

INVESTING IN RURAL AMERICA

**BRINGING PROGRESS AND ECONOMIC
OPPORTUNITY TO RURAL COMMUNITIES**

JUNE 2018



**Joint Economic Committee Democrats
U.S. Senator Martin Heinrich**

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A MESSAGE FROM OUR RANKING MEMBER

Rural communities hold a special place in my heart. Not only because so many of the New Mexicans who I represent live in rural areas but also because I know firsthand what it's like growing up in a small town. I grew up working on my parent's cow and calf operation and saw both of my parents work long hours just to make ends meet and to provide a better future for my sisters and me.



Unfortunately, far too many rural communities have been held back from the economic growth others have enjoyed since the recovery from the Great Recession. The overall economic picture for rural communities remains challenging for multiple reasons. Expanding economic opportunities for rural Americans is vital to the livelihood of these communities and the future of our country as a whole.

That's why we are issuing this "Investing in Rural America" report—a deep dive in to the current state of the rural economy and what policies may help advance the unique opportunities present in these areas. Our nation is entering a new age of technology that will be crucial to revitalizing our rural communities. It's imperative that we put policies in place that ensure all of our communities can thrive in the 21st century economic landscape.

Over the last year and a half, Joint Economic Committee Democrats have made it a priority to recognize the barriers to growth and focus on policies that will promote new job opportunities in rural communities. We studied the primary reasons rural communities have struggled to compete—including underinvestment in infrastructure, less access to financial services, and insufficient access to broadband.

We've also highlighted how repeated Republican attempts to dismantle health care in our country would affect the economic security of rural Americans. We've examined how passage of the GOP tax legislation prioritized special interests over investing in rural communities. And, we've analyzed the economic contributions Dreamers—young immigrants who came to our country as children—make to their rural communities.

We owe it to all Americans to enact smart, forward-looking policies that will help rural communities reap the benefits from a growing economy. I hope this report serves as a roadmap for this progress. From infrastructure and education, to health care and public lands, this report explores a wide range of topics that are fundamental to job growth in the rural economy.

I'd like to thank everyone who has played a role in completing this project. With the help of my colleagues in both chambers, and organizations and stakeholders across the country, we have taken an important step forward in making sure that real action on rural economic development becomes a central priority for Congress.

I look forward to continuing to work with all of you to meet the needs and improve the lives of the 46 million Americans who live in rural communities.

A handwritten signature in black ink, appearing to read 'Martin Heinrich', with a stylized, sweeping flourish at the end.

U.S. Senator Martin Heinrich of New Mexico
Ranking Member
U.S. Congress Joint Economic Committee

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REPORT HIGHLIGHTS

- The 46 million rural residents—14 percent of the total U.S. population—play an essential role in the overall economy, starting new businesses, and supplying many of our agricultural products.
- The demographics and defining characteristics of rural America are changing. Increases in new residents, including immigrants and people of color, have partially offset declines and an aging population.
- Rural families on average earn 25 percent less than their urban counterparts, but live in areas with some of the highest rates of upward economic mobility in the nation.
- Rural schools benefit from having small class sizes, frequent community engagement, and active parent-teacher interactions.
- Rural communities need a capital infusion to connect the nearly one-third of rural residents without access to high-speed internet.
- Rural communities are well-positioned to lead in clean-energy infrastructure. Ninety-nine percent of wind projects are in rural areas.
- The outdoor recreation industry generated \$374 billion in spending in 2016, supporting more than 4 million jobs and boosting rural economies.
- Rural residents enjoy higher homeownership rates than their urban counterparts, with more than 70 percent of occupied rural housing being owned instead of rented.
- The Affordable Care Act and Medicaid expansion are improving access to health care in rural communities. Nearly 1.7 million rural Americans have gained coverage through Medicaid expansion.
- The vast majority of farms are small and those households rely on off-farm income to support their livelihoods. Small farm households are increasingly turning to local marketing strategies and on-farm renewable energy systems to improve their farm income.

POLICY SOLUTIONS

Rural America offers a wealth of opportunities for economic growth and innovation. To seize this potential, we need policies that leverage rural communities' unique strengths and resources to address the challenges they face. The proposals below identify areas where targeted investments would help revitalize the rural economy and improve the livelihoods of many families.

FAMILY FINANCES

- Develop retirement solutions that empower rural residents to save early and often.
- Implement pro-family tax policies that keep families from slipping into poverty.
- Enact paid family leave solutions at the federal level.

EDUCATION

- Enhance school readiness by increasing early childhood education opportunities.
- Streamline funding and resource access for rural school districts and tribal lands.
- Expand college guidance services and middle-skills pathways.
- Expand scholarship, professional development, and other programs for teachers.

INFRASTRUCTURE

- Maintain vital programs, like Essential Air Service, that rural communities count on.
- Expand broadband access through a one-time infusion of capital as well as targeted efforts to boost access on tribal lands and increase utilization by farmers.
- Invest to upgrade rural water and sewer systems and enable the efficient transport of renewable energy produced in rural areas.
- Create a new Infrastructure Financing Authority to meet the needs of rural America.

PUBLIC LANDS

- Resist attacks on protected lands by preserving protections and funding.
- Improve access to federal lands by passing the Bipartisan Sportsmen's Act.
- Integrate public lands into clean energy strategies.
- Engage local communities when making decisions that impact public lands.

HOUSING

- Boost non-profit groups' capacity to access federal capital.
- Invest in critical improvements to Indian Country housing conditions.
- Increase community bank presence for better mortgage access.
- Encourage local businesses to invest in housing stock revitalization.

HEALTH CARE

- Expand Medicaid and protect it against cuts and rollbacks.
- Strengthen and improve Medicare to better serve the needs of rural communities.
- Increase recruitment and retention efforts for the health care workforce.
- Embrace technologies by investing in broadband and expanding payment options.
- Lower the cost of health care by adapting value-based care to fit rural realities, lowering prescription drug prices, and increasing coverage options.

AGRICULTURE

- Pass a bipartisan, five-year farm bill with policies that give farmers, families, and rural communities opportunities to succeed.
- Use tax policy to support small or midsize farms that earn a living in agriculture.
- Expand access to capital and land to encourage the next generation of farmers.
- Provide certainty in trade policy so farmers know what to expect in the marketplace.
- Boost funding for safe and affordable agricultural worker housing.

THE STATE OF RURAL AMERICA

© kenkistler1/Adobe stock | Location: Utah, USA



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Key Takeaways

- Approximately 14 percent of Americans live in rural areas, and 72 percent of land in the United States is considered rural.
- The demographics and defining characteristics of rural America are changing.
- Increasing access to capital can drive new business formation and job creation in rural communities.

What is “Rural”?

The answer depends on the definition. Even the federal government has several ways of defining rural America. The Census Bureau, for example, defines rural as everything that is not “urban.” Urban areas, according to the bureau, are split into two buckets: urbanized areas, each of which is home to at least 50,000 people, and urban clusters, each of which contains between 2,500 and 50,000 people.¹

Building on the Census Bureau’s definition, the Office of Management and Budget (OMB) defines rural at the county level, with metropolitan counties considered to be urban and nonmetropolitan counties rural. Metropolitan counties are counties that contain an urbanized area or have a substantial number of residents that commute to or from such counties. Nonmetropolitan counties are all other counties. Various federal agencies use or adapt these two definitions for their own work.² The U.S. Department of Agriculture Economic Research Service bases their analysis on OMB’s definition.³

The ability to modify the definition of rural is a valuable tool in targeting policies and programs to meet the needs of rural communities. This report generally defines rural as nonmetropolitan counties, using the OMB definition. In some cases, the report draws on other definitions in order to shed light on all aspects of rural America.

Rural Americans make up 14 percent of those living in the United States, while 72 percent of the nation’s total land areas are considered rural.⁴ These 46 million residents play an essential role in the overall economy, starting new businesses, and supplying many of our agricultural products.

Rural areas are more economically and demographically diverse than in past decades. Rural economies support a wide and changing range of jobs, from advanced manufacturing to recreational tourism. Though they remain older on average compared to their urban counterparts, rural Americans are now more racially and ethnically diverse than in the past.

Rural America is strong and has much to be proud of. For example, rural residents have some of the highest rates of upward economic mobility in the nation, higher rates of homeownership, and higher high school graduation rates than urban residents.⁵

And rural communities are uniquely situated to capitalize on the growth potential of renewable energy, which is poised to create several million more jobs, many of which would be located in rural areas.

Unfortunately, rural America still faces many challenges and has not shared equally in the economic progress since the end of the Great Recession. While urban areas have long since recovered to pre-recession employment levels, rural America has yet to reach that milestone. Wages have stagnated for Americans across the country, but the problem is particularly pronounced for rural workers.

What Does Rural Look Like?

According to current definitions, both of these are considered rural:



© latypova/Adobe stock | Location: Vermont, USA



© spiritofamerica/Adobe stock | Location: Ouray, Colorado

And these are both urban:



© SeanPavonePhoto/Adobe stock | Location: Annapolis, Maryland



© pabrad63/Adobe stock | Location: Dallas, Texas

Demographic Trends in Rural America

The demographic profile of rural counties has changed over the last several decades. Increases in new residents, including immigrants and people of color, have partially offset declines and an aging population.

An Aging Population

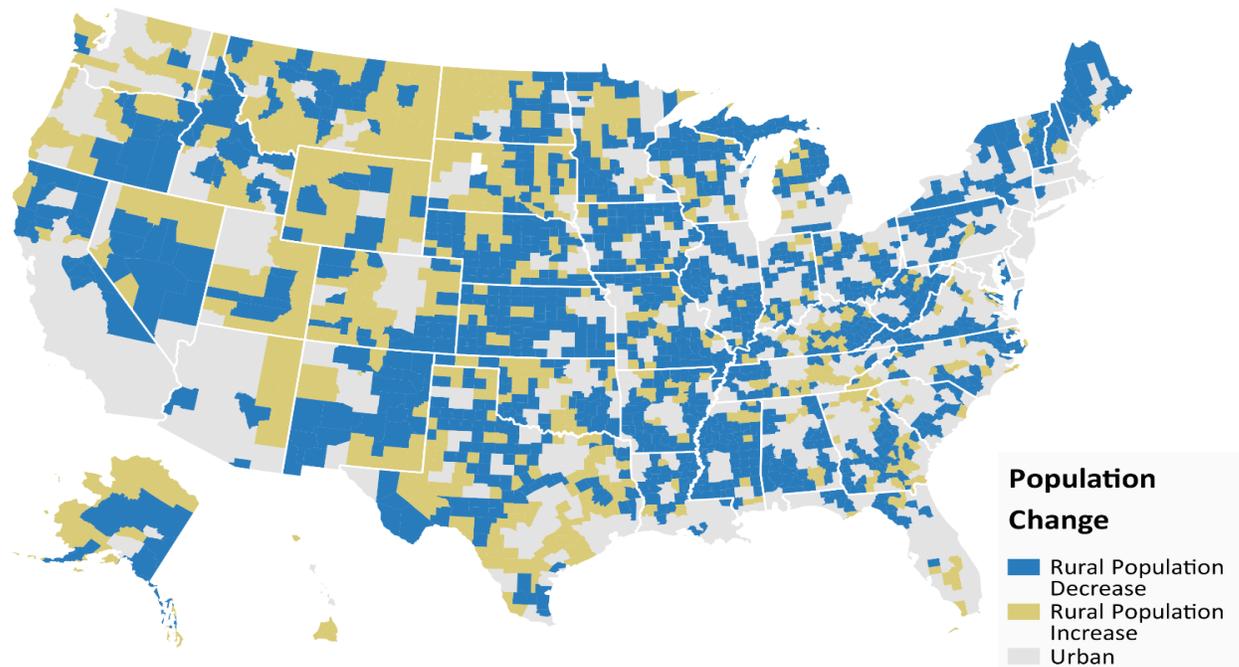
Shifting demographic trends that define rural America present unique economic challenges. Overall, rural residents are older than urban residents. In 2016, almost one in five rural residents was 65 or older.⁶ While rural Americans are hardworking, self-sufficient individuals, the aging population has major implications for rural labor force participation, the health care system, and the future economic stability of rural communities.

Continued Depopulation

While living in rural America comes with many advantages, rural areas also face a range of issues that have made it difficult for communities to bounce back from the Great Recession; chief among them is the decline in population. Between 2010 and 2016, the rural population experienced a 0.4 percent decline in population, with almost 700,000 people leaving on net. In contrast, urban counties experienced more than a 5 percent increase in population over the same period, in large part due to a growing presence of young people.⁷ Exacerbated by the aging population, declining birth rates, and increased mortality rates among working-age adults, the persistent outmigration of younger people from rural areas has limited or stalled population growth in rural communities.⁸

Often lost in this story of rural population decline is the urbanization of rural areas. Due to urbanization patterns, high-growth counties have been reclassified from rural to urban over the past several decades. Today, roughly 2,500 counties that were classified as rural in 1974 are now classified as urban and home to more than 80 million Americans.⁹

Two-Thirds of Rural Counties Lost Population 2010-2016



Source: Census Bureau 2010-2016 Population Estimates.

Notes: Urban are metropolitan counties and rural are nonmetropolitan.

Outmigration of Young People

Contributing to this decline is the outmigration of young people, who often leave their rural communities for educational or employment opportunities in urban areas. From 2000 to 2010, outmigration caused an average 28 percent decline among 20- to 24-year-olds in rural counties.¹⁰

When young people move out of rural areas to pursue educational and job opportunities, they often do not return to reinvest those skills and experience into rural communities.

Many young people cite the burden of student loan debt as a reason not to relocate to communities that may have low economic mobility and limited opportunities in their chosen career fields.¹¹ Those that do return value higher wages, expanded career opportunities in their field, and the availability of child care, especially for dual-earner families.¹²

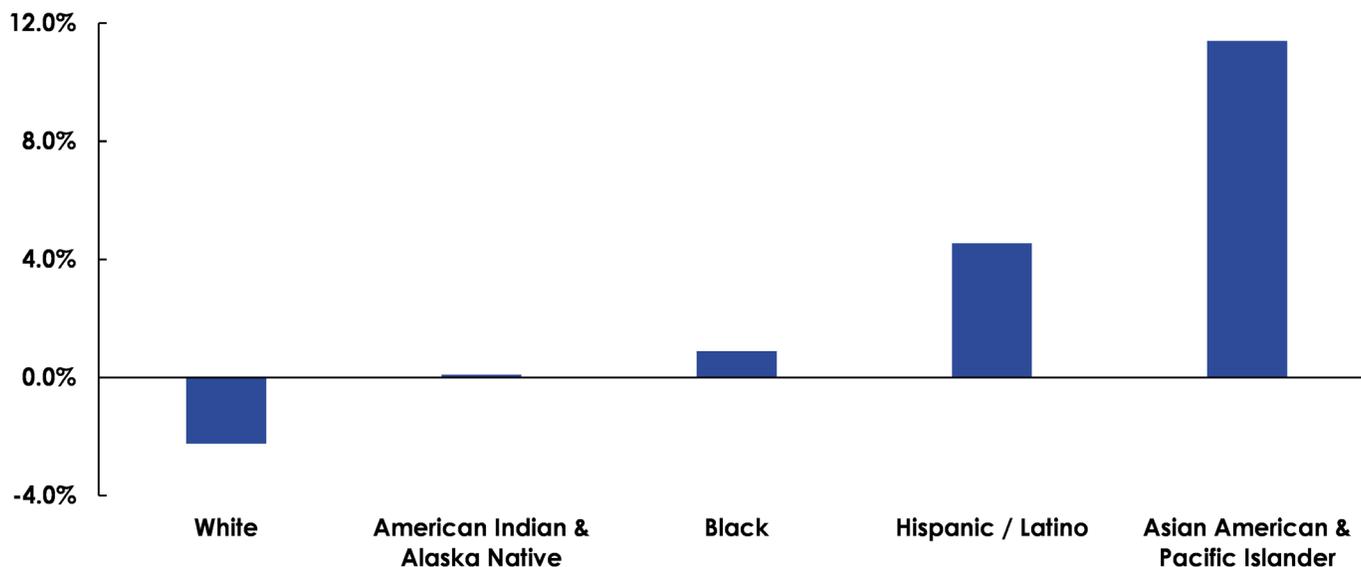
Key to stemming an even sharper decline is the inflow of immigrants and the diversification of the population. Across many rural communities, inflows of new residents have stabilized and, in some places, grown populations and communities. In 188 rural counties, increases in the Hispanic population helped keep population growth positive.¹³

Growing Diversity

Though rural America is more homogeneous than urban America, rural America's population is not without diversity. Tribal lands, for example, are largely rural and are home to 22 percent of the American Indian and Alaska Native (AIAN) population.¹⁴

There is a growing presence of people of color in rural communities across America.¹⁵ In fact, 95.6 percent of rural counties experienced increases in racial or ethnic diversity between 1990 and 2010.¹⁶ People of color were responsible for nearly 83 percent of the population gains in rural counties between 2000 and 2010, leading to a diversification of rural communities.¹⁷ This pattern mirrors national trends, as America continues to become more racially and ethnically diverse.

% Change in Rural Population by Race and Ethnicity, 2010-16



Source: JEC Democratic Staff calculations based on data from the 2010 and 2016 American Community Survey, 5-year estimates. Note: Hispanics may be any race. Racial groups are for the population indicating that race alone, and not in combination with Hispanic ethnicity.

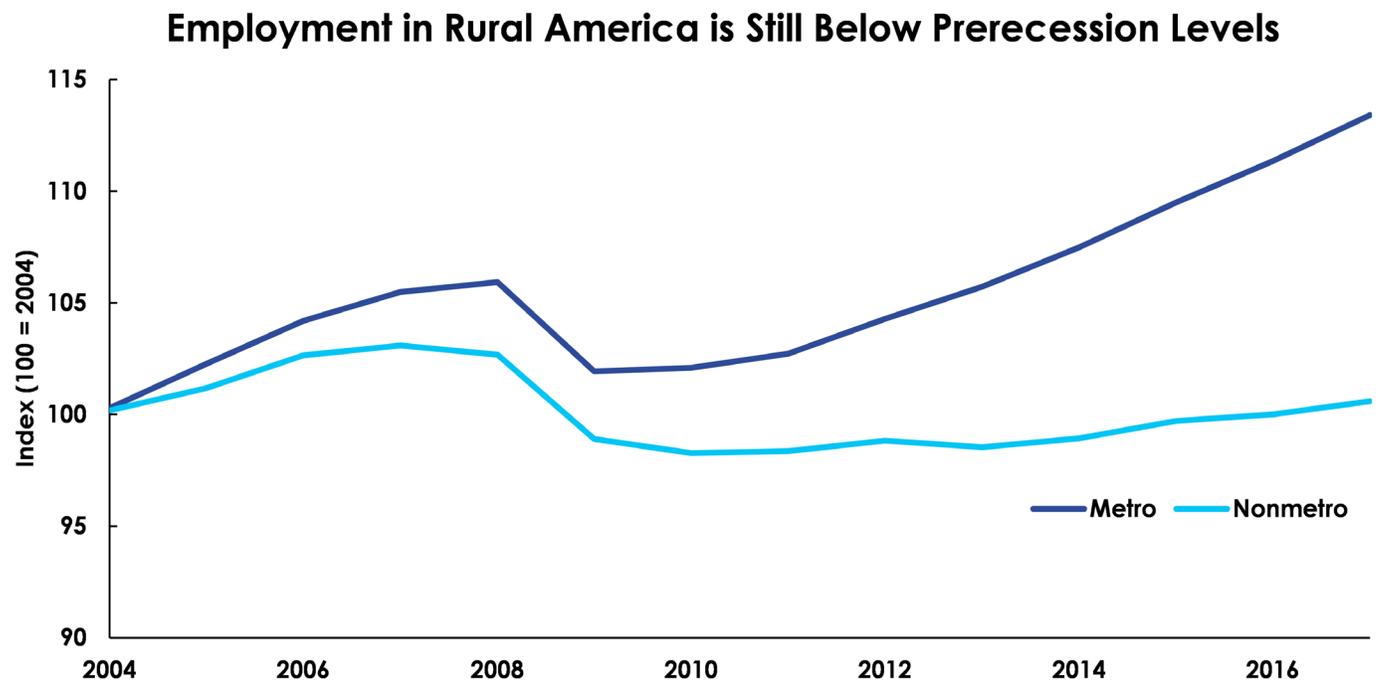
The Economics of Rural America

All Americans were hit hard in the Great Recession, but rural America has not shared in the employment recovery that has occurred since 2010. While most urban areas have long since surpassed pre-recession employment levels, rural employment still has not returned to where it was before the recession began.¹⁸

Stagnant Wages

Wages have been stagnant for Americans across the country, but the problem is particularly pronounced for rural workers. Since 2007, median income for rural workers has averaged 25 percent below that for urban workers, contributing to elevated and persistent levels of poverty that continue to affect many communities today.¹⁹

When rural workers are able to achieve higher education, their outcomes improve. In fact, rural workers with a bachelor's degree earn \$13,703 more annually, on average, than those with only a high school diploma.²⁰

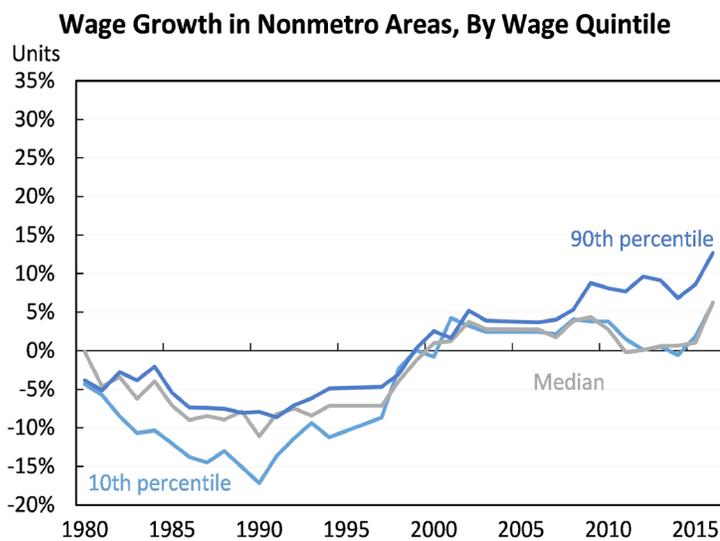


Source: Bureau of Labor Statistics, Labor Area Unemployment Survey.

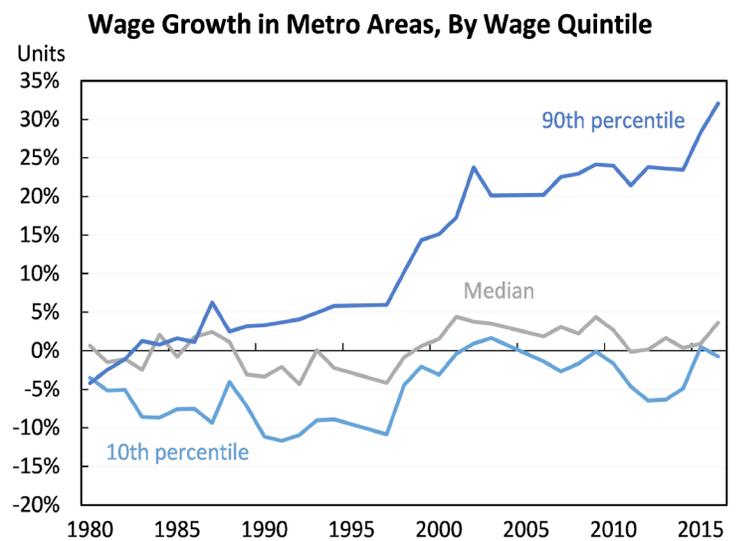
Note: Quarterly data is indexed at 2004Q1, seasonally adjusted, and uses USDA adjusted data for survey redesign break in 2009Q4 - 2010Q1.

They are also less likely to experience job loss or unemployment compared to those with only a high school diploma.²¹ Although rural residents are increasingly more educated, lower levels of education compared to urban residents are one factor contributing to lower wages. Workers with low educational attainment are more likely to have limited career options and higher rates of poverty.²²

Rural Americans are also more likely to face poverty than their urban counterparts. In 2016, the poverty rate in rural America was 16.9 percent, more than 3 percentage points higher than the urban poverty rate.²³ That means about one in six rural Americans lives below the poverty line, struggling to make ends meet.



Source: Current Population Survey, Outgoing Rotation Group
Note: Due to coding concerns from 1995 and 2004, growth for '95, '96, '04' and '05 are interpolated



Source: Current Population Survey, Outgoing Rotation Group
Note: Due to coding concerns from 1995 and 2004, growth for '95, '96, '04' and '05 are interpolated

Lower Labor Force Participation

Several factors, including changing demographics and the opioid crisis, contribute to lower rates of labor force participation, or the share of people working or actively seeking work. An aging population has lowered labor force participation in many rural communities, since older people are less likely to be in the workforce than prime-aged workers (ages 25-54).

But that's not the whole story. People in rural communities also participate in the labor force at lower rates compared to their urban counterparts at similar ages.²⁴ While labor force participation rates have seen improvements since the recession, the gap has continued to widen for those with only a high school diploma or less.²⁵

In addition to changing demographics, the growing opioid crisis, an increase in disability rates, and the severity of the last recession have also pushed the labor force participation rate lower in rural America. In fact, the uptick in opioid use has been concentrated in people at prime working-age, keeping many out of the labor force. Between 1999 and 2015, the rise in opioid prescriptions may account for 20 and 25 percent of the decline in labor force participation for prime-age men and women, respectively.²⁶ One survey found that almost three-fourths of farmers may have been directly impacted by the opioid crisis.²⁷

Fewer New Businesses and Entrepreneurs

For several business cycles, recoveries have become increasingly concentrated geographically, with fewer and fewer parts of the country sharing in the growth. Following the Great Recession, rural counties experienced a slower growth rate in net new establishments compared to urban areas.²⁸

Access to capital is a critical barrier for any young company and a particular challenge in rural America. Although innovations occur across the country, venture capital is heavily concentrated in a few major cities—more than three quarters of venture capital went to companies from San Francisco, New York, Boston, and Los Angeles in 2015.²⁹ Ensuring rural inventors have access to capital would better enable them to build their ideas into successful businesses that create good jobs in their communities.

Changing Industries

The rural employment landscape is changing, bringing both challenges and opportunities to rural America. The way people work in the 21st century economy could create new opportunities for those living in rural America. Telecommuting, or working remotely over the internet, allows rural workers to pursue opportunities that otherwise might be too far of a commute. Between 2005 and 2015, telecommuting in America more than doubled, expanding job opportunities for workers while meeting the needs of employers.³⁰

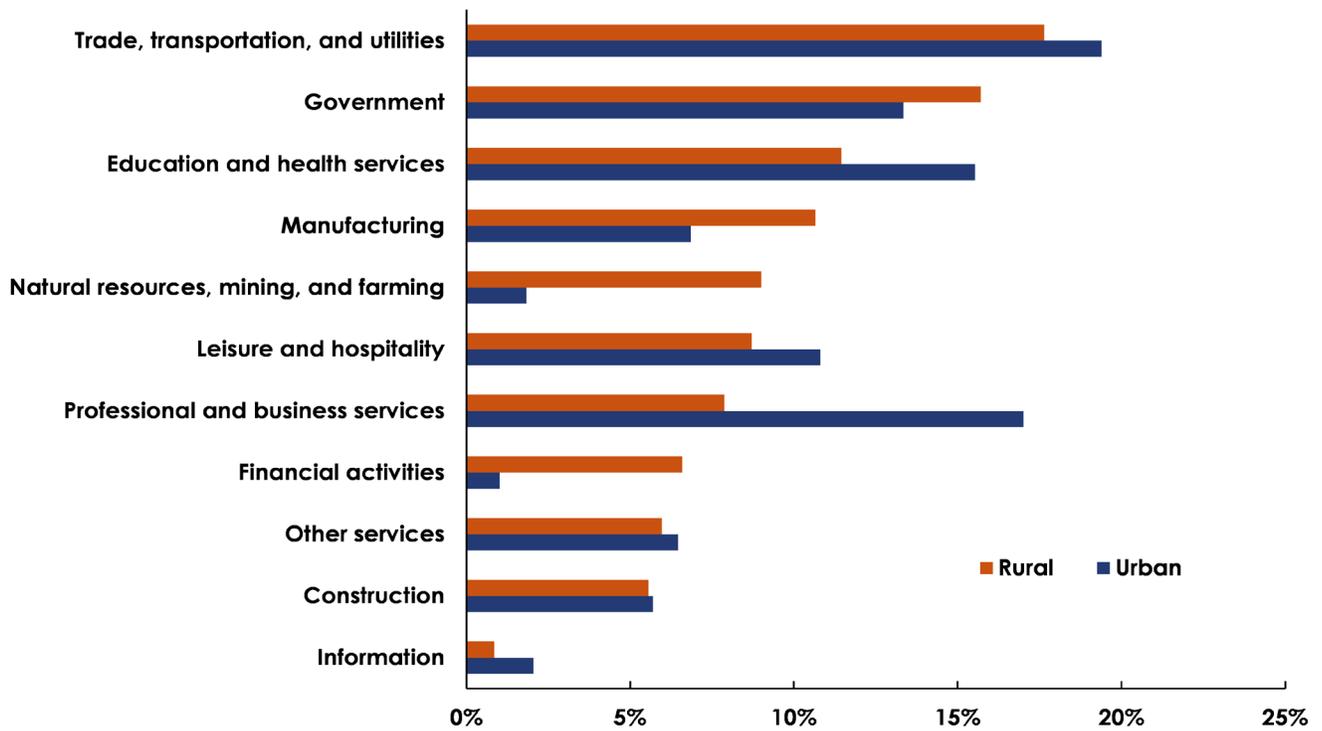
Over the last decade and a half, jobs in traditional sectors of employment, like manufacturing, farming, and information, have seen significant declines, with many sectors losing ground and industries consolidating around fewer firms. Smaller markets lead to higher concentration, which can result in more leverage for employers and lower wages for rural workers.³¹ To turn around this trend, rural America must embrace opportunities in new sectors.

Though jobs in manufacturing still pay higher wages than many others, rural manufacturing employment was much lower in 2015 than at the start of the 21st century.³² Rural jobs still tend to be concentrated in industries in which there are fewer and fewer job opportunities. If rural workers were employed in an equally diverse set of industries as urban workers, such as information, they would see over 350,000 additional jobs in 2026.³³

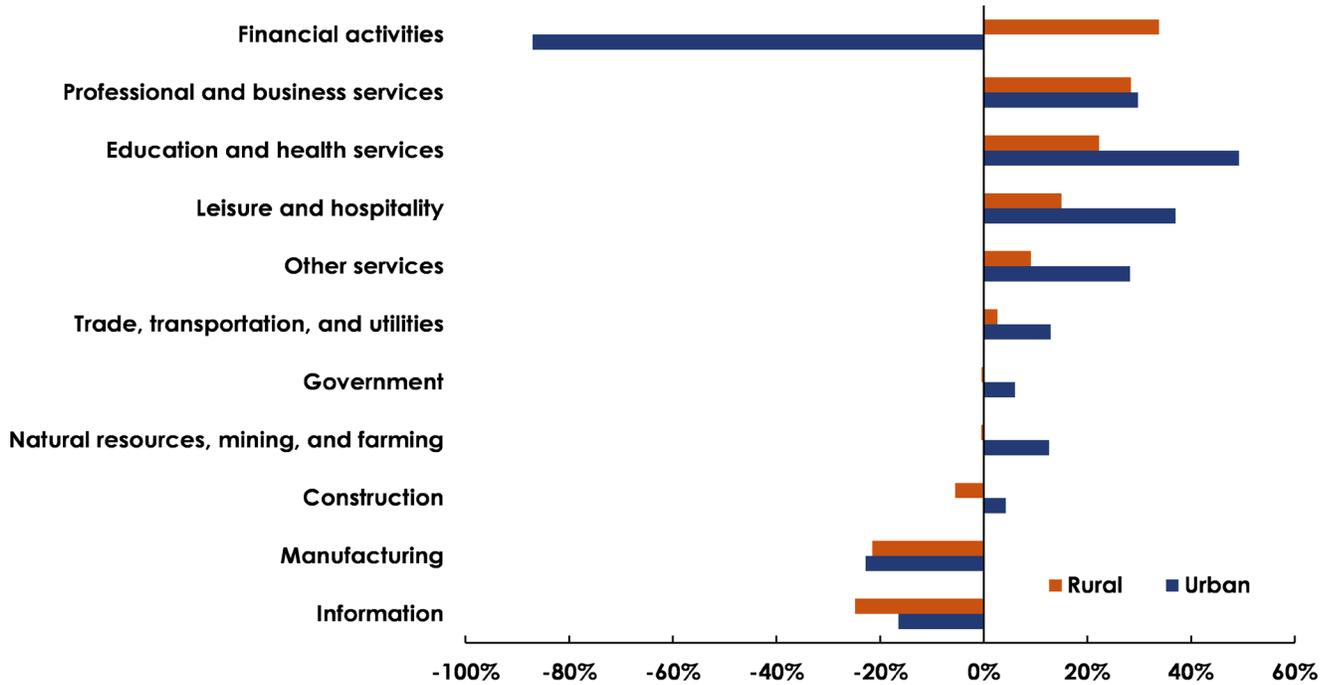
The decline in opportunities in these traditionally rural sectors has necessitated growth in others and the creation of new jobs that did not exist. Today, jobs in education and health, government, trade, transportation, and utilities make up the largest industries in rural America. Jobs in education and health account for a significant portion of the growth over the last decade and a half.

When looking to the future, jobs in education and health services are expected to lead, followed by jobs in construction and professional and business services. These new sectors present novel opportunities for rural America to create jobs and build businesses. While rural economies have historically relied on goods production and resource extraction jobs, the landscape is changing.

Industry Shares in 2016



Industry Growth, 2001-2016



Source: JEC tabulations of Bureau of Economic Analysis data

Rural Jobs are Concentrated in Lower-Growth Industries

| Industry | Job Growth (2016-2026) | Rural-Urban Gap in Industry Share (2016) | Industry Shares' Effect on Jobs (2026) |
|--|------------------------|--|--|
| Education and health services | 19.9% | -4.1% | -193,829 |
| Construction | 12.9% | -0.1% | -4,006 |
| Professional and business services | 10.7% | -9.1% | -233,485 |
| Leisure and hospitality | 8.4% | -2.1% | -42,316 |
| Financial activities | 5.8% | 5.6% | 76,867 |
| Other services | 5.5% | -0.5% | -6,596 |
| Natural resources, mining, and farming | 5.1% | 7.2% | 86,634 |
| Trade, transportation, and utilities | 3.4% | -1.8% | -14,206 |
| Government | 3.3% | 2.4% | 18,588 |
| Information | 1.9% | -1.2% | -5,417 |
| Manufacturing | -6.0% | 3.8% | -54,022 |
| Total | | | -371,787 |

Source: JEC Democratic Staff analysis of Bureau of Economic Analysis (BEA) and Bureau of Labor Statistics (BLS) data

Note: Analysis uses current shares of employment by industry from BEA and employment projections 2016-2026 from BLS. BLS employment includes only wage and salary employment. Urban and rural refer to metro and nonmetro areas. Jobs left on the table refers to the projected difference in job growth if the industry composition in rural areas was that of urban areas.

What's Ahead

The following chapters outline the challenges and opportunities ahead for the rural economy, looking specifically at the areas of infrastructure, housing, health care, education, financial security, public lands and clean energy, and agriculture. They put forth general policy ideas for policymakers to consider to ensure that rural America is a core part of the conversation on these important priorities.

Factors Attracting Businesses & Workers to Rural Communities



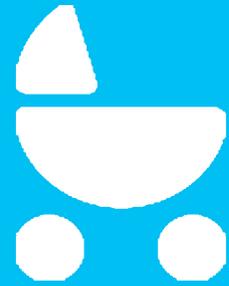
EDUCATION:

High-quality schools to develop a talented workforce & attract families.



INFRASTRUCTURE:

Connection to the rest of the country & world, ensuring that businesses & entrepreneurs can reach wider markets, & consumers can access services.



CHILD CARE:

Affordable child care options to attract & sustain young families & workers.



HOUSING:

Affordable & adequate housing options & amenities that invest in community connections.



HEALTH CARE:

High-quality, affordable health care connected to 21st century medical services, both physically & virtually.



BROADBAND:

High-speed internet & the digital infrastructure to ensure participation in the digital world.

ACHIEVING FAMILY FINANCIAL SECURITY



2

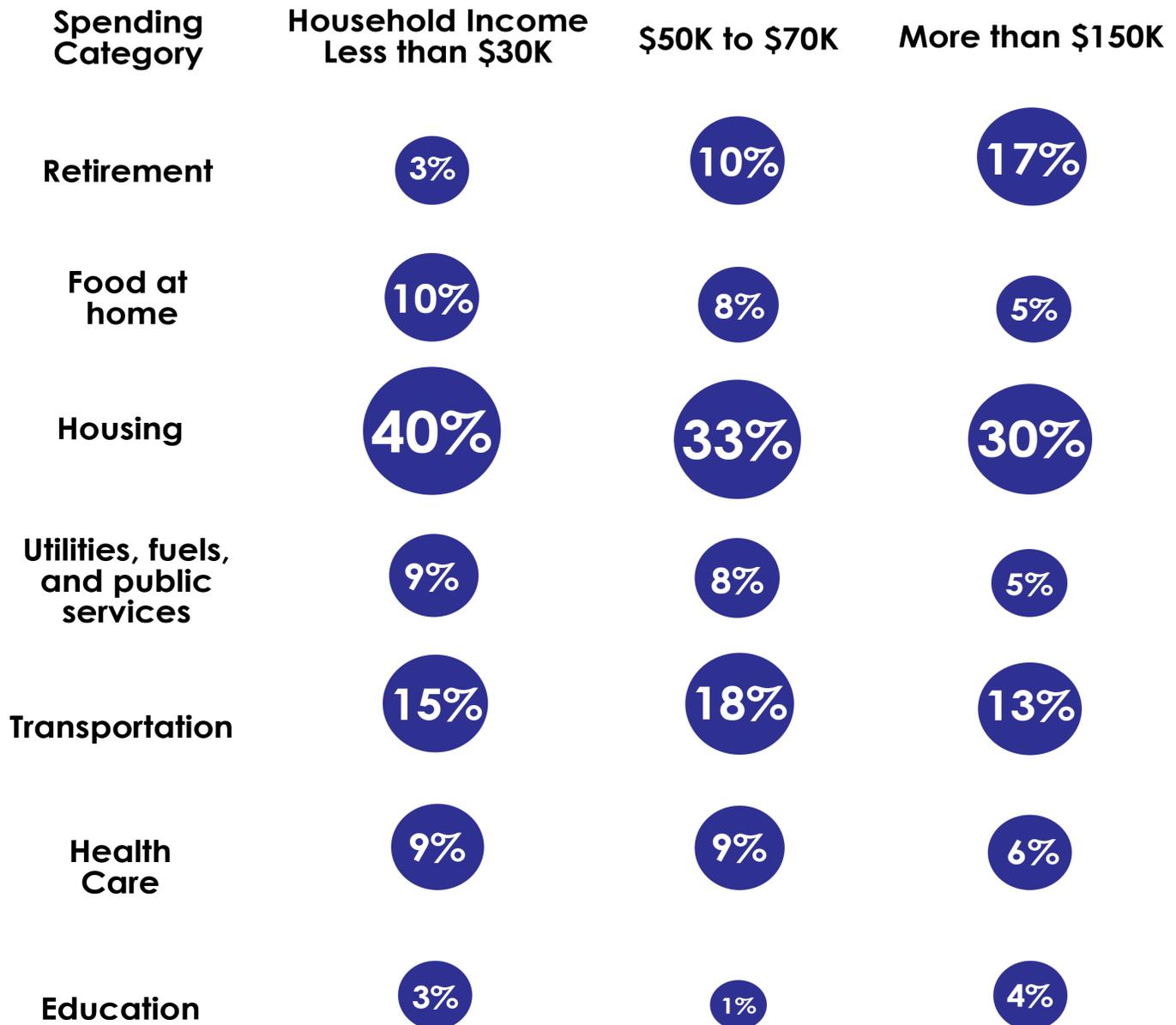


Key Takeaways

- Rural families on average earn 25 percent less than their urban counterparts.
- Rural communities and small businesses continue to have less access to financial services than other parts of the country.
- Stronger policies, including paid family leave and improved retirement solutions, can help strengthen the financial health of rural America.

A Walk Down Pocketbook Lane

The Average Rural American Makes Less than \$60K a Year



Source: 2016 Consumer Expenditure Survey, Bureau of Labor Statistics

Note: Dots are for illustrative purposes and are not drawn to scale.

Retirement includes all Social Security contributions paid by employees; employee contributions to railroad retirement, government retirement, and private pension programs; and retirement programs for the self-employed.

The economic security of rural communities is a vital part of the overall economic strength of our nation. Rural communities have historically been essential drivers of national financial health. Rural residents make meaningful contributions not only in manufacturing and farming, but also in education and health, trade and transportation, and leisure and hospitality.¹ In fact, evidence shows that rural areas provide some of the highest rates of upward economic mobility in the nation.²

Rural America has not, however, fully shared in the post-recession recovery, and many rural families continue to lag behind in key measures of family financial security. With our economy rapidly evolving, rural communities deserve our support and a plan to ensure that they remain thriving economic engines for current and future generations.

Family financial security is not an abstract concept. It means families have the tools and resources they need to meet basic pocketbook expenses, maintain a baseline standard of living, attain economic justice when faced with hardship, and achieve economic mobility in the long run. After examining the current state of rural financial health, this chapter will detail how these opportunities can be best delivered.

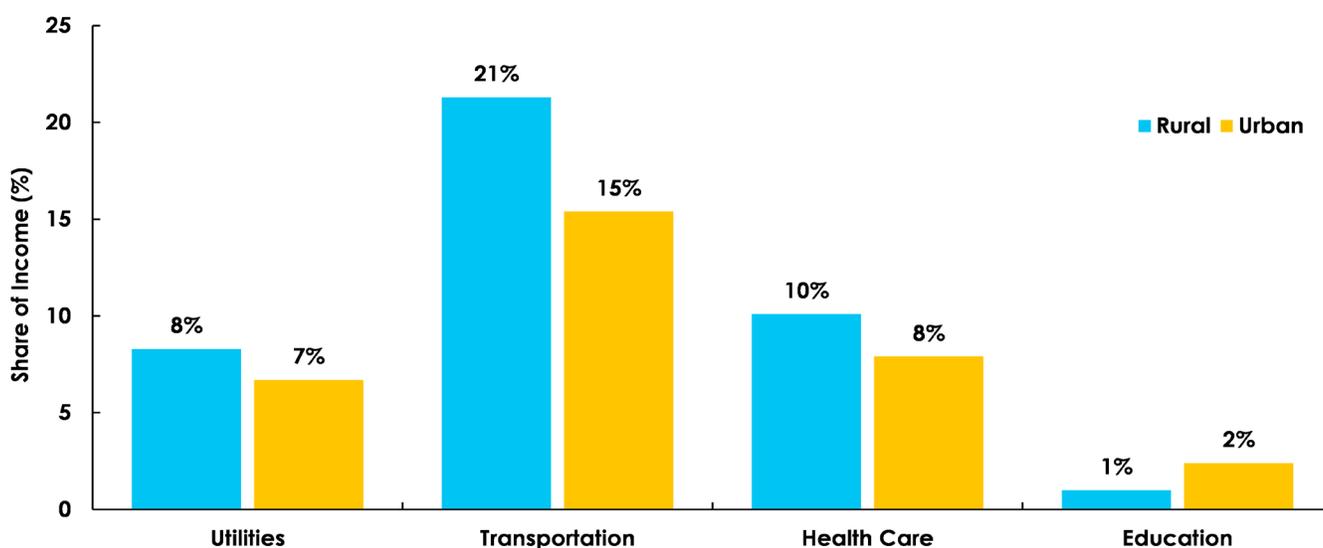
Rural Economic Security at Risk

Rural financial health depends on an array of activities – not just putting food on the table and paying rent – but also having access to retirement savings options, affordable child care, paid family leave, and robust pro-family tax policies.

Addressing financial instability in rural communities is a pressing issue. Almost half of rural families report that they do not have predictable monthly incomes and bills, and more than a quarter report that emergencies make it hard to save most months.³ Rural families also have, on average, less wealth and are less likely to rate their economic condition as good or excellent than their urban peers.⁴ Rural residents rely on public programs like the Supplemental Nutrition Assistance Program (SNAP) to secure basic needs, and often struggle to be connected to federal resources that can help.⁵

From the price at the pump to the rising cost of child care, growing costs make it difficult for working families to achieve financial security. Over the last three decades, as income inequality has worsened to levels not seen since the Great Depression, rural Americans have seen their prospects dim.⁶ Over the last 10 years, rural median income has averaged a staggering 25 percent below the urban median.⁷ While the core consumer price index (CPI), a basket of consumer goods and services including items like education and medical care, has steadily increased since 2010, overall wage growth has remained flat for decades.⁸

Rural Households Spend More on Health Care, Less on Education



Source: 2016 Consumer Expenditure Survey, Bureau of Labor Statistics

Note: Utilities includes utilities, fuels, and public services. Rural defined as all persons living outside a Metropolitan Statistical Area and within an area with a population of less than 2,500 persons.

The growing cost of health care is eating into rural household incomes. Annual health care expenses for rural individuals are 18 percent higher than those for urban residents.⁹ Others estimate a two-person urban household spends 13 percent of their income on health care expenses, compared to 20 percent for those in rural areas.¹⁰ This is in part due to limited services and a lack of access to near and affordable care, along with the growing cost of an aging population in rural communities. The Patient Protection and Affordable Care Act of 2010 (ACA) is helping to address these issues, with nearly 1.7 million rural Americans gaining affordable coverage through the ACA's Medicaid expansion.¹¹

In addition, despite rural households making less than urban households, tax policies continue to leave rural communities behind.¹² Across the nation, wages have failed to offset tax burdens for working families. The recent Republican tax law will only exacerbate this trajectory by hiking taxes on working families within 10 years and failing to adequately strengthen proven programs like the Earned Income Tax Credit (EITC) and Child Tax Credit (CTC).¹³ Republicans missed an opportunity for meaningful tax reform that delivers real and permanent tax relief to rural families and small businesses, while busting the budget for special interests in a way that will make it nearly impossible to invest in rural America at the level needed.

The benefits of tax policies that prioritize families are especially impactful in rural communities, where households with children have seen significant economic hardship over the past decade. From 2003 to 2014, the share of rural children living in poverty has increased by almost four percentage points to nearly 24 percent.¹⁴ If rural families are to thrive and retain opportunities for upward mobility, they need tax policies that boost their financial health and help them support their children.

Community Banks Declining in Rural America

Over the last 20 years, the number of local community banks has continued to decline. Out of 1,980 rural counties, 625 lack a locally owned community bank, approximately 115 are serviced by just one branch, and 35 counties have no bank at all.¹⁵ From 2008 through 2016, 86 new banking deserts—areas where no banks exist within 10 miles—were created in rural communities.¹⁶ This decline in part can be attributed to bank consolidation, the exit of large institutions from rural communities, and changing demographics in rural areas.¹⁷

Whether it's a regular checking account, personal loan, small business loan, or a farm loan, rural Americans need access to financial products. Because community banks support a large share of small business lending—holding 43 percent of all small business loans—their decline leads to large underbanked populations in rural areas.¹⁸ Trends among credit unions, member-owned cooperatives that provide affordable financial services, have led to additional challenges. Over the last five years, the number of credit unions has declined by nearly 20 percent.¹⁹ Though membership levels remain healthy, a declining physical footprint hurts rural communities, where the face-to-face relationship lending credit unions provide is especially important.

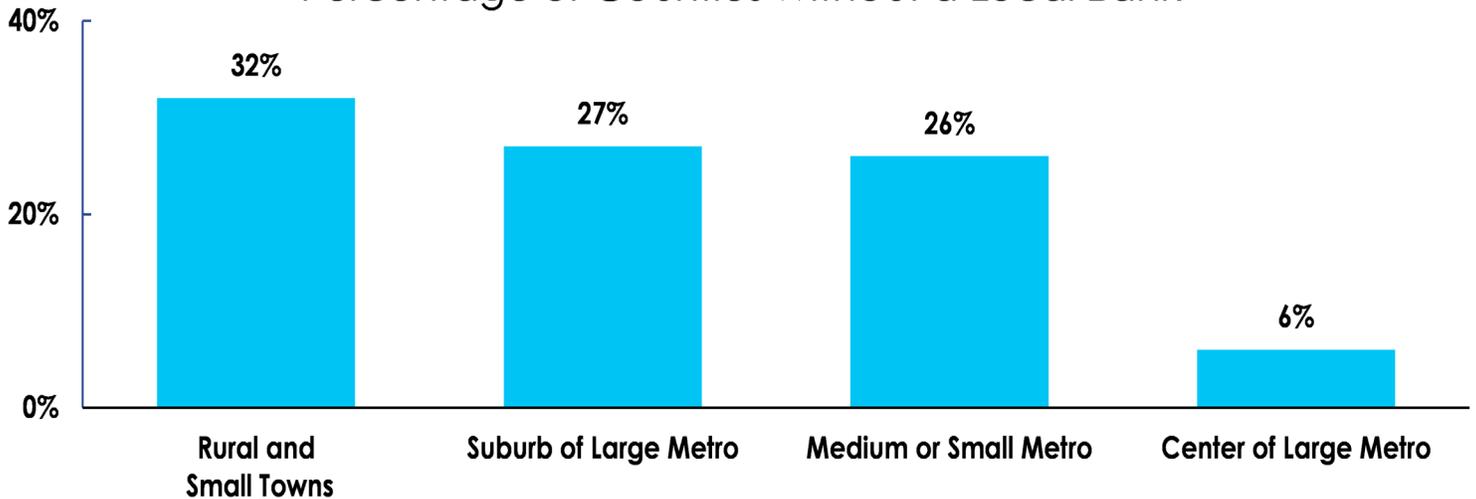
The consolidation and decline of physical bank branches has led to the rise of new institutions providing loans and other financial products. While online services allow consumers to continue to have relationships with financial institutions that no longer have a physical presence in a community, they only work if that community has access to reliable broadband connectivity. This is something that is lacking in many parts of rural America. While products from nontraditional lenders can open up new funding streams to those who can access them, they also create other challenges for rural communities.

From 2008 to 2016, 86 new banking deserts—areas where no banks exist within 10 miles—were created in rural communities.

Products like payday and small-dollar loans, for instance, provide underserved communities with access to liquidity, but also risk creating new cycles of debt that make it nearly impossible for families to establish a firm financial footing. In fact, alternative lenders have historically charged annual interest rates around 400 percent on a single loan, well above industry standards for credit cards or other consumer loans.²⁰ On an average small-dollar loan of \$375, borrowers can easily pay \$520 in fees and be indebted for 5 months out of the year. More than 80 percent of payday loans are rolled over or renewed within 14 days.²¹ The rise of new lenders using predatory practices, coupled with the decline in physical bank branches, puts an additional strain on rural families.

Community Banks Struggle to Serve Rural America

Percentage of Counties Without a Local Bank



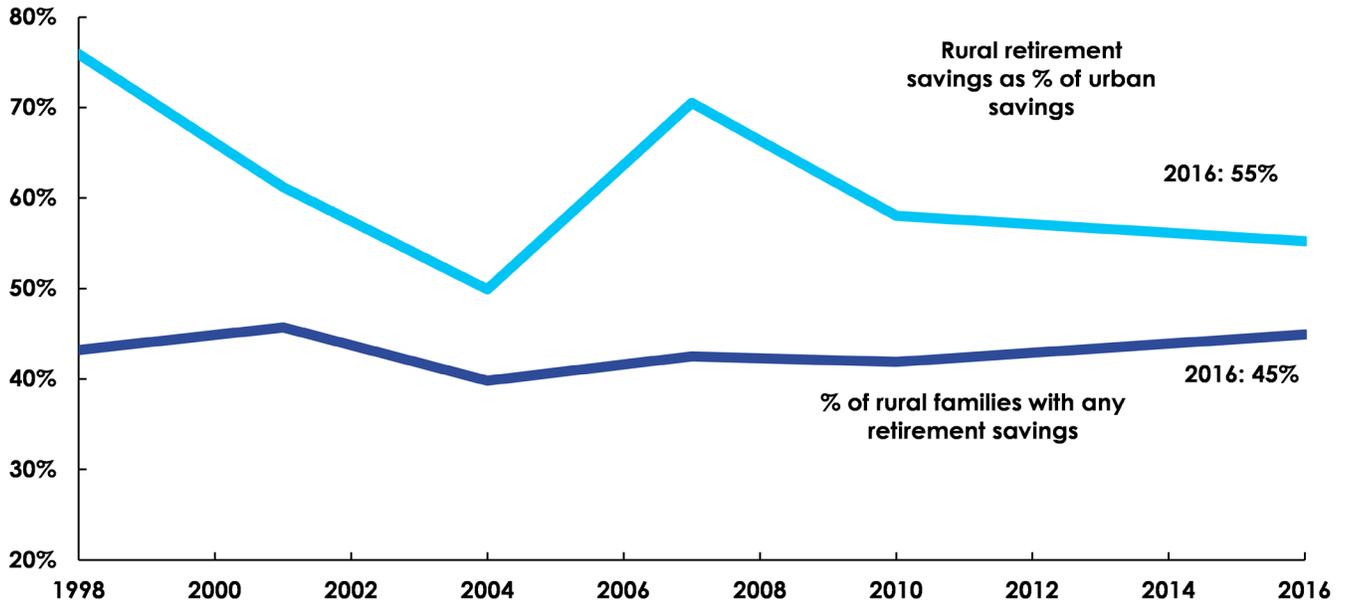
Source: WSJ analysis of Federal Deposit Insurance Corp., Community Banking Initiative, and National Center for Health Statistics Urban-Rural Classification Scheme for Counties data. Data as of 2017.

Rural Retirement Challenges

America's aging population has been well-documented.²² And yet, millions of working Americans are entering retirement without an adequate nest egg.²³ Nearly one-fifth of rural Americans are 65 or older and may already be experiencing financial distress.²⁴ With roughly 55 million Americans lacking retirement plans through their employers, the federal government must do its part to provide retirees with strong, reliable savings options.²⁵

Rural families differ from metro families in several key respects: they trail the average net worth of their urban counterparts by more than \$10,000, are more leveraged (i.e., have more debt as a share of their assets), are less likely to hold a retirement account, and have less in retirement savings.²⁶ The combination of these factors makes rural families more susceptible than their urban peers to financial insecurity after leaving the workforce. Less than half of rural families (45 percent) have any retirement savings and that share hasn't really moved in the past two decades.²⁷ Even for those rural families that do hold retirement accounts, their holdings amount to roughly half (55 percent) of their urban counterparts'.²⁸

Less Than Half of Rural Families Have Retirement Savings

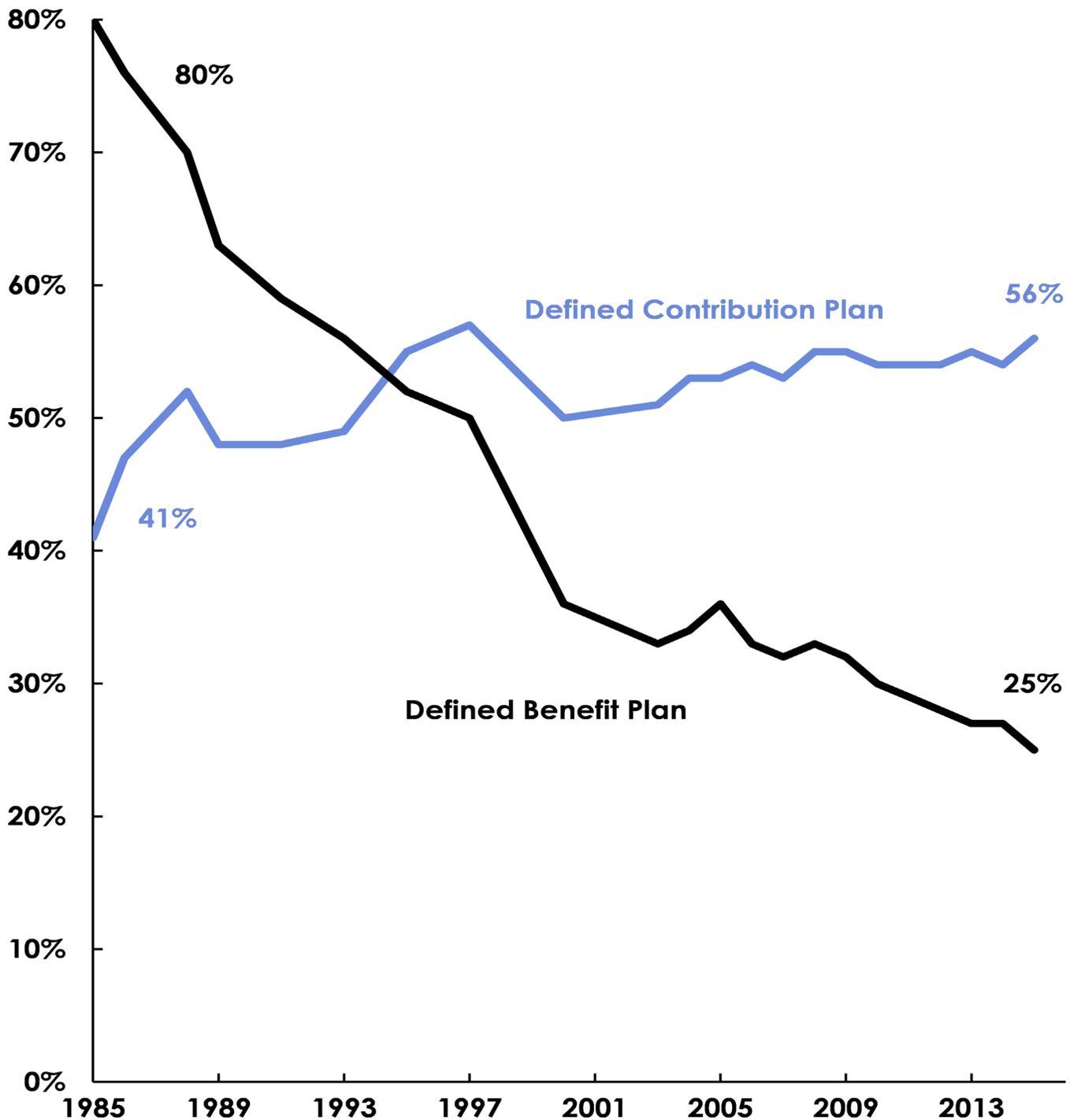


Source: Federal Reserve Survey of Consumer Finances
Note: Rural here defined as non-metro; urban defined as metro.

In addition, across the country there has been a dramatic shift from defined benefit (i.e., pension) plans to defined contribution accounts. This shift further places the burden of retirement onto employees, does not guarantee an individual income for life, and is subject to frequent stock market swings.²⁹

Clouding this picture is the fact that Social Security, which plays a significant role in ensuring income and economic security into old age, is the target of steep budget cuts by Congressional Republicans and the current administration.³⁰ These plans would severely undercut financial security in rural America, where per capita Social Security payments are, on average, larger and comprise a greater percentage of retiree income than in urban areas.³¹

Share of Private-Sector Workers Participating in Retirement Plans



Sources: Employee Benefit Research Institute and the Bureau of Labor Statistics, National Compensation Survey

Notes: Employees at medium and large establishments, 1985 to 2015. "Medium and large establishments" denotes those with 100 or more employees; data are interpolated for the following years: 1987, 1990, 1992, 1994, 1996, 1998, 1999, 2001 and 2002

Rural Residents Depend on Social Security, Average Monthly Payments Total Over \$1,000



Sources: Social Security Administration, December 2016.

Note: Figures represent average per capita benefit across all non-metropolitan counties.

Social Security faces long-term threats to its continued existence, with many Republican efforts to break our government's promise to disabled and senior citizens by cutting benefits.³² Despite the fact that Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI) are supposed to protect our nation's disabled workers and children, Congressional Republicans and the White House are preparing to slash the program in the coming fiscal year.³³ The president's FY2019 budget would cut \$72 billion from disability programs over the next 10 years, jeopardizing millions of American workers, children, and families.³⁴

Republican proposals also cut the Social Security Administration's budget to address budgetary shortfalls. Administrative cuts squeeze the agency's ability to provide necessary services to an aging population. These actions can be disastrous to the millions of rural Americans who rely on the program, undermining their economic security and stability.

Moreover, even state efforts to fill the retirement void left by administration missteps are being frustrated. Last May, President Trump eliminated a Department of Labor rule that would have allowed state governments to develop public-private partnership retirement programs for those without work access to a retirement plan.³⁵ Over 10 million Americans stood to benefit from the rule, and some states, like Oregon and Maryland, have already begun establishing successful auto-IRAs for workers to start saving for retirement.³⁶

Supporting Rural Families

America's families are juggling work and family obligations without family leave policies that help workers contribute to the economy. Paid family leave refers to partially or fully compensated time away from work for specific and generally significant family caregiving needs, such as the arrival of a new child or serious illness of a close family member.³⁷ In 2016, only 14 percent of civilian workers enjoyed access to paid family leave.³⁸ This is because the United States is the only industrialized nation without a national paid leave policy.³⁹ Currently, the Family and Medical Leave Act of 1993 allows workers at a company with 50 or more employees to receive up to 12 weeks of unpaid leave per year. However, few people can afford to go three months without being paid.⁴⁰

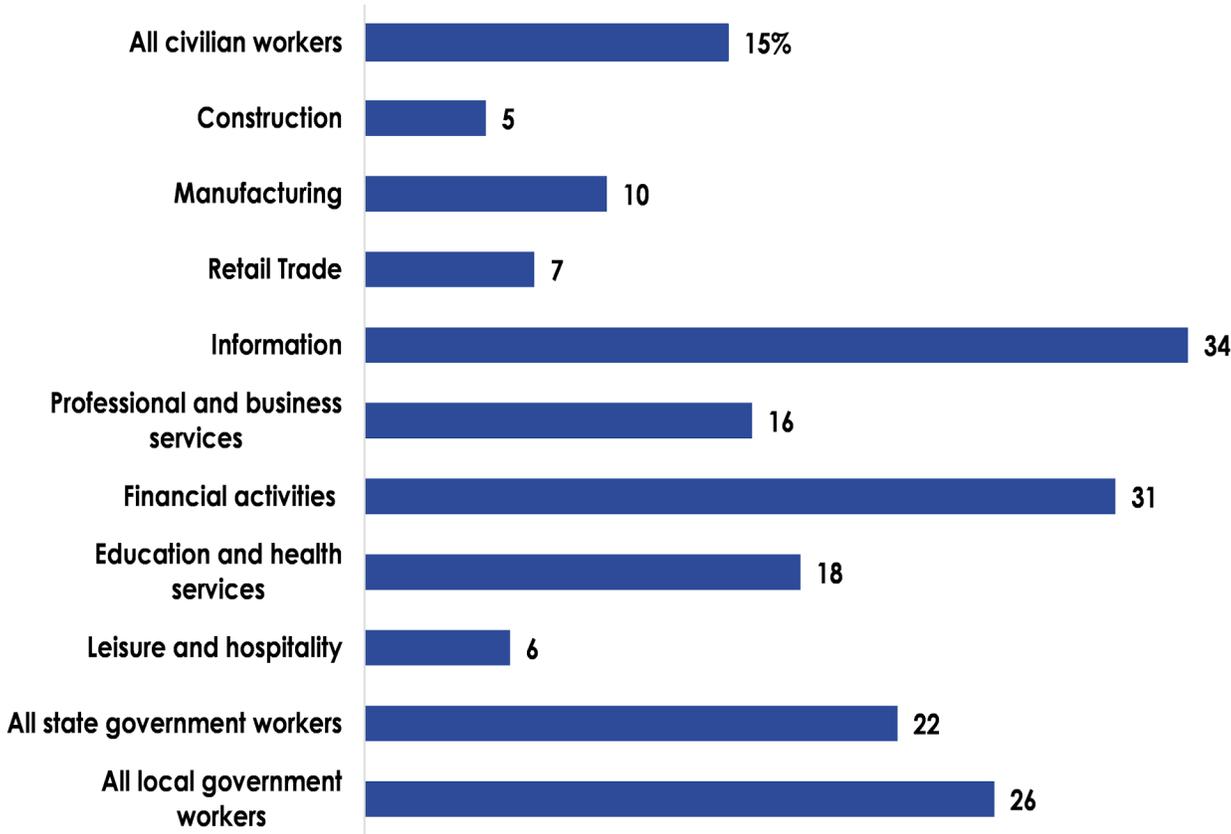
Paid family leave is a win-win for employees and business: workers are able to take care of family members without risking financial ruin, businesses retain workers and improve productivity.

Taking time off to have children or take care of a sick family member can have significant long-term financial consequences, including increased credit card debt, reduced savings, and even bankruptcy for working families. Over 70 percent of workers said they took no or less time off than they needed because they could not afford to lose their income.⁴¹ Recent Republican proposals, which would allow parents to draw down their future Social Security benefits to fund parental leave, would fail to address this issue by forcing families to choose between their retirement security and taking needed time off for children.⁴²

Due to the lack of federal policy, some private companies have taken it upon themselves to offer such benefits. However, the availability of paid family leave varies greatly amongst industries and companies. While nearly a third of financial services employees enjoy access to the benefit, only 5 percent of workers in construction industries have access to paid family leave (see chart below).

Data on paid family leave shows paid leave helps employers, too. Businesses and companies retain and recruit employees at much higher rates when they offer paid family leave.⁴³ Retaining employees saves money, as it usually costs around 20 percent of an employee’s salary to find a qualified replacement.⁴⁴ Paid family leave is currently provided in California, New Jersey, Rhode Island, and New York, and policies will soon be implemented in the District of Columbia.⁴⁵

Percentage of Workers With Paid Family Leave Access, by Industry



Source: 2017 National Compensation Survey, Bureau of Labor Statistics

The lack of robust leave policies is particularly troubling in rural communities where workers tend to work at smaller businesses and in industries that provide fewer family-friendly policies. Only 9 percent of workers in small companies with fewer than 100 employees have access to paid family leave.⁴⁶ Employer-provided paid leave is largely offered to high-income workers, and most workers below the median income do not receive pay while on leave.⁴⁷ Rural Americans are disproportionately impacted by these policies, leaving many with limited options.

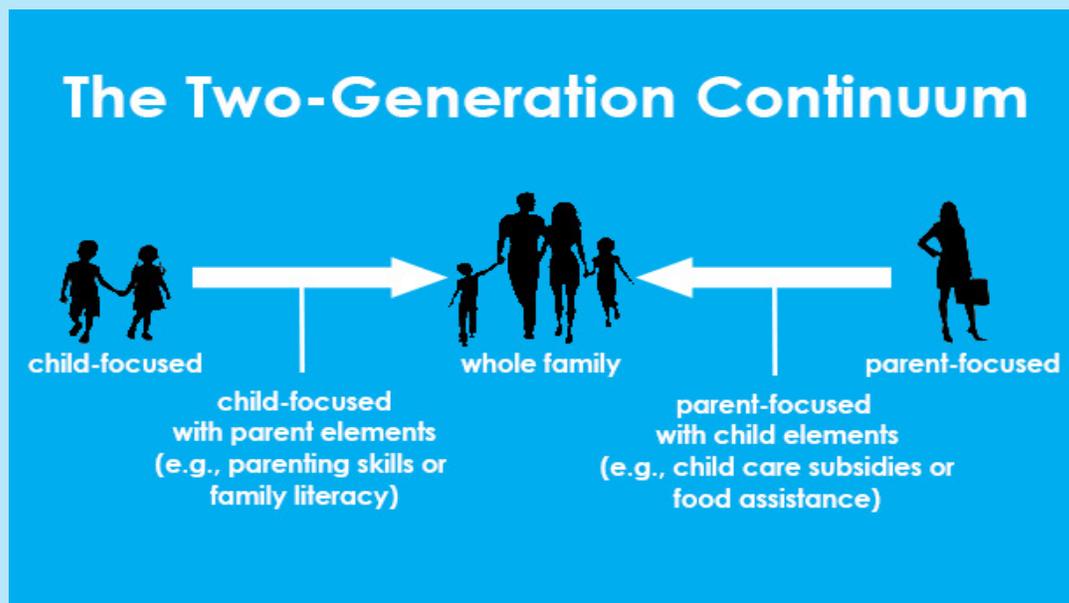
To ensure that employees can return to work with peace of mind, updated family leave policies should be complemented with efforts to expand access to high quality child care. Today's mothers not only spend more time at work than previous generations but also carry significant child care responsibilities. Per week, today's mothers spend a full five hours more on child care than mothers in 1965, while nearly tripling their time investment at work over the same time horizon.⁴⁸ Fathers also have increased the time they spend on child care, spending nearly three times as much time with their children as in 1965.⁴⁹

Rural families in particular face a challenging child care landscape. Many rural communities qualify as child care deserts, indicating that they have little or no access to quality child care.⁵² In addition, for those communities that do have access, rising child care costs are increasingly absorbing a large share of family income. A typical working family must spend over 15 percent of their income on child care for an infant.⁵³

Research suggests that rural households have less access to center-based care than urban households.⁵⁴ Lack of center-based child care has real consequences, with some data showing that rural-urban achievement gaps in reading are partially explained by rural dependence on home-based care. These gaps likely put a dent in the earnings potential and financial security of rural America's next generation of workers.

Holistic Problem Solving: Two-Generation Approach

Child care is a prime area for the implementation of two-generation policy solutions. In rural communities, a two-generation approach would allow social resources to be more efficiently used. In rural communities with limited resources, approaching from a two-generation perspective can mean the difference between success and failure.⁵⁰ Recent legislation in this area has capitalized on the two-generation framework.



The Two-Generation Economic Empowerment Act (S.435) recommends convening federal agencies that administer family-focused programs to strategically align resources. This bill also encourages cities, counties, tribes and other community partners to seam together different funding sources, and promotes public-private partnerships that successfully deliver two-generation solutions.⁵¹

Safeguarding Rural Economic Security

Achieving family financial security in rural America requires a suite of policies that lifts up residents from childhood to retirement. From more accessible retirement options to pro-family tax solutions, new policies can help ensure that rural communities can build and retain wealth and remain a vital part of our nation's economic fabric.

Policy Solutions

- Develop new retirement solutions that empower rural residents to save early and often, while still accommodating emergency expenses.
- Implement pro-family tax policies that can keep families from slipping into poverty and reduce their cost of living.
- Enact paid family leave solutions at the federal level.

Dynamic Retirement Solutions for Rural Families

Retirement solutions should focus on expanding access to retirement accounts through non-employer avenues, strengthening existing retirement options so that they better serve rural communities, and ensuring that retirement vehicles are as portable as possible. In addition, Social Security's long-term viability should be shored up.

Congress should enable states to experiment with their own retirement programs and streamline regulation around such efforts. Legislation like the PROSPERS Act (S. 1035), which offers protection to states that would like to create their own retirement options, helps to achieve this goal.⁵⁵ Moreover, existing retirement options, like 401(k)s, should be strengthened and reformed to reflect the financial realities of working Americans.

Retirement options should also reflect today's economic challenges, which often require workers to switch jobs multiple times in a short period or dip into their savings for emergency expenses. "Sidecar" accounts without harsh withdrawal penalties are one potential solution for workers who need to tap into their retirement savings for emergency purposes.⁵⁶ For employees switching jobs, the federal government should work to curb savings "leakage" by making plans more portable, allowing individuals to seamlessly roll over plans from one institution to another.⁵⁷

Lastly, Congress needs to modernize Social Security, which remains the most reliable source of income for retirees. Reforms should focus on expanding benefits and ensuring long-term viability and security of the program.

Tax Policies Tailored for Rural Communities

Efforts to address rural Americans' financial security must begin long before retirement. The Earned Income Tax Credit (EITC) and the Child Tax Credit already have significant positive impacts on rural families, helping to keep families from slipping into poverty. Congress can help rural communities by expanding these proven programs permanently. Rural areas tend to have lower paying jobs and higher poverty rates, meaning that the impact of the EITC can be larger in these communities.⁵⁸ The EITC kept an estimated 2 percent of the U.S. population from falling into poverty from 2010 to 2014.⁵⁹

Policies That Empower Families and Children

As discussed earlier, the United States lags the rest of the world in paid family leave. Congress should heed calls from both sides of the political spectrum to pass legislation that addresses this important issue. Congress should institute a paid family leave benefit that ensures that working families are able to take time off without going into the red.

Finally, addressing barriers to affordable and quality child care would help put rural families on the right footing. The benefits of high-quality early learning and care are well-documented and include increased future earnings and employment for children, and opportunities for upward mobility for mothers.⁶⁰ These benefits should be available to all American families, not just those who can afford it.



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PREPARING RURAL SCHOOLS FOR SUCCESS



3

Key Takeaways

- While rural students have fewer early childhood education and advanced high school course options, their parents remain highly involved in their schools and home enrichment.
- Even in the face of funding and teacher recruitment challenges, rural districts have found creative solutions to educating their children.
- Getting rural communities connected to broadband internet creates opportunities for innovative learning techniques and better professional development for educators.
- Federal investments can empower rural schools to strengthen their middle-skills and college pathways in order to grow a talented future workforce in STEM and health.

Schools are the foundation of many communities, particularly for small towns and rural areas. Not only are they where children prepare for their futures, they are also important sources of jobs, community gathering points, and places where strong social networks are formed and maintained. The devotion to providing a strong school system is an asset for rural communities across the country.

Yet, like many school districts around the country, rural schools face challenges in preparing students for the 21st century economy. Children in rural areas are less likely to be enrolled in early education programs than their peers. Rural districts often must work with limited funding and resources and have trouble recruiting and retaining teachers. And students have less access to and awareness of postsecondary options than their peers across the country.

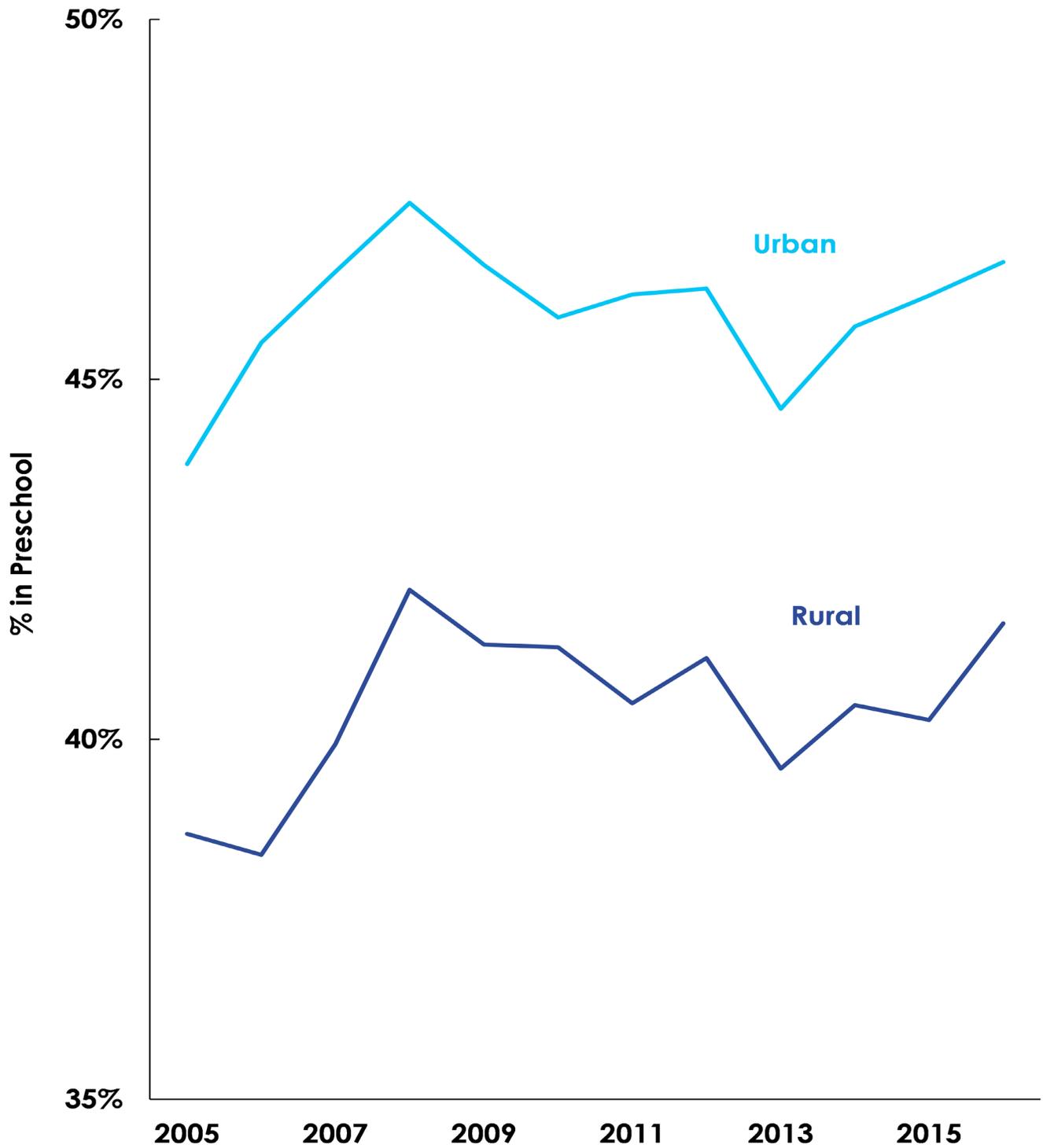
Despite these challenges, rural students graduate high school at a rate higher than the national average.¹ The workforce is changing though, requiring more skills, postsecondary degrees, and certifications than ever before. To best position rural children and communities for success in the future economy, we must provide rural schools and students the support and resources they need.

Rural Children Need More Pre-K

Children who attend high-quality early learning programs perform better in later grades, gain further education, have better interpersonal skills, and earn more as adults.² Unfortunately, rural students are less likely than their peers to participate in an early education program. While rural pre-K attendance has increased in recent years, from 39 percent in 2005 to 42 percent in 2016, it still lags considerably behind urban pre-K enrollment (47 percent).³ Lower early learning attendance has long-lasting effects for school readiness and beyond.⁴

Experiences and interactions that children have through the first decade of life set the stage for later school readiness, making opportunities for positive enrichment during these years important. This is especially critical for children living in poverty, who are at a greater risk for adverse developmental and health outcomes.⁵ In 2016, nearly 27 percent of rural children under the age of five lived in poverty compared to just over 20 percent of urban children.⁶ For these children, high-quality early childhood education is a much-needed boost.

Preschool Enrollment of 3- and 4-Year-Olds



Source: JEC Democratic Staff analysis of the American Community Survey, 2005-2016.

Several barriers to high-quality early learning and care exist in rural communities. Center-based care options, like preschools, Head Start programs, and child care centers, are less available in rural areas, where more children are cared for in home environments.⁷ Children who receive early care and education through center-based providers had better reading, math, and cognitive scores than their peers who had no formal early care and education.⁸

Rural Schools Face Funding Challenges

Funding educational resources and activities can be challenging for rural school districts. Federal funding streams are often inconsistent or insufficient to address students' needs. And rural school systems are often at a disadvantage in providing specialized learning opportunities and resources due to low economies of scale. There are high fixed costs associated with operating a school, such as the building itself and administrative expenses, and rural communities have smaller populations from which to generate tax revenues.

How Are Schools Funded?

Sources of funding for schools vary from state to state, but generally consist of a mix of federal, state, and local revenues. Local property taxes account for just over one-third of school funding, on average, while state revenue makes up just under half. The federal government, largely through Title I funding, accounts for just 8.5 percent of overall spending on public K-12 schools. This federal funding supplements state and local funding to serve low-income students.⁹

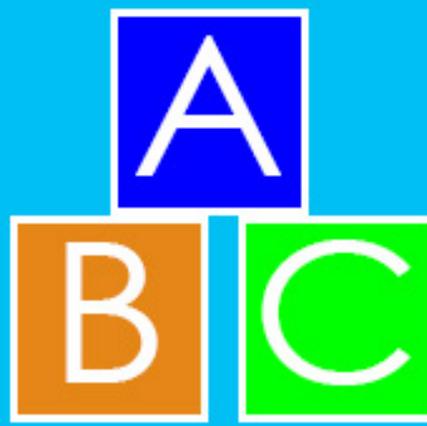
Federal Funding Inconsistent and Insufficient

Small populations and high rates of poverty in some areas create a limited tax base for local revenues. In some rural districts, large tracts of federal lands generate no local property tax, exacerbating these funding issues. The Payments in Lieu of Taxes (PILT) program provides funding to help these districts by compensating them for lost tax revenue. Congressional appropriations for the program have been inconsistent and the Trump administration has proposed major cuts to the program, creating more uncertainty for schools that rely on those funds.¹⁰

The Secure Rural Schools (SRS) program also helps rural schools bridge funding challenges. The program allocates funds to school districts impacted by a decline in revenue from timber harvesting on federal land. However, there have been lapses in authorization in the past, leaving schools in the dark about whether they can count on this program in the future.¹¹

The Bureau of Indian Education (BIE) provides federally funded education to children living on tribal lands. After decades of poor performance and underfunding, the number of Native American students attending BIE schools has declined, and only about 8 percent still do, with most of the remaining students shifting to public schools.¹² The BIE schools that remain face severe funding challenges. Federal funds are often insufficient to cover overhead expenses, causing them to have to use instructional funds to meet their costs. There is also a backlog of hundreds of millions in repairs for BIE schools.¹³

Compared to urban and suburban schools, rural schools face additional barriers to accessing competitive federal grants. They often lack the resources or expertise to generate attractive proposals that compete with larger school districts. While large suburban and urban school districts often have experienced staff dedicated to writing grant proposals, in smaller rural districts, a superintendent, principal, or other administrative staff may be the one filling out the application while still performing their other duties. As a result, rural schools miss out on important sources of funding for teacher development, better parent engagement, or implementation of innovative techniques to promote learning.¹⁴

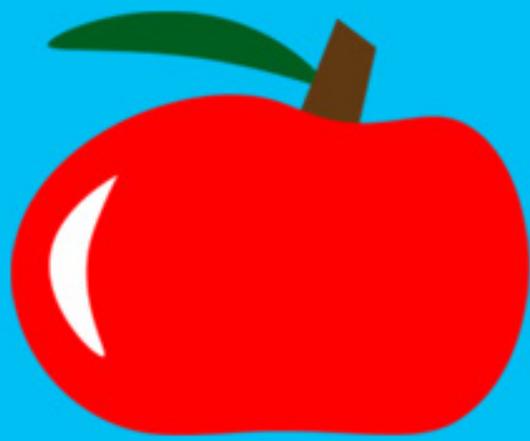


Rural pre-K attendance is only 42% compared to an enrollment rate of 47% in urban pre-K.

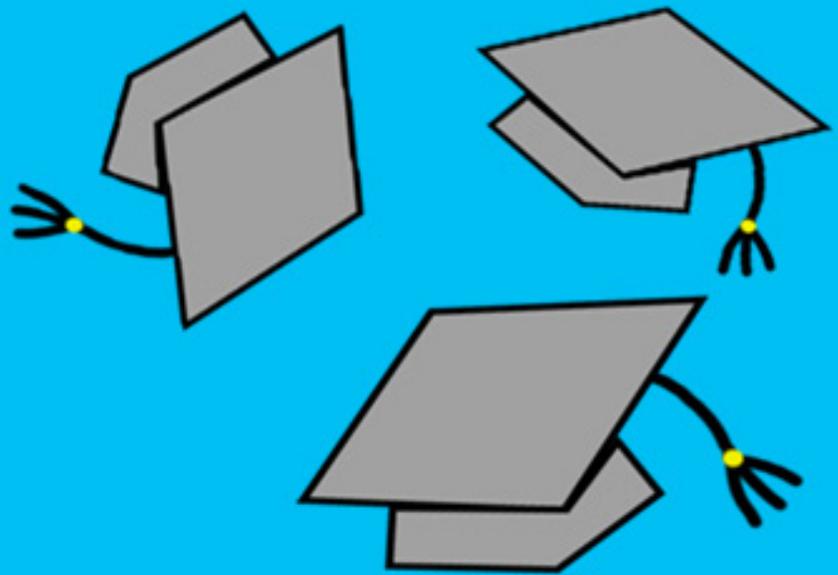


77% of the over 2,000 schools that lack fiber internet infrastructure are in rural areas & small towns.





Rural teachers earn 20% less than their suburban counterparts on average.



Less than 30% of rural young adults are enrolled in a four-year college.

Funding Challenges Present Barriers to Specialized Learning and Opportunities

Given the low economies of scale, it can also be financially prohibitive for schools to use funding on resources that are important but only impact a limited number of students. This can hinder their ability to provide specialized teachers and counselors, like special education and English Language Learner (ELL) teachers, elective coursework in specialized fields, or innovative technological resources. In the latest year with data available, 19 percent of rural schools found it very difficult or impossible to fill vacant special education positions and 30 percent found it very difficult or impossible to fill vacant ELL positions.¹⁵

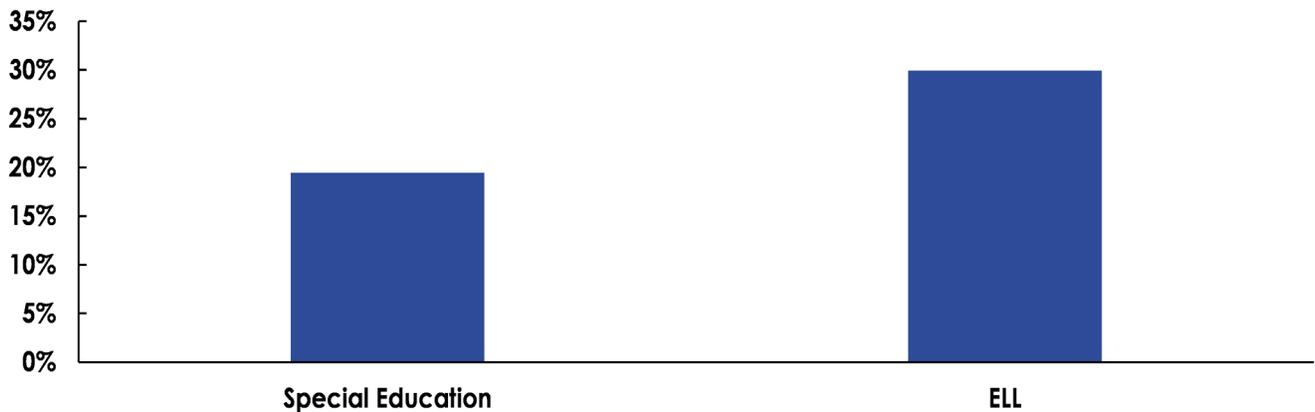
These problems are more pronounced on tribal lands, where schools often serve disproportionately high numbers of students below the poverty line, students with disabilities, and ELL students.¹⁶ For rural schools with substantial American Indian and Alaska Native student populations, nearly half found it very difficult or impossible to fill vacant special education positions.¹⁷

An inability to hire ELL specialists is likely hindering more rural students than ever before, as rural areas are becoming more diverse. The share of nonwhite rural students increased by 5.3 percentage points from 2003 to 2013, driven in part by an increase in Hispanic students.¹⁸ If rural schools do not have the resources to keep up with the changing profile of their student body, then many ELL students will not receive the education that they need to thrive.¹⁹

Teacher Recruitment and Retention is Particularly Challenging

Teachers have one of the greatest impacts on a child's education. Despite this importance, schools across the country are experiencing issues with teacher shortages and turnover. Teacher attrition is growing; the number of teachers leaving their job or switching schools in a given year rose 41 percent nationwide from the 1988-89 to 2008-09 school years.²⁰ Over 40 percent of new teachers leave their position within five years, whether to a different school or from the profession altogether.²¹

% of Rural Schools With Difficult or Impossible to Fill Vacancy in Specialized Area



Source: JEC Democratic Staff analysis based upon 2011-12 data from the National Center on Education Statistics (NCES), Schools and Staffing Survey

Note: Percentage is out of schools that reported a vacancy that year. Rural is defined using the NCES definition, which uses an expanded version of the U.S. Census Bureau definition.

The problem is not evenly distributed, however, as 45 percent of all teacher turnover occurred in just 25 percent of public schools. Attrition is particularly severe in high-need, high-poverty schools and in both urban and rural schools over suburban ones.²²

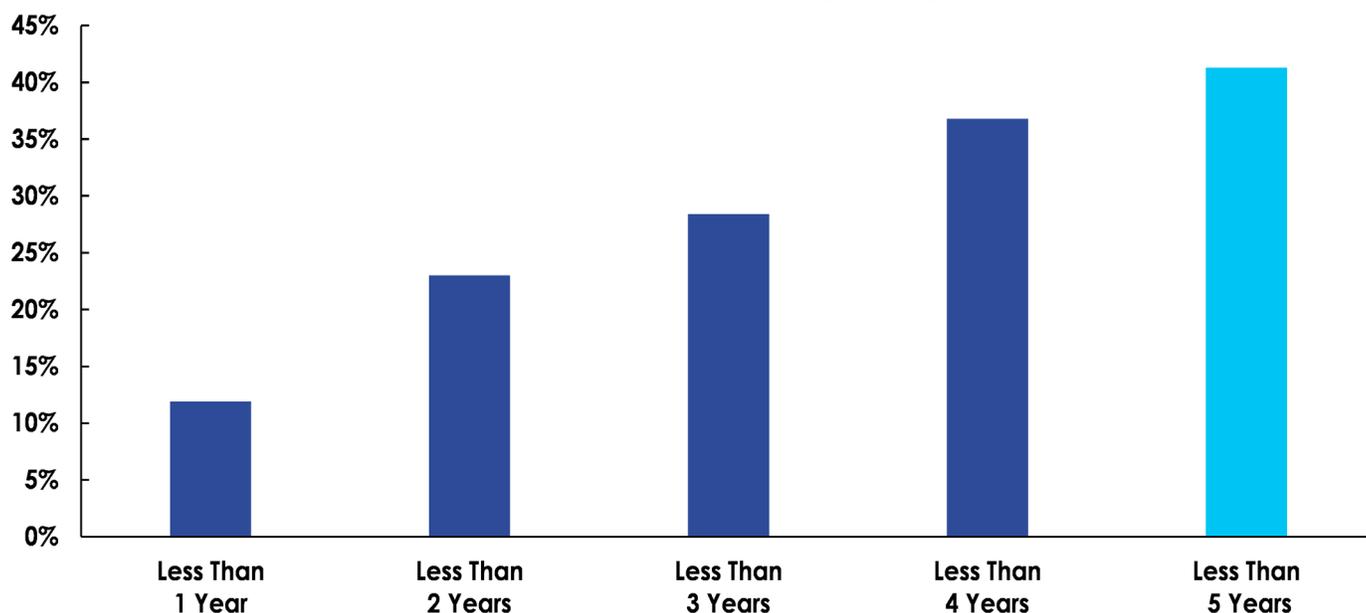
Some of the main factors that influence whether teachers stay or leave are more pronounced in rural America:

Experience and training: Rural, high-poverty schools tend to have greater numbers of new teachers and retain fewer of their new teachers.²³ Professional isolation that prevents collaborative development and a lack of access to training opportunities may also be factors, especially for specialized, high-shortage fields.²⁴

Compensation: By mid-career, teachers overall earn 30 percent less than people with college degrees from other fields, and rural teachers earn 20 percent less than their suburban counterparts on average.²⁵

Community resources: The amenities and services in a community can also influence teachers' choices. Communities with greater access to shopping, better socioeconomic health, and lower rents have an easier time keeping their teachers.²⁶ This may create bias against working in more remote and less-populated areas.

Cumulative Attrition Rate of Beginning Teachers



Source: Perda 2013

Note: Attrition rate includes teachers who left a teaching job for at least 3 months from 1993 to 2003.

Certain fields have more severe shortages. For example, similar to many districts across the country, rural America experiences particular difficulties filling vacancies for math and science teachers, ELL teachers, and special education teachers.²⁷ Rural school districts struggle to locate high-quality specialized educators who have training to work with these populations. As a result, these students often lag even further behind their peers, and states struggle to meet the needs of these students.

Rural Students Face Barriers to College

Decisions about which colleges to apply to, what major to select, and how to pay attendance costs are complex undertakings for anyone, let alone a teenager. Ideally, students have a support system that helps them navigate the process and make the decisions that are best for them. Unfortunately, many rural students are more likely to be first-generation college attendees and rural schools are less likely to have college counselors, making these decisions even more of a leap for these young Americans.³¹

Rural students often have less access to higher-level courses than their non-rural peers. A full 27 percent of rural high-school seniors do not have access to Advanced Placement classes (compared to just 8 and 5 percent of urban and suburban seniors).³² This can put rural students behind in preparing for the rigors of college.

Proximity to colleges also likely influences rural students' decision-making process. More than half of students at public four-year colleges attend a school within an hour's driving distance of their home.³³ Further, research has shown that opening up a new school increases college attendance in local communities, while having less of an impact on students in other communities. This suggests that having a school in close proximity affects whether or not students attend college.³⁴ Unfortunately, many students in geographically isolated rural areas do not have colleges nearby.

STEM Teachers in Rural America

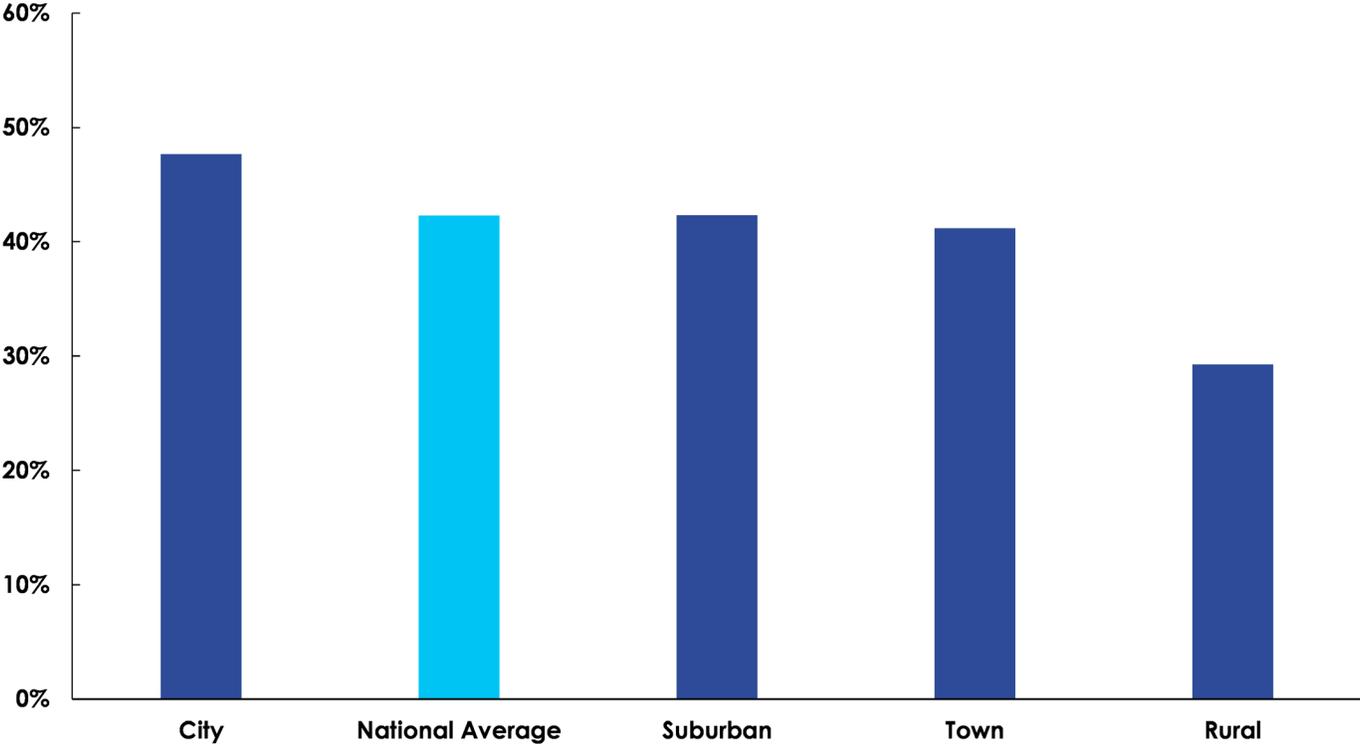
Science, Technology, Engineering, and Mathematics (STEM) fields present an opportunity for Americans and the broader economy. STEM jobs pay more— \$14,000 more than other jobs on average—and support industries that drive productivity gains. The STEM workforce is growing as well, projected to add another 2.5 million jobs by 2026.²⁸

Yet, many rural students are at a disadvantage in pursuing these opportunities due to a lack of teachers with STEM degrees in their schools. Rural classes are more likely than suburban classes to be taught by teachers without the appropriate background in the subject of their class. STEM classes are some of the most likely to be taught by teachers without expertise in the subject.²⁹

The STEM Master Teacher Corps, established in the Every Student Succeeds Act of 2015, provides grants for rural areas to help them create pipelines for high quality STEM programs. Schools would be able to establish programs where top educators could lead professional development for their colleagues. While the program has been authorized, it has yet to be funded. Funding this important program would help build models that school districts across the country could replicate.³⁰

All of these factors combine to create an environment where rural students have fewer resources to help them prepare for the postsecondary and career decision-making process than their peers in other areas. This results in fewer rural students enrolling in college after graduating high school.³⁵ For high-performing, low-income students in rural areas, research has shown that many do not apply to selective colleges where they could not only get in, but likely would receive generous aid packages.³⁶

College Enrollment Among 18- to 24-Year Olds



Source: National Center for Education Statistics
Note: Percentage of persons ages 18-24 enrolled in colleges or universities in 2015. Rural is defined using the NCES definition, which uses an expanded version of the U.S. Census Bureau definition.

Minority Serving Institutions Help Rural Students Shine

To ensure better access to higher education for all students, communities across the country established colleges and universities dedicated to educating students of color. Minority Serving Institutions (MSIs), such as Historically Black Colleges and Universities (HBCUs) and Tribal Colleges and Universities (TCUs), are vital to rural areas. These institutions improve educational attainment across rural communities. They also boost the nation's economy as a whole by generating high-quality workers and small business innovators who create more jobs in addition to the workforce employed by the institutions themselves.

Historically Black Colleges and Universities: Located predominantly in the southeastern United States, there are currently 101 accredited HBCUs. Many of these schools serve surrounding rural communities and small towns. HBCUs generated nearly \$15 billion in economic activity and created more than 134,000 jobs in 2014.³⁷

Tribal Colleges and Universities: Established by tribal governments, there are 38 TCUs across more than 75 campuses.³⁸ In 2014, TCU graduates contributed more than \$2 billion in income as well as adding nearly 30,000 jobs to the nation's economy.³⁹

Limited Access to High-Quality Middle-Skill Pathways

Traditional four-year colleges are not the only route to a successful career in today's economy. Middle-skills pathways—those that lead to a postsecondary certification or degree that is typically completed in a shorter time frame than a bachelor's degree—can lead to promising careers in high-growth industries. These jobs are particularly important to rural America, where middle-skills jobs employ half of all workers.⁴⁰

Examples of Prominent Middle-Skills Occupations

| Occupation | Jobs, 2016 | Projected Job growth, 2016-2026 | Average Annual Wage, 2017 | Required Education | Required Training |
|---|------------|---------------------------------|---------------------------|-----------------------------------|-----------------------------------|
| Carpenters | 1,025,600 | 8% | \$45,170 | High school diploma or equivalent | Apprenticeship |
| Automotive Service Technicians and Mechanics | 749,900 | 6% | \$39,550 | Postsecondary nondegree award | Short-term on-the-job training |
| Electricians | 666,900 | 9% | \$54,110 | High school diploma or equivalent | Apprenticeship |
| Computer Network Support Specialists | 198,800 | 8% | \$62,340 | Associate Degree | None |
| Radiation Therapists | 19,100 | 13% | \$80,570 | Associate Degree | None |
| Legal Assistants and Paralegals | 285,600 | 15% | \$50,410 | Associate Degree | None |
| Police Officers and Sheriffs | 684,200 | 7% | \$61,050 | High school diploma or equivalent | Moderate-term on-the-job training |
| Civil Engineering Technicians | 74,500 | 9% | \$51,620 | Associate Degree | None |
| Licensed Practical and Licensed Vocational Nurses | 724,500 | 12% | \$45,030 | Postsecondary nondegree award | None |

Source: BLS 2016-2026 Employment Projections

Note: JEC democratic staff calculations based on data from the BLS 2016-2026 Employment Projections and Education and Training Requirements. Middle skills occupations are defined as occupations that require an associate degree; postsecondary non-degree award; some college, no degree; or a high school degree and one of the following: apprenticeship, long-term on-the-job training, moderate on-the-job training, or work experience.

Preparing rural Americans for the workforce will require promoting middle-skills pathways in rural communities and specifically in sectors projected to grow, like health care and technology. Already, rural hospitals are having trouble filling skilled positions, a problem that will worsen as the population ages and demand for health care continues to increase.⁴¹

Establishing middle-skills programs in rural America is challenging, though. Economies of scale can make it difficult to start programs in specialized areas. In some communities, there are no nearby training providers or community colleges with the expertise or resources to operate programs. Some also lack a sufficient number of employers with the capacity and interest to engage with education and training providers in establishing middle-skills training partnerships. This can inhibit students' ability to connect with high-quality, middle-skills pathways.⁴²

The Digital Divide Limits Educational Opportunities

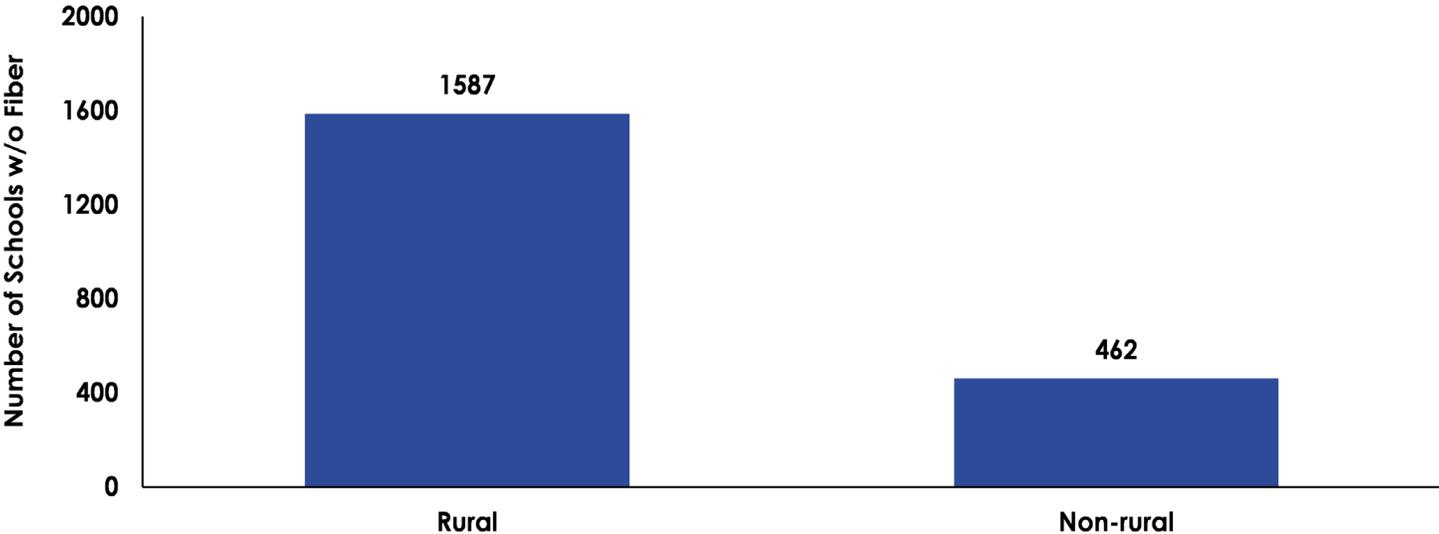
High-speed broadband has revolutionized many areas of life for Americans, particularly in education. It opens up professional development opportunities for teachers and administrators. Students are able to connect with resources from across the globe. And children and adults are able to access online trainings, courses, and degree programs. Unfortunately, many rural schools and students still lack access to high-speed broadband.

The E-rate program, run by the Federal Communications Commission (FCC), subsidizes internet services to eligible schools and libraries. Since the program's modernization in 2014, it has made tremendous progress in connecting schools to fiber internet connections. But more than 2,000 schools still lack fiber connections, 77 percent of which are located in rural areas and small towns.⁴³ And tribal lands often have challenges accessing these resources, due to a lack of awareness of these funds and eligibility criteria that eliminate many institutions on tribal lands.⁴⁴ As long as these gaps remain, students and teachers at those schools will be missing valuable opportunities.

Students in rural America are also less likely to have access to high-speed internet in their homes. Of the 24 million people that still lack access to high-speed internet, 19 million live in rural areas. Of the nearly 4 million people living on tribal lands, 1.4 million lack access.⁴⁵ For students in homes without broadband, completing homework assignments and accessing cutting-edge educational resources can be challenging.

This digital divide also limits students' ability to pursue online degrees and certifications after high school. While online programs have mixed evidence thus far, they hold promise in providing educational opportunities to those without access to traditional postsecondary programs.⁴⁶ Rural students cannot take advantage of these resources if they lack access to internet connections that allow them to download course materials, stream videos, and interface with teachers and classmates, though.

Many Rural Schools Still Lack Fiber Internet



Source: Education Superhighway; Rural is defined using the NCES definition, which uses an expanded version of the U.S. Census Bureau definition. In this case, rural includes small towns.

Rural Communities Have Unique Advantages in Education

Despite some of the challenges that rural areas face, these communities also possess characteristics that make them ideal for academic success. People in rural communities tend to be closely connected and interact with each other frequently. This includes parents who tend to be heavily involved in their children's schools.⁴⁷ Smaller school districts and student bodies mean smaller class sizes, which results in more individual interaction between the teacher and each student.⁴⁸

Strong community ties build relationships among teachers, students, and parents, allowing teachers to best serve a student with knowledge of their life outside school. It can also present opportunities to bring community members into the classroom to enrich learning.⁴⁹ And some statistics point to rural parents stepping in to fill voids that an absence of formal early education services may present.⁵⁰

Stakeholders Working Together Can Drive Educational Improvement

McDowell County in West Virginia is one of the poorest counties in the United States. Since the closure of a major coal mine in the 1960s, the local economy has stagnated and many residents have left the county in pursuit of better opportunities—the population today is roughly one-sixth of what it was in 1965.⁵¹

Led by the American Federation of Teachers (AFT), a consortium of nonprofits, government agencies, and local leaders have joined forces to use education as a catalyst for revitalizing the community and improving outcomes for residents by launching teacher recruitment, mentoring, college counseling, and other evidence-based programs.⁵² Since the inception of the Reconnecting McDowell program, the county's dropout rate has been cut in half, graduation rates have increased, and more students are taking college placement exams.⁵³

Setting Rural Students Up for Success in the Workforce

Ensuring that every student has the opportunity to succeed in the modern economy starts with education. To help rural students maximize their educational potential, Congress should consider several approaches.

Policy Solutions

- Enhance school readiness by increasing early childhood education opportunities.
- Streamline funding and resource access for rural school districts.
- Expand college guidance services and middle-skills pathways.
- Invest in broadband infrastructure for all rural communities to connect students, schools, and teachers to the skills needed in the 21st century economy.
- Expand loan forgiveness, scholarship, and professional development programs for teachers to encourage a new generation of talented teachers to work in rural America.
- Ensure that schools on tribal lands are not left behind in access to funding and resources.

Improve Access to Early Childhood Education

Expanding access to early learning and care requires a holistic plan to make it affordable, easily accessible, high-quality, and tailored to meet the needs of modern working families.⁵⁴ The Child Care for Working Families Act (S. 1806) would incentivize states to build high-quality early education programs for all low- and moderate-income families.⁵⁵

An emphasis on programs that cover the entirety of parents' working hours and serve the whole family, such as those supported by the Two-Generation Economic Empowerment Act (S. 435), would help both parents and children succeed together.⁵⁶

Connect Rural Schools with the Resources They Need to Help Children Succeed

Opportunities exist for schools to try new approaches to learning or access additional funding for new resources, professional development, or innovative learning techniques. Unfortunately, rural schools and districts often do not have capacity to pursue these resources. To that end, when establishing new competitive grant formulas, Congress should give special consideration to rural districts. Often, this means specific set-asides for rural schools or providing technical assistance in the application process.

The Perkins Career and Technical Education (CTE) Act of 2006 is an example of legislation that takes rural areas into consideration. The law addresses the challenges of rural funding by creating an option for states to use up to 10 percent of their Perkins CTE dollars to support rural schools through a reserve fund. In 2017, 27 states used that reserve to fund rural areas.⁵⁷

Providing stability and certainty for the Payments in Lieu of Taxes and Secure Rural Schools programs would also allow rural school districts that rely on them to plan long term, and will give them access to the resources they need to provide the best education to students possible.

Get More Rural Students on the Postsecondary Track

To help rural students navigate postsecondary application and decision-making, Congress should provide resources for college and career guidance services in rural communities. Counselors help students navigate complex decision and application processes. Sending out personalized information packets also has proven to be effective in guiding high school students' application behaviors in the past.⁵⁸

Expanding access to middle-skills pipelines, like apprenticeships, should be a priority as well. High-growth fields, like computer science and information technology, present opportunities to grow apprenticeship programs.

Expand Access to High-Speed Internet at School and at Home

High-speed internet connects rural schools with professional development opportunities for teachers and collaborative learning environments for students. Broadband in homes and schools (discussed more in the infrastructure chapter of this report) can also help connect individuals to middle-skill certification opportunities.

Senate Democrats' Jobs and Infrastructure Plan for America's Workers would invest in connecting 100 percent of rural communities to high-speed broadband, providing students and teachers with the internet they need to succeed in the 21st century economy.⁵⁹

Recruit and Retain Talented Teachers

Congress should take action to improve recruitment and retention of teachers through multiple routes. Expanding financial incentives, such as loan forgiveness and service scholarship programs, to help compensate teachers who agree to serve in high-need schools and fields would encourage more new teachers to move to the schools that need them. Enhancing professional development would better prepare teachers for the challenges in the classroom, improve teacher retention, and help lessen the impact of teacher shortages. And helping communities develop "Grow Your Own" programs to train rural residents to teach in their own communities would attract new people to the profession.

Improve Supports for Native American Education

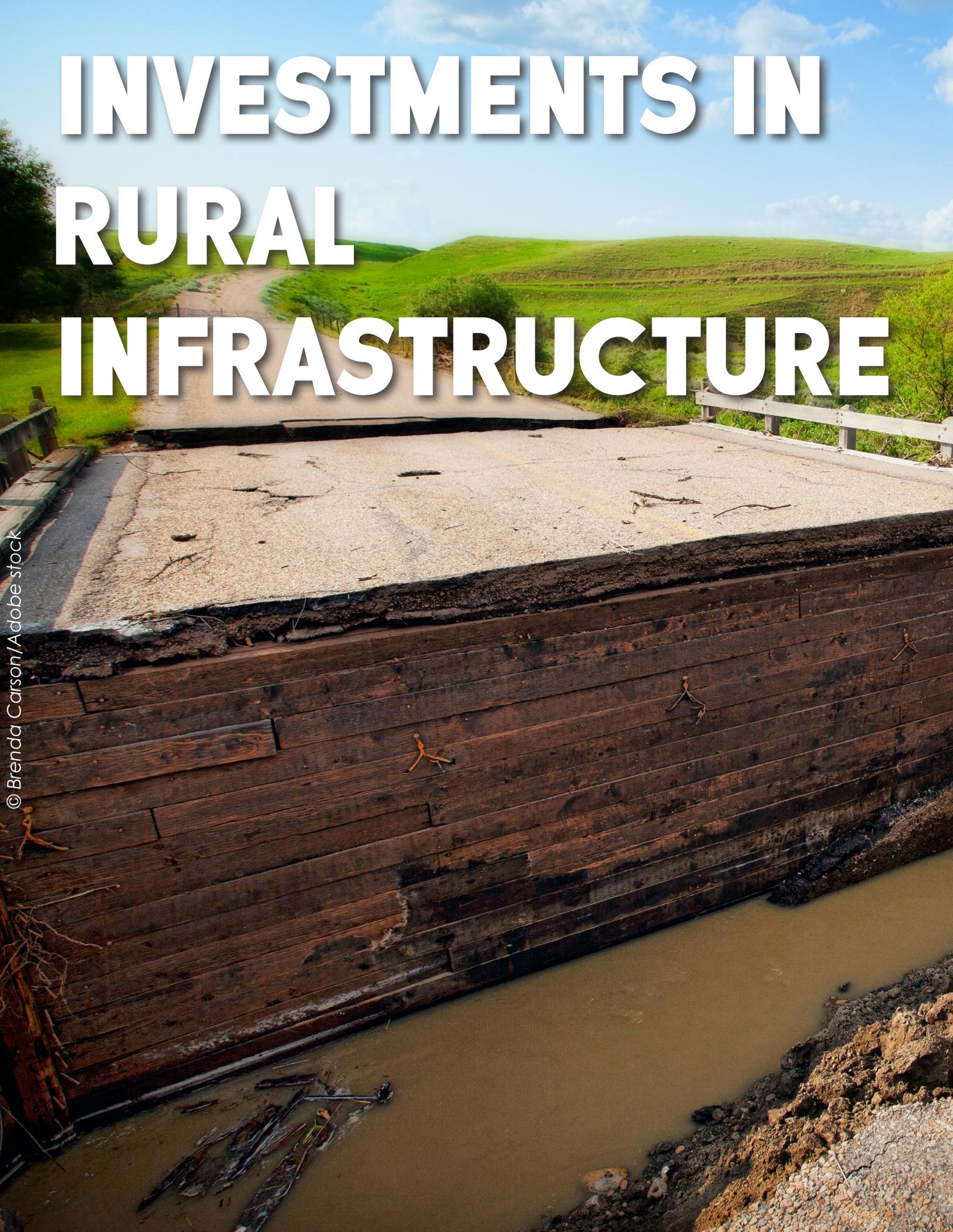
Tribal schools need adequate support to ensure that their students are receiving the best education possible. Past legislation has sought to establish a competitive grant fund to improve educational outcomes on tribal lands, help recruit teachers to these schools, streamline oversight, and provide resources for children to learn in both their native languages and improve upon their English skills.⁶⁰ The Tribal Connect Act of 2017 (S.2205) would improve access to broadband, supporting tribal communities by revamping E-rate program eligibility criteria, and improving technical assistance to potentially eligible tribal institutions and communities.⁶¹



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INVESTMENTS IN RURAL INFRASTRUCTURE

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Key Takeaways

- Underinvestment in infrastructure has harmed rural communities with small populations and limited tax bases.
- Federal infrastructure investment would create good-paying jobs and increase economic activity.
- Rural communities need a capital infusion to speed broadband deployment.
- An infrastructure financing authority can help state and local governments fund rural infrastructure projects.

Rural communities pay an especially high price for the nation's failing infrastructure. Our crumbling infrastructure harms families, small and large businesses, and ultimately weakens our economy. Infrastructure connects rural America with the rest of the country and ensures that rural residents are able to benefit from economic and social opportunities in more urban areas. For farmers and others involved in the growing and processing of food, infrastructure enables them to sell their products and reach markets around the world.

Rural communities, including tribal communities, do not enjoy the economies of scale that allow for efficient construction and maintenance of infrastructure. Sparsely populated areas span great distances and have lower income levels than their more metropolitan counterparts. At the same time, rural residents rely more on their transportation networks than their urban peers, since they typically have to travel farther to access education, health care, and job opportunities.

Targeted resources are needed to improve rural water systems, connect rural communities to high-speed internet, and upgrade roads, bridges, locks and dams. While new federal investments are vital, so too are new financial entities that can boost investments in rural areas and steer resources to projects with significant public benefits. In addition to underpinning economic development, modern infrastructure is critical to fostering vibrant communities by helping them retain residents and attract young people.

Meeting Infrastructure Needs of Rural Communities

In the past two decades, increases in energy extraction in rural areas have placed new strains on infrastructure. Between 2000 and 2016, U.S. production of liquid fuels, including crude oil and natural gas, has increased 46 percent. The production of renewable energy, including wind and solar, saw a 51 percent increase. The transportation of crude and natural gas absorbed rail capacity previously used to move agricultural products. This placed new strains on the infrastructure network, including roads and bridges, and raised costs to farmers and consumers.¹

These new strains on rural infrastructure exacerbate years of underinvestment in the nation's infrastructure. Net public non-defense investment at all levels of government declined from 1.5 percent of GDP in 1980 to just 0.6 percent in 2015.²

More than \$2 trillion above current spending levels is needed to restore our nation's infrastructure to good condition by 2025.³

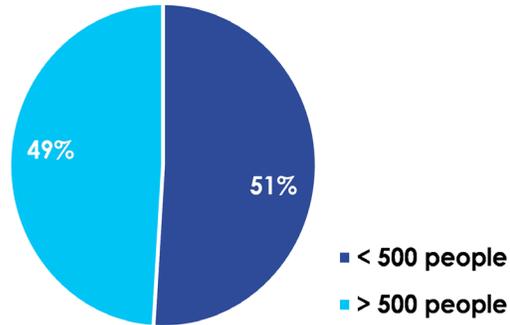
Rural communities face a variety of infrastructure challenges. Small rural communities desperately need investments such as wastewater projects, new roads, and high-speed broadband that would benefit consumers and businesses. Testifying before Congress, rural leaders identified the following areas that require immediate infrastructure investment:

- Lane widening and repairs for the highways that connect distant towns and make cross-country shipping safer and more efficient.
- Repairs for bridges that have begun to show the signs of age and wear.
- Water infrastructure that meets rural community needs while maintaining requirements under clean water laws.
- Conservation funding to preserve natural habitats for hunters and anglers.
- Public transportation that helps the elderly and disabled in rural communities.

Results of Underinvestment

Years of underinvestment have left rural infrastructure in deteriorating shape. Water and broadband infrastructure need upgrades and investment. Water systems, especially in smaller communities, are old and require replacement. More than 50 percent of water systems across the country with health-based violations serve 500 or fewer people.⁵ Inland water transit also faces challenges. Most locks on inland waterways now exceed their expected lifespans and often fail. Between 2000 and 2014, the average delay per lock doubled from about an hour to two hours with the cost of delays expected to reach \$49 billion by 2020.⁶

More than Half of Health Violations are in Small Water Systems



Source: Natural Resources Defense Council

The absence of a safe water supply has significant health consequences. Often, rural communities suffer from contaminants that can come from agriculture, mining, or old pipes in need of upgrades. Nitrates and other substances, for example, elevate risks of cancer and other diseases. In parts of Alabama, hookworm, which was thought to have been eradicated in the United States decades ago, has returned—the result of extreme poverty and poor sanitation. In Lowndes County, Alabama, many residents do not have access to adequate sewage systems. Instead, they build makeshift systems that, when they leak, can contaminate the soil in their community. Anyone walking barefoot in the contaminated soil risks exposure to hookworm.⁷

Inland water transit infrastructure is also suffering from years of insufficient investment. Locks and dams allow ships to transport freight on rivers with different water levels, and connect rural communities to ports and economic centers. About 14 percent of all domestic freight travels on inland waterways including more than 70 percent of U.S. agricultural exports.⁸ But 60 percent of the approximately 240 locks in the system are more than 50 years old, exceeding their expected lifespan.⁹ They often fail and cause river delays, constraining the movement of goods to and from rural communities.

In addition to assuring a safe water supply and efficient water transport, it is critical that rural America connects to high-speed internet, which would open doors of economic and educational opportunity. Across rural America, insufficient broadband access is holding back growth. More than 30 percent of rural residents lack broadband access, compared to 2 percent for urban residents. Among rural tribal residents, the share without broadband access climbs to 66 percent.¹⁰

The lack of broadband has a significant impact on small businesses in rural communities as well. Without high-speed internet access or reliable broadband, small businesses such as convenience stores, gas stations, and hardware stores face problems processing transactions, taking credit card payments, responding to customer questions, and running their businesses as efficiently as they could.¹¹ While broad recognition exists for the key role broadband can play in education, health care, and economic development, government programs and funding targeted at delivering this vital telecommunications infrastructure are falling short.

Some rural communities, fed up with waiting for federal action, have pushed forward and identified their own solutions. The RS Fiber project, in Renville and Sibley Counties, Minnesota, is a powerful example. After seven years of planning, 17 cities and 10 townships created a rural cooperative that will build an estimated \$45 million telecommunications network to ultimately service more than 6,000 households, farms, and other businesses. The co-op designed a unique financing scheme to support its plans, with participating cities banding together to issue bonds to fund the initial phases of the project. RS Fiber has already laid nearly 100 miles of fiber optic cable, connecting wireless towers and offering affordable service to hundreds of households.¹²

Water safety on reservations also lags the rest of the United States. The lack of access to safe drinking water and basic sanitation in Indian Country poses a significant threat to the public health of American Indian and Alaska Native communities. One in fifteen American Indian and Alaska Native homes do not have access to safe drinking water.¹⁵ According to the U.S. Census Bureau, a tribal home is 20 times less likely to have safe water or basic sanitation facilities than a non-Native home.¹⁶ The Indian Health Service's Sanitary Deficiency Database estimates that tribal water and sewer infrastructure backlog hovers around \$2.5 billion, and that the total construction need is nearly \$3.4 billion—an increase of 80 percent in just 10 years, due to aging infrastructure.¹⁷

Benefits of Investing in Infrastructure

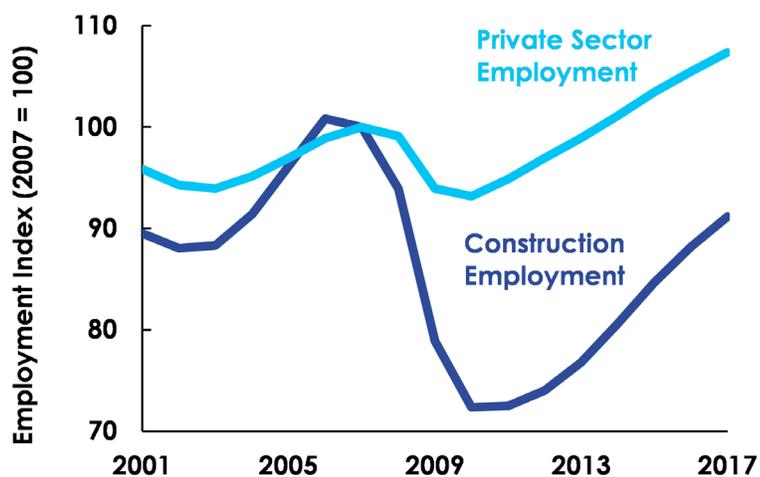
There are significant economic benefits from investing in infrastructure, from lower transportation costs for businesses and consumers, to the creation of good-paying jobs and increased economic growth. In rural areas which are still recovering from the recession, the short-term positive economic impacts of infrastructure investments are vital. Over the long term, better infrastructure will also make rural communities more attractive to new businesses and residents.

Reduced Transportation

The principal direct benefit of an effective transportation system is that it reduces transport costs for businesses and consumers. Those reduced costs, in turn, allow firms easier access to new markets, foster competition, spur innovation, raise productivity, and lead to increases in living standards.¹⁸ The benefits from infrastructure investment

are particularly pronounced for the manufacturing sector, in which rural areas are disproportionately reliant.¹⁹ In addition to harming businesses, the failure to upgrade the nation's transportation infrastructure places a significant debt on future generations through a backlog of deferred maintenance.²⁰

Construction Employment Still Below Precession Levels

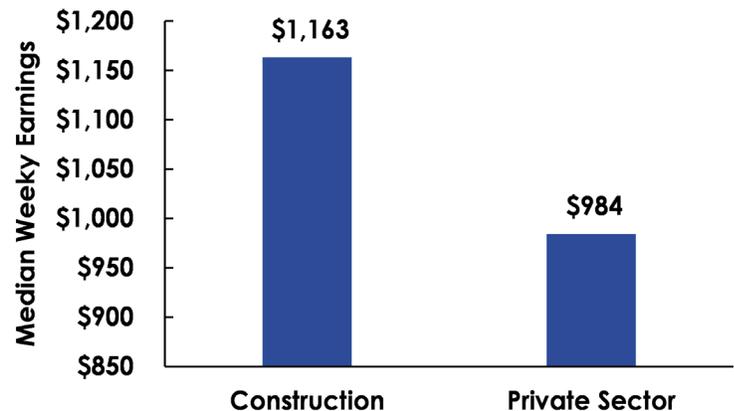


Source: Bureau of Labor Statistics
Note: Displays annual average employment indexed to average employment in 2007.

Good-paying Jobs

Investments in infrastructure create new jobs in manufacturing and construction, sectors that pay good wages and were hit especially hard during the recent recession. Nearly 70 percent of jobs created from infrastructure investment are in construction, according to one analysis, even though construction jobs make up less than 5 percent of total jobs in the economy.²¹ The 6.0 percent annual unemployment rate in construction in 2017 remains above the overall national rate of 4.4 percent, suggesting there is more room to increase jobs in the sector.²² Creating jobs that pay good wages – the average construction worker makes \$30 an hour – would help both the employed workers and their communities, as those wages will be reinvested into their local economy.²³

Construction Jobs Pay Almost 20% More Than Private Sector Jobs



Source: Bureau of Labor Statistics

Note: Median weekly earnings of full-time wage and salary workers who are members of unions. 2017 annual data.

Stimulating Economic Activity

Infrastructure investments stimulate activity elsewhere in the economy. A review of recent evidence finds that infrastructure investments generate \$1.40 to \$1.80 in additional economic activity for every dollar invested.²⁴ The positive effect on the economy is especially important in rural communities, many of which are still recovering from the recession. In fact, employment in rural communities has not returned to its pre-recession levels, while metro area employment surpassed its pre-recession peak in 2013.²⁵ The Center for American Progress estimates that increasing infrastructure spending by a total of \$500 billion over 10 years would add 3.6 million new jobs, lower the unemployment rate by 1 percentage point, and increase the size of the economy by 3 percent.²⁶

Limitations of Public-Private Partnerships in Rural America

To realize the economic benefits detailed on the next page, the nation must prioritize infrastructure investment and ensure that rural America receives targeted investment. Yet, by relying on public-private partnerships (P3s) to finance infrastructure, the Trump administration's long-awaited infrastructure proposal would fail to meet the needs of rural communities.

P3s are likely to fund projects in more densely populated urban areas where there are more drivers to pay a toll on a heavily trafficked road or bridge. Rural areas cannot offer the economies of scale to deliver the revenue streams that private investors demand. The fixed costs of a project cannot be spread easily over sparse populations with low traffic volume, making it more difficult to deliver the rates of return demanded by private equity. In addition, the longer distances between rural communities add to the construction and maintenance costs of roads and other infrastructure.²⁷

Water infrastructure would also lose in a package centered on private investment. There is little opportunity for profit in providing safe water to sparsely populated, low-income areas. Therefore, it's unlikely that the private sector will step in to fill the growing need. Where the private sector has taken over rural water systems, the results have been mixed, with consumers often paying more. Some communities, including Missoula, Montana and Cameron, Texas, have had to take back control of their water systems from private investors after private operators failed to deliver promised services and lower costs.²⁸

Clean Energy Investments Lead to Jobs

The economy's transition to renewable energy presents a significant economic opportunity for rural areas with abundant supplies of natural resources, including wind and solar. To take full advantage of this opportunity requires new infrastructure investments that will enable the efficient transmission of energy from rural areas to other parts of the country.

Rural Advantage in Clean Energy Production

There are many types of clean energy competing to power the economy of the future, and several of them are well-suited for rural areas. Wind power, for instance, requires large open spaces to construct and place turbines. While solar panels can be installed on-top of

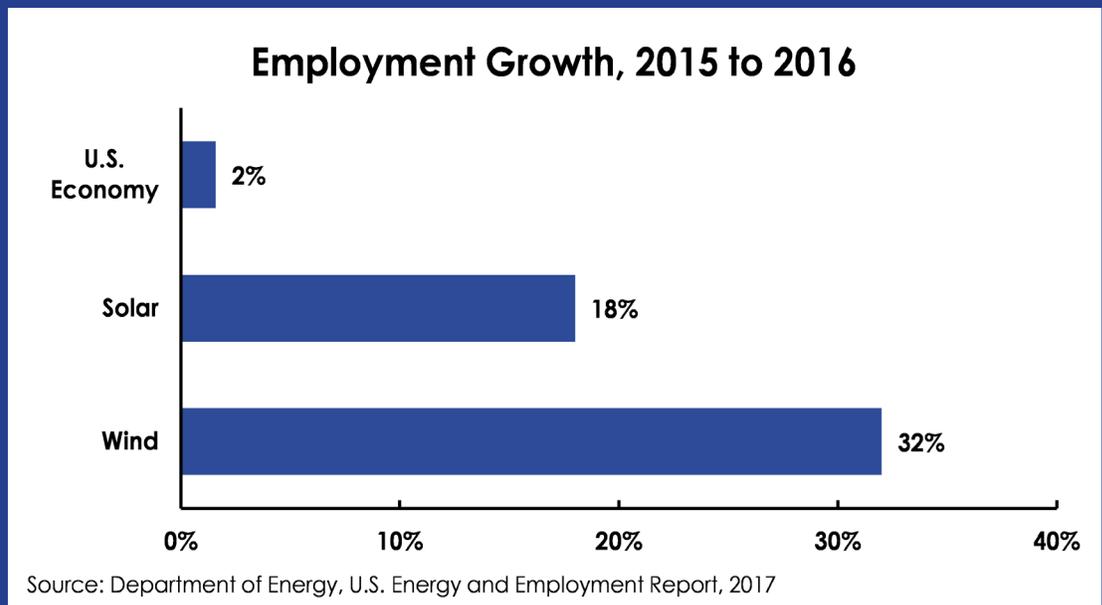
existing structures, rising demand for solar energy will likely lead to more solar panel farms or towers that require plenty of open space to construct. Geothermal and hydroelectric power are also more likely to find suitable locations

in rural areas. Biomass energy production will be most efficient if located near the sources of plant material that it uses, such as forests and farms in rural communities.²⁹

Clean Energy Creates Jobs

Nationally, clean energy jobs are growing rapidly. In 2016, employment in wind increased by nearly 32 percent, and employment in solar increased by nearly 25 percent, compared to an overall increase in employment of 1.6 percent.³⁰ Virtually all wind projects are in rural areas, with the investments benefiting rural communities.³¹

In total, 3.4 million Americans work in the clean economy.³² Completely transitioning to clean energy could create approximately 2 million more jobs on net, according to one estimate.³³



Renewable Projects Benefit Local Communities

The benefits of renewable energy to local communities go beyond job creation. Rural landowners benefit from leasing land for wind turbines or other renewable electricity generation. In 2016, landowners received about \$245 million in land lease payments.³⁴ Schools in rural areas have also been able to generate revenue by leasing land for wind farms.³⁵ And local governments benefit from higher tax revenue generated by the projects.³⁶

A recent example is the Sagamore Wind Project, a new wind farm in rural New Mexico. The project will ultimately invest \$865 million and generate power for nearly 200,000 homes.³⁷ In addition to creating hundreds of jobs and lowering energy costs for consumers, the project will generate \$43 million in state tax revenue and \$82 million in funding for local schools.³⁸

Republican Actions Risk Clean Energy Jobs

Despite the economic benefits of clean energy investments, the Trump administration has been openly hostile to the industry. One action that stands out is imposing a tariff on imported solar cells. While this tariff will likely help a few domestic manufacturers, in the end it will hurt the overall solar industry by raising the cost of solar panels. This will lead to less demand, and therefore fewer jobs in installation, distribution, sales, and manufacturing of complementary products. Some estimates put the job losses in the tens of thousands, far outpacing the benefits to domestic manufacturers.³⁹

Preparing for Clean Energy Jobs of Future

Instead of undermining clean energy, Congress and the administration should invest in the infrastructure and skills development necessary to ensure that America is the global leader in clean energy production. Transmission infrastructure is necessary to ensure that energy produced in rural areas can be exported to their urban and suburban neighbors. Adapting workforce training and education systems to respond to changing demand in the energy sector will also be key to ensuring that members of rural communities fill the good-paying jobs created in this sector.

Local economies currently supported by traditional energy sources deserve special consideration. Mines and oil fields are a large part of these communities' economies. As these mines and oil fields reach the end of their life cycles, local residents are the ones who lose the most. Clean energy can help ease this transition, with intentional investments in these communities that help create new job and business opportunities in the emerging sector that by definition never run out.

Building Modern Infrastructure in Rural America

Efforts to improve rural infrastructure should be part of broader, transformational investments in 21st century infrastructure – from broadband networks to smart grids, to updated waters systems and modernized schools. These investments are needed to reverse years of underinvestment and prepare the United States to compete in the global economy. Rebuilding rural America’s infrastructure will boost productivity, add jobs, bolster competitiveness, and strengthen the economy.⁴⁰

Policy Solutions

- Maintain vital programs, like Essential Air Service, that rural communities count on for key services.
- A multi-pronged effort is needed to expand broadband access – including a one-time infusion of capital as well as targeted efforts to boost access on tribal lands and increase utilization by farmers.
- The federal government must invest to upgrade rural water and sewer systems and enable the efficient transport of renewable energy produced in rural areas.
- A newly created infrastructure financing authority can help meet the infrastructure needs of rural America.

Continuing Essential Air Service

Eliminating the Essential Air Service (EAS) program that supports commercial air service to small rural communities would have significant negative economic impacts in these communities. Yet, the Trump administration proposed eliminating funding for the program in its FY 2018 budget.⁴¹

The program ensures that small communities that had air service prior to deregulation of the airline industry in 1978 continue to have a basic level of service, usually two daily round trips. About 60 communities in Alaska and 115 communities in the lower 48 states are provided air service, with daily flights to a large- or medium-hub airport. Without the program, rural airports would likely shut down, communities would be cut off from flights, and residents would be required to drive sometimes hundreds of miles to the nearest airport.⁴² Air service is not only a matter of convenience to residents, it is vital to economic development and attracting businesses to a community.

Investing in Rail Services

Rail helps to connect rural communities with larger cities and the rest of the nation. In recent decades, many rail lines have been abandoned, limiting rural access and increasing the reliance on trucking for freight movement.⁴³ Investments are needed to ensure that we meet the needs of rural residents and address the maintenance backlog on Amtrak's National Network.⁴⁴ Yet, the Trump administration's budgets have proposed cutting Amtrak funding by half and eliminating federal funding for Amtrak's long-distance routes, such as the Southwest Chief, which stops in several rural communities.⁴⁵ Amtrak must also meet its commitments to support the long-distance routes.⁴⁶

Connecting Rural America to Broadband

It is important that the federal government do more to expand broadband access in rural communities and tribal lands. More effectively tapping existing funds, like the Universal Service Fund and the Rural Utilities Service, would boost rural broadband rates. The Tribal Connect Act (S.2205), for example, increases tribal access to the Federal Communications Commission's (FCC) schools and libraries universal support program, known as E-rate. The bill changes eligibility requirements that hinder tribal participation.⁴⁷ In addition, the Precision Agriculture Connectivity Act (S.2343) targets the broadband needs of farmers and ranchers across the country, helping them utilize broadband to build their businesses.⁴⁸

More broadly, rural America needs an infusion of capital to enable a one-time acceleration of rural broadband deployment and close the digital divide. Overall, an investment of \$40 billion is needed to provide universal high-speed internet to the 34 million Americans, including 19 million in rural America, who currently lack access.⁴⁹

In the Jobs and Infrastructure Plan for America's Workers, Senate Democrats included funding to provide universal broadband access.⁵⁰ By contrast, the Trump administration's infrastructure proposal provides no funds dedicated specifically to broadband deployment.

Addressing Backlogs and Funding Shortfalls

In other areas, such as rural water projects and maintenance of locks on inland waterways, program backlogs and limited funding are interfering with progress. For example, USDA's Water and Waste Disposal Loan and Grant Program, which serves communities with less than 10,000 people, now has a \$2.5 billion backlog and 995 pending applications. More resources and a modernized review process can mitigate some of these issues.⁵¹

More than half of the nation's locks and dams exceed their expected lifespan. Funding the nearly \$9 billion backlog of inland waterway projects would enable more reliable and efficient transport of agricultural and other goods produced in rural areas.⁵²

Senate Democrats propose investing \$115 billion to modernize the nation's water and sewer systems, with money targeted to disadvantaged communities and tribal lands.⁵³ By contrast, in his FY 2018 budget, President Trump proposed eliminating the Water and Waste Disposal Loan and Grant Program, and in his FY 2019 blueprint, he eliminated the grants but kept the loans.⁵⁴ The administration also did away with the Rural Development Undersecretary position at USDA, a key Senate-confirmed position overseeing \$216 billion in rural programs and 5,000 employees, and proposed zeroing out the Rural Economic Development Loan and Grant Program in its FY 2019 budget.⁵⁵

Investing in Transmission of Renewable Energy

Rural areas are home to abundant sources of wind and sun. These resources produce clean, renewable energy and provide significant economic opportunities for many rural communities. In fact, solar panel installers and wind turbine service technicians are projected to be the two fastest growing occupations in the United States over the next 10 years, with many of these jobs in rural communities.⁵⁶ Ninety-nine percent of wind projects are in rural areas.⁵⁷

Locating wind turbines on a farm or ranch can provide supplemental income that helps to sustain families and communities. However, the difficulties associated with transmitting the energy from remote areas to high demand urban centers and regions with fewer renewable resources hinders this growth.

More efficient transmission requires investment in new capacity as well as streamlining project review across federal jurisdictions. The latter would ensure that transmission projects are reviewed in a timely manner, and that the projects are in the public interest.⁵⁸ An analysis by the Department of Energy has shown that additional investment in transmission infrastructure could dramatically increase the share of electricity provided by wind, which would benefit many rural economies.⁵⁹

Creating an Infrastructure Financing Authority

Existing federal infrastructure financing strategies have proven insufficient to meet the nation's infrastructure needs and those of rural America. Rural communities would benefit from an independent infrastructure financing authority that promotes investments in rural areas. The Building and Renewing Infrastructure for Development and Growth in Employment Act (S.1168), for example, creates an Infrastructure Financing Authority that would support infrastructure projects with clear public benefits and assist states and rural communities both in developing projects and in securing outside funding.⁶⁰ Rural projects would receive a dedicated share of the funding. Additionally, the bill establishes an Office of Technical and Rural Assistance, which would provide technical assistance to state and local entities in developing and financing rural projects.

A new financing authority would enable rural communities with diverse needs to access flexible resources. It would require an initial public investment, but would become self-sustaining over time. Through its operations, it would develop broad expertise to manage and coordinate infrastructure investments across states. Loans made after a thorough analysis to evaluate the public benefit would leverage funds from state and local government or the private sector, with no more than half of funding on any project coming from the financing authority.⁶¹ Tapping these resources can supplement the direct federal investment that is vital to meeting rural communities' infrastructure needs.

ECONOMIC IMPORTANCE OF PUBLIC LANDS

5

Key Takeaways

- Protected lands are integral to the lives and cultures of rural Americans.
- Outdoor recreation adds \$374 billion a year to the U.S. economy and supports more than 4 million jobs.
- National monuments generate tens of billions of dollars a year in spending by visitors.
- Congress must protect rural lands and promote healthy and diverse local economies.

Protected lands are an integral part of rural Americans' lives and economic engines for the communities around them. Protected lands drive economic development by encouraging outdoor recreation, attracting visitors, supporting local jobs and businesses, conservation, and ranching. They also encourage investment in local communities.

The federal government has immense power to further the goal of good stewardship of our natural heritage through the establishment and maintenance of federally protected public lands. Access to public lands brings concrete economic impacts to the rural communities near them. Additionally, proximity to public lands has the potential to raise income for individuals working in nearby communities.

To capitalize on the benefits that public lands provide, Congress must push back against Republicans' efforts to reduce the size of and sell off federally protected lands. Further, rural communities must be enabled to use public lands in ways that drive economic growth while also maintaining their natural character for future generations.

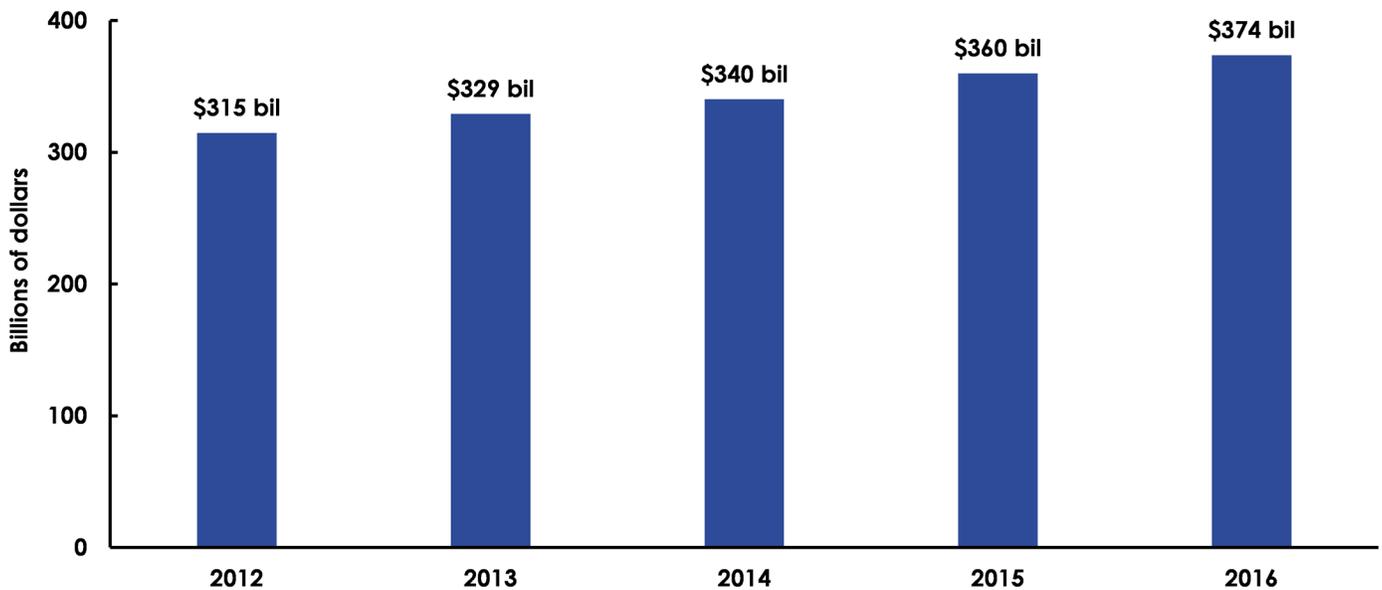
Outdoor Recreation Spurs Economic Activity

Outdoor recreation, whether on federal public lands, state parks, or private recreation preserves, drives economic activity in rural communities. The industry generated \$374 billion in spending in 2016, which represents a nearly 4 percent growth from the previous year. This includes spending in retail sales, accommodation and food services, manufacturing, and other sectors. More than 4 million Americans work in the outdoor recreation industry. Rural areas, especially those located near public lands, parks, and national monuments, are major players in this industry.¹

Outdoor Recreation Drives Population Growth

Between 2000 and the Great Recession, rural counties with higher levels of recreation activity saw faster population growth than other rural counties, suggesting that outdoor recreation may play a key role in attracting new residents to rural areas.² Total employment in recreation-intense rural counties has recovered more than in other rural counties, although it is still below its pre-recession peak.³

The Outdoor Recreation Industry Continues to Grow in Importance to the Economy



Source: Bureau of Economic Analysis

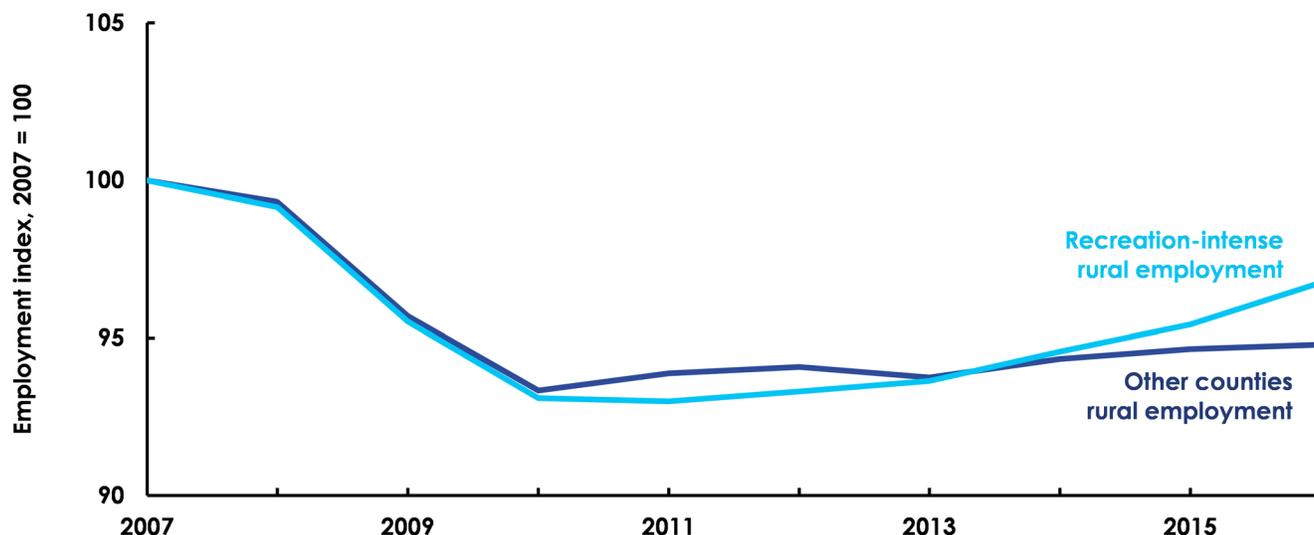
Note: Figures are the total value added by outdoor recreation activities

Access to outdoor recreation on protected public lands may increase income in communities nearby, further attracting new families to rural communities. In rural counties with 100,000 acres of protected public lands (relative to those with none), income per person is on average \$4,360 higher.⁴

Wildlife-related Recreation Generates Spending

Wildlife-related outdoor activities—including hunting, fishing, and wildlife watching—drove more than \$150 billion in economic activity in 2016, as 40 percent of the over-16-year-old population participated in one or more of these activities. This spending is driven by both residents of the areas as well as visitors. It includes spending on equipment, travel, licenses, fees, memberships, and other activities.⁵ In addition to the commercial benefits generated by these activities, many rural families practice subsistence hunting and fishing. Wild game is a significant part of families' diets in many rural communities.

Recreation-Heavy Rural Counties Have Recovered More Than Other Rural Counties



Source: JEC calculations based on data from the USDA Economic Research Service (ERS)

Note: Rural defined at the county level based on ERS county typology codes.

Conservation Easements Create Opportunities

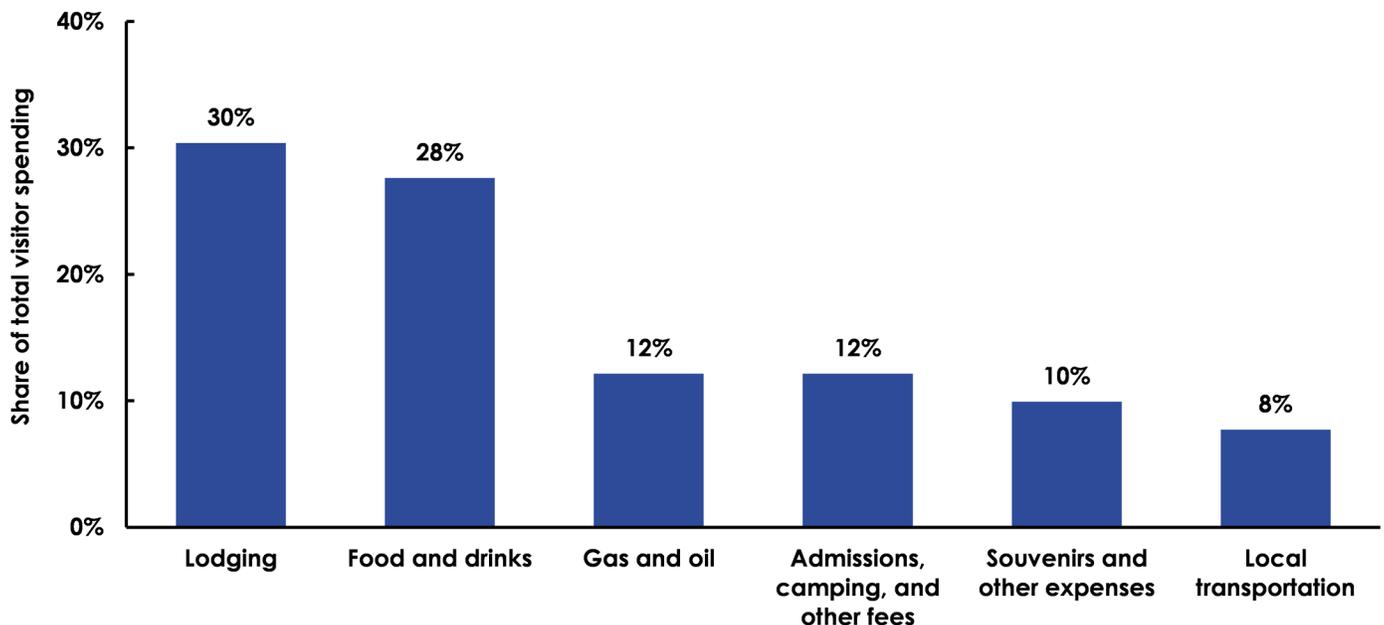
Conservation easements present opportunities for private landowners to receive tax benefits in exchange for limiting future development on that land. These agreements allow landowners to retain ownership of land, while at the same ensuring that the land is protected for future generations.⁶ Landowners who grant conservation easements may be free to use their land for hunting, fishing, or other outdoor recreation activities, and often for agricultural purposes as well. Recent legislation provided landowners long-term certainty by making the conservation easement tax benefits permanent.⁷ These privately owned places can bring outdoor recreation to their communities.

National Monuments and Parks Support Local Communities

Public lands draw millions of visitors who support local jobs and businesses and boost revenues for surrounding communities. In 2017, 331 million people visited national parks, spent an estimated \$18.2 billion in local gateway communities, supported 306,000 jobs, and added \$35.8 billion to the national economy.⁸ In communities across the country, jobs supported by public lands are helping working people to build families and conserve our country's natural splendor.

Rural economies in particular benefit from proximity to public lands. Republican efforts to cut or privatize our national parks and public lands would jeopardize our natural resources and harm nearby communities. For example, the administration reduced the size of the Bears Ears and Grand Staircase-Escalante national monuments in Utah late last year. This act represents the largest reduction of public land protections in United States history.⁹ Reducing protections for these monuments will hurt the communities surrounding them, and send a signal to other rural areas that protecting natural lands is not a priority of the current administration.

Visitors to National Parks Support a Variety of Sectors



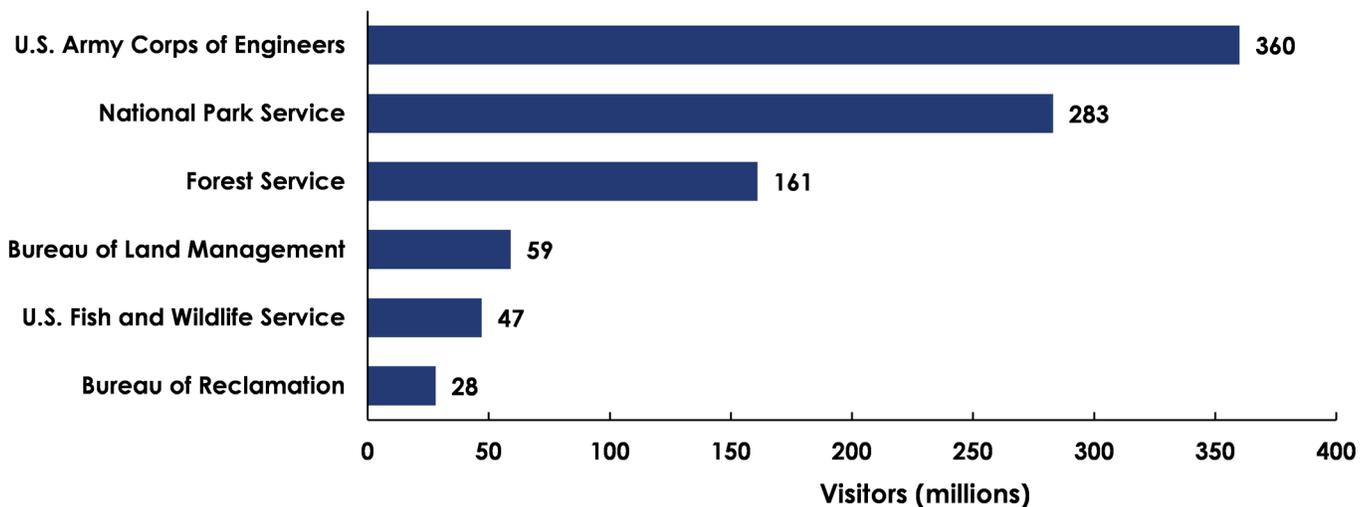
Source: National Park Service

Public Lands Drive Tourism and Jobs in Rural Areas

Communities near protected public lands often use their proximity as an economic foundation. These lands bring in visitors from across the country and world to enjoy activities like hunting, hiking, skiing, camping, and driving off-road vehicles. In 2012, people using federal public lands for outdoor recreation spent \$51 billion in nearby local economies, supporting 880,000 jobs.¹⁰ Visitors spend money on activities directly related to outdoor recreation, like buying ski lift tickets or paying entrance fees to parks, and as well as at hotels, restaurants, and other local businesses.¹¹

Organ Mountains-Desert Peaks in southern New Mexico provides an example of how national monument designation can drive economic growth. Designated in 2014, the monument attracts visitors looking for picturesque landscapes or looking to explore historical sites. Visitor traffic between 2015 and 2016 doubled, likely partly driven by the designation.¹² Employment in the surrounding communities is on the rise, driven by gains in the service sector over the last several years. And this economic growth is leading to growth in personal income.¹³

Federally Managed Lands Bring in Millions of Annual Visitors



Source: Federal Interagency Council on Outdoor Recreation

Notes: Data are from 2012, organized by agency managing the lands. Data for waters managed by the National Oceanic and Atmospheric Administration are not available

National park designations may have even greater economic impacts. National parks typically have more visitors and higher levels of spending than national monuments. A recent study estimated the economic effects of redesignating White Sands National Monument, a rare sand dune field made of gypsum crystals, as a national park. They found that it would increase consumer spending by more than \$6 million and create about 100 jobs.¹⁴

Public Lands Integral to Rural Lives

Public lands are more than just an economic driver for local communities, they are also an important part of the daily lives and cultures of rural families across the country.

In places as disparate as the Mountain West and New England, access to public lands means access to winter heating fuel for local families. Families often head into the woods to collect enough wood for the winter, especially for families that rely primarily on wood stoves for heating. From 2014-2015 in Vermont, 38 percent of households burned wood for at least some space heating.¹⁵ New England and the Mid-Atlantic saw at least a 50 percent jump in households that relied on wood as the main heating source from 2005-2012.¹⁶

For many rural residents, hunting and fishing on public lands is an important part of feeding their families. Game from public lands can stock pantries year round, and may reduce the amount of commercial meat that a family buys. In places where the nearest supermarket may be an hour's drive away and family income tends to be lower, access to game meat on public lands helps rural families keep costs low while sustaining time-honored traditions. For instance, in Alaska, wild food harvesting accounts for a quarter of rural residents' caloric intake, and had an estimated replacement value of between \$137 million and \$275 million in 2014.¹⁷

Protecting Rural Lands for Future Generations

Public lands are a cherished aspect of American heritage, and a key contributor to local economies. With their stunning views and unmatched recreational opportunities, national parks and other protected public lands attract visitors, support jobs, and drive economic growth in communities across the country. Congress must focus on helping rural areas capitalize on these opportunities, rather than erode protections as the administration is doing.

Policy Solutions

- Resist the Trump administration's attacks on protected lands by preserving protections and funding for existing public lands.
- Improve access to federal lands for outdoor recreation by passing the Bipartisan Sportsmen's Act.
- Integrate public lands into clean energy strategies and open up federal lands for clean energy projects.
- Engage local communities when making decisions that impact the public lands around them.

Resist Administration Attacks on Public Lands

The Trump administration is waging an all-out attack on protected lands—proposing to shrink national monuments and open up wildlife refuges to irreversible development. The president's budget goes further, proposing to cut important funding from the Department of Interior, such as cutting 90 percent of the funding for the Land and Water Conservation Fund and completely eliminating the National Wildlife Refuge Fund.¹⁸ This puts lands that are vital to rural communities, both culturally and economically, at risk.

Congress should be thinking long term, rather than looking for short-term payoffs that have disastrous consequences. Early actions in this administration focused on rescinding national monument designation to dozens of previously protected public spaces. These rescissions included the drastic drawdown of both the Bears Ears and Grand Staircase-Escalante national monuments. This action will put in peril some of the most important protections in the Four Corners region. National monuments should be protected to ensure these places are available for generations to come. And Congress must fully fund the agencies that protect and maintain public lands.

Pass the Bipartisan Sportsmen's Act

Limited access to some federal lands hinders outdoor recreation in these areas. The Sportsmen's Act (S. 733) is a bipartisan bill that expands and enhances sportsmen's access by making federal lands throughout the United States "open unless closed" for fishing, hunting, recreational shooting, and other outdoor activities and provides a process for gaining access to inaccessible "landlocked" public lands. The bill both prioritizes rural economic needs and protects our public lands for future generations. The Sportsmen's Act (S. 733) is a concrete step toward encouraging growth in America's thriving outdoor recreation economy. Congress recognized the importance of the legislation when it passed some of its provisions in the Consolidated Appropriations Act for 2018; passing the remainder would be a step forward for rural economies.

Open Public Lands Up to Clean Energy

Clean energy presents an opportunity to commercially develop public lands without undermining the underlying health of the environment. The Public Land Renewable Energy Development Act (S. 282) is a bipartisan bill that aims to open up clean energy opportunities for rural communities on public lands. The proposed legislation would require the Department of the Interior to establish priority areas on public land for geothermal, solar, and wind energy projects. The bill would also establish the Renewable Energy Resource Conservation Fund to make funds available to restore and protect fish and wildlife affected by the development of geothermal, solar, or wind energy on public lands.

Engage Local Communities

Local communities are the ones that will most directly benefit from, or be harmed by, how the lands around them are used. Unfortunately, the Trump administration and Congressional Republicans have moved to close out land planning processes from local participation. In early 2017, Republicans used the Congressional Review Act to repeal the Bureau of Land Management's (BLM) Planning 2.0 rule, which modernized how they engage local stakeholders.¹⁹ Interior Secretary Ryan Zinke also ended BLM's Master Leasing Plans, which develops regional processes for dealing with situations where oil and gas drilling interests overlap with lands traditionally used for outdoor recreation.²⁰

Congress and the administration must engage with and listen to local stakeholders, not shut them out. Reinstating BLM's Planning 2.0 rule and the Master Leasing Plan process would be a good place to start.



© MelvinL/Adobe stock | Location: Organ Mountains, New Mexico



OPPORTUNITIES FOR AFFORDABLE HOUSING

6

Key Takeaways

- Rural residents enjoy higher homeownership rates than their urban counterparts, yet there are fewer adequate and affordable homes and rentals available.
- Community banks can fill the mortgage access gap caused by big banks closing many of their rural branches.
- Local industries should invest in housing revitalization to attract and retain a highly-skilled workforce.
- Older rural Americans deserve to age in place and receive the home and health care support they have earned over their lifetime.

Housing is the foundation of the rural community. Beyond providing shelter, high-quality and affordable homes allow residents to put down roots, raise families, and participate in the local economy. For the broader community, housing serves as an engine of economic growth. A robust housing market provides a steady tax revenue base to fund schools and other essential public services. Abundant, well-maintained housing also attracts new business investment to the area, providing opportunities for local job creation.

While towns across the country struggle with a lack of affordable and adequate housing, rural America faces unique challenges on this front. High development costs, an aging housing stock, and limited credit access for financing home purchases or renovations all put pressure on rural residents. The condition of many older homes and the lack of senior living facilities present additional challenges that fall heavily on elderly residents.

Investment in both the construction of new housing and the rehabilitation of existing stock are critical to fostering the economic vitality of rural America.

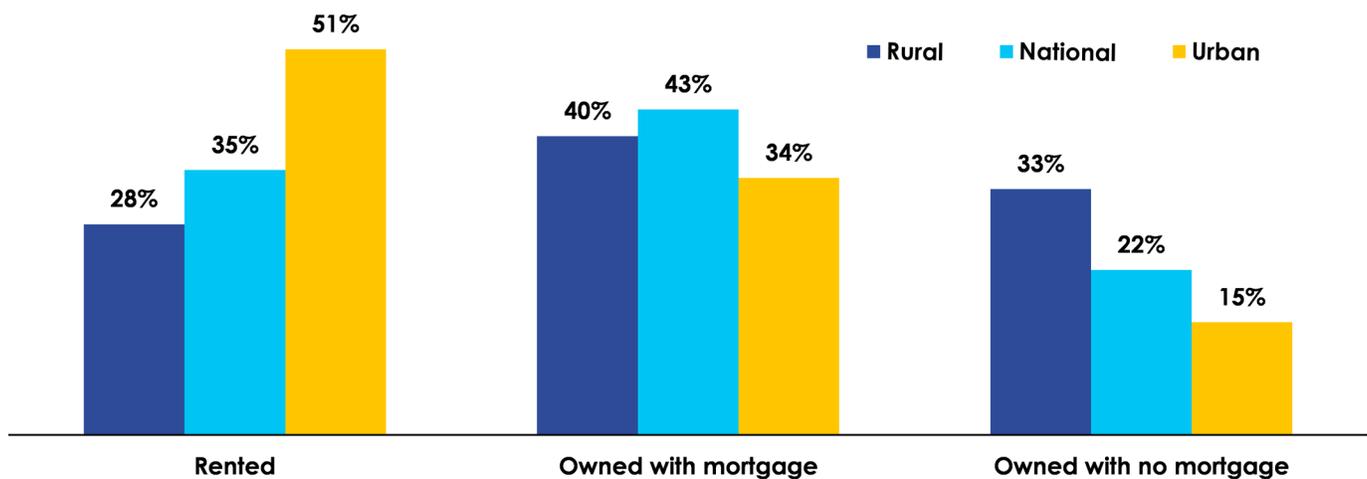
Easier access to credit, especially in tribal communities, and incentives for private development of affordable homes would make progress toward achieving these objectives. By partnering with local businesses and non-profits, policymakers can help ensure that rural communities remain lands of opportunity for long-time residents and newcomers.

Current State of Rural Housing

Historically, rural residents have been more likely to own their homes—and own them without a mortgage—than residents in urban areas.¹ In 2013, more than 70 percent of housing units in rural areas were owned.² High ownership rates in part reflect the relative lower cost of property in rural areas, which makes it easier for more people to buy homes.³ Rural residents are also older and more likely to be married, two characteristics that are associated with higher rates of homeownership.⁴

While rural homeownership remains high, decades of underinvestment in construction and maintenance have significantly reduced the supply of available housing.⁵ At the beginning of 2018, roughly 20 percent of rural housing units were vacant. The vast majority of these units were off the market, however, leaving less than 3 percent of existing housing units available for purchase or rent.⁶

More Rural Americans Own Their Homes Free and Clear



Source: JEC Democratic staff calculations based on American Community Survey from the Housing Assistance Council Rural Data Portal.

Note: Percentages indicate percent of total occupied units in rural/small towns, urban areas, or the United States that fall into each category. Rural is defined by the HAC, based on non-metropolitan areas with additional distinction based on housing density and rural-urban commuting area codes. Data as of 2013.

The shortage of available housing threatens the rural economy. Without more units, residents are unable to move to homes that better suit their changing life circumstances. Local businesses and farms may also be discouraged from expanding operations if they do not believe there is sufficient housing to attract new workers. Carlsbad, New Mexico, for example, is on the cusp of an economic boom; to keep pace with this workforce growth, an estimated 7,000 additional housing units are needed above currently planned expansions by 2020.⁷ To improve living conditions for residents and accommodate new families, workers, and businesses, federal and local governments must prioritize the availability of affordable, good-quality housing across rural America.

Housing Challenges in Rural America

As with other infrastructure, rural housing construction does not enjoy economies of scale that would allow for less costly and more efficient development. High development costs deter industry investments in building new, and rehabilitating old, homes.⁸ At the same time, restricted access to credit in rural areas means fewer residents are able to obtain the financing they need to purchase or renovate a home. Meeting rural America's housing needs will require addressing these supply and demand challenges.

Substandard Housing Quality

Despite high rates of rural homeownership, many homes require major repairs, weatherproofing, and upgrading to maintain their value. In particular, manufactured homes—which are prevalent in rural communities—are less durable than traditional site-built units and more likely to need structural repairs when not properly anchored or expanded.⁹ Poor housing conditions are associated with increased rates of resident illness and disease, particularly for children.¹⁰

While substandard housing is pervasive, government efforts to address housing quality should be mindful of inequities within rural communities. Minority residents, for example, are three times more likely than non-minorities to live in substandard housing.¹¹ Elderly residents are more likely to live in older homes but less likely to have the resources to make necessary repairs.¹² Many rural communities also lack senior living facilities with the requisite medical staff to accommodate their growing elderly populations.¹³

Housing Hurdles in Indian Country

Housing challenges are especially acute in rural tribal communities. Inadequate housing risks exacerbating inequalities in education, income, and health between Native Americans and non-natives. Unfortunately, federal programs have not succeeded in closing the housing gap.

Overcrowding remains a significant problem in homes on tribal lands, affecting 16 percent of households.¹⁶ Many homes are also in desperate need of basic infrastructure repairs. About 6 percent of Indian Country homes do not have fully functional plumbing, nearly four times the national average.¹⁷

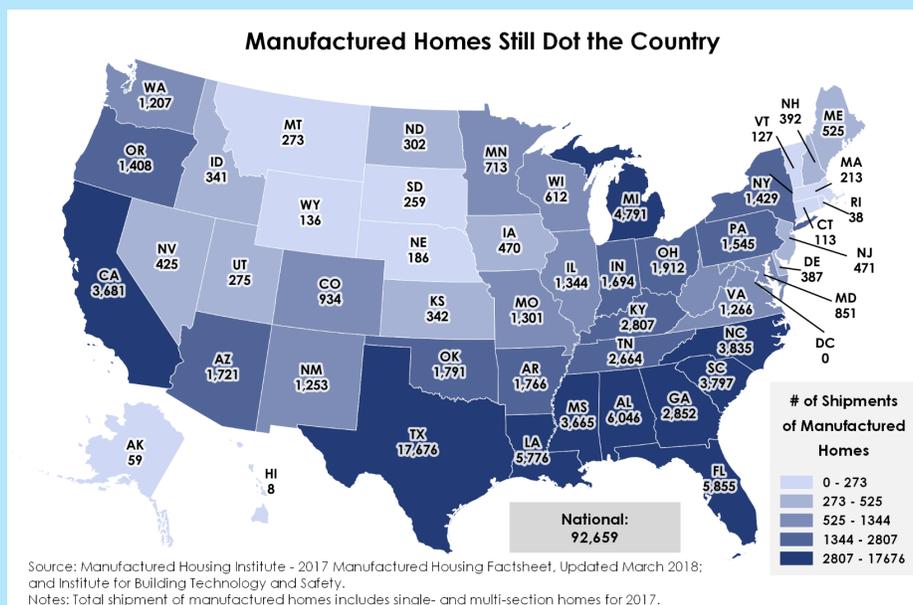
Roughly 68,000 new housing units are needed to remedy overcrowding and replace a physically deficient stock. In addition, the legal status of tribal lands impedes homeownership in Indian Country. Many rural tribal households are unable to obtain mortgages because the land, which is held in trust by the federal government, cannot be used as collateral.¹⁸ Without more flexible mortgage lending arrangements, tribal residents are at a disadvantage in reaping the benefits of homeownership at the same rate as the rest of the rural community.

Manufactured Homes

Often called mobile homes, manufactured homes are an important source of housing for millions of rural residents. Roughly two-thirds of all manufactured homes in the U.S. are located in rural communities.¹⁴ Manufactured housing tends to be less durable due to improper anchoring or unsupported structural additions, though construction materials have improved over the last 40 years as a result of federal safety regulations.¹⁵

About 60 percent of manufactured homeowners also own the land on which the house sits. Others own their home but lease the land. Some manufactured home owners have their homes titled as personal property, like a vehicle, while other owners have their homes deeded as real estate like other homes. The financing structure of manufactured homes presents some concerns for consumer protections that are less common in urban housing.

To take one example, residents that finance their manufactured home as personal property, rather than real estate, are subject to loans with higher interest rates and fewer consumer protections. As high-interest loans typically take longer to pay off, these residents will build less equity in their manufactured homes. The financing packages targeted to manufactured home buyers thus threaten to undermine the value of homeownership as a means to build equity. Older residents on fixed incomes are especially at risk.



Fewer Rental Options

Rental units are less common in rural areas, comprising 28 percent of all rural housing in 2010 compared to 35 percent nationally.¹⁹ Compared to renters nationwide, renters in rural America are also much less likely to live in multi-unit apartment buildings.²⁰ The concentration of rural renters in single-family homes, combined with sparse investment in multi-unit structures, puts additional pressure on the supply and cost of housing.

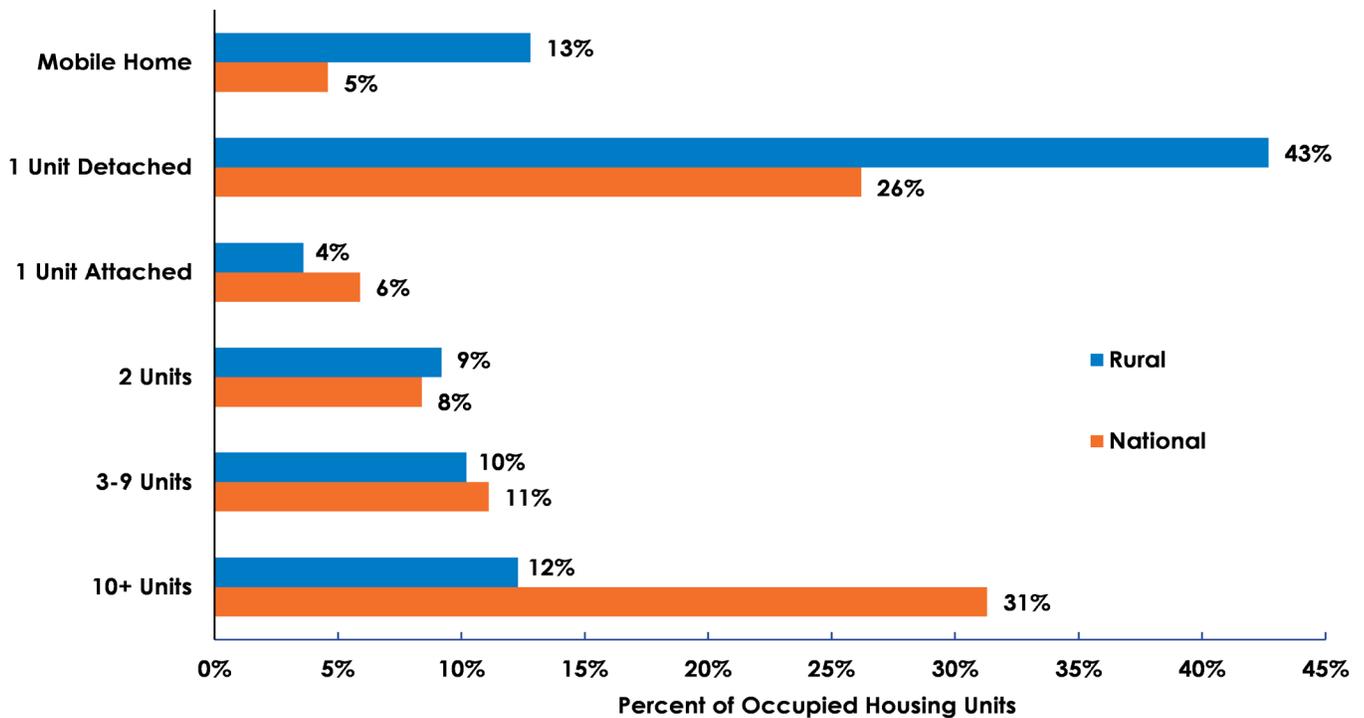
Rural renters are more likely to experience financial hardship than both rural homeowners and urban renters. Almost half of rural renters are cost burdened, meaning they spend more than 30 percent of their monthly income on rent.²¹ Of these cost burdened households, more than half spend over 50 percent of their monthly income on rent.²² Providing rural renters with more options for affordable living spaces, such as multi-unit apartments, may alleviate rent burdens and open up the supply of single-unit homes.

Limited Access to Mortgage Credit

Prospective homeowners in rural markets have less access to mortgage credit for purchasing homes. Over the last decade, many major banks shuttered their rural branches, leaving smaller banks as the primary source of retail financial services in rural America. Community banks and credit unions originated 31 percent of rural mortgages in 2016.²³

Rural communities remain vulnerable to tight credit conditions as bank consolidation continues. Since the end of the housing crisis in 2008, rural mortgage applications are more likely to be denied than urban applications.²⁴ The gap between rural and urban denial rates, moreover, is often greatest in states that are more rural. If rural families are unable to secure mortgage financing, all but the wealthiest cash buyers will be priced out of the rural market.

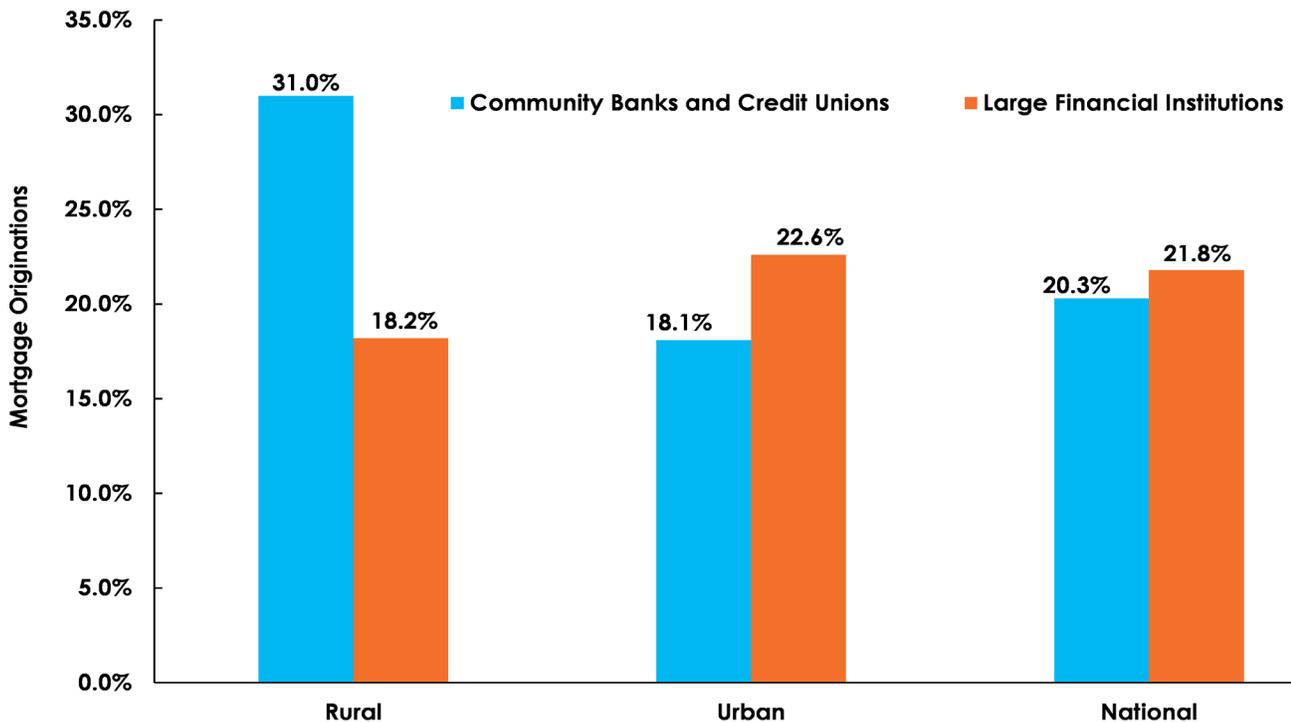
Rental Housing Structures



Source: Housing Assistance Council.

Note: Structures include only occupied housing units. Rural refers to rural and small town as defined by the Housing Assistance Council. Data as of 2010.

Community Banks Support Rural Homeowners



Source: Center for Responsible Lending based on 2016 HMDA data.

Note: Community banks and credit unions are depositories with less than \$10 billion in assets. Large financial institutions are depositories with more than \$10 billion in assets. Rural refers to rural as defined by Federal Housing Financial Agency.

Federal Housing Assistance in Jeopardy

Several U.S. Department of Agriculture (USDA) and Department of Housing and Urban Development (HUD) programs are dedicated to tackling the housing challenges that rural Americans face. These programs pursue a variety of strategies to bolster the demand and supply for affordable housing options in rural communities.

The USDA's Multi-Family Guaranteed Loan Program (Section 538), for example, incentivizes lenders to finance new or rehabilitated affordable housing construction in rural areas through federal loan guarantees. By contrast, the Direct Loan Program (Section 502) offers low-income rural residents mortgage repayment assistance. For rural renters in need, the Rental Assistance Program (Section 521) provides subsidies to cap rent payments as a percentage of monthly income. The HOME Investment Partnerships Program at HUD encourages non-profits and local governments to partner on housing solutions.

In the coming years, however, many of the affordable rural properties underwritten by federal programs will be in jeopardy. As real estate companies' loans mature, their low-income tenants will lose eligibility for rental assistance subsidies, leaving them vulnerable to rising rents.²⁵ New rural rental construction is also likely to slow now that the USDA has shifted resources from financing new rental properties to rehabilitating older units.²⁶ Rehabilitation alone will not be sufficient to support rural renters, however. Maintaining the current stock of USDA rural rental property over the next 20 years will cost more than \$5 billion.²⁷

Laying the Foundation for Good Housing Policy

Affordable, high-quality housing is an essential component of any strategy that aims to modernize the rural economy and preserve rural communities. With a robust housing market, rural America can improve living standards for all its residents and draw new people and industry into its lands. Policymakers should work with local partners to expand federal housing programs, increase residents' access to financial products, and improve the quality of rural housing stock.

Policy Solutions

- Boost non-profit groups' capacity to access federal capital.
- Invest in critical improvements to Indian Country housing conditions.
- Increase community bank presence for better mortgage access.
- Encourage local businesses to invest in housing stock revitalization.
- Ensure that aging rural residents can remain in their communities.

Empowering Non-Profit Organizations

Non-profits play an essential role in supporting the development of affordable housing across rural America. In addition to coordinating local investments, non-profits educate residents about available assistance programs and tools. Providing these organizations with financial assistance to expand their work bolsters existing efforts and targets resources toward actors on the ground with insights into local housing challenges.

Government should increase funding for USDA and HUD programs that encourage partnerships with non-profits. Helping non-profits access federal capital and engage with federal programs can bolster development efforts in rural areas and better inform government policy.

Improving Housing Conditions in Indian Country

The federal government should support new efforts to improve housing development in Indian Country. The high rates of overcrowding and physically deficient housing among tribal households make clear that federal assistance has fallen short of meeting housing needs. Additional federal resources should be targeted toward financing critical home repairs, including plumbing and electricity, and supporting construction of new units. Policymakers should also support new development programs that better engage tribal communities in community development efforts.

Increasing Community Bank Mortgage Activity

Rural communities increasingly rely on community banks and credit unions to provide basic financial services, as well as mortgage lending. These small banks are able to build personal relationships with their customers and offer the flexibility that rural communities need.²⁸ Bank consolidation, however, threatens to limit the availability and quality of financial services for rural residents.

Policymakers should support community banks in rural areas and broaden their ability to provide mortgage credit to rural residents. Efforts can build upon the Consumer Financial Protection Bureau's rule, issued in 2015, which allows lenders greater leeway to make loans in rural areas.²⁹

Investing in Local Housing Solutions

In coordination with community partners, the federal government can provide financial incentives to stimulate local real estate development. These inducements can help alleviate the high development costs in rural communities, increasing housing supply and spurring new job creation.

State and local governments are also developing programmatic solutions and financial incentives to support local affordable housing. Cities across New Mexico, for instance, have established housing specifically for teachers, often called teacherages, to entice quality educators to their school systems.³⁰ Rural communities would benefit from more deployment of these kinds of innovative and community-

Helping Older Rural Americans Age in Place

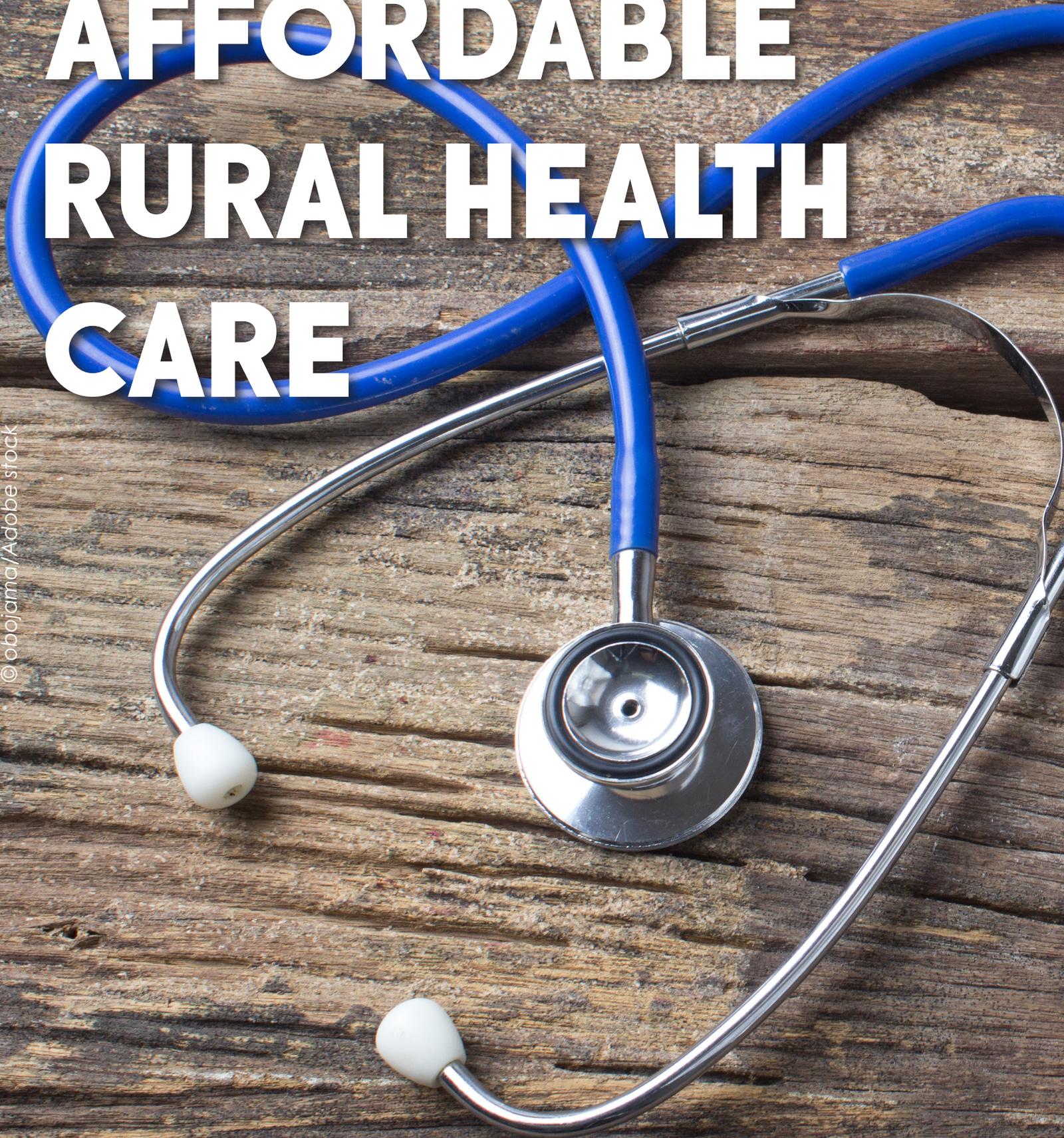
The rapid aging of the rural population presents unique challenges for housing policy. The lack of senior living facilities and limited housing stock in rural areas means residents have few options to remain in their community as they grow older. To support elderly residents today and prepare for the growth of the elderly population in the near future, more should be done to ensure rural development takes into account elderly housing needs.

Helping the elderly in rural areas would require new single-unit and multi-unit housing construction, as well as senior living facilities for older residents who are better served by living arrangements that provide round-the-clock medical care. Government should also work with rural non-profit organizations to help provide access to federal capital through programs like HUD's Supportive Housing for the Elderly.³¹



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ACCESS TO AFFORDABLE RURAL HEALTH CARE



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7

Key Takeaways

- America's rural communities have long faced challenges with access to affordable health care.
- The Affordable Care Act and Medicaid expansion are improving access to care in rural America and helping to keep rural hospitals and other providers afloat. Yet, the Trump administration and Congressional Republicans are attempting to reverse this progress.
- Congress should take steps to further expand Medicaid, protect Medicare, invest in our health care workforce, and modernize health care delivery through emerging technologies.

Rural Americans face many barriers to accessing the health care that they need. Despite progress from the Patient Protection and Affordable Care Act of 2010 (ACA), rural residents continue to face financial, logistical, and structural challenges to accessing care, which are exacerbated by recent developments such as the opioid epidemic and longer-term demographic trends. Health professional shortages and hospital closures have also contributed to difficulties accessing care and strained local economies.

Improving health care for rural America will require building on existing programs as well as new innovative solutions. It is vital to protect and expand programs that provide access to care, such as Medicaid and Medicare, and invest in developing the health care workforce. We also must adapt to the changing needs of the 21st century, including the rise of baby boomers, the opioid epidemic, and the possibilities for emerging technologies.

Challenges in Accessing Care

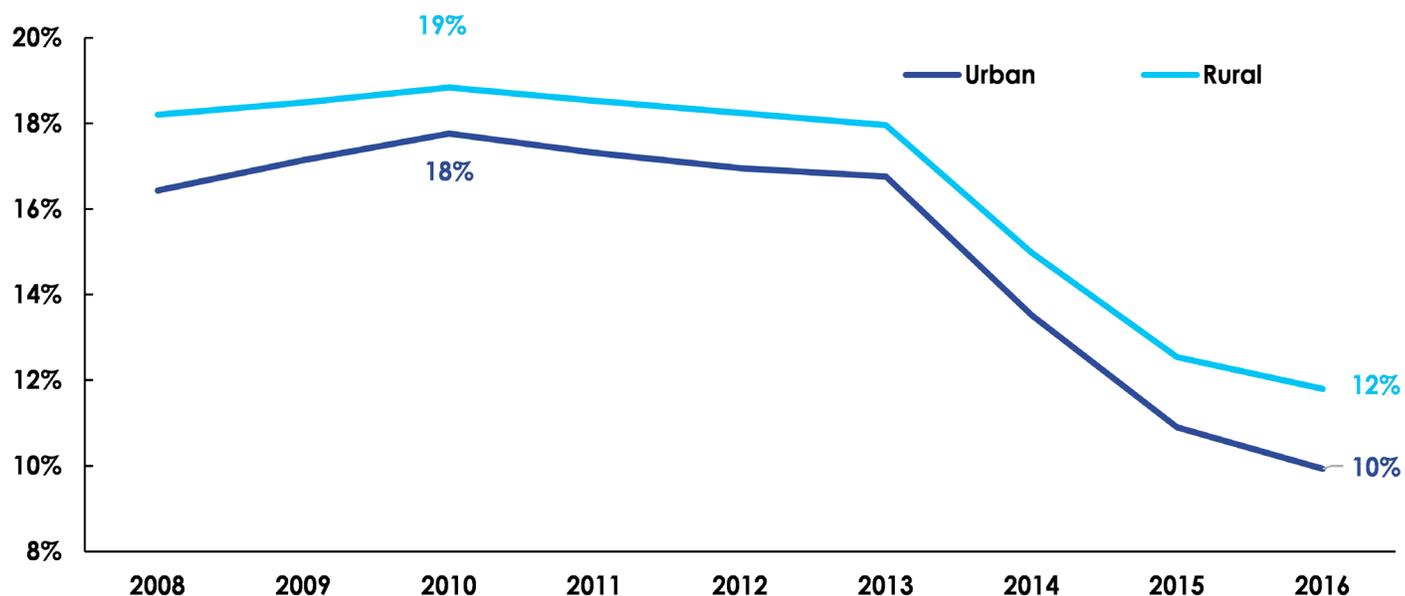
Rural residents face key demographic and logistical challenges, including complex health needs and financial constraints, and have to travel greater distances for care. These challenges multiply when the local hospital closes, leaving workers without jobs and residents without care.

Population Health

Rural Americans traditionally have difficulties accessing needed care and have greater health needs due to an older population and health disparities.¹ These challenges are further exacerbated by the fact that rural communities have higher poverty rates than urban residents. In 2016, the rural poverty rate was 16.9 percent compared to 13.6 percent in urban areas.²

Progress has been made since the passage of the ACA. The share of rural residents who are unable to afford necessary care dropped by 5.9 percentage points between 2012 and 2015.³ However, rural residents are still more likely than urban ones to be uninsured. In 2016, the uninsured rate for nonelderly rural Americans was 12 percent, compared to 10 percent for their urban counterparts.⁴

Uninsured Rates Fell by Over 1/3 Following the Affordable Care Act



Source: JEC Democratic Staff calculations based on data from the 2008-2016 American Community Survey, 1-year estimates
Notes: Uninsured rates are for people under age 65. Urban/rural refers to metropolitan/non-metropolitan counties.

Disconnected from Care

Rural communities experience various types of disconnect from the care they need, including cost and transportation barriers, and especially for specialized care such as maternity care and opioids addiction treatment.

Cost Barriers: Since the enactment of the ACA, national health care costs grew more slowly than predicted. During the period of 2014 to 2019, Centers on Medicare & Medicaid Services (CMS) estimates that spending will be \$2.9 trillion less than predicted prior to the passage of the ACA.⁵ Some of this progress translates to lower costs for consumers, but there is still far to go to ensure that all Americans have access to affordable, high-quality health care.

Rural residents often face large financial barriers to accessing health care, in part due to high poverty and uninsured rates. Over a quarter of rural uninsured residents forgo or delay care because of cost.⁶

One such cost barrier is the rising prices for prescription drugs. Since rural Americans are more likely to be uninsured, they are more likely to lack prescription drug coverage. Furthermore, of the 119 sole community pharmacies that closed between 2006 and 2010, a quarter were located in rural communities with no other health professionals or clinical providers nearby.⁷

Opioids: Although the opioid crisis has transformed into a national epidemic, rural areas continue to experience particular difficulties accessing treatment due to transportation barriers and shortages in mental health and substance use disorder service providers. The opioid epidemic has a ripple effect throughout families and communities. One study found that from 2004 to 2013, the rate of rural-born infants displaying opioid withdrawal symptoms grew by more than six times, nearly twice that of urban-born infants.⁸ More work is needed to address disparities in rural Americans' access to care, especially given its important nexus to addressing the epidemic.

Transportation: Rural residents typically have to travel long distances for care, particularly for specialized services, and have limited public transportation options to get there.⁹ People with less access to transportation are more likely to miss appointments or forgo treatment, leading to delayed care and worse health outcomes.¹⁰ Also, rural residents are more likely to have chronic conditions requiring ongoing visits to hospitals.¹¹ Hospital closures have forced rural Americans to travel longer and farther for care. During emergencies, patient mortality increases by 1 percent for every additional 6.2 miles that an ambulance must travel.¹²

Maternity Care: Even if hospitals are able to keep their doors open, obstetric units are often the first to go. From 2004 to 2014, 9 percent of rural counties lost all hospital obstetric services, leaving over half of counties without services. If a rural hospital closes its obstetric unit, women are forced to travel longer distances, endangering themselves and their children. Over half of rural women, compared to 7 percent of urban women, already travel more than 30 minutes to reach their nearest hospital obstetric services.¹³ Women who travel 20 or more minutes to give birth have a 17 percent increased risk of infant mortality.¹⁴

Medicaid and Rural America

Medicaid is a key component of the rural health care delivery system. It provides quality health care to millions of rural Americans, supports rural providers, and bolsters local economies. Through proposed drastic funding cuts, needless restrictions, and rollbacks of the program, Republicans in Congress and the administration have attempted to undermine Medicaid on multiple fronts.

Medicaid is Central to Rural Health Care

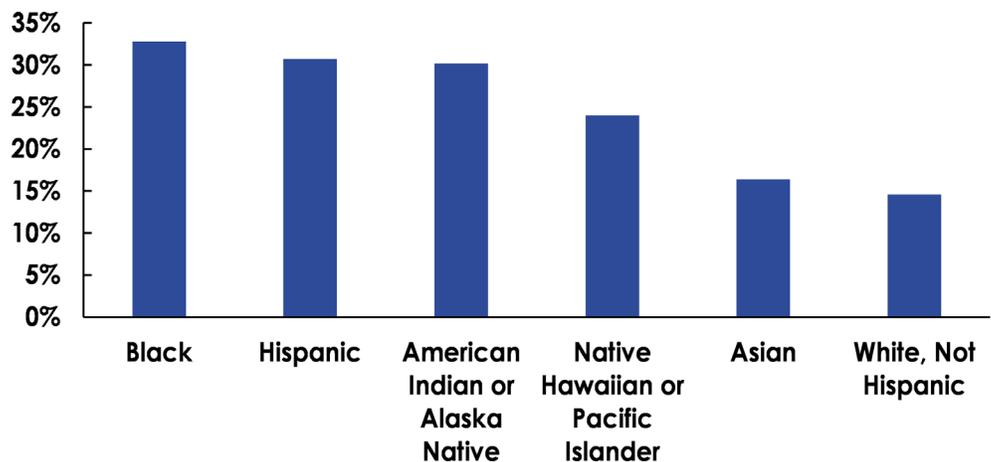
The Medicaid program guarantees access to health care for over 72 million beneficiaries today and makes up more than 10 percent of net revenue in rural hospitals.¹⁵ Nearly one in four nonelderly rural Americans depend on Medicaid for health insurance.¹⁶ For example, research shows that Medicaid pays for 51 percent of births in rural areas, compared to 45 percent nationally.¹⁷ Not only does Medicaid pay for critical maternity care, it helps hospitals keep their obstetric units open longer, when they might otherwise be the first to go.

Medicaid is key to accessing care for rural communities of color, as they often face higher poverty rates and health disparities.¹⁸

The program is particularly important to the American Indian and Alaska Native, Native Hawaiian and Pacific Islander, and black communities,

which have roughly one in three individuals enrolled in Medicaid.¹⁹

Medicaid Enrollment Rates



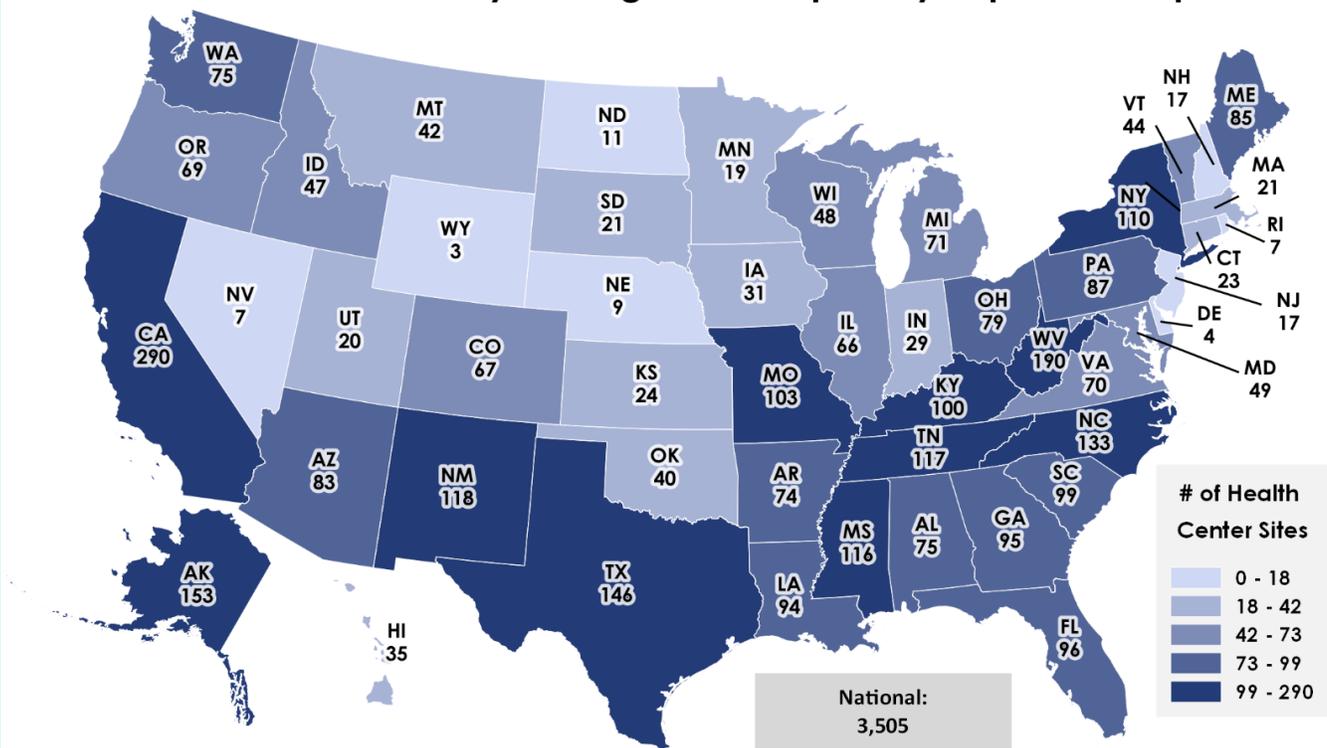
Source: National Health Interview Survey, 2016.

Notes: Hispanic is of any race. Asian, Black, Native Hawaiian or Pacific Islander, or American Indian or Alaska Native include Hispanics.

Medicaid Powers Community Health Centers

Federally qualified health centers provide comprehensive and cost-effective primary health care to 27 million patients in underserved communities nationwide.²⁰ Over 30 percent of health center sites, totaling 3,505 around the country, are in rural America. While nearly one-fourth of health center patients are uninsured, roughly half are insured by Medicaid.²¹ In addition to grants from the federal Health Center Program, which make up nearly 22 percent of funding, Medicaid is the largest source of funding for community health centers.²² Nationally, health centers employ nearly 208,000 people, generate \$45.6 billion in economic activity, and save our health care system \$24 billion.²³

Health Centers Primarily Serving Rural or Sparsely Populated Populations



Source: US Department of Health and Human Services, Health Resources Services Administration (HRSA)

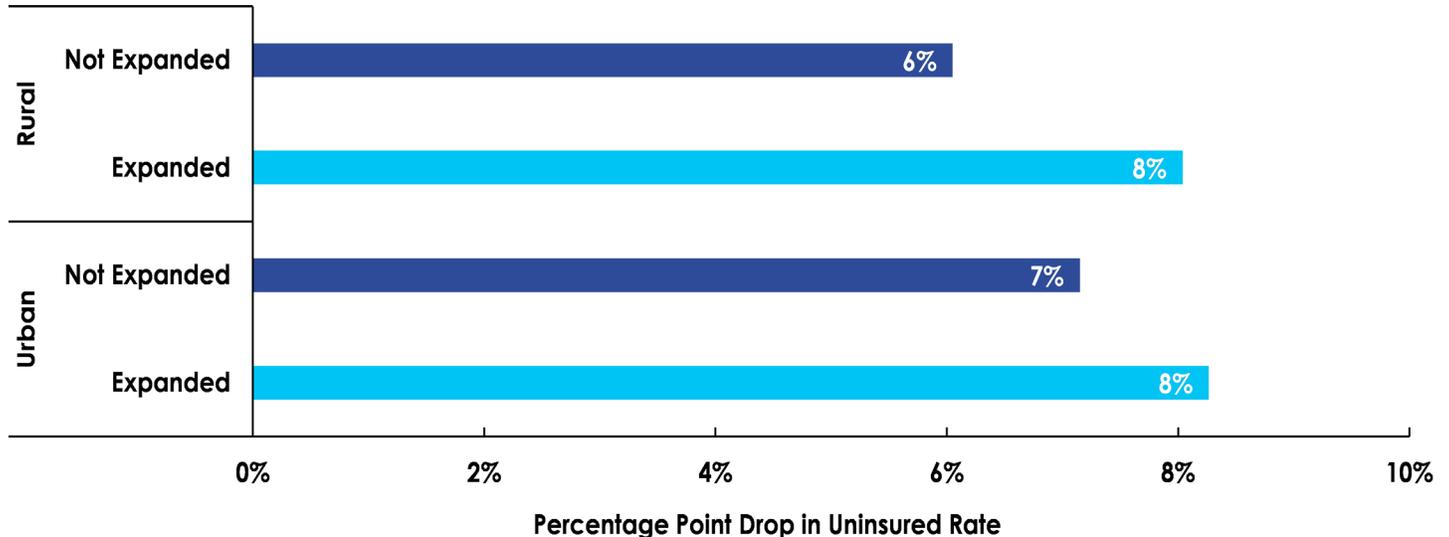
Note: Health centers are defined as active federally qualified health center and health center look-alike delivery sites. Rural and sparsely populated are defined by HRSA.

Medicaid Expansion a Boon for Rural Communities

The ACA provided states the option to expand their Medicaid programs to cover all people up to 138 percent of the poverty line, or \$34,638 for a family of four in 2018.²⁴ Medicaid expansion has proved to be a tremendous boon for both urban and rural states that chose to expand. Today, nearly 1.7 million rural Americans have gained coverage through Medicaid expansion.²⁵ If all states elected to expand Medicaid, nearly 4.5 million additional uninsured people could gain access to care nationwide.²⁶

Not only has Medicaid expansion improved insurance coverage in rural areas, it has also helped provide financial security to rural hospitals and supported local economies. Since the enactment of the ACA, rural hospitals in Medicaid expansion states had higher operating margins and fewer rural hospital closures than in non-expansion states.²⁷ Also, after the ACA, uncompensated care costs as a share of hospital operating budgets fell by about half in expansion states.²⁸

Uninsured Rates Improved More in Medicaid Expansion States



Source: JEC Democratic Staff calculations based on data from the 2008-2016 American Community Survey, 1-year estimates and from the Kaiser Family Foundation

Notes: Uninsured rates are for people under age 65. Urban/rural refers to metropolitan/non-metropolitan counties.

As we look to the future of the rural economy, ensuring that remaining states expand Medicaid is a top priority.

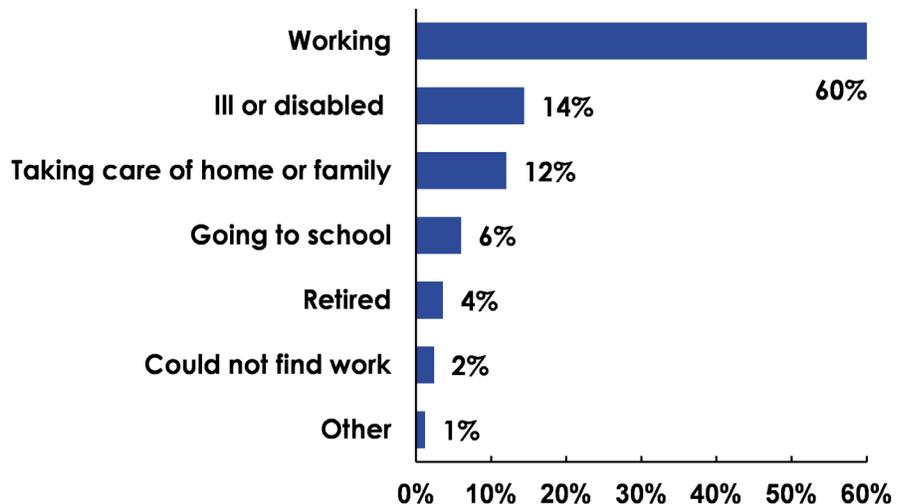
Let Medicaid Do Its Job

Despite its importance to rural America, the current administration has repeatedly attempted to gut Medicaid and greenlighted states' ability to impose restrictions that would effectively kick rural Americans off their health care. One such attempt is to implement work requirements. Similar to urban populations, however, over 90 percent of rural Americans are either working, ill or disabled, going to school, or taking care of home or family.²⁹

Burdensome work requirements proposed by the Trump administration would keep rural residents from accessing needed

care and stable employment. Research shows that Medicaid expansion makes it easier for employed workers to keep working and for unemployed enrollees to look for work.³⁰ Other proposed waiver provisions, such as eliminating payments that enable enrollees who lack reliable transportation to get to their appointments, could have a particularly negative effect on rural residents.³¹

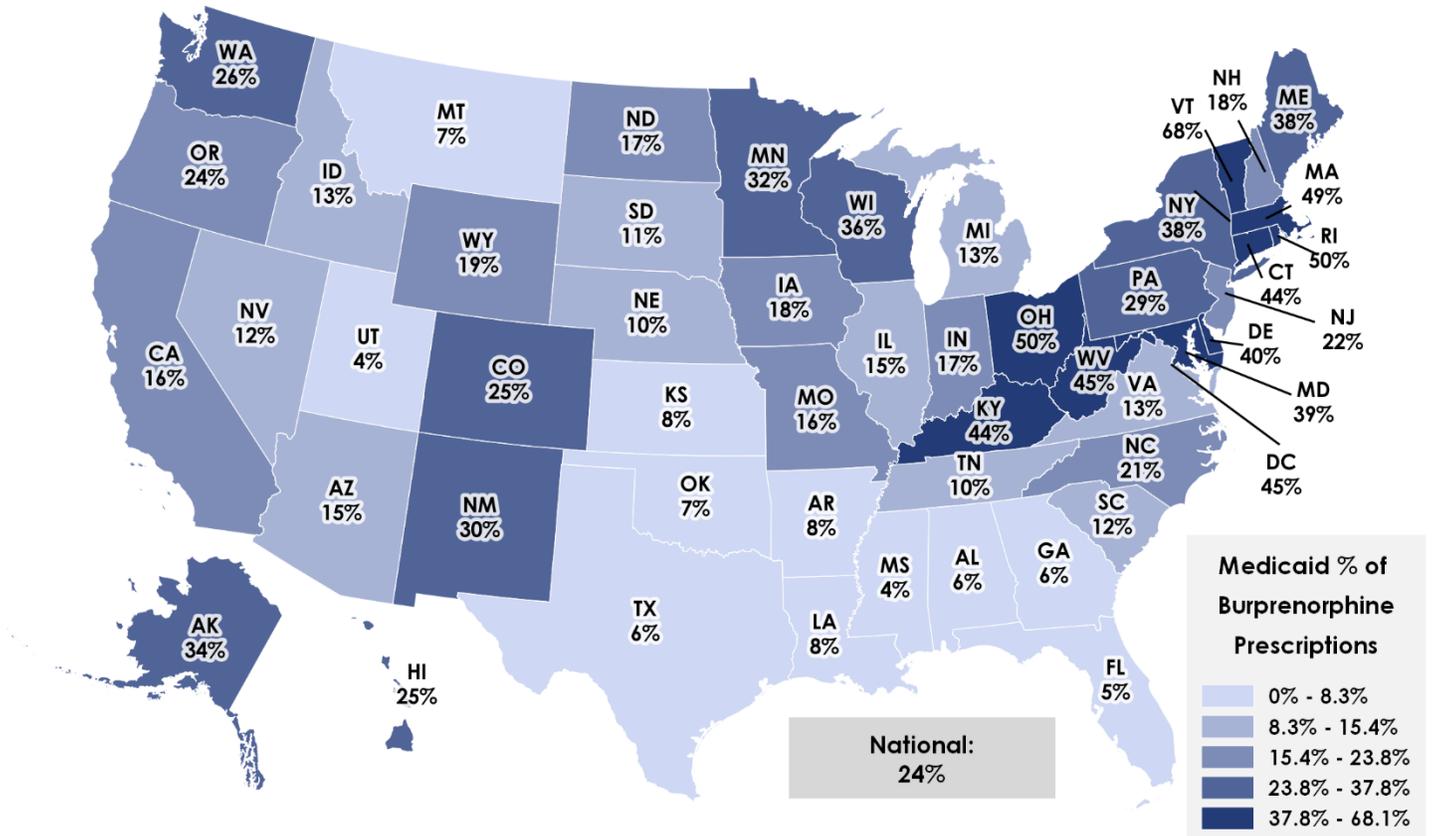
Vast Majority of Medicaid Recipients are Working, Disabled, Caregivers, or in School



Source: JEC calculations based on Kaiser Family Foundation analysis
Note: Includes non-elderly, non-SSI recipients

Any attempts to undermine Medicaid would also gut a lifeline for those struggling with opioid addiction. Medicaid is the strongest tool for fighting the opioid epidemic. It is the largest payer for behavioral health and substance use disorder services in the country, covering a quarter of all medication-assisted treatment for people with opioid addiction.

Medicaid Pays for Large Share of Opioids Treatment

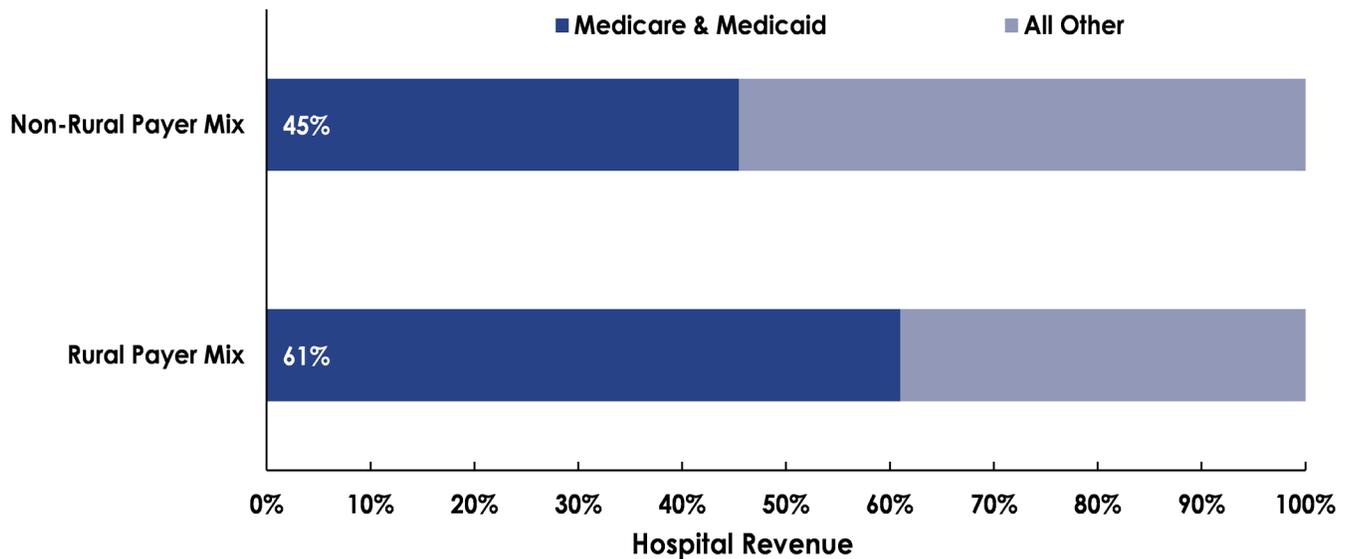


Source: IMS Institute for Healthcare Analytics, June 2016 data
 Note: Buprenorphine is used for medication-assisted treatment of opioid addiction.

Medicare and Rural America

Medicare is critical to rural communities which have, on average, older populations than urban communities. Medicaid and Medicare together make up 61 percent of rural hospital revenues.³² Cuts to Medicare would endanger rural hospitals by cutting provider payments or by decreasing the number of patients who can afford services. There is room to strengthen the Medicare program to bring it in line with the needs of American families and the workforce.

Rural Hospitals Depend on Medicare and Medicaid



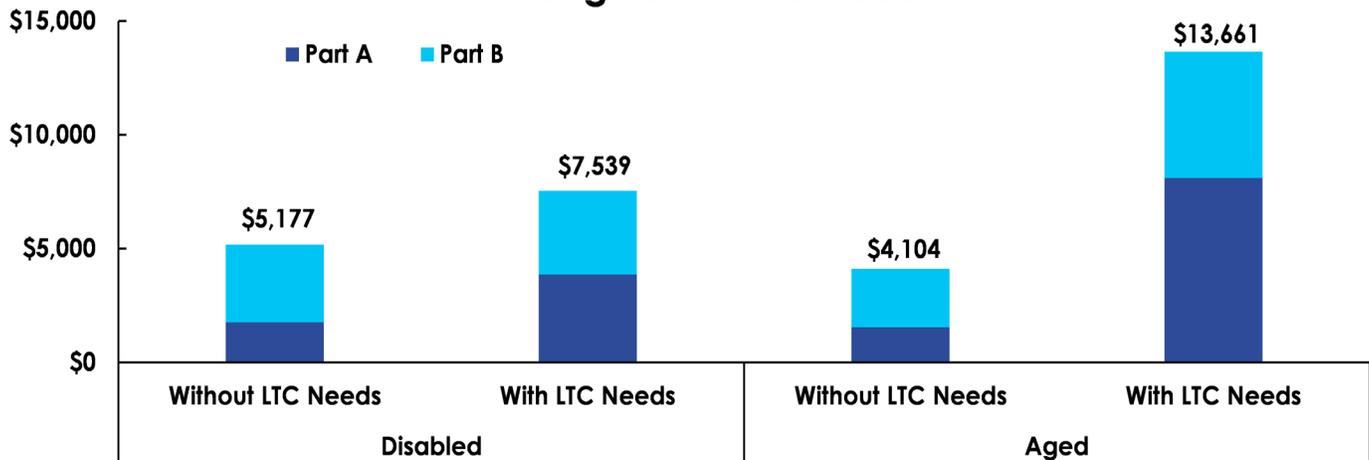
Source: The Chartis Center for Rural Health calculations based on CMS Healthcare Cost Report Information System, 2016

Improve Long-term Care

Rural America will bear a greater share of health costs as baby boomers age. Already, rural Medicaid recipients are more likely than their urban counterparts to be in nursing homes.³³ Medicaid is currently the largest payer of long-term care. While Medicare is critical to those with long-term care needs, who disproportionately depend on it to pay for expensive medical expenses, Medicare only covers nursing homes in limited circumstances.

Family caregivers already spend nearly \$7,000 a year, on average, on costs related to caregiving, and a quarter of those costs are for medical expenses.³⁴ Approximately a quarter of adults age 50 and older provide basic personal care to an aging parent.³⁵ Without Medicare, seniors, people with disabilities, and their caregivers would face higher costs.

Medicare Spends More on Medical Care For People With Long-Term Care Needs



Source: JEC Democratic Staff analysis of 2015 data from Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey. LTC is long-term care. Having LTC needs is having difficulties with 3+ activities of daily living (ADLs) for those dwelling in the community, or receiving supervision or assistance with 3+ ADLs for those in facilities. Expenditures are gross expenditures, not net of premiums or cost-sharing.

Change How We Pay for Care

In 2015, Congress passed the Medicare Access and CHIP Reauthorization Act (MACRA), which repealed the Sustainable Growth Rate and restructured the way Medicare pays physicians and other health providers.³⁶ These reforms have the potential to provide higher quality, more efficient care by moving our payment structures towards value-based models. However, additional work is needed to ensure that the new payment system takes into account the challenges rural providers face, including a high-risk population, geographical isolation, and low patient volumes.

Develop a 21st Century Workforce

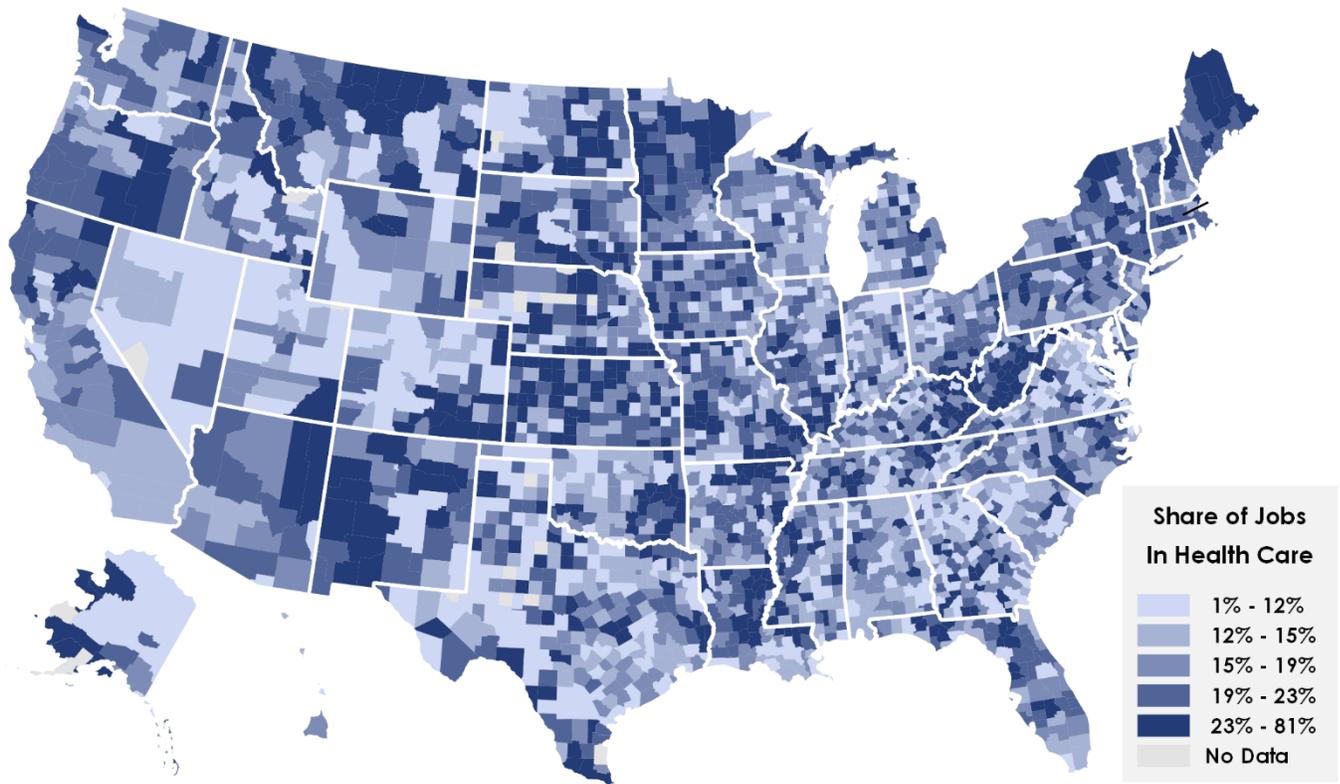
Health care jobs are critical to rural communities, and the need for these jobs will only continue to grow. Health care and social assistance jobs will account for over a third of the nation's projected job growth by 2026, adding nearly 4 million jobs.³⁷ Making smart investments in America's health care will address severe health professional shortages in communities across rural America—whether it is in health care providers, executive leadership, or a wide range of middle-skill jobs.

Rural America Needs Its Hospitals

Rural hospitals are often engines of economic growth and anchors of the community in rural areas. More than 40 percent of rural counties in the U.S. rely on hospitals for more than 10 percent of their jobs. These are critical middle-class jobs: On average, rural hospital employees make \$47,000, 43 percent higher than other workers in those counties.³⁸

When hospitals in rural communities close, the residents often lose more than just access to health care. They also lose a major employer and source of economic growth. If all 673 at-risk hospitals were to close, 137,000 rural residents would lose their jobs, and the national economy would lose \$277 billion over 10 years.³⁹ One study estimated that losing the sole hospital in a community increases the unemployment rate by 1.6 percentage points and reduces per-capita income by \$703.⁴⁰

Share of Employment in Health Care by County



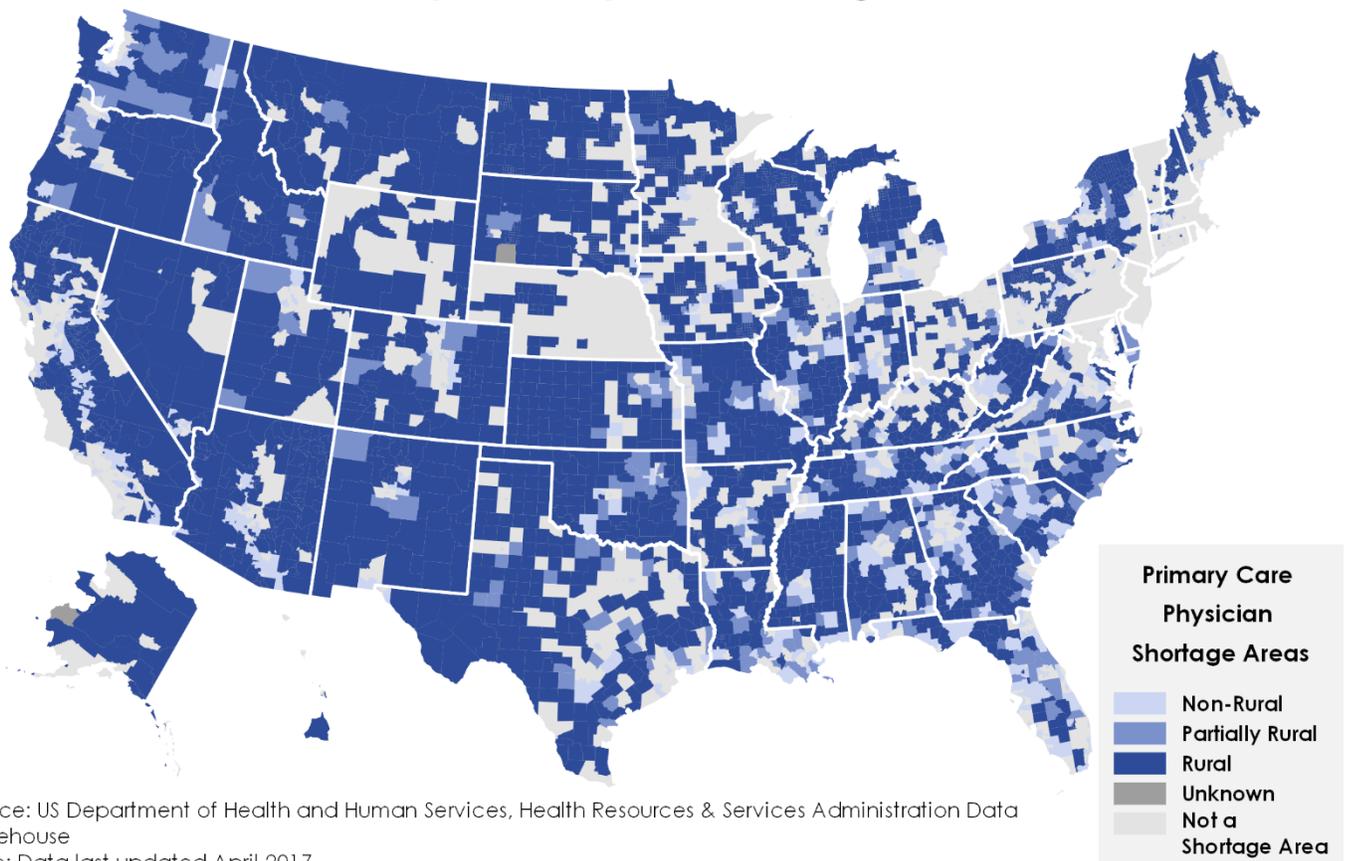
Source: County Business Patterns, 2015

Health Professional Shortages

Despite the critical health needs in rural America, there are roughly half as many physicians in rural counties as a share of population compared to the national average.⁴¹ Nearly nine in ten rural counties contain areas or populations that lack access to primary care services.⁴² Primary care physician shortages in rural areas affect up to 24 million people, with similar shortages in dental and mental health. Overall, rural communities face shortages today of over 4,000 primary care physicians, 3,500 dentists, and 1,700 mental health professionals.⁴³

Rural residents have difficulty accessing mental health services. While prevalence rates for mental health disorders and substance use disorders are similar in rural and urban settings, rural Americans have far fewer treatment services available.⁴⁴ In fact, more than 89 million rural and partially rural residents lack access to a mental health professional, and 82 percent of rural residents live in a county that does not have a detox provider.⁴⁵

Primary Care Physician Shortage Areas



Source: US Department of Health and Human Services, Health Resources & Services Administration Data Warehouse
Note: Data last updated April 2017.

At a time when the opioid epidemic continues to devastate rural America, over 21 million Americans live in rural counties where no doctor is certified to prescribe buprenorphine, the main drug used in medication-assisted treatment for opioid addiction.⁴⁶ Rural residents also often have to travel longer distances to access inpatient substance use disorder care, which drastically reduces the likelihood that they complete treatment.⁴⁷

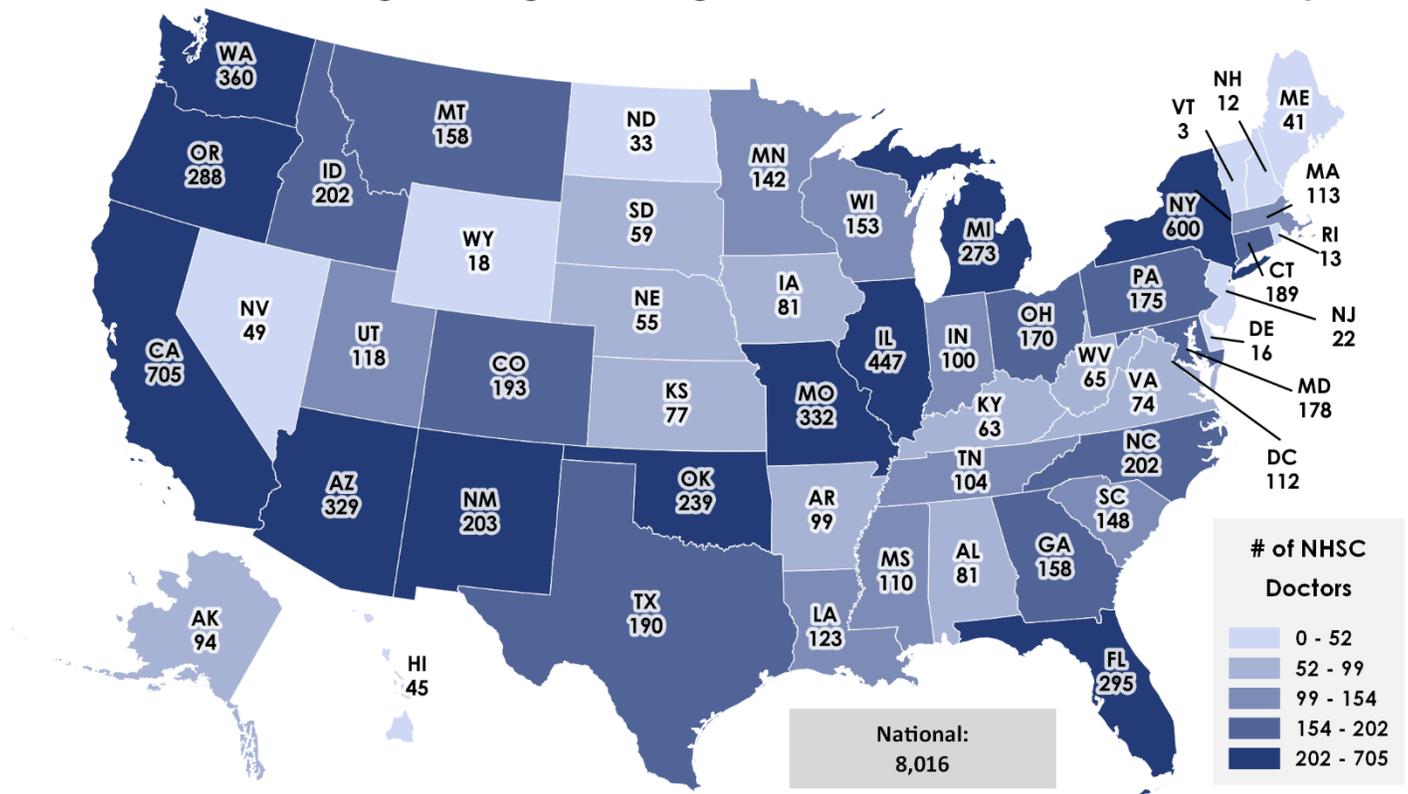
Rural Americans also lack access to dental services due to long distances to care and a lack of providers.⁴⁸ Some also have difficulty affording care, as only about one-third of dentists nationwide accept public insurance.⁴⁹ Over 20 million rural residents live in areas with shortages of dental professionals and an additional 3,500 dentists would be needed to fill those gaps.⁵⁰

The need for health care jobs is not restricted to physicians, but extends to a wide range of health professionals. For example, in response to physician staffing shortages, rural emergency departments often use various combinations of staff, such as physician assistants and nurse practitioners.⁵¹ Such demand for health care jobs will continue to grow, as health care support occupations, such as home health aides and medical assistants, are projected to grow by over 20 percent by 2026.⁵² In response to the long-term care needs of an aging population, the Bureau of Labor Statistics projects that there will be 431,000 additional jobs needed for home health aides and 778,000 additional jobs for personal care aides by 2026, the third and fourth fastest-growing occupations, respectively.⁵³

Federal Programs Address Shortages

There are existing programs working to fill this void in rural America. The National Health Service Corps bridges some of this gap by providing scholarships or helping students pay for medical school loans in exchange for serving in shortage areas. This program has currently placed over 8,000 health professionals in hospitals, clinics, and other providers across America, including over 3,600 in rural communities.

Doctors Filling Shortages Through the National Health Service Corps



Source: US Department of Health and Human Services, Health Resources & Services Administration.

Note: Number of doctors is in full-time equivalents. Doctors can serve in a primary care, mental health, or dental shortage area. Data as of May 3, 2018.

Additionally, the Teaching Health Center Graduate Medical Education (THCGME) program supports primary care residencies in community-based settings such as community health centers, rural health clinics, and tribal health centers, with a focus on rural and underserved areas. As a result, primary care residents have the opportunity to train in the community-based settings that need them the most. Currently, THCGME supports 732 residents in 57 primary care residency programs. Nearly a quarter of residents come from rural backgrounds and more than 80 percent of all residents train in medically underserved or rural communities.⁵⁴

“Grow Your Own” programs that focus on building a talent pipeline among rural residents have also shown promise. Providing opportunities for rural students to pursue health care job opportunities both makes it more likely that physicians will work long term in rural America, and enhances educational and job opportunities for the local community.⁵⁵

Quality Hospital Executive Leadership

Rural America also has difficulty attracting and retaining quality hospital leadership. Hospital leadership can make a big difference in the fate of a rural hospital—from managing the hospital workforce and finances, to creating partnerships with educational institutions, other hospitals, and the community. Leadership can influence whether a rural hospital is able to overcome many of the challenges discussed, or whether it joins the many hospitals that have closed.

Barriers to attracting and retaining hospital executives include the limited resources of many rural hospitals, impacting compensation. In 2012, the average non-profit hospital CEO compensation for critical access hospitals (CAHs) was approximately 37 percent of the national average.⁵⁶ Moreover, in a survey of Kansas hospitals, where 90 percent of respondents were rural hospitals, over half of CEOs reported that they had been with their organization for three years or less.⁵⁷ No federal funding analogous to the National Health Service Corps currently exists to promote a pipeline of rural hospital leadership.

Embrace Emerging Technologies

In modernizing health care for the 21st century in rural America, expanding health care delivery technologies, such as telehealth and remote patient monitoring (RPM), is a step in the right direction. Telehealth provides health care services remotely by connecting providers to patients via phone or video.⁵⁸ Remote patient monitoring technology allows providers to monitor patient health data while patients are at home.⁵⁹ These technologies can improve access to and quality of care by alleviating transportation challenges and provider shortages in rural America.

Technology Enhances Rural Health Care

Telehealth and RPM services bring care closer to patients who would otherwise have to travel long distances, reducing transportation challenges. Remote patient monitoring helps monitor patients, especially older ones, with chronic diseases and ensure continued recovery without the burden of multiple hospital visits.⁶⁰

Telehealth services connect patients and providers via phone or video and can deliver the same quality of care as in-person services. The convenience this offers makes for an increasingly popular option among rural residents, many of whom lack access to traditional health care services. Among family physicians, telehealth users are already nearly twice as likely to be located in a rural area than an urban one.⁶¹

Additionally, these technologies mitigate the challenges associated with health care provider shortages in rural areas, especially for specialty care. For example, expanded access to telehealth would benefit communities where mental health and substance use disorder services are scarce, wait times are long, and stigma remains high.⁶² In 2014, 68 percent of providers who reported using telehealth services referred a patient to specialty care.⁶³

Health care delivery technologies have improved access to and quality of care for many across rural America, including the one in four American veterans living in rural areas.⁶⁴ According to a 2014 Department of Veterans Affairs (VA) study, hospital admissions decreased by 35 percent under an at-home monitoring service for veterans who have health problems like diabetes and chronic heart failure.⁶⁵ Additionally, many veterans prefer to receive this kind of care. In a survey of veterans who recently underwent general surgery, nearly seven in ten preferred to conduct follow-ups via telehealth services rather than in-person visits.⁶⁶

Expanding these services is both cost-effective and benefits local communities. They can lead to cost savings from foregone wages as well as increased revenues for local pharmacies and labs.⁶⁷ A 2015 estimate showed expanding Medicare coverage for telehealth and RPM services could save the federal government \$1.8 billion over ten years.⁶⁸ Additionally, it has the potential to help recruit and retain more providers by supplying a virtual network of professional peers aimed to reduce rural isolation and burnout.⁶⁹

Telehealth in Action

The University of New Mexico (UNM) Health System offers telehealth services to rural residents in the state by connecting patients to providers via video technology. In addition, teleconsultations are available to rural hospitals for emergency rooms, neurology, telepsychiatry, and pediatric care, among others.⁷⁰ UNM's use of telehealth services to better provide health care in rural areas, known as Project ECHO, is used as a model to integrate telehealth into other health systems across the country.⁷¹

State of Telehealth & Remote Patient Monitoring Policy

Currently, telehealth services are covered to a limited extent by Medicaid, Medicare, commercial insurers, and the VA. Because states define and regulate telehealth differently, there is high variability in Medicaid coverage of telehealth services across states.⁷³ Medicare's definition is narrow, but coverage and reimbursement policies have become less restrictive due to recent legislative changes.⁷⁴ Though progress has been made, more work is needed to ensure appropriate telehealth services are covered and definitions are unified.

Although RPM often falls under the broad umbrella of telehealth services, CMS defines it differently.⁷⁵ Remote patient monitoring does not involve direct communication between a patient and a provider, and therefore is not considered to be a telehealth service under the current definition.⁷⁶ Recently, though, CMS expanded its coverage of RPM under Medicare.⁷⁷ Nevertheless, more action is needed to reach full coverage of RPM under Medicare and Medicaid.

21st Century Care Needs Better Broadband

Rural Americans have much to gain from accessing 21st century health care technologies. Yet, limited access to broadband and wireless services remains a barrier. Currently, approximately 69 percent of rural residents have access to broadband internet.⁷⁸

Investment in broadband infrastructure is essential to connecting rural Americans to health care services that otherwise may be too costly or too difficult to access.

Bringing Rural Health Care Into the 21st Century

To address these challenges, Congress should strengthen Medicaid and Medicare, which are lifelines to rural patients and providers. It should invest in emerging technologies, such as telehealth and RPM, to improve quality and increase access to care. Lastly, Congress must ensure that rural America is ready for the health care jobs of the future—by attracting and retaining health professionals and training workers to fill the range of health care professions.

Policy Solutions

- Protect Medicaid against cuts and rollbacks and expand the program to continue progress made from the ACA.
- Strengthen and improve Medicare to better serve the needs of rural communities.
- Develop a 21st century workforce by increasing recruitment and retention efforts for the whole spectrum of health professionals.
- Embrace emerging technologies by investing in broadband and expanding payment options.
- Lower the cost of care by adapting value-based care to fit rural realities, lowering prescription drug prices, and increasing coverage options.

Protect Gains Made Through ACA and Medicaid

Instead of attacking Medicaid and the ACA, Congressional Republicans must work with Democrats to improve the ACA. Affirmatively encouraging states to expand Medicaid would alone provide access to care to over 4 million eligible Americans and pursuing additional ways to expand health coverage would help ensure every American has the peace of mind that their health needs will be cared for.⁷⁹ Additionally, legislators should consider increasing Medicaid payments for mental health and substance use disorder services to help increase access in rural areas, such as those hit hard by the opioid epidemic.⁸⁰

Strengthen and Improve Medicare

Congress should modernize Medicare to meet the needs of seniors in the 21st century. For all seniors, and particularly rural seniors, that includes addressing the rising demand for long-term care, extending coverage to dental care, and helping to ease the burden of increasing prescription drug costs. Value-based payment reforms and other innovative solutions will work best for rural residents when they are tailored to the diverse needs across communities.

Develop a 21st Century Workforce

To develop the a 21st century health care workforce, Congress must expand programs that make it possible to pursue a medical career in underserved rural areas, such as the National Health Service Corps, Teaching Health Center Graduate Medical Education, and the Area Health Education Centers Program.⁸¹ Pairing these programs with policies that encourage the development of community amenities and increase of connectedness will increase their effectiveness in attracting and retaining quality talent, from physicians to hospital CEOs.⁸² Lawmakers must also invest in middle-skills pathways, such as registered apprenticeship programs, to meet the needs for the full range of health care jobs and raise wages of lower-paying jobs.⁸³

Embrace Emerging Technologies

To ensure that rural America has the foundation to implement health care delivery technologies, Congress should draw on Federal Communications Commission (FCC) funding to boost investment in broadband infrastructure in rural communities.

Additionally, by passing the CONNECT for Health Act of 2017 (S.1016/H.R.2556), lawmakers would significantly expand access to telehealth services under Medicare.

Lower the Cost of Care

Congress should build upon the progress from the ACA and continue to lower costs for consumers and for our overall health care system. To do so, it is important to adapt payment systems and value-based care reforms to the realities in rural America, such as the impact of rural staffing challenges on accountable care organization policies. Congress should also take a serious look at policies to lower the high cost of prescription drugs. Finally, bringing down costs in areas with a lack of competition will require greater focus on ways to increase insurer competition or cover more Americans through expanding Medicare or Medicaid.



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AGRICULTURE

IN THE 21ST

CENTURY

ECONOMY

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8

Key Takeaways

- The farming population is aging and the next generation of farmers is having difficulty finding affordable land and the resources to get started in farming.
 - On-site renewable energy technologies have the potential to decrease farm expenses and create a steady stream of farm income.
 - Agricultural exports strengthen the rural economy.
 - Farms are consolidating: The number of farms in the U.S. is declining while the farms that remain are growing larger.
 - The median farm operates at a loss, forcing many farming households to rely on off-farm income to support their livelihoods.
- 

America is a global leader in agricultural production, helping to supply the world with nutritious and affordable food. Our nation's preeminence in this domain is a result of hard work from our farmers and rural communities. Beyond providing a safe and sustainable food supply, farmers are stewards of the land, stimulate rural economic development, and create jobs both in and out of agriculture. Farming continues to be among the most productive, technologically sophisticated, and innovative industries in the American economy.

Nevertheless, farming faces significant challenges in the years ahead. The population of farmers is aging rapidly. Farm consolidation, high startup costs, and limited land availability have made it more difficult for young and beginning farmers to enter the industry. And farm profits are following a downward trajectory, just as changes in trade policy threatens to disrupt U.S. agricultural exports.

To keep farming as a viable career option, state and federal lawmakers should invest in the next generation of farmers to ensure they have opportunities to acquire land, obtain capital, and access global markets. Revitalizing the nation's farmland is key to preserving the economic viability of rural communities and maintaining America's leadership in agricultural production.

Making a Living in Agriculture

Farm finances vary widely according to geography, the size of the farm, and what is being produced. While the median income for farm households exceeds the median for all U.S. households, the price of land, equipment, and other expenses makes for slim profit margins, particularly for small and beginner farms. Small farms in the U.S. rely heavily on off-farm income to fund farm operations and support their households.

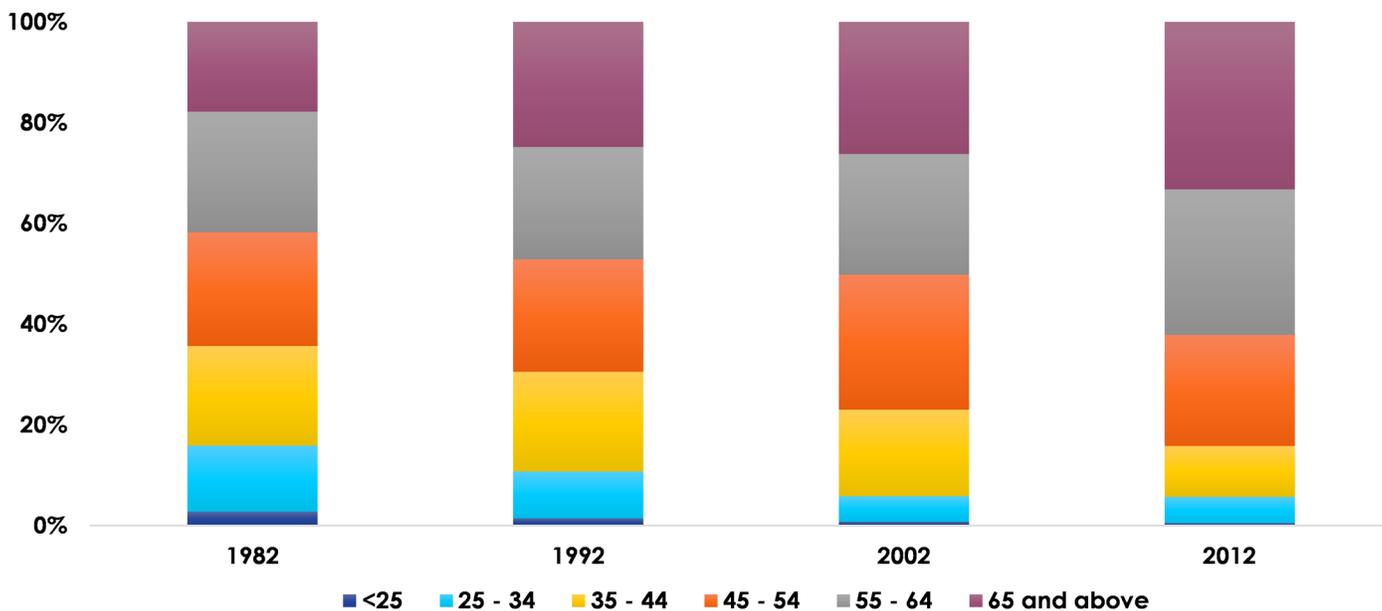
Improving the Outlook for Beginning Farmers

The average age of a farmer in 1978 was 50 years old. As of 2012, the average age was 58, much higher than the median age of 42 among the national workforce.¹ Only 6 percent of farmers in 2012 were under the age of 35, while one-third was over the age of 64.² Between 2007 and 2012, the number of new farmers fell by 20 percent.³

The high startup costs of farming and the limited availability of land are obstacles to growing a younger farming workforce.⁴ The average value of farmland in the U.S. in 2017 was more than \$3,000 per acre.⁵ The number of farm properties on the market are also projected to remain low due to the high rate of intra-family farmland transfers.⁶

Despite these trends, bright spots are emerging. The number of young farmers grew by 2.2 percent between 2007 and 2012—only the second increase in the last century. In states like California, Nebraska, and South Dakota, the number of young farmers jumped by 20 percent or more.⁷

Age of Principle Farm Operator



Source: Department of Agriculture - National Agricultural Statistics Service Census of Agriculture

These young farmers are more likely to work on small farms of less than 50 acres, grow organic produce, and be involved in local food systems like Community Supported Agriculture (CSA) programs and farmers' markets.⁸ Though it is too early to tell whether this signals a revival of young farming, recent trends suggest young people may be willing to farm if barriers to entry are low.

There are also indications that new farmers may be more diverse. While the total number of farms in the U.S. declined by 4 percent between 2007 and 2012, the number led by Hispanic operators increased by 21 percent. Farms run by other ethnic minorities increased by 11 percent.⁹ Women are also slowly increasing their numbers.

In 2012, 14 percent of farms were principally operated by women, a nearly threefold increase from 1978.¹⁰

Existing programs such as USDA's Beginning Farmer and Rancher Development Program, Outreach and Assistance for Socially Disadvantaged and Veteran Farmers and Ranchers Program, and Conservation Reserve Program's Transition Incentives Program all provide support to help build the next generation of farmers and ranchers. These programs, however, will need to be reauthorized this year.¹¹ Further, funding through the Agriculture and Food Research Initiative provides competitive research, education, and extension grants to address priority agriculture and rural issues. These issues include training the next generation of farmers and ranchers, mitigating impacts of climate change, addressing water conservation, enhancing agriculture production and nutrition, and improving rural economies.¹²

Veterans: New Generation of Farmers

Started by a combat veteran, the Desert Forge Foundation (DFF), a non-profit in Albuquerque, New Mexico, is working to engage retired service members in local agriculture. While the economic outlook for veterans has improved since the Great Recession, many still struggle to translate their military skills into stable and meaningful civilian work.¹³ The DFF employs veterans on working farms and fosters the development of agricultural skills that can be used to start their own farms or businesses.¹⁴

The DFF was awarded a \$25,000 grant from the city of Albuquerque in recognition of their commitment to building a new generation of farmers.¹⁵ The organization also obtained funding from the USDA to develop a three-year, tuition-free, accredited program that teaches veterans the business of farming and prepares them to launch their own farming operations.

Going Local in Agriculture

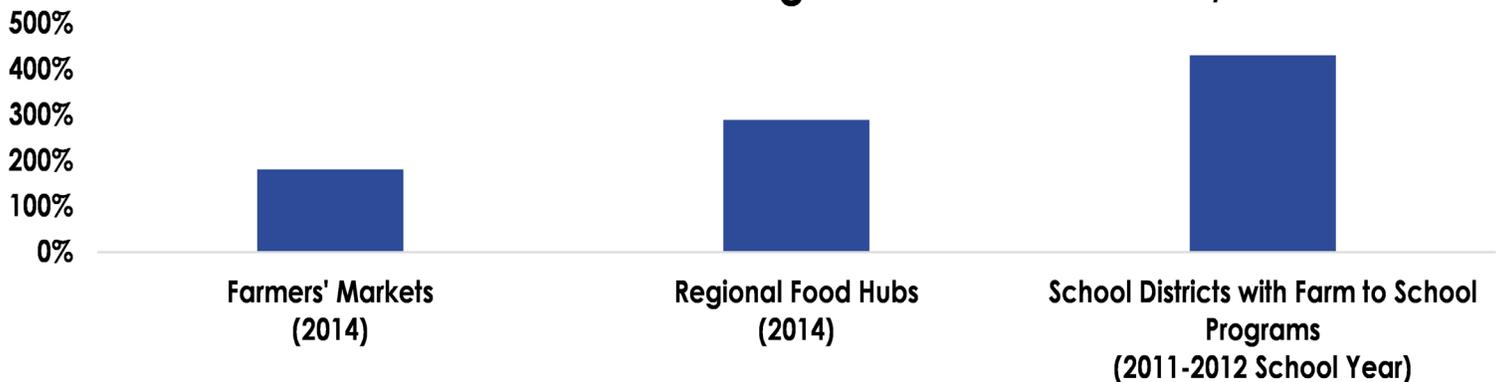
Many farms, especially small ones, are utilizing a direct-to-consumer sales model in which they sell directly to local customers or retailers rather than third-party distributors.¹⁶ Small farmers utilizing direct-to-consumer models are more likely to remain in business than those marketing through traditional channels.¹⁷ Direct sales totaled \$8.7 billion in 2015, with sales to customers via farmers' markets and on-farm stores accounting for 35 percent.¹⁸ The number of registered farmers' markets in the U.S. increased 98 percent over the last decade, reflecting growing consumer demand for local food.¹⁹

Community Supported Agriculture (CSA) arrangements, where consumers buy a share of a local farm and are delivered a portion of the farm's production directly, are another direct sales model that farms have adopted. Between 2002 and 2012, the number of CSA arrangements increased by 24 percent.²⁰

The USDA's Farmers Market Promotion Program (FMPP) supports the growth in direct sales channels and other initiatives to increase farms' engagement with local customers.

Since its enactment in the 2008 farm bill, the FMPP has awarded 879 grants totaling over \$58 million to expand access to establish farmers' markets, CSA enterprises, roadside stands, and agritourism.²¹

Growth in Local Marketing Channels Since 2006/2007



Source: Department of Agriculture-Economic Research Service, "Trends in U.S. Local and Regional Food Systems: A Report to Congress."

The program was expanded in 2014 to include the Local Food Promotion Program, which targets food hubs and value chain expansion for farmers wishing to expand sales into businesses like hospitals, restaurants or schools.²²

Organic Farming's Promise

The rise of organic farming presents new opportunities for small and midsize farms across rural America. Today, organic farming in the U.S. is a nearly \$50 billion industry, with almost 25,000 certified farms and businesses in operation—nearly quadruple the number in 2002.²³ With organic products drawing higher prices in the market than conventionally grown crops, transitioning land to organic farming can allow smaller farms to earn more without having to expand.²⁴ For small and midsize farms at risk of being put out of business or absorbed by larger operations, organic farming may hold the key to keeping them viable.

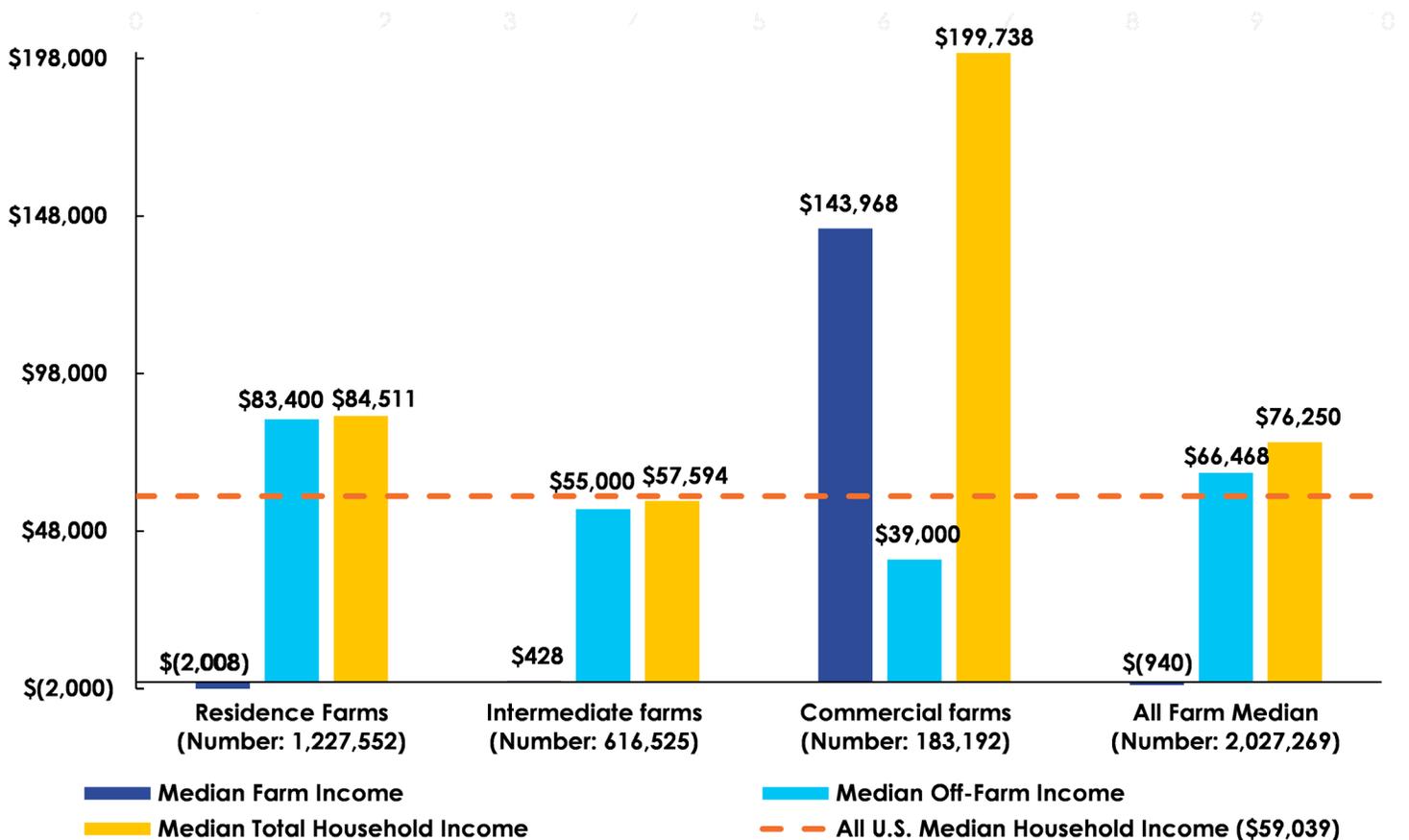
Organic farming can also stimulate economic development in rural areas. Areas with high densities of organic agricultural activity attract workers and investments in local infrastructure. Counties with significant organic activity have seen poverty rates decline by 1.3 percentage points—nearly on par with the poverty reducing power of the Supplemental Nutrition Assistance Program (SNAP).²⁵ These high-density areas with organic agriculture are also associated with median income increases of over \$2,000 each year, benefits not seen in areas with high levels of conventional farming activity.²⁶

Expanding organic operations in the U.S. can help attract the new generation of young farmers needed to maintain the productivity and profitability of the agricultural sector. Young farmers are more likely to be involved in organic production, but organic farmland represents less than 1 percent of total farm acreage in the U.S. today, even as organic products account for more than 5 percent of all food sales.²⁷ More organic farmland would provide greater opportunities for young people—especially those concerned about climate change and environmental impact—to enter and remain in the industry.

Reliance on Off-Farm Income

Roughly 90 percent of all farm household income is earned through off-farm activities.²⁸ This reflects the prevalence of small farm households, which are especially reliant on earnings from off-farm sources and employment. For small “intermediate” farms—in which the head of household’s primary occupation is operating the farm—about 95 percent of income comes from off-farm sources. The share is even higher, 99 percent, for small “residence” farms that have a head of household who is retired or primarily employed off the farm.²⁹ Heads of small farm households working outside the farm are most commonly employed in the management and service sectors.³⁰

Household Income by Farm Type



Source: Department of Agriculture - Economic Research Service; National Agricultural Statistics Service, 2016 Agricultural Resource Management Survey; Census Bureau, Income and Poverty Survey.

Note: Residence farms have less than \$350,000 in Gross Cash Farm Income (GCFI) and have a principal operator who's either retired or has a primary occupation other than farming. Intermediate farms have less than \$350,000 in GCFI and have a principal operator whose primary occupation is farming. Commercial farms have \$350,000 or more GCFI and nonfamily farms. Nonfamily farms are excluded from the commercial farm group in the reporting of household statistics. Data as of November 29, 2017.

In contrast to small farms, commercial farms—which have more than \$350,000 in annual sales and, as a group, account for more than 75 percent of U.S. agricultural production—earn the bulk of their household income from farm activities.³¹ Commercial farm households' median income was more than triple the national median in 2016. For commercial farm households operating the largest farms (over \$1 million in sales), their median income was more than six times the national median.³² Though commercial farm households earn more than small farm households, their incomes are more vulnerable to unstable swings in agricultural prices.³³

The USDA expects farm sector profits to fall to \$59.5 billion in 2018, the lowest level in real terms since 2002.³⁴ The decrease is due to projected declines in cash receipts and government farm payments, combined with increased fuel, interest, and hired labor expenses. Median farm household income is projected to fall by 0.8 percent from 2017 in inflation-adjusted terms.³⁵

Agriculture and Renewable Energy

Farmers live off the land and have long recognized the role clean energy can play in supporting their livelihoods and those of generations to follow. In addition to reducing energy costs and protecting the local environment, renewable energy can provide a stable source of income for farms willing to lease their land to energy companies. As new renewable technologies are deployed, farms across rural America will have more options for making productive use of their land.

Using Renewable Energy on the Farm

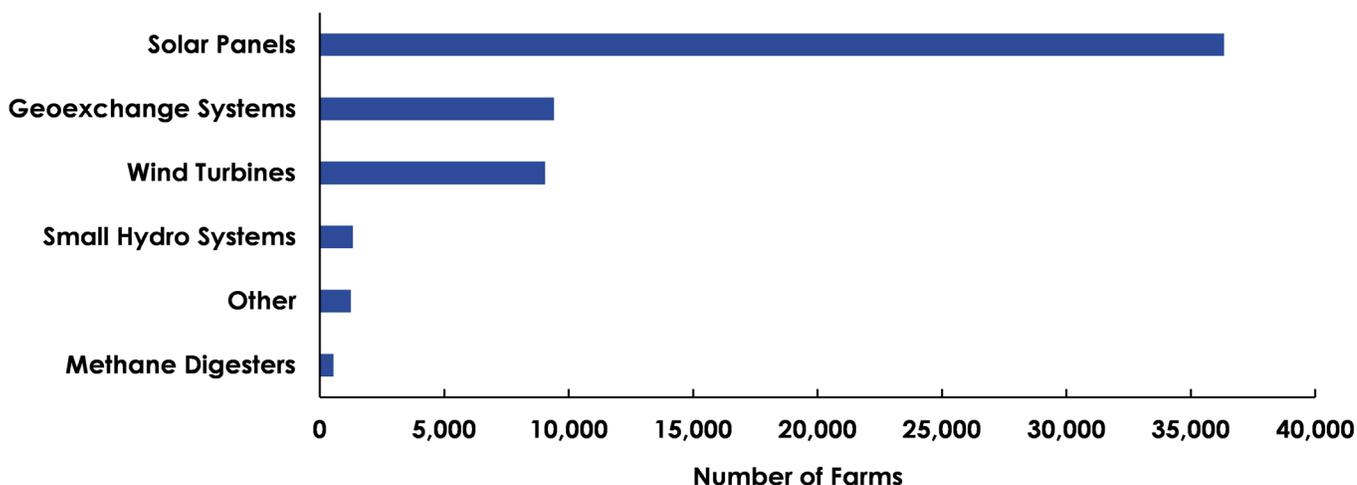
Farmers are turning to renewable energy sources in response to rising diesel and natural gas prices.³⁶ From 2007 to 2012, the number of farms producing renewable energy or electricity for on-site use more than doubled to nearly 58,000. An additional 17,000 farms were involved in leasing wind rights or producing ethanol or biodiesel.³⁷

On-site renewable energy systems are becoming more popular as farms see greater opportunities for clean energy to reduce farm energy expenses and increase income.

Solar: Solar panels were the most common renewable energy source used on farms in 2012, accounting for 63 percent of all on-site renewable energy systems.³⁸ Farms are also installing solar panels for commercial purposes.

A growing demand for solar, combined with low and volatile commodity prices, have made solar panels more profitable than farming crops in many communities. In some areas, solar companies are offering up to \$2,000 per acre, per year to lease farmland—considerably more than the local per acre lease price for crops.³⁹ In rural Illinois, for instance, one farmer is leasing a parcel to a solar company for \$800 an acre per year, compared to the \$250 per acre he receives from farmers leasing his land to grow corn and soybeans.⁴⁰

Renewable Energy Produced On Farm



Source: Department of Agriculture, Census of Agriculture, 2012.

Wind: Nearly 16 percent of farms with renewable energy producing systems in 2012 relied on wind energy to reduce their energy expenses.⁴¹ As with solar, leasing land to wind companies has become increasingly profitable. In 2015, rural landowners earned \$222 million in lease agreements with wind farms. About 70 percent of this amount went to rural landowners living in low-income counties.⁴² By 2030, annual lease payments to rural landowners are projected to grow to \$650 million, with an additional \$1.8 billion in annual property tax revenue for rural communities.⁴³

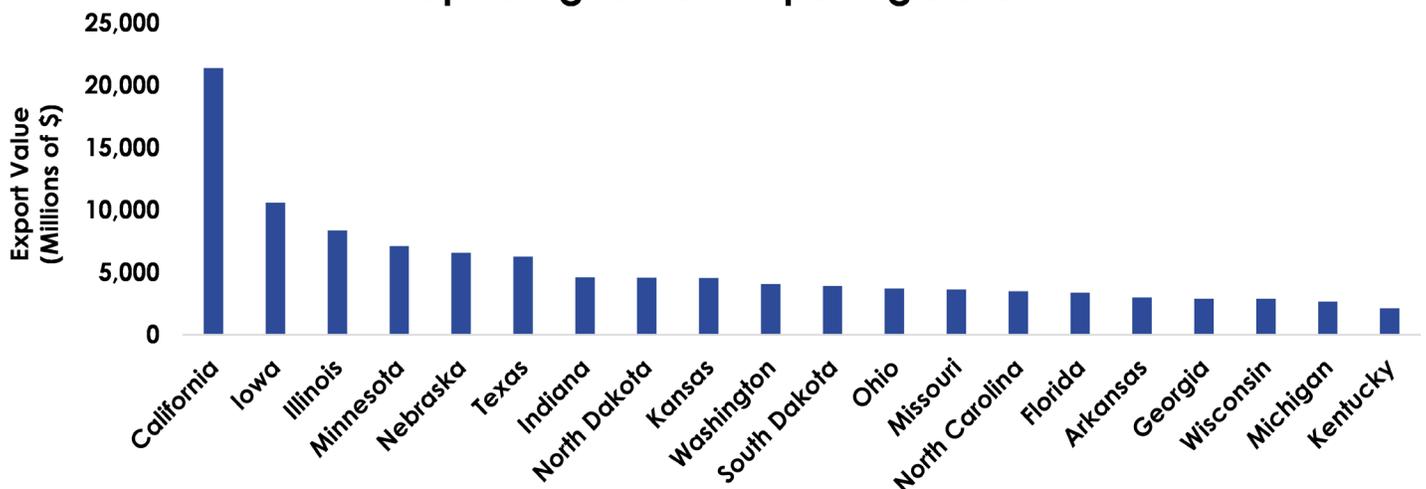
Biofuels: Biofuels, which are produced from agricultural crops, present another opportunity for farms to capitalize on renewable energy. Ethanol and biodiesel are most commonly made from two crops abundant on American farmland: corn and soybeans. But in a threat to these producers, the administration announced it is considering revoking the Renewable Fuel Standard (RFS), which mandates all fuel must maintain a certain level of renewables. The RFS accounts for 38 percent of the U.S. corn crop, currently valued at around \$21 billion.⁴⁴

Agriculture Exports Fuel the Economy

In addition to selling agricultural products domestically, U.S. farmers rely on sales to foreign countries. In 2017, U.S. agricultural exports totaled nearly \$141 billion, with roughly two-thirds of sales going to East Asia, Canada, and Mexico. Agricultural exports support farm and non-farm sector jobs in the U.S. In 2016, for example, exports required over 1 million full-time jobs (70 percent of which were outside of farming) and added \$307 billion to the U.S. economy.⁴⁵

Despite U.S. agriculture's reliance on global trade, and with farm sector profits already expected to fall this year, the current administration is entertaining policies that could spark a trade war with China. This could put nearly \$50 billion in American-made products, including pork and soybeans, in jeopardy.⁴⁶ The administration also threatened to walk away from the North American Free Trade Agreement, which supported \$38 billion in agriculture exports in 2016.⁴⁷ These policy shifts could have significant implications for the rural economy as a whole, and for farming communities in particular.

Top 20 Agriculture Exporting States



Source: Department of Agriculture-Economic Research Service; Department of Agriculture-Foreign Agricultural Service, 2016.
Notes: Export values are calibrated such that the sum of State export estimates for a commodity equals the total U.S. export value for the commodity.

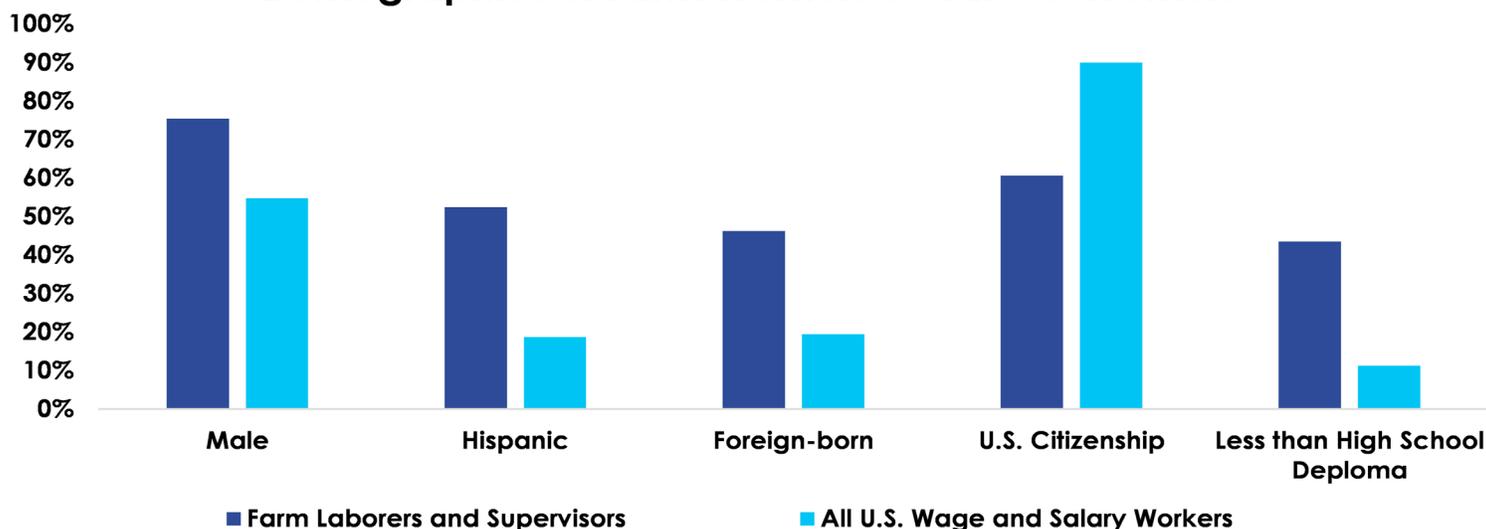
Farm Labor Bolsters the Rural Economy

The success of American farms depends upon the important contributions of farm laborers. Given the vastness of our farmlands, high yields, and agricultural diversity, thousands of farm workers are needed each year to harvest our crops. Many agricultural operations rely on temporary immigrant labor. In 2017, more than 160,000 H-2A visas were issued for temporary agricultural workers, an increase of nearly 120 percent from four years earlier.⁴⁸ Nonetheless, the H-2A program only provides less than 4 percent of the hired workers needed and farmers across the country are still struggling to find farm labor.⁴⁹

Hired farm laborers, both citizens and non-citizens, are some of the most economically disadvantaged workers in the country. In 2017, farm laborers earned a median wage of \$11.41 per hour and average annual pay of \$23,730.⁵⁰ Among all farmer laborers in 2016, 75 percent were male and nearly 45 percent had less than a high school diploma.⁵¹

Many of these farm workers face difficulty finding safe and affordable housing. Farm workers often live in crowded, unsanitary conditions that lack basic utilities and are far away from grocery stores and health care facilities.⁵² The federal government maintains a farm labor housing program to finance the construction of 600 housing units each year on average, but this falls far short of demand.⁵³

Demographics of Farm Workers vs. All U.S. Workers



Source: Department of Agriculture-Economic Research Service

The Farm Bill

Since the 1930s, Congress has authorized a comprehensive, multi-year bill—often referred to as the “farm bill”—that covers a wide array of agricultural, food, conservation, and rural development programs. The current farm bill expires on September 30, 2018, which is why farmers, families, and rural communities are looking for the certainty of a renewed comprehensive five-year farm bill. The Senate Agriculture Committee recently passed a bipartisan 2018 reauthorization out of committee that gives farmers, families, and rural communities the certainty they need to plan for the future. Below are some highlights from that proposal.

Commodity Programs and Crop Insurance

Farming can be a risky business. Commodity and crop insurance programs provide risk management tools to farmers when prices decline or when bad weather or natural disasters damage crops.⁵⁴ The bipartisan bill preserves and strengthens these needed tools for agriculture producers.

Rural Economic Development

Several farm bill programs support small towns and rural communities. The farm bill supports job creation and opportunities in rural America ensuring that families can enjoy a high quality life no matter where they live. These policies include investments in rural infrastructure such as high speed internet access, loans to small businesses and rural entrepreneurs, and establishment of regional planning authorities to coordinate development strategies.⁵⁵

Conservation of Land and Water Resources

The farm bill is the largest source of federal funding for conservation on private lands.⁵⁶ It provides financial assistance and technical outreach and training to farmers who agree to follow best management practices and support improved water quality, reduced soil erosion, and the creation of wildlife habitat, in particular for endangered and threatened species.⁵⁷ The legislation also guides management of our National Forests—including programs to restore unhealthy forest stands, and establishing permanent protection for other national forest acres under the National Wilderness Preservation System.⁵⁸

Improving Access for Exports

The agriculture economy relies on its ability to export. The bill supports exporting in a number of ways through major programs such as the Market Access Program. The bill also supports international food assistance through the Food for Peace program, which provides emergency and nonemergency food aid abroad.⁵⁹

Supporting Energy Programs

The bill authorizes a number of programs which encourage the development of farm and community renewable energy systems, such as solar and wind, through grants and loan guarantees. The bill also authorizes provisions covering the production and processing of biofuels and biofuel feedstocks along with education and research programs.⁶⁰

Food Security for Families

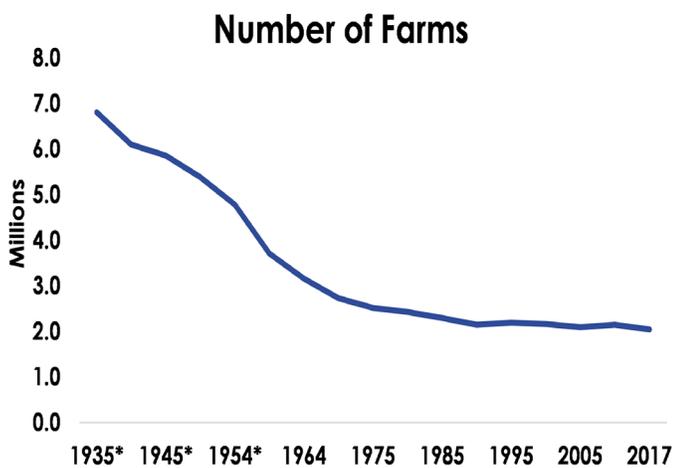
As of March 2018, 40 million individuals received food assistance through SNAP.⁶¹ In FY 2016, 78 percent of SNAP households included a child, senior or person with disabilities.⁶² Although roughly 80 percent of spending for the 2014 farm bill was focused on food assistance for low-income families, SNAP spending continues to decline as the economy improves.⁶³ By 2028, nearly 9 million fewer people are expected to be enrolled in SNAP.⁶⁴



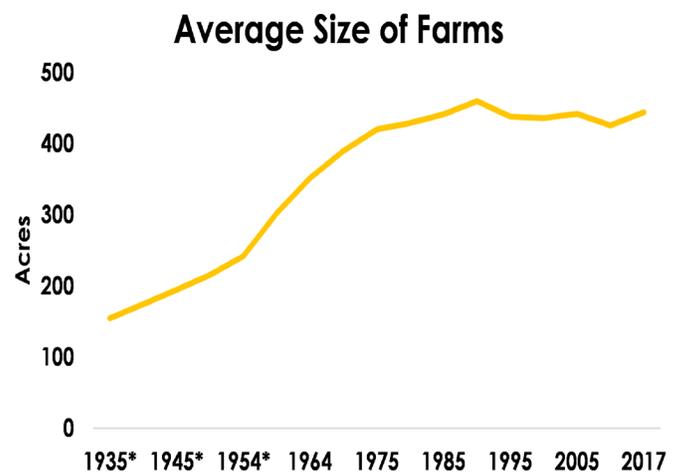
A Century of Consolidation

Technological advances over the last several decades have dramatically increased farm productivity, allowing farms to produce crops more efficiently. For example, the combine machine allows a farmer to cut and separate a row of grain once, rather than requiring multiple pieces of equipment and farm laborers. Better pest control technologies also reduce the amount of labor needed to manage acreage.

One consequence of greater productivity has been the consolidation of agricultural land into ever-larger farming operations. As technology made it easier to cover more acreage with less labor and capital, farms grew in size. Small commercial and midsize farms, squeezed by slim profit margins, face pressure to grow in order to capture economies of scale and increase income.⁶⁵



Source: Department of Agriculture - Economic Research Service, Census of Agriculture, and Farms, Land in Farms, and Livestock Operations.
Note: Does not include data for Alaska and Hawaii.



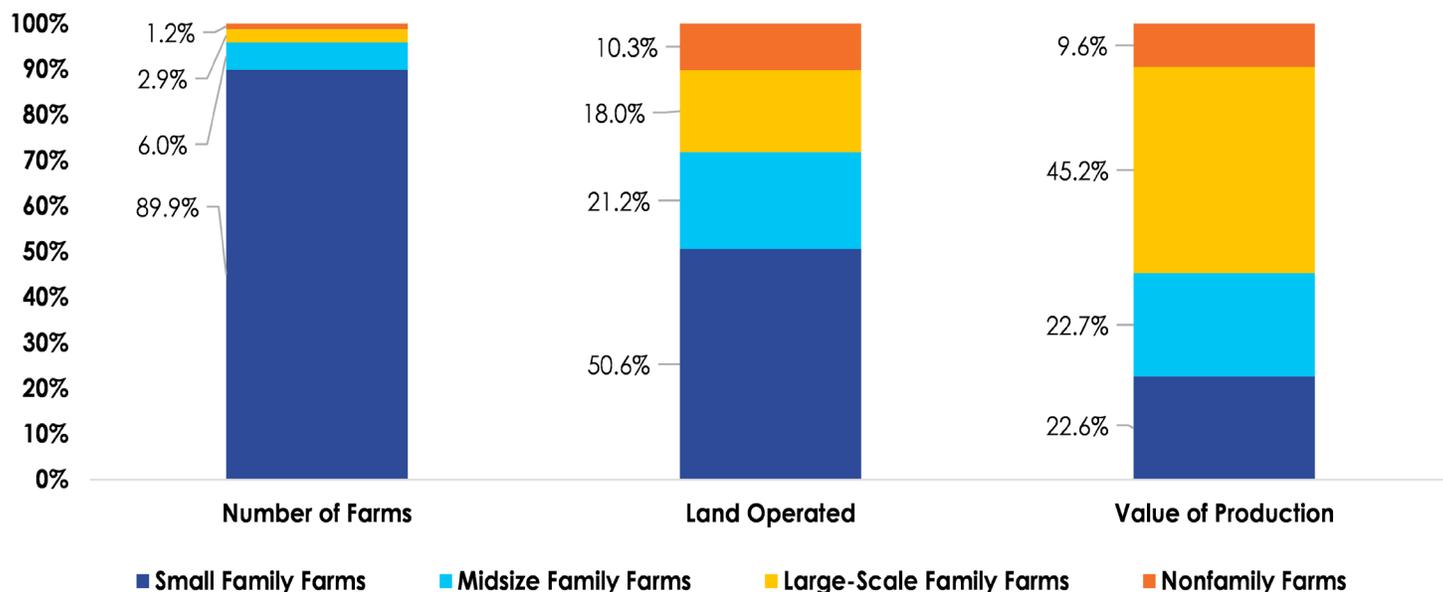
Source: Department of Agriculture - Economic Research Service, Census of Agriculture, and Farms, Land in Farms, and Livestock Operations.
Note: *Does not include data for Alaska and Hawaii.

According to the USDA, there were roughly 2 million farms in 2016.⁶⁶ While the number of farms has fallen significantly from its peak in 1935, the total amount of land farmed has only decreased slightly, reflecting the increase in farm size over time. Between 1935 and 2017, the average farm grew from 155 acres to 444 acres.⁶⁷

Shift Towards Large Farm Production

The USDA defines a farm as any piece of land that could normally produce at least \$1,000 in a given year.⁶⁸ Roughly 90 percent of all farms in the U.S. are small (less than \$350,000 in annual gross income), but together they account for less than 25 percent of total production value—nearly half the production share they accounted for in 1991.⁶⁹

Number, Size and Production Value of Farms



Source: Department of Agriculture - Economic Research Service, "America's Diverse Family Farms 2017 Edition."

By contrast, the share of production by large farms (those producing \$1 million or more in annual gross income) increased nearly 20 percentage points since 1991. Large family and non-family farms account for more than half of all agricultural production in the U.S. today, despite comprising roughly 4 percent of all farms.⁷⁰ Very large farms (\$5 million or more in annual gross income) have seen especially significant growth, nearly doubling their share of production over this period.⁷¹

The changes in farm production track with the decline in the number of smaller farms. Between 1992 and 2012 alone, the country lost more than 250,000 small commercial and midsize farms. During that same period, however, large farms consolidated their acreage and the number of large farms increased by 35,000.⁷²

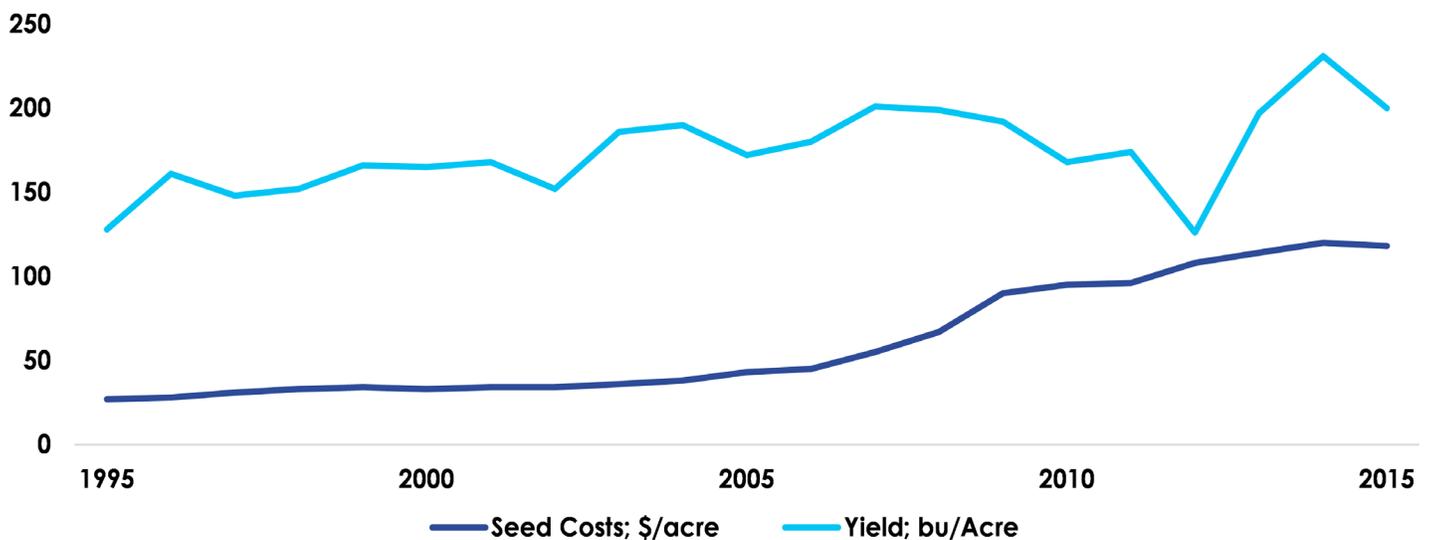
Livestock production has seen a similar shift toward large operations in some of its major sectors, including dairy and poultry. In 1987, the median size of a milk cow herd was 80 cows. By 2012, that number jumped more than tenfold to 900 cows. Over the same period, the median size of an egg-laying chicken flock grew by nearly 700 percent.⁷³

Consolidation Outside Farming

Consolidation within the seed and chemical markets has also transformed agricultural production. As with farming, scientific innovations have led to fewer firms that supply agricultural inputs. Most notably, the introduction of genetic engineering increased the demand for sophisticated seed varieties and enhanced the market power of companies that patented the technology.⁷⁴

More concentrated seed and chemical markets can spur companies to invest more in research and development for crop strains that produce higher, more robust yields. At the same time, a lack of competition in these markets has increased prices for important farm inputs.⁷⁵ U.S. seed prices more than doubled relative to prices received for harvested crops between 1994 and 2010 and in recent years have increased as much as 30 percent annually.⁷⁶

Growth in Corn Seed Costs and Yields since 1995



Source: University of Illinois; Department of Agricultural and Consumer Economics, 2016.

Growing the Agriculture Economy of the Future

The heart of the rural economy lies in its farmland. Farms support job creation, stimulate rural economic development, and enhance local energy security. To ensure the long-term prosperity of the rural economy, Congress should prioritize investments that will attract the next generation of farmers.

Policy Solutions

- Pass a bipartisan, five-year farm bill with policies that give farmers, families, and rural communities opportunities to succeed.
- Expand export opportunities and provide certainty in trade policy so farmers know what to expect in the marketplace.
- Expand initiatives that support and encourage the next generation of farmers, including education, training, and access to capital and land.
- Support education as a way to improve farming and ranching livelihoods and encourage a new generation of agriculture producers.
- Use tax policy to support the ability of small and midsize farms to earn a living in agriculture.
- Boost funding for safe and affordable agricultural worker housing.

Pass a Bipartisan Farm Bill

Congress must pass a five-year, bipartisan farm bill that provides opportunities for success for our nation's farmers, families, small towns, and rural communities. The bipartisan farm bill passed by the Senate Agriculture Committee affords certainty for America's agriculture producers and consumers. The legislation supports nutrition programs for our families, offers opportunities for the local food economy, supports conservation efforts and lower energy bills, and helps grow small businesses across small towns and rural communities.

Expand Export Opportunities and Provide Certainty Around Trade and Exports

Given the agricultural economy's reliance on trade, especially with our North American neighbors and with East Asia, it is important that we have predictable trade policies in place, rather than the uncertainty created by the current administration's threats regarding NAFTA, the Trans-Pacific Partnership Agreement, and tariffs on China. Export promotion programs that help farmers find and develop new global markets for their goods must be expanded.

Building the Next Generation

With a rapidly aging population of farmers, policy needs to incentivize and support a new generation of farmers. Congress should build on and extend programs that attract first-generation farmers and focus on better state and national coordination. These programs include education, training and outreach available to beginning, veteran, and socially disadvantaged farmers and local, urban, and organic agriculture. New policy ought to incentivize development of technologies to help beginning farmers get started and stay in farming. These measures ensure beginning and socially disadvantaged farmers have adequate access to land and capital so they may begin their farming careers without taking on unsustainable debt.

Promoting Farm Business Education

Policymakers should support state-level agricultural viability programs that provide beginning farmers with startup capital, assistance with business plan development, and education regarding conservation efforts and crop diversification strategies.⁶⁶

Further, states and the federal government should support research—through programs such as the Agriculture and Food Research Initiative—at public and land-grant universities. University research can provide valuable regional and national insight into farming and ranching best practices, innovative technologies, and help develop an understanding of how a changing climate is impacting the future of farming.

Support Those Making a Living off the Land

Congress has a duty to implement tax policies that provide equitable benefits to small and midsize farms that are struggling to earn stable farm incomes. According to USDA's own estimates, the Republican law passed in 2017 will do little to help small and midsize farmers.⁷⁷ Further, Congress and states should provide farmers with more incentives to deploy renewable energy systems on their land and take advantage of opportunities to earn income through partnerships with clean energy companies. Encouraging local agriculture efforts like farmers' markets and sustainable farming practices like organics can also provide benefits for small and midsize producers.

Increase Affordable Housing for Farm Workers

Hired agriculture workers are among the most vital, yet economically disadvantaged, populations in the country. Congress and state governments must work together to ensure farm workers receive a living wage and have greater access to affordable housing. As a first step, Congress should decline the administration's FY 2019 budget request, which eliminates funding for farm labor housing construction.

CONCLUSION

As shown throughout this report, rural communities are critical to our national economy and have vast cultural and natural resources. But the recession hit harder and lasted longer across large swathes of rural America. Rural communities and small towns face particular challenges in accessing economic gains and opportunities, and regaining upward mobility. But many opportunities for innovation and growth lie ahead, and it's important that we focus on helping these communities thrive. To support the strengthening and revitalization of rural economies, Congress must take a multi-pronged approach to cultivate and grow jobs in rural America.

New investments in education and human capital are a critical starting point. As Congress looks to invest in education for all, it has an opportunity to help rural Americans succeed in the changing workforce by investing and strengthening education—from early learning and care through higher education. This includes bolstering rural teacher recruitment and rural school funding, as well as expanding middle-skills pathways to help build the skills needed to succeed in today's economy.

To grow rural economies, human capital investments must also include new training that helps workers build the skills businesses need. Demand-driven education and training are key components of programs tailored to fit the needs of specific businesses in each community. For example, expanding “grow-your-own” programs, which enhance opportunities for local students while meeting the demand for health care professionals in rural areas, is a smart investment. Training and investments in new emerging technologies, such as clean energy, advanced manufacturing, and technology already show promise. Continued support for these investments can grow new, high-paying jobs in rural communities.

Congress should also invest in expanding entrepreneurship and firm creation in rural communities. New businesses are vital to rural economies and play an integral part in building dynamic regional economies that attract and retain residents. Sparking entrepreneurship can be achieved, in part, by increasing access to capital and other financial resources for rural and small-city entrepreneurs. Through federal grants to local business incubators and expanded support for programs, Congress can improve access to the capital that is vital to entrepreneurship and firm creation in rural areas.

With today's changing global economy, Congress should identify ways to help state and local economies diversify their industry bases to benefit from new high-growth sectors. By focusing on local assets as a means of generating new competitive advantages, such as cultural or recreational amenities, rural communities can start to support a more diverse economy. Many rural communities are already leaders in the clean energy economy, but Congress can do more to encourage rural areas to use their natural resources. Rural communities that embrace and lead in solar, wind, and other renewables will not only be able to share in the jobs created during the clean energy transition, but also be primed to attract energy-intensive manufacturing and production facilities.

For those who want to make a living in rural communities working the land, we must create a new generation of farmers and ranchers. We must ensure that the next generation in our agriculture economy is able to secure land and financing to start or continue a farm or ranching operation and have the education to succeed in a field that is becoming ever more reliant on new technologies and a changing climate. We must similarly have policies and supports in place that give small and mid-size operations, which are becoming more reliant on off-farm income, a chance to survive swings in prices and an ever consolidating market.

Finally, Congress needs to invest in rural infrastructure that will attract new employers and employees, and support those that wish to live in rural communities. Efforts to improve rural infrastructure should be part of broader investments—from broadband networks and new roads and bridges, to updated waters systems and modernized schools—to create attractive ecosystems that set up rural communities for long-term success. Future investments should also focus on helping rural residents stay connected to the changing 21st century economy, including ensuring employees have access to flourishing industries located outside their community. Broadband networks can enable rural residents to remain in the communities they love while working remotely for important industries and sectors headquartered hundreds of miles away.

The ideas and proposals in this report are not meant to be exhaustive. But acting on the policies detailed in these pages would have a significant, positive impact on rural economies across the country. Let's get started.

Introduction Endnotes

1. Rural Health Information Hub. "What is Rural?" <https://www.ruralhealthinfo.org/topics/what-is-rural>
2. Ibid.
3. Economic Research Services, US Department of Agriculture. "What is Rural?" May 1, 2017. <https://www.ers.usda.gov/topics/rural-economy-population/rural-classifications/what-is-rural.aspx>
4. Economic Research Services, US Department of Agriculture. "Population & Migration Overview." April 26, 2018. <https://www.ers.usda.gov/topics/rural-economy-population/population-migration/>
5. The Challenges and Opportunities of Running a Small Business in Rural America. Senate Small Business and Entrepreneurship Committee. 118th Congress, April 26, 2017. John Lettieri, testimony on The Challenges and Opportunities of Running a Small Business in Rural America. https://www.sbc.senate.gov/public/_cache/files/9/1/913100dd-59df-4dd0-a671-5862740a5411/C2CA9A3BFAC65A5EB0FE24DD2077AA32.Lettieri-testimony.pdf; JEC Democratic staff calculations based on American Community Survey from the Housing Assistance Council Rural Data Portal.
6. Rural Health Information Hub. "Rural Aging." July 10, 2017. <https://www.ruralhealthinfo.org/topics/aging>
7. Frey, William H. "Census Shows Nonmetropolitan America Is Whiter, Getting Older, And Losing Population." June 27, 2017. <https://www.brookings.edu/blog/the-avenue/2017/06/27/census-shows-nonmetropolitan-america-is-whiter-getting-older-and-losing-population/>
8. Economic Research Services, US Department of Agriculture. "Rural America At A Glance: 2017 Edition." November 2017. <https://www.ers.usda.gov/webdocs/publications/85740/eib-182.pdf?v=43054>
9. Ibid.
10. Economic Research Services, US Department of Agriculture. "Why Some Return Home to Rural America and Why It Matters." July 6, 2015. <https://www.ers.usda.gov/amber-waves/2015/july/why-some-return-home-to-rural-america-and-why-it-matters/>
11. Pew Charitable Trusts. "To Help New Farmers, Some States Look at Forgiving Student Loans." April 12, 2016. <http://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2016/04/12/to-help-new-farmers-some-states-look-at-forgiving-student-loans>
12. Economic Research Services, US Department of Agriculture. "Why Some Return Home to Rural America and Why It Matters." July 6, 2015. <https://www.ers.usda.gov/amber-waves/2015/july/why-some-return-home-to-rural-america-and-why-it-matters/>
13. Economic Research Services, US Department of Agriculture. "Hispanics Help Some Rural Counties Avoid Population Loss." September 19, 2016. <https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=79658>
14. Rural Health Information Hub. "Rural Tribal Health." March 17, 2016. <https://www.ruralhealthinfo.org/topics/rural-tribal-health>; Census Bureau. "American Indian and Alaska Native Heritage Month: November 2012." October 25, 2012. https://www.census.gov/newsroom/releases/archives/facts_for_features_special_editions/cb12-ff22.html
15. Johnson, Kenneth M. "Rural Demographic Change in the New Century: Slower Growth, Increased Diversity." Winter 2012. <https://scholars.unh.edu/cgi/viewcontent.cgi?article=1158&context=carsey>

16. Sharp, Gregory and Barrett E. Lee. "Racial and Ethnic Diversity Goes Local: Charting Change in American Communities Over Three Decades." September 2012. <https://s4.ad.brown.edu/Projects/Diversity/Data/Report/report08292012.pdf>
17. Johnson, Kenneth M. "Rural Demographic Change in the New Century: Slower Growth, Increased Diversity." Winter 2012. <https://scholars.unh.edu/cgi/viewcontent.cgi?article=1158&context=carsey>
18. JEC staff recreation of Economic Research Services, US Department of Agriculture data.
19. Economic Research Services, US Department of Agriculture. "Rural America At A Glance: 2017 Edition." November 2017. <https://www.ers.usda.gov/webdocs/publications/85740/eib-182.pdf?v=43054>
20. Economic Research Services, US Department of Agriculture. "Rural Education." April 6, 2017. <https://www.ers.usda.gov/topics/rural-economy-population/employment-education/rural-education/>
21. Economic Research Services, US Department of Agriculture. "Rural Education." April 6, 2017. <https://www.ers.usda.gov/topics/rural-economy-population/employment-education/rural-education/>
22. Ibid.
23. Economic Research Service, US Department of Agriculture. "Rural Poverty & Well-Being." April 18, 2018. <https://www.ers.usda.gov/topics/rural-economy-population/rural-poverty-well-being/>
24. Census Bureau. "A Glance at the Age Structure and Labor Force Participation of Rural America." December 8, 2016. <https://www.census.gov/newsroom/blogs/random-samplings/2016/12/a-glance-at-the-age.html>. Rural is defined based on the Census Bureau's definition of urban areas.
25. Weingarden, Alison. "Labor Market Outcomes in Metropolitan and Non-Metropolitan Areas: Signs of Growing Disparities." September 25, 2017. <https://www.federalreserve.gov/econres/notes/feds-notes/labor-market-outcomes-in-metropolitan-and-non-metropolitan-areas-signs-of-growing-disparities-20170925.htm>
26. Krueger, Alan B. "Where Have All The Workers Gone? An Inquiry Into The Decline Of The U.S. Labor Force Participation Rate." September 7, 2017. <https://www.brookings.edu/bpea-articles/where-have-all-the-workers-gone-an-inquiry-into-the-decline-of-the-u-s-labor-force-participation-rate/>; and Dews, Fred. "How the Opioid Epidemic has Affected the U.S. Labor Force, County-by-County." September 7, 2017. https://www.brookings.edu/blog/brookings-now/2017/09/07/how-the-opioid-epidemic-has-affected-the-u-s-labor-force-county-by-county/?utm_campaign=Brookings%20Brief&utm_source=hs_email&utm_medium=email&utm_content=56051560
27. US Department of Agriculture. "Opioid Misuse in Rural America." <https://www.usda.gov/topics/opioids>
28. Crowder, Kyle, et al. "Neighborhood Immigration And Native Out-Migration." American sociological review. 2011;76(1):25-47. doi:10.1177/0003122410396197. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3124827/>; and Lichter, Daniel T. "Immigration and the New Racial Diversity in Rural America." Rural sociology 77.1 (2012): 3-35 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4606139>

29. Liner, Emily. "America's Got Talent—Venture Capital Needs to Find It." <https://www.thirdway.org/report/americas-got-talent-venture-capital-needs-to-find-it>
30. Flexjobs. "The 2017 State of Telecommuting in the U.S. Employee Workforce." <https://www.flexjobs.com/2017-State-of-Telecommuting-US/>
31. Council of Economic Advisers. "Labor Market Monopsony: Trends, Consequences, and Policy Responses." October 2016. https://obamawhitehouse.archives.gov/sites/default/files/page/files/20161025_labor_mrkt_monopsony_cea.pdf; Azar, Joe et al. "Labor Market Concentration." December 20, 2017. <http://www.marinescu.eu/AzarMarinescuSteinbaum.pdf>; Manning, Alan. "The Plant Size-Place Effect: Agglomeration and Monopsony in Labour Markets." April 2008. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.857.8139&rep=rep1&type=pdf>
32. Economic Research Services, US Department of Agriculture. "Rural America At A Glance: 2017 Edition." November 2017. <https://www.ers.usda.gov/webdocs/publications/85740/eib-182.pdf?v=43054>; Mishel, Lawrence. "Yes, Manufacturing Still Provides A Pay Advantage, But Staffing Firm Outsourcing Is Eroding It." March 12, 2018. <https://www.epi.org/publication/manufacturing-still-provides-a-pay-advantage-but-outsourcing-is-eroding-it/>.
33. JEC Democratic Staff analysis of Bureau of Economic Analysis (BEA) and Bureau of Labor Statistics (BLS) data. Note: Analysis uses current shares of employment by industry from BEA and employment projections 2016-2026 from BLS. BLS employment includes only wage and salary employment. Urban and rural refer to metro and nonmetro areas.

Financial Security Endnotes

1. "Rural America at a Glance, 2017 Edition." United States Department of Agriculture. November 2017. <https://www.ers.usda.gov/webdocs/publications/85740/eib-182.pdf?v=43054>.
2. Lettieri, John. "The Challenges and Opportunities of Running a Small Business in Rural America." Senate Small Business and Entrepreneurship Committee. April 26, 2017. https://www.sbc.senate.gov/public/_cache/files/9/1/913100dd-59df-4dd0-a671-5862740a5411/C2CA9A3BFAC65A5EB0FE24DD2077AA32.letteri-testimony.pdf; "Is the American Dream Alive of Dead? It Depends on Where You Look." Economic Innovation Group. 2017. <http://eig.org/dcieop>. Rural defined as counties with less than 100,000 people.
3. "Does Place Matter for Family Financial Security." Pew Charitable Trusts. September 22, 2017. <http://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2017/09/does-place-matter-for-family-financial-security>. Rural defined as census tracts in which the single largest commuting flow occurs to a tract outside of urban cores.
4. 2016 Federal Reserve Survey of Consumer Finances.
5. Vilsak, Tom et al. "Rural strategies that work: Lifting up Federal policies that are responsive to the assets and challenges of rural America." White House Rural Council. October 5, 2016. <https://www.whitehouse.gov/sites/whitehouse.gov/files/images/Rural%20Policy%20Learnings%20Memo.pdf>; Glauber, Rebecca and Andrew Schaefer. "Employment, Poverty, and Public Assistance in the Rural United States." University of New Hampshire Carsey School of Public Policy. 2017. <https://scholars.unh.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1313&context=carsey>.
6. McCarty, Alyn. "Child Poverty in the United States: A Tale of Devastation and the Promise of Hope." Sociology compass. July 2016. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5589198/>
7. "Rural America at a Glance, 2017 Edition." United States Department of Agriculture. November 2017. <https://www.ers.usda.gov/webdocs/publications/85740/eib-182.pdf?v=43054>. Rural is defined by the U.S. Census Bureau's definition of urban areas.
8. "Real Action is Necessary to Give American Workers the Raise They Deserve." Joint Economic Committee. March 28, 2018. https://www.jec.senate.gov/public/_cache/files/de9fdc91-927c-4a00-802a-1f052a8c4771/real-action-is-necessary-to-give-american-workers-.pdf; and Bureau of Labor Statistics Consumer Price Index for urban consumers; "Consumer Price Index." Bureau of Labor Statistics. <https://www.bls.gov/cpi/questions-and-answers.htm>
9. "Health Care in Rural America." Center for Rural Affairs. <http://www.cfra.org/Healthcare>.
10. "Health Care in Rural America." Center for Rural Affairs. <http://www.cfra.org/Healthcare>.
11. Cross-Call, Jesse et al. "Senate Bill Would Devastate Health Care in Rural America." Center on Budget and Policy Priorities. July 6, 2017. <https://www.cbpp.org/research/health/senate-bill-would-devastate-health-care-in-rural-america>.
12. "Rural America at a Glance, 2017 Edition." United States Department of Agriculture. November 2017. <https://www.ers.usda.gov/webdocs/publications/85740/eib-182.pdf?v=43054>.

13. "Distributional Analysis of The Conference Agreement for the Tax Cuts and Jobs Act." Tax Policy Center. December 18, 2017. http://www.taxpolicycenter.org/sites/default/files/publication/150816/2001641_distributional_analysis_of_the_conference_agreement_for_the_tax_cuts_and_jobs_act_0.pdf; Marr, Chuck. "Instead of Boosting Working-Family Tax Credit, GOP Tax Bill Erodes It Over Time." Center on Budget and Policy Priorities. December 21, 2017. <https://www.cbpp.org/blog/instead-of-boosting-working-family-tax-credit-gop-tax-bill-erodes-it-over-time>; Huang, Chye-Ching. "Final CTC Changes Don't Alter Tax Bill Basics: 10 Million Working Family Children Get Little or Nothing." Center on Budget and Policy Priorities. December 15, 2017. <https://www.cbpp.org/blog/final-ctc-changes-dont-alter-tax-bill-basics-10-million-working-family-children-get-little-or>
14. Hertz, Thomas and Farrigan, Tracey. "Understanding Trends in Rural Child Poverty, 2003-14." United States Department of Agriculture, Economic Research Service. May 2016. <https://www.ers.usda.gov/amber-waves/2016/may/understanding-trends-in-rural-child-poverty-2003-14/>.
15. Simon, Ruth and Coulter Jones. "Goodbye, George Bailey: Decline of Rural Lending Crimps Small-Town Business." Wall Street Journal. December 25, 2017. <https://www.wsj.com/articles/goodbye-george-bailey-decline-of-rural-lending-crimps-small-town-business-1514219515?mg=prod/accounts-wsj>. Rural defined as micropolitan and noncore according to National Center for Health Statistics Urban-Rural Classification Scheme for Counties.
16. Richardson, Jason et al. "Bank Branch Closures from 2008-2016: Unequal Impact in America's Heartland." National Community Reinvestment Coalition. May 8, 2017. https://ncrc.org/wp-content/uploads/2017/05/NCRC_Branch_Deserts_Research_Memo_050517_2.pdf. Zip codes enclosed within, or overlapping the boundaries of non-MSA counties defined as rural.
17. Richardson, Jason et al. "Bank Branch Closures from 2008-2016: Unequal Impact in America's Heartland." National Community Reinvestment Coalition. May 8, 2017. https://ncrc.org/wp-content/uploads/2017/05/NCRC_Branch_Deserts_Research_Memo_050517_2.pdf.
18. "Community Bank Performance." FDIC. Second Quarter 2017. <https://www.fdic.gov/bank/analytical/qbp/2017jun/qbp>
19. U.S. Credit Union Profile." Credit Union National Association. 2017. https://www.cuna.org/uploadedFiles/Global/About_Credit_Unions/NationalProfilewithexecsum-D17.pdf
20. "What is a payday loan?" Consumer Financial Protection Bureau. June 2, 2017. <https://www.consumerfinance.gov/ask-cfpb/what-is-a-payday-loan-en-1567/cb.html>; Bynum, William et al. "Opening Mobility Pathways by Closing the Financial Services Gap." <http://www.mobilitypartnership.org/opening-mobility-pathways-closing-financial-services-gap>
21. Bourke, Nick. "Small Dollar Lending." The Pew Charitable Trusts. September 27, 2018. <https://www.fdic.gov/news/conferences/consumersymposium/2012/bourke.pdf>; and "CFBP Find Four out of Five Payday Loans Are Rolled Over or Renewed." Consumer Financial Protection Bureau. March 25, 2014. <https://www.consumerfinance.gov/about-us/newsroom/cfpb-finds-four-out-of-five-payday-loans-are-rolled-over-or-renewed/>
22. Thompson, Derek. "The Invisible Revolution: How Aging is Quietly Changing America." October 6, 2016. <https://www.theatlantic.com/business/archive/2016/10/aging-america/503177/>; Jacobsen, Linda et al. "America's Aging Population." Population Reference Bureau. February 2011. <http://www.prb.org/pdf11/aging-in-america.pdf>
23. "Retirement Security in Peril." Joint Economic Committee. February 13, 2018. <https://www.jec.senate.gov/public/cache/files/1f7b0eb3-1a23-42bc-9183-31a1b20449ff/retirement-security-in-peril-final.pdf>

24. Glauber, Rebecca and Andrew Schaefer. "Employment, Poverty, and Public Assistance in the Rural United States." University of New Hampshire Carsey School of Public Policy. 2017. <https://scholars.unh.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1313&context=carsey>.
25. John, David and Gary Koenig. "Workplace Retirement Plans Will Help Workers Build Economic Security." AARP. <https://www.aarp.org/content/dam/aarp/ppi/2014-10/aarp-workplace-retirement-plans-build-economic-security.pdf>
26. 2016 Federal Reserve Survey of Consumer Finances.
27. Ibid.
28. Ibid.
29. "Retirement Security in Peril." Joint Economic Committee. February 14, 2018. <https://www.jec.senate.gov/public/cache/files/1f7b0eb3-1a23-42bc-9183-31a1b20449ff/retirement-security-in-peril-final.pdf>
30. "Social Security: A Promise to American Workers and Families." Joint Economic Committee. April 2018. <https://www.jec.senate.gov/public/cache/files/4063c207-21d1-4ceb-809b-af4268842eea/social-security-final.pdf>
31. Southern Rural Development Center. <http://srdc.msstate.edu/socialsecurity/graphmaps.html> .
32. "Social Security: A Promise to American Workers and Families." Joint Economic Committee. April 2018. <https://www.jec.senate.gov/public/cache/files/4063c207-21d1-4ceb-809b-af4268842eea/social-security-final.pdf>
33. "Social Security: A Promise to American Workers and Families." Joint Economic Committee. April 2018. <https://www.jec.senate.gov/public/cache/files/4063c207-21d1-4ceb-809b-af4268842eea/social-security-final.pdf>
34. "Social Security: A Promise to American Workers and Families." Joint Economic Committee. April 2018. <https://www.jec.senate.gov/public/cache/files/4063c207-21d1-4ceb-809b-af4268842eea/social-security-final.pdf>
35. Lobosco, Katie. "Congress Reverses Rule on State Retirement Plans." May 3, 2017. <http://money.cnn.com/2017/05/03/retirement/state-retirement-plans-senate/index.html>
36. Rhee, Nari. "Proposed Congressional Repeal of Federal Regulations Supporting State Auto-IRAs Threatens Retirement Security of 13 Million Workers in Five States." UC Berkeley Labor Center. February 15, 2017. <http://laborcenter.berkeley.edu/proposed-congressional-repeal-of-federal-regulations-supporting-state-auto-iras/>
37. Donovan, Sarah. "Paid Family Leave in the United States." Congressional Review Services. March 20, 2018. <http://www.crs.gov/Reports/R44835?source=search&guid=85e5e585bfb845e7a808162236d05b47&index=0>
38. National Compensation Survey 2017, Bureau of Labor Statistics.
39. Mathur, Aparna et al. "Paid Family and Medical Leave." AEI-Brookings. May 2017. https://www.brookings.edu/wp-content/uploads/2017/06/es_20170606_paidfamilyleave.pdf
40. Klerman, Jacob Alex et al. "Family and Medical Leave in 2012: Executive Summary." Abt Associates Inc. September 13, 2013, https://www.dol.gov/asp/evaluation/completed-studies/Family_Medical_Leave_Act_Survey/EXECUTIVE_SUMMARY_family_medical_leave_act_survey.pdf
41. Horowitz, Juliana Menasce et al. "Americans Widely Support Paid Family and Medical Leave, but Differ Over Specific Policies." Pew Research Center. March 23, 2017. <http://www.pewsocialtrends.org/2017/03/23/americans-widely-support-paid-family-and-medical-leave-but-differ-over-specific-policies/>

42. Bruenig, Elizabeth. "Trump's paid family leave plan would punish those who choose to have kids." Washington Post. February 7, 2018. https://www.washingtonpost.com/opinions/trumps-paid-family-leave-plan-would-punish-those-who-choose-to-have-kids/2018/02/07/dc612c0c-0b85-11e8-95a5-c396801049ef_story.html?noredirect=on&utm_term=.c42cc5d0fa5a
43. Sirkin, Harold. "The Dollars and Sense of Paid Family Leave." Forbes. August 4, 2017. <https://www.forbes.com/sites/haroldsirkin/2017/08/04/the-dollars-and-sense-of-paid-family-leave/#6bd64140511f>
44. Boushey, Heather and Sarah Jane Glynn. "There are Significant Business Costs to Replacing Employees." Center for American Progress. November 16, 2012. <https://cdn.americanprogress.org/wp-content/uploads/2012/11/CostofTurnover.pdf>
45. "State Family and Medical Leave Laws." National Conference of State Legislatures. July 19, 2016. <http://www.ncsl.org/research/labor-and-employment/state-family-and-medical-leave-laws.aspx>; "District of Columbia Paid Family Leave." District of Columbia Government. <https://does.dc.gov/page/district-columbia-paid-family-leave>
46. Desilver, Drew. "Access to paid family leave varies widely across employers, industries." Pew Research Center. March 23, 2017. <http://www.pewresearch.org/fact-tank/2017/03/23/access-to-paid-family-leave-varies-widely-across-employers-in-dustries/>
47. Klerman, Jacob Alex et al. "Family and Medical Leave in 2012: Technical Report." Abt Associates Inc. April 18, 2014, <https://www.dol.gov/asp/evaluation/fmla/FMLA-2012-Technical-Report.pdf>; Mathur, Aparna et al. "Paid Family and Medical Leave." AEI-Brookings. May 2017. https://www.brookings.edu/wp-content/uploads/2017/06/es_20170606_paidfamilyleave.pdf
48. Parker, Kim and Gretchen Livingston. "6 Facts about American Fathers." Pew Research Center. June 15, 2017. <http://www.pewresearch.org/fact-tank/2017/06/15/fathers-day-facts/>
49. Parker, Kim and Gretchen Livingston. "6 Facts about American Fathers." Pew Research Center. June 15, 2017. <http://www.pewresearch.org/fact-tank/2017/06/15/fathers-day-facts/>
50. Mosle, Anne and Nisha Patel. "Two Generations, One Future." Aspen Institute. 2012. <https://assets.aspeninstitute.org/content/uploads/files/content/docs/ascend/Ascend-Report-022012.pdf>
51. "Heinrich, Collins Introduce Two-Generation Economic Empowerment Act." September 28, 2016. <https://www.heinrich.senate.gov/press-releases/heinrich-collins-introduce-two-generation-economic-empowerment-act>
52. Malik, Rasheed and Katie Hamm. "Mapping America's Child Care Deserts." Center for American Progress. August 30, 2017. <https://www.americanprogress.org/issues/early-childhood/reports/2017/08/30/437988/mapping-american-child-care-deserts/>. Rural defined using household density figures. For more information, see Center for American Progress analysis.
53. "The State of Child Care in America." Joint Economic Committee. May 2017. <https://www.jec.senate.gov/public/cache/files/9ad94e5f-30f2-4345-84a3-4631dfa61c1f/child-care-report-final.pdf>
54. Anderson, Sarah and Megan Mikesell. "Child care type, access, and quality in rural areas of the United States: a review." Early Child Development and Care. December 2017. <https://www.tandfonline.com/doi/full/10.1080/03004430.2017.1412959>

55. "Heinrich, Murphy Lead Effort To Protect Retirement Savings For Americans." May 3, 2017. <https://www.heinrich.senate.gov/press-releases/heinrich-murphy-lead-effort-to-protect-retirement-savings-for-americans>
56. Mitchell, David and Gracie Lynne. "Driving Retirement Innovation: Can Sidecar Accounts Meet Consumers' Short- and Long-Term Financial Needs?" Aspen Institute. June 2017. <https://assets.aspeninstitute.org/content/uploads/2017/06/FSP-Sidecar-Accounts-Brief.pdf>
57. "Labor and IRS Could Improve the Rollover Process for Participants." GAO. March 7, 2013. <https://www.gao.gov/products/GAO-13-30>
58. Vilsack, Tom. "Earned Income Tax Credit Can Help Rural Families." U.S. Department of Agriculture. January 29, 2016. <https://www.usda.gov/media/blog/2016/01/29/earned-income-tax-credit-can-help-rural-families>.
59. Gagnon, Douglas et al. "Federal EITC Kept 2 Percent of the Population Out of Poverty." University of New Hampshire Carsey School of Public Policy. November 17, 2015. <https://carsey.unh.edu/publication/federal-eitc>
60. "High-Quality Early Learning and Care Drives Lifelong Success." Joint Economic Committee. September 2017. https://www.jec.senate.gov/public/_cache/files/9654af63-e1a8-4bbe-8291-6b22105ac985/high-quality-early-learning-and-care.pdf

Education Endnotes

1. National Center for Education Statistics. "The Status of Rural Education." May 2013. https://nces.ed.gov/programs/coe/indicator_tla.asp ; Rural is defined using the National Center for Education Statistics definition, which uses an expanded version of the U.S. Census Bureau definition.
2. National Education Association. "Early Childhood Education." Accessed May 3, 2018. <http://www.nea.org/home/18163.htm>
3. JEC calculations using data from the American Community Survey.
4. National Education Association. "Early Childhood Education." Accessed May 3, 2018. <http://www.nea.org/home/18163.htm>
5. McLaughlin, Michael et al. "Estimating the Economic Cost of Childhood Poverty in the United States." Social Work Research. March 30, 2018. <https://academic.oup.com/swr/advance-article/doi/10.1093/swr/svy007/4956930>
6. Economic Research Service. "Rural Poverty and Well-being." United States Department of Agriculture. April 18, 2018. <https://www.ers.usda.gov/topics/rural-economy-population/rural-poverty-well-being/>
7. Malik, Rasheed and Katie Hamm. "Mapping America's Child Care Deserts." Center for American Progress. August 30, 2017. <https://www.americanprogress.org/issues/early-childhood/reports/2017/08/30/437988/mapping-america-child-care-deserts/>
8. Rathburn, Amy and Anlan Zhang. "Primary Early Care and Education Arrangements and Achievement at Kindergarten Entry." National Center for Education Statistics. June 2016. <https://nces.ed.gov/pubs2016/2016070.pdf>
9. National Center for Education Statistics. "Digest of Education Statistics: Table 235.10." Accessed May 3, 2018. https://nces.ed.gov/programs/digest/d17/tables/dt17_235.10.asp?current=yes
10. Hoover, Katie. "PILT (Payments in Lieu of Taxes): Somewhat Simplified." Congressional Research Service. October 5, 2017. <https://fas.org/sgp/crs/misc/RL31392.pdf>; Schultheis, Heidi. "How Trump's FY 2019 Budget Hurts Rural Americans." Center for American Progress. February 16, 2018. <https://www.americanprogress.org/issues/poverty/reports/2018/02/16/446837/fact-sheets-president-trumps-fy-2019-budget-harms-nearly-every-community-across-country/>
11. United States Forest Service. "Secure Rural Schools Reauthorization." United States Department of Agriculture. May 2, 2018. <https://www.fs.usda.gov/pts/>; see also, Shuffield, Jonathan. "Continue Revenue Sharing Payments to Forest Counties: Support the Secure Rural Schools (SRS) Program." National Association of Counties. March 13, 2018. <http://www.naco.org/resources/continue-revenue-sharing-payments-forest-counties-support-secure-rural-schools-srs-program>
12. Bureau of Indian Education. "Bureau of Indian Education Reorganization." Accessed May 3, 2018. <https://www.bie.edu/BFRI/index.htm>; see also, Dortch, Cassandra. "Indian Elementary - Secondary Education: Programs, Background, and Issues." Congressional Research Service. June 16, 2017. <http://www.crs.gov/Reports/RL34205?source=search&guid=a1105a8739f44850a9df95c6749944bf&index=1>

13. United States Department of the Interior. "DOI Maintenance Backlog." March 6, 2018. <https://www.doi.gov/oc/doi-maintenance-backlog>; see also, The White House. "2014 Native Youth Report." December 2014. https://obamawhitehouse.archives.gov/sites/default/files/docs/20141129nativeyouthreport_final.pdf; see also, Brenna, Susan. "Why Are Native Students Being Left Behind?" Teach for America. December 11, 2014. <https://www.teachforamerica.org/one-day-magazine/why-are-native-students-being-left-behind>
14. Ayers, Jeremy. "Make Rural Schools a Priority." Center for American Progress. August 4, 2011. <https://www.americanprogress.org/issues/education-k-12/reports/2011/08/04/10216/make-rural-schools-a-priority/>
15. JEC analysis of data from the National Center for Education Statistics, School Staffing Survey. Rural is defined using the National Center for Education Statistics definition, which uses an expanded version of the U.S. Census Bureau definition.
16. National Center for Education Statistics. "National Indian Education Study 2015." <https://nces.ed.gov/nationsreportcard/subject/publications/studies/pdf/2017161.pdf>; National Center for Education Statistics. "Children and Youth With Disabilities." April 2018. https://nces.ed.gov/programs/coe/indicator_cgg.asp
17. JEC calculations based on data from NCES Schools and Staffing Survey, substantial populations defined as more than 20 percent; data not available for ESL students due to standard errors being too large.
18. National Center for Education Statistics. "Table B.1." Accessed May 3, 2018. <https://nces.ed.gov/surveys/ruraled/tables/B.1.b.-1.asp>; see also, National Center for Education Statistics. "Table 1.3." Accessed May 3, 2018. https://nces.ed.gov/pubs2007/ruraled/tables/table1_3.asp; Rural is defined using the National Center for Education Statistics definition, which uses an expanded version of the U.S. Census Bureau definition.
19. Kreck, Carol. "Learning English in Rural America." Education Commission of the States. November 4, 2014. <https://www.ecs.org/clearinghouse/01/15/59/11559.pdf>
20. Ingersoll, Richard et al. "Seven Trends: The Transformation of the Teaching Force." Consortium for Policy Research in Education. April 2014. <https://files.eric.ed.gov/fulltext/ED566879.pdf>
21. Ibid.
22. Ingersoll, Richard and Lisa Merrill. "Who's Teaching Our Children?" Educational Leadership. Volume 67. Number 8. May 2010. <http://www.ascd.org/publications/educational-leadership/may10/vol67/num08/Who's-Teaching-Our-Children%2%A2.aspx>
23. Gagnon, Douglas and Marybeth Mattingly. "Beginning Teachers Are More Common in Rural, High-Poverty, and Racially Diverse Schools." Carsey Institute. Issue brief number 53. Summer 2012. <https://scholars.unh.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1172&context=carsey>; Miller, Luke C. "Understanding Rural Teacher Retention and the Role of Community Amenities." University of Virginia Center on Education Policy and Workforce Competitiveness. September 6, 2012. https://curry.virginia.edu/uploads/resourceLibrary/1_Miller_CEPWC_WP_Rural_Retention.pdf
24. Edstam, Tina Scott et al. "Educating English Language Learners in a Rural District: A Case in Point." University of Minnesota. 2007. https://conservancy.umn.edu/bitstream/handle/11299/109976/T_Edstam_C_Walker_K_stone.pdf?sequence=1&isAllowed=y; Miller, Luke C. "Understanding Rural Teacher Retention and the Role of Community Amenities." University of Virginia Center on Education Policy and Workforce Competitiveness. September 6, 2012. https://curry.virginia.edu/uploads/resourceLibrary/1_Miller_CEPWC_WP_Rural_Retention.pdf

25. Podolsky, Anne. "Solving the Teacher Shortage How to Attract and Retain Excellent Educators." Learning Policy Institute. September 15, 2016. <https://learningpolicyinstitute.org/product/solving-teacher-shortage-brief>; National Center for Education Statistics. "Characteristics of Public Elementary and Secondary School Teachers in the United States." Table 6. August 2017. <https://nces.ed.gov/pubs2017/2017072.pdf>; Rural is defined using the National Center for Education Statistics definition, which uses an expanded version of the U.S. Census Bureau definition.
26. Miller, Luke C. "Understanding Rural Teacher Retention and the Role of Community Amenities." University of Virginia Center on Education Policy and Workforce Competitiveness. September 6, 2012. https://curry.virginia.edu/uploads/resourceLibrary/1_Miller_CEPWC_WP_Rural_Retention.pdf
27. Player, Daniel. "The Supply and Demand for Rural Teachers." The Rural Opportunities Consortium of Idaho. March 2015. http://www.rociidaho.org/wp-content/uploads/2015/03/ROCI_2015_RuralTeachers_FINAL.pdf; see also, Showalter, Daniel et al. "Why Rural Matters 2015-2016: Understanding the Changing Landscape." The Rural School and Community Trust. http://www.ruraledu.org/user_uploads/file/WRM-2015-16.pdf
28. Joint Economic Committee Democratic Staff. "Ten Ways STEM Strengthens the Economy." December 4, 2017. https://www.jec.senate.gov/public/_cache/files/2061de0c-be23-4cf1-ad0b-270d3f6c661e/stem-top-10-12.4-final-1-pager.pdf
29. Dee, Thomas S. and Dan Goldhaber. "Understanding and Addressing Teacher Shortages in the United States." The Hamilton Project. April 2017. http://www.hamiltonproject.org/assets/files/understanding_and_addressing_teacher_shortages_in_us_pb.pdf
30. American Association of Physics Teachers. "ESSA & Funding the STEM Master Teacher Corps: Fulfilling the Nation's Promise for K-12 STEM Education." Accessed May 3, 2018. <https://www.aapt.org/K12/upload/ValueofSTEMMasterTeacher-CorpstoU-S.pdf>
31. Byun, Soo-yung et al. "Predictors of Bachelor's Degree Completion Among Rural Students at Four-Year Institutions." *Rev High Ed.* Spring 2012. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3884699/>; see also, Gagnon, Douglas J. and Marybeth J. Mattingly. "Most U.S. School Districts Have Low Access to School Counselors." Carsey Research. National Issue Brief #108. Fall 2016. <https://scholars.unh.edu/carsey/286/>
32. Mann, Sharmila et al. "Advanced Placement Access and Success: How do Rural Schools Stack Up?" Education Commission of the States. August 2017. <https://www.ecs.org/wp-content/uploads/Advanced-Placement-Access-and-Success-How-do-rural-schools-stack-up.pdf> ; Rural is defined using the National Center for Education Statistics definition, which uses an expanded version of the U.S. Census Bureau definition.
33. Wozniak, Abigail. "Going Away to College? School Distance as a Barrier to Higher Education. *Econofact.*" March 22, 2018. <http://econofact.org/going-away-to-college-school-distance-as-a-barrier-to-higher-education>
34. Lapid, Patrick A. "Expanding College Access: The Impact of New Universities on Local Enrollment." University of California, Berkeley. May 7, 2017. <https://berkeley.app.box.com/v/LapidJMPnewu>
35. National Student Clearinghouse Research Center. "High School Benchmarks 2016: National College Progression Rates." October 27, 2016. <https://nscresearchcenter.org/high-school-benchmarks-2016-national-college-progression-rates/>; Rural is defined using the National Center for Education Statistics definition, which uses an expanded version of the U.S. Census Bureau definition.

36. Hoxby, Caroline and Christopher Avery. "The Missing "One-Offs": The Hidden Supply of High-Achieving, Low-Income Students." Brookings Papers on Economic Activity. Spring 2013. <https://www.brookings.edu/bpea-articles/the-missing-one-offs-the-hidden-supply-of-high-achieving-low-income-students/>; Rural is defined using the Census Bureau's definition of urban areas.
37. United Negro College Fund. "HBCUs Make America Strong: The Positive Economic Impact of Historically Black Colleges and Universities." Accessed May 3, 2018. <https://www.uncf.org/hbcu-impact>
38. The American Indian Higher Education Consortium. <http://www.aihec.org/>
39. American Indian Higher Education Consortium. "The Economic Value of American Indian and Alaska Native Tribal Colleges & Universities." August 2015. <http://www.aihec.org/our-stories/docs/reports/EconomicValue-factsheet.pdf>
40. Young, Justin R. Middle-Skill Jobs More Common Among Rural Workers. University of New Hampshire. June 13, 2013. <https://scholars.unh.edu/carsey/196/>
41. Enlund, Sydne. "Scoping Out Health Care Worker Shortages." National Conference of State Legislatures. June 1, 2017. <http://www.ncsl.org/blog/2017/06/01/scoping-out-health-care-worker-shortages.aspx>
42. Love, Ivy. "Cultivating Rural Talent through Apprenticeship." New America. December 5, 2017. <https://www.newamerica.org/education-policy/edcentral/cultivating-rural-talent-through-apprenticeship/>; see also, Advance CTE. "CTE on the Frontier: Catalyzing Local Efforts to Improve Program Quality." August 2017. <https://careertech.org/resource/cte-frontier-program-quality>
43. Education Superhighway. "2017 State of the States: Fulfilling our Promise to America's Students." September 2017. https://s3-us-west-1.amazonaws.com/esh-sots-pdfs/educationsuperhighway_2017_state_of_the_states.pdf; Rural is defined using the National Center for Education Statistics definition, which uses an expanded version of the U.S. Census Bureau definition.
44. National Congress of American Indians. "Support for the Creation of a 'Tribal Priority' in E-Rate Funding for Tribal Libraries and Schools." http://www.ncai.org/attachments/Resolution_AtwtCKxEicGfCVZPsHNFeEecIUmfMxobrkrVjMqINxKPQAIw-Cc_ANC-14-049.pdf
45. Federal Communications Commission. "2018 Broadband Deployment Report." February 2, 2018. <https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2018-broadband-deployment-report> ; Rural is defined using the Census Bureau's definition of urban areas.
46. Escueta, Maya et al. "Education Technology: An Evidence-Based Review." NBER. August 2017. <http://papers.nber.org/tmp/42801-w23744.pdf>
47. Noel, Amber et al. "Parent and Family Involvement in Education, from the National Household Education Surveys Program of 2012." National Center for Education Statistics. June 2016. <https://nces.ed.gov/pubs2013/2013028rev.pdf> ; Rural is defined using the National Center for Education Statistics definition, which uses an expanded version of the U.S. Census Bureau definition.

48. National Center for Education Statistics. "Public Elementary/Secondary School University Survey." US Department of Education. 2013. <https://nces.ed.gov/surveys/ruraled/tables/C.1.d.-1.asp>, see also Terry Williams, Doris and Tammy L. Mann. "Early Childhood Education in Rural Communities: Access and Quality Issues." Frederick D. Patterson Research Institute. 2011, see also National Council of Teachers of English. "Why Class Size Matters Today." April 1, 2014. <http://www2.ncte.org/statement/why-class-size-matters/> www.ruraledu.org/user_uploads/file/EarlyChildhood.pdf
49. Goodpaster, Kasey P. S. "Teachers' Perceptions of Rural STEM Teaching: Implications for Rural Teacher Retention." Rural Educator. Volume 33. Number 3. <https://eric.ed.gov/?id=EJ987621>
50. Terry Williams, Doris and Tammy L. Mann. "Early Childhood Education in Rural Communities: Access and Quality Issues." Frederick D. Patterson Research Institute. 2011. www.ruraledu.org/user_uploads/file/EarlyChildhood.pdf
51. Reconnecting McDowell. "About Reconnecting McDowell." Accessed May 3, 2018. <http://mcdowell.connections.aft.org/about-us/about-reconnecting-mcdowell>
52. Reconnecting McDowell. "Programs." Accessed May 3, 2018. <http://mcdowell.connections.aft.org/programs>
53. O'Brien, Susan. "McDowell County Office of Education Performance Audits (OEPA) Summary." OEPA. March 28, 2016. http://www.aft.org/sites/default/files/audit_mcdowellctyeducperformance_032816.pdf
54. Joint Economic Committee Democratic Staff. "High-Quality Early Learning and Care Drives Lifelong Success." September 2017. https://www.jec.senate.gov/public/_cache/files/9654af63-e1a8-4bbe-8291-6b22105ac985/high-quality-early-learning-and-care.pdf
55. Child Care for Working Families Act. S.1806. Introduced by Senator Patty Murray. <https://www.congress.gov/bill/115th-congress/senate-bill/1806>
56. Joint Economic Committee Democratic Staff. "High-Quality Early Learning and Care Drives Lifelong Success. September 2017. https://www.jec.senate.gov/public/_cache/files/9654af63-e1a8-4bbe-8291-6b22105ac985/high-quality-early-learning-and-care.pdf; see also, Two-Generation Economic Empowerment Act of 2017. S.435. Introduced by Senator Martin Heinrich. <https://www.congress.gov/bill/115th-congress/senate-bill/435>
57. Advance CTE. "CTE on the Frontier: Leveraging Federal Policy to Strengthen Rural CTE." Accessed May 3, 2018. https://cte.careertech.org/sites/default/files/files/resources/Leveraging_Federal_Policy_to_Strengthen_Rural_CTE_2017.pdf
58. Hoxby, Caroline and Sarah Turner. "Informing Students about Their College Options: A Proposal for Broadening the Expanding College Opportunities Project." The Hamilton Project. June 2013. http://www.hamiltonproject.org/assets/legacy/files/downloads_and_links/THP_HoxbyTurner_FINAL.pdf
59. Senate Democrats' Jobs & Infrastructure Plan for America's Workers. Senate Democrats. <https://www.democrats.senate.gov/download/senate-democrats-jobs-and-infrastructure-plan>
60. Building Upon Unique Indian Learning and Development Act. S.410 (114th Congress). Introduced by Senator Tom Udall. <https://www.congress.gov/bill/114th-congress/senate-bill/410>
61. Tribal Connect Act of 2017. S.2205. Introduced by Senator Martin Heinrich. <https://www.congress.gov/bill/115th-congress/senate-bill/2205/>

Infrastructure Endnotes

1. Tripnet. "Rural Connections: Challenges and Opportunities in America's Heartland." June, 2017. http://www.tripnet.org/docs/Rural_Roads_TRIP_Report_2017.pdf. Note: Rural areas in this report are based on the U.S. Census Bureau definition, which defines rural areas as regions outside of urban areas with a population of 2,500 or more.
2. Schanzenbach, Diane Witmore, Ryan Nunn, and Greg Nantz. "If You Build It: A Guide to the Economics of Infrastructure Investment." The Hamilton Project. February, 2017. http://www.hamiltonproject.org/assets/files/if_you_build_it_guide_economics_infrastructure_investment.pdf
3. American Society of Civil Engineers. "2017 Infrastructure Report Card." <https://www.infrastructurereportcard.org/wp-content/uploads/2016/10/2017-Infrastructure-Report-Card.pdf>
4. Written testimony, "Oversight: Modernizing our Nation's Infrastructure," Committee Hearing, U.S. Senate Committee on Environment and Public Works, February 8, 2017. <https://www.epw.senate.gov/public/index.cfm/hearings?ID=82518667-E24B-4CB5-BAFC-35B3FAE0D372>.
5. Fedinick, Kristi Pullen, Mae Wu, Mekela Panditharatne, and Erik D. Olson. "Threats on Tap: Widespread Violations Highlight Need for Investment in Water Infrastructure and Protections." Natural Resources Defense Council. 2017. <https://assets.nrdc.org/sites/default/files/threats-on-tap-water-infrastructure-protections-report.pdf?ga=2.192720042.1044657146.1525116042-463121934.1525116042>
6. American Society of Civil Engineers. "2017 Infrastructure Report Card." <https://www.infrastructurereportcard.org/wp-content/uploads/2017/01/Inland-Waterways-Final.pdf>
7. Whitfield, Nadia. "The U.S. Thought It Was Rid of Hookworm. Wrong." National Public Radio. September 12, 2017. <https://www.npr.org/sections/goatsandsoda/2017/09/12/550387650/the-u-s-thought-it-was-rid-of-hookworm-wrong>
8. American Society of Civil Engineers. "2017 Infrastructure Report Card." <https://www.infrastructurereportcard.org/wp-content/uploads/2017/01/Inland-Waterways-Final.pdf> and Campanelli, Bryce. "Why Inland Waterways Matter for More than Just Fishing." Bipartisan Policy Center. August 15, 2017. <https://bipartisanpolicy.org/blog/why-inland-waterways-matter-for-more-than-just-fishing/>
9. Campanelli, Bryce. "Why Inland Waterways Matter for More than Just Fishing." Bipartisan Policy Center. August 15, 2017. <https://bipartisanpolicy.org/blog/why-inland-waterways-matter-for-more-than-just-fishing/>
10. Federal Communications Commission. "2018 Broadband Deployment Report." February 2, 2018. https://apps.fcc.gov/edocs_public/attachmatch/FCC-18-10A1.pdf
11. Hardison, Kathryn. "Disconnected: Rural businesses limited by lack of broadband." Missourian. January 7, 2018. https://www.columbiamissourian.com/news/state_news/rural-businesses-limited-by-lack-of-broadband/article_73354a66-d63c-11e7-997a-6fa09e39332e.html ; Connect Americans Now. "TV White Spaces and Small Business/Jobs." <https://connect-americansnow.com/wp-content/uploads/2017/12/CAN-Small-Businesses.pdf>
12. Carlson, Scott and Christopher Mitchell. "RS Fiber: A New Rural Internet Cooperative." Broadband Communities. August/September 2016. <http://www.bbpmag.com/Features/0816RSFiber-Conduit.php>
13. National Congress of American Indians. Fiscal Year 2018 Indian Country Budget Request: Investing in Indian Country for a Stronger America. Washington, DC. 2017 <http://www.ncai.org/FY2018-NCAI-Budget-Request2.pdf>

14. United States Government Accountability Office. "Tribal Transportation: Better Data Could Improve Road Management and Inform Indian Student Attendance Strategies." May 2017. <https://www.gao.gov/assets/690/684809.pdf>. Note: "Tribal lands" defined as lands that include any federally recognized Indian tribe's reservation, off-reservation trust lands, pueblo, or colony, and Alaska Native regions established pursuant to the Alaska Native Claims Settlement Act. Tribal lands do not include Oklahoma Tribal Statistical Areas. Indian is defined as American Indian and Alaska Native people.
15. Indian Health Service. "Safe Water and Waste Disposal Facilities. September, 2016. <https://www.ihs.gov/newsroom/factsheets/safewater/>
16. National Congress of American Indians. Fiscal Year 2017 Indian Country Budget Request: Environmental Protection Section. Washington, DC. 2016. http://www.ncai.org/resources/ncai-publications/13_FY2017_environmental_protection.pdf
17. National Congress of American Indians. "Tribal Infrastructure: Investing in Indian Country for a Stronger America." An initial report by NCAI to the Administration and Congress. 2017. http://www.ncai.org/attachments/PolicyPaper_RsInCG-sUDiatRYTpPXKwThNYoACnjDoBOrdDIBSRcheKxwJZDCx_NCAI-InfrastructureReport-FINAL.pdf
18. Henckel, Timo and Warwick J. McKibbin. "The Economic of Infrastructure in a Globalized World: Issues, Lessons and Future Challenges." Brookings Institution. June 4, 2010. <https://www.brookings.edu/research/the-economics-of-infrastructure-in-a-globalized-world-issues-lessons-and-future-challenges/>
19. Low, Sarah A. "Rural Manufacturing Survival and Its Role in the Rural Economy." United States Department of Agriculture. Economic Research Service. October 25, 2017. <https://www.ers.usda.gov/amber-waves/2017/october/rural-manufacturing-survival-and-its-role-in-the-rural-economy/>
20. Klein, Ezra. "Now is the time to be an infrastructure hawk, not a deficit hawk." Washington Post. June 5, 2013. <http://www.washingtonpost.com/blogs/wonkblog/wp/2013/06/05/now-is-the-time-to-be-an-infrastructure-hawk-not-a-deficit-hawk/>
21. 2016 Economic Report of the President. Council of Economic Advisers. February, 2016. https://obamawhitehouse.archives.gov/sites/default/files/docs/ERP_2016_Book_Complete%20JA.pdf
22. Bureau of Labor Statistics annual 2017 data accessed through Haver.
23. Bureau of Labor Statistics. Industries at a Glance: Heavy and Civil Engineering Construction. Accessed May 1, 2018. <https://www.bls.gov/iag/tgs/iag237.htm>
24. Zandi, Mark. "Doing Infrastructure the Right Way." Moody's Analytics. November 2, 2011; Chodorow-Reich, Gabriel. "What Have We Learned about Geographic Cross-sectional Fiscal Multipliers?" Washington Center for Equitable Growth. January 24, 2017; "Bivens, Josh. "The Short and Long-Term Impact of Infrastructure Investments on Employment and Economic Activity in the U.S. Economy." Economic Policy Institute. July 1, 2014. CEA, Moody's and CBO multipliers from mid-recovery range from 1.8 (CBO), 1.6 (Moody's Analytics [Economy.com](http://www.economy.com)) and 1.5 (CEA). See Table 4.
25. United States Department of Agriculture Economic Research Service. "Rural Employment and Unemployment." Accessed May 1, 2018. <https://www.ers.usda.gov/topics/rural-economy-population/employment-education/rural-employment-and-unemployment/>
26. DeGood, Kevin, Andrew, Schwartz, and Christian Weller. "An Infrastructure Plan for America: How Investing in Infrastructure Will Lay the Foundation for Prosperity, Advance Environmental Goals, and Rebuild the Middle Class." Center for American Progress. July 2016. <https://cdn.americanprogress.org/wp-content/uploads/2016/07/12141150/2016-Infrastructure-report-singles.pdf>

27. Kidder, Ben. "The Challenges of Rural Transportation." Western Rural Development Center. 2006. https://wrdc.usu.edu/files-ou/publications/pub_9373753.pdf. Note: Rural definition in report are based on multiple definitions of rural.
28. Brown, Samuel et al. "Renewable Power Opportunities for Rural Communities." United States Department of Agriculture. April 2011. <https://www.usda.gov/oce/reports/energy/RenewablePowerOpportunities-Final.pdf>; Blair, Adam et al. "Transitioning to Renewable Energy: Development Opportunities and Concerns for Rural America." Cornell University Community and Regional Development Institute. July 2011. <https://cardi.cals.cornell.edu/sites/cardi.cals.cornell.edu/files/shared/documents/Community-Energy/Transitioning-to-Renewable-Energy.pdf>; Platt, John R. "Rural America's New Cash Crop: Renewable Energy." Takepart. September 12, 2016. <http://www.takepart.com/article/2016/09/12/agriculture-helps-drive-rural-renewable-energy-use>
29. United States Department of Energy. "U.S. Energy and Employment Report." January 2017. <https://www.energy.gov/downloads/2017-us-energy-and-employment-report>; total employment growth is based on JEC calculations using Bureau of Labor Statistics data.
30. American Wind Energy Association. "Wind Energy Powers Rural America." <https://www.awea.org/Issues/Content.aspx?ItemNumber=9806>
31. United States Department of Energy. "U.S. Energy and Employment Report." January 2017. <https://energy.gov/downloads/2017-us-energy-and-employment-report>
32. Jacobson, Mark Z. et al. "100% clean and renewable wind, water, and sunlight (WWS) all-sector energy roadmaps for the 50 United States." Energy Environ. Sci. May 27, 2015. <http://web.stanford.edu/group/efmh/jacobson/Articles/I/USStatesWWS.pdf>
33. American Wind Energy Association. "Wind adds jobs over 9 times faster than the overall economy." April 29, 2017. <https://www.awea.org/amr2016pressrelease>
34. Smith, Morgan et al. "Wind Farm Money Fuels Spending in West Texas Schools." The Texas Tribune. November 11, 2011. <https://www.texastribune.org/library/multimedia/wind-farm-money-spending-schools/>
35. United States Department of Energy, Office of Energy Efficiency and Renewable Energy. "Wind Energy's Economic Impact to Communities." Accessed May 9, 2018. <https://windexchange.energy.gov/projects/economic-impacts>
36. Xcel Energy. "New Xcel Energy Wind Facilities Offer \$2.8 Billion in Customer Savings over 30 years." March 21, 2017. https://www.xcelenergy.com/company/media_room/news_releases/new_xcel_energy_wind_facilities_offer_2.8_billion_in_customer_savings_over_30_years; see also, Office of Senator Martin Heinrich. "Heinrich Welcomes Approval of Sagamore Wind Project in Roosevelt County." March 21, 2018. <https://www.heinrich.senate.gov/press-releases/heinrich-welcomes-approval-of-sagamore-wind-project-in-roosevelt-county>
37. McCue, Dan. "New Mexico Commission Approves Xcel Energy's Sagamore Wind Farm." Renewable Energy Magazine. March 23, 2018. <https://www.renewableenergymagazine.com/wind/new-mexico-commission-approves-xcel-energy-s-20180323>; David Hudson testimony to the New Mexico Public Regulation Commission. November 9, 2017. Provided via email.
38. Solar Energy Industries Association. "President's Decision on Solar Tariffs is a Loss for America." January 22, 2018. <https://www.seia.org/news/presidents-decision-solar-tariffs-loss-america>

39. Germanos, Andrea. "Booting Corporate Power, Communities Are Taking Back Control of Their Water." Common Dreams. April 14, 2015. <https://www.commondreams.org/news/2015/04/14/booting-corporate-power-communities-are-taking-back-control-their-water>
40. Bordoff, Jason, Lael Brainard, Carola McGiffert, and Isaac Sorkin. "Strengthening American Competitiveness: Regaining Our Competitive Edge." Brookings Competitiveness Initiative. February 2009. https://www.brookings.edu/wp-content/uploads/2016/06/02_american_competitiveness_brainard.pdf
41. Office of Management and Budget. "America First: A Budget Blueprint to Make America Great Again." <https://www.gpo.gov/fdsys/pkg/BUDGET-2018-BLUEPRINT/pdf/BUDGET-2018-BLUEPRINT.pdf>
42. U.S. Department of Transportation. "Essential Air Service." Accessed May 1, 2018. <https://www.transportation.gov/policy/aviation-policy/small-community-rural-air-service/essential-air-service>; Rizzo, Cailey. "Trump's Budget Could Shut Down Airports in Many of the Counties That Voted for Him." Travel + Leisure. March 24, 2017. <http://www.travelandleisure.com/airlines-airports/rural-airports-essential-air-service> and Burns, Ashley. "Essential Air Service Makes the Cut in Congressional Budget Bill." Flying. May 4, 2017. <https://www.flyingmag.com/essential-air-service-makes-cut-in-congressional-budget-bill/>
43. Tripnet. "Rural Connections: Challenges and Opportunities in America's Heartland." June, 2017. http://www.tripnet.org/docs/Rural_Roads_TRIP_Report_2017.pdf. Note: Rural areas in this report are based on the U.S. Census Bureau definition, which defines rural areas as regions outside of urban areas with a population of 2,500 or more.
44. Senate Democrats' Jobs & Infrastructure Plan for America's Workers. March 7, 2018. <https://www.democrats.senate.gov/imo/media/doc/Senate%20Democrats'%20Jobs%20and%20Infrastructure%20Plan.pdf>
45. Abramson, Alana. "President Trump's Budget Cuts Amtrak Funding in Half Despite a String of Deadly Crashes." Time Magazine. February 12, 2018. <http://time.com/5144561/trump-budget-cuts-amtrak-half/> and Center for American Progress. "How the Trump Budget Undermines Economic Security for Working Families." May 23, 2017. <https://www.americanprogress.org/issues/economy/news/2017/05/23/432842/trump-budget-undermines-economic-security-working-families/>. Amtrak Southwest Chief. <https://www.amtrak.com/southwest-chief-train>
46. Bipartisan, bicameral letter to Richard H. Anderson, President and CEO, National Passenger Rail Corporation. May 31, 2018. <https://www.heinrich.senate.gov/press-releases/bipartisan-bicameral-group-of-lawmakers-raise-concerns-over-amtrak-withholding-funding-for-southwest-chief-route>
47. Bill Text. S.2205 - Tribal Connect Act of 2017 December 7, 2017. <https://www.congress.gov/bill/115th-congress/senate-bill/2205/text>
48. Press Release. "Wicker, Klobuchar Introduce Bill to Promote Precision Agriculture, Rural Broadband. January 25, 2018. <https://www.wicker.senate.gov/public/index.cfm/2018/1/wicker-klobuchar-introduce-bill-to-promote-precision-agriculture-rural-broadband>
49. Senate Democrats' Jobs & Infrastructure Plan for America's Workers. March 7, 2018. <https://www.democrats.senate.gov/imo/media/doc/Senate%20Democrats'%20Jobs%20and%20Infrastructure%20Plan.pdf> and Federal Communications Commission. "2018 Broadband Deployment Report." February 2, 2018. https://apps.fcc.gov/edocs_public/attachmatch/FCC-18-10A1.pdf. Note: FCC utilizes Census definition of "rural blocks."
50. Senate Democrats' Jobs & Infrastructure Plan for America's Workers. March 7, 2018. <https://www.democrats.senate.gov/imo/media/doc/Senate%20Democrats'%20Jobs%20and%20Infrastructure%20Plan.pdf>

51. Fact Sheet. Rebuild Rural Coalition. https://nrwa.org/wp-content/pdf/2017/Rebuild%20Rural_Water.pdf
52. The Agricultural Transportation Working Group. May 2017. <http://www.nopa.org/wp-content/uploads/2017/05/5.1.17-ATWG-Inland-Waterways-and-Port-Priorities-.pdf>
53. Senate Democrats' Jobs & Infrastructure Plan for America's Workers. March 7, 2018. <https://www.democrats.senate.gov/imo/media/doc/Senate%20Democrats'%20Jobs%20and%20Infrastructure%20Plan.pdf>
54. Office of Management and Budget. "America First: A Budget Blueprint to Make America Great Again." <https://www.gpo.gov/fdsys/pkg/BUDGET-2018-BLUEPRINT/pdf/BUDGET-2018-BLUEPRINT.pdf> and Rodriguez, Sabrina and Catherine Boudreau. "Trump Again Seeks Big Cuts to Ag Programs." Politico. February 13, 2018. <https://www.politico.com/newsletters/morning-agriculture/2018/02/13/trump-again-seeks-big-cuts-to-ag-programs-103694>
55. Scott, Arthur. "Administration eliminates USDA Rural Development Undersecretary." NACo County News. May 15, 2017. <http://www.naco.org/articles/administration-eliminates-usda-rural-development-undersecretary> and "What Trump Proposed Cutting in his 2019 Budget." February 16, 2018. https://www.washingtonpost.com/graphics/2018/politics/trump-budget-2019/?utm_term=.76d64996038d
56. Bureau of Labor Statistics. Fastest Growing Occupations. Accessed May 1, 2018. https://www.bls.gov/emp/ep_tale_103.htm
57. Garland, Sarah. "Workers are climbing wind turbines to the middle class." The Hechinger Report. April 14, 2018. <https://www.nbcnews.com/news/us-news/workers-are-climbing-wind-turbines-middle-class-n865221>. Note: rural definition is undefined.
58. Jorgenson, Jennie, Trieu Mai, and Greg Brinkman. "Reducing Wind Curtailment through Transmission Expansion in a Wind Vision Future." National Renewable Energy Laboratory. January 2017. <https://www.nrel.gov/docs/fy17osti/67240.pdf> and Press Release. "Heinrich Introduces Bill To Streamline Approval Of New Energy Transmission Projects To Help Modernize Grid." April 21, 2015. <https://www.heinrich.senate.gov/press-releases/heinrich-introduces-bill-to-streamline-approval-of-new-energy-transmission-projects-to-help-modernize-grid>.
59. Jorgenson, Jennie, Trieu Mai, and Greg Brinkman. "Reducing Wind Curtailment through Transmission Expansion in a Wind Vision Future." National Renewable Energy Laboratory. January 2017. <https://www.nrel.gov/docs/fy17osti/67240.pdf>
60. Bridge Act Summary. <https://www.scribd.com/document/348626094/Bridge-Act-Summary-Final>
61. Compton, Matt. "Five Facts about a National Infrastructure Bank." White House. November 3, 2011. <https://obamawhitehouse.archives.gov/blog/2011/11/03/five-facts-about-national-infrastructure-bank> and Hale, Laura. "Legislation to Create National Infrastructure Bank Reintroduced." American Society of Civil Engineers. June 2, 2017. <https://www.infra-structurereportcard.org/legislation-to-create-national-infrastructure-bank-reintroduced/>

Public Lands Endnotes

1. Bureau of Economic Analysis. "Outdoor Recreation Satellite Account: Prototype Statistics for 2012-2016." February 14, 2018. <https://www.bea.gov/newsreleases/industry/orsa/2018/pdf/orsa0218.pdf>
2. Kusmin, Lorin. "Using the ERS County Economic Types To Explore Demographic and Economic Trends in Rural Areas." United States Department of Agriculture, Economic Research Service. December 5, 2016. <https://www.ers.usda.gov/amber-waves/2016/december/using-the-ers-county-economic-types-to-explore-demographic-and-economic-trends-in-rural-areas/> Rural defined at the county level based on ERS county typology codes.
3. JEC calculations based on data from the USDA Economic Research Service. Rural defined at the county level based on ERS county typology codes.
4. Headwaters Economics. "Updated Summary: The Economic Importance of National Monuments to Local Communities." Spring 2017. <https://headwaterseconomics.org/wp-content/uploads/monuments-summary.pdf>
5. U.S. Fish & Wildlife Service. "2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation." May 2, 2018. <https://www.census.gov/library/publications/2018/demo/fhw-16-nat.html>
6. The Nature Conservancy. "Conservation easements protect land for future generations." Accessed May 8, 2018. <https://www.nature.org/about-us/private-lands-conservation/conservation-easements/what-are-conservation-easements.xml>
7. Land Trust Alliance. "Income Tax Incentives for Land Conservation." Accessed May 8, 2018. <https://www.landtrustalliance.org/topics/taxes/income-tax-incentives-land-conservation>
8. National Park Service. "Visitor Spending Effects - Economic Contributions of National Park Visitor Spending." April 2018. <https://www.nps.gov/subjects/socialscience/vse.htm>
9. Turkewitz, Julie. "Trump Slashes Size of Bears Ears and Grand Staircase Monuments." New York Times. December 4, 2017. <https://www.nytimes.com/2017/12/04/us/trump-bears-ears.html>
10. English, Don. "Federal Interagency Council on Outdoor Recreation, Outdoor Recreation: Jobs and Income." United States Department of Agriculture Forest Service. January 2012. <https://www.fs.fed.us/research/docs/outdoor-recreation/recreation-economy.pdf>
11. White, Eric M. "Federal Outdoor Recreation Trends: Effects on Economic Opportunities." United States Department of Agriculture Forest Service. November 2016. https://www.fs.fed.us/pnw/pubs/pnw_gtr945.pdf
12. Matz, Mike. "New Mexico's National Monuments Fuel Regional Economy." The Pew Charitable Trusts. June 30, 2017. <http://www.pewtrusts.org/en/research-and-analysis/blogs/compass-points/2017/06/30/new-mexicos-national-monuments-fuel-regional-economy>
13. Headwaters Economics. "Organ Mountains-Desert Peaks National Monument." Spring 2017. <https://headwaterseconomics.org/wp-content/uploads/Organ.pdf>
14. Rasker, Ray. "Impact of National Monuments Redesignated National Parks." Headwaters Economics. May 2018. <https://headwaterseconomics.org/public-lands/protected-lands/national-monuments-redesignated-national-parks/>

15. Frederick, Paul and Diana Jaramillo. "Vermont Residential Fuel Assessment for the 2014-2015 Heating Season." Vermont Department of Public Service and Vermont Department of Forests, Parks and Recreation. March, 2016. http://fpr.vermont.gov/sites/fpr/files/About_the_Department/Library/Library/FINAL_2015%20Residential%20Fuel%20Assessment%20Report.pdf
16. U.S. Energy Information Administration. "Increase in wood as main source of household heating most notable in the Northeast." March 17, 2014. <https://www.eia.gov/todayinenergy/detail.php?id=15431>
17. Fall, James. "Subsistence in Alaska: A 2014 Year Update." Alaska Department of Game and Fish, Subsistence Division. December 2016. https://www.adfg.alaska.gov/static/home/subsistence/pdfs/subsistence_update_2014.pdf
18. The Wilderness Society. "Trump pushes 90% cut to America's most important public lands program; here's what the Land and Water Conservation Fund does." Accessed May 8, 2018. <https://wilderness.org/trump-pushes-90-cut-americas-most-important-public-lands-program-heres-what-land-and-water>; see also, Green, Miranda. "Trump budget would fund Interior projects by selling energy from public lands." The Hill. February 12, 2018. <http://thehill.com/policy/energy-environment/373467-wh-interior-dept-budget-would-fund-infrastructure-projects-through>
19. McEnaney, Bobby. "Congress Kills BLM's Planning 2.0 Rule." NRDC. March 7, 2017. <https://www.nrdc.org/experts/bob-by-mcenaney/congress-kills-blms-planning-20-rule>
20. The Bill Lane Center for the American West. "The Short Life of the BLM's Master Leasing Plans." Stanford University. January 22, 2018. <https://west.stanford.edu/news/blogs/and-the-west-blog/2018/master-leasing-plans>

Housing Endnotes

1. Mazur, Christopher. "Homes on the Range: Homeownership Rates Are Higher in Rural America." Census Blogs. December 8, 2016. https://www.census.gov/newsroom/blogs/random-samplings/2016/12/homes_on_the_range.html. Rural defined using U.S. Census definition of urban.
2. JEC Democratic staff calculations based on survey data tabulated by the Housing Assistance Council from the American Communities Survey. Rural is defined by the Housing Assistance Council, based on non-metropolitan areas with additional distinction based on housing density and rural-urban commuting area codes.
3. Hawk, William. "Expenditures of Urban and Rural Households in 2011." Bureau of Labor Statistics. February 2013. <https://www.bls.gov/opub/btn/volume-2/expenditures-of-urban-and-rural-households-in-2011.htm>. The Consumer Expenditure Survey defines urban households as all households living inside a metropolitan statistical Area (MSA) plus households living in urban areas even if they are outside of an MSA.
4. Mazur, Christopher. "Homes on the Range: Homeownership Rates Are Higher in Rural America." Census Blogs. December 8, 2016. https://www.census.gov/newsroom/blogs/random-samplings/2016/12/homes_on_the_range.html; Rural defined using U.S. Census definition of urban.
5. Sugg, Stephen. "Housing as Infrastructure." Housing Assistance Council. <http://www.ruralhome.org/whats-new/blog-posts/1428>
6. JEC Democratic staff calculations based on survey data from the US Census Current Population Survey.
7. Carr, Shannon. "Carlsbad Housing Report December 2017." Carlsbad New Mexico Department of Development. December 2017. <http://developcarlsbad.org/DocumentCenter/View/1246>
8. US Department of Housing and Urban Development (HUD). "Preserving Affordable Rental Housing in Rural America." HUD. July 10, 2017. <https://www.huduser.gov/portal/pdredge/pdr-edge-featd-article-071017.html>
9. Federal Emergency Management Agency (FEMA). "Understanding and Improving Performance of New Manufactured Homes During High-Wind Events." FEMA. April 2007. https://www.fema.gov/media-library-data/20130726-1604-20490-9562/ra5_new_manuf_homes.pdf
10. Mickelson, Sarah. "Rural America's Rental Housing: Federal Strategies to Preserve Access to Affordable Rental Housing in Rural Communities." National Rural Housing Coalition. 2014. https://www.novoco.com/sites/default/files/atoms/files/nrhc_rural_america_rental_housing_crisis_071114.pdf
11. Housing Assistance Council (HAC). "USDA's Self-Help Housing Program Supports Rural Minority Homeownership." HAC. March 2011. http://www.ruralhome.org/storage/documents/minority_homeownership.pdf
12. Oberdorfer, Eric and Keith Wiley. "Housing an Aging Rural America: Rural Seniors and Their Homes." Housing Assistance Council. October 2014. <http://www.ruralhome.org/storage/documents/publications/rrreports/ruralseniors2014.pdf>
13. Helseth, Candi. "Assisted Living Facilities Offer Home Away From Home." The Rural Monitor Rural Health Information Hub. August 21, 2009. <https://www.ruralhealthinfo.org/rural-monitor/assisted-living-facilities-offer-home/>
14. "Manufactured-housing consumer finance in the United States." Consumer Financial Protection Bureau. September 2014. https://files.consumerfinance.gov/f/201409_cfpb_report_manufactured-housing.pdf

15. Federal Emergency Management Agency (FEMA). "Understanding and Improving Performance of New Manufactured Homes During High-Wind Events." FEMA. April 2007. https://www.fema.gov/media-library-data/20130726-1604-20490-9562/ra5_new_manuf_homes.pdf
16. US Department of Housing and Urban Development. "Housing Needs of American Indians and Alaska Natives in Tribal Areas: A Report From the Assessment of American Indian, Alaska Native, and Native Hawaiian Housing Needs." US Department of Housing and Urban Development. January 2017. <https://www.huduser.gov/portal/sites/default/files/pdf/HNAIHousingNeeds.pdf>
17. National American Indian Housing Council (NAIHC). "About NAIHC: Profile of Indian Country." NAIHC. <http://naihc.net/about-2/>
18. Simington, Jasmine and Nancy Pindus. "Mortgage Lending in Indian Country has Jumped, But Land Policies Remain a Barrier." Urban Institute. April 21, 2017. <https://www.urban.org/urban-wire/mortgage-lending-indian-country-has-jumped-land-policies-remain-barrier>
19. Housing Assistance Council. "Rental Housing in Rural America." Housing Assistance Council. April 2013. http://www.ruralhome.org/storage/research_notes/rrn_rural_rental_housing.pdf. Rural refers to rural and small town as defined by the Housing Assistance Council.
20. Ibid.
21. "Housing in Rural America." Housing Assistance Council. http://www.ruralhome.org/storage/documents/ts2010/ts-report/ts10_rural_housing.pdf. Rural refers to rural and small town as defined by the Housing Assistance Council.
22. Mickelson, Sarah. "Rural America's Rental Housing: Federal Strategies to Preserve Access to Affordable Rental Housing in Rural Communities." National Rural Housing Coalition. 2014. https://www.novoco.com/sites/default/files/atoms/files/nrhc_rural_america_rental_housing_crisis_071114.pdf
23. Calhoun, Michael et al. "Supporting Mortgage Lending in Rural Communities." The Brookings Institution. January 2018. https://www.brookings.edu/wp-content/uploads/2018/01/es_2018_01_10_rural_housing_report.pdf. Rural refers to rural as defined by the Federal Housing Financial Agency.
24. Todd, Richard and Michael Williams. "A new lending gap?" Federal Reserve Bank of Minneapolis. April 2017. <https://minneapolisfed.org/publications/community-dividend/a-new-lending-gap>. Rural is defined as any census tract that is not primarily contained in an urban area.
25. National Rural Housing Coalition (NRHC). "An Exploration in Federal Rural Rental Housing Policy: Conference Summary." NRHC. April 2017. <http://ruralhousingcoalition.org/wp-content/uploads/2017/05/Conference-Summary.pdf>
26. Ibid.
27. National Rural Housing Coalition (NRHC). "Preserving Affordable Rural Rental Housing." October 6, 2016. NRHC. <http://ruralhousingcoalition.org/housing-experts-chart-course-to-preserve-affordable-rural-rental-housing/>
28. Federal Deposit Insurance Corporation (FDIC) Community Banking Study. "Chapter 1: Defining the Community Bank." FDIC. December 2012. <https://www.fdic.gov/regulations/resources/cbi/report/cbsi-1.pdf>

29. Consumer Finance Protection Bureau (CFPB). "CFPB Rule Broadens Qualified Mortgage Coverage of Lenders Operating in Rural and Underserved Areas." CFPB. March 22, 2016. <https://www.consumerfinance.gov/about-us/newsroom/cfpb-rule-broadens-qualified-mortgage-coverage-of-lenders-operating-in-rural-and-underserved-areas/>
30. Onsurez, Jessica. "Carlsbad Hopes Special Housing Keeps Teachers." Albuquerque Journal. November 18, 2013. <https://www.abqjournal.com/303153/carlsbad-hopes-special-housing-keeps-teachers.html>
31. Community Wealth. "Policy Guide: HUD Section 202: Supportive Housing for the Elderly." https://community-wealth.org/strategies/policy-guide/hud_section-202.html

Health Care Endnotes

1. Braverman, Paula A. et al. "Socioeconomic Disparities in Health in the United States: What the Patterns Tell Us." American Journal of Public Health. April 1, 2010. <https://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2009.166082> ; U.S. Department of Agriculture, Economic Research Service. "Rural Poverty & Well-being." April 18, 2018. <https://www.ers.usda.gov/topics/rural-economy-population/rural-poverty-well-being/>; U.S. Census Bureau. Health Insurance Coverage in the United States: 2016, Table 4. September 12, 2017. <https://www.census.gov/library/publications/2017/demo/p60-260.html>
2. Economic Research Service, US Department of Agriculture. "Rural Poverty & Well-Being." April 18, 2018. <https://www.ers.usda.gov/topics/rural-economy-population/rural-poverty-well-being/>
3. Avery, Kelsey et al. "Impact of the Affordable Care Act Coverage Expansion on Rural and Urban Populations." U.S. Department of Health & Human Services, Office of the Assistant Secretary for Planning and Evaluation. June 10, 2016. <https://aspe.hhs.gov/system/files/pdf/204986/ACARuralbrief.pdf> ; Rural is defined using the Federal Office of Rural Health Policy's definition, which uses an expanded version of OMB's metropolitan areas.
4. Joint Economic Committee Calculations from 2016 American Community Survey, 1-year estimates
5. Holahan, John. "The Evidence on Recent Health Care Spending Growth and the Impact of the Affordable Care Act." May 2017. https://www.urban.org/sites/default/files/publication/90471/2001288-the_evidence_on_recent_health_care_spending_growth_and_the_impact_of_the_affordable_care_act.pdf
6. U.S. Department of Agriculture, Economic Research Service. "Rural Poverty & Well-being." April 18, 2018. <https://www.ers.usda.gov/topics/rural-economy-population/rural-poverty-well-being/> ; Avery, Kelsey et al. "Impact of the Affordable Care Act Coverage Expansion on Rural and Urban Populations." U.S. Department of Health & Human Services, Office of the Assistant Secretary for Planning and Evaluation. June 10, 2016. <https://aspe.hhs.gov/system/files/pdf/204986/ACARuralbrief.pdf>
7. Rural Health Information Hub. "Rural Pharmacy and Prescription Drugs." May 28, 2015. <https://www.ruralhealthinfo.org/topics/pharmacy-and-prescription-drugs>
8. Villapiano, Nicole L. et al. "Rural and Urban Differences in Neonatal Abstinence Syndrome and Maternal Opioid Use, 2004 to 2013." JAMA Pediatrics. December 12, 2016. <https://www.ncbi.nlm.nih.gov/pubmed/27942711>; Rural is defined using the National Center for Health Statistics (NCHS) definition, which uses an expanded version of OMB's metropolitan areas.
9. Mattson, Jeremy. "Transportation, Distance, and Health Care Utilization for Older Adults in Rural and Small Urban Areas." North Dakota State University, Upper Great Plains Transportation Institute. December 2010. <http://www.ugpti.org/pubs/pdf/DP236.pdf>
10. Arcury, Thomas et al. "Access to transportation and health care utilization in a rural region." The Journal of Rural Health. January 2005. <https://www.ncbi.nlm.nih.gov/pubmed/15667007>; Syed, Samina T. et al. "Traveling Towards Disease: Transportation Barriers to Health Care Access." The Journal of Community Health. March 31, 2013. <https://www.ncbi.nlm.nih.gov/pubmed/23543372>
11. Rural Health Information Hub. "Healthcare Access in Rural Communities." June 6, 2017. <https://www.ruralhealthinfo.org/topics/healthcare-access>

12. Nicholl, Jon et al. "The relationship between distance to hospital and patient mortality in emergencies: an observational study." *Emergency Medicine Journal*. August 21, 2007. http://valli57.blog.is/users/95/valli57/files/samband_flutningsvegalengdar_sjuklinga_og_dau_sfalla.pdf
13. Hung, Peiyin et al. "Access To Obstetric Services In Rural Counties Still Declining, With 9 Percent Losing Services, 2004–14." *Health Affairs*. September 2017. <https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2017.0338>
14. Ravelli, A et al. "Travel time from home to hospital and adverse perinatal outcomes in women at term in the Netherlands." *BJOG*. December 8, 2010. <https://obgyn.onlinelibrary.wiley.com/doi/full/10.1111/j.1471-0528.2010.02816.x>
15. Centers for Medicare and Medicaid, Office of the actuary. "2016 Actuarial Report on the Financial Outlook For Medicaid." <https://www.medicaid.gov/medicaid/financing-and-reimbursement/downloads/medicaid-actuarial-report-2016.pdf>; Topchik, Michael. "The Rural Relevance Study and the State of Rural Ohio Healthcare." Chartis Center for Rural Health. August 22, 2017. <https://www.odh.ohio.gov/-/media/ODH/ASSETS/Files/chss/Rural-Health-Conference/Chartis-Rural-ODH-Rural-Health-Conference-Aug2017.pdf?la=en> ; Rural is defined using the CMS definition, which uses an expanded version of the U.S. Census Bureau Definition.
16. Joint Economic Committee Democratic Staff. "TrumpCare Threatens Rural Hospitals." June 2017. https://www.jec.senate.gov/public/_cache/files/c875b293-aa4e-410e-84e6-485963ca5cbc/medicaid-rural-hospitals-and-seniors.pdf; Kendall, David. "American Health Care Act: Devastating for Rural America." *Third Way*. <https://www.thirdway.org/one-pager/american-health-care-act-devastating-for-rural-america>; Cross-Call, Jesse et al. "House-Passed Bill Would Devastate Health Care in Rural America." *CBPP*. May 16, 2017. <https://www.cbpp.org/research/health/house-passed-bill-would-devastate-health-care-in-rural-america> ; Rural is defined using the 2010 Index of Relative Rurality (IRR) measure, which is measured based on population size, population density, extent of urbanized area, and distance to the nearest metro area.
17. GW Public Health. "Medicaid Pays For Nearly Half of All Births in the United States." September 10, 2013. "<http://publihealth.gwu.edu/content/medicaid-pays-nearly-half-all-births-united-states>"; Luthra, Shefali. "Medicaid payments allow struggling hospitals to maintain vital costly services such as maternity care." *Kaiser Health News*. March 12, 2018. <https://khn.org/news/medicaid-is-rural-americas-financial-midwife/>
18. Weller, Christian. "The State of Communities of Color in the U.S. Economy." *Center for American Progress*. April 2012. https://cdn.americanprogress.org/wp-content/uploads/issues/2012/04/pdf/comm_of_color.pdf
19. National Center for Health Statistics, National Health Interview Survey, 2015, Table P-11a. ftp://ftp.cdc.gov/pub/HealthStatistics/NCHS/NHIS/SHS/2015_SHS_Table_P-11.pdf
20. National Association of Community Health Centers. "America's Health Centers." October 2017. http://www.nachc.org/wp-content/uploads/2017/11/Americas_Health_Centers_Nov_2017.pdf
21. National Association of Community Health Centers. "Community Health Center Chartbook." June 2017. <http://www.nachc.org/wp-content/uploads/2017/06/Chartbook2017.pdf>
22. Congressional Research Service. "Federal Health Centers: An Overview." May 19, 2017. https://www.everycrsreport.com/files/20170519_R43937_5becedeeca1cb483b2f68e7fbbc659bed29b38f1.pdf
23. National Association of Community Health Centers. "America's Health Centers." October 2017. http://www.nachc.org/wp-content/uploads/2017/11/Americas_Health_Centers_Nov_2017.pdf

24. JEC Democratic Staff Calculations based on the Federal Poverty Level (FPL) for a family of four: <https://www.healthcare.gov/glossary/federal-poverty-level-fpl/>
25. Broaddus, Matt. "Affordable Care Act's Medicaid Expansion Benefits Hospitals, Particularly in Rural America." June 23, 2017. <https://www.cbpp.org/research/health/affordable-care-acts-medicaid-expansion-benefits-hospitals-particularly-in-rural>
26. Buettgens, Matthew. "The Implications of Medicaid Expansion in the Remaining States: 2018 Update." Urban Institute. May 2018. https://www.urban.org/sites/default/files/publication/98467/the_implications_of_medicaid_expansion_2001838_2.pdf
27. Kaufman, Brystana et al. "Medicaid Expansion Affects Rural and Urban Hospitals Differently." Health Affairs. September 2016. <http://content.healthaffairs.org/content/35/9/1665.abstract>; Cross-Call, Jesse et al. "House-Passed Bill Would Devastate Health Care in Rural America." CBPP. May 16, 2017. <https://www.cbpp.org/research/health/house-passed-bill-would-devastate-health-care-in-rural-america>; Blavin, Fredric. "How Has the ACA Changed Finances for Different Types of Hospitals? Updated Insights from 2015 Cost Report Data." The Urban Institute. April 3, 2017. <https://www.urban.org/research/publication/how-has-aca-changed-finances-different-types-hospitals-updated-insights-2015-cost-report-data>; Rural is defined using the Federal Office of Rural Health Policy's definition, which uses an expanded version of OMB's metropolitan areas.
28. Cross-Call, Jesse et al. "House-Passed Bill Would Devastate Health Care in Rural America." CBPP. May 16, 2017. <https://www.cbpp.org/research/health/house-passed-bill-would-devastate-health-care-in-rural-america>
29. JEC Democratic Staff calculations using 2016 data from the Current Population Survey, Annual Social and Economic Supplement.
30. Antonisse, Larisa et al. "The Effects of Medicaid Expansion under the ACA: Updated Findings from a Literature Review." Kaiser Family Foundation. March 28, 2018. <https://www.kff.org/medicaid/issue-brief/the-effects-of-medicaid-expansion-under-the-aca-updated-findings-from-a-literature-review-september-2017/>; Baicker, Katherine et al. "The Oregon Experiment — Effects of Medicaid on Clinical Outcomes." The New England Journal of Medicine. May 2, 2013. <http://www.nejm.org/doi/full/10.1056/NEJMs1212321>
31. Musumeci, MaryBeth and Rudowitz, Robin. "Medicaid Non-Emergency Medical Transportation: Overview and Key Issues in Medicaid Expansion Waivers." Kaiser Family Foundation. February 24, 2016. <https://www.kff.org/medicaid/issue-brief/medicaid-non-emergency-medical-transportation-overview-and-key-issues-in-medicaid-expansion-waivers/>
32. Topchik, Michael. "The Rural Relevance Study and the State of Rural Ohio Healthcare." Chartis Center for Rural Health. August 22, 2017. <https://www.odh.ohio.gov/-/media/ODH/ASSETS/Files/chss/Rural-Health-Conference/Chartis-Rural-ODH-Rural-Health-Conference-Aug2017.pdf?la=en>; Rural is defined using the CMS definition, which uses an expanded version of the U.S. Census Bureau definition.
33. Coburn, Andrew F. et al. "Are Rural Older Adults Benefiting from Increased State Spending on Medicaid Home and Community-Based Services?" Maine Rural Health Research Center. June 2016. <https://muskie.usm.maine.edu/Publications/rural/Medicaid-Home-Community-Based-Services-Rural.pdf>
34. Ianzito, Christina. "The Cost of Family Caregiving: Out-of-Pocket Spending Surprisingly High." AARP. November 2016. <https://www.aarp.org/caregiving/financial-legal/info-2017/out-of-pocket-cost-report.html>

35. MetLife Mature Market Institute. "Caregiving Costs to Working Caregivers." June 2011. <https://www.aarp.org/content/dam/aarp/livable-communities/learn/health/metlife-study-of-caregiving-costs-to-working-caregivers-2011-aarp.pdf>; Ianzito, Christina. "The Cost of Family Caregiving: Out-of-Pocket Spending Surprisingly High." AARP. November 2016. <https://www.aarp.org/caregiving/financial-legal/info-2017/out-of-pocket-cost-report.html>
36. Centers for Medicare and Medicaid Services. "MACRA." <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/MACRA-MIPS-and-APMs.html>
37. Bureau of Labor Statistics. "Table 2.1 Employment by major industry sector, 2006, 2016, and projected 2026." https://www.bls.gov/emp/ep_table_201.htm
38. Joint Economic Committee Democratic Staff. "TrumpCare Threatens Rural Hospitals." June 2017. https://www.jec.senate.gov/public/_cache/files/c875b293-aa4e-410e-84e6-485963ca5cbc/medicaid-rural-hospitals-and-seniors.pdf; JEC Democratic Staff calculations based on 2015 5-year American Community Survey.
39. iVantage Health Analytics. "Rural Relevance- Vulnerability to Value." 2016. https://www.chartis.com/resources/files/INDEX_2016_Rural_Relevance_Study_FINAL_Formatted_02_08_16.pdf; Rural is defined using the Federal Office of Rural Health Policy's definition, which uses an expanded version of OMB's metropolitan areas.
40. Holmes, George et al. "The Effect of Rural Hospital Closures on Community Economic Health." Health Services Research. April 2006. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1702512/>
41. Meit, Michael et al. "The 2014 Update of the Rural-Urban Chartbook." Rural Health Reform Policy Research Center. October 2014. <https://ruralhealth.und.edu/projects/health-reform-policy-research-center/pdf/2014-rural-urban-chart-book-update.pdf>
42. JEC Democratic Staff calculations based on data from the Health Resources and Services Administration Data Warehouse, Medically Underserved Areas and Populations.
43. Health Resources and Services Administration. "Shortage Areas." <https://datawarehouse.hrsa.gov/topics/shortageAreas.aspx>. Rural is defined using the Federal Office of Rural Health Policy's definition, which uses an expanded version of OMB's metropolitan areas.
44. Rural Health Information Hub. "Substance Abuse in Rural Areas." <https://www.ruralhealthinfo.org/topics/substance-abuse#effects>
45. Health Resources and Services Administration. "Shortage Areas." <https://datawarehouse.hrsa.gov/topics/shortageAreas.aspx>. Rural is defined using the Federal Office of Rural Health Policy's definition, which uses an expanded version of OMB's metropolitan areas; Maine Rural Health Research Center. "Few and Far Away: Detoxification Services in Rural Areas." December 2009. <http://muskie.usm.maine.edu/Publications/rural/pb41/Rural-Detox-Brief.pdf>
46. Whitman, Elizabeth. "Building a lifeline for rural addicts." Modern Healthcare. October 3, 2016. <http://www.modernhealthcare.com/special/rural-addicts>
47. Pullen, E. and Oser, C. "Barriers to substance abuse treatment in rural and urban communities: counselor perspectives." Substance Use and Misuse. June 2014. <https://www.ncbi.nlm.nih.gov/pubmed/24611820>
48. Rural Health Information Hub. "Oral Health in Rural Communities." <https://www.ruralhealthinfo.org/topics/oral-health>
49. The Pew Charitable Trusts. "Dental Campaign." <http://www.pewtrusts.org/en/projects/dental-campaign>

50. Health Resources and Services Administration. "Shortage Areas." <https://datawarehouse.hrsa.gov/topics/shortageAreas.aspx>. Rural is defined using the Federal Office of Rural Health Policy's definition, which uses an expanded version of OMB's metropolitan areas.
51. Upper Midwest Rural Health Research Center. "Rural Emergency Department Staffing: Potential Implications for the Quality of Emergency Care Provided in Rural Areas." August 2007. http://thrc.umn.edu/wp-content/files_mf/caseyed-staffing.pdf
52. Bureau of Labor Statistics. "Projections overview and highlights, 2016-26." October 2017. <https://www.bls.gov/opub/mlr/2017/article/projections-overview-and-highlights-2016-26.htm>
53. Bureau of Labor Statistics. "Employment Projections 2016-26." October 2017. <https://www.bls.gov/news.release/pdf/eco-pro.pdf>
54. HRSA. "Teaching Health Center Graduate Medical Education (THCGME) Program." <https://bhw.hrsa.gov/grants/medicine/thcgme>; HRSA. "Teaching Health Center Graduate Medical Education Program." <https://bhw.hrsa.gov/sites/default/files/bhw/health-workforce-analysis/program-highlights/THCGME-program-2017.pdf> ; Rural is defined using the Federal Office of Rural Health Policy's definition, which uses an expanded version of OMB's metropolitan areas.
55. Brown, Kip et al. "Strengthening the Direct Service Workforce in Rural Areas." Centers for Medicare and Medicaid. August 2011. <https://www.medicaid.gov/medicaid/ltss/downloads/workforce/rural-area-issue-brief.pdf>; Lair, Meredith and Hargrove, Brittany. "From Branding Iron to Stethoscope: A Rural Success Story." Northeast Oregon Area Health Education Center. <https://www.neoahc.org/news/releases/from-branding-iron-to-stethoscope-a-rural-success-story/>
56. Becker's Hospital Review. "20 Statistics on Non-Profit Hospital CEO Compensation by Community Type" April 11, 2012. <https://www.beckershospitalreview.com/compensation-issues/20-statistics-on-non-profit-hospital-ceo-compensation-by-community-type.html>
57. Kansas Hospital Education and Research Foundation. "Hospital CEO turnover in Kansas." May 2017. <http://www.khanet.org/trustees/trusteesnewsletterarticles/hospital-ceo-turnover-in-kansas-executive-summary-140841.aspx>
58. GAO. "Telehealth and Remote Patient Monitoring Use in Medicare and Selected Federal Programs." April 2017. <https://www.gao.gov/assets/690/684115.pdf>
59. Ibid.
60. Center for Technology and Aging. "Fact Sheet: Highlights from the Remote Patient Monitoring Position Paper." Spring 2010. <http://www.phi.org/uploads/application/files/ai03arzf6se98ccym51dsz2krzfaeyk664b83mz5c1mxfwo8lq.pdf>
61. Moore, Miranda et al. "Family Physicians Report Considerable Interest in, but Limited Use of, Telehealth Services." Journal of American Board of Family Medicine. January 2017. <http://www.jabfm.org/content/30/3/320.full>; Emanuel, Zeke et al. "State Options to Control Health Care Costs and Improve Quality." Center for American Progress. April 11, 2016. <https://www.americanprogress.org/issues/healthcare/reports/2016/04/11/134859/state-options-to-control-health-care-costs-and-improve-quality/> ; Rural is defined using USDA 2010 Rural-urban commuting area (RUCA) codes.
62. Priester, Mary Ann et al. "Treatment Access Barriers and Disparities Among Individuals with Co-occurring Mental Health and Substance Use Disorders: An Integrative Literature Review." Journal of Substance Abuse Treatment. October 31, 2015. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4695242/>

63. Moore, Miranda et al. "Family Physicians Report Considerable Interest in, but Limited Use of, Telehealth Services." Journal of American Board of Family Medicine. January 2017. <http://www.jabfm.org/content/30/3/320.full>
64. Holder, Kelly. "Veterans in Rural America: 2011-2015." U.S. Census Bureau. January 2017. <https://www.census.gov/content/dam/Census/library/publications/2017/acs/acs-36.pdf>
65. Bresnick, Jennifer. "VA Reduces Admissions by 35% Due to Telemedicine Services." HER Intelligence. <https://ehrintelligence.com/news/va-reduces-admissions-by-35-due-to-telemedicine-services/>
66. Vella, Michael et al. "Postoperative Telehealth Visits Assessment of Quality and Preferences of Veterans." Association of VA Surgeons. December 2015. <https://jamanetwork.com/journals/jamasurgery/fullarticle/2442534>
67. Schadelbauer, Rick. "Anticipating the Economic Returns of Rural Telehealth." The Rural Broadband Association. March 2017. https://www.ntca.org/sites/default/files/documents/2017-12/SRC_whitepaper_anticipatingeconomicreturns.pdf
68. Avalere Health. "Estimated Federal Impact of Proposed Policies Changes to Expand Medicare Reimbursement of Telehealth and Remote Patient Monitoring." January 29, 2015. http://s3.amazonaws.com/content.thirdway.org/publishing/attachments/files/000/000/936/Avalere_Medicare_Savings_Report.pdf?1454340957
69. National Advisory Committee on Rural Health and Human Services. "Telehealth in Rural America." March 2015. <https://www.hrsa.gov/advisorycommittees/rural/publications/telehealthmarch2015.pdf>
70. UNM Health Sciences Center. "What is Telehealth?" <https://hsc.unm.edu/health/patient-care/telehealth.html>
71. UNM Health Sciences Center. "U.S. Senate passes law to bring Project ECHO model to rural health care." November 2016. <http://hscnews.unm.edu/news/u-s-senate-passes-law-to-bring-project-echo-model-to-rural-health-care>
72. Baystate Health. "Rural Hospital Increases Physician Utilization with Telehealth." https://higherlogicdownload.s3.amazonaws.com/AMERICANTELEMED/618da447-dee1-4ee1-b941-c5bf3db5669a/UploadedImages/Case%20Studies/AMD_Baystate_Health.pdf
73. Kendall, David. "Make Telehealth an Easy Way for Patients to Get Care." Third Way. <http://www.thirdway.org/report/make-telehealth-an-easy-way-for-patients-to-get-care>
74. American Hospital Association. "The Promise of Telehealth For Hospitals, Health Systems and Their Communities, Trend Watch." January 2015. <http://www.aha.org/research/reports/tw/15jan-tw-telehealth.pdf>
75. Centers for Medicare and Medicaid. "Telemedicine." <https://www.medicare.gov/medicaid/benefits/telemed/index.html>; Lacktman, Nathaniel. "Medicare's New Remote Patient Monitoring Reimbursement: What Providers Need to Know." Foley and Lardner LLP. February 2018. <https://www.healthcarelawtoday.com/2018/02/12/medicares-new-remote-patient-monitoring-reimbursement-what-providers-need-to-know/>
76. Centers for Medicare and Medicaid. "Telemedicine." <https://www.medicare.gov/medicaid/benefits/telemed/index.html>
77. Centers for Medicare and Medicaid. "Summary of Policies in the Calendar Year (CY) 2018 Medicare Physician Fee Schedule (MPFS) Final Rule, Telehealth Originating Site Facility Fee Payment Amount and Telehealth Services List, and CT Modifier Reduction List." January 2018. <https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Net-work-MLN/MLNMattersArticles/downloads/MM10393.pdf>
78. Federal Communications Commission. "2018 Broadband Deployment Report." February 2018. <https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2018-broadband-deployment-report>

79. Buettgens, Matthew. "The Implications of Medicaid Expansion in the Remaining States: 2018 Update." Urban Institute. May 2018. https://www.urban.org/sites/default/files/publication/98467/the_implications_of_medicaid_expansion_2001838_2.pdf
80. Maine Rural Health Research Center. "Encouraging Rural Health Clinics to Provide Mental Health Services: What are the Options?" May 2010. <http://muskie.usm.maine.edu/Publications/rural/pb/mental-health-services-Rural-Health-Clinics.pdf>; Foutz, Julia et al. "The Role of Medicaid in Rural America." Kaiser Family Foundation. April 2017. <https://www.kff.org/medicaid/issue-brief/the-role-of-medicaid-in-rural-america/>
81. Brown, Kip et al. "Strengthening the Direct Service Workforce in Rural Areas." Centers for Medicare and Medicaid. August 2011. <https://www.medicaid.gov/medicaid/ltss/downloads/workforce/rural-area-issue-brief.pdf>; Lair, Meredith and Hargrove, Brittany. "From Branding Iron to Stethoscope: A Rural Success Story." Northeast Oregon Area Health Education Center. <https://www.neoahec.org/news/releases/from-branding-iron-to-stethoscope-a-rural-success-story/> ;
82. Stretton, David. "Recruitment and Retention of Rural Hospital Administrators: A Multifaceted Approach." Hospital Topics Journal. August 2010. <http://www.tandfonline.com/doi/abs/10.3200/HTPS.87.1.10-14>; Powell, Linda and Berk, Dave. "CEO Recruitment Guide." National Rural Health Resource Center. 2001. <https://www.ruralcenter.org/resource-library/ceo-recruitment-guide>
83. Ross, Martha. "A win-win: home health aide training program creates better care for patients, better jobs for workers." The Brookings Institution. November 10, 2015. <https://www.brookings.edu/blog/health360/2015/11/10/a-win-win-home-health-aide-training-program-creates-better-care-for-patients-better-jobs-for-workers/>

Agriculture Endnotes

1. "Median Age of the Labor Force, by Sex, Race, and Ethnicity." U.S. Bureau of Labor Statistics. October 24, 2017. https://www.bls.gov/emp/ep_table_306.htm; "Beginning Farmers and Age Distribution of Farmers." USDA ERS. April 13, 2017. <https://www.ers.usda.gov/topics/farm-economy/beginning-disadvantaged-farmers/beginning-farmers-and-age-distribution-of-farmers/>.
2. "2012 Census Highlights." USDA - NASS, Census of Agriculture - Publications - 2012 - Highlights. May 2014. https://www.agcensus.usda.gov/Publications/2012/Online_Resources/Highlights/Farm_Demographics/.
3. Ibid
4. "Report: Building a Future with Farmers, November 2011." National Young Farmers Coalition. November 9, 2011. <http://www.youngfarmers.org/newsroom/building-a-future-with-farmers-october-2011/>; Raftery, Isolde. "Young Farmers Find Huge Obstacles to Getting Started." The New York Times, November 12, 2011. <https://www.nytimes.com/2011/11/13/us/young-farmers-face-huge-obstacles-to-getting-started.html>.
5. "Farmland Value." USDA ERS. September 19, 2017. <https://www.ers.usda.gov/topics/farm-economy/land-use-land-value-tenure/farmland-value/>.
6. "USDA Sees Limited Farmland Available for Public Sale." Texas Farm Bureau. November 08, 2016. <http://texasfarmbureau.org/usda-sees-limited-farmland-available-public-sale/>.
7. Dewey, Caitlin. "A Growing Number of Young Americans Are Leaving Desk Jobs to Farm." The Washington Post. November 23, 2017. https://www.washingtonpost.com/business/economy/a-growing-number-of-young-americans-are-leaving-desk-jobs-to-farm/2017/11/23/e3c018ae-c64e-11e7-afe9-4f60b5a6c4a0_story.html?utm_term=.2a41fd0b9e3f.
8. Ibid
9. Preliminary Report Highlights: U.S. Farms and Farmers. Report. USDA. February 2014. https://www.agcensus.usda.gov/Publications/2012/Preliminary_Report/Highlights.pdf
10. "Women Farmers." 2012 Census Highlights. September 2014. https://www.agcensus.usda.gov/Publications/2012/Online_Resources/Highlights/Women_Farmers/Highlights_Women_Farmers.pdf; Hoppe, Robert A., and Penni Korb. Characteristics of Women Farm Operators and Their Farms. Report no. 111. USDA, Economic Research Service. 2013. https://www.ers.usda.gov/webdocs/publications/43749/37012_eib111.pdf?v=41390
11. Johnson, Renee, Tadlock Cowan, Jim Monke, and Megan Stubbs. Farm Bill Primer: Federal Programs Supporting New Farmers. Report no. IF10641. Congressional Research Service. 2018. <http://www.crs.gov/Reports/IF10641?source=search&guid=cbca873080c94ff983c3658d1c3c29e2&index=0>
12. "National Institute of Food and Agriculture." Agriculture and Food Research Initiative (AFRI). <https://nifa.usda.gov/program/agriculture-and-food-research-initiative-afri>.
13. "The Economic State of the Veterans Community." U.S. Congress Joint Economic Committee - Democrats. November 9, 2017. <https://www.jec.senate.gov/public/index.cfm/democrats/2017/11/jec-democrats-release-fact-sheet-on-the-economic-state-of-the-veterans-community>.
14. "Warrior Farmer Project." Desert Forge Foundation. <http://www.desertforge.org/bwarrior-farmer-project/>.
15. Ibid

16. Key, Nigel. "Farms That Sell Directly to Consumers May Stay in Business Longer." USDA. April 28, 2016. <https://www.usda.gov/media/blog/2016/04/28/farms-sell-directly-consumers-may-stay-business-longer>.
17. Ibid
18. "Direct Farm Sales of Food." 2012 Census Highlights. December 2016. https://www.agcensus.usda.gov/Publications/2012/Online_Resources/Highlights/Local_Food/LocalFoodsMarketingPractices_Highlights.pdf
19. "Farmers Markets and Direct-to-Consumer Marketing." USDA Agricultural Marketing Service. <https://www.ams.usda.gov/services/local-regional/farmers-markets-and-direct-consumer-marketing>. Increase in Farmers Market Directory Listings from 2006 to 2016. Note: National Count of Farmers Market Directory Listings Graph: 1994-2017
20. Key, Nigel. "Farms That Sell Directly to Consumers May Stay in Business Longer." USDA. April 28, 2016. <https://www.usda.gov/media/blog/2016/04/28/farms-sell-directly-consumers-may-stay-business-longer>.
21. Farmers Market Promotion Program 2016 Report. Report. USDA, Agricultural Marketing Service. <https://www.ams.usda.gov/sites/default/files/media/FMPP2016Report.pdf>
22. Johnson, Renee, and Tadlock Cowan. Local Food Systems: Selected Farm Bill and Other Federal Programs. Report no. R43950. Congressional Research Service. 2016. <https://fas.org/sgp/crs/misc/R43950.pdf>
23. "2016 Count of Certified Organic Operations Shows Continued Growth in U.S. Market." USDA Agricultural Marketing Service. April 19, 2017. <https://www.ams.usda.gov/press-release/2016-count-certified-organic-operations-shows-continued-growth-us-market>; "Organic Market Analysis." Organic Trade Association. <https://www.ota.com/resources/market-analysis>.
24. Jaenicke, Edward C. "U.S. Organic Hotspots and Their Benefit to Local Economies." Organic Trade Association. May 2016. https://ota.com/sites/default/files/indexed_files/OTA-HotSpotsWhitePaper-OnlineVersion.pdf
25. Ibid
26. Ibid
27. Greenaway, Twilight. "Can Organics Help Rural America Rebound?" Civil Eats. April 17, 2018. <https://civileats.com/2018/04/17/can-organics-help-rural-america-rebound/>; Gustavo Ferreira, Andrea Carlson, Bryce Cooke, and Claudia Hitaj. "Growing Organic Demand Provides High-Value Opportunities for Many Types of Producers." USDA Economic Research Service. February 6, 2017. <https://www.ers.usda.gov/amber-waves/2017/januaryfebruary/growing-organic-demand-provides-high-value-opportunities-for-many-types-of-producers/>.
28. Briggeman, Brian C. "The Importance of Off-Farm Income to Servicing Farm Debt." Federal Reserve Bank of Kansas City. 2011. <https://www.kansascityfed.org/gpjk/publicat/econrev/pdf/11q1briggeman.pdf>
29. "Farm Household Income and Characteristics." USDA ERS. November 29, 2017. <https://www.ers.usda.gov/data-products/farm-household-income-and-characteristics/>. Data Set: "Principal farm operator household finances, by ERS farm typology, 2016"
30. Brown, Jason P., and Jeremy G. Weber. "The Off-Farm Occupations of U.S. Farm Operators and Their Spouses." USDA ERS. September 2013. https://www.ers.usda.gov/webdocs/publications/43789/40009_eib-117.pdf?v=41523
31. Prager, Daniel, Christopher Burns, and Nigel Key. "Examining Farm Sector and Farm Household Income." USDA ERS. August 7, 2017. <https://www.ers.usda.gov/amber-waves/2017/august/examining-farm-sector-and-farm-household-income/>; Hoppe, Robert A. "America's Diverse Family Farms: 2017 Edition." USDA ERS. December 2017. <https://www.ers.usda.gov/publications/pub-details/?pubid=86197>.

32. "Most Farmers Receive Off-farm Income, but Small-scale Operators Depend on It." USDA ERS. November 29, 2017. <https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=58426>. "Farm Household Income and Characteristics." USDA ERS. November 29, 2017. <https://www.ers.usda.gov/data-products/farm-household-income-and-characteristics/>. Data Set: "Principal farm operator household finances, by ERS farm typology, 2016"
33. Key, Nigel, Daniel Prager, and Christopher Burns. "Farm Households Experience High Levels of Income Volatility." USDA ERS. February 22, 2017. <https://www.ers.usda.gov/amber-waves/2017/januaryfebruary/farm-households-experience-high-levels-of-income-volatility/>.
34. "Highlights From the February 2018 Farm Income Forecast." USDA ERS. February 20, 2018. <https://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/highlights-from-the-farm-income-forecast/>.
35. "2018 Farm Household Income Forecast-February 2018 Update." USDA ERS. February 7, 2018. <https://www.ers.usda.gov/topics/farm-economy/farm-household-well-being/farm-household-income-forecast/>.
36. Xiarchos, Irene M., and Brian Vick. "Solar Energy Use in U.S. Agriculture Overview and Policy Issues." USDA Office of the Chief Economist. April 2011. https://www.usda.gov/oce/reports/energy/Web_SolarEnergy_combined.pdf
37. Hitaj, Claudia, and Shellye Suttles. "Trends in U.S. Agriculture's Consumption and Production of Energy: Renewable Power, Shale Energy, and Cellulosic Biomass." USDA ERS. August 2016. https://www.ers.usda.gov/webdocs/publications/74658/60128_eib159.pdf?v=42593
38. U.S. Department of Agriculture, 2012 Census of Agriculture." Table 52. Energy: 2012. https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1_Chapter_1_US/st99_1_051_052.pdf.
39. Bao, Agnes. "More Farmers May Lease Land for Solar Projects in Michigan." Great Lakes Echo. February 27, 2018. <http://greatlakesecho.org/2018/02/27/solar-projects-michigan/>.
40. Channick, Robert. "Solar Farms Set to Sprout across Illinois." Chicago Tribune. April 22, 2018. <http://www.chicagotribune.com/business/ct-biz-solar-farms-chicago-area-projects-20180412-story.html>.
41. U.S. Department of Agriculture, 2012 Census of Agriculture." Table 52. Energy: 2012. https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1_Chapter_1_US/st99_1_051_052.pdf.
42. American Wind Energy Association. "Wind Power Pays \$222 Million a Year to Rural Landowners." News release, March 22, 2016. <https://www.awea.org/MediaCenter/pressrelease.aspx?ItemNumber=8609>.
43. American Wind Energy Association. "New report shows wind energy can become one of America's top electricity sources, while saving consumers money." News release. March 12, 2015. <https://www.awea.org/MediaCenter/pressrelease.aspx?ItemNumber=7303>
44. Parker, Mario. "Trump Ethanol Moves May Be Worse for Farmers Than Soy Tariff." Bloomberg, April 10, 2018. <https://www.bloomberg.com/news/articles/2018-04-10/trump-ethanol-moves-could-be-worse-for-farmers-than-soy-tariffs>.
45. "U.S. Agricultural Trade at a Glance." USDA ERS. April 4, 2018. <https://www.ers.usda.gov/topics/international-markets-us-trade/us-agricultural-trade/us-agricultural-trade-at-a-glance/>.
46. Burrack, Tim. "Impact of Chinese Trade War: What American Farmers Produce Is Suddenly worth Less Money." The Hill, April 4, 2018. <http://thehill.com/opinion/energy-environment/381652-impact-of-chinese-trade-war-what-american-farmers-produce-is>.

47. "Importance of NAFTA to Agriculture in Each State for 2016." American Farm Bureau Federation. November 21, 2017. Accessed May 08, 2018. <https://www.fb.org/market-intel/importance-of-nafta-to-agriculture-in-each-state-for-2016>.
48. "Office of Foreign Labor Certification Annual Report." U.S. Department of Labor. 2016. https://www.foreignlaborcert.doleta.gov/pdf/OFLC_Annual_Report_FY2016.pdf; "Report of the Visa Office 2017." U.S. Department of State. <https://travel.state.gov/content/travel/en/legal/visa-law0/visa-statistics/annual-reports/report-of-the-visa-office-2017.html>.
Statistical Tables: XVI(B)
49. "Economic Impact of Immigration." American Farm Bureau Federation - The Voice of Agriculture. <https://www.fb.org/issues/immigration-reform/agriculture-labor-reform/economic-impact-of-immigration>.
50. "Occupational Outlook Handbook." U.S. Bureau of Labor Statistics. April 13, 2018. <https://www.bls.gov/ooh/farming-fishing-and-forestry/agricultural-workers.htm>.
51. "Farm Labor." USDA ERS. May 2, 2018. <https://www.ers.usda.gov/topics/farm-economy/farm-labor/#wages>.
52. "Housing." National Farm Worker Ministry. <http://nfwm.org/education-center/farm-worker-issues/housing/>.
53. "Farm Labor Housing." National Rural Housing Coalition. <http://ruralhousingcoalition.org/farm-labor-housing/>.
54. Johnson, Renee, and Jim Monke. What Is The Farm Bill? Report no. RS22131. Congressional Research Service. 2018. <https://fas.org/sgp/crs/misc/RS22131.pdf>
55. Ibid; "Strategic Economic and Community Development." USDA Rural Development. <https://www.rd.usda.gov/programs-services/strategic-economic-and-community-development>.
56. "Farm Bill Conservation Programs." Why Conserve Land | Land Trust Alliance. <https://www.landtrustalliance.org/topics/federal-programs/farm-bill-conservation-programs>.
57. "Conservation Reserve Program." USDA Farm Service Agency. <https://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/index>.
58. Johnson, Renee, and Jim Monke. What Is The Farm Bill? Report no. RS22131. Congressional Research Service. 2018. <https://fas.org/sgp/crs/misc/RS22131.pdf>; "Wilderness." US Forest Service. <https://www.fs.fed.us/managing-land/wilderness>.
59. Johnson, Renee, and Jim Monke. What Is The Farm Bill? Report no. RS22131. Congressional Research Service. 2018. <https://fas.org/sgp/crs/misc/RS22131.pdf>
60. Ibid
61. <https://fns-prod.azureedge.net/sites/default/files/pd/34SNAPmonthly.pdf>
62. Lauffer, Sarah. Characteristics of Supplemental Nutrition Assistance Programs Households: Fiscal Year 2016. Report no. SNAP-17-CHAR. Office of Policy Support, USDA, Food and Nutrition Service. 2017. <https://fns-prod.azureedge.net/sites/default/files/ops/Characteristics2016.pdf>
63. Johnson, Renee, and Jim Monke. What Is The Farm Bill? Report no. RS22131. Congressional Research Service. 2018. <https://fas.org/sgp/crs/misc/RS22131.pdf>
64. "Supplemental Nutrition Assistance Program - CBO's April 2018 Baseline." Congressional Budget Office. April 2018. <https://www.cbo.gov/sites/default/files/recurringdata/51312-2018-04-snap.pdf>.

65. MacDonald, James M. "Cropland Consolidation and the Future of Family Farms." USDA ERS. September 2013. <https://www.ers.usda.gov/amber-waves/2013/september/cropland-consolidation-and-the-future-of-family-farms/>.
66. "Farm Household Income and Characteristics." USDA ERS. November 29, 2017. <https://www.ers.usda.gov/data-products/farm-household-income-and-characteristics/>. Table: "All farms and family farms, by farm size class (gross sales), 1996-2016"
67. "Farms and Land in Farms." USDA Economics, Statistics and Market Information System. February 16, 2018. [http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1259](http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1259;).; "1935 Census Publications." USDA Census of Agriculture Historical Archive. http://agcensus.mannlib.cornell.edu/AgCensus/getVolumeTwoPart.do?volnum=3&-year=1935&part_id=780&number=1&title=Farms,%20Acreage,%20and%20Value. Table 1
68. MacDonald, James M., Robert A. Hoppe, and Doris Newton. "Three Decades of Consolidation in U.S. Agriculture." USDA ERS. March 2018. <https://www.ers.usda.gov/publications/pub-details/?pubid=88056>
69. Ibid; Hoppe, Robert A. "America's Diverse Family Farms: 2017 Edition." USDA ERS. December 2017. <https://www.ers.usda.gov/publications/pub-details/?pubid=86197>; MacDonald, James M., and Robert A. Hoppe. "Examining Consolidation in U.S. Agriculture." USDA ERS, March 14, 2018. <https://www.ers.usda.gov/68753>.
70. Ibid
71. Hoppe, Robert A., and James M. MacDonald. "America's Diverse Family Farms: 2016 Edition." USDA ERS. December 2016. <https://www.ers.usda.gov/publications/pub-details/?pubid=81401>.
72. Burns, Christopher, and Ryan Kuhns. The Changing Organization and Well-Being of Midsize U.S. Farms, 1992-2014. Report no. 219. USDA, Economic Research Service. 2016. <https://www.ers.usda.gov/webdocs/publications/80692/err-219.pdf?v=42671>.; Dewey, Caitlin. "A Growing Number of Young Americans Are Leaving Desk Jobs to Farm." The Washington Post. November 23, 2017. https://www.washingtonpost.com/business/economy/a-growing-number-of-young-americans-are-leaving-desk-jobs-to-farm/2017/11/23/e3c018ae-c64e-11e7-afe9-4f60b5a6c4a0_story.html?utm_term=.2a41fd0b9e3f.
73. MacDonald, James M., Robert A. Hoppe, and Doris Newton. "Three Decades of Consolidation in U.S. Agriculture." USDA ERS, March 2018. <https://www.ers.usda.gov/publications/pub-details/?pubid=88056>
74. Charles, Dan. "Big Seed: How The Industry Turned From Small-Town Firms To Global Giants." NPR. April 06, 2016. <https://www.npr.org/sections/thesalt/2016/04/06/472960018/big-seed-consolidation-is-shrinking-the-industry-even-further>.
75. MacDonald, James M. "Mergers and Competition in Seed and Agricultural Chemical Markets." USDA ERS. August 3, 2017. <https://www.ers.usda.gov/amber-waves/2017/april/mergers-and-competition-in-seed-and-agricultural-chemical-markets/>.
76. Fuglie, Keith O., Paul W. Heisey, John L. King, Carl E. Pray, Kelly Day-Rubenstein, David Schimmelpfennig, Sun Ling Wang, and Rupa Karmarkar-Deshmukh. Research Investments and Market Structure in the Food Processing, Agricultural Input, and Biofuel Industries Worldwide. Report no. 130. USDA, Economic Research Service. 2011. 11-13. https://www.ers.usda.gov/webdocs/publications/44951/11777_err130_1_.pdf?v=41499.; Maisashvili, Aleksandre, Henry Bryant, J. Mark Raulston, George Knapek, Joe Outlaw, and James Richard. "Seed Prices, Proposed Mergers and Acquisitions Among Biotech Firms." CHOICES. 2016. http://www.choicesmagazine.org/UserFiles/file/cmsarticle_540.pdf
77. Swanson, Ana, and Jim Tankersley. "As Trump Appeals to Farmers, Some of His Policies Don't." The New York Times, January 7, 2018. <https://www.nytimes.com/2018/01/07/us/politics/trump-farmers-agriculture-trade-taxes.html>.

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