

The Center on Rural Innovation

# Innovation Economies for Rural Prosperity

December 19, 2024



# Agenda

01. **Welcome**
02. Introduction to CORI
03. Workforce trends
04. Building tech ecosystems
05. Private-Philanthropic-Public Partnerships
06. Questions



# TODAY'S SPEAKERS



**Matt Dunne**

CORI Founder &  
Executive Director

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**Nora Westbrook**

Head, Tech-Based  
Economic Development

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[Email](#)

## WHO WE ARE

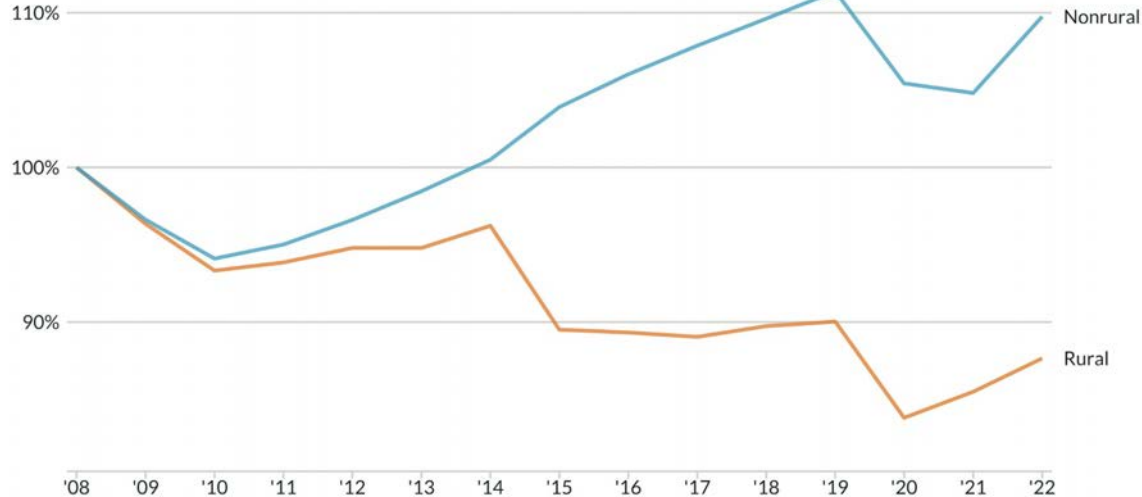
We believe that **small towns are home to big ideas** — and new models of economic development can empower rural communities to thrive in **the nation's growing tech economy.**



# WHY WE DO THIS WORK

Rural and nonrural employment have diverged since the Great Recession

Employment relative to 2008 levels



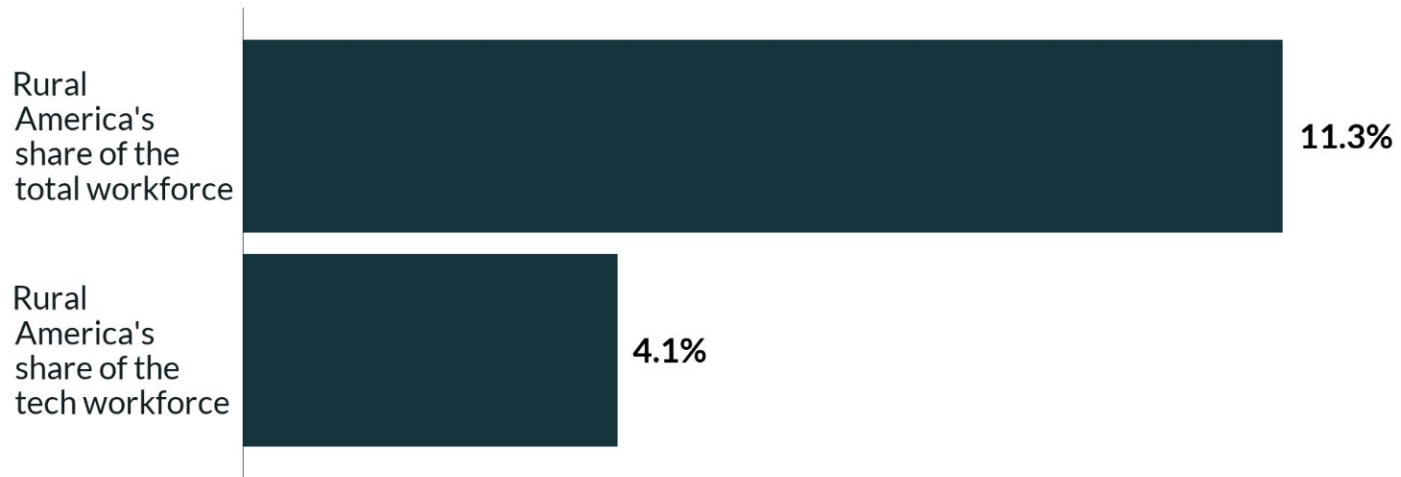
Source: Bureau of Labor Statistics.

Notes: "Rural" refers to the "nonmetro" definition, which includes all nonmetropolitan counties.

The rural workforce never recovered from the Great Recession (2008)

# WHY WE DO THIS WORK

## Rural Americans are underrepresented in tech jobs



Source: Lightcast Datarun 2024.2

Notes: Chart depicts data for 2023. "Tech" includes all Computer and Math occupations.





## TECH DRIVES REGIONAL ECONOMIES

# 3x growth

Computer occupations are expected to grow three times faster than the national average.<sup>1</sup>

# 3 to 5 new jobs

...for every high-tech job created, three to five additional jobs are created by other firms locally.<sup>2 3</sup>

Sources: (1) Zilberman & Ice (2021); (2) Moretti (2012); (3) Bartik & Sutherland (2019)

## OUR VISION

In the age of the internet, there should be no limit to where tech talent and visionary founders can thrive





# 3. Workforce Trends

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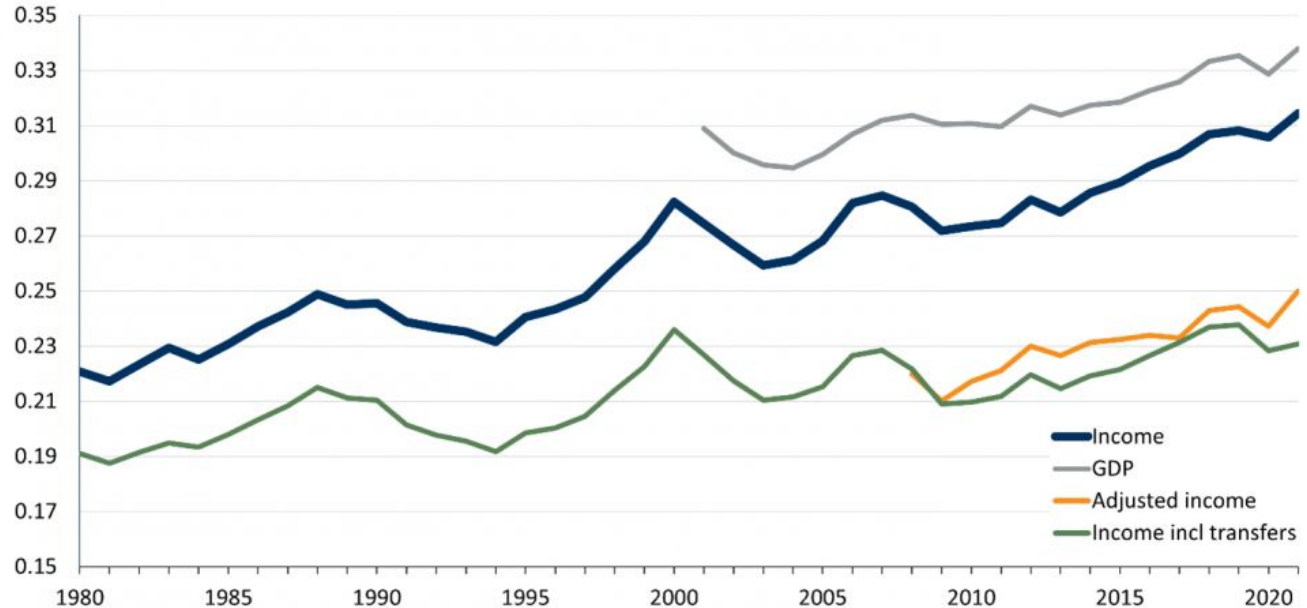


# Geographic inequality on the rise in the U.S.

Even after adjusting for the cost of living, the gap is growing between richer and poorer places

## Geographic Inequality Reached New High in 2021

Variation of per capita income across U.S. metros and counties



Population-weighted standard deviation of log per capita income, across all CBSAs and non-CBSA counties, 1980–2021.

U.S. Department of Commerce Office of the Under Secretary for Economic Affairs (OUSEA) analysis of data from the U.S. Bureau of Economic Analysis

# HOW DID THIS HAPPEN?



**Automation**

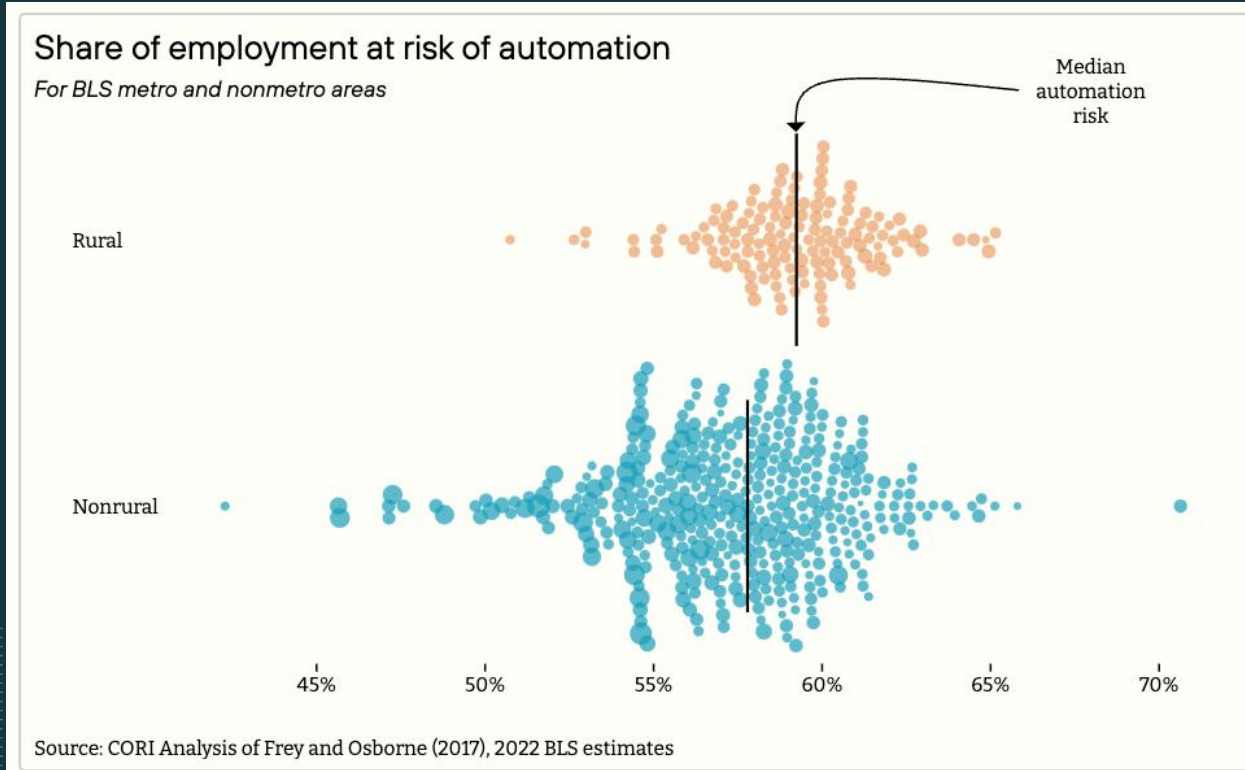


**Globalization**



**Decline in  
entrepreneurship**

# Automation risk of job loss



Job losses from automation are not distributed equally across geographies

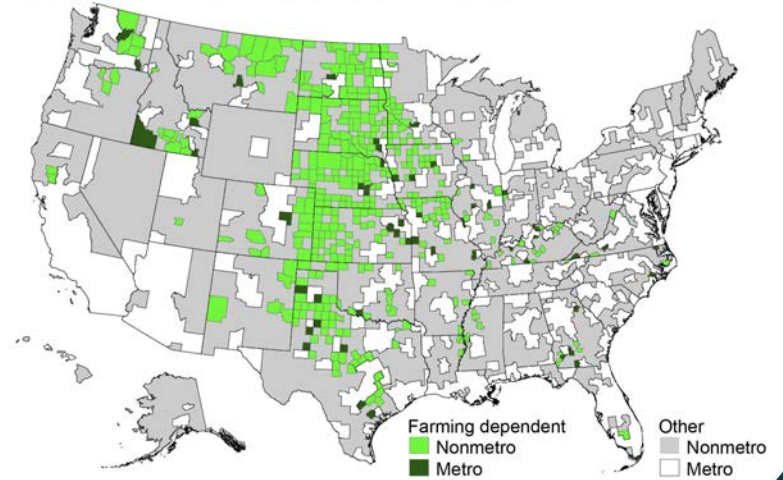
# Agriculture-dependent

**Agriculture now accounts for just 7% of employment in rural areas**

Most rural areas are no longer farm-dependent

(More crops, fewer jobs)

Farming-dependent counties, 2015 edition





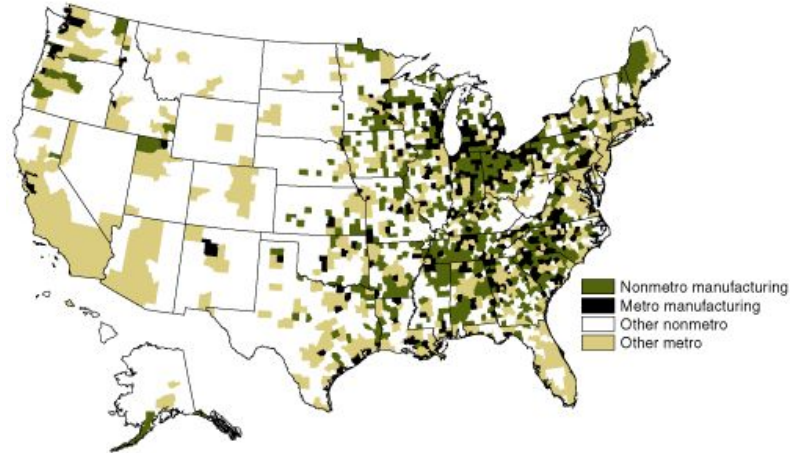
# Manufacturing-dependen t

Rural areas are more likely to be manufacturing dependent

Since peaking in 1979, manufacturing jobs have dropped **34%**

(More goods, fewer jobs)

Manufacturing-dependent counties are clustered in the Midwest and Southeast



Manufacturing-dependent counties—an annual average of 25 percent or more of total county earnings derived from manufacturing during 1998-2000.

# Reliance on tradable goods in rural

Manufacturing

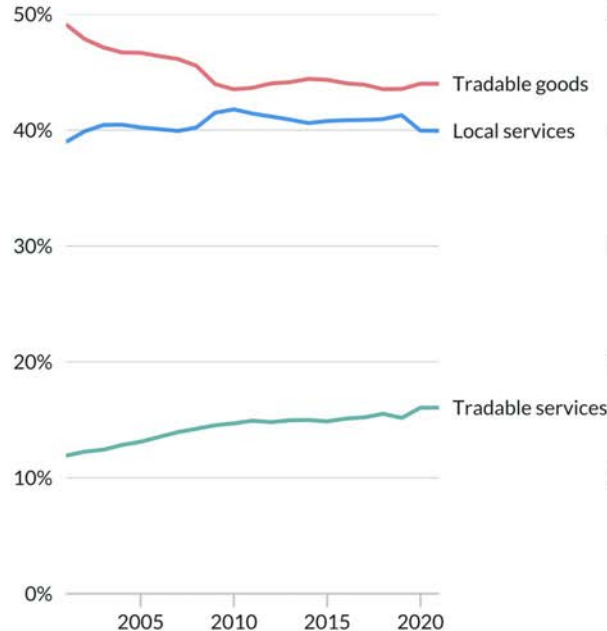
Reliance on **tradable goods** industries (manufacturing) has led to lower growth in rural areas

([Goetz et al. 2018](#); [Kilkenny and Partridge, 2009](#); [Weiler, 2001](#))

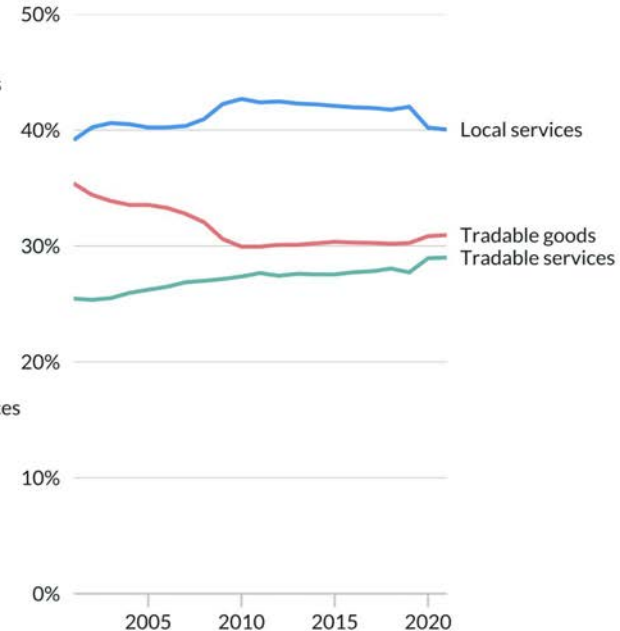
Tradable services represent a larger share of employment in nonrural areas than in rural areas



Share of rural employment



Share of nonrural employment



Source: Bureau of Economic Analysis

Notes: "Rural" refers to the "nonmetro" definition which includes all nonmetro counties

# RELIANCE ON TRADABLE GOODS IN RURAL

More than **30%** of all firms opening new locations with over 1,000 employees receive subsidies, while the percentage is less than **0.2%** for firms with under 250 employees [\(Slattery and Zidar, 2020\)](#)

(More tomatoes, fewer jobs)

1920s



1950s



2000s



# The BIGGER problem in rural

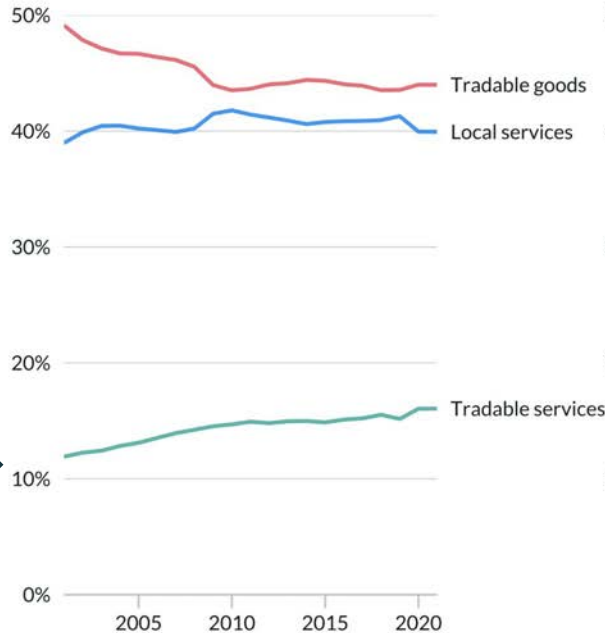
Rural areas are lagging in **tradable services** industries – the knowledge economy ([CORI, 2023](#))



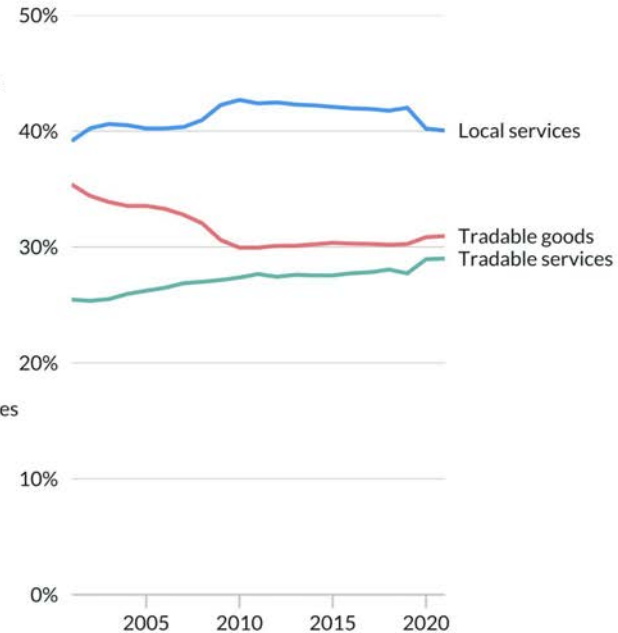
Tradable services represent a larger share of employment in nonrural areas than in rural areas



Share of rural employment



Share of nonrural employment



Source: Bureau of Economic Analysis

Notes: "Rural" refers to the "nonmetro" definition which includes all nonmetro counties

# Pivoting to tradable services

Shifts towards services have benefited large incumbent cities most

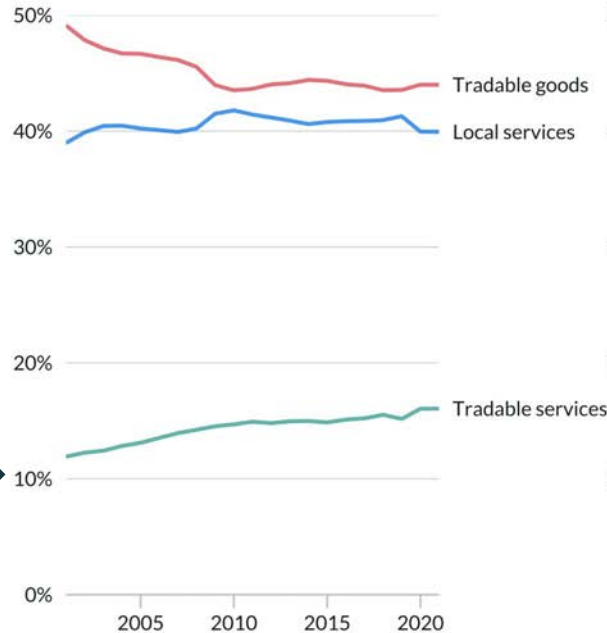
[\(Eckert, Juneau, & Peters, 2023\)](#)



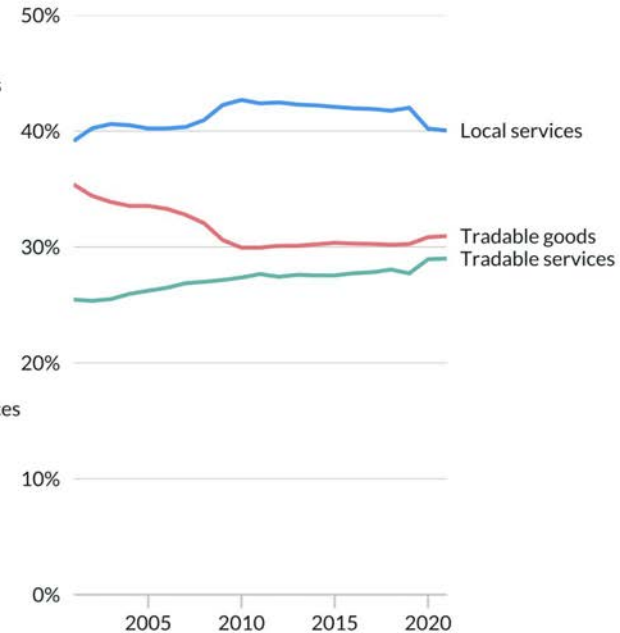
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Share of rural employment



Share of nonrural employment



Source: Bureau of Economic Analysis  
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[\(CORI, 2023\)](#)



# Pivoting to tradable services

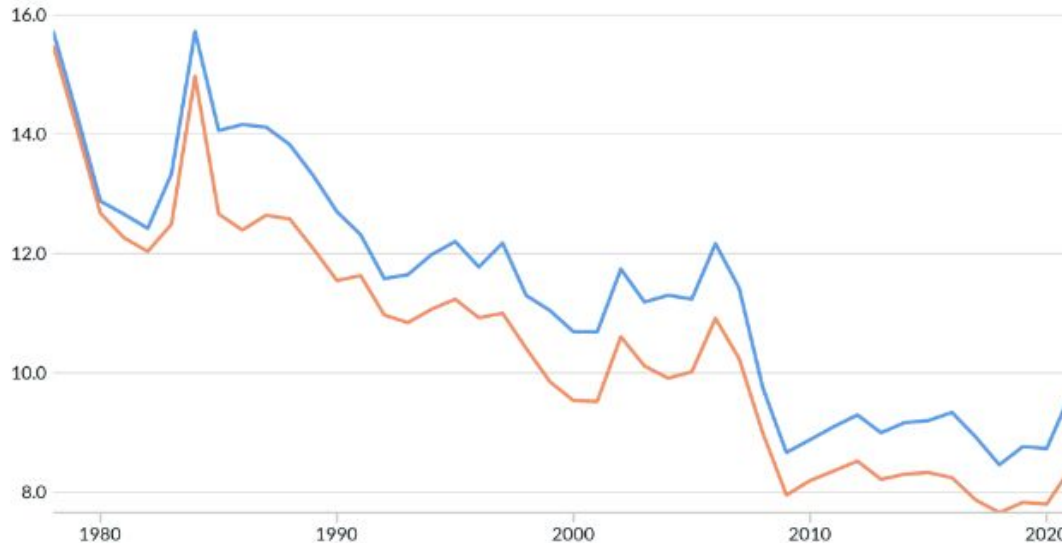
## Declining growth in the number of new businesses

Average establishment entry rate

By rurality



— Metro — Nonmetro



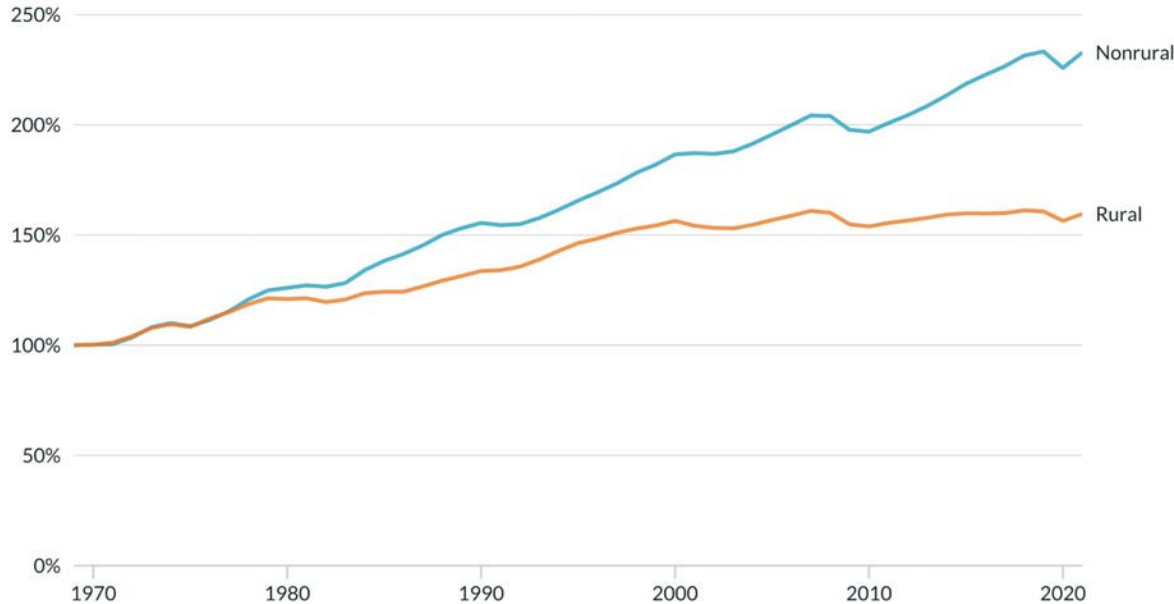
Source: Business Dynamic Statistics

Declining business startup rates (entrepreneurship) makes it difficult to pivot into new and growing industries

# Why we focus on the tech economy

The gap in **rural** and **nonrural** employment has followed the rise of the knowledge economy since 1980

*Employment relative to 1969 levels*



The rise of the knowledge economy has widened the gap between rural and nonrural places

[\(CORI, 2023\)](#)

Source: Bureau of Economic Analysis, 1969-2021

Notes: "Rural" refers to the "nonmetro" definition which includes all nonmetro counties

# > 80,000 missing (local) tech jobs in rural

Rural areas are missing local tech jobs not only from the tech industry but also from current non-tech industry employers

## Missing tech employment by core non-tech rural industry

Comparison of the rate of tech employment within core non-tech rural industries to the national rate of tech employment for the same industries

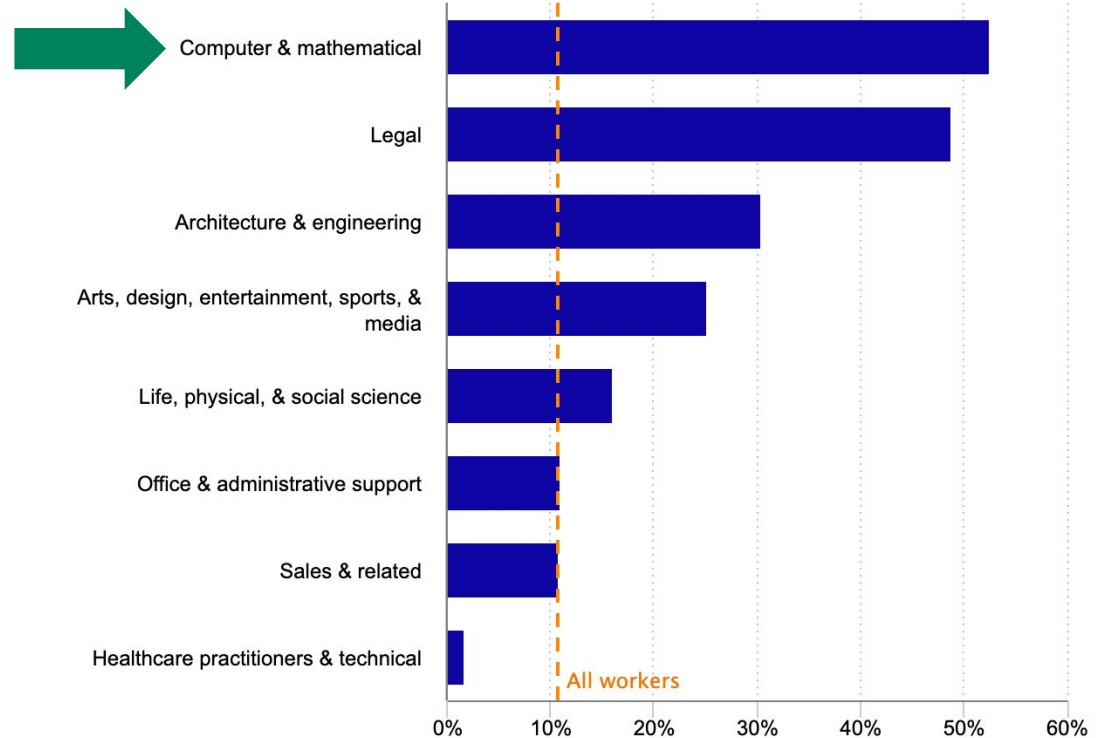
Industry	Current rural tech employment	Missing rural tech employment
Manufacturing	14,634	42,836
Government	23,971	17,654
Banks	7,547	5,741
All other finance and insurance	3,822	5,172
Mining	2,296	2,336
Colleges, universities, and professional schools	15,940	2,307
Hospitals	3,733	2,185
Insurance carriers	2,496	1,930
Utilities	2,124	1,482
Elementary and secondary schools	579	228
<b>Total</b>	<b>77,143</b>	<b>81,871</b>

Source: [CORI 2022](#) analysis of EMSI BG data

# The rise of remote (tech) work

Tech jobs have the most access to remote work - the least geographically constrained

Percentage of workers with ability to telework, by occupational group, 2022

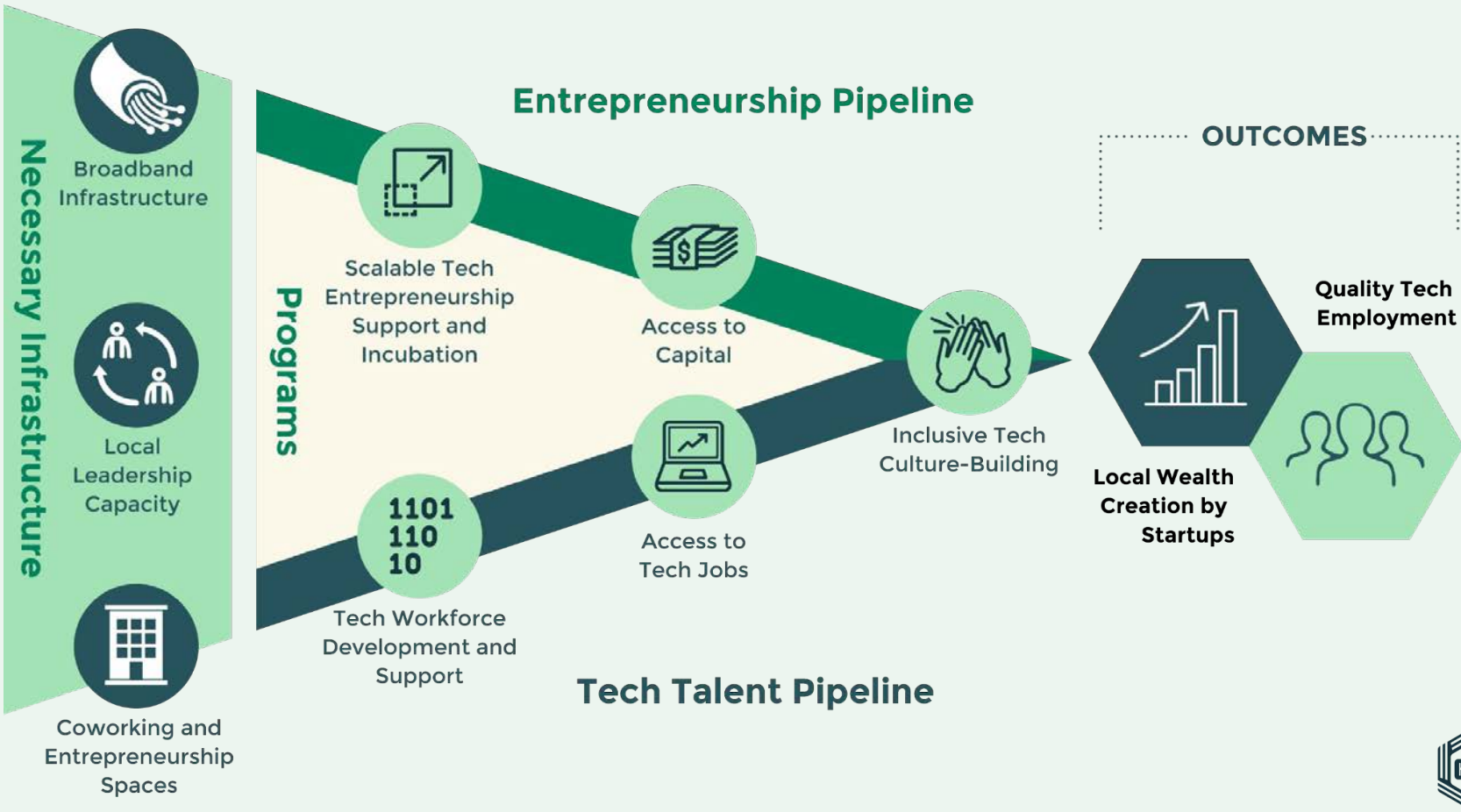


Hover over chart to view data.

Source: U.S. Bureau of Labor Statistics.



# TECH ECONOMY ECOSYSTEM BUILDING BLOCKS





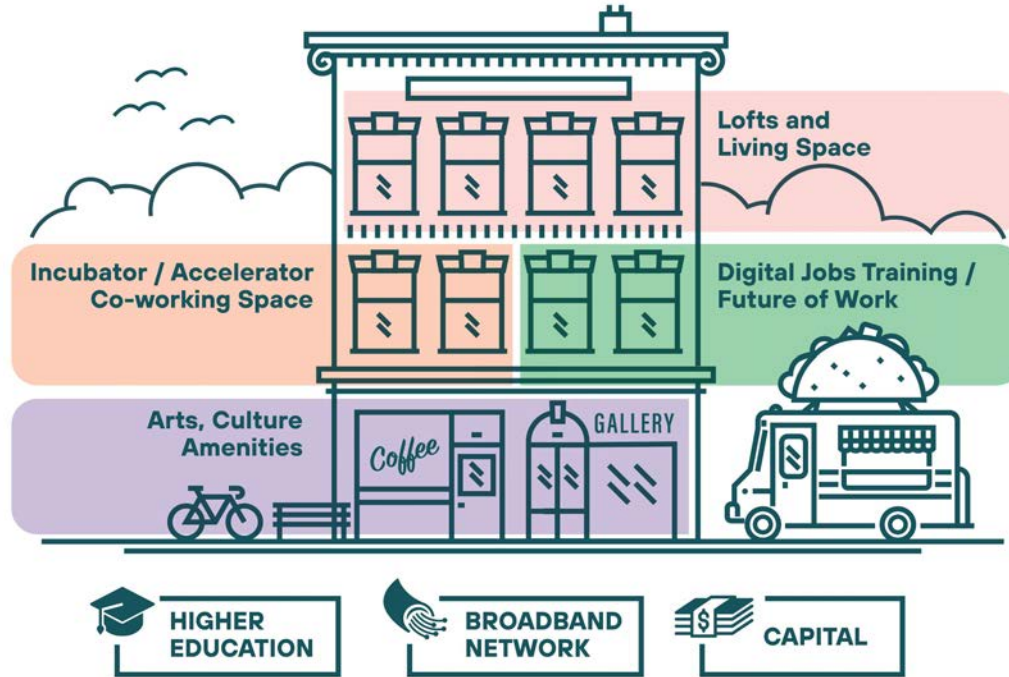
## 4. Building Tech Ecosystems

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# WHAT DOES IT LOOK LIKE?

## CORI's innovation hub model:



Connecting key assets in one centralized location

# HOW CORI WORKS WITH COMMUNITIES

Our capacity building services help you build sustainable outcomes



## Economic Development Strategy

Create practical **strategies** that can unlock innovation and economic resilience

70+

Communities supported



## Grants Technical Assistance

Navigate the **funding landscape** and develop **competitive grant applications**

\$100m+

Funding awards supported



## Entrepreneurship Programs

Build **environments** where **rural startups** can succeed in their hometowns

22+

Accelerators enabled

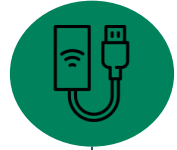


## Workforce Programs

Connect **tech employers** to local **tech talent pipelines** to grow tech jobs

10

Training initiatives offered



## Broadband Advisory

Expand access and use of **high quality broadband**

23

States supported

Our Data Analytics capability underpins all services. Speak to us about your specific data needs.

# COMMUNITY JOURNEY

**CORI's practical and well-tested approach has supported over 40 communities build tech economies**



## Assessment

Data informed review of your potential pathway, identifying **strengths** and **opportunities**

**Is this the right path for us?**



## Strategy

Define clear **objectives** supported by a practical action plan that **stakeholders** can get behind and get started

**What actions do we need to take?**



## Funding

Identify best fit **funding** opportunities to implement strategy

**How do we pay for it?**



## Support

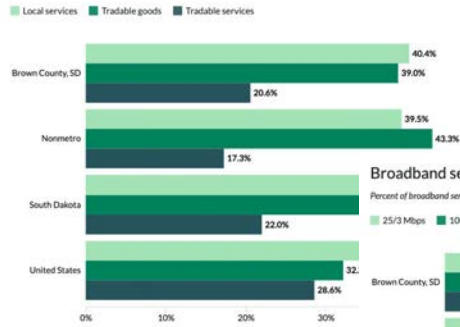
Join the Rural Innovation Network, a **Community of practice**

**Where to get ongoing support?**

# ABERDEEN, SOUTH DAKOTA

- First step: assessment

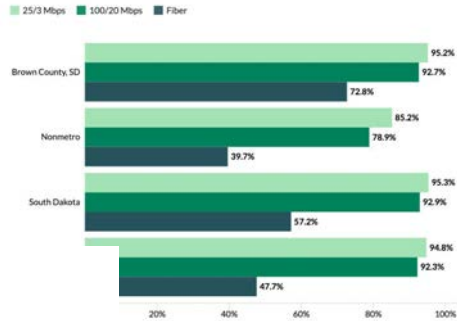
## Share of employment by sector



Source: 2022 Bureau of Economic Analysis  
 Note: Values are calculated as a weighted mean when aggregating across multiple counties

## Broadband service

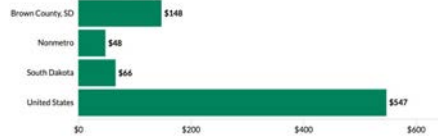
Percent of broadband serviceable locations by service level or technology



Band Map - December 2023 release  
 as a weighted mean when aggregating across multiple counties

## Venture capital per capita

5-year averages



Source: 2019-2023 SEC Form D, 2019-2023 Census Population and Housing Unit Estimates  
 Note: Values are calculated as a weighted mean when aggregating across multiple counties



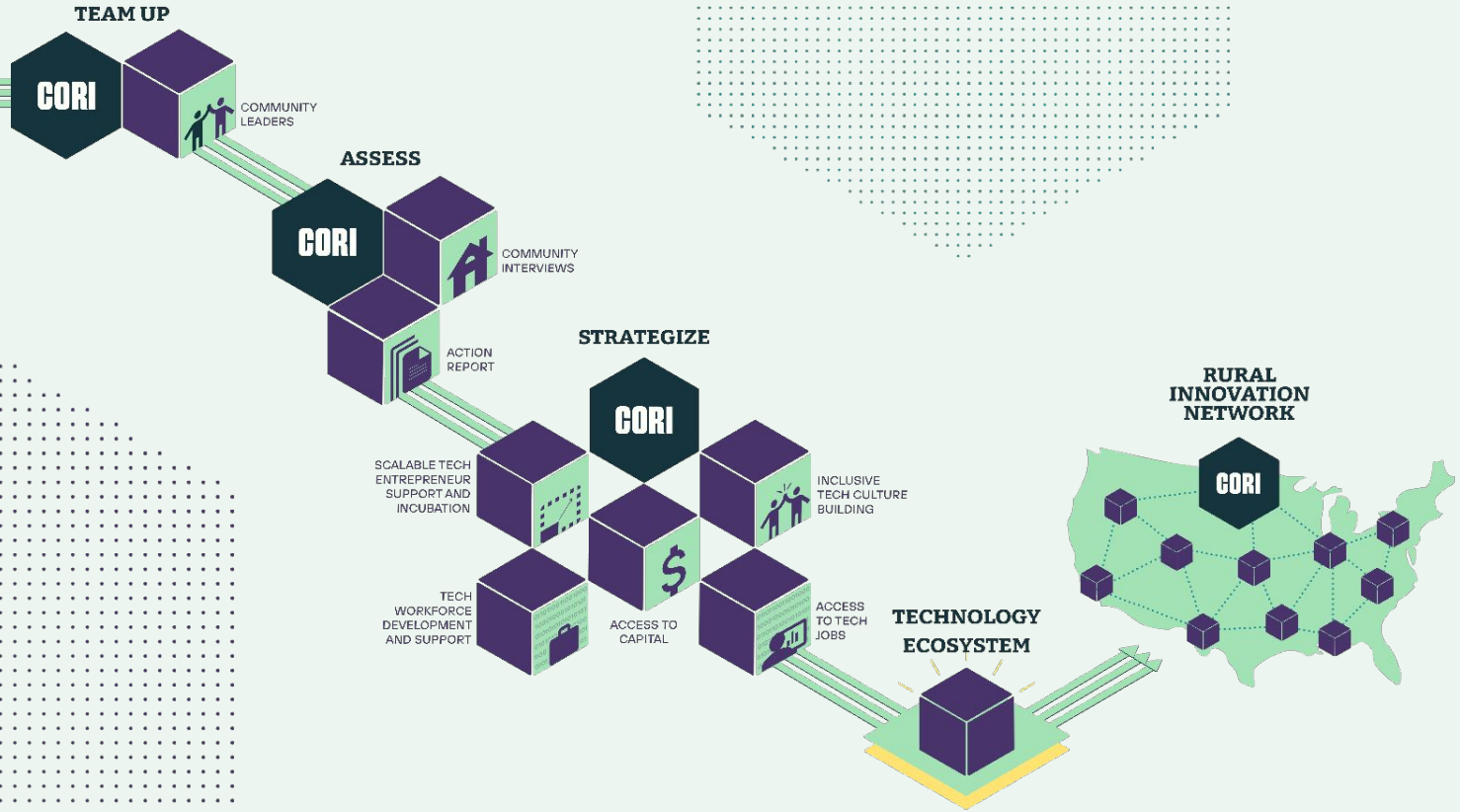
## INSIGHTS WE'VE GARNERED

Most micropolitan communities **already have many of the building blocks** to get started with this work . . .





# The Journey to a Rural Tech Economy



# CAPE GIRARDEAU, MISSOURI

- **Broadband**
  - Downtown Cape Connect: Free public WiFi
  - 10GB fiber
- **Tech workforce development and support**
  - Code Labs One: 20-week adult coding course
- **Access to tech jobs**
  - Codefi: Pairs entrepreneurs needing tech talent with newly skilled workers
- **Coworking and entrepreneurship space**
  - Codefi: Coworking space and entrepreneur networking
- **Scalable tech entrepreneurship support and incubation**
  - Codefi: Entrepreneur support and formal incubator efforts (founded in 2014)
  - Launched 1st50K startup competition in 2015
- **K-12 STEM Education**
  - Youth Coding League: After school program for middle schools using Google's CS First curriculum



# WORKFORCE DEVELOPMENT PROCESS

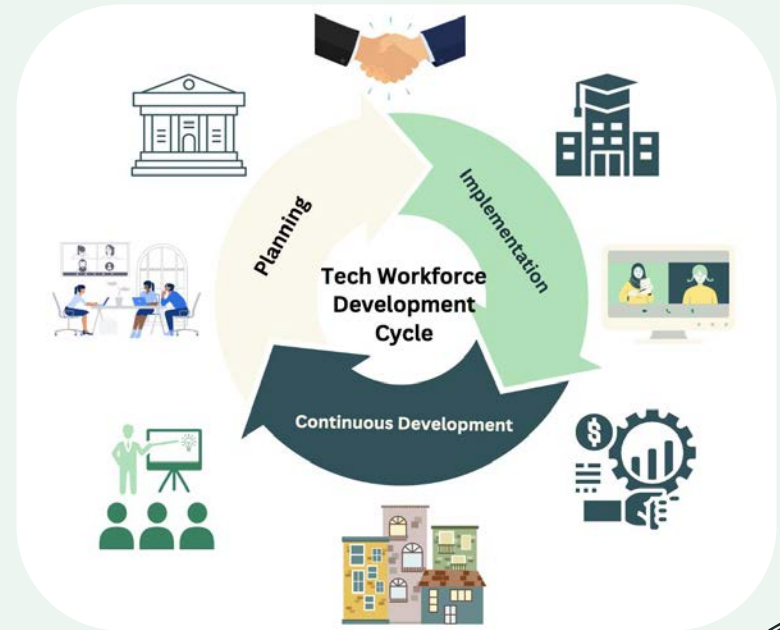
We take a holistic approach to tech talent development, from planning and implementation to continuous development and evaluation.

## Tech Talent Pipeline Development:

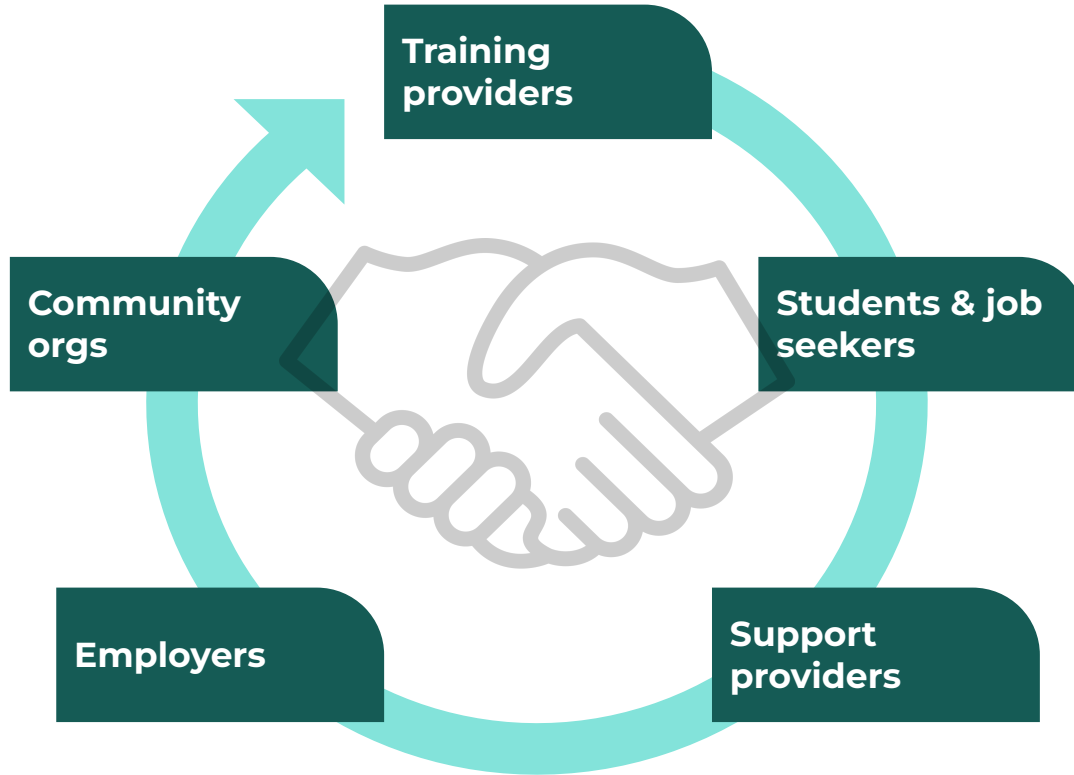
- Assess community assets, fill gaps in training and support, and align the tech ecosystems with local job market needs.

## Access to Tech Jobs:

- Ensure that job seekers are well-prepared for tech jobs by understanding employers' needs and continuously tracking and supporting workers.



# It all thrives because of relationships



# PORTSMOUTH, OHIO

- **Tech workforce development and support**
  - Shawnee State University (SSU)
  - Esports leader with top tier game design program
  - Digital literacy and workforce readiness programs focused on software proficiency, digital communication, and tech tool integration
  - Internships and apprenticeships with local employers
- **Kricker Innovation Hub**
  - Coworking space
  - Digital and tech skill resources and programs
  - AmeriCorps Vista
  - Business startup support and resources
- **K-12 STEM Education**
  - SSU and local high schools offer after-school programs in coding, robotics, and game design



# TRAVERSE CITY, MICHIGAN



**20 Fathoms** - tech startup incubator and coworking space and offers programs for startup entrepreneurs and founders.



Find Your Place Best Places Topics

## Why Entrepreneurs, Tech Start-ups Are Flocking to Traverse City, MI



The vibrant entrepreneurial ecosystem is complemented by a supportive community.

More Like This

By Heather Cherry on September 28, 2022



**Hybrid Robotics** in Traverse City, MI, designs and manufactures robotic solutions for research and inspections.



# THE RURAL INNOVATION NETWORK



**38 communities**  
across **25 states**

**558 learners** enrolled  
in tech training  
programs

**22 incubators and  
accelerators** with  
funding

CENTER ON RURAL INNOVATION PRESENTS

# The Rural Edge

Episode 10: Marquette, Michigan



Center  
on Rural  
Innovation

# 5. Private-Philanthropic-Public Partnerships



# What can rural tech entrepreneurship look like?



Sarah Hinkley, Jaron Hinkley, and Bryan Stafford

La Junta, CO



Coach Patrick Daberkow  
Seward, NE



Kall Morris Inc.  
Marquette, MI



Marcus Aman  
Wilson, NC

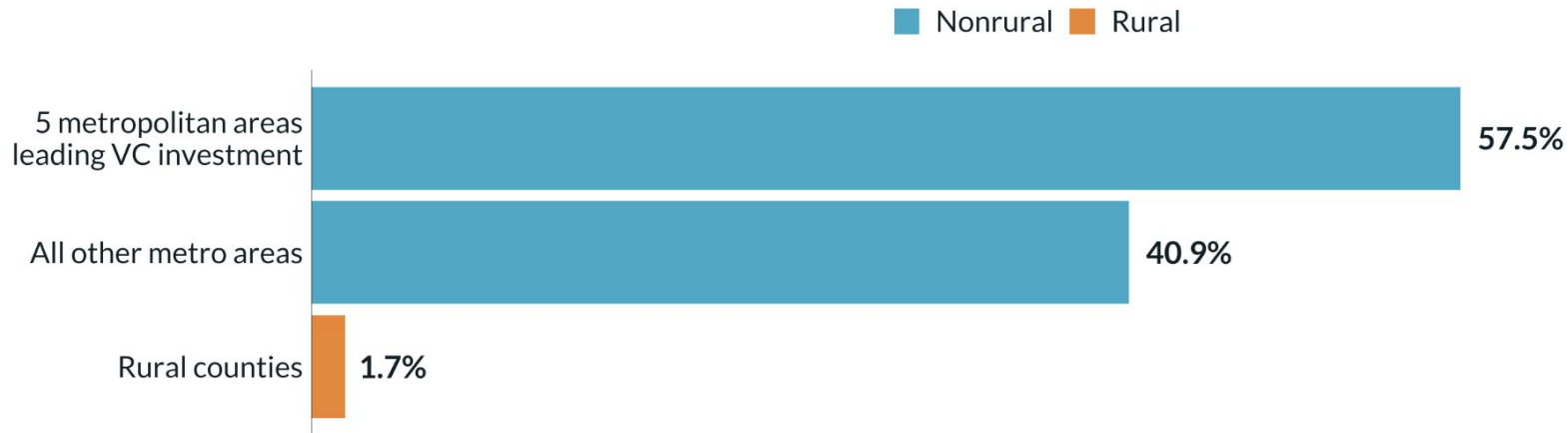


# Rural areas receive less than 2% of VC funding

Metropolitan areas accounted for the vast majority of venture capital investment in 2022



*Share of venture capital dollars received by businesses headquartered in the U.S.*



Source: SEC Form D (2022)

Notes: The 5 leading metro areas are San Francisco-Oakland-Berkeley, New York-Newark-Jersey City, Boston-Cambridge-Newton, Los Angeles-Long Beach-Anaheim, and Chicago-Naperville-Elgin.

"Rural" refers to the "nonmetro" definition, which includes all nonmetropolitan counties.

# Rural is the (re)emerging market in the U.S.

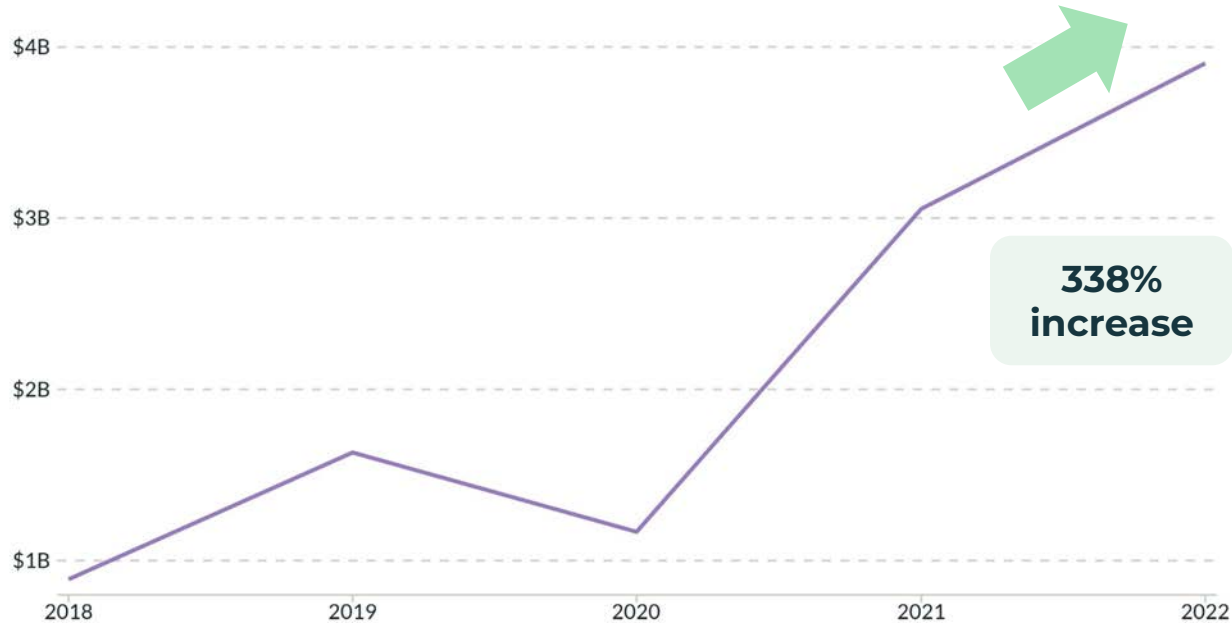
Venture capital  
is trending up!

We should be  
thinking about  
rural as the  
emerging market in  
the U.S.

Venture capital investment in rural businesses has increased over the last 5 years



Total USD invested in businesses headquartered in rural counties from 2018 to 2022



Source: SEC Form D

Notes: "Rural" refers to the "nonmetro" definition, which includes all nonmetro counties.



# WE HAVE INVESTED IN 14 RURAL TECH STARTUPS

**arsana**  
HEALTH



**PROXIMITY**

**DISA**

**AGILE**  
SPACE INDUSTRIES

**Voi**



**Soiltech**  
Wireless



**differentkind**

**BOPA.**

**CORI Innovation Funds I and II** have invested **\$4.7M** in **14 companies**. Those companies have raised an **additional \$54.5M** from other investors.



# SECURING BROADBAND FUNDS FOR RURAL TENNESSEE

## CORI's partnership with the Ayers Foundation:

- Supported 13 at-risk and distressed counties to apply for funding
- Secured more than \$80.4 million in broadband expansion grants from the state's \$447M program
- Leveraged an additional \$34 million in private funding from local sources



# Ecosystem spotlight: Wisconsin

## WiSys' approach

1. **Centralized support, local impact**  
A network model connecting statewide resources with locally adapted initiatives.
2. **Scalable capacity-building programs**  
Structured accelerators like *Level Up!* empower underserved communities.
3. **Cross-sector partnerships**  
Collaboration across academia, business, and government.
4. **University-driven ecosystem**  
Leveraging university resources for innovation and talent.
5. **Inclusive and focused outreach**  
Targeting underserved and rural communities through tailored programs.



Network of startup hubs



Local + Central Initiatives



# LEVERAGING MULTIPLE FUNDING SOURCES IN VERMONT

## 1. Vermont Community Foundation

↳ Technical assistance for 5 communities

## 2. State special appropriation

↳ Contingent match for federal grants

## 3. Federal Build to Scale grants

↳ Stand up tech ecosystems

## 4. Vermont SSBCI funds

↳ Evergreen investment vehicle for rural startups



# Thank you

*Interested in starting with an assessment?*

**We'd love to connect with you.**

Email: [hello@ruralinnovation.us](mailto:hello@ruralinnovation.us)

Website: <https://ruralinnovation.us>

Phone: 802-436-4100

Social:  
[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [YouTube](#)



# 6. Questions

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