	Greeley County, Kansas	1169	1301	100	Agriculture & Extraction
20031	Coffey County, Kansas	8192	5979	70.9	Fringe
20037	Crawford County, Kansas	38462	13723	34.9	Micropolitan
20051	Ellis County, Kansas	28652	7415	25.6	Micropolitan
20073	Greenwood County, Kansas	6051	3877	61.3	Agriculture & Extraction
20099	Labette County, Kansas	20033	10970	52.3	Rural Towns
20107	Linn County, Kansas	9575	9502	100	Fringe
20173	Sedgwick County, Kansas	506515	38967	7.7	Metropolitan
20175	Seward County, Kansas	22490	2682	11.4	Micropolitan
20157	Republic County, Kansas	4594	4803	100	Agriculture & Extraction
20065	Graham County, Kansas	2515	2566	100	Agriculture & Extraction
20091	Johnson County, Kansas	581636	22016	3.8	Metropolitan
20045	Douglas County, Kansas	118583	12839	11	Metropolitan
20179	Sheridan County, Kansas	2478	2539	100	Agriculture & Extraction
20121	Miami County, Kansas	32465	16723	51	Fringe
20069	Gray County, Kansas	5951	6082	100	Remote
20199	Wallace County, Kansas	1553	1506	100	Agriculture & Extraction
20189	Stevens County, Kansas	5556	1812	31.2	Rural Towns
20201	Washington County, Kansas	5392	5598	100	Agriculture & Extraction
20019	Chautauqua County, Kansas	3314	3481	100	Agriculture & Extraction
20129	Morton County, Kansas	2755	3110	100	Agriculture & Extraction
20155	Reno County, Kansas	60629	19967	31.3	Micropolitan
20029	Cloud County, Kansas	8812	4128	44	Rural Towns
20043	Doniphan County, Kansas	7616	5527	70.2	Fringe

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20081	Haskell County, Kansas	3989	4106	100	Agriculture & Extraction
20101	Lane County, Kansas	1634	1687	100	Agriculture & Extraction
20171	Scott County, Kansas	4849	1327	26.1	Remote
20133	Neosho County, Kansas	15926	7410	45.1	Rural Towns
20013	Brown County, Kansas	9579	6717	68.4	Fringe
20147	Phillips County, Kansas	5308	2974	53.8	Remote
20161	Riley County, Kansas	68492	10411	13.8	Metropolitan
20039	Decatur County, Kansas	2806	2908	100	Remote
20087	Jefferson County, Kansas	18639	18632	98.8	Fringe
21031	Butler County, Kentucky	12529	12875	100	Fringe
21061	Edmonson County, Kentucky	12029	12013	100	Fringe
21097	Harrison County, Kentucky	18464	12258	65.9	Fringe
21023	Bracken County, Kentucky	8274	8406	100	Fringe
21143	Lyon County, Kentucky	6909	8430	100	Rural Towns
21063	Elliott County, Kentucky	6144	7672	100	Remote
21111	Jefferson County, Kentucky	758768	10436	1.4	Metropolitan
21123	Larue County, Kentucky	13869	10770	76	Fringe
21161	Mason County, Kentucky	16842	9510	55.4	Micropolitan
21167	Mercer County, Kentucky	21345	12609	59.1	Fringe
21201	Robertson County, Kentucky	2080	2197	100	Fringe
21207	Russell County, Kentucky	17571	17774	100	Remote
21229	Washington County, Kentucky	11893	11959	100	Rural Towns
21007	Ballard County, Kentucky	7972	8240	100	Micropolitan
21009	Barren County, Kentucky	42964	27302	63.3	Micropolitan
21087	Green County, Kentucky	10898	11043	100	Agriculture & Extraction
21091	Hancock County, Kentucky	8661	7817	89.3	Fringe
21159	Martin County, Kentucky	10577	12537	100	Remote
21093	Hardin County, Kentucky	103569	37041	34.2	Metropolitan

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21149	McLean County, Kentucky	9239	9478	100	Fringe
21183	Ohio County, Kentucky	23725	17620	73.5	Fringe
21197	Powell County, Kentucky	12051	8344	67.1	Fringe
21233	Webster County, Kentucky	12809	13236	100	Fringe
21033	Caldwell County, Kentucky	12612	6952	54.6	Rural Towns
21045	Casey County, Kentucky	15440	15891	100	Remote
21047	Christian County, Kentucky	62695	21202	28.6	Metropolitan
21085	Grayson County, Kentucky	25859	19274	73.6	Fringe
21103	Henry County, Kentucky	15734	15572	100	Fringe
21107	Hopkins County, Kentucky	44651	21855	47.1	Micropolitan
21109	Jackson County, Kentucky	13267	13289	100	Remote
21125	Laurel County, Kentucky	59383	34114	56.8	Micropolitan
21157	Marshall County, Kentucky	30602	26576	85.9	Rural Towns
21163	Meade County, Kentucky	27341	25030	85.9	Fringe
21173	Montgomery County, Kentucky	27413	16240	59.1	Micropolitan
21181	Nicholas County, Kentucky	7004	7041	100	Fringe
21185	Oldham County, Kentucky	61533	12906	20.3	Metropolitan
21187	Owen County, Kentucky	10664	10645	100	Destination
21203	Rockcastle County, Kentucky	16540	14086	83.7	Rural Towns
21209	Scott County, Kentucky	53234	16649	32.5	Metropolitan
21227	Warren County, Kentucky	125088	37565	31.2	Metropolitan
21003	Allen County, Kentucky	20599	16042	78.7	Fringe
21017	Bourbon County, Kentucky	19901	8937	44.7	Metropolitan
21019	Boyd County, Kentucky	46231	12363	25.3	Metropolitan
21029	Bullitt County, Kentucky	79060	23709	30.4	Metropolitan
21055	Crittenden County, Kentucky	8867	6533	70.8	Rural Towns
21067	Fayette County, Kentucky	313845	9532	3.1	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
21075	Fulton County, Kentucky	5761	4037	64.4	Micropolitan
21115	Johnson County, Kentucky	22344	16985	73	Rural Towns
21165	Menifee County, Kentucky	6332	6287	100	Micropolitan
21175	Morgan County, Kentucky	11653	13303	100	Rural Towns
21193	Perry County, Kentucky	26322	20442	74.1	Rural Towns
21237	Wolfe County, Kentucky	7073	7214	100	Remote
21051	Clay County, Kentucky	19220	16615	78.6	Remote
21013	Bell County, Kentucky	26384	17356	62.5	Rural Towns
21025	Breathitt County, Kentucky	12977	10929	81.5	Remote
21083	Graves County, Kentucky	36911	26110	69.4	Rural Towns
21099	Hart County, Kentucky	18359	16214	87.2	Fringe
21231	Wayne County, Kentucky	20331	13876	67.7	Rural Towns
21155	Marion County, Kentucky	18471	14308	71.5	Rural Towns
21221	Trigg County, Kentucky	14237	11223	79.4	Fringe
21015	Boone County, Kentucky	128148	16778	13.3	Metropolitan
21131	Leslie County, Kentucky	10183	10918	100	Remote
21121	Knox County, Kentucky	31112	20009	62.9	Rural Towns
21127	Lawrence County, Kentucky	15677	12186	77.1	Fringe
21139	Livingston County, Kentucky	9204	8926	95.4	Micropolitan
21195	Pike County, Kentucky	59765	55343	87.8	Rural Towns
21211	Shelby County, Kentucky	45645	21095	47	Metropolitan
21005	Anderson County, Kentucky	22111	9127	41.7	Micropolitan
21027	Breckinridge County, Kentucky	19817	19888	100	Agriculture & Extraction
21073	Franklin County, Kentucky	49534	13744	27.6	Micropolitan
21117	Kenton County, Kentucky	163196	11436	7	Metropolitan
21151	Madison County, Kentucky	88838	33641	38.5	Micropolitan
21153	Magoffin County, Kentucky	12538	12913	100	Remote

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21189	Owsley County, Kentucky	4384	4508	100	Remote
21213	Simpson County, Kentucky	17715	8061	45.2	Fringe
21217	Taylor County, Kentucky	25103	13182	52.2	Rural Towns
21219	Todd County, Kentucky	12124	12520	100	Agriculture & Extraction
21039	Carlisle County, Kentucky	4782	4978	100	Remote
21053	Clinton County, Kentucky	10056	10165	100	Remote
21077	Gallatin County, Kentucky	8590	8589	100	Fringe
21079	Garrard County, Kentucky	17225	13131	77.9	Fringe
21069	Fleming County, Kentucky	14479	11712	80.5	Rural Towns
21037	Campbell County, Kentucky	90680	14047	15.3	Metropolitan
22113	Vermilion Parish, Louisiana	59408	32563	54.6	Agriculture & Extraction
22089	St. Charles Parish, Louisiana	52038	6060	11.5	Metropolitan
22029	Concordia Parish, Louisiana	18077	6847	33.5	Rural Towns
22107	Tensas Parish, Louisiana	4647	4830	100	Agriculture & Extraction
22093	St. James Parish, Louisiana	21149	5994	27.7	Metropolitan
22043	Grant Parish, Louisiana	19114	19159	85.6	Fringe
22051	Jefferson Parish, Louisiana	431883	4978	1.1	Metropolitan
22013	Bienville Parish, Louisiana	13340	11085	79.8	Fringe
22015	Bossier Parish, Louisiana	120352	30443	24.3	Destination
22023	Cameron Parish, Louisiana	6836	6679	100	Remote
22037	East Feliciana Parish, Louisiana	16102	19813	100	Fringe
22095	St. John the Baptist Parish, Louisiana	42800	5882	13.4	Metropolitan
22075	Plaquemines Parish, Louisiana	22313	4581	19.5	Metropolitan
22073	Ouachita Parish, Louisiana	150790	37817	24.2	Metropolitan
22079	Rapides Parish, Louisiana	128637	52369	39.5	Metropolitan
22117	Washington Parish, Louisiana	44609	30861	66.7	Micropolitan
22097	St. Landry Parish, Louisiana	82367	40325	48.2	Micropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
22105	Tangipahoa Parish, Louisiana	129742	52000	40.9	Metropolitan
22001	Acadia Parish, Louisiana	61655	32305	51.7	Fringe
22101	St. Mary Parish, Louisiana	50923	6932	13	Micropolitan
22123	West Carroll Parish, Louisiana	10634	11525	100	Remote
22103	St. Tammany Parish, Louisiana	249574	57077	23.2	Fringe
22111	Union Parish, Louisiana	21970	18687	82.9	Fringe
22021	Caldwell Parish, Louisiana	9493	9894	100	Fringe
22017	Caddo Parish, Louisiana	244048	36463	14.4	Metropolitan
22035	East Carroll Parish, Louisiana	4620	2589	34.6	Rural Towns
22005	Ascension Parish, Louisiana	120378	15467	13.2	Metropolitan
22055	Lafayette Parish, Louisiana	237964	19602	8.3	Metropolitan
22045	Iberia Parish, Louisiana	71926	20796	28.1	Agriculture & Extraction
22087	St. Bernard Parish, Louisiana	45416	1889	4.3	Metropolitan
22091	St. Helena Parish, Louisiana	10260	10619	100	Fringe
22121	West Baton Rouge Parish, Louisiana	25058	7641	30.5	Metropolitan
22031	De Soto Parish, Louisiana	27008	20970	77.3	Agriculture & Extraction
22081	Red River Parish, Louisiana	8479	8669	100	Agriculture & Extraction
22063	Livingston Parish, Louisiana	137063	55816	41.1	Metropolitan
22069	Natchitoches Parish, Louisiana	38355	19603	50.1	Micropolitan
22071	Orleans Parish, Louisiana	382880	2275	0.6	Metropolitan
22025	Catahoula Parish, Louisiana	8733	10151	100	Agriculture & Extraction
22019	Calcasieu Parish, Louisiana	197922	40427	20.5	Metropolitan
22041	Franklin Parish, Louisiana	19170	15164	74.2	Rural Towns
22007	Assumption Parish, Louisiana	22509	10364	45	Fringe
22049	Jackson Parish, Louisiana	14685	10482	65.5	Fringe
22083	Richland Parish, Louisiana	19644	13698	66	Fringe
22099	St. Martin Parish, Louisiana	53531	26429	49.6	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
22127	Winn Parish, Louisiana	12676	9567	64.9	Fringe
22033	East Baton Rouge Parish, Louisiana	441095	30670	6.9	Metropolitan
22003	Allen Parish, Louisiana	21285	17851	69.4	Fringe
22065	Madison Parish, Louisiana	9758	2658	22.4	Rural Towns
23017	Oxford County, Maine	56987	47571	83.1	Fringe
23027	Waldo County, Maine	39220	35670	91.3	Destination
23019	Penobscot County, Maine	150120	88444	57.7	Fringe
23001	Androscoggin County, Maine	106307	46593	43.4	Metropolitan
23003	Aroostook County, Maine	67065	55742	80.3	Rural Towns
23005	Cumberland County, Maine	287698	103890	36.1	Metropolitan
23013	Knox County, Maine	38499	26952	67.9	Destination
23031	York County, Maine	201057	114090	56.8	Fringe
23007	Franklin County, Maine	29852	25145	83	Fringe
23025	Somerset County, Maine	50196	41174	80.5	Fringe
24047	Worcester County, Maryland	50858	18359	35.5	Older-age
24510	Baltimore city, Maryland	605835	0	0	Metropolitan
24041	Talbot County, Maryland	36810	20574	54.7	Older-age
24025	Harford County, Maryland	248244	44411	17.8	Metropolitan
24027	Howard County, Maryland	311771	28614	9.3	Metropolitan
24003	Anne Arundel County, Maryland	545418	29710	5.3	Metropolitan
24005	Baltimore County, Maryland	819505	54030	6.5	Metropolitan
24009	Calvert County, Maryland	89794	35076	38.7	Destination
24023	Garrett County, Maryland	28893	24900	83.9	Destination
24031	Montgomery County, Maryland	1031532	24564	2.4	Metropolitan
24013	Carroll County, Maryland	165487	66303	39.5	Metropolitan
24035	Queen Anne's County, Maryland	48869	26592	54.5	Destination
24037	St. Mary's County, Maryland	108649	55652	50.4	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
24017	Charles County, Maryland	154238	45656	29.5	Metropolitan
24019	Dorchester County, Maryland	31849	18316	56.2	Micropolitan
24043	Washington County, Maryland	141461	44109	29.5	Metropolitan
24045	Wicomico County, Maryland	100875	26203	25.8	Metropolitan
24015	Cecil County, Maryland	101461	43106	42.1	Metropolitan
24011	Caroline County, Maryland	32505	24729	76	Fringe
25025	Suffolk County, Massachusetts	785160	569	0.1	Metropolitan
25001	Barnstable County, Massachusetts	211451	16082	7.5	Older-age
25007	Dukes County, Massachusetts	17214	6773	39	Destination
25017	Middlesex County, Massachusetts	1579996	47545	3	Metropolitan
25003	Berkshire County, Massachusetts	125140	40666	31.6	Destination
25005	Bristol County, Massachusetts	552835	54501	9.8	Metropolitan
25013	Hampden County, Massachusetts	463850	40125	8.6	Metropolitan
25023	Plymouth County, Massachusetts	505306	52263	10.3	Metropolitan
25009	Essex County, Massachusetts	774092	32641	4.2	Metropolitan
25011	Franklin County, Massachusetts	70131	38571	54.4	Micropolitan
25021	Norfolk County, Massachusetts	689820	8586	1.2	Metropolitan
25015	Hampshire County, Massachusetts	159770	44168	27.4	Metropolitan
25019	Nantucket County, Massachusetts	11042	2051	18.9	Destination
26115	Monroe County, Michigan	148786	56268	37.6	Metropolitan
26005	Allegan County, Michigan	114427	73394	64.5	Micropolitan
26059	Hillsdale County, Michigan	45404	31681	69.1	Micropolitan
26003	Alger County, Michigan	8195	6531	69	Remote
26127	Oceana County, Michigan	26247	23570	89.9	Fringe
26089	Leelanau County, Michigan	21486	20000	91.3	Older-age
26035	Clare County, Michigan	30275	21653	70.6	Fringe
26083	Keweenaw County, Michigan	2124	2217	100	Remote

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
26073	Isabella County, Michigan	70245	32899	46.6	Micropolitan
26139	Ottawa County, Michigan	282706	56131	20.3	Metropolitan
26157	Tuscola County, Michigan	52452	45447	84.2	Fringe
26007	Alpena County, Michigan	28252	15024	51.8	Rural Towns
26067	Ionia County, Michigan	60467	38922	60.5	Micropolitan
26111	Midland County, Michigan	82790	35691	42.8	Metropolitan
26021	Berrien County, Michigan	153737	51005	32.9	Metropolitan
26135	Oscoda County, Michigan	8231	8371	100	Remote
26039	Crawford County, Michigan	13656	9977	72.6	Remote
26037	Clinton County, Michigan	77313	40911	52.9	Fringe
26057	Gratiot County, Michigan	36797	25064	60.2	Micropolitan
26063	Huron County, Michigan	31173	28686	89.5	Rural Towns
26091	Lenawee County, Michigan	95239	51328	51.8	Micropolitan
26105	Mason County, Michigan	28584	18070	62.7	Rural Towns
26117	Montcalm County, Michigan	60749	53219	84.6	Fringe
26149	St. Joseph County, Michigan	60362	33171	54.4	Micropolitan
26147	St. Clair County, Michigan	158310	61863	38.6	Metropolitan
26161	Washtenaw County, Michigan	361155	58693	16.4	Metropolitan
26011	Arenac County, Michigan	15023	15353	100	Fringe
26027	Cass County, Michigan	51337	36735	71.2	Fringe
26071	Iron County, Michigan	10920	8296	72.9	Destination
26143	Roscommon County, Michigan	23662	15823	66.1	Older-age
26163	Wayne County, Michigan	1749048	12276	0.7	Metropolitan
26023	Branch County, Michigan	41408	27304	62.7	Micropolitan
26075	Jackson County, Michigan	151105	66809	41.8	Metropolitan
26097	Mackinac County, Michigan	10702	8527	77.2	Destination
26009	Antrim County, Michigan	23002	23267	100	Older-age

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
26061	Houghton County, Michigan	35936	13801	37.8	Destination
26069	Iosco County, Michigan	24920	14974	58.9	Older-age
26085	Lake County, Michigan	11437	11341	100	Destination
26119	Montmorency County, Michigan	9162	9300	100	Remote
26141	Presque Isle County, Michigan	12664	10515	80.9	Agriculture & Extraction
26077	Kalamazoo County, Michigan	259560	45415	17.5	Metropolitan
26107	Mecosta County, Michigan	43034	28816	66.7	Micropolitan
26103	Marquette County, Michigan	65059	28079	41.5	Destination
26123	Newaygo County, Michigan	47619	40159	83.8	Fringe
26133	Osceola County, Michigan	22943	23169	100	Remote
26137	Otsego County, Michigan	24209	15862	65.7	Rural Towns
26025	Calhoun County, Michigan	132786	41781	31	Metropolitan
26031	Cheboygan County, Michigan	25114	21240	82.7	Older-age
26095	Luce County, Michigan	5337	3301	51.4	Remote
26081	Kent County, Michigan	638826	98635	15.7	Metropolitan
26099	Macomb County, Michigan	861993	24129	2.8	Metropolitan
26145	Saginaw County, Michigan	189448	60684	31.1	Metropolitan
26155	Shiawassee County, Michigan	68085	37896	55	Micropolitan
26013	Baraga County, Michigan	7222	8654	100	Remote
26017	Bay County, Michigan	103868	32184	30.3	Metropolitan
26029	Charlevoix County, Michigan	25961	18390	70.4	Rural Towns
26045	Eaton County, Michigan	108422	41229	38	Metropolitan
26041	Delta County, Michigan	35794	15996	43.8	Micropolitan
26053	Gogebic County, Michigan	14042	10728	68.2	Rural Towns
26047	Emmet County, Michigan	32705	24866	74.9	Destination
5147	Woodruff County, Arkansas	6541	6910	100	Remote
5023	Cleburne County, Arkansas	24902	19359	75.5	Older-age

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
5025	Cleveland County, Arkansas	8125	8449	100	Fringe
5067	Jackson County, Arkansas	14237	11408	65.1	Fringe
5057	Hempstead County, Arkansas	21770	12452	55.8	Micropolitan
5135	Sharp County, Arkansas	16867	13534	80.1	Rural Towns
5137	Stone County, Arkansas	12345	12494	100	Destination
5143	Washington County, Arkansas	226628	56290	25.5	Metropolitan
5005	Baxter County, Arkansas	40837	26901	65.8	Older-age
5003	Ashley County, Arkansas	20383	10826	51.7	Rural Towns
5031	Craighead County, Arkansas	104700	32978	32.2	Metropolitan
5055	Greene County, Arkansas	44125	18136	41.5	Micropolitan
5073	Lafayette County, Arkansas	6783	7111	100	Fringe
5105	Perry County, Arkansas	10210	10245	100	Fringe
5107	Phillips County, Arkansas	18870	9560	48	Micropolitan
5111	Poinsett County, Arkansas	23734	17248	71.1	Fringe
5133	Sevier County, Arkansas	17071	11083	63.6	Fringe
5149	Yell County, Arkansas	21252	17369	79.1	Micropolitan
5013	Calhoun County, Arkansas	5146	5202	100	Micropolitan
5019	Clark County, Arkansas	22038	12276	54.4	Rural Towns
5011	Bradley County, Arkansas	10854	5528	49.6	Rural Towns
5095	Monroe County, Arkansas	7173	5230	69	Rural Towns
5113	Polk County, Arkansas	20049	14842	73.4	Rural Towns
5103	Ouachita County, Arkansas	23757	13991	56.4	Rural Towns
5101	Newton County, Arkansas	7781	7904	100	Micropolitan
5081	Little River County, Arkansas	12253	8587	68.5	Fringe
5015	Carroll County, Arkansas	27668	20207	72.8	Fringe
5091	Miller County, Arkansas	42523	17376	40	Metropolitan
6033	Lake County, California	63451	21249	33.1	Destination

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
6043	Mariposa County, California	17370	17682	100	Fringe
6115	Yuba County, California	73339	19396	26.2	Metropolitan
6013	Contra Costa County, California	1128003	8810	0.8	Metropolitan
6035	Lassen County, California	21376	22391	70.5	Remote
6083	Santa Barbara County, California	436711	22111	5	Metropolitan
6097	Sonoma County, California	497067	61804	12.4	Metropolitan
6025	Imperial County, California	170734	31194	17.4	Metropolitan
6051	Mono County, California	14059	6415	45.8	Destination
6001	Alameda County, California	1634128	6260	0.4	Metropolitan
6067	Sacramento County, California	1495461	30561	2.1	Metropolitan
6055	Napa County, California	138703	18985	13.4	Metropolitan
6053	Monterey County, California	416906	42341	9.8	Metropolitan
6091	Sierra County, California	2903	2995	99.7	Destination
6073	San Diego County, California	3204470	107597	3.3	Metropolitan
6113	Yolo County, California	213606	14385	6.9	Metropolitan
6023	Humboldt County, California	134810	40117	29.8	Micropolitan
6003	Alpine County, California	1146	1116	100	Remote
6045	Mendocino County, California	86575	39744	45.2	Destination
6087	Santa Cruz County, California	272297	32723	12	Metropolitan
6037	Los Angeles County, California	10030450	61228	0.6	Metropolitan
6065	Riverside County, California	2361744	107666	4.6	Metropolitan
6085	Santa Clara County, California	1912773	20531	1.1	Metropolitan
6041	Marin County, California	255552	17001	6.5	Metropolitan
6093	Siskiyou County, California	43429	28719	65.8	Destination
6089	Shasta County, California	177648	52658	29.3	Metropolitan
6015	Del Norte County, California	24362	9163	33.7	Rural Towns
6021	Glenn County, California	27593	11426	40.9	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
6007	Butte County, California	224510	42386	18.9	Metropolitan
6063	Plumas County, California	18544	13773	74	Older-age
6079	San Luis Obispo County, California	274891	46318	16.6	Metropolitan
6029	Kern County, California	854578	89261	10.2	Metropolitan
6059	Orange County, California	3147477	4509	0.1	Metropolitan
6009	Calaveras County, California	44842	33651	75.4	Older-age
6101	Sutter County, California	94632	14183	14.8	Metropolitan
6081	San Mateo County, California	762101	14345	1.9	Metropolitan
6109	Tuolumne County, California	50912	26359	49	Older-age
6077	San Joaquin County, California	723069	60632	8.5	Metropolitan
6005	Amador County, California	34174	22201	60.4	Older-age
8095	Phillips County, Colorado	4239	4363	100	Remote
8007	Archuleta County, Colorado	12803	7270	59.4	Destination
8031	Denver County, Colorado	687455	0	0	Metropolitan
8061	Kiowa County, Colorado	1425	1402	100	Agriculture & Extraction
8055	Huerfano County, Colorado	6436	3628	56.1	Destination
8009	Baca County, Colorado	3462	3645	100	Agriculture & Extraction
8015	Chaffee County, Colorado	17916	6870	37.4	Destination
8047	Gilpin County, Colorado	5874	5851	100	Destination
8063	Kit Carson County, Colorado	7025	3931	48.7	Remote
8045	Garfield County, Colorado	57917	13850	24.1	Destination
8051	Gunnison County, Colorado	16489	9216	58.6	Destination
8059	Jefferson County, Colorado	564045	38516	6.9	Metropolitan
8079	Mineral County, Colorado	823	698	100	Remote
8091	Ouray County, Colorado	4722	4629	100	Destination
8103	Rio Blanco County, Colorado	6339	6707	100	Agriculture & Extraction
8115	Sedgwick County, Colorado	2318	2348	100	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
8021	Conejos County, Colorado	8104	8265	100	Agriculture & Extraction
8023	Costilla County, Colorado	3687	3568	100	Agriculture & Extraction
8001	Adams County, Colorado	493596	17404	3.6	Metropolitan
8037	Eagle County, Colorado	54259	10576	20	Destination
8065	Lake County, Colorado	7533	2286	31.1	Destination
8081	Moffat County, Colorado	12930	3537	27.4	Agriculture & Extraction
8097	Pitkin County, Colorado	17877	7791	44.2	Destination
8017	Cheyenne County, Colorado	1998	1871	100	Agriculture & Extraction
8025	Crowley County, Colorado	4431	5360	100	Agriculture & Extraction
8033	Dolores County, Colorado	1841	1978	100	Remote
8057	Jackson County, Colorado	1291	1396	100	Destination
8069	Larimer County, Colorado	335713	37794	11.7	Metropolitan
8083	Montezuma County, Colorado	25738	17314	67.2	Fringe
8113	San Miguel County, Colorado	7942	7840	100	Destination
8013	Boulder County, Colorado	318941	27928	8.9	Metropolitan
8071	Las Animas County, Colorado	13606	5732	40.8	Remote
8125	Yuma County, Colorado	9927	6622	64.9	Agriculture & Extraction
8107	Routt County, Colorado	24723	10782	45.2	Destination
8117	Summit County, Colorado	30351	5739	19.5	Destination
8019	Clear Creek County, Colorado	9275	9187	100	Destination
8029	Delta County, Colorado	29216	18869	63.2	Agriculture & Extraction
8101	Pueblo County, Colorado	161283	22911	14.2	Metropolitan
8087	Morgan County, Colorado	27900	9220	32.5	Micropolitan
8093	Park County, Colorado	17281	16345	100	Destination
8077	Mesa County, Colorado	148901	18793	12.7	Metropolitan
8099	Prowers County, Colorado	11913	4559	37.9	Rural Towns
8041	El Paso County, Colorado	655933	59281	8.9	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
8121	Washington County, Colorado	4545	4780	100	Agriculture & Extraction
8005	Arapahoe County, Colorado	630620	9749	1.6	Metropolitan
8014	Broomfield County, Colorado	65792	362	0.6	Metropolitan
9009	New Haven County, Connecticut	849247	31350	3.6	Metropolitan
9003	Hartford County, Connecticut	881330	48569	5.4	Metropolitan
9015	Windham County, Connecticut	114813	58219	49.8	Metropolitan
9007	Middlesex County, Connecticut	161452	40477	24.5	Metropolitan
9013	Tolland County, Connecticut	148565	57834	38.2	Metropolitan
10003	New Castle County, Delaware	546635	25441	4.6	Metropolitan
10005	Sussex County, Delaware	216801	87088	41.3	Older-age
11001	District of Columbia, District of Columbia	674258	0	0	Metropolitan
12091	Okaloosa County, Florida	188311	23776	12.1	Metropolitan
12123	Taylor County, Florida	18239	15645	69.3	Fringe
12133	Washington County, Florida	21882	20674	84.6	Fringe
12031	Duval County, Florida	904689	26136	2.9	Metropolitan
12007	Bradford County, Florida	23454	20168	75.5	Fringe
12009	Brevard County, Florida	571935	28258	5.1	Metropolitan
12019	Clay County, Florida	204438	29907	15	Metropolitan
12067	Lafayette County, Florida	7204	8835	100	Remote
12069	Lake County, Florida	331957	60783	19.3	Metropolitan
12089	Nassau County, Florida	79567	36889	48.1	Destination
12103	Pinellas County, Florida	946661	2664	0.3	Metropolitan
12105	Polk County, Florida	660644	85743	13.5	Metropolitan
12111	St. Lucie County, Florida	303304	9770	3.4	Metropolitan
12043	Glades County, Florida	12147	9631	70.6	Fringe
12051	Hendry County, Florida	39475	14590	37.9	Micropolitan
12061	Indian River County, Florida	149716	7191	5	Older-age

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
12063	Jackson County, Florida	40870	36778	75.4	Fringe
12099	Palm Beach County, Florida	1433604	14572	1	Metropolitan
12109	St. Johns County, Florida	233891	51807	23.8	Fringe
12117	Seminole County, Florida	451979	13973	3.2	Metropolitan
12086	Miami-Dade County, Florida	2690040	10768	0.4	Metropolitan
12005	Bay County, Florida	177687	21478	12	Destination
12035	Flagler County, Florida	106747	10570	10.3	Older-age
12037	Franklin County, Florida	10125	8039	68	Destination
12047	Hamilton County, Florida	10987	8918	63.5	Fringe
12077	Liberty County, Florida	6954	8360	100	Fringe
12119	Sumter County, Florida	111788	39982	35	Older-age
12039	Gadsden County, Florida	43046	30258	65.4	Fringe
12059	Holmes County, Florida	17620	15479	78.8	Fringe
12071	Lee County, Florida	713427	39549	5.8	Metropolitan
12083	Marion County, Florida	339473	105238	31	Metropolitan
12021	Collier County, Florida	362009	29597	8.5	Metropolitan
12095	Orange County, Florida	1309805	25588	2	Metropolitan
12101	Pasco County, Florida	504686	45943	9.5	Metropolitan
12055	Highlands County, Florida	100987	20694	21.1	Older-age
12121	Suwannee County, Florida	42426	36612	83.2	Destination
12027	DeSoto County, Florida	34677	16190	46.2	Destination
12013	Calhoun County, Florida	12409	9811	67.5	Fringe
12023	Columbia County, Florida	64352	42110	62.1	Micropolitan
12029	Dixie County, Florida	14879	12252	77	Fringe
12107	Putnam County, Florida	71607	40518	56.2	Micropolitan
12125	Union County, Florida	9724	10245	67.4	Fringe
12081	Manatee County, Florida	370913	20367	5.8	Metropolitan
12075	Levy County, Florida	39679	36463	92	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
12003	Baker County, Florida	25164	16118	59.5	Fringe
12127	Volusia County, Florida	522429	50465	9.9	Metropolitan
12073	Leon County, Florida	284753	34957	12.3	Metropolitan
12079	Madison County, Florida	16422	14816	80	Fringe
12033	Escambia County, Florida	296511	25792	8.3	Metropolitan
12053	Hernando County, Florida	180731	34072	19.4	Older-age
13037	Calhoun County, Georgia	4533	6463	100	Fringe
13193	Macon County, Georgia	11514	7336	53.2	Fringe
13021	Bibb County, Georgia	149953	22178	14.4	Metropolitan
13197	Marion County, Georgia	8389	8797	100	Destination
13249	Schley County, Georgia	5211	5163	100	Micropolitan
13023	Bleckley County, Georgia	12425	6601	51.6	Fringe
13093	Dooly County, Georgia	12588	7614	53.7	Fringe
13119	Franklin County, Georgia	22307	19799	88.9	Fringe
13103	Effingham County, Georgia	58033	37163	67.1	Fringe
13171	Lamar County, Georgia	18296	11083	60.9	Fringe
13107	Emanuel County, Georgia	21749	15219	66.9	Rural Towns
13239	Quitman County, Georgia	2276	1692	73.1	Rural Towns
13159	Jasper County, Georgia	13695	10982	81.8	Fringe
13167	Johnson County, Georgia	9483	6346	65.4	Rural Towns
13179	Liberty County, Georgia	56139	15100	23.2	Metropolitan
13205	Mitchell County, Georgia	20204	12413	54.5	Fringe
13253	Seminole County, Georgia	8335	5955	68.6	Fringe
13277	Tift County, Georgia	40100	16600	40.8	Micropolitan
13289	Twiggs County, Georgia	8207	8320	100	Fringe
13233	Polk County, Georgia	41439	21151	51.4	Micropolitan
13263	Talbot County, Georgia	6361	5999	93.9	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
13269	Taylor County, Georgia	8075	8442	100	Fringe
13273	Terrell County, Georgia	8502	4754	52.1	Fringe
13275	Thomas County, Georgia	44104	20691	46	Micropolitan
13279	Toombs County, Georgia	26764	13929	51.1	Rural Towns
13319	Wilkinson County, Georgia	8990	9326	100	Agriculture & Extraction
13017	Ben Hill County, Georgia	16822	5938	34	Rural Towns
13033	Burke County, Georgia	22324	17031	75	Fringe
13047	Catoosa County, Georgia	65808	18441	28.1	Metropolitan
13053	Chattahoochee County, Georgia	6038	3494	29.5	Metropolitan
13055	Chattooga County, Georgia	23139	14355	57.6	Micropolitan
13073	Columbia County, Georgia	143227	22598	16.2	Metropolitan
13087	Decatur County, Georgia	25633	15373	56.5	Micropolitan
13115	Floyd County, Georgia	94719	35372	36.8	Metropolitan
13117	Forsyth County, Georgia	219252	20271	9.9	Metropolitan
13137	Habersham County, Georgia	42331	25710	58.8	Micropolitan
13185	Lowndes County, Georgia	109349	30883	27.2	Metropolitan
13199	Meriwether County, Georgia	21024	17655	83.3	Fringe
13207	Monroe County, Georgia	25983	21703	80.2	Fringe
13261	Sumter County, Georgia	29449	13050	41.8	Micropolitan
13265	Taliaferro County, Georgia	1665	1693	100	Agriculture & Extraction
13007	Baker County, Georgia	3189	3255	100	Agriculture & Extraction
13035	Butts County, Georgia	20980	18213	77.9	Fringe
13043	Candler County, Georgia	10563	7291	67	Rural Towns
13045	Carroll County, Georgia	114801	47719	41.8	Metropolitan
13079	Crawford County, Georgia	12178	12387	100	Fringe
13081	Crisp County, Georgia	22436	10786	47	Micropolitan
13077	Coweta County, Georgia	139961	44647	32.9	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
13067	Cobb County, Georgia	740236	1800	0.2	Metropolitan
13083	Dade County, Georgia	16002	11821	72.1	Fringe
13297	Walton County, Georgia	89273	37375	42.7	Metropolitan
13027	Brooks County, Georgia	15542	10953	71	Fringe
13091	Dodge County, Georgia	19029	15151	72.2	Fringe
13105	Elbert County, Georgia	18975	13727	70.6	Fringe
13113	Fayette County, Georgia	110687	19935	18.2	Metropolitan
13165	Jenkins County, Georgia	8752	6032	66.1	Fringe
13217	Newton County, Georgia	105564	32392	31.2	Metropolitan
13227	Pickens County, Georgia	30517	21929	73.1	Fringe
13071	Colquitt County, Georgia	45146	27177	58.9	Micropolitan
13085	Dawson County, Georgia	23602	18437	80.3	Fringe
13063	Clayton County, Georgia	275105	2375	0.9	Metropolitan
13139	Hall County, Georgia	195018	39214	20.6	Metropolitan
13141	Hancock County, Georgia	5910	5240	61.6	Rural Towns
13189	McDuffie County, Georgia	21143	13027	61	Fringe
13211	Morgan County, Georgia	18058	13533	75.4	Fringe
13149	Heard County, Georgia	11529	11603	100	Fringe
13095	Dougherty County, Georgia	89191	12900	14	Metropolitan
13111	Fannin County, Georgia	24775	23753	100	Older-age
13153	Houston County, Georgia	148179	14855	10	Metropolitan
13175	Laurens County, Georgia	46507	27105	56.6	Micropolitan
13255	Spalding County, Georgia	63667	26632	41.6	Metropolitan
13271	Telfair County, Georgia	12847	7761	47	Rural Towns
13291	Union County, Georgia	22252	21984	100	Older-age
13303	Washington County, Georgia	18681	13537	65.6	Rural Towns
13311	White County, Georgia	28749	23437	83.8	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
13223	Paulding County, Georgia	155101	29876	20.1	Metropolitan
13231	Pike County, Georgia	17832	17600	99	Fringe
13245	Richmond County, Georgia	191547	18558	9.2	Metropolitan
13267	Tattnall County, Georgia	18969	17212	68.2	Fringe
13019	Berrien County, Georgia	18750	14239	76.1	Fringe
13295	Walker County, Georgia	67391	29916	43.9	Metropolitan
13135	Gwinnett County, Georgia	897497	4262	0.5	Metropolitan
13013	Barrow County, Georgia	76750	22017	30.1	Metropolitan
13049	Charlton County, Georgia	11839	6580	51	Fringe
13065	Clinch County, Georgia	6648	4128	60.4	Fringe
13015	Bartow County, Georgia	102664	35839	35.2	Metropolitan
13097	Douglas County, Georgia	140657	21867	15.8	Metropolitan
13131	Grady County, Georgia	24744	15814	62.4	Fringe
13161	Jeff Davis County, Georgia	14940	10329	69.5	Rural Towns
13209	Montgomery County, Georgia	8581	8875	98.7	Micropolitan
13221	Oglethorpe County, Georgia	14639	14564	99.3	Fringe
13243	Randolph County, Georgia	6974	3702	50.6	Fringe
13247	Rockdale County, Georgia	88195	13104	14.9	Metropolitan
13299	Ware County, Georgia	33219	10456	29.4	Micropolitan
13305	Wayne County, Georgia	27687	17352	57.9	Micropolitan
13309	Wheeler County, Georgia	6616	7995	100	Rural Towns
13315	Wilcox County, Georgia	6758	8847	100	Agriculture & Extraction
13009	Baldwin County, Georgia	43444	16132	35.1	Micropolitan
13031	Bulloch County, Georgia	73930	34806	48.3	Micropolitan
13059	Clarke County, Georgia	123752	7087	5.9	Metropolitan
13101	Echols County, Georgia	3994	4003	100	Fringe
13127	Glynn County, Georgia	82952	16900	20.6	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
13143	Haralson County, Georgia	28609	22156	77.4	Fringe
13163	Jefferson County, Georgia	15311	13126	80.7	Fringe
13169	Jones County, Georgia	28231	19493	67.7	Fringe
13213	Murray County, Georgia	39341	27637	70.1	Fringe
13215	Muscogee County, Georgia	186589	5982	3	Metropolitan
13241	Rabun County, Georgia	16232	12878	79.3	Destination
13259	Stewart County, Georgia	4000	5744	100	Fringe
13283	Treutlen County, Georgia	6438	3990	58.9	Rural Towns
13155	Irwin County, Georgia	9125	5891	64.7	Rural Towns
13003	Atkinson County, Georgia	8238	8223	100	Remote
13005	Bacon County, Georgia	10522	7816	69.3	Rural Towns
13025	Brantley County, Georgia	18470	18315	99.4	Fringe
16087	Washington County, Idaho	9931	4566	45.6	Remote
16031	Cassia County, Idaho	23298	12126	51.5	Rural Towns
16045	Gem County, Idaho	16924	7593	45	Metropolitan
16085	Valley County, Idaho	10318	9826	100	Destination
16003	Adams County, Idaho	3994	3861	100	Remote
16069	Nez Perce County, Idaho	39545	7667	19.2	Metropolitan
16055	Kootenai County, Idaho	152327	35718	24.2	Destination
16061	Lewis County, Idaho	3802	3838	100	Tribal
16083	Twin Falls County, Idaho	82733	22648	28	Micropolitan
16073	Owyhee County, Idaho	11334	8775	77.3	Agriculture & Extraction
16015	Boise County, Idaho	7136	6824	100	Destination
16023	Butte County, Idaho	2561	2622	100	Remote
16029	Caribou County, Idaho	6852	4095	59.9	Remote
16001	Ada County, Idaho	438804	23324	5.5	Metropolitan
16005	Bannock County, Idaho	84003	13110	15.7	Metropolitan
16011	Bingham County, Idaho	45264	25365	56	Micropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
16025	Camas County, Idaho	886	1039	100	Agriculture & Extraction
16027	Canyon County, Idaho	210745	40360	19.9	Metropolitan
16051	Jefferson County, Idaho	27948	17999	66.6	Fringe
16057	Latah County, Idaho	39074	13440	35	Micropolitan
16075	Payette County, Idaho	22891	9744	42.7	Micropolitan
16009	Benewah County, Idaho	9002	6557	71.9	Fringe
16033	Clark County, Idaho	1077	867	100	Agriculture & Extraction
16039	Elmore County, Idaho	23874	7015	26.9	Micropolitan
16043	Fremont County, Idaho	12395	9270	72	Destination
16079	Shoshone County, Idaho	12374	6943	56	Agriculture & Extraction
16049	Idaho County, Idaho	15744	13075	80.6	Remote
15001	Hawaii County, Hawaii	196165	73774	38	Micropolitan
15009	Maui County, Hawaii	163725	23748	14.6	Metropolitan
15007	Kauai County, Hawaii	70640	9063	12.9	Micropolitan
15005	Kalawao County, Hawaii	70	89	100	Remote
17083	Jersey County, Illinois	21704	13671	60.6	Fringe
17155	Putnam County, Illinois	5738	5814	100	Micropolitan
17039	De Witt County, Illinois	15766	7939	48.8	Metropolitan
17051	Fayette County, Illinois	20025	14650	67	Fringe
17103	Lee County, Illinois	31497	18483	53.2	Micropolitan
17107	Logan County, Illinois	25891	11858	39.9	Micropolitan
17117	Macoupin County, Illinois	45206	27181	58.5	Fringe
17159	Richland County, Illinois	15683	6981	43.5	Rural Towns
17165	Saline County, Illinois	23768	10747	43.7	Fringe
17189	Washington County, Illinois	13951	10559	73.6	Fringe
17135	Montgomery County, Illinois	25787	12220	41.6	Fringe
17195	Whiteside County, Illinois	55523	21239	37.3	Micropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
17001	Adams County, Illinois	65175	21838	32.6	Micropolitan
17027	Clinton County, Illinois	35546	18458	48.8	Metropolitan
17037	DeKalb County, Illinois	103533	21414	20.3	Metropolitan
17047	Edwards County, Illinois	6478	6617	100	Remote
17079	Jasper County, Illinois	9535	6723	69.9	Agriculture & Extraction
17081	Jefferson County, Illinois	35686	22647	58.8	Rural Towns
17197	Will County, Illinois	681426	26933	3.9	Metropolitan
17199	Williamson County, Illinois	65328	23318	34.8	Metropolitan
17041	Douglas County, Illinois	19555	12259	61.6	Fringe
17057	Fulton County, Illinois	32889	21614	60	Micropolitan
17061	Greene County, Illinois	12932	9518	70.8	Fringe
17069	Hardin County, Illinois	3921	4129	100	Remote
17073	Henry County, Illinois	48734	24954	50.3	Fringe
17095	Knox County, Illinois	48258	12663	24.3	Micropolitan
17097	Lake County, Illinois	687874	8937	1.3	Metropolitan
17127	Massac County, Illinois	14192	7528	50.5	Rural Towns
17171	Scott County, Illinois	4995	5204	100	Agriculture & Extraction
17017	Cass County, Illinois	12520	6859	52.1	Fringe
17099	LaSalle County, Illinois	107246	33611	30.2	Micropolitan
17067	Hancock County, Illinois	17931	13176	71	Rural Towns
17063	Grundy County, Illinois	50217	12291	24.4	Metropolitan
17091	Kankakee County, Illinois	108902	27239	24.5	Metropolitan
17043	DuPage County, Illinois	925916	444	0	Metropolitan
17167	Sangamon County, Illinois	195600	28111	14.1	Metropolitan
17129	Menard County, Illinois	12209	9515	75.7	Fringe
17031	Cook County, Illinois	5177243	2376	0	Metropolitan
17141	Ogle County, Illinois	50831	24532	47.1	Micropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
17137	Morgan County, Illinois	32276	12654	36.2	Micropolitan
17177	Stephenson County, Illinois	44692	18617	40.1	Micropolitan
17193	White County, Illinois	13688	8916	62	Agriculture & Extraction
17203	Woodford County, Illinois	38239	21508	54.9	Fringe
17071	Henderson County, Illinois	6823	6892	99.7	Agriculture & Extraction
17111	McHenry County, Illinois	306531	30355	9.9	Metropolitan
17113	McLean County, Illinois	172074	28715	16.5	Metropolitan
17145	Perry County, Illinois	18758	9458	43.6	Fringe
17149	Pike County, Illinois	15278	11585	72.3	Rural Towns
17161	Rock Island County, Illinois	142656	15950	10.9	Metropolitan
17163	St. Clair County, Illinois	257597	25921	9.8	Metropolitan
17185	Wabash County, Illinois	11494	4492	38.9	Agriculture & Extraction
17013	Calhoun County, Illinois	4777	4956	100	Fringe
17035	Cumberland County, Illinois	10738	10833	100	Micropolitan
17085	Jo Daviess County, Illinois	21672	16154	72.6	Older-age
17089	Kane County, Illinois	527595	18763	3.6	Metropolitan
17101	Lawrence County, Illinois	13825	9584	58	Rural Towns
17009	Brown County, Illinois	4804	2806	41.1	Remote
17123	Marshall County, Illinois	11526	12014	100	Fringe
17075	Iroquois County, Illinois	27740	20718	71.7	Fringe
17021	Christian County, Illinois	31546	14726	43.5	Micropolitan
17025	Clay County, Illinois	13170	8752	64.7	Rural Towns
17059	Gallatin County, Illinois	5157	5291	100	Fringe
17077	Jackson County, Illinois	57971	22180	37.2	Metropolitan
17133	Monroe County, Illinois	33670	13947	41.4	Metropolitan
17143	Peoria County, Illinois	182214	27434	14.6	Metropolitan
17181	Union County, Illinois	16974	11492	65.9	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
17201	Winnebago County, Illinois	283046	22836	7.9	Metropolitan
17147	Piatt County, Illinois	16375	11117	67.7	Fringe
17153	Pulaski County, Illinois	5606	5815	100	Fringe
17169	Schuyler County, Illinois	6986	4225	57.6	Agriculture & Extraction
17175	Stark County, Illinois	5398	5813	100	Fringe
17045	Edgar County, Illinois	17253	9242	51.8	Fringe
17005	Bond County, Illinois	15475	10489	60.7	Fringe
17007	Boone County, Illinois	53224	10431	19.4	Metropolitan
17011	Bureau County, Illinois	33010	19421	57.4	Rural Towns
17015	Carroll County, Illinois	14376	12048	81.9	Rural Towns
17029	Coles County, Illinois	51044	12951	24.3	Micropolitan
17033	Crawford County, Illinois	17011	11668	60.2	Rural Towns
18105	Monroe County, Indiana	144362	30457	21.2	Metropolitan
18045	Fountain County, Indiana	16319	10986	66	Fringe
18039	Elkhart County, Indiana	201065	41580	20.6	Metropolitan
18025	Crawford County, Indiana	10516	10655	100	Fringe
18017	Cass County, Indiana	37266	17169	44.7	Micropolitan
18097	Marion County, Indiana	934476	5607	0.6	Metropolitan
18021	Clay County, Indiana	25808	16173	60.9	Fringe
18063	Hendricks County, Indiana	158221	27851	17.8	Metropolitan
18047	Franklin County, Indiana	22736	20379	88.9	Fringe
18053	Grant County, Indiana	66092	19826	28.9	Micropolitan
18071	Jackson County, Indiana	43271	19113	43.7	Micropolitan
18067	Howard County, Indiana	81417	17871	21.5	Metropolitan
18119	Owen County, Indiana	20722	20969	100	Fringe
18135	Randolph County, Indiana	24721	15704	61.9	Fringe
18183	Whitley County, Indiana	33269	23771	71.2	Fringe
18013	Brown County, Indiana	14902	14962	100	Destination
18023	Clinton County, Indiana	31718	16317	49.8	Micropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
18161	Union County, Indiana	7096	7246	100	Fringe
18027	Daviess County, Indiana	32466	19730	60.3	Rural Towns
18029	Dearborn County, Indiana	48964	26267	53.1	Fringe
18083	Knox County, Indiana	36596	13739	36.2	Micropolitan
18093	Lawrence County, Indiana	44989	26713	58.4	Micropolitan
18123	Perry County, Indiana	17521	10708	55	Fringe
18131	Pulaski County, Indiana	12552	10496	80.9	Fringe
18129	Posey County, Indiana	25346	17051	66.8	Fringe
18171	Warren County, Indiana	8161	6440	77.1	Fringe
18165	Vermillion County, Indiana	15354	9474	60.4	Fringe
18003	Allen County, Indiana	366359	43470	11.9	Metropolitan
18031	Decatur County, Indiana	26218	14269	53.8	Micropolitan
18043	Floyd County, Indiana	75715	15485	20.3	Metropolitan
18079	Jennings County, Indiana	27444	16855	60.2	Micropolitan
18081	Johnson County, Indiana	149631	20503	13.9	Metropolitan
18109	Morgan County, Indiana	68818	34246	49.1	Metropolitan
18051	Gibson County, Indiana	33008	18101	53.6	Fringe
18117	Orange County, Indiana	19287	16379	83.5	Destination
18085	Kosciusko County, Indiana	78071	36609	46.6	Micropolitan
18099	Marshall County, Indiana	46100	29840	63.3	Micropolitan
18163	Vanderburgh County, Indiana	178985	16685	9.2	Metropolitan
18009	Blackford County, Indiana	11969	6276	50.6	Fringe
18143	Scott County, Indiana	23341	12500	52.7	Fringe
18061	Harrison County, Indiana	39423	33737	85.8	Destination
18091	LaPorte County, Indiana	102521	39705	35.6	Metropolitan
18169	Wabash County, Indiana	30632	16121	50	Micropolitan
18073	Jasper County, Indiana	33107	22776	68	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
18101	Martin County, Indiana	9924	7375	72.3	Rural Towns
18127	Porter County, Indiana	166402	34673	20.8	Metropolitan
18145	Shelby County, Indiana	43714	23202	52	Fringe
18137	Ripley County, Indiana	27949	23722	83.2	Fringe
18147	Spencer County, Indiana	20296	20801	100	Fringe
18153	Sullivan County, Indiana	18715	16621	79	Fringe
18159	Tipton County, Indiana	15022	9496	61.6	Fringe
18157	Tippecanoe County, Indiana	187540	26548	14.5	Metropolitan
18167	Vigo County, Indiana	103674	25701	23.8	Metropolitan
18173	Warrick County, Indiana	61217	17921	29.3	Metropolitan
18057	Hamilton County, Indiana	314529	17054	5.6	Metropolitan
18033	DeKalb County, Indiana	42368	17928	42.3	Micropolitan
18087	LaGrange County, Indiana	38779	35213	91.6	Fringe
18005	Bartholomew County, Indiana	81079	27036	33.7	Metropolitan
18139	Rush County, Indiana	16522	10331	61.2	Fringe
18011	Boone County, Indiana	63628	21302	34.4	Metropolitan
18049	Fulton County, Indiana	20005	13309	64.9	Rural Towns
18089	Lake County, Indiana	483350	19453	4	Metropolitan
18107	Montgomery County, Indiana	37710	20124	52.8	Micropolitan
18113	Noble County, Indiana	46680	32404	68	Micropolitan
18001	Adams County, Indiana	34760	18674	53.7	Micropolitan
18041	Fayette County, Indiana	22921	8632	36.8	Micropolitan
19055	Delaware County, Iowa	17093	12434	71.5	Fringe
19185	Wayne County, Iowa	6312	6395	100	Remote
19113	Linn County, Iowa	220216	27759	12.7	Metropolitan
19163	Scott County, Iowa	170638	23156	13.5	Metropolitan
19141	O'Brien County, Iowa	13699	9315	66.3	Rural Towns
19011	Benton County, Iowa	25374	20713	80.7	Fringe
19061	Dubuque County, Iowa	95527	26036	27	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
19079	Hamilton County, Iowa	14912	7631	50.5	Fringe
19151	Pocahontas County, Iowa	6739	7138	100	Remote
19175	Union County, Iowa	12317	4910	39.2	Fringe
19177	Van Buren County, Iowa	7164	7468	100	Remote
19159	Ringgold County, Iowa	4778	5051	100	Agriculture & Extraction
19001	Adair County, Iowa	6983	7454	100	Fringe
19009	Audubon County, Iowa	5495	5794	100	Agriculture & Extraction
19039	Clarke County, Iowa	9144	4434	48.1	Fringe
19051	Davis County, Iowa	8775	8781	100	Micropolitan
19093	Ida County, Iowa	6792	7042	100	Fringe
19107	Keokuk County, Iowa	10081	10231	100	Agriculture & Extraction
19135	Monroe County, Iowa	7732	4414	55.2	Rural Towns
19179	Wapello County, Iowa	34978	10728	30.5	Micropolitan
19167	Sioux County, Iowa	34417	17627	50.8	Rural Towns
19025	Calhoun County, Iowa	9029	9866	100	Remote
19031	Cedar County, Iowa	18211	15359	83.4	Fringe
19033	Cerro Gordo County, Iowa	42361	8907	20.6	Micropolitan
19073	Greene County, Iowa	8891	5351	58.2	Fringe
19083	Hardin County, Iowa	16577	12305	71.1	Fringe
19117	Lucas County, Iowa	8471	4894	56.2	Fringe
19189	Winnebago County, Iowa	10351	6982	66.1	Rural Towns
19147	Palo Alto County, Iowa	8852	5595	61.5	Rural Towns
19007	Appanoose County, Iowa	12394	7375	58.3	Rural Towns
19095	Iowa County, Iowa	15935	13457	82.2	Fringe
19099	Jasper County, Iowa	35311	21204	57.5	Micropolitan
19191	Winneshiek County, Iowa	20140	12249	59	Rural Towns

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
19157	Poweshiek County, Iowa	18313	9706	52	Rural Towns
19127	Marshall County, Iowa	39281	13864	33.9	Micropolitan
19015	Boone County, Iowa	25904	13384	50.6	Micropolitan
19017	Bremer County, Iowa	24450	15942	64.5	Fringe
19089	Howard County, Iowa	9078	5952	63	Fringe
19063	Emmet County, Iowa	9283	3986	39.9	Rural Towns
19081	Hancock County, Iowa	10732	7721	70	Rural Towns
19121	Madison County, Iowa	15712	10589	67.8	Fringe
19125	Marion County, Iowa	32971	16245	48.7	Micropolitan
19197	Wright County, Iowa	12624	7293	56.8	Rural Towns
39097	Madison County, Ohio	39068	21294	48.5	Metropolitan
39119	Muskingum County, Ohio	85251	40363	47	Micropolitan
27037	Dakota County, Minnesota	416293	20341	4.9	Metropolitan
27083	Lyon County, Minnesota	25541	12301	47.9	Rural Towns
27129	Renville County, Minnesota	14421	15025	100	Fringe
27031	Cook County, Minnesota	5270	5233	100	Destination
27093	Meeker County, Minnesota	22764	15140	65.5	Fringe
27113	Pennington County, Minnesota	13974	5093	36.2	Fringe
27167	Wilkin County, Minnesota	6203	3256	50.1	Micropolitan
27027	Clay County, Minnesota	62287	17111	27.9	Metropolitan
27045	Fillmore County, Minnesota	20528	19380	93.3	Fringe
27119	Polk County, Minnesota	31018	15368	48.5	Metropolitan
27135	Roseau County, Minnesota	15268	12907	82.3	Rural Towns
27165	Watonwan County, Minnesota	10844	6550	59.1	Fringe
27011	Big Stone County, Minnesota	4885	5127	100	Remote
27021	Cass County, Minnesota	28759	28559	100	Older-age
27049	Goodhue County, Minnesota	45395	21839	47	Micropolitan
27063	Jackson County, Minnesota	9925	7099	69.1	Rural Towns

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
27105	Nobles County, Minnesota	21542	8849	41	Rural Towns
27141	Sherburne County, Minnesota	91232	40271	44.2	Metropolitan
27019	Carver County, Minnesota	100146	18326	18.8	Metropolitan
27061	Itasca County, Minnesota	44428	36195	79.4	Micropolitan
27123	Ramsey County, Minnesota	537280	997	0.2	Metropolitan
27169	Winona County, Minnesota	50378	17646	34.5	Micropolitan
28089	Madison County, Mississippi	102445	28454	28	Metropolitan
28091	Marion County, Mississippi	24488	18903	73.1	Fringe
48449	Titus County, Texas	32479	16434	50.6	Rural Towns
48291	Liberty County, Texas	74715	49391	63.2	Fringe
48497	Wise County, Texas	63665	44446	72.1	Agriculture & Extraction
48249	Jim Wells County, Texas	40799	16576	40.1	Agriculture & Extraction
48127	Dimmit County, Texas	10555	4377	39.5	Agriculture & Extraction
48157	Fort Bend County, Texas	734071	37939	5.5	Metropolitan
48235	Irion County, Texas	1508	1574	100	Agriculture & Extraction
48097	Cooke County, Texas	39107	22882	59	Agriculture & Extraction
48115	Dawson County, Texas	11190	2179	16.3	Agriculture & Extraction
48051	Burleson County, Texas	17692	13226	76.7	Agriculture & Extraction
48245	Jefferson County, Texas	241135	21193	8.4	Metropolitan
48359	Oldham County, Texas	1520	2070	100	Remote
48141	El Paso County, Texas	813458	18123	2.2	Metropolitan
48443	Terrell County, Texas	862	927	100	Remote
48463	Uvalde County, Texas	26582	8510	31.4	Micropolitan
48009	Archer County, Texas	8723	7841	89	Agriculture & Extraction
48215	Hidalgo County, Texas	841221	42706	5.1	Metropolitan
48425	Somervell County, Texas	8557	8694	100	Fringe
48207	Haskell County, Texas	5241	2747	47.6	Remote

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
48333	Mills County, Texas	4735	4870	100	Destination
48351	Newton County, Texas	13870	14138	100	Fringe
49045	Tooele County, Utah	64781	10903	17.7	Metropolitan
49043	Summit County, Utah	40350	15329	39.2	Destination
49031	Piute County, Utah	1868	1484	100	Agriculture & Extraction
49001	Beaver County, Utah	6377	3652	56.5	Remote
49039	Sanpete County, Utah	26825	11655	40.9	Fringe
49049	Utah County, Utah	587037	18664	3.3	Metropolitan
50011	Franklin County, Vermont	48594	34884	71.7	Fringe
50003	Bennington County, Vermont	35470	23511	64.5	Micropolitan
50009	Essex County, Vermont	6208	6125	100	Micropolitan
51530	Buena Vista city, Virginia	6314	257	3.9	Fringe
51730	Petersburg city, Virginia	30898	689	2.1	Metropolitan
51600	Fairfax city, Virginia	23314	0	0	Metropolitan
51683	Manassas city, Virginia	41359	0	0	Metropolitan
51800	Suffolk city, Virginia	86899	18778	21.6	Metropolitan
51041	Chesterfield County, Virginia	336935	19713	5.9	Metropolitan
51093	Isle of Wight County, Virginia	35944	20663	57.4	Fringe
51620	Franklin city, Virginia	8095	277	3.3	Fringe
51540	Charlottesville city, Virginia	46618	0	0	Metropolitan
51087	Henrico County, Virginia	323272	13743	4.3	Metropolitan
51101	King William County, Virginia	16442	13469	83.2	Fringe
51109	Louisa County, Virginia	35286	34348	100	Fringe
51147	Prince Edward County, Virginia	21771	14585	63.2	Fringe
51159	Richmond County, Virginia	7212	8902	100	Destination
51177	Spotsylvania County, Virginia	130691	41763	32.3	Metropolitan
51043	Clarke County, Virginia	14197	10027	69.5	Fringe
51117	Mecklenburg County, Virginia	29924	24271	77.8	Rural Towns

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
51015	Augusta County, Virginia	70832	49072	66.4	Fringe
51051	Dickenson County, Virginia	14496	15308	100	Agriculture & Extraction
51107	Loudoun County, Virginia	382843	45748	12.6	Metropolitan
51161	Roanoke County, Virginia	92003	17388	18.5	Metropolitan
51570	Colonial Heights city, Virginia	17468	0	0	Metropolitan
51021	Bland County, Virginia	5711	6625	100	Fringe
51029	Buckingham County, Virginia	14975	16913	100	Fringe
51580	Covington city, Virginia	5460	0	0	Fringe
51810	Virginia Beach city, Virginia	424700	6920	1.5	Metropolitan
51640	Galax city, Virginia	6379	962	13.7	Rural Towns
51193	Westmoreland County, Virginia	17430	13779	78.8	Fringe
51155	Pulaski County, Virginia	33122	16098	46.9	Metropolitan
51590	Danville city, Virginia	40344	1916	4.5	Micropolitan
51009	Amherst County, Virginia	31699	20398	63.7	Fringe
51017	Bath County, Virginia	4323	4563	100	Fringe
51700	Newport News city, Virginia	170553	52	0	Metropolitan
51680	Lynchburg city, Virginia	78631	2128	2.7	Metropolitan
51690	Martinsville city, Virginia	12702	0	0	Micropolitan
51057	Essex County, Virginia	10938	8580	77.3	Destination
51790	Staunton city, Virginia	23850	906	3.7	Metropolitan
51750	Radford city, Virginia	17543	517	2.9	Metropolitan
51045	Craig County, Virginia	5096	5234	100	Destination
51071	Giles County, Virginia	16699	11146	66.3	Fringe
51157	Rappahannock County, Virginia	7323	7361	100	Destination
54085	Ritchie County, West Virginia	9876	10011	100	Agriculture & Extraction
54043	Lincoln County, West Virginia	21018	21561	100	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
54079	Putnam County, West Virginia	56268	20314	35.8	Metropolitan
54005	Boone County, West Virginia	22697	19305	81.4	Fringe
54051	Marshall County, West Virginia	31268	15881	49	Agriculture & Extraction
54093	Tucker County, West Virginia	6849	6927	100	Fringe
54087	Roane County, West Virginia	14110	11730	80	Agriculture & Extraction
54107	Wood County, West Virginia	85026	23089	26.8	Metropolitan
54053	Mason County, West Virginia	26251	17563	65	Micropolitan
54073	Pleasants County, West Virginia	6950	4158	54.5	Fringe
54037	Jefferson County, West Virginia	55825	26950	48.4	Metropolitan
54045	Logan County, West Virginia	33269	25009	70.8	Agriculture & Extraction
53031	Jefferson County, Washington	30067	17372	57.5	Older-age
53049	Pacific County, Washington	21041	13317	64.8	Older-age
53059	Skamania County, Washington	11581	11340	100	Destination
53009	Clallam County, Washington	73469	25780	35.5	Older-age
53039	Klickitat County, Washington	21354	12561	60.2	Fringe
53017	Douglas County, Washington	41235	10586	26.6	Metropolitan
53053	Pierce County, Washington	838090	54830	6.6	Metropolitan
53071	Walla Walla County, Washington	57062	10248	17.1	Metropolitan
53061	Snohomish County, Washington	776759	82183	10.8	Metropolitan
53067	Thurston County, Washington	268528	55799	21	Metropolitan
53011	Clark County, Washington	462722	62097	13.8	Metropolitan
53001	Adams County, Washington	19239	7702	40.2	Micropolitan
53057	Skagit County, Washington	122569	34931	29	Metropolitan
53043	Lincoln County, Washington	10318	10250	100	Remote
55119	Taylor County, Wisconsin	20150	16523	80.4	Fringe
55099	Price County, Wisconsin	13306	13675	100	Remote
55079	Milwaukee County, Wisconsin	944962	1837	0.2	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
55033	Dunn County, Wisconsin	44162	26279	59.3	Micropolitan
55045	Green County, Wisconsin	36513	22318	60.2	Fringe
55115	Shawano County, Wisconsin	40436	30932	74.4	Micropolitan
55078	Menominee County, Wisconsin	4541	4522	100	Tribal
55011	Buffalo County, Wisconsin	13094	13188	100	Fringe
55063	La Crosse County, Wisconsin	116473	19859	16.8	Metropolitan
55035	Eau Claire County, Wisconsin	102268	23360	23	Metropolitan
55095	Polk County, Wisconsin	42892	37124	85.5	Fringe
55133	Waukesha County, Wisconsin	396287	38960	9.9	Metropolitan
55125	Vilas County, Wisconsin	21403	21398	100	Older-age
55057	Juneau County, Wisconsin	24851	22038	83.5	Rural Towns
55131	Washington County, Wisconsin	133741	41021	30.8	Metropolitan
55025	Dane County, Wisconsin	525773	63657	12.3	Metropolitan
55039	Fond du Lac County, Wisconsin	100579	35747	35.1	Metropolitan
55091	Pepin County, Wisconsin	7177	7335	100	Fringe
55097	Portage County, Wisconsin	70302	25396	36	Micropolitan
56023	Lincoln County, Wyoming	18886	15360	82.7	Agriculture & Extraction
56021	Laramie County, Wyoming	94276	19070	19.8	Metropolitan
1093	Marion County, Alabama	29498	26897	88.9	Rural Towns
1073	Jefferson County, Alabama	652744	64981	9.8	Metropolitan
1059	Franklin County, Alabama	31319	22237	70.4	Fringe
1019	Cherokee County, Alabama	25587	22323	85.7	Fringe
1047	Dallas County, Alabama	39749	19036	45.6	Micropolitan
1087	Macon County, Alabama	18828	10790	55.5	Fringe
1117	Shelby County, Alabama	209638	47417	22.9	Metropolitan
1003	Baldwin County, Alabama	205452	84605	42.3	Fringe
1069	Houston County, Alabama	103510	35221	33.8	Tribal

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
1125	Tuscaloosa County, Alabama	204693	51580	25.5	Metropolitan
1027	Clay County, Alabama	13128	13552	100	Remote
1109	Pike County, Alabama	33214	17255	51.7	Micropolitan
1037	Coosa County, Alabama	10465	10886	100	Micropolitan
1065	Hale County, Alabama	14649	13539	89.2	Fringe
1053	Escambia County, Alabama	34533	23965	63.5	Micropolitan
1013	Butler County, Alabama	19734	14457	71.2	Fringe
1105	Perry County, Alabama	9327	9826	100	Fringe
1035	Conecuh County, Alabama	12469	10256	80.9	Rural Towns
1007	Bibb County, Alabama	20468	15383	68.4	Fringe
1017	Chambers County, Alabama	33433	16748	49.1	Micropolitan
1057	Fayette County, Alabama	16385	13539	80.2	Fringe
1009	Blount County, Alabama	57169	51919	90	Fringe
1001	Autauga County, Alabama	54277	23267	42	Metropolitan
1061	Geneva County, Alabama	26169	23945	89.6	Fringe
2261	Valdez-Cordova Census Area, Alaska	9028	9488	100	Destination
2105	Hoonah-Angoon Census Area, Alaska	2127	0	NA	Remote
2275	Wrangell City and Borough, Alaska	2463	2364	100	Remote
4019	Pima County, Arizona	998748	75575	7.5	Metropolitan
4007	Gila County, Arizona	52693	21812	41.1	Older-age
4003	Cochise County, Arizona	116140	46265	36.3	Metropolitan
4001	Apache County, Arizona	70781	53197	74.1	Tribal
4025	Yavapai County, Arizona	223086	72650	33.2	Older-age
4017	Navajo County, Arizona	106276	58524	54.1	Tribal
5119	Pulaski County, Arkansas	387302	48211	12.3	Metropolitan
5021	Clay County, Arkansas	14933	8898	58.9	Rural Towns
5039	Dallas County, Arkansas	6734	4082	52.6	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
5121	Randolph County, Arkansas	17278	11847	67.4	Rural Towns
5009	Boone County, Arkansas	36849	23135	62.2	Rural Towns
5063	Independence County, Arkansas	36781	25348	68.6	Rural Towns
5053	Grant County, Arkansas	17913	13613	75	Fringe
5045	Faulkner County, Arkansas	121117	46810	38.8	Metropolitan
5089	Marion County, Arkansas	16320	16367	100	Destination
5129	Searcy County, Arkansas	7833	7929	100	Remote
5033	Crawford County, Arkansas	61840	32059	52	Fringe
5059	Hot Spring County, Arkansas	31434	22013	66	Micropolitan
5087	Madison County, Arkansas	15997	15740	100	Fringe
5061	Howard County, Arkansas	13214	9115	67.5	Fringe
5093	Mississippi County, Arkansas	42077	16043	36.3	Micropolitan
5139	Union County, Arkansas	39365	21925	54.5	Rural Towns
39055	Geauga County, Ohio	93233	60320	64	Fringe
39085	Lake County, Ohio	227982	14967	6.5	Metropolitan
39023	Clark County, Ohio	133440	32234	23.6	Metropolitan
39075	Holmes County, Ohio	43042	40823	93	Rural Towns
39111	Monroe County, Ohio	13949	14125	97.7	Agriculture & Extraction
39165	Warren County, Ohio	219225	38272	17.3	Metropolitan
39005	Ashland County, Ohio	52854	32849	61.9	Micropolitan
40133	Seminole County, Oklahoma	24634	16441	64.7	Tribal
40011	Blaine County, Oklahoma	8182	5695	57.4	Tribal
40029	Coal County, Oklahoma	5549	5807	100	Tribal
40073	Kingfisher County, Oklahoma	15452	11251	72.4	Tribal
40095	Marshall County, Oklahoma	16151	11668	72.1	Tribal
40105	Nowata County, Oklahoma	10202	6097	57.9	Tribal
40131	Rogers County, Oklahoma	89748	45173	50.3	Tribal
40003	Alfalfa County, Oklahoma	4769	5790	100	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
40027	Cleveland County, Oklahoma	271023	45571	16.9	Metropolitan
40005	Atoka County, Oklahoma	12332	13796	100	Tribal
40043	Dewey County, Oklahoma	4817	4914	100	Tribal
40083	Logan County, Oklahoma	45655	25071	55.4	Fringe
40147	Washington County, Oklahoma	51598	12404	23.9	Tribal
40061	Haskell County, Oklahoma	12645	10025	77.7	Tribal
40111	Okmulgee County, Oklahoma	38209	18981	48.6	Tribal
40067	Jefferson County, Oklahoma	6075	6292	100	Tribal
40049	Garvin County, Oklahoma	27570	18935	68.7	Tribal
40123	Pontotoc County, Oklahoma	37864	20367	53.6	Tribal
40063	Hughes County, Oklahoma	11923	8119	58.8	Tribal
40031	Comanche County, Oklahoma	109783	27245	21.8	Tribal
40117	Pawnee County, Oklahoma	16263	13306	81.1	Tribal
41019	Douglas County, Oregon	107635	44049	41.2	Older-age
41053	Polk County, Oregon	81002	15526	19.9	Metropolitan
41017	Deschutes County, Oregon	180006	47101	27.6	Destination
41071	Yamhill County, Oregon	101512	23001	22.6	Metropolitan
41035	Klamath County, Oregon	65711	24598	37.6	Destination
41003	Benton County, Oregon	89514	16196	18.8	Metropolitan
41013	Crook County, Oregon	22270	10083	48	Destination
41025	Harney County, Oregon	7118	3160	44.3	Destination
41063	Wallowa County, Oregon	6821	6820	100	Destination
41069	Wheeler County, Oregon	1426	1375	100	Agriculture & Extraction
41011	Coos County, Oregon	62469	23961	38.4	Older-age
41027	Hood River County, Oregon	23042	11940	52.2	Destination
41051	Multnomah County, Oregon	793428	10425	1.3	Metropolitan
42055	Franklin County, Pennsylvania	152390	61695	40.4	Metropolitan
42009	Bedford County, Pennsylvania	48156	41014	83.8	Fringe

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42111	Somerset County, Pennsylvania	70045	53964	70.8	Micropolitan
42133	York County, Pennsylvania	438937	108957	24.7	Metropolitan
42015	Bradford County, Pennsylvania	60706	44592	72.2	Micropolitan
42029	Chester County, Pennsylvania	512358	68080	13.3	Metropolitan
42063	Indiana County, Pennsylvania	84371	52685	60.1	Micropolitan
42125	Washington County, Pennsylvania	205819	64173	30.8	Metropolitan
42103	Pike County, Pennsylvania	55121	39761	70.8	Destination
42077	Lehigh County, Pennsylvania	357624	28360	7.9	Metropolitan
42031	Clarion County, Pennsylvania	38439	29722	76.6	Fringe
42033	Clearfield County, Pennsylvania	74746	43721	53.8	Micropolitan
42081	Lycoming County, Pennsylvania	111658	42265	36.3	Metropolitan
42123	Warren County, Pennsylvania	39376	22404	55	Micropolitan
42047	Elk County, Pennsylvania	30275	17367	55.7	Rural Towns
42085	Mercer County, Pennsylvania	108642	51111	44.5	Metropolitan
42113	Sullivan County, Pennsylvania	5994	6339	100	Destination
44003	Kent County, Rhode Island	162667	13188	8	Metropolitan
44009	Washington County, Rhode Island	125196	39039	30.8	Metropolitan
45005	Allendale County, South Carolina	8094	6618	68.3	Fringe
45023	Chester County, South Carolina	32171	23213	71.8	Fringe
45067	Marion County, South Carolina	31452	19400	60.8	Fringe
45073	Oconee County, South Carolina	76152	48816	64.9	Micropolitan
45019	Charleston County, South Carolina	387532	41458	10.9	Metropolitan
45069	Marlboro County, South Carolina	24171	15372	55	Micropolitan
45021	Cherokee County, South Carolina	56405	34202	61	Micropolitan
45053	Jasper County, South Carolina	27381	18114	66.7	Fringe
45061	Lee County, South Carolina	16044	13198	72	Fringe
45083	Spartanburg County, South Carolina	297950	80525	27.4	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
45013	Beaufort County, South Carolina	174917	34549	19.6	Destination
45081	Saluda County, South Carolina	20037	16127	80.5	Fringe
46067	Hutchinson County, South Dakota	7080	7200	100	Fringe
46017	Buffalo County, South Dakota	2053	2077	100	Tribal
46041	Dewey County, South Dakota	5733	3628	64.1	Tribal
46065	Hughes County, South Dakota	16601	4459	25.3	Rural Towns
46111	Sanborn County, South Dakota	2315	2336	100	Agriculture & Extraction
46059	Hand County, South Dakota	3246	3345	100	Agriculture & Extraction
46135	Yankton County, South Dakota	21367	7887	34.8	Rural Towns
46005	Beadle County, South Dakota	18046	4972	27.4	Rural Towns
46035	Davison County, South Dakota	19572	4638	23.3	Rural Towns
46073	Jerauld County, South Dakota	1986	2007	100	Remote
46117	Stanley County, South Dakota	2978	1268	42.5	Destination
46107	Potter County, South Dakota	2245	2340	100	Destination
46023	Charles Mix County, South Dakota	9088	9287	100	Tribal
46091	Marshall County, South Dakota	4829	4683	100	Agriculture & Extraction
46101	Moody County, South Dakota	6450	6367	100	Fringe
46121	Todd County, South Dakota	10114	9882	100	Tribal
46085	Lyman County, South Dakota	3841	3877	100	Agriculture & Extraction
46115	Spink County, South Dakota	6411	6598	100	Remote
46011	Brookings County, South Dakota	34107	9883	29.7	Micropolitan
46057	Hamlin County, South Dakota	5840	5989	100	Remote
47083	Houston County, Tennessee	7967	8267	100	Fringe
47071	Hardin County, Tennessee	25344	17573	67.9	Fringe
47069	Hardeman County, Tennessee	21837	20826	80.2	Fringe
47139	Polk County, Tennessee	16543	16730	100	Destination
47185	White County, Tennessee	26184	20561	78.2	Rural Towns

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
47171	Unicoi County, Tennessee	17424	8024	44.7	Metropolitan
47183	Weakley County, Tennessee	33192	23032	67	Rural Towns
47007	Bledsoe County, Tennessee	13436	13931	100	Agriculture & Extraction
47031	Coffee County, Tennessee	53888	25358	47.3	Micropolitan
47073	Hawkins County, Tennessee	55767	32827	57.9	Fringe
47111	Macon County, Tennessee	23122	18304	79.6	Fringe
47147	Robertson County, Tennessee	68433	36245	53.2	Fringe
47021	Cheatham County, Tennessee	39585	32989	83	Fringe
47055	Giles County, Tennessee	28743	21278	73.7	Fringe
47113	Madison County, Tennessee	96405	25356	25.8	Metropolitan
47137	Pickett County, Tennessee	5002	5124	100	Destination
47181	Wayne County, Tennessee	14606	16913	100	Fringe
47003	Bedford County, Tennessee	47184	25925	55.6	Micropolitan
47035	Cumberland County, Tennessee	58021	35308	60.9	Older-age
47025	Claiborne County, Tennessee	30996	22606	71.6	Fringe
47085	Humphreys County, Tennessee	18096	14960	82.5	Fringe
47141	Putnam County, Tennessee	75551	25940	35	Micropolitan
47161	Stewart County, Tennessee	13087	13279	100	Fringe
47039	Decatur County, Tennessee	11443	11666	100	Remote
47109	McNairy County, Tennessee	25564	22399	85.3	Fringe
47011	Bradley County, Tennessee	103516	33953	33	Metropolitan
48267	Kimble County, Texas	4356	1966	44.3	Remote
48467	Van Zandt County, Texas	53721	39692	75	Fringe
48317	Martin County, Texas	5543	5460	100	Agriculture & Extraction
48501	Yoakum County, Texas	8571	3093	37.3	Agriculture & Extraction
48387	Red River County, Texas	12077	9425	75.7	Fringe
48435	Sutton County, Texas	3844	747	18.8	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
48459	Upshur County, Texas	40221	32001	79.3	Fringe
48481	Wharton County, Texas	41197	20541	49.9	Micropolitan
48033	Borden County, Texas	665	652	100	Agriculture & Extraction
48315	Marion County, Texas	9954	10149	100	Fringe
48181	Grayson County, Texas	127174	53306	43.2	Metropolitan
48363	Palo Pinto County, Texas	28074	14108	50.2	Micropolitan
48123	DeWitt County, Texas	18492	10264	49.6	Agriculture & Extraction
48059	Callahan County, Texas	13684	9754	72.2	Fringe
48183	Gregg County, Texas	121339	16463	13.4	Metropolitan
48303	Lubbock County, Texas	297274	33324	11.3	Metropolitan
48257	Kaufman County, Texas	117811	54303	48.8	Metropolitan
48153	Floyd County, Texas	5834	3172	53.3	Agriculture & Extraction
48071	Chambers County, Texas	40076	17440	45.7	Metropolitan
48027	Bell County, Texas	321558	49984	15.2	Metropolitan
48233	Hutchinson County, Texas	21464	4913	22.6	Agriculture & Extraction
48361	Orange County, Texas	83301	29344	35.2	Metropolitan
48495	Winkler County, Texas	7703	1418	18.1	Agriculture & Extraction
48053	Burnet County, Texas	45246	25021	55.7	Destination
48113	Dallas County, Texas	2568003	17336	0.7	Metropolitan
48311	McMullen County, Texas	662	805	100	Agriculture & Extraction
48251	Johnson County, Texas	161010	59635	37.9	Metropolitan
48205	Hartley County, Texas	4220	3486	57.3	Agriculture & Extraction
48293	Limestone County, Texas	22659	12613	53.6	Fringe
48367	Parker County, Texas	128417	69076	56.1	Fringe
48109	Culberson County, Texas	2233	2266	100	Remote
48169	Garza County, Texas	4405	1437	22.3	Agriculture & Extraction
48453	Travis County, Texas	1195755	62893	5.5	Metropolitan
48087	Collingsworth County, Texas	2929	3017	100	Destination
48279	Lamb County, Texas	13062	7831	57.7	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
48301	Loving County, Texas	102	86	100	Remote
28117	Prentiss County, Mississippi	25070	19342	76.1	Rural Towns
28059	Jackson County, Mississippi	140373	38474	27.3	Metropolitan
28143	Tunica County, Mississippi	10051	6997	66	Fringe
28021	Claiborne County, Mississippi	9065	9080	100	Micropolitan
28075	Lauderdale County, Mississippi	74207	38478	48.3	Micropolitan
28127	Simpson County, Mississippi	26506	23299	84.8	Fringe
28007	Attala County, Mississippi	18275	12323	64.3	Destination
28027	Coahoma County, Mississippi	23477	7938	32	Rural Towns
28147	Walthall County, Mississippi	14468	14859	100	Remote
28115	Pontotoc County, Mississippi	31065	25984	84	Rural Towns
28003	Alcorn County, Mississippi	36588	24802	66.4	Rural Towns
28033	DeSoto County, Mississippi	175179	34916	20.4	Metropolitan
29129	Mercer County, Missouri	3606	3719	100	Agriculture & Extraction
29047	Clay County, Missouri	237645	22938	9.8	Metropolitan
29065	Dent County, Missouri	15325	10735	68.6	Rural Towns
29227	Worth County, Missouri	1991	2073	100	Agriculture & Extraction
29510	St. Louis city, Missouri	306638	1	0	Metropolitan
29023	Butler County, Missouri	42074	22424	52.2	Micropolitan
29087	Holt County, Missouri	4340	4516	100	Fringe
29139	Montgomery County, Missouri	11214	9297	78.5	Fringe
29207	Stoddard County, Missouri	29078	20845	69.8	Fringe
29221	Washington County, Missouri	23824	20181	80.5	Fringe
29063	DeKalb County, Missouri	9109	7920	62.4	Fringe
29107	Lafayette County, Missouri	32123	18615	56.9	Fringe
29197	Schuyler County, Missouri	4449	4370	100	Micropolitan
29029	Camden County, Missouri	44586	32676	74.2	Older-age

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
29097	Jasper County, Missouri	118334	27848	23.7	Metropolitan
29119	McDonald County, Missouri	22653	22798	100	Fringe
29167	Polk County, Missouri	31124	21387	68.9	Fringe
29179	Reynolds County, Missouri	6160	6565	100	Remote
29201	Scott County, Missouri	38238	16165	41.6	Micropolitan
29011	Barton County, Missouri	11727	7711	64	Fringe
29051	Cole County, Missouri	72850	22259	29.1	Metropolitan
29073	Gasconade County, Missouri	14491	12022	80.9	Fringe
29121	Macon County, Missouri	14992	10493	67.8	Rural Towns
29155	Pemiscot County, Missouri	16862	8696	49.3	Rural Towns
29203	Shannon County, Missouri	8181	8329	100	Remote
29067	Douglas County, Missouri	13257	10718	79.1	Fringe
29083	Henry County, Missouri	21523	10914	49.5	Fringe
29109	Lawrence County, Missouri	37566	22314	58.7	Fringe
30015	Chouteau County, Montana	5732	5894	100	Agriculture & Extraction
30053	Lincoln County, Montana	19178	15261	79.8	Older-age
30103	Treasure County, Montana	777	692	100	Agriculture & Extraction
30097	Sweet Grass County, Montana	3632	3665	100	Destination
30079	Prairie County, Montana	1324	1148	100	Remote
30035	Glacier County, Montana	13573	6028	44	Tribal
30037	Golden Valley County, Montana	724	852	100	Agriculture & Extraction
30095	Stillwater County, Montana	9362	9290	100	Remote
30039	Granite County, Montana	3237	3209	100	Remote
30057	Madison County, Montana	8160	7820	100	Remote
30091	Sheridan County, Montana	3529	3696	100	Agriculture & Extraction
30003	Big Horn County, Montana	13258	9551	71.9	Tribal
30049	Lewis and Clark County, Montana	66387	19052	28.9	Micropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
30063	Missoula County, Montana	115362	25159	22.3	Destination
30013	Cascade County, Montana	78238	16322	19.8	Metropolitan
30033	Garfield County, Montana	1141	1309	100	Agriculture & Extraction
30077	Powell County, Montana	5260	3746	54.2	Destination
30031	Gallatin County, Montana	104353	32640	33.5	Destination
30001	Beaverhead County, Montana	9262	4687	50.2	Remote
30065	Musselshell County, Montana	4774	4589	100	Agriculture & Extraction
31161	Sheridan County, Nebraska	5182	5259	100	Agriculture & Extraction
31129	Nuckolls County, Nebraska	4201	4369	100	Agriculture & Extraction
31063	Frontier County, Nebraska	2601	2705	100	Agriculture & Extraction
31055	Douglas County, Nebraska	548054	11791	2.2	Metropolitan
31029	Chase County, Nebraska	3665	3978	100	Destination
31005	Arthur County, Nebraska	418	453	100	Agriculture & Extraction
31061	Franklin County, Nebraska	2943	3076	100	Remote
31095	Jefferson County, Nebraska	7075	3533	48.2	Rural Towns
31115	Loup County, Nebraska	585	588	100	Agriculture & Extraction
31137	Phelps County, Nebraska	8882	3848	41.9	Rural Towns
31157	Scotts Bluff County, Nebraska	35682	10873	29.8	Micropolitan
31105	Kimball County, Nebraska	3602	3713	100	Remote
31121	Merrick County, Nebraska	7687	4573	58.9	Fringe
31021	Burt County, Nebraska	6431	6573	100	Agriculture & Extraction
31039	Cuming County, Nebraska	8847	5886	65.2	Agriculture & Extraction
31075	Grant County, Nebraska	715	619	100	Agriculture & Extraction
31085	Hayes County, Nebraska	943	933	100	Agriculture & Extraction
31027	Cedar County, Nebraska	8374	8610	100	Agriculture & Extraction
31097	Johnson County, Nebraska	4114	5185	100	Agriculture & Extraction
31071	Garfield County, Nebraska	1925	2003	100	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
31133	Pawnee County, Nebraska	2637	2702	100	Agriculture & Extraction
31183	Wheeler County, Nebraska	822	766	100	Agriculture & Extraction
31185	York County, Nebraska	13095	6143	44.1	Fringe
31037	Colfax County, Nebraska	10621	4256	40.5	Rural Towns
31113	Logan County, Nebraska	886	750	100	Agriculture & Extraction
31143	Polk County, Nebraska	5166	5271	100	Agriculture & Extraction
31017	Brown County, Nebraska	2943	2941	100	Agriculture & Extraction
32015	Lander County, Nevada	5704	2346	39	Agriculture & Extraction
32011	Eureka County, Nevada	1825	2018	100	Remote
34021	Mercer County, New Jersey	363331	12939	3.5	Metropolitan
34035	Somerset County, New Jersey	327254	19265	5.8	Metropolitan
34001	Atlantic County, New Jersey	266009	34989	12.7	Metropolitan
34023	Middlesex County, New Jersey	817979	5639	0.7	Metropolitan
34009	Cape May County, New Jersey	91656	16642	17.5	Older-age
34039	Union County, New Jersey	548522	0	0	Metropolitan
34019	Hunterdon County, New Jersey	121098	62491	49.6	Metropolitan
35028	Los Alamos County, New Mexico	18266	1988	11.2	Micropolitan
35061	Valencia County, New Mexico	74405	12685	16.7	Metropolitan
35001	Bernalillo County, New Mexico	670756	28343	4.2	Metropolitan
35011	De Baca County, New Mexico	2029	1825	100	Agriculture & Extraction
35023	Hidalgo County, New Mexico	4267	4560	100	Remote
35043	Sandoval County, New Mexico	139869	23474	17.1	Metropolitan
35009	Curry County, New Mexico	47401	7171	14.1	Micropolitan
35021	Harding County, New Mexico	456	683	100	Agriculture & Extraction
35045	San Juan County, New Mexico	126082	41671	33.7	Tribal
35005	Chaves County, New Mexico	64407	15974	24.2	Agriculture & Extraction
35059	Union County, New Mexico	3535	4297	100	Destination

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
35041	Roosevelt County, New Mexico	18504	7123	36.5	Rural Towns
36005	Bronx County, New York	1416810	40	0	Metropolitan
36035	Fulton County, New York	52990	27255	50.4	Micropolitan
36083	Rensselaer County, New York	157677	48750	30.5	Metropolitan
36043	Herkimer County, New York	61854	33025	51.8	Fringe
36089	St. Lawrence County, New York	105917	69059	62	Micropolitan
36113	Warren County, New York	63886	22045	33.9	Metropolitan
36027	Dutchess County, New York	285918	75329	25.4	Metropolitan
36055	Monroe County, New York	737093	48366	6.4	Metropolitan
36111	Ulster County, New York	175004	83077	46	Destination
36051	Livingston County, New York	61252	35298	54.7	Fringe
36039	Greene County, New York	44687	35084	73.1	Fringe
36003	Allegany County, New York	46552	37587	78.7	Rural Towns
36009	Cattaraugus County, New York	76884	48538	61.8	Micropolitan
36093	Schenectady County, New York	153101	12702	8.2	Metropolitan
36123	Yates County, New York	24671	17954	71.2	Fringe
37087	Haywood County, North Carolina	59959	32971	55.4	Fringe
37005	Alleghany County, North Carolina	10850	10879	100	Remote
37045	Cleveland County, North Carolina	96923	54159	55.8	Micropolitan
37077	Granville County, North Carolina	56111	32029	54.7	Micropolitan
37093	Hoke County, North Carolina	49129	22270	43.2	Tribal
37097	Iredell County, North Carolina	171349	63190	37.9	Metropolitan
37147	Pitt County, North Carolina	176263	44603	25.4	Metropolitan
37039	Cherokee County, North Carolina	27377	27141	100	Older-age
37193	Wilkes County, North Carolina	67660	50108	72.8	Micropolitan
37003	Alexander County, North Carolina	35838	27213	72.8	Fringe
37031	Carteret County, North Carolina	67464	22435	32.6	Destination

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
37139	Pasquotank County, North Carolina	38028	16440	41.3	Micropolitan
37173	Swain County, North Carolina	14074	14274	100	Destination
37007	Anson County, North Carolina	23522	20228	78.5	Fringe
37069	Franklin County, North Carolina	63973	53631	85.3	Fringe
37113	Macon County, North Carolina	34214	27103	80	Older-age
37175	Transylvania County, North Carolina	33038	19707	59.6	Older-age
37047	Columbus County, North Carolina	53391	45901	80.6	Fringe
37123	Montgomery County, North Carolina	26227	21049	76.8	Fringe
37153	Richmond County, North Carolina	43806	20822	45.5	Micropolitan
37171	Surry County, North Carolina	71299	50206	68.8	Micropolitan
37021	Buncombe County, North Carolina	250737	60329	24.1	Metropolitan
37025	Cabarrus County, North Carolina	200057	36986	19.3	Destination
37057	Davidson County, North Carolina	162851	77745	47.4	Metropolitan
37091	Hertford County, North Carolina	22668	16684	68.6	Fringe
37141	Pender County, North Carolina	57446	38675	68.8	Destination
37189	Watauga County, North Carolina	53782	29137	55.4	Destination
37177	Tyrrell County, North Carolina	3425	4115	100	Remote
38097	Traill County, North Dakota	7828	8082	100	Fringe
38021	Dickey County, North Dakota	4835	5150	100	Remote
38101	Ward County, North Dakota	64875	15192	21.9	Micropolitan
38049	McHenry County, North Dakota	5845	5988	100	Agriculture & Extraction
38005	Benson County, North Dakota	6872	6833	100	Remote
38075	Renville County, North Dakota	2429	2587	100	Agriculture & Extraction
38015	Burleigh County, North Dakota	91712	16786	18.5	Metropolitan
38065	Oliver County, North Dakota	1832	1850	100	Agriculture & Extraction
38071	Ramsey County, North Dakota	11084	4047	35	Rural Towns
38039	Griggs County, North Dakota	2168	2319	100	Agriculture & Extraction

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
38083	Sheridan County, North Dakota	1405	1326	100	Agriculture & Extraction
38103	Wells County, North Dakota	3970	4192	100	Remote
39099	Mahoning County, Ohio	226551	35350	15.2	Metropolitan
39145	Scioto County, Ohio	73577	41934	54.3	Micropolitan
39105	Meigs County, Ohio	22954	18967	81.3	Fringe
39131	Pike County, Ohio	27909	20977	74.2	Rural Towns
39061	Hamilton County, Ohio	804004	18003	2.2	Metropolitan
39087	Lawrence County, Ohio	60042	28295	45.9	Metropolitan
39157	Tuscarawas County, Ohio	91577	38582	41.6	Micropolitan
39015	Brown County, Ohio	43124	33775	76.6	Fringe
39043	Erie County, Ohio	74195	20078	26.5	Destination
39089	Licking County, Ohio	170961	60181	35.5	Metropolitan
39019	Carroll County, Ohio	27293	20000	71	Fringe
39025	Clermont County, Ohio	201904	45787	22.7	Metropolitan
39071	Highland County, Ohio	42567	31424	73	Fringe
39133	Portage County, Ohio	161569	53119	32.8	Metropolitan
39013	Belmont County, Ohio	64634	37971	54.7	Agriculture & Extraction
39127	Perry County, Ohio	35744	26946	75.2	Fringe
48395	Robertson County, Texas	16698	12186	73.9	Fringe
48441	Taylor County, Texas	130933	21668	16	Metropolitan
48455	Trinity County, Texas	14434	10986	77.2	Rural Towns
48019	Bandera County, Texas	21584	20892	100	Older-age
48079	Cochran County, Texas	2879	2935	100	Agriculture & Extraction
48091	Comal County, Texas	133918	57079	46.1	Destination
48225	Houston County, Texas	19828	16712	73.5	Rural Towns
48375	Potter County, Texas	114083	10942	9	Metropolitan
48415	Scurry County, Texas	15723	5493	31.7	Agriculture & Extraction
48433	Stonewall County, Texas	1331	1403	100	Agriculture & Extraction
48049	Brown County, Texas	36773	15212	40.4	Micropolitan
48025	Bee County, Texas	25061	14124	43	Micropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
48103	Crane County, Texas	4738	530	10.7	Agriculture & Extraction
48307	McCulloch County, Texas	7960	2896	35.3	Agriculture & Extraction
48287	Lee County, Texas	16491	11673	69.7	Fringe
48139	Ellis County, Texas	167585	50942	32	Metropolitan
48265	Kerr County, Texas	50494	20782	41.1	Older-age
48145	Falls County, Texas	15531	11443	67.4	Fringe
19137	Montgomery County, Iowa	9966	4990	47.9	Fringe
19123	Mahaska County, Iowa	21978	9831	43.9	Rural Towns
19019	Buchanan County, Iowa	20873	14419	68.5	Fringe
19053	Decatur County, Iowa	7929	8263	100	Remote
20085	Jackson County, Kansas	13184	10275	75.9	Fringe
20109	Logan County, Kansas	2770	2794	100	Remote
20209	Wyandotte County, Kansas	163070	9799	6.1	Metropolitan
20027	Clay County, Kansas	7887	4120	49.5	Fringe
20169	Saline County, Kansas	54168	8135	14.6	Micropolitan
20197	Wabaunsee County, Kansas	6792	7022	100	Destination
20123	Mitchell County, Kansas	6069	3035	48.3	Rural Towns
20005	Atchison County, Kansas	16184	5640	34.2	Micropolitan
20055	Finney County, Kansas	36729	6910	18.6	Micropolitan
20103	Leavenworth County, Kansas	72867	22901	29.1	Metropolitan
20187	Stanton County, Kansas	2034	2111	100	Agriculture & Extraction
20119	Meade County, Kansas	4139	4357	100	Agriculture & Extraction
20151	Pratt County, Kansas	9333	3172	32.2	Rural Towns
20003	Anderson County, Kansas	7744	4637	58.8	Fringe
20061	Geary County, Kansas	29124	4285	11.7	Micropolitan
20057	Ford County, Kansas	33970	6715	19.3	Micropolitan
20117	Marshall County, Kansas	9642	7101	71	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
20023	Cheyenne County, Kansas	2642	2693	100	Agriculture & Extraction
20035	Cowley County, Kansas	34365	11148	31	Micropolitan
20059	Franklin County, Kansas	25374	13343	52.1	Micropolitan
20089	Jewell County, Kansas	2884	3043	100	Agriculture & Extraction
20159	Rice County, Kansas	9554	6388	63.8	Rural Towns
20017	Chase County, Kansas	2553	2692	100	Remote
20203	Wichita County, Kansas	2113	2176	100	Agriculture & Extraction
20137	Norton County, Kansas	4665	2724	49	Remote
20009	Barton County, Kansas	26395	8696	31.8	Agriculture & Extraction
20047	Edwards County, Kansas	2836	3030	100	Agriculture & Extraction
20165	Rush County, Kansas	3032	3197	100	Remote
20115	Marion County, Kansas	11671	9494	77.8	Fringe
20143	Ottawa County, Kansas	5815	6065	100	Micropolitan
20007	Barber County, Kansas	4693	4897	100	Agriculture & Extraction
20041	Dickinson County, Kansas	18632	12469	64.3	Rural Towns
21223	Trimble County, Kentucky	8603	8320	94.7	Fringe
21105	Hickman County, Kentucky	4418	4734	100	Agriculture & Extraction
21179	Nelson County, Kentucky	45085	25518	56.9	Micropolitan
21081	Grant County, Kentucky	24490	16166	65	Fringe
21141	Logan County, Kentucky	26538	20145	75	Fringe
21191	Pendleton County, Kentucky	14422	14493	100	Fringe
21215	Spencer County, Kentucky	18122	17668	100	Fringe
21011	Bath County, Kentucky	12186	12206	100	Micropolitan
21021	Boyle County, Kentucky	28501	10344	34.8	Rural Towns
21095	Harlan County, Kentucky	26659	15252	54.2	Agriculture & Extraction
21137	Lincoln County, Kentucky	24214	19961	81.7	Rural Towns
21171	Monroe County, Kentucky	10501	10704	100	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
21225	Union County, Kentucky	14637	9900	65.3	Fringe
21035	Calloway County, Kentucky	38390	18651	48.7	Rural Towns
21059	Daviess County, Kentucky	97977	26550	27	Metropolitan
21101	Henderson County, Kentucky	44996	17750	38.2	Metropolitan
21119	Knott County, Kentucky	15362	15892	100	Remote
21177	Muhlenberg County, Kentucky	30428	21356	68.4	Micropolitan
21199	Pulaski County, Kentucky	63370	34432	53.9	Micropolitan
21001	Adair County, Kentucky	18978	14490	75.5	Rural Towns
21057	Cumberland County, Kentucky	6627	6745	100	Remote
21129	Lee County, Kentucky	6222	7594	100	Remote
21135	Lewis County, Kentucky	13348	13880	100	Fringe
21239	Woodford County, Kentucky	25966	9243	36.2	Metropolitan
21113	Jessamine County, Kentucky	51880	13160	25.9	Metropolitan
21133	Letcher County, Kentucky	22495	23359	100	Remote
21145	McCracken County, Kentucky	64066	18174	27.8	Micropolitan
21235	Whitley County, Kentucky	35447	23133	65.2	Rural Towns
21071	Floyd County, Kentucky	36436	31962	83.9	Rural Towns
21147	McCreary County, Kentucky	16170	17863	100	Remote
21169	Metcalfe County, Kentucky	9904	9990	100	Micropolitan
21205	Rowan County, Kentucky	24287	16273	68.8	Rural Towns
21049	Clark County, Kentucky	35484	9822	27.5	Metropolitan
21041	Carroll County, Kentucky	10436	5648	52.2	Fringe
21065	Estill County, Kentucky	14193	10998	76.1	Fringe
21089	Greenup County, Kentucky	35356	14264	39.3	Metropolitan
21043	Carter County, Kentucky	26975	21609	79.4	Fringe
22057	Lafourche Parish, Louisiana	97381	23737	24.2	Metropolitan
22053	Jefferson Davis Parish, Louisiana	30972	15959	50.7	Micropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
22125	West Feliciana Parish, Louisiana	12078	15406	100	Fringe
22011	Beauregard Parish, Louisiana	36078	24070	66.5	Micropolitan
22039	Evangeline Parish, Louisiana	32175	20588	61.1	Fringe
22061	Lincoln Parish, Louisiana	46673	19370	40.7	Micropolitan
22119	Webster Parish, Louisiana	38699	21393	53	Fringe
22047	Iberville Parish, Louisiana	29665	19734	59.2	Fringe
22067	Morehouse Parish, Louisiana	25227	13390	50	Micropolitan
22109	Terrebonne Parish, Louisiana	111271	23378	20.6	Agriculture & Extraction
22027	Claiborne Parish, Louisiana	14159	13516	82.4	Agriculture & Extraction
22009	Avoyelles Parish, Louisiana	37413	26243	63.8	Fringe
22077	Pointe Coupee Parish, Louisiana	22030	12953	57.8	Fringe
22115	Vernon Parish, Louisiana	45255	26012	49.9	Micropolitan
22085	Sabine Parish, Louisiana	23716	21343	88.2	Fringe
22059	LaSalle Parish, Louisiana	13566	10861	73.2	Fringe
23015	Lincoln County, Maine	33604	34170	100	Older-age
23021	Piscataquis County, Maine	16739	17026	100	Remote
23029	Washington County, Maine	31091	29384	92.4	Rural Towns
23023	Sagadahoc County, Maine	35159	21614	61.7	Fringe
23011	Kennebec County, Maine	119993	76095	62.8	Micropolitan
23009	Hancock County, Maine	54047	49289	90.1	Destination
24039	Somerset County, Maryland	21639	11841	45.8	Metropolitan
24001	Allegany County, Maryland	66509	19881	27.3	Metropolitan
24033	Prince George's County, Maryland	899604	17788	2	Metropolitan
24021	Frederick County, Maryland	246133	61425	25.2	Metropolitan
24029	Kent County, Maryland	19234	14386	72.6	Destination
25027	Worcester County, Massachusetts	810208	149600	18.4	Metropolitan
26033	Chippewa County, Michigan	34474	18754	48.9	Rural Towns

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
26125	Oakland County, Michigan	1244672	59253	4.8	Metropolitan
26121	Muskegon County, Michigan	168136	40181	23.3	Metropolitan
26087	Lapeer County, Michigan	86680	68185	77.3	Fringe
26151	Sanilac County, Michigan	41043	37511	90.2	Fringe
26131	Ontonagon County, Michigan	5907	6172	100	Remote
26001	Alcona County, Michigan	10268	10341	98.9	Remote
26079	Kalkaska County, Michigan	17407	14689	84.4	Agriculture & Extraction
26129	Ogemaw County, Michigan	20617	21039	100	Destination
26165	Wexford County, Michigan	32904	21142	64.3	Rural Towns
26043	Dickinson County, Michigan	25252	8505	32.8	Rural Towns
26065	Ingham County, Michigan	287791	37583	13.2	Metropolitan
26109	Menominee County, Michigan	22933	15256	64.3	Rural Towns
26113	Missaukee County, Michigan	14898	15037	100	Micropolitan
26159	Van Buren County, Michigan	74747	53286	70.9	Fringe
26015	Barry County, Michigan	59694	45722	77.1	Fringe
26019	Benzie County, Michigan	17359	17519	100	Destination
26153	Schoolcraft County, Michigan	7962	4818	59	Agriculture & Extraction
26055	Grand Traverse County, Michigan	90188	43597	48	Micropolitan
26049	Genesee County, Michigan	407143	69181	16.8	Metropolitan
26093	Livingston County, Michigan	187540	68494	36.9	Metropolitan
26101	Manistee County, Michigan	23209	14936	61.2	Older-age
26051	Gladwin County, Michigan	25125	22509	88.6	Older-age
5075	Lawrence County, Arkansas	16373	10761	63.6	Fringe
5029	Conway County, Arkansas	20793	14867	70.5	Fringe
5001	Arkansas County, Arkansas	17883	6453	34.7	Fringe
5085	Lonoke County, Arkansas	70770	32066	44.8	Metropolitan
6047	Merced County, California	266325	38017	14.3	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
6049	Modoc County, California	8714	6312	70	Remote
6027	Inyo County, California	17681	8548	46.4	Remote
6099	Stanislaus County, California	536175	42457	8	Metropolitan
6103	Tehama County, California	62838	32472	51.5	Micropolitan
6069	San Benito County, California	59259	13987	24	Metropolitan
6017	El Dorado County, California	185338	63531	34.7	Destination
6075	San Francisco County, California	865827	0	0	Metropolitan
6107	Tulare County, California	456524	70929	15.5	Metropolitan
6057	Nevada County, California	98103	41668	42.1	Older-age
6039	Madera County, California	147037	50885	32.9	Metropolitan
6105	Trinity County, California	12691	13170	100	Remote
6071	San Bernardino County, California	2084508	100022	4.7	Metropolitan
6061	Placer County, California	377358	51246	13.8	Metropolitan
6095	Solano County, California	426327	16031	3.7	Metropolitan
6011	Colusa County, California	21297	6795	31.7	Agriculture & Extraction
6031	Kings County, California	133153	16307	10.9	Metropolitan
6019	Fresno County, California	966908	104375	10.8	Metropolitan
6111	Ventura County, California	841489	26439	3.1	Metropolitan
8123	Weld County, Colorado	292750	56811	20.5	Metropolitan
8027	Custer County, Colorado	4627	4361	100	Remote
8035	Douglas County, Colorado	327575	32368	10.3	Metropolitan
8067	La Plata County, Colorado	54645	32366	59.9	Destination
8105	Rio Grande County, Colorado	11192	7258	62.5	Destination
8011	Bent County, Colorado	3985	2137	38	Agriculture & Extraction
8111	San Juan County, Colorado	544	720	100	Destination
8075	Logan County, Colorado	21216	6567	29.2	Rural Towns
8119	Teller County, Colorado	23929	14642	62.6	Destination

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
8039	Elbert County, Colorado	25072	24195	100	Fringe
8073	Lincoln County, Colorado	3545	5510	100	Remote
8003	Alamosa County, Colorado	16002	5964	36.9	Rural Towns
8043	Fremont County, Colorado	36356	12286	26.4	Micropolitan
8085	Montrose County, Colorado	40915	18389	45	Micropolitan
8109	Saguache County, Colorado	6448	6196	100	Remote
8053	Hinsdale County, Colorado	878	786	100	Destination
8049	Grand County, Colorado	15009	12015	82.6	Destination
8089	Otero County, Colorado	18144	6361	34.4	Fringe
9005	Litchfield County, Connecticut	181755	76677	41.4	Destination
9011	New London County, Connecticut	256654	70631	25.8	Metropolitan
9001	Fairfield County, Connecticut	936272	43339	4.6	Metropolitan
10001	Kent County, Delaware	171307	46384	27	Metropolitan
12057	Hillsborough County, Florida	1367433	46240	3.5	Metropolitan
12129	Wakulla County, Florida	28299	19387	61.7	Fringe
12045	Gulf County, Florida	13627	12290	77.1	Fringe
12097	Osceola County, Florida	337036	24262	7.8	Metropolitan
12131	Walton County, Florida	63776	38841	63.1	Destination
12065	Jefferson County, Florida	11791	14050	100	Fringe
12049	Hardee County, Florida	25496	13133	47.8	Micropolitan
12093	Okeechobee County, Florida	37623	14308	36.5	Destination
12041	Gilchrist County, Florida	16285	14264	83.9	Fringe
12001	Alachua County, Florida	260562	54336	21.2	Metropolitan
12015	Charlotte County, Florida	173508	14968	8.9	Older-age
12085	Martin County, Florida	154467	13003	8.5	Older-age
12115	Sarasota County, Florida	408311	17151	4.3	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
12017	Citrus County, Florida	140931	48111	34.5	Older-age
12113	Santa Rosa County, Florida	161516	34301	21	Destination
12011	Broward County, Florida	1897256	317	0	Metropolitan
12087	Monroe County, Florida	74327	6722	8.7	Destination
13313	Whitfield County, Georgia	103035	30107	29.1	Metropolitan
13285	Troup County, Georgia	68396	30774	44.3	Micropolitan
13145	Harris County, Georgia	32965	31786	96.7	Fringe
13321	Worth County, Georgia	20499	14483	69.2	Fringe
13109	Evans County, Georgia	10195	6678	61.3	Fringe
13307	Webster County, Georgia	2608	2649	100	Destination
13125	Glascock County, Georgia	2926	3053	100	Remote
13051	Chatham County, Georgia	279525	12766	4.5	Metropolitan
13173	Lanier County, Georgia	9808	7378	71.1	Fringe
13195	Madison County, Georgia	28700	26012	91.9	Fringe
13147	Hart County, Georgia	24767	18897	74.5	Fringe
13191	McIntosh County, Georgia	13974	10563	74.3	Destination
13237	Putnam County, Georgia	21313	17154	80.9	Fringe
13301	Warren County, Georgia	5274	5520	100	Fringe
13029	Bryan County, Georgia	34674	17748	52.3	Fringe
13039	Camden County, Georgia	48743	16359	31.4	Micropolitan
13099	Early County, Georgia	10205	6919	66	Fringe
13069	Coffee County, Georgia	39580	28505	66.6	Rural Towns
13123	Gilmer County, Georgia	29733	25267	87.6	Destination
13317	Wilkes County, Georgia	9771	6696	67.4	Fringe
13129	Gordon County, Georgia	56270	28897	51.6	Micropolitan
13057	Cherokee County, Georgia	240790	39505	17.1	Metropolitan
13177	Lee County, Georgia	28307	10576	36.2	Metropolitan
13133	Greene County, Georgia	16809	13645	82.7	Destination

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
13075	Cook County, Georgia	17084	10227	59.4	Fringe
13121	Fulton County, Georgia	1012378	10737	1.1	Metropolitan
13187	Lumpkin County, Georgia	31656	26170	83.9	Fringe
13201	Miller County, Georgia	5675	5958	100	Fringe
13219	Oconee County, Georgia	36817	17658	50.3	Fringe
13151	Henry County, Georgia	220078	29628	13.9	Metropolitan
13183	Long County, Georgia	17323	13920	81.3	Fringe
13257	Stephens County, Georgia	25676	14922	58.6	Rural Towns
13293	Upson County, Georgia	25688	12316	46.9	Micropolitan
13225	Peach County, Georgia	26829	10291	38.2	Metropolitan
13229	Pierce County, Georgia	18991	15070	79.4	Micropolitan
13251	Screven County, Georgia	13598	11116	78.9	Fringe
13011	Banks County, Georgia	18506	17166	93.8	Fringe
13061	Clay County, Georgia	2946	3102	100	Remote
13089	DeKalb County, Georgia	737224	1900	0.3	Metropolitan
13157	Jackson County, Georgia	65104	37131	60	Micropolitan
13181	Lincoln County, Georgia	7716	7622	100	Destination
13235	Pulaski County, Georgia	9768	7659	66.7	Fringe
13281	Towns County, Georgia	11235	11098	100	Destination
13287	Turner County, Georgia	7619	4055	49.7	Destination
13001	Appling County, Georgia	17994	13245	71.4	Rural Towns
16077	Power County, Idaho	7654	3244	42.6	Remote
16071	Oneida County, Idaho	4295	4184	100	Agriculture & Extraction
16063	Lincoln County, Idaho	5273	5316	100	Agriculture & Extraction
16041	Franklin County, Idaho	13241	8619	66.2	Agriculture & Extraction
16053	Jerome County, Idaho	23315	11710	51.3	Rural Towns
16067	Minidoka County, Idaho	20539	8987	44.2	Rural Towns
16013	Blaine County, Idaho	21968	7039	32.8	Destination

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
16021	Boundary County, Idaho	11468	8364	76.2	Destination
16047	Gooding County, Idaho	15081	8750	58.1	Agriculture & Extraction
16007	Bear Lake County, Idaho	5923	5957	100	Destination
16019	Bonneville County, Idaho	111250	14068	13	Metropolitan
16035	Clearwater County, Idaho	7688	5018	58.6	Remote
16059	Lemhi County, Idaho	7729	4724	61.1	Remote
16017	Bonner County, Idaho	42413	30127	72.4	Micropolitan
16037	Custer County, Idaho	4115	4140	100	Remote
16065	Madison County, Idaho	38507	10827	28.5	Micropolitan
16081	Teton County, Idaho	11080	10341	100	Destination
15003	Honolulu County, Hawaii	939908	8558	0.9	Metropolitan
17183	Vermilion County, Illinois	75825	24920	31.3	Metropolitan
17023	Clark County, Illinois	15619	9634	59.5	Fringe
17049	Effingham County, Illinois	33773	20489	59.7	Rural Towns
17065	Hamilton County, Illinois	8148	5649	68.1	Rural Towns
17087	Johnson County, Illinois	10342	12601	100	Fringe
17105	Livingston County, Illinois	34107	15466	40.8	Micropolitan
17179	Tazewell County, Illinois	131396	27709	20.4	Metropolitan
17187	Warren County, Illinois	17143	8129	45.5	Fringe
17119	Madison County, Illinois	263088	35561	13.3	Metropolitan
17131	Mercer County, Illinois	15465	12399	77.8	Fringe
17003	Alexander County, Illinois	6469	4635	61.9	Fringe
17157	Randolph County, Illinois	28672	14016	42.6	Fringe
17115	Macon County, Illinois	104085	16536	15.3	Metropolitan
17191	Wayne County, Illinois	16435	11569	69.9	Rural Towns
17055	Franklin County, Illinois	38660	19146	48.6	Fringe
17109	McDonough County, Illinois	30498	9406	29.5	Micropolitan
17139	Moultrie County, Illinois	14408	10273	69.2	Fringe
17151	Pope County, Illinois	4084	4276	100	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
17173	Shelby County, Illinois	21647	17138	77.7	Fringe
17019	Champaign County, Illinois	207596	26327	12.7	Metropolitan
17053	Ford County, Illinois	13000	5719	41.8	Metropolitan
17093	Kendall County, Illinois	124288	12644	10.4	Metropolitan
17121	Marion County, Illinois	37387	17379	45.1	Micropolitan
17125	Mason County, Illinois	13572	10769	77.5	Fringe
18149	Starke County, Indiana	22935	19009	82.4	Fringe
18055	Greene County, Indiana	31999	24493	74.8	Fringe
18177	Wayne County, Indiana	65319	22365	33	Micropolitan
18037	Dubois County, Indiana	41628	20854	49.2	Micropolitan
18059	Hancock County, Indiana	73230	21915	30.4	Metropolitan
18115	Ohio County, Indiana	5834	6035	100	Fringe
18121	Parke County, Indiana	15561	12921	75	Fringe
18007	Benton County, Indiana	8585	8700	100	Fringe
18133	Putnam County, Indiana	34595	24377	64.8	Fringe
18175	Washington County, Indiana	27554	21423	76.8	Fringe
18065	Henry County, Indiana	45189	20997	42.9	Micropolitan
18095	Madison County, Indiana	124832	30031	23.1	Metropolitan
18125	Pike County, Indiana	12191	12624	100	Micropolitan
18151	Steuben County, Indiana	34222	23072	67.2	Rural Towns
18179	Wells County, Indiana	27356	14087	50.6	Fringe
18035	Delaware County, Indiana	114196	26707	22.8	Metropolitan
18077	Jefferson County, Indiana	30490	14654	45.1	Micropolitan
18103	Miami County, Indiana	33696	16714	46.5	Micropolitan
18111	Newton County, Indiana	13799	14156	100	Fringe
18141	St. Joseph County, Indiana	266735	24090	9	Metropolitan
18155	Switzerland County, Indiana	10528	10452	100	Fringe

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
18015	Carroll County, Indiana	19882	16218	81.4	Fringe
18069	Huntington County, Indiana	35950	18704	51	Micropolitan
18181	White County, Indiana	23914	16620	68	Fringe
18075	Jay County, Indiana	20791	11787	55.7	Fringe
18019	Clark County, Indiana	114190	23441	20.5	Metropolitan
19101	Jefferson County, Iowa	17916	6710	38.7	Rural Towns
19005	Allamakee County, Iowa	13576	10383	74	Fringe
19049	Dallas County, Iowa	83513	23674	30.6	Metropolitan
19023	Butler County, Iowa	14471	15006	100	Fringe
19071	Fremont County, Iowa	6850	7022	100	Fringe
19173	Taylor County, Iowa	6103	6143	100	Remote
19195	Worth County, Iowa	7384	7624	100	Micropolitan
19003	Adams County, Iowa	3662	3875	100	Remote
19037	Chickasaw County, Iowa	11960	9018	73.5	Fringe
19059	Dickinson County, Iowa	16877	5935	35	Rural Towns
19103	Johnson County, Iowa	145408	26375	18.5	Metropolitan
19171	Tama County, Iowa	16761	12634	72.4	Fringe
19069	Franklin County, Iowa	10098	6287	60.2	Rural Towns
19027	Carroll County, Iowa	19991	10700	52	Rural Towns
19067	Floyd County, Iowa	15642	8478	52.7	Rural Towns
19115	Louisa County, Iowa	11084	11161	100	Fringe
19119	Lyon County, Iowa	11601	11683	100	Fringe
19165	Shelby County, Iowa	11480	7103	59.4	Fringe
19087	Henry County, Iowa	18781	11550	57.1	Fringe
19145	Page County, Iowa	14395	5169	33.4	Fringe
19155	Pottawattamie County, Iowa	92479	24604	26.4	Metropolitan

FIPS	Census_County	Civilian_NonInst_Pop	Rural_Pop	Rural_Pct	County_Type
19043	Clayton County, Iowa	17451	17090	96.6	Fringe
19021	Buena Vista County, Iowa	19987	9036	43.9	Rural Towns
19077	Guthrie County, Iowa	10558	10722	100	Fringe
19091	Humboldt County, Iowa	9454	4490	46.6	Rural Towns
19183	Washington County, Iowa	21816	15330	69.5	Fringe

APPENDIX C. ADDITIONAL UNMET NEEDS EXPLORED

Several needs were explored but not selected for strategy development. Each of these needs and the reasons for not selecting them are described below.

- **Access to jobs:** Long travel times between households and employers can present a barrier to getting jobs, especially for those who lack access to a vehicle (Vogel, Fixing a ride, fixing a life on the Iron Range 2012). Though job access has been identified as a need in the research literature, an analysis of this need revealed minimal differences between rural county types and Metropolitan counties in terms of the number of jobs people are able to access using available transportation.

- **Transit availability:** Transit provides a mobility option for rural residents who lack access to a vehicle. Though the presence of individual rural transit systems is well documented, transit availability was not analyzed comprehensively because no high-quality, county-level dataset could be identified (Mattson 2017).

- **Road closures:** Road closures caused by extreme weather events and other causes can cut off access to entire rural communities (Combos 2020). Though this need is well-documented, it was not analyzed comprehensively because no high-quality, county-level dataset could be identified.

- **Transportation affordability:** Housing and transportation costs are typically the two largest household expenses (Center for Neighborhood Technology 2020). An analysis showed that transportation costs represent a greater share of household income in the rural county types than in Metropolitan counties. However, this need was not selected for strategy development because there are limited technology-enabled solutions.

- **Intercity connectivity:** An analysis of intercity transit hub locations (i.e., bus stations, airports) showed that certain rural county types have much lower connectivity than Metropolitan counties. However, this need was not selected for strategy development because there are limited technology-enabled solutions.

- **Road quality:** Poor road quality can negatively impact safety and the ability to accommodate freight vehicles. An analysis of road quality data revealed that rural county types have higher-quality roads than Metropolitan counties. For this reason, this need was excluded from strategy development.

- **Heavy truck trips:** Heavy truck trips associated with activities that take place in rural communities (e.g., farming, resource extraction) can negatively impact safety and road quality. Though this suggests an unmet need in rural areas, it was not analyzed comprehensively because no high-quality, county-level dataset could be identified.

APPENDIX D. UNMET NEEDS AND PERFORMANCE MEASURES

Table 4. Summary findings for worst-performing county types

Unmet Needs	Performance Measures	County Types with Greatest Unmet Needs (Measurement Value)
Safety Needs – Vehicle Occupant Safety	Annual vehicle fatalities per 100 million vehicle miles traveled	Tribal (1.9) Remote (1.8)
Behavior-related Vehicle Fatalities	Percent of fatal crashes involving speeding	Remote (25.5%) Agriculture & Extraction (25.2%)
	Percent of fatal crashes involving a drunk driver	Remote (28.9%) Agriculture & Extraction (26.8%)
	Percent of fatal crashes involving a distracted driver	Remote (14.7%) Agriculture & Extraction (13.5%)
	Percent of occupants involved in a fatal crash who were unrestrained or unhelmeted	Remote (54.6%) Rural Towns (53.9%)
Pedestrian & Cyclist Safety	Pedestrian fatalities per 100 million miles walked	Fringe (45.6) Agriculture & Extraction (45.2)
	Cyclist fatalities per 100 million bicycle miles traveled	Tribal (94.9) Fringe (32.6)
Emergency Response Times	Average EMS response time to a crash in minutes	Remote (17.7) Agriculture & Extraction (14.9)
Mobility Needs - Access to Medical Care	Average travel time in minutes to a general medical facility	Agriculture & Extraction (42.8) Tribal (39.3)
	Average percent of the population living more than 30 minutes from a hospital	Remote (34.5%) Agriculture & Extraction (23.4%)
	Percent of counties with zero ICU beds	Remote (92%) Agriculture & Extraction (89%)
	Average number of ICU beds per 10,000 people	Agriculture & Extraction (0.3) Remote (0.5)
	Average number of primary care physicians per 10,000 people	Fringe (4.3) Agriculture & Extraction (4.4)
	Average distance in miles to a facility that provides medication-assisted treatment	Remote (48.3) Agriculture & Extraction (42.9)
	Average distance in miles to a syringe services program	Agriculture & Extraction (163.8) Tribal (151.6)
Access to Food	Percent of the population living 10 miles or more from a supermarket	Agriculture & Extraction (35.4%) Remote (29.1%)
Access to Education	Average travel time in minutes to a K-12 school	Fringe (23.8) Older-Age (23.2)
	Percent of the population living more than 30 minutes from a community college or vocational school	Remote (83%) Agriculture & Extraction (82%)
	Percent of the population living more than 30 minutes from a four-year college or university	Remote (77%) Agriculture & Extraction (68%)
Broadband Availability	Average share of households for which broadband is not available	Remote (55.6%) Tribal (42.1%)

APPENDIX E. ASSOCIATED UNMET NEEDS, PERFORMANCE MEASURES IMPACTED, EXPECTED IMPACT ON TRAVEL BEHAVIOR & CHALLENGES/LIMITATIONS OF STRATEGIES

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
Broadband	Wi-Fi Hotspots					X		X	X	Increasing access to **Wi-Fi hotspots** is expected to decrease the percentage of the population without access to broadband in rural areas. In the average Remote county, for example, over half the population lacks access to broadband, defined as a minimum download speed of 25 megabytes per second (mbps) and a minimum upload speed of 3 mbps. By comparison, only 4.3 percent of the population lacks broadband in the average Metropolitan county.	While improving access to broadband through **Wi-Fi hotspots** may not completely replace a trip, **Wi-Fi hotspots** could increase access to opportunities for education, employment, and healthcare as a result of the connectivity, which in turn could reduce long distance trips to regional or local trips. Long distance travel can be difficult for some individuals, so the conversion of a long trip to a local or regional trip can have positive safety impacts. Furthermore, long distance trips may result in the trip being omitted; as a result of it being converted to a local/regional trip, the need (e.g., access to medical care) could be addressed.	Potential challenges faced with implementing **Wi-Fi hotspots** could include funding and locating **Wi-Fi hotspots** in a central location where the most residents could benefit from implementation. It also still leaves the gap of in-home access; however, more localized opportunities could be the stepping stone to increasing the affordability of broadband to rural Americans.

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
	Fiber installations during rehabilitation/maintenance of roadways								X	Fiber installations during rehabilitation or maintenance of roadways are expected to decrease the percentage of the population without access to broadband in rural areas. Additionally, installing fiber could improve broadband speeds in rural areas. In the average Agriculture & Extraction, Fringe, Remote, and Tribal county, the most common download speed is less than 25 mbps, while the most common download speed in Metropolitan counties is over 100 mbps.	While improving access to broadband through installation of fiber during rehabilitation or maintenance of roadways may not completely replace a trip, these improvements could provide access to opportunities for education, food (online shopping and delivery), employment, and healthcare available distantly online, which could reduce long distance trips that previously may have been required to a more urban area. This reduction in long distance trips could provide accessibility, mobility, and safety benefits. Fiber installations along roadways could also enable more on-demand services (e.g. TNCs) to operate, as these systems rely heavily on broadband. In addition, extending the broadband network can establish connections for more individual homes, which can help more rural residents leverage the shared economy.	Currently, while many rural areas are identified as being served by internet, a deeper investigation reveals that this service is dial-up, or the speeds are so slow that video-conferencing, ubiquitous with modern-day employment and educational connectivity, is unattainable.

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
	Fiber installation during multi-use trail implementation			X	X				X	Fiber installations during multi-use trail implementation are expected to decrease the percentage of the population without access to broadband in rural areas. Additionally, installing fiber could improve broadband speeds in rural areas. As mentioned previously, download speeds are typically slower in rural counties than in metropolitan counties.	While improving access to broadband through installation of fiber during multi-use trail implementation may not completely replace a trip, this improvement could provide access to opportunities for education, employment, and healthcare available distantly online, which could reduce long distance trips that previously may have been required to a more urban area. This reduction in long distance trips could provide both accessibility and safety benefits. Furthermore, since the installation of fiber is done in concert with the implementation of a multi-use pathway, there will also be safety benefits for trail users. If there was a bikeshare system, having broadband available along a multi-use pathway could enable the user to identify where a return location is present, thereby supporting on-demand services.	ROW can be a significant challenge with locating multi-use trails; however, retired rail lines have been leveraged in some parts of the country to create an extensive multi-use trail network. Furthermore, some existing roadway networks were developed based on traffic volume predictions that were not realized (e.g., S. Main Street in Moab, Utah); conversion of these networks into multi-modal networks (e.g., including protected cycle tracks or the like) could provide additional opportunities for connectivity.

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
	Rural connectivity hubs					X		X	X	**Rural connectivity hubs** are expected to decrease the percentage of the population without access to broadband in rural areas. Additionally, rural connectivity hubs may improve access to higher download speed broadband. As mentioned previously, download speeds are typically slower in rural counties than in metropolitan counties.	**Rural connectivity hubs** may not completely replace a trip. Rather, they convert a more intercity or regional trip into a local trip. This saves time and money for the person using one of these services. Furthermore, it can bring a level of safety. For an individual using a "Virtual Living Room," a long-distance trip to a doctor may be exhausting. Similarly, in rural locations subject to severe weather, not having to travel a long distance in winter may eliminate the need for a driver to make a potentially dangerous driving trip.	In very remote rural areas, finding a central location for a rural connectivity hub that is easily accessible could be difficult. Furthermore, libraries, which may serve well as a rural connectivity hub, may have limited hours.

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
Vehicle	In-vehicle speed limit and speeding information	X								In-vehicle speed limit and speeding information may decrease the percentage of fatal crashes involving speeding in rural areas, where 20.1 percent of fatal crashes involve speeding (relative to 17.7 percent in Metropolitan counties).	In-vehicle speed limit and speeding information is expected to result in a reduction in speeding and speed-related occupant and non-occupant fatalities.	Speed limits identified by the in-vehicle system may not match the posted speed limit, especially in construction zones. There is a need to identify why current information, particularly with static, posted speed limits may not be represented correctly within a vehicle. Furthermore, as variable speed message deployments are leveraged to address weather impacts and the like, ensuring that this information can be communicated to vehicles with vehicles that display the speed limit information is imperative. Ongoing research may be necessary to ensure that in-vehicle safety messages can be provided in a manner that does not result in driver distraction.

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
	Drone (UAS) delivery/inspection/crash investigations					X	X			As drone technology advances and flight distances continue to increase, this strategy may alleviate the burden of long travel times to the supermarket. Access to food is particularly challenging in Agriculture & Extraction Counties and Remote Counties, where the share of the population living more than 10 miles from a supermarket is 35.4 percent and 29.1 percent, respectively. By comparison, less than 1 percent of the population lives over 10 miles from a supermarket in Metropolitan counties.	In the case of using a drone for deliveries, there would be an expected drop in delivery vehicles on the road. If drones are being used for roadside or bridge inspections, there is a potential that fewer maintenance workers would need to be on the roadside. This could provide safety benefits while reducing the need to close lanes for maintenance/inspections.	Many drone deployments, particularly those associated with deliveries, are still being tested and refined. For example, as the maximum travel distance of drones is tested and verified, it will be easier to determine feasible delivery applications and zones. In particular, if there are a significant number of drones moving around the airspace, there is concern with their interaction between commercial and private aviation. At present, drones are typically required to be visible when operated. Regarding inspections, while drones can assist with inspections of the bridge deck, they may not be able to address the underwater aspects of the bridge, depending on the currents of the waterway among other factors. For crash investigation mapping purposes, there is some concern that drones may be retained for surveillance purposes.

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
	Meals and reading vehicles (MARVs)						X	X		Like the previous strategy, this strategy is expected to alleviate the burden of long travel times to the supermarket. Access to food is particularly challenging in Agriculture & Extraction Counties and Remote Counties, where the share of the population living more than 10 miles from a supermarket is 35.4 percent and 29.1 percent, respectively. For comparison, less than 1 percent of the population lives over 10 miles from a supermarket in Metropolitan counties.	MARV users no longer require a trip to access food and education. Trips that may otherwise be made by multiple families (if they are able) would now be combined into one trip that brings the resources to these families.	In rural areas, finding an efficient location to place a **MARV** that is easily accessible could be difficult. Furthermore, identifying those who may best be served by MARV may be challenging.
	Carshare programs					X	X	X		Greater mobility is particularly important in areas with limited access to schools, healthcare, supermarkets, and other important destinations. Consider residents of Remote counties, for example, where 29.1 percent of the population lives more than ten miles from a supermarket, 83 percent lives more than 30 minutes from a community college or vocational school, and 34.9 percent lives more than 30 minutes from a hospital.	Providing low-cost vehicle options through carshares may provide rural residents with the ability to travel longer distances for essential trips and services. In addition, private vehicles are expensive to maintain and are costly from an operational perspective (e.g., gas prices, changing tires). Using only a vehicle when it is needed (e.g., via a carshare) can reduce the fixed costs associated with private vehicle ownership.	Carsharing, particularly like the example in Needles, California, requires someone to administer the program. The administrators need to coordinate with a lender to identify the process by which someone is approved to be part of the program. They need to address the policies associated with any crashes, if they do occur. They need to ensure that the vehicle is maintained and the gas cards are available and have a balance on them. There is

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
												also a need to identify the service life of any vehicle/vehicles. In many cases, examples like these require many partnerships that require time and effort to establish and maintain.
	Rideshare programs	X				X	X	X		This strategy may help to address access to food, access to jobs and education, access to medical care, and behavioral safety. Regarding access to food, this strategy can potentially pool those needing to travel the long distance to a supermarket in rural counties. As discussed previously, residents of Metropolitan counties are much less likely than residents of rural counties to live over 10 miles from a supermarket. Rideshare can increase access to supermarkets. Regarding access to education, this strategy can coordinate those that need to travel long distances to access higher education. Over 80 percent of residents of Remote and Agriculture & Extraction counties, for example, must travel over 30 minutes on average to access community colleges and vocational schools (where students are much less likely to live on campus than	From a capacity and operations perspective, rideshare is beneficial in that it increases vehicle occupancy, thereby reducing road capacity requirements. In general, ridesharing should reduce the vehicle miles traveled, as typically those that **rideshare** are located in close proximity to one another (e.g., a small, rural community).	The Wisconsin Department of Transportation offers a rideshare program for which those interested can register and be matched **Invalid source specified.**. However, this does not address the convenience preferred by travelers. The often lower popularity of **rideshare** as compared with transportation network companies (TNCs) is related to the convenience of the on-demand trips offered by the latter. As such, greater levels of accessibility, participation, and system redundancies can help with the success of **rideshare**. Another challenge best described the benefits that technology can bring to rideshare in that, "…strength and coverage of internet service was not adequate to operate a

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
										students at four-year institutions). By comparison, less than 20 percent of the population must travel that far in Metropolitan counties. Ridesharing can also help expand access to jobs for people who do not or cannot drive. Regarding access to medical care, 34.9 percent of residents of Remote counties live more than 30 minutes from a hospital; ridesharing could help reduce this burden by sharing driving and operational responsibilities (e.g., gas). Regarding behavioral safety, facilitating rideshare at festivals or on evenings and weekends provides an opportunity to reduce drunk-driving related fatalities. This benefit may be especially important in rural areas, where 22.1 percent of fatal crashes involve a drunk driver, relative to 18.7 percent of crashes in Metropolitan counties.		reliable ridesourcing service with a smartphone application" **Invalid source specified.**.

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
	Coordinate pick-up of rural students at one location							X		This strategy is expected to alleviate the burden of long travel times to schools for families with K-12 students in rural areas, where average travel times to K-12 schools are slightly higher than in Metropolitan counties. Residents of Fringe counties face the greatest average travel time to school, at 23.8 minutes. By comparison, the national average is 20 minutes and the average for Metropolitan counties is 19.7 minutes.	For families that participate, it can reduce long drives that are often time-consuming. Furthermore, consolidating the same trip into one trip using a bus can bring safety benefits. Research has shown that bus transportation is safer than individual trips in private vehicles.	The current known example was a partnership among several parents. Therefore, it may be difficult to replicate this program elsewhere. Understanding the factors that led to such an idea may be of interest, and may represent a worst-case or unique scenario that motivated a large number of people to coordinate.
	Extension of bus lines							X		This strategy is expected to alleviate the burden of long travel times to access higher education in rural areas. Over 80 percent of residents of Remote and Agriculture & Extraction counties, for example, must travel over 30 minutes on average to access community colleges and vocational schools (where students are much less likely to live on campus than students at four-year institutions). By comparison, less than 20 percent of the population must travel that far in Metropolitan counties.	Extending bus lines into rural communities could reduce the need for residents to drive their personal vehicle into an urban area, resulting in a reduction in vehicle miles traveled (VMT). Furthermore, examples exist where satellite campuses for locations are sited in outlying locations within communities (e.g., Lebanon, Missouri). Connecting these locations with public transportation can expand access to education.	Extension of bus lines into rural communities surrounding an urban area could be costly and may require long headways, making them undesirable for some users. Assisting communities with balancing the value between siting satellite campuses within the core of a small community, rather than on cheaper land at the perimeter of a community, can reduce the need for bus line extensions.

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
	GIS-based carpool mapping system for essential trips					X	X	X		This strategy is expected to provide more travel options for reaching the supermarket, institutions of higher education, medical care, and employment. As discussed in previous strategies, access to both food and higher education (including community colleges and vocational schools) is particularly challenging in Agriculture & Extraction Counties and Remote Counties.	Carpools increase passengers per vehicle, resulting in an overall reduction in the number of residents who drive their own vehicle, a reduction in VMT, and improved access for those who would otherwise be unable to drive. In addition, carpooling may make owning a personal vehicle more affordable as the costs can be shared among the carpoolers.	In very remote areas there may not be a large enough user base to make a carpool system successful. Some may be hesitant to use a carpool system due to unforeseen circumstances that would require an immediate ride home (illness, family emergency, etc.). Offering a guaranteed ride home program has been a successful method to ease these fears. Limited or no existing broadband connectivity can also make GIS access improbable.
	E-scooter access						X	X		This strategy may alleviate the burden of long travel times to the supermarket for those who would otherwise walk or ride a manually-powered bicycle (if the scooter has storage or if the user can effectively carry groceries while scootering, e.g., by using a backpack). As discussed previously, access to food is particularly challenging in Agriculture & Extraction Counties and Remote Counties, where the share of the population living more than 10 miles from a supermarket is 35.4 percent and 29.1 percent, respectively. For comparison,	Providing e-scooters may reduce the need for additional trips by a larger vehicle, as they make slightly longer distances more achievable by increasing the speed over which distance may be covered. This reduces the space needed (e.g., ROW) to accommodate this mode. Furthermore, as e-scooters do not require a knowledge of how to ride a bicycle, they open up the possibilities to a broader demographic.	E-scooters may be operated poorly, which can result in minor or fatal injuries. Also, e-scooter deployments often do not address the needs of people with disabilities. There is a need to ensure that with any e-scooter deployment, provisions are included to require accessible e-scooters. Many rural areas do not have the infrastructure to support safe travel by e-scooters, so the addition of safe pathways and other facilities may be needed to

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										less than 1 percent of the population lives over 10 miles from a supermarket in Metropolitan counties.		encourage greater use. There also may be challenges with e-scooter deployment as a result of limited broadband/connectivity in a rural community. Finally, outside of college towns, often the adoption rate of smartphones in rural areas is significantly less than that found in urban areas. Considering that smartphones are often ubiquitous with access to e-scooters, this may reduce the rate of adoption. Finally, while e-scooters may enable travel to a supermarket that is further away, it may be cumbersome to operate a scooter while transporting groceries.
	Bicycle libraries	X				X	X	X		By facilitating access to a bicycle, this performance measure may assist with creating access to destinations like supermarkets, especially among those who do not or cannot drive. Regarding food, access is particularly challenging in Agriculture & Extraction Counties and Remote Counties, where the share of the	Bicycle libraries can allow a person who would otherwise walk to travel a greater distance in the same amount of time. For people who would otherwise not have access to some type of vehicular transportation, this could potentially broaden their ability to get a job, broaden the area in which they could live (and	Bicycle libraries require at least a few bikes, the maintenance of those bikes, and someone to administer the program, including creating liability-release forms. While bicycle libraries provide access, the access is not as convenient as other transportation options (e.g.,

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										population living more than 10 miles from a supermarket is 35.4 percent and 29.1 percent respectively (relative to less than 1 percent of the population in Metropolitan counties). Additionally, when bicycle libraries are managed by actual libraries with internet service, they can serve as WiFi hotspots or broadband hubs for people who do not have or cannot pay for access at their home. A bicycle may also be rented from a bicycle library to enable travel to a place of employment further away.	consequently still access a grocery store), and it could even provide a tool to close the first mile/last mile access to jobs and education. In at least one example (Machias, Maine), a bicycle library was used by an individual who has lost his/her license as a result of drunk driving (Villwock-Witte 2019). Therefore, a bicycle library may be a low-cost solution to address a loss in transportation access.	TNCs, a vehicle). Furthermore, there is often still limited bicycle infrastructure in many communities that will allow for safe travel via bicycle (e.g., protected cycle tracks).
	Bikeshare					X	X	X		This strategy is expected to alleviate the burden of long travel times to the supermarket. Access to food is particularly challenging in Agriculture & Extraction Counties and Remote Counties, where the share of the population living more than 10 miles from a supermarket is 35.4 percent and 29.1 percent, respectively. For comparison, less than 1 percent of the population lives over 10 miles from a supermarket in Metropolitan counties. Bikeshare programs may also expand access to jobs or education. If using a docked	Bikeshare can expand access to a broader part of the community than would otherwise be accessible by just walking. Furthermore, the presence of a bikeshare system may be able to replace some short vehicle trips with an active trip.	Bikeshare systems often require that someone owns a smartphone and can download/use an application to access the bicycles, although some solutions to this barrier are being tested. Furthermore, the system requires the support of broadband, which can identify where a bicycle may be available (e.g., dockless) and/or how many bicycles may be available within a docked station. With small rural communities either not having access to or having

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										system, this would require having a dock at work or school.		low speeds of broadband, the deployment of bikeshare systems may be challenging. There is a perception that small and rural communities are safer for bicycles and pedestrians; more recently, this belief has been challenged as inaccurate, as more small communities than anticipated (in a small sample size) cited implementing multi-use pathways and other supporting bicycle infrastructure like bike lanes to address a death in the community, often of a youth (Villwock-Witte 2019). One challenge with bikeshare systems, particularly when looking beyond a small community framed around a college/university, is to address the need for mobility/accessibility of youth, or parents that need to transport small children. Creative solutions are available, like baby carriers attached to all bicycles, which can transport children or items,

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												dependent upon the user's need **Invalid source specified.**. However, they are the exception rather than the rule for many existing systems across the U.S.
	Microtransit					X	X	X		This strategy is expected to alleviate the burden of long travel times to access food, education and medical care. As discussed previously, access to food is particularly challenging in Agriculture & Extraction Counties and Remote Counties, where the share of the population living more than 10 miles from a supermarket is 35.4 percent and 29.1 percent, respectively. For comparison, less than 1 percent of the population lives over 10 miles from a supermarket in Metropolitan counties. Regarding education and medical care, 83 percent of Remote county residents live more than 30 minutes from a community college or vocational school, and 34.9 percent of Remote county residents live more than 30 minutes from a hospital.	The provision of microtransit may replace a private vehicle trip. It may also allow for higher occupancy of trips, as microtransit may be particularly relevant as a way to provide access to employment opportunities in a small community. Since these vehicles may be small buses or slightly larger vehicles, there is the potential that the center of gravity is higher, leaving potential concerns regarding the safety of such vehicles if operated improperly. In Vermont, a microtransit system is planned that would try to consolidate some of the on-demand services into a broader need base, thereby reducing the overall mobility costs.	As noted in the description, microtransit requires broadband connectivity, which is not found in every small, rural American community.

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	Transportation network companies (TNCs)	X				X	X	X		This strategy may help to address access to food, access to jobs and education, access to medical care, and behavioral safety. Regarding access to food, this strategy is expected to alleviate the burden of long travel times to the supermarket in rural counties. As discussed previously, residents of Metropolitan counties are much less likely than residents of rural counties to live over 10 miles from a supermarket. Regarding access to education, this strategy is expected to alleviate the burden of long travel times to access higher education in rural areas. Over 80 percent of residents of Remote and Agriculture & Extraction counties, for example, must travel over 30 minutes on average travel times to access community colleges and vocational schools (where students are much less likely to live on campus than students at four-year institutions). By comparison, less than 20 percent of the population must travel that far in Metropolitan counties. Regarding access to medical care, 34.9 percent of residents of Remote counties live more than	TNCs could increase overall VMT due to residents having easier access to a ride.	From a rural perspective, the most significant problem regarding TNCs is the lack of cell phone reception and lack of infrastructure to provide high-speed internet access in rural areas. TNCs rely on this connectivity for users to book and cancel their rides. Furthermore, some rural areas may not have their road network mapped in Google Maps, from which TNCs tend to draw the expected paths of drivers. This has resulted in at least one driver who signed up to drive for a TNC in Alaska being kicked off the platform (Villwock-Witte, New Mobility Opportunities in a Rural Context 2019).

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										30 minutes from a hospital; ridesharing could help reduce this burden by sharing driving and operational responsibilities (e.g., gas). From a behavioral standpoint, access to TNCs could reduce behavioral-related fatalities. For example, if a TNC option is available at festivals or on evenings and weekends, there is an opportunity to reduce drunk-driving related fatalities. This benefit may be especially important in rural areas, where 22.1 percent of fatal crashes involve a drunk driver, relative to 18.7 percent of crashes in Metropolitan counties.		
	Mobility-on-demand (MOD)					X	X	X		This strategy is expected to alleviate the burden of long travel times to important destinations like the supermarket. As discussed previously, residents of rural counties are generally much more likely to live over 10 miles from a supermarket than residents of Metropolitan counties. Consider residents of Remote counties, where 83 percent of residents live more than 30 minutes from a community college or vocational school and 34.9 percent of	MOD can assist with helping a user contact many different potential transportation sources to identify if that transportation source is allowed to, and has the capacity to, transport the user to their desired destination.	MOD requires greater broadband connectivity than is available in most rural areas. This would include both expanding coverage networks and increasing internet speeds for communities and individuals.

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										residents live more than 30 minutes from a hospital.		
	Connected vehicles	X	X							Improving real-time communication and situational awareness of driver's connected vehicles is expected to decrease annual vehicle fatalities. Broadly speaking, fatalities per vehicle mile traveled (VMT) are higher in rural areas than urban areas, with 1.9 fatalities per 100 million VMT in rural counties relative to 1.0 fatalities per 100 million VMT in metropolitan counties. Similar trends are evident in specific behavior-related crash types, including fatal crashes involving distracted drivers, drunk driving and speeding.	The real-time information benefits of connected vehicles can reroute drivers off a road that is closed due to a crash or other incident.	Connected vehicles require that vehicles have modern connectivity capabilities. Many older, still very useable vehicles are found in rural America. It may be cost-prohibitive for the person/family to replace the vehicle with one that has modern technology. Furthermore, as vehicles with modern technology can be intimidating, there also may be a desire by owners to not replace the less automated vehicle they already own.
	Autonomous vehicles	X	X							Autonomous vehicles are expected to remove potential driver error from the roadway. With full implementation of autonomous vehicles, it is expected that annual vehicle fatalities will decrease, and behavioral-related vehicle fatalities will decrease. As mentioned previously, fatalities per vehicle mile traveled (VMT) are higher in rural areas than urban areas, with 1.9 fatalities per 100 million VMT in rural counties relative to 1.0 fatalities	A demonstration project was proposed in Arizona, which allowed users to hop on and off a vehicle that operated on a fixed route (cancelled due to the pandemic). There is a significant amount of opportunity regarding accessibility if autonomous vehicles could be deployed in the rural context. For small communities that are tourism-based, this would reduce the need for drivers, which may be a barrier to public	There are several barriers to implementing fully autonomous vehicles in rural areas. These include a lack of roadside infrastructure to support V2I communications, difficulty geofencing large rural areas to enhance vehicle navigation, and inadequate/unreliable wireless connectivity. It is also unclear how well autonomous or connected vehicles will operate on

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										per 100 million VMT in metropolitan counties.	transportation systems in a community, and often amounts to the greatest cost of such a system. If a system ran a consistent route around a community, as is seen in many tourism-based communities (e.g., Steamboat Springs, Colorado), it may be used by a broader base and reduce in-town vehicle trips, thereby reducing congestion.	unpaved roads or under adverse weather conditions.
Improved Communication Strategies	Automated speed enforcement	X								Automated speed enforcement is expected to decrease speeding-related fatalities. Speeding and speeding-related fatalities are a major safety challenge in rural areas, where 20.1 percent of fatal crashes involve speeding, relative to 17.7 percent in Metropolitan counties. This problem is particularly severe in Remote counties, where 25.5 percent of fatal crashes involve speeding.	A wide deployment of automated speed enforcement could lead to reductions in speeding and consequently bring significant safety benefits to the driver and other roadway users (e.g., other drivers, pedestrians, cyclists). Furthermore, as this strategy has the potential to calm traffic, it could result in greater use of the broader network by more pedestrians and cyclists. Speeding motorists are frequently reported as the reason why more people do not walk or bike.	A major inhibitor to more widespread automated speed enforcement is that it is not allowed in every jurisdiction and may not be politically feasible in some rural areas. If deployed via a vehicle, automated speed enforcement vehicles have been vandalized (e.g., shot, lit on fire).
	Real-time feedback of speeding information on local	X								Real-time feedback of speeding information on local display boards with blackout data collection and associated law enforcement efforts may	Sometimes motorists may not be aware of the speed limit on the road as a result of an obstructed sign or because they were distracted while driving.	While the goal of implementing real-time feedback of speeding information on local display boards is to reduce

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	display boards with blackout data collection									contribute to a reduction in speeding-related fatalities. As discussed previously, speeding and speeding-related fatalities are a major safety challenge in rural areas, where 20.1 percent of fatal crashes across all rural county types involve speeding, relative to 17.7 percent in Metropolitan counties. This problem is particularly severe in Remote counties, where 25.5 percent of fatal crashes involve speeding.	The presence of real-time feedback speeding information can remind drivers of their speed in comparison with posted speed limits. These devices can also occasionally be blacked out to test the true speeds traveled by motorists to understand the change imparted by these devices. A potential issue of driver behavior with these devices is that some drivers may "test" the response of these devices to see how fast they can travel at as reported by the device.	speeding, one potential problem associated with displaying speeding information on local display boards is that when the signs always provide one's speed, some drivers may try to "beat" a previously attained speed. Furthermore, there is the potential that over time the effectiveness of the information provided to the driver may wane.
	Using technology to detect crashes in rural areas to reduce response times				X					By reducing the time for crash detection, technologies like automated crash notification systems and smartphone apps can reduce overall emergency response times, which are longer in rural areas than urban areas. Average response times in Metropolitan counties, for example, are 8.5 minutes, relative to response times of 12.8 minutes across all rural counties. Response times are above the average in Agriculture & Extraction Counties and Remote Counties at 14.9 minutes and 17.7 minutes, respectively.	Improving emergency response times in rural areas can expedite clearance of a crash, resulting in the potential for avoiding backups and congestion.	Smartphone applications to detect crashes can be prone to false positives **Invalid source specified.**. Smartphone applications also require a cellular signal to communicate with a user in the case of a crash; cell signal is not available in all rural locations in the U.S.

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	An application (app) to provide information to bicycles/pedestrians regarding crossings			X						Improving information to alert pedestrians and cyclists to the locations of railroad crossings may reduce pedestrian and cyclist fatalities, which are more common in rural areas than urban areas. Rural counties experience 13.6 cyclist fatalities per 100 million bicycle miles traveled, relative to 8.8 fatalities in Metropolitan areas. Regarding pedestrian fatalities per 100 million miles walked, rural areas (15.5) are somewhat safer than Metropolitan counties (17.7), although fatalities are highest in Fringe (45.6) and Agriculture & Extraction counties (45.2).	This information may cause a pedestrian/cyclist to use another route to avoid some railroad crossings if they are perceived as dangerous.	In rural areas without a cellular signal, these types of smartphone applications that require locational data may be less accurate or may not work at all.
	Mobility-as-a-Service (MaaS)					X	X	X		This strategy is expected to alleviate the burden of long travel times to important destinations, such as the supermarket. Considering access to food, travel times are particularly lengthy in Agriculture & Extraction Counties and Remote Counties, where the share of the population living more than 10 miles from a supermarket is 35.4 percent and 29.1 percent, respectively. For comparison, less than 1 percent of the population lives over 10 miles from a supermarket in	A redundant transportation system provides options to users. MaaS draws on all available options and presents them, based on time and cost penalties, to a potential user. This allows the user to balance their needs for time and cost.	There are several significant barriers to MaaS in rural areas, including the lack of existing public transportation systems. Furthermore, while many non-profit options exist in rural areas (e.g., transportation to/from church), integration of these transportation opportunities into MaaS requires the development of partnerships. The availability of partnerships may vary over time.

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										Metropolitan counties. Consider residents of Remote counties, where 83 percent lives more than 30 minutes from a community college or vocational school and 34.9 percent lives more than 30 minutes from a hospital.		Another challenge is the lack of a good communications network (e.g., broadband) in these communities to provide for communication and notification of the location and expected time of arrival by a mode.
	Telehealth treatment clinic					X				Telehealth performance measures may help expand access to medical facilities of all kinds, particularly in rural areas that have lower overall access to medical care when compared with Metropolitan counties. Agriculture & Extraction counties, for example, have very long average travel time to a general medical facility, at nearly 43 minutes (relative to an average of 25.7 minutes in Metropolitan counties). Similar trends exist for hospitals, intensive care facilities, primary care facilities, and substance abuse treatment facilities.	Telehealth treatment clinics could reduce long-distance travel to facilities that are often located in urban areas by allowing routine or follow-up appointments to be conducted virtually. This saves time for patients, while allowing them to maintain a standard of care. Furthermore, it is safer and more likely that the appointment may be retained, as local/regional travel is often more feasible for rural Americans than long-distance intercity travel.	Telehealth treatment clinics require access to broadband. In rural areas where broadband may be less available or available but at a slower upload/download speed, telehealth treatment clinics may not be feasible.

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	An application (app) to connect small farmers to consumers						X			This strategy may help connect consumers to food, which can help overcome longer travel times to supermarkets in rural areas. As discussed previously, in general, residents of rural counties are more likely to live over 10 miles from a supermarket than residents of Metropolitan counties.	Locals may not always be aware of the availability of produce and the like in their community. Furthermore, farmers may find it difficult to connect with potential consumers. Therefore, creating the connection between these two groups by an app, can reduce the amount of long-distance travel. It often results in consumer access to fresher, healthier food.	The adoption rate of an app may be limited.
	Smartphone applications (apps) to improve communication on-scene				X					By improving communications on-scene through smartphone applications, EMS can ensure that a patient is delivered to the appropriate medical facility, which can decrease overall transit times for a patient. This change may alleviate the longer EMS response times experienced by patients in rural areas, where average response times are over four minutes longer than those in Metropolitan counties.	Improving emergency response times in rural areas can expedite clearance of a crash, resulting in the potential for avoiding backups and congestion.	Limited broadband/cell phone connectivity in rural areas can limit the transmission of information about a patient from an on-scene EMS to the treatment facility.

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	Technical assistance with intelligent transportation system (ITS) technology implementation and planning	X			X	X	X	X	X	ITS improvements may help shorten effective travel times to important destinations, including medical facilities of all kinds. This change may be particularly beneficial to rural areas, which have lower overall access to medical care than Metropolitan counties. Agriculture & Extraction counties, for example, have very long average travel time to a general medical facility, at nearly 43 minutes (relative to an average of 25.7 minutes in Metropolitan counties). Similar trends exist for hospitals, intensive care facilities, primary care facilities, and substance abuse treatment facilities.	ITS can make a roadway network more efficient.	ITS can be intimidating and it changes rapidly. There may be concerns that investment in a technology in the short term may become obsolete in only 5-10 years, maximum. Furthermore, to truly leverage the benefits of technology, fully understanding the ins and outs of an ITS can be challenging. Small, rural communities often do not have the resources, particularly the necessary personnel to plan, deploy, and maintain ITS. However, reducing the concerns with implementation by creating easy, user-friendly trainings may assist with broader adoption.

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Infrastructure & Program Development Strategies	Sufficient pavement width for bicycles			X						Ensuring a sufficient pavement width for cycles is expected to reduce cyclist fatalities, which are more common in rural areas than urban areas. Rural counties experience 13.6 cyclist fatalities per 100 million bicycle miles traveled, relative to 8.8 fatalities in Metropolitan areas.	Creating safer environments for bicycles can result in a greater mode share for cycling.	ROW may be limited along a roadway. There may be a perception by landowners parallel to the roadway (e.g. farmers) that there is not a need or it may negatively impact their property. Rumblestrips, shown to be effective for run-off-the-road crashes, need to be carefully considered regarding how they may impact users. Since it is not a physically separated space, the level of safety benefit is not as great as a purely separated pathway.
	Protected cycle tracks			X						Protected cycle tracks create a safer environment for cyclists, which is expected to result in fewer cyclist fatalities, which are more common in rural areas. Rural counties experience 13.6 cyclist fatalities per 100 million bicycle miles traveled, relative to 8.8 fatalities in Metropolitan areas.	Creating safer environments for cyclists can result in a greater mode share for cyclists.	Throughout the U.S., the adoption of protected cycle tracks is still low. More often than not, cycling lanes tend to be the norm. As a result, good design of protected cycle tracks can be challenging. In particular, in some cases where protected cycle tracks are proposed, there are many access and egress points (e.g., driveways) which dilute the benefits associated with cycling tracks. Therefore, there is a need for better design

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												recommendations/training support on the topic of protected cycle tracks, particularly important implementation considerations.
	Visually separating shoulders for traffic calming			X						By reducing vehicle speeds through traffic calming, visually separating shoulders is expected to result in reduced pedestrian and cyclist fatalities, both of which are more common in many rural areas. Rural counties experience 13.6 cyclist fatalities per 100 million bicycle miles traveled, relative to 8.8 fatalities in Metropolitan areas. Regarding pedestrian fatalities per 100 million miles walked, rural areas (15.5) are somewhat safer than Metropolitan counties (17.7), although fatalities are highest in Fringe (45.6) and Agriculture & Extraction counties (45.2).	By visually separating shoulders, drivers have the perception that there is less space over which they may maneuver their vehicle. In theory, this would suggest that most drivers would ultimately reduce their speeds.	A visual separation will not result in all motorists reducing their speeds. As some states currently use colored pavement within their roadways by sourcing local materials, there is the possibility that using specific coloration (e.g., red or green) for a bicycle lane would require no additional maintenance. However, some of the other potential treatments for visual separation, like enhanced longitudinal markings, may need more frequent maintenance. Furthermore, there is a need for a "wider roadway to provide an accessible shoulder space" (Dickman, et al. 2016).
	No funding match required to build pedestrian/cycling facilities			X						Reducing the funding match required to implement pedestrian and cycling facilities can result in greater implementation of safe facilities for active transportation and a reduction of	Creating safer environments for active transportation could result in a larger mode share for walking and cycling.	There is often a sentiment that some "skin in the game" is required. However, until users experience new pedestrian/cycle

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										pedestrian and cyclist fatalities, both of which are more common in many rural areas. Rural counties experience 13.6 cyclist fatalities per 100 million bicycle miles traveled, relative to 8.8 fatalities in Metropolitan areas. Regarding pedestrian fatalities per 100 million miles walked, rural areas (15.5) are somewhat safer than Metropolitan counties (17.7), although fatalities are highest in Fringe (45.6) and Agriculture & Extraction counties (45.2).		infrastructure, they may not find value in it. There may also not be available funding. The need could potentially outstrip the availability.
	Private-public bond partnership to build pedestrian/cycling facilities			X						By reducing the upfront funding a locality needs to obtain, public-private bond partnerships can reduce the barrier to implement pedestrian and cyclist facilities, resulting in a safer environment for active transportation and a reduction of pedestrian and cyclist fatalities, both of which are more common in many rural areas. Rural counties experience 13.6 cyclist fatalities per 100 million bicycle miles traveled, relative to 8.8 fatalities in Metropolitan areas. Regarding pedestrian fatalities per 100 million miles walked, rural areas (15.5) are somewhat safer than Metropolitan counties (17.7), although fatalities are	Many short trips are made by private vehicle. In some cases, this may be because, whether real or perceived, there are concerns with the safety implications of walking or cycling to otherwise make that trip (e.g., no crosswalk available across a major highway). Therefore, leveraging private funding can potentially assist with creating pedestrian and cycling facilities and provide the support needed to expand use of these modes.	There may be concerns that private interests could override public safety needs. There also may not be an opportunity to leverage private investment in all small communities across the U.S. There is also the potential that if major changes occur in the economy, like the pandemic, that expectations regarding income from tourism may not be realized.

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										highest in Fringe (45.6) and Agriculture & Extraction counties (45.2).		
	Equitable prioritization methods to ensure competitiveness of pedestrian/cycling facilities			X						Prioritizing pedestrian and cycling focused projects over auto-oriented projects can result in a safer environment for all road users, as well as reducing pedestrian fatalities (which are higher in certain types of rural areas relative to Metropolitan counties) and cyclist fatalities (which are higher in all rural counties, relative to Metropolitan counties). Rural counties experience 13.6 cyclist fatalities per 100 million bicycle miles traveled, relative to 8.8 fatalities in Metropolitan areas. Regarding pedestrian fatalities per 100 million miles walked, considering all rural counties (15.5), rural counties are somewhat safer than Metropolitan counties (17.7), although fatalities are highest in Fringe (45.6) and Agriculture & Extraction counties (45.2).	Creating safer environments for active transportation could result in a larger mode share for walking and cycling.	A perception still exists in the American psyche that walking and cycling are for recreation, not transportation. Therefore, advocating equitable prioritization often meets a lot of resistance. Furthermore, sometimes even if there is an intent to add a criterion that would make pedestrian and cycling projects more competitive, there may be aspects that inhibit that criterion's effectiveness.
	Connecting high school, middle school, and elementary schools			X						Creating safe pathways for school children can reduce pedestrian and cyclist fatalities, both of which are more common in many rural areas. Rural counties experience 13.6 cyclist fatalities per 100 million bicycle	The creation of safe pathways for school children may result in a greater share of students walking and cycling to school.	Elementary, middle, and high schools may not always be located in proximity to one another. Furthermore, more affordable land is often found outside of the central

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
	with pedestrian/cycling pathways									miles traveled, relative to 8.8 fatalities in Metropolitan areas. Regarding pedestrian fatalities per 100 million miles walked, rural areas (15.5) are somewhat safer than Metropolitan counties (17.7), although fatalities are highest in Fringe (45.6) and Agriculture & Extraction counties (45.2).		core of the community; therefore, school replacements are often sited on these properties. Identifying opportunities within a small urban core for rebuilding or remodeling could help reduce the need for an expansive pathway connection. However, in cases where schools are located at the periphery of a community, providing pathways along state/federal ROW to address connectivity needs could support connecting high school, middle school, and elementary schools.
	Mobile health clinics					X				Mobile health clinics aim to reduce the travel barriers to medical care by bringing the clinic to a rural area, improving access to medical care and reducing the average travel time for medical appointments, particularly in rural areas, which have lower overall access to medical care than Metropolitan counties. Agriculture & Extraction counties, for example, have very long average travel times to a general medical facility, at nearly 43 minutes	Mobile health clinics can reduce the need to travel long distances to health care.	There may be limitations regarding what types of health care can be offered through mobile services.

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
										(relative to an average of 25.7 minutes in Metropolitan counties). Similar trends exist for hospitals, intensive care facilities, primary care facilities, and substance abuse treatment facilities.		
	Tactical/do-it-yourself "ruralism"			X						Tactical "ruralism" provides an opportunity to prevent pedestrian and cyclist fatalities, both of which are more common in many rural areas. Rural counties experience 13.6 cyclist fatalities per 100 million bicycle miles traveled, relative to 8.8 fatalities in Metropolitan areas. Regarding pedestrian fatalities per 100 million miles walked, rural areas (15.5) are somewhat safer than Metropolitan counties (17.7), although fatalities are highest in Fringe (45.6) and Agriculture & Extraction counties (45.2).	Tactical, Do-It-Yourself "Ruralism" can bridge the gap between deployments of treatments that can help define a space and consequently improve safety for pedestrians and cyclists and the often reported belief that such treatments do not belong in a rural context **Invalid source specified.**.	In some cases, a community may not decide to make the temporary installation permanent. There are also concerns regarding liability associated with implementing such solutions.
	Rural complete streets			X						The goal of complete streets is to design and operate streets that enable safe access for all users **Invalid source specified.**. Rural complete streets could result in reduced crash rates, including a reduction in pedestrian and cyclist fatalities, both of which are more common in many rural areas. Rural counties experience 13.6 cyclist fatalities per 100	Complete streets create safer environments for active transportation, which could result in a larger mode share for walking and cycling.	Rural Complete Streets still require buy-in by both the public and representatives (e.g., council members), which may be a hurdle for many rural communities.

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
										million bicycle miles traveled, relative to 8.8 fatalities in Metropolitan areas. Regarding pedestrian fatalities per 100 million miles walked, rural areas (15.5) are somewhat safer than Metropolitan counties (17.7), although fatalities are highest in Fringe (45.6) and Agriculture & Extraction counties (45.2).		
	Mumblestrips	X	X							Mumblestrips provide drivers with an audible and tactile warning that they are leaving the driving lane or road edge **Invalid source specified.**. Mumblestrips are expected to reduce distracted driving related fatalities and overall vehicle fatalities, both of which are more severe in rural areas. Fatalities per 100 million VMT are higher in rural counties (1.9) than Metropolitan counties. The share of these fatal crashes involving a distracted driver is also higher in rural counties (10.1 percent) than Metropolitan counties (8.4 percent). This share is particularly high in Remote counties, where 14.7 percent of fatal crashes involve a distracted driver.	Mumblestrips may help motorists maintain their lane. Ultimately, they should not impact one's desire to travel.	While noise is reduced (compared to rumblestrips), there still may be concerns regarding noise. Furthermore, since mumblestrips are still being tested on a broader scale, there is a potential that they may require more maintenance or frequent repair than traditional rumblestrips.

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
	Auto-activated rapid flash beacons			X						Improving visibility of pedestrian and cyclist crossings can result in a reduction of pedestrian and cyclist fatalities, both of which are more common in many rural areas. Rural counties experience 13.6 cyclist fatalities per 100 million bicycle miles traveled, relative to 8.8 fatalities in Metropolitan areas. Regarding pedestrian fatalities per 100 million miles walked, rural areas (15.5) are somewhat safer than Metropolitan counties (17.7), although fatalities are highest in Fringe (45.6) and Agriculture & Extraction counties (45.2).	Auto-activated flash beacons could make travel by walking and bicycling faster, as the user would not be required to first press the button and wait for the device to activate to give the pedestrian/cyclist priority. Convenience penalties, like increased wait time, often relate to a decreased interest in adoption of modes.	There may be concerns regarding if an auto-activated flash beacon fails, and a pedestrian/cyclist enters a roadway with the assumption that the device is actively working.
	Providing solar-powered, user-activated lighting			X						Ensuring that pedestrians are visible on the roadway can result in a reduction of pedestrian fatalities. Using the performance measure of pedestrian fatalities per 100 million miles walked, rural areas (15.5) are somewhat safer than Metropolitan counties (17.7). However, pedestrian fatalities are highest in Fringe (45.6) and Agriculture & Extraction counties (45.2).	Creating safer environments for pedestrians can result in a larger mode share for walking.	There may still be a need to maintain the devices. Solar-powered devices may not be effective in all parts of the U.S. It may be cost-prohibitive to make an extensive network of solar-powered lighting pathways. While providing the illumination when needed does improve safety, there may still be concerns from some users (e.g., women) regarding the use of such facilities.

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
	Rural mobility hubs					X	X	X		By improving access to transportation options, rural mobility hubs are expected to provide more mobility and accessibility to a community's residents. Greater mobility is particularly important in areas with limited access to schools, healthcare, supermarkets, and other important destinations. Consider residents of Remote counties, for example, 29.1 percent of the population lives more than ten miles from a supermarket, 83 percent lives more than 30 minutes from a community college or vocational school, and 34.9 percent lives more than 30 minutes from a hospital.	Mobility hubs and virtual mobility hubs create "one-stop-shops" for all transportation options, which may make transportation alternatives like public transportation easier to use and result in a reduction of private vehicle miles traveled.	In a rural area where travel options and population may be dispersed across a large geographic area, siting a physical rural mobility hub in an efficient location may be difficult.
	Incorporating technology training into local road safety plan (LRSP) pilots	X								Improvements to local road safety plans offer the promise of crashes prevented and lives saved. These improvements are particularly important in rural areas, which experience 1.9 fatalities per 100 million VMT, nearly twice the rate of fatal crashes in Metropolitan counties.	Wider adoption of ITS in a rural context can improve safety and operations of the transportation network.	An introduction to rural officials regarding ITS may not necessarily lead to adoption. Furthermore, as professionals will often change jobs many times throughout their careers, there is no guarantee that the individual who was trained in how to use the technology will remain at the agency.

Categories	Strategy	Unmet Need								Performance Measures Impacted	Expected Impact on Travel Behavior	Challenges/ Limitations
		Behavioral Safety	Vehicle Occupant Safety	Pedestrian & Cyclist Safety	Emergency Response Times	Access to Medical Care	Access to Food	Access to Jobs/Education	Broadband			
	Recurring sign and lane-marking maintenance to support implementation of autonomous vehicles in rural areas	X				X	X	X		Greater mobility offered by autonomous vehicles is particularly important in areas with limited access to schools, healthcare, supermarkets, and other important destinations. Consider residents of Remote counties, for example: 29.1 percent of the population lives more than ten miles from a supermarket, 83 percent lives more than 30 minutes from a community college or vocational school, and 34.9 percent lives more than 30 minutes from a hospital.	Supporting the deployment of autonomous vehicles in rural areas can provide more transportation options and consequently more accessibility to rural residents.	Long-term, recurring maintenance of signs and lane-markings could be a costly endeavor depending on the size of the geographic area and the number of lane-miles.

APPENDIX F. ORGANIZATIONS CONTACTED

1. American Association of State Highway and Transportation Officials (AASHTO) Safety Committee
2. American Public Transportation Association (APTA)
3. American Trails
4. Appalachia Regional Commission (ARC)
5. Center for Disease Control and Prevention (CDC)
6. Federal Highway Administration (FHWA) Resource Center
7. Institute of Transportation Engineers (ITE)
8. National Association of Development Organizations (NADO)
9. National Association of County Engineers (NACE)
10. National Center for Rural Road Safety's (Rural Safety Center's) e-distribution list, reaching over 2,700 safety professionals
11. National Local & Tribal Technical Assistance Program Association (NLTAPA) Safety Committee
12. Pedestrian and Bicycle Information Center (PBIC)
13. Shared-Used Mobility Center (SUMC)
14. Society of Outdoor Recreational Professionals (SORP)
15. The National Association of State EMS Officials (NASEMSO)
16. Transportation Research Board's (TRB's) Committee on Low-Volume Roads
17. TRB's Committee on Rural Public and Intercity Bus Transportation – an invite dot the committee's contact list of more than 212 members
18. TRB's Committee on Transportation Safety Management
19. TRB's former Committee on the Transportation Planning for Small and Medium-Sized Committees
20. U.S. Department of Commerce – Economic Development Administration

APPENDIX G. STRATEGIES IDENTIFIED AND CONSIDERED

1. Behavioral Safety, Cross-Cutting
    a. Global Positioning System (GPS) Tracking to Reduce Auto Insurance Rates
    b. Add social and emotional skills training into driver's education classes
    c. Address "upstream" engagement and risky behavior using data from BRFSS
    d. Employer-based behavioral traffic safety programs
    e. Safety media campaign targeting Native American issues
    f. Teen Safety Member and Video Contest
    g. Phone-Detection Cameras
2. Behavioral Safety, Speeding
    a. Automated Speed Enforcement
    b. Real-time feedback of speeding information on local display boards with blackout data collection
    c. In-vehicle speed limit & speeding information
    d. Eliminate "enforcement tolerance"
    e. Localized campaigns to reduce speeding
3. Behavioral Safety, Drunk Driving
    a. Telehealth to Address Alcohol Use Disorder (AUD)
    b. Virtual Meeting Opportunities for Alcoholics Anonymous (AA) in Rural Environments
    c. Safe Ride Home Program
    d. Loss of Fishing/Hunting Rights in Place of Revoking Driver's License
    e. Combine Treatment for Alcohol Use Disorder (AUD) with an Interlock Program
4. Behavioral Safety, Distracted Driving
    a. Do Not Disturb While Driving
    b. Distracted Driving Technology
    c. Monetary Rewards for Not Using Your Cellphone While Driving Via Smartphone Application
    d. Take This Phone and Glove It
    e. Phasing in Law Through Education
    f. Create a Competition Amongst Small Towns Regarding Bans on Cellphone Use While Driving
5. Behavioral Safety, Restraint Use
    a. Virtual Presence to Improve Child Restraint Installation
    b. Targeted Population Restraint Use
    c. Rear Seatbelt Reminder
    d. Workplaces to Lobby for a Primary Seatbelt Law
    e. "I Got Caught" Seatbelt Safety Campaign
    f. Rewarding Seatbelt Use
    g. Parents Teach their Children About Personal Restraint at a Young Age
    h. Messaging as Concern for Others
6. Vehicle Occupant Safety
    a. Beat the Heat Carseat
    b. Child Restraint Educational Events

7. Pedestrian and Cyclist Safety
    a. Auto-Activated Rapid Flash Beacons
    b. Equitable Prioritization Methods
    c. Health Funding to Implement Infrastructure
    d. No Funding Match Required to Build Facilities
    e. Private-Public Bond Partnership
    f. Providing Solar-Powered, User Activated Lighting
    g. Sufficient Pavement Width for Bicycles
    h. "Driving Change" Campaigns
    i. Cyclist Airbags to Provide Additional Protection During Crashes
    j. Pedestrian & Cyclist Beacons
    k. Prioritize Maintenance & Multi-Modal User Needs Over Roadway Expansion
    l. Redesign Infrastructure in Community for Pedestrian Friendliness
    m. Separated Bikeway
    n. Speed Enforcement
    o. Community Bike Rides to Change Cultural Biases
    p. Connecting High School, Middle School, & Elementary Schools with Bike/Ped Pathways
    q. Visually Separating Shoulders for Traffic Calming
8. Emergency Response Times
    a. Using Technology to Detect Crashes in Rural Areas to Reduce Response Time
    b. Smartphone Applications to Improve On-Scene Communication
    c. Recruitment/Retention of Volunteer EMS within the Community
    d. Helicopter with Thermal Imaging, Night Vision, Infrared Camera Systems, and a Hoist
    e. Coordination or Regionalization of EMS Services
    f. Train a Broader Subset of People in Basic Life Support and Automated External Defibrillators (AEDs)
    g. Strategically Locating EMS Services Across Rural Areas
    h. V2V Communication Technologies to Link Law Enforcement and EMS Crash Records
    i. Utilization of EMS to Check for Underlying Social Needs of Patients
9. Access to Medical Care
    a. Drone delivery
    b. Mobile Screening Program
    c. Sales Tax for a Rural Hospital
    d. Telehealth Treatment Clinic
    e. Ensuring that a Hospital is Connected to Broadband
    f. Mobility-as-a-Service (MaaS)
    g. Presence of rural transit systems in community/region
    h. Program providing transportation for prenatal healthcare
    i. Transportation Voucher Program
    j. Shared-Ride Taxi Service
    k. Volunteer Driver Programs
    l. Wearable Monitors

m. Transportation Network Company (TNC) Non-Emergency Medical Transport (NEMT)

10. Access to Food
    a. Cooperative Grocery Stores
    b. Food Hubs
    c. Farm to School Programs
    d. Meals & Reading Vehicles
    e. Carsharing
    f. An Application (App) to Connect Small Farmers to Supermarkets
    g. Small, Rural Farm Connection to Consumer
    h. Social Networking to Reduce Cost to Consumer
    i. Volunteer Transportation of Food to Children in Need
    j. Public Transportation to Get Meals to Seniors
    k. Mapping Farmers
    l. Transportation Network Company (TNC) Grocery Access Program
    m. Community Gardens
11. Access to Education
    a. Accessing College Courses in High School
    b. Digital Tutors
    c. Coordinate Pick-Up of Rural Students at One Location
    d. Flexible Hours on Campus for Broadband Access
    e. Extension of Bus Lines
    f. Regional Rural Technology Center
    g. Single Shop for Educational Needs
    h. Cooperation with Local Hotels for Housing for Students
    i. Providing Shuttles for Additional Connectivity
    j. Partnering with Transportation Network Companies (TNCs)
    k. Including Purchase and Maintenance of a Laptop w/Wi-Fi Connection into Registration
    l. Bike Rental & Repair Program Offered through Higher Education Entity
12. Broadband Access and Availability
    a. Internally Created Internet Program
    b. Wi-Fi Hotspots
    c. Put in Fiber While Rehabilitating/Maintaining Roadways
    d. Library Wi-Fi Hotspots to Go
    e. Free or Low-Cost Offerings
    f. Rural Airband Initiative
    g. Fiber Installation During Multi-Use Trail Implementation
    h. Adapters for Wi-Fi
    i. Leverage 5.9 GHz for Rural Areas
    j. Removing “False Positives”

APPENDIX H. SUMMARY STATISTICS FOR CASE STUDY LOCATIONS

Category	United States (National)	Iowa		Kentucky		New York		Wisconsin		State of Washington
		State of Iowa	Pocahontas County	State of Kentucky	Jackson County	New York State	Chemung County (Elmira)	State of Wisconsin	Door County	
Population	324.6 million	3.1 million	6,800	4.4 million	13,400	19.6 million	84,900	5.8 million	27,500	7.4 million
People per Square Mile (indicator or rurality)	86.2	56.5	11.8	113.2	38.7	412.9	205.0	107.5	57	114.6
Median Household Income	$65,700	$61,700	$52,400	$52,300	$32,100	$72,100	$60,800	$64,200	$61,600	$78,700
Poverty Rate	12.3%	11.2%	10.7%	16.3%	32.0%	13.0%	13.9%	10.4%	7.6%	9.8%
Percent of the Population Over 16 With a Bachelor's Degree or Higher	33.1%	29.3%	15.0%	25.1%	13.8%	37.8%	25.3%	31.3%	33.7%	37.0%

Category	United States (National)	Iowa		Kentucky		New York		Wisconsin		State of Washington
		State of Iowa	Pocahontas County	State of Kentucky	Jackson County	New York State	Chemung County (Elmira)	State of Wisconsin	Door County	
Median Age	38.5	38.5	47.6	39.2	42.2	39.2	42.4	39.9	53.0	37.9
Percent of the Population Over Age 60	21.8%	24.3%	31.5%	22.4%	23.1%	22.4%	25.3%	23.2%	38.4%	21.4%
Percent of Households without Any Type of Internet Access	17%	15.6%	19.6%	21.2%	32.3%	16.8%	19.1%	16.9%	18.7%	11.3%
Most Common Broadband Speed (Megabits per second of download speed)	Over 100 Mbps	15-25 Mbps	15-25 Mbps	Under 15 Mbps	Over 100 Mbps	Under 15 Mbps	Under 15 Mbps	Under 15 Mbps	Under 15 Mbps	25-50 Mbps

Category	United States (National)	Iowa		Kentucky		New York		Wisconsin		State of Washington
		State of Iowa	Pocahontas County	State of Kentucky	Jackson County	New York State	Chemung County (Elmira)	State of Wisconsin	Door County	
Average Travel Time to Work in Minutes	29.6	19.3	17.7	23.6	35.0	33.6	19.9	22.2	17.8	27.9
Percent of the Population that is Non-White	25%	8.1%	0.4%	11.1%	0.3%	34.2%	8.8%	12.6%	2.8%	19.4%
Percent of the Population that is Hispanic	18.4%	6.3%	3.8%	3.8%	0.2%	19.3%	3.1%	7.1%	3.1%	12.7%

APPENDIX I. DETAILED CASE STUDY TIMELINES

Timeline for Pocahontas, Iowa Bikeshare and Other Similar Small Community Bikeshares

Year	Milestone
2015	A strategic plan was being developed to identify opportunities for greater use of the local bike trails in northeastern Iowa.
2016	The bikeshare system in Pocahontas, Iowa was piloted with 15 bicycles.
2018	Deployment of the official bikeshare system with updated software (15 bicycles)
2019	10 bicycles were added to the bikeshare system (25 bicycles)
2019	In March, a small bikeshare system was launched in Brusly, LA (population 2,589 (2010))
2019	In May, a small bikeshare system was launched in Willmar, MN (population 19,610 (2010))
2019	As of September, the Pocahontas bikeshare system was free.
2020	The Pocahontas system was not deployed due to COVID-19.

Timeline for Washington State Unmanned Aerial Systems

Year	Milestone
2014	15 month moratorium on the use of UAS.
2016	WSP began evaluating UAS to improve collision and crime scene mapping
2016	June 30 – Washington State moratorium on all UAS use by state agencies expires; WSP works with the governor's staff, internal and external stakeholders, American Civil Liberties Union, Washington Association of Prosecuting Attorneys to draft UAS policy and procedures for the program
2017	January – WSP UAS policy is approved
2017	July – UAS pilot project begins for metropolitan counties along the I-5 corridor in the Puget Sound Region; 7 detectives participated
2017	December – UAS pilot project ends and program expansion is authorized and expanded to the field operations bureau (FOB); the program expanded to 42 detectives
2018	July – Statewide UAS pilot project begins with FOB
2018	December – Statewide UAS pilot project ends
2019	Full deployment of UAS at WSP, legislative approval for ongoing funding to maintain UAS program
2019	WSP receives the National Association of State Chief Information Officer's 2019 Station Information Technology Recognition Award for its UAS program.
2020	First need for battery replacement of UASs.

Timeline for Door County's Door-Tran

Year	Milestone
1998	A needs assessment conducted by the United Way of Door County identified transportation services as the greatest need for county residents (Cambridge Systematics, Incorporated; KFH Group, Incorporated 2018) (hereafter cited in this table as (CS/KFH 2018)).

Year	Milestone
2005	Door County Community Foundation instituted its Community Impact Grant program (Larson 2019)
2005	A second needs assessment conducted by the United Way of Door County again identified transportation services as the greatest need for county residents ((CS/KFH 2018), (Larson 2019)).
2006	A Focus Group put together as a result of the needs assessment conducted in 2005 also identified transportation services as the greatest need for county residents ((CS/KFH 2018), (Larson 2019)).
2007	The Door County Transportation Consortium was formed, serving as a communication and coordination center ((CS/KFH 2018), (Larson 2019)). A Mobility Manager was hired to lead the organization (Larson 2019).
2007	University of Wisconsin – Green Bay students conducted a survey to assess community transportation needs ((CS/KFH 2018), (Larson 2019)).
2008	A half-price voucher program was created to make existing private transportation services more affordable (CS/KFH 2018). It was funded by the federal Section 5317 (New Freedom) funds passed through the Wisconsin Department of Transportation (WisDOT) (Larson 2019).
2009	The Door County Community Foundation became a 501(c)3 and was renamed Door-Tran (Larson 2019).
2010	In August, Door2Door was initiated. It is an on-demand, shared ride service that has wheelchair-accessible vans. Fares are based on zones; there are five zones. Crossing a zone results in an additional fee.
2010-2011	Connector Bus deviated fixed routes and the Aging and Disability Resource Center (ADRC) Bus were implemented (Larson 2019).
2011	In February, the Veteran Volunteer Transportation Program was created.
2011	The American Red Cross discontinued transportation services in Door County (Door-Tran 2020).
2012	A County-Wide Volunteer Transportation Program (run by Door-Tran) was implemented.
2014	The Vehicle Purchase/Repair Loan Program (run by Door-Tran) was initiated (CS/KFH 2018).
2015	The Half-Price Gas Voucher Program (run by Door-Tran) was initiated (CS/KFH 2018).
2017	The Vehicle Repair Program (run by Door-Tran) was able to leverage private funding (CS/KFH 2018).
2017	The Door County Transportation Consortium changed its name to the Transportation Resource Improvement Partners (TRIP) (Larson 2019).
2017	Door County received the Easter Seals Project Action Consulting's Accessible Community Initiative (ATCI) grant; $100,000 for 12-18 months (CS/KFH 2018).
2018	The half-price voucher program subsidized over 32,500 rides (CS/KFH 2018).
2018	Veteran Volunteer Transportation program has served 147 Veterans, providing more than 1,388 rides (CS/KFH 2018).
2018	The County-Wide Volunteer Transportation Program has served more than 195 people in over 2,840 trips (CS/KFH 2018).
2018	Vehicle Purchase/Repair Loan Program has provided 13 loans (CS/KFH 2018).

Year	Milestone
2018	Door2Door service (run by Door County) was reduced by 76 hours per week because of budgetary concerns; demand is not being met (Larson 2019).
2018	Due to the reduced Door2Door service, Sunshine House began providing trips to its clients (Larson 2019).
2019	The future of Door2Door was described as uncertain (Dohms 2019).
2019	October, a Transportation Manager was hired by Door County to run the new Transportation Department.
2019	The County-Wide Volunteer Transportation Program has provided more than 7,500 trips, with volunteer drivers contributing almost 12,000 hours (Door-Tran 2020).
2020	Door-Tran was awarded $20,025 from the R. Bruce & Alyce S. Kopseker Trust Fund of the Greater Green Bay Community Foundation (Door-Tran 2020).

Timeline for Jackson County's Broadband

Year	Milestone
1936	Rural Electrification Act was used to fund the People's Rural Telephone Cooperative (PRTC).
1953	PRTC began providing party telephone lines to 575 subscribers.
2005	Fire at manufacturing plant in McKee put 700 people out of work.
2008-2009	Jackson County and Owsley County began to connect residents to 1 gigabit service.
2009	Unemployment in Jackson County was more than 16%; 12% in Owsley County.
2014	BAE Systems shut a factory in McKee, resulting in the loss of 200 jobs.
2015	All 7,000 structures in Jackson County connected via fiber.
2015	A Teleworks Hub was opened in Annville (Jackson County).
2016	A Teleworks Hub was opened in Booneville (Owsley County).
2017	October; Virtual Living Room (VLR) opens in the Jackson County library. Users are connected to the VA Medical Center in Lexington, KY (at least 1 hour, 15-minute drive, one-way).
2020	In April of 2020, a "maker's space" was set to open within the Jackson County library; the opening was delayed as a result of COVID-19. There are hopes that the opening can occur in April of 2021.

Timeline for Elmira, New York's Intelligent Transportation System Speed Management

Year	Milestone
c. 2000	Chemung County staff observed ITS speed management signs in Ithaca, New York.
c. 2000	Elmira implements mobile and permanent boards as an effort to get motorists to slow down on local roads.
2011	Two mini-roundabouts were implemented on Maple Avenue in Elmira, New York as part of a suite of speed management solutions.
2019	Chemung County developed a LRSP.
2020	Elmira begins to replace some of its 20-year-old permanent boards, because some of the lights no longer work.

U.S. Department of Transportation
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