Future-focused economic development in rural America

How technology is changing rural economies, and how local leaders are responding

Introductions

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Agenda

1. **Introduction and context**
2. Major trends of research
   - 2.1. Automation
   - 2.2. Remote work
   - 2.3. Geography of innovation
3. Panel discussion
4. Q & A
5. Closing remarks

Disclaimer

This content was prepared by Rural Innovation Strategies, Inc. using Federal funds under award ED20HDQ3120070 from the U.S. Economic Development Administration, U.S. Department of Commerce. The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the views of the U.S. Economic Development Administration or the U.S. Department of Commerce.

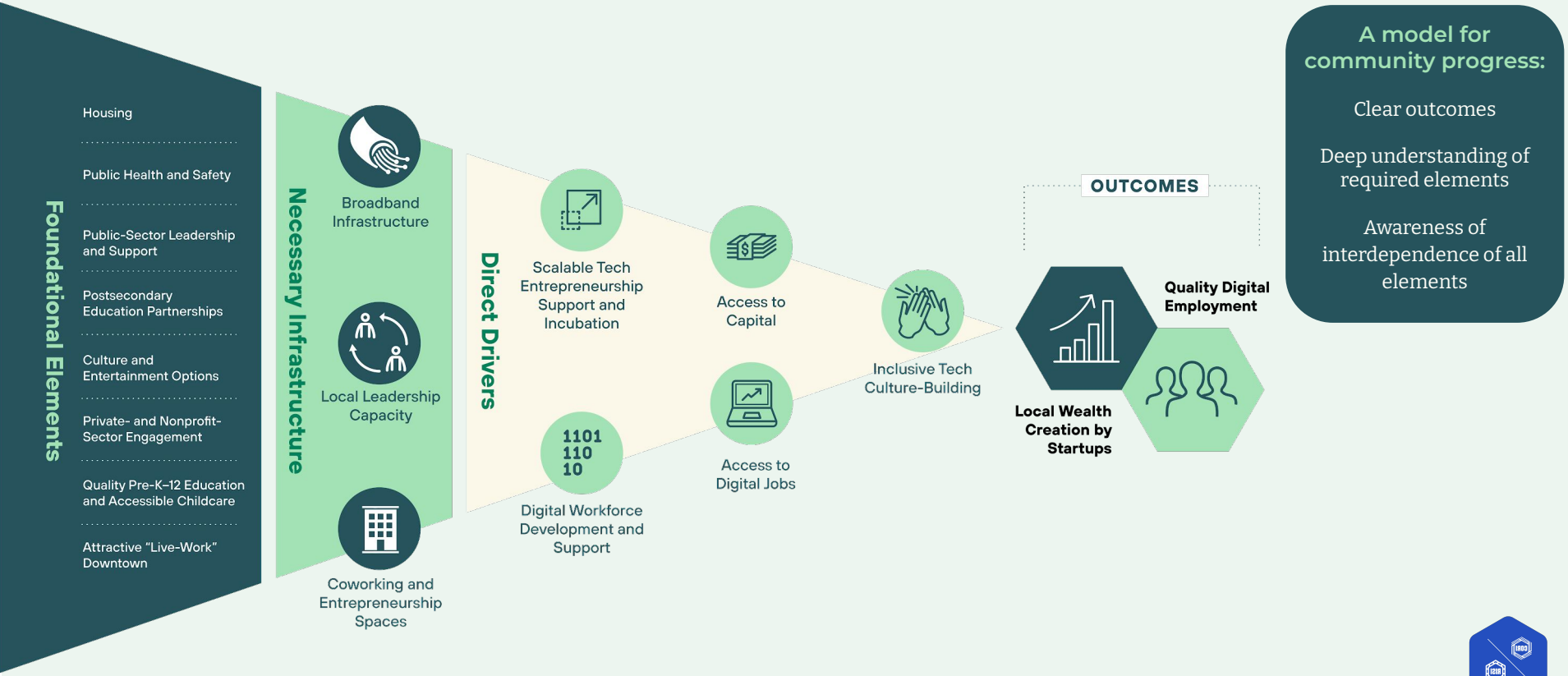
Lyndon B. Johnson,
Remarks at the Signing of the Public Works and Economic Development Act, August 26, 1965

"But still for some of our fellow Americans, the gates are still closed. . . . For them the laws of economic change have been rather harsh and unyielding. Industry has moved away, the mines and the timber that once provided the livelihood are gone, they have been depleted. The farm costs have risen faster than farmers could meet them. . . . [But our] course is the course of opportunity. If we choose that, we say that empty fatalism has no part in the American dream. . . . We say that we are not helpless before the iron laws of economics, that a wise public policy uses economics to create hope . . . ."

Center on Rural Innovation and Rural Innovation Strategies, Inc.

A social enterprise focused on closing the rural opportunity gap and advancing inclusive rural prosperity through digital economy ecosystems that support scalable entrepreneurship and tech job creation.

CORI's digital economy ecosystem model



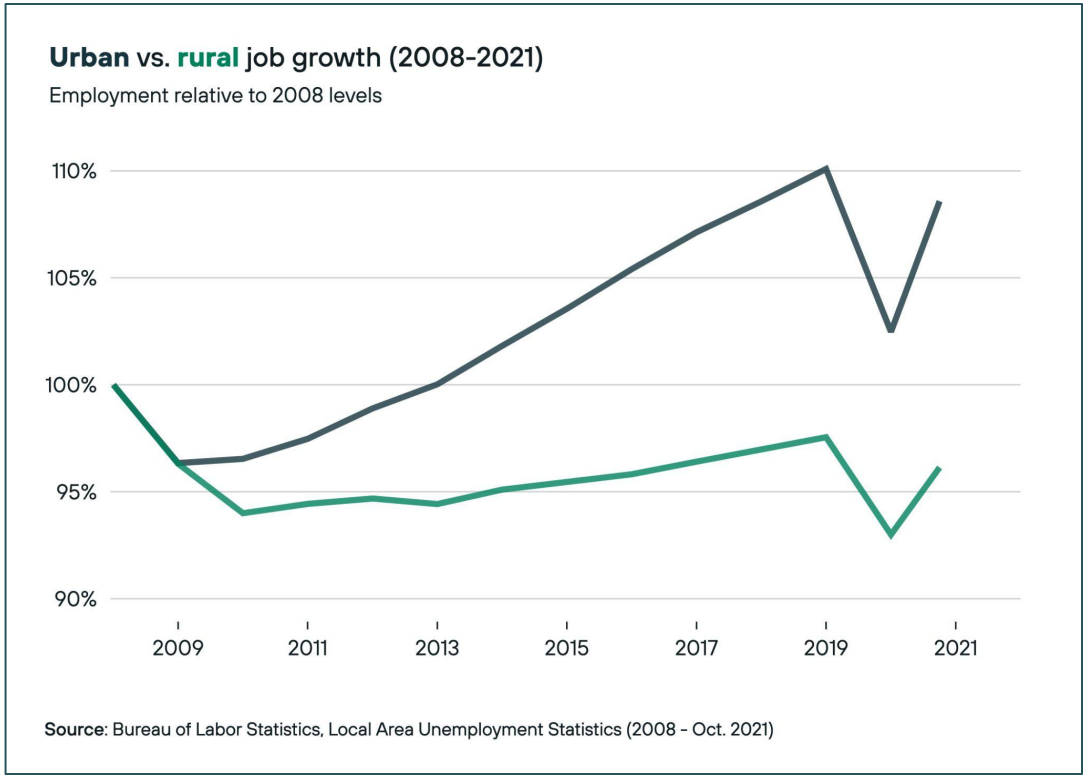
A model for community progress:

Clear outcomes

Deep understanding of required elements

Awareness of interdependence of all elements

What drives our research: Equity for rural places



We are facing the largest rural opportunity gap in history.

Rural America faces challenges and opportunities

Challenges

3.5x

While the digital economy grew 3.5 times faster than the overall economy from 2005-2019 ...[1]

96%

... 96% of tech jobs created in the last five years have been in metro areas.[2]

Opportunities

3rd

Tech jobs were the third fastest growing occupation in rural counties between 2014 and 2019 ...[3]

18,000

... and in 2019, more than 18,000 people graduated from a rural postsecondary institution with a degree or certificate in a tech-related field.[4]

Sources: (1) Bureau of Economic Analysis; (2) & (3) American Community Survey; (4) IPEDS

Exploring future-focused rural development

Five research and policy briefs

- The Future of Work in Rural America
- The Rise of Remote Work in Rural America
- The Growing Gig Economy in Rural America
- Automation in Rural America
- The Geography of Innovation in Rural America

Methods: Deep dive into literature and policy; comprehensive quantitative data analysis.

Five case studies

- Ada, Oklahoma
- Portsmouth, Ohio
- Platteville, Wisconsin
- Red Wing, Minnesota
- Comparative: Ruston, Louisiana, and Newport, Arkansas

Methods: Qualitative interviews with over 40 local leaders and practitioners across six communities.

Technology is creating new challenges and opportunities for rural America

Trend 1:

Automation is changing the nature of work, creating challenges for rural areas dependent on industries vulnerable to automation.

Trend 2:

Technology is expanding the scope of where work occurs and how people earn income.

Trend 3:

Technology is expanding where innovation occurs

Trend 1

Automation is changing the nature of work, creating challenges for rural areas dependent on industries vulnerable to automation, while also creating new opportunities for diversifying rural employment and spurring innovation.

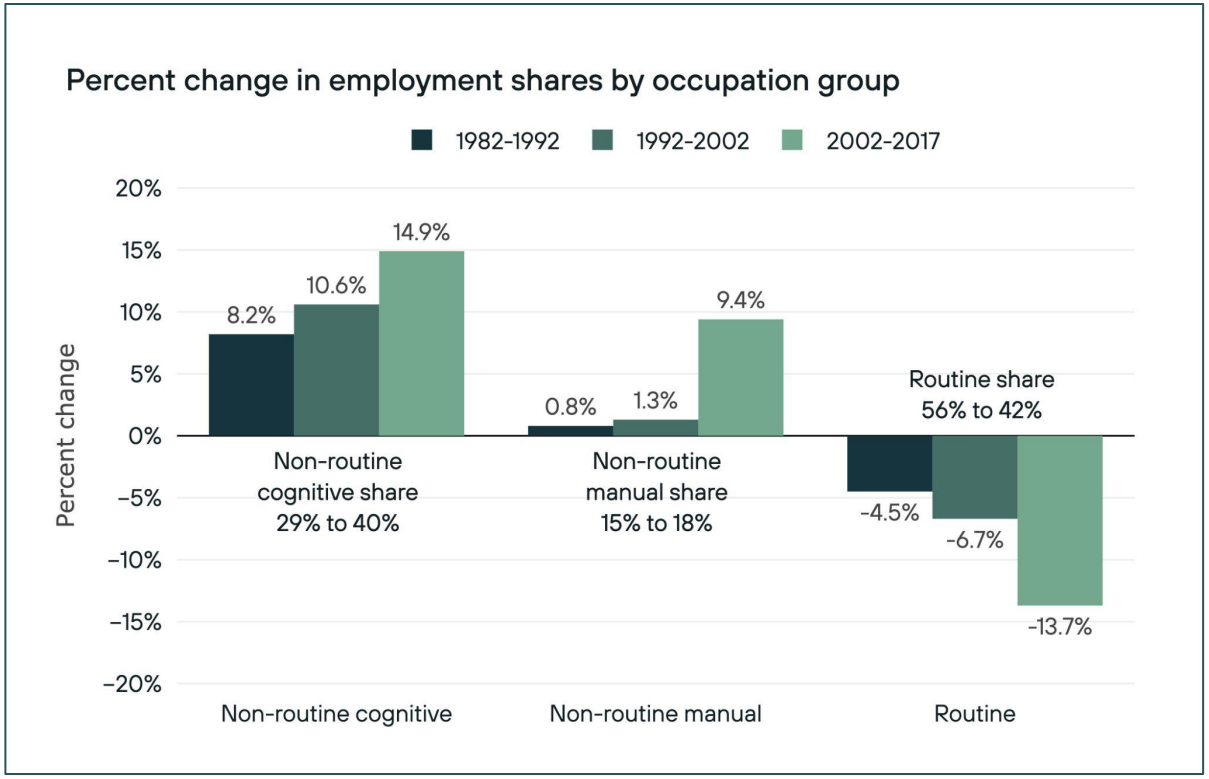
Automation is changing the way we think about work

Technology is forcing us to change the way we think about work, shifting from a **job-based perspective** to a **task- and skill-based perspective.**

When we talk about tasks, we talk about...

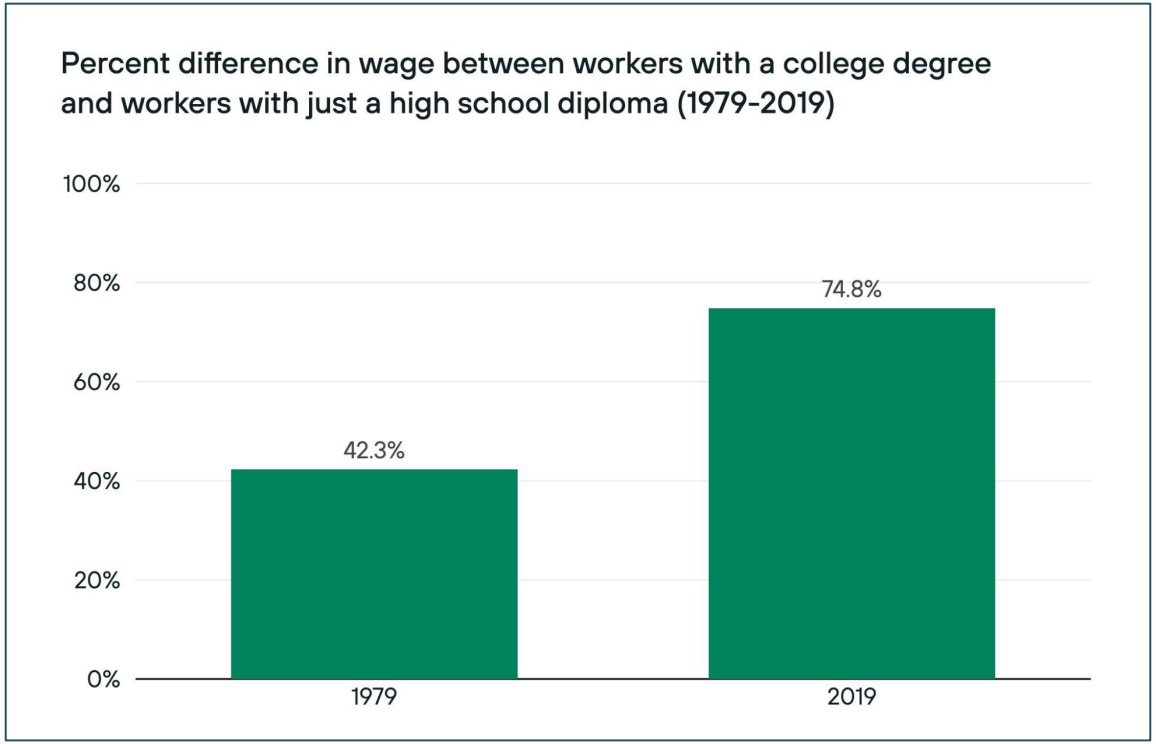
- **Content:** *The purpose of the task — physical, intellectual, social*
- **Method:** *The way in which the task is completed — alone, with a team, codified*
- **Tools required:** *How the task is completed — by hand, by digital machine, by non-digital tools*

Technology is automating routine tasks



Source: Jaimovich & Siu (2018)

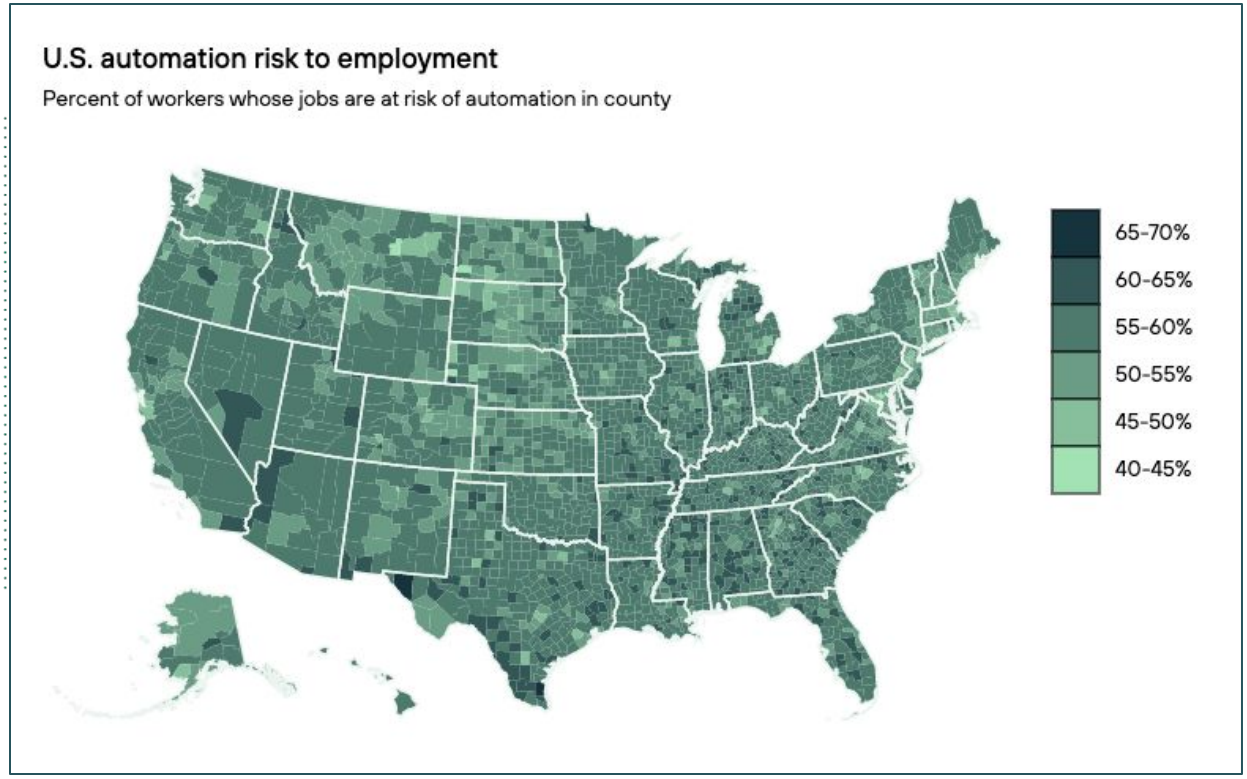
Workers who do more specialized tasks earn significantly higher wages



Note: Wages are adjusted for inflation.

Source: Donovan & Bradley (2020)

One-third of U.S. jobs are primarily made up of tasks that could be automated by 2030



Regional patterns challenge dominant narratives about the people and places impacted by automation.

Source: CORI analysis of Frey and Osborne (2017), Devaraj et. al. (2017), BLS, ACS 5-year estimates, and Rural Urban Continuum Code (RUCC) data

Rural counties are most likely to be impacted by automation

Of the 100 counties most likely to be impacted by automation, **83 are rural.**

Source: CORI analysis of Frey and Osborne (2017), Devaraj et. al. (2017), BLS, ACS 5-year estimates, and RUCC data

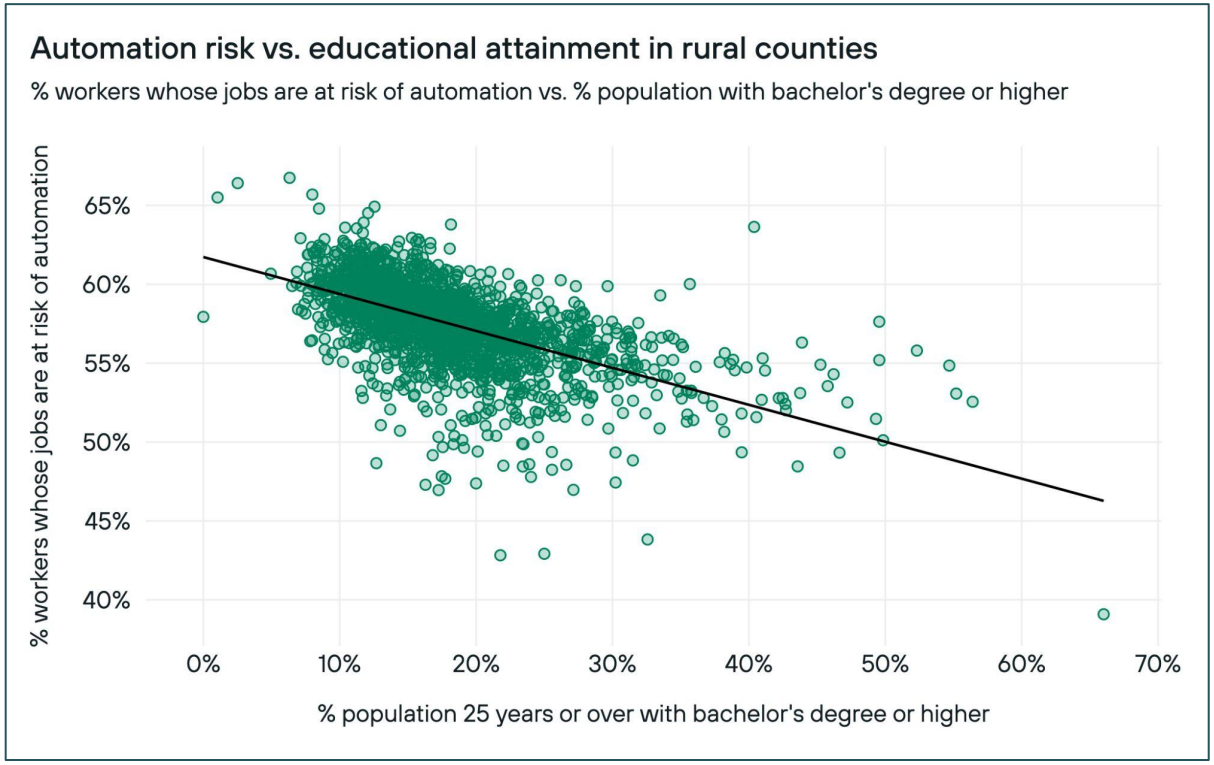
Common occupations in rural places are at risk

Over 50% of tasks in six occupational categories are likely to be impacted by automation:

- Food preparation
- Production
- Farming
- Transportation
- Office and administrative support
- Construction

These occupations account for 43% of total employment in rural areas, compared to just 34% in metropolitan areas.

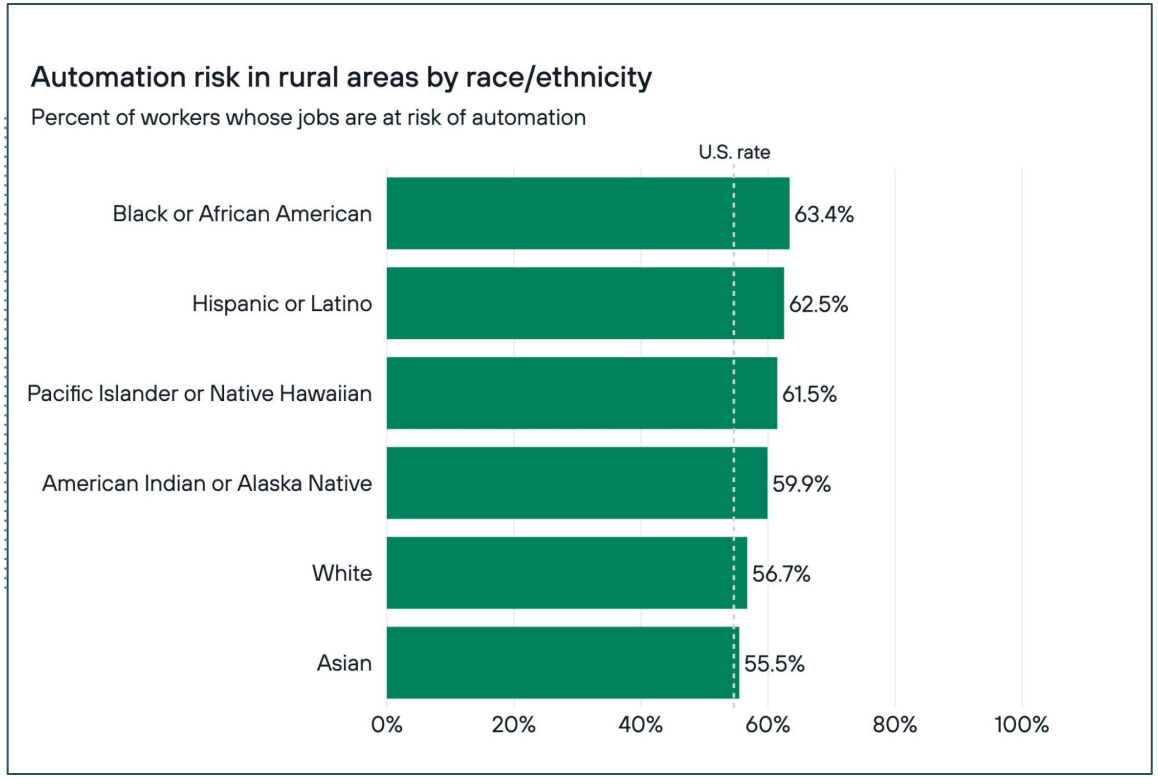
Educational attainment levels make a difference



Workers with a high school diploma or less are over **50% more likely** to be displaced from a job due to automation, as compared to **29%** of those with college degrees or higher.

Source: CORI analysis of Frey and Osborne (2017), Devaraj et. al. (2017), ACS 5-year estimate, and RUCC data

Race factors into automation risk



70% of the national workforce in automation-safe industries, like healthcare, personal services, and education, is female.

Source: CORI analysis of Frey and Osborne (2017), BLS, ACS 5-year estimate, and RUCC data

Automation also creates opportunities for rural economic development

Workers

Workers that leverage technology and digital skills in their work **earn more** and have more **career options.**

Businesses

Businesses that invest in technology and automation are more **competitive** and **productive.**

Startups

Startups that build and sell new automation technologies c**reate jobs** and **generate wealth.**

Automation has implications for rural America

Between 2011 and 2019, **employment in computer and math occupations grew by 17% in rural America,** the third-fastest growing rural occupation.

This means that rural leaders need to:

- Incorporate automation trends into regional economic planning
- Adopt a task/skill-based perspective when scrutinizing economic development incentive deals
- Take a more aggressive approach to helping workers make career transitions
- Work with local employers and postsecondary institutions like community colleges to connect workers with programs that build specialized skills
- Build tech startup ecosystems to make sure that future automation technologies are developed and built in rural America

Trend 2

Technology is changing how people work, where work occurs, and how people earn income. By expanding where and how work gets done, technology is creating new opportunities for rural workers to expand employment options.

Technology is changing where and how people work

Remote work

Wage & salary employment that can be done from anywhere

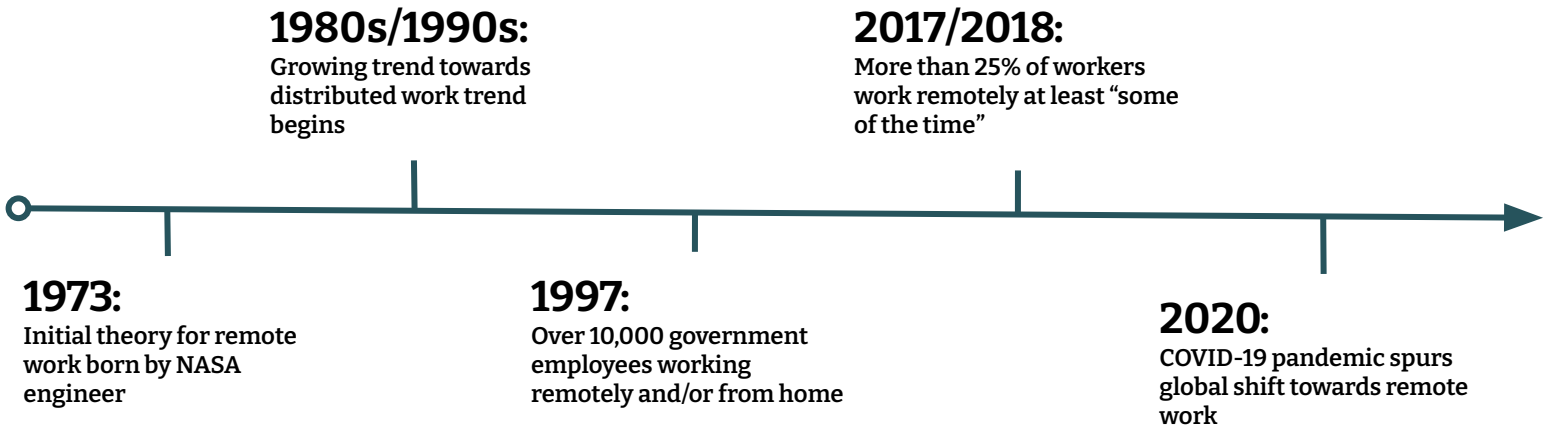
- **Offers flexibility in work location**
- **Working from home, a coworking space, or even a van as a digital nomad**

Gig work

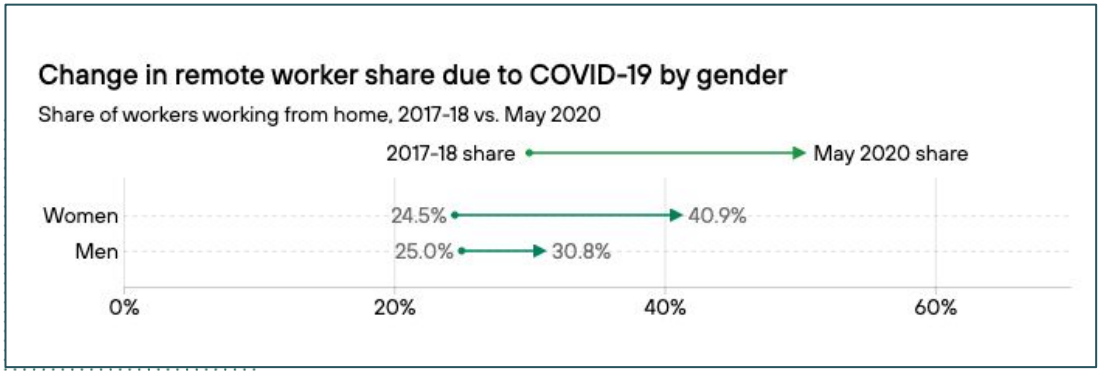
Self-employment or freelance contract work that is facilitated by technology platforms

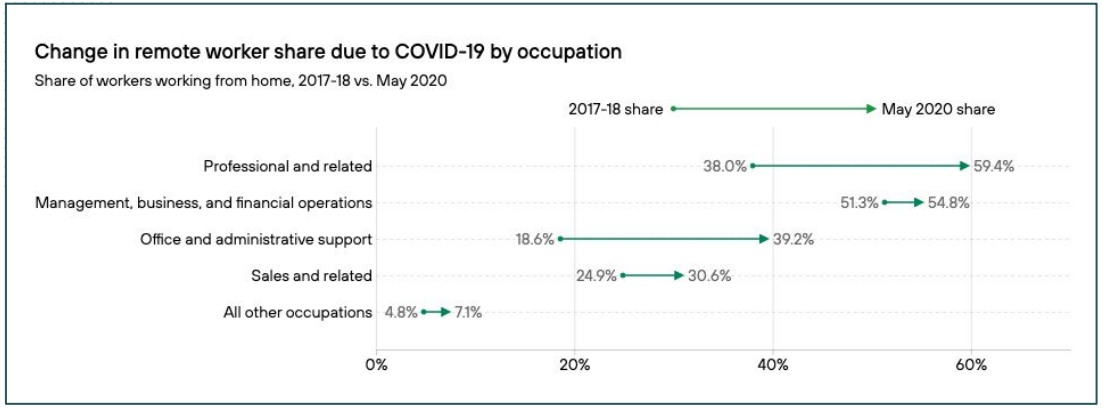
- **Offers flexibility in work structure such as hours, type of work, etc.**
- **Can serve local customers or customers at a distance**

Remote work has historic roots in the 20th century



The pandemic created an unprecedented remote work experiment





Overall, 42% of the U.S. population worked from home due to the pandemic in May 2020.

Source: Bureau of Labor Statistics

There are costs and benefits to remote work

For workers

Benefits

- Family care
- Ability to live outside of population centers
- Lower commuting costs
- Increased job opportunities

Costs

- Higher housing costs
- Increased home value and property taxes
- Higher home electricity usage
- More competition for jobs

For firms

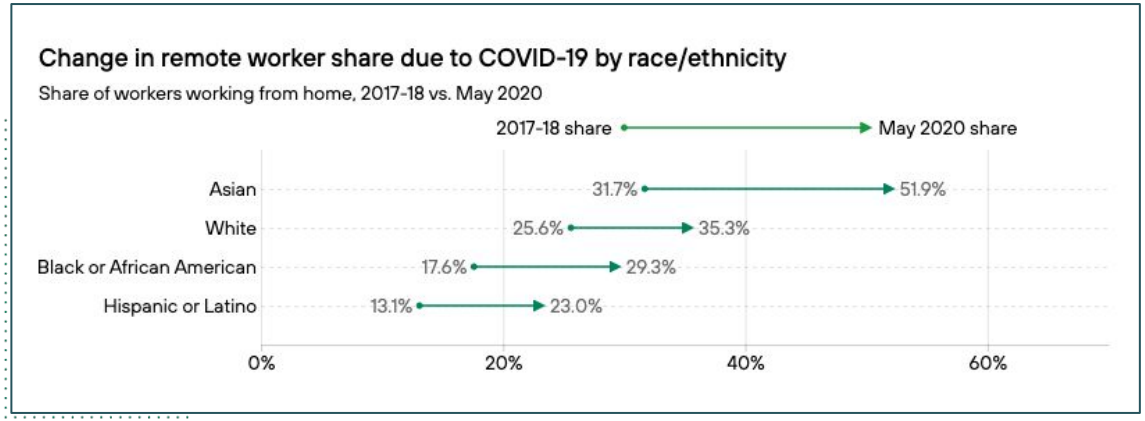
Benefits

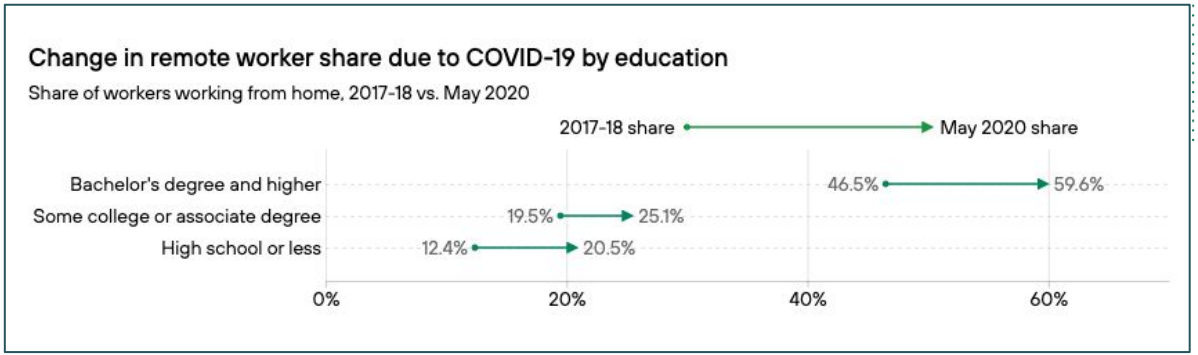
- Lower costs on office space
- Fewer energy costs
- Can recruit from larger talent pool
- Lower recruitment costs
- Less turnover

Costs

- Cloud usage/online storage
- Cyber security
- Hardware and home office accommodations

There are educational and racial disparities in who works remotely





Source: Bureau of Labor Statistics

Rural residents are highly engaged in flexible work options

Case example:

Etsy

By 2020, there were more than **626,000 rural sellers**, accounting for **24% of all sellers** — exceeding the share of the population living in rural areas.

Source: Bureau of Economic Analysis and RUCC data

Gig work also comes with costs and benefits

Benefits for workers

Benefits

- Ability earn extra income
- Ability to work flexible hours
- Location flexibility
- Leverage personal assets to make an income

Costs for workers

Costs

- Not covered by many labor law protections
- Strict guidelines set by platforms
- No employer subsidized health insurance or retirement
- Less predictable working hours
- No paid time off

What it means for rural America

We know that **remote work** and the **gig economy** are expanding in rural places.

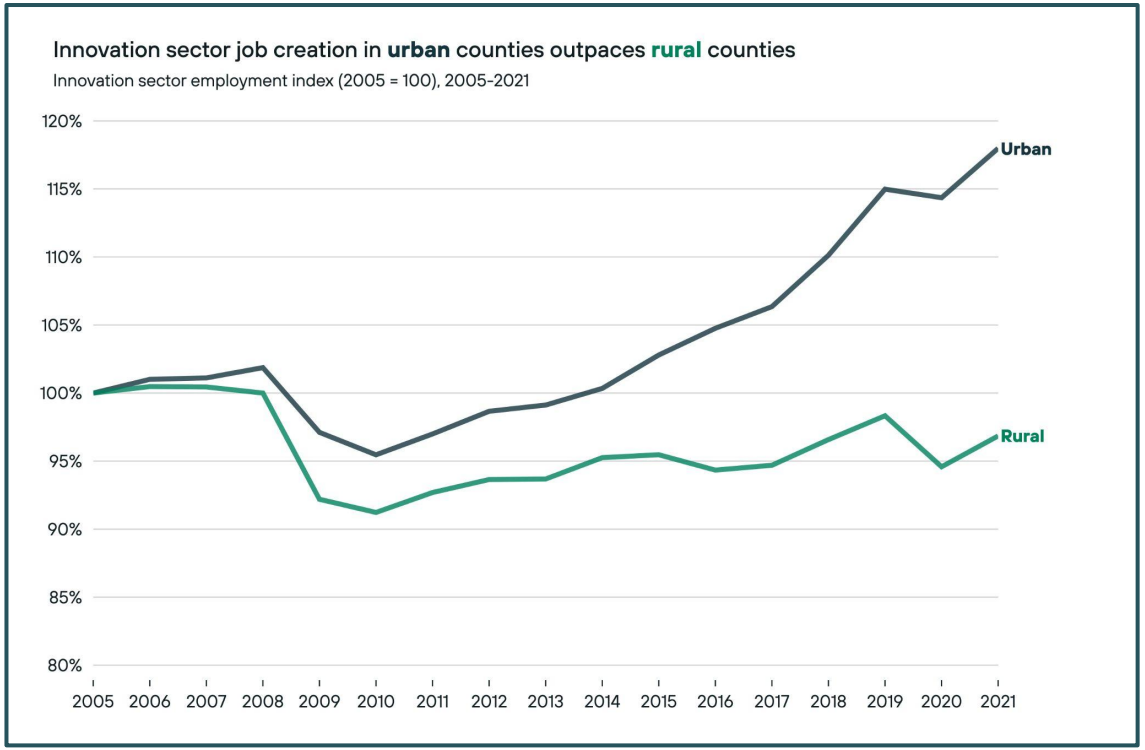
This means that rural leaders need to:

- Build broadband infrastructure
- Focus workforce development efforts on skills aligned with remote work professions
- Incorporate housing and quality of life assets into economic development strategy
- Incorporate remote work and gig economy work into economic development planning
- Create spaces, places, and programs for remote workers and gig workers to meet and network
- Build ecosystems to support digital skills training

Trend 3

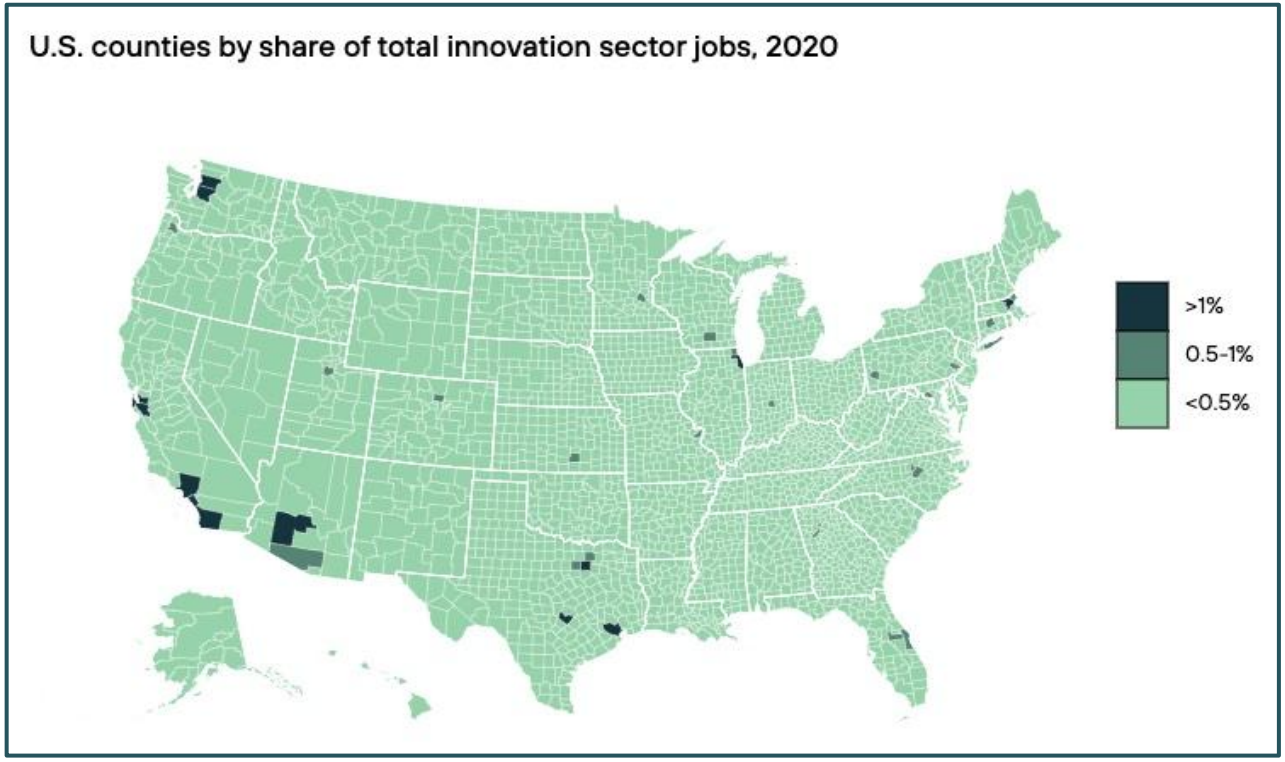
Technology is expanding where innovation occurs, with growing examples of high tech startups finding success in unconventional areas like rural communities. This creates new opportunities for rural America to create jobs and prosperity through innovation.

Rural America has been slower to recover innovation jobs



Source: Moody's Analytics, County Detailed Employment Forecast (2005-2021) and RUCC data

Innovation jobs are clustered in a few large cities



From 2005-2020, **five** metro areas accounted for **90%** of the nation's innovation sector growth.

Source: Bureau of Economic Analysis and RUCC data

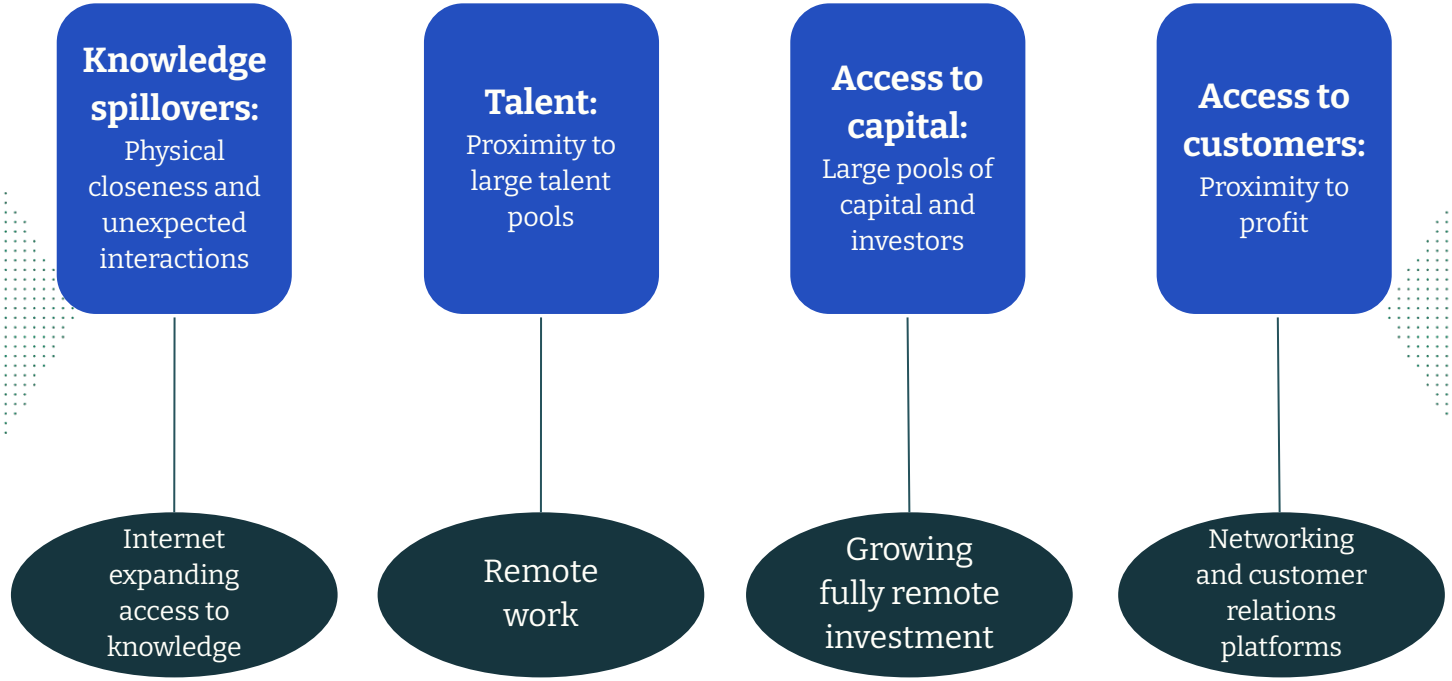
Historically, agglomeration is what created opportunity for innovation

Four major factors led to agglomeration in a few major cities:

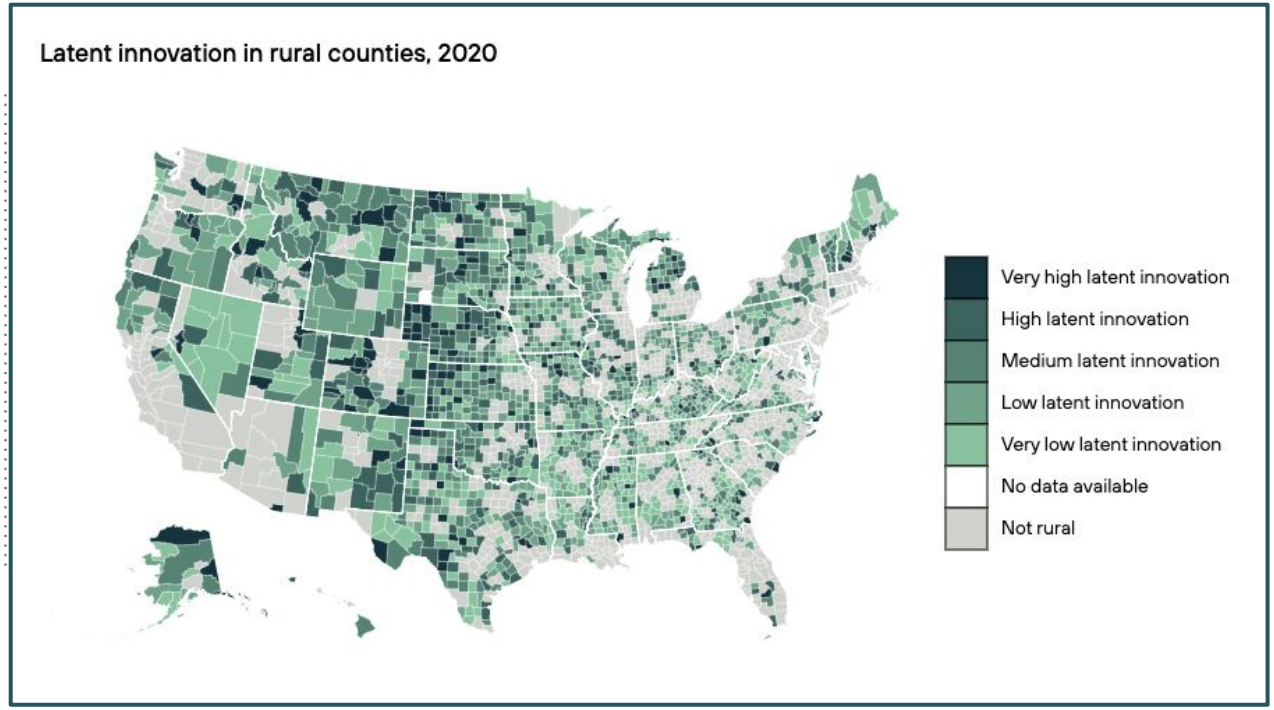
- **Knowledge spillovers:**
  - Physical closeness and unexpected interactions
- **Talent**
  - Proximity to large talent pools
- **Access to capital**
  - Large pools of capital and investors
- **Access to customers**
  - Proximity to profit

Agglomeration: The benefits that workers and firms experience when located in close proximity to each other.

Technology is enabling innovation to take place in new areas



Many rural places have a high potential for innovation



In 2017, **16 million** U.S. household innovators invested more than **$47 billion** in household R-and-D activities.

Source: CORI analysis of Goetz & Han (2019)

Venture capital is growing in rural places

Between 2017 and 2021, venture capital in rural areas grew from **$3.2 billion** to **$42.5 billion —** an increase from 0.5% to 2.5% of total venture capital across the U.S.[1]

Source: Robb (2021)

The geography of innovation has implications for rural America

We know that where innovation occurs matters, and rural leaders can use an array of steps to promote innovation in their communities:

- Identify and build off of local innovation assets
- Build entrepreneurship ecosystems through strong regional partnerships
- Develop an innovation hub to serve as a focal point for an entrepreneurship ecosystem
- Leverage federal funding for rural innovation

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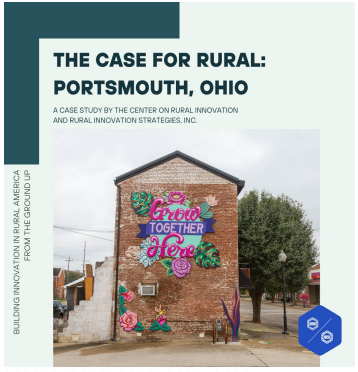
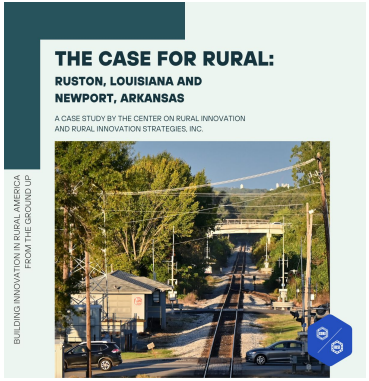
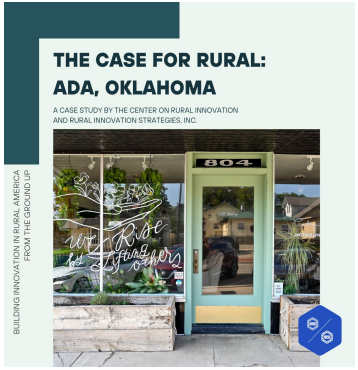
Q & A

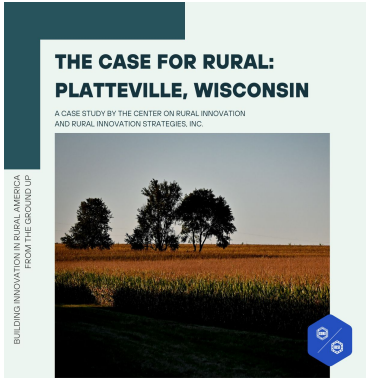
Closing remarks

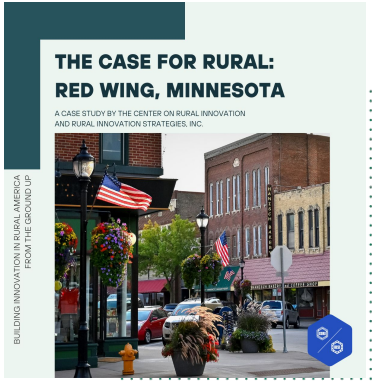
Understanding rural America











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