

CENTER ON RURAL INNOVATION

Session #5

Data Storytelling for Rural Change



Beyond the Numbers:

Leveraging CORI's
new rural economic
development data tool
to shape your narrative



Introductions



United States Air Force Academy

Air Force veteran

Ph.D., Ohio State University Agricultural, Environmental,
and Development Economics

Consultant

various local, state, national, and international organizations

Economics professor

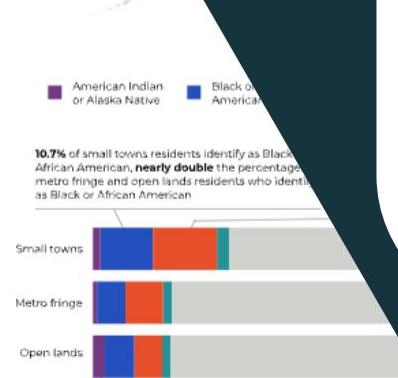
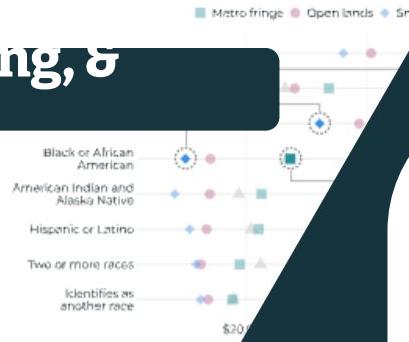
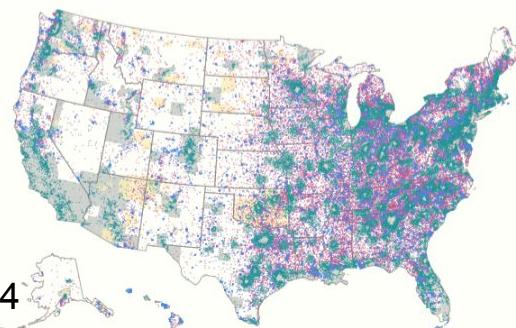
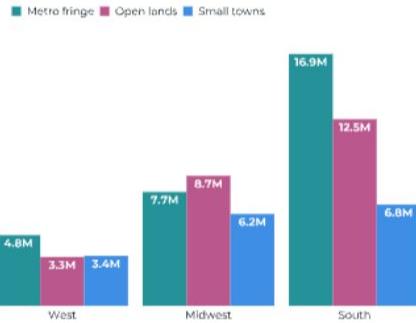
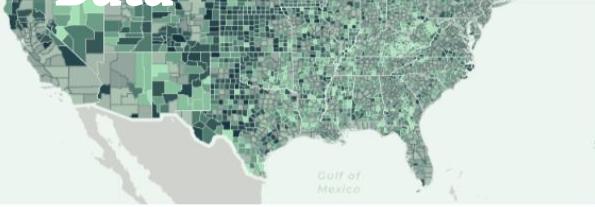
University of Akron

Amanda Weinstein

Director of Research, Knowledge, & Evaluation,
Center on Rural Innovation



Rural Research, Mapping, & Data



Our research, mapping, and data analytics practice allows us to challenge existing models, inform policy, and equip stakeholders with actionable insights to **grow more innovative economic ecosystems in rural America.**

Agenda

1. The power of your story
2. A better way to use data
3. CORI's economic development tool
4. A Case Study: Bemidji, MN
5. Building your narrative



1. The power of your story



Why data storytelling matters

A powerful story is your most effective tool for driving change in your community

1. Data builds **credibility** – it helps people believe you
2. Narrative creates **connection** – it helps people remember you



The problem with data tools

Hard to find, hard to use: Rural data can be scarce in some areas and overwhelming in others

Too many numbers, too little meaning: Data is presented without the context or economics to make sense of it

A single number isn't a story

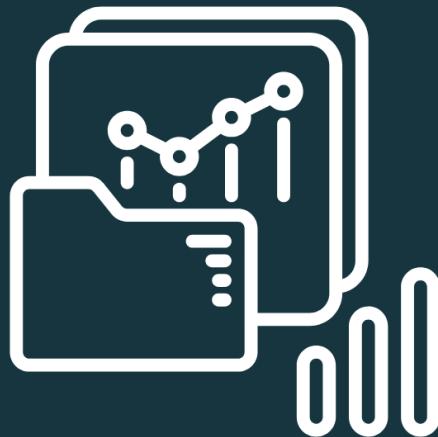


The economic data landscape

	<u>Data solution</u>	<u>Use case</u>	<u>Examples</u>
Curated <i>Data volume</i> Large	Data tool	Guides decisions or provides insight into a specific issue or question	<ul style="list-style-type: none">• <u>CORI Economic Development data tool</u>
	Dashboards or visualizations	Processed or aggregated data with descriptive analytics to understand history and trends	<ul style="list-style-type: none">• <u>Data USA</u>• <u>NACO county explorer</u>• <u>NERDE data explorer</u>• <u>Rural data gateway</u>• <u>Opportunity Insights</u>• <u>Headwaters Economic Profile</u>• <u>Rural Capacity Map</u>
	Data sets	Exploration to identify trends with large data set. Usually need to process data to analyze, and know what you want	<ul style="list-style-type: none">• <u>Bureau of Economic Analysis (BEA)</u>• <u>Bureau of Labor statistics (BLS)</u>• <u>Federal Reserve Economic data (FRED)</u>• <u>Business Dynamics Statistics (BDS)</u>• <u>American Community Survey (ACS)</u>• <u>County level data sets (USDA)</u>• <u>Census County Business Patterns</u>



2. A better way to use data



The CORI economic development tool

Helps **rural community leaders** identify pathways **grow innovative and dynamic economies** from the ground up

Research informed

- Rooted in CORI's **rural economic development** model
- **Research-informed building blocks** of an innovation-led economy

Focused

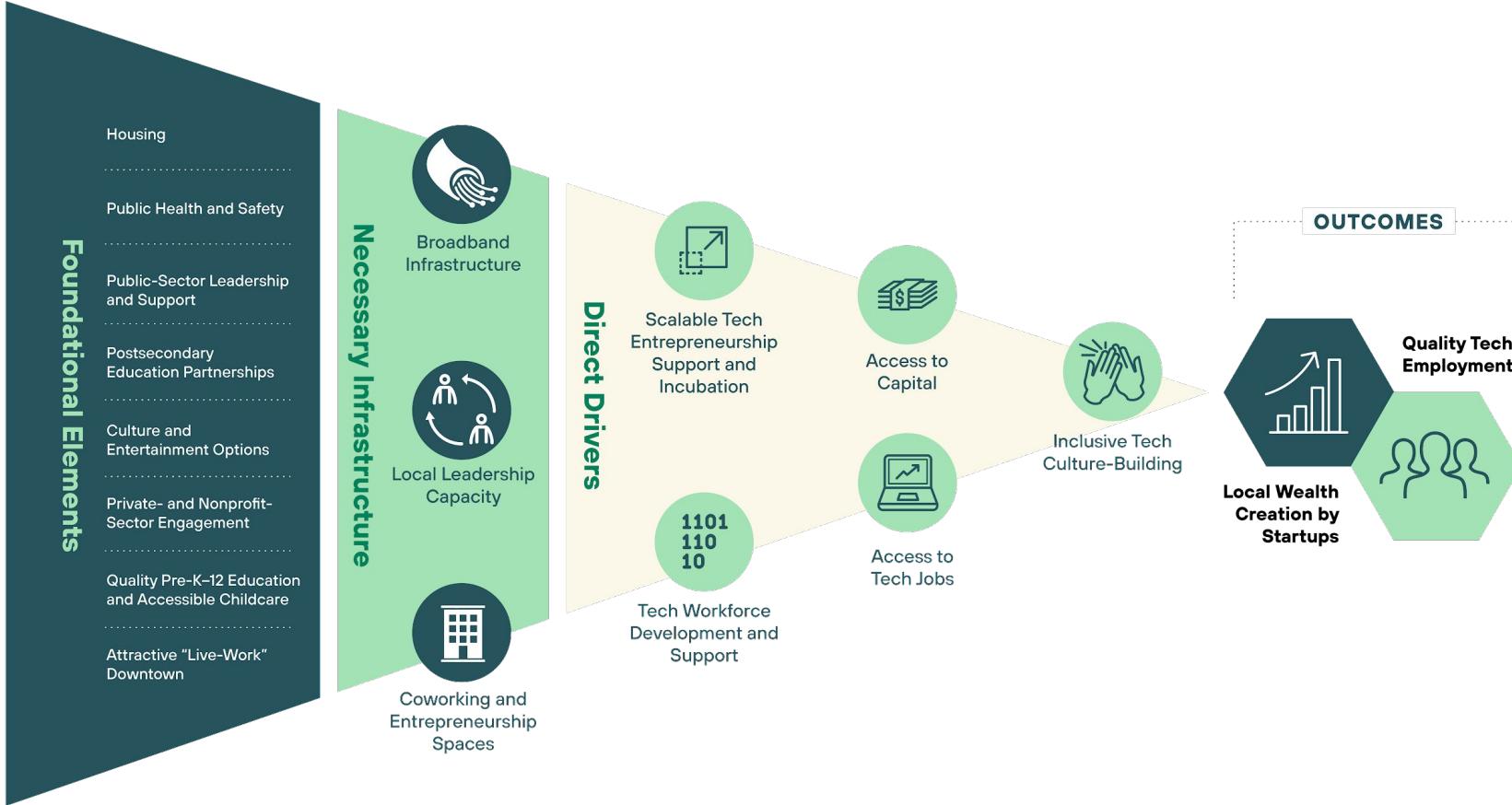
- **Curated** metrics, avoids information overload
- Easy to navigate, all visualizations in one place
- Targets inclusive, **community-centered** economic development

User friendly

- Explains relevance and **application of each metric**
- **Builds understanding** across all levels of economic development expertise



The economic framework



Informed by research



Workforce

Highly-skilled workers across diverse industries help attract and grow higher wage jobs and startups and create more resilient communities



Business Dynamism

Entrepreneurial capacity increases innovation fostering job growth and wealth creation, making communities more resilient and more prosperous



Infrastructure

Building connectivity linking people and businesses to larger markets, modern infrastructure, broadband and incubator spaces, increases productivity and boosts business activity



Equity

Broad access to economic opportunity is crucial for growth and requires understanding the socioeconomic and demographic factors that shape a community



Quality of Life

Regions that provide a high quality of life, making them desirable places to live, will have an advantage, as knowledge remains the key driver of economic growth and innovation.

Workforce

- Employment change
- Prime age employment rate
- Average annual pay
- Educational attainment
- Employment by occupation
- Share of employment by sector
- Tech employment
- Productivity



[Youth Coding League, Cape Girardeau, MO](#)



[Codefi Code Labs, Cape Girardeau, MO](#)

Entrepreneurship

- Business growth
- Private investment per capita
- Business applications
- Self-employment
- Employment by industry
- Industry diversity
- Remote work



[Rust Sho founder of Sho.ai in Cape Girardeau, MO](#)



[Kayla Wright-Jackson founder of Transition in Cape Girardeau, MO](#)

Infrastructure

- Broadband service
- Broadband adoption
- Computer access



Demographics

- Population
- Median age
- Race and ethnicity
- Per capita income
- Income distribution
- Inequality



Quality of Life

- Quality of life
- Cost-burdened renters
- Cost-burdened owners
- Change in housing supply



What our tool helps you do

See the big picture: Track local economic trends and opportunities

Build a compelling narrative: Turn data into visuals for reports, grants, and presentations.

Shape a tech-driven future: Support initiatives that grow entrepreneurship and innovation.



3. CORI's economic development tool



Economic development tool



Economic Development Tool

CORI's Economic Development Tool displays data for your county or region across 25 critical indicators for increasing economic growth through technology-driven businesses. Select a primary county or counties below to get started.

Primary county or region

Select one or more counties to view detailed data metrics

Comparison benchmarks (optional)

Select a comparison county, urbanization level, or state to benchmark against your primary county or region

Show United States



Economic development tool



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 X

your county

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Select comparison counties (optional)

Select an urbanization level (optional)

Select a state (optional)

Show United States



Economic development tool

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Beltrami County, MN

Comparison benchmarks (optional)

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Select comparison counties (optional)

Select an urbanization level (optional)

Select a state (optional)

Show United States



comparison county



Economic development tool



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Beltrami County, MN X

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Select an urbanization level (optional)

Select a state (optional)

Minnesota



your state

Show United States



Economic development tool



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Beltrami County, MN

Comparison benchmarks (optional)

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Select comparison counties (optional)

Select an urbanization level (optional)

Rural towns (Micropolitan counties with a town of 10-50K population)

Select a state (optional)

Minnesota

Show United States



rural town



Key takeaways and statistics

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Introduction

Selection details

Rural
Beltrami County, MN rural status (OMB 2023)

46,421
Beltrami County, MN population (ACS 2023)

Welcome to the [Center on Rural Innovation](#)'s Economic Development Tool. Step through the metrics below to better understand the strengths and weaknesses of your county's economy.

Key takeaways

- Your county is growing quickly. In the last five years, the population in your county grew by 2.5%, exceeding the national rate of 2.0%.
- Business growth in your county is strong. Between 2010 and 2022, the number of businesses in your county grew by 11.1%, exceeding the national rate of 10.9%.
- Educational attainment in your county lags the nation. 32.3% of the population has a bachelor's degree or higher, compared to 35.0% nationally.
- Your county's tradable services employment is below the national average. 11.8% of the workforce is employed in tradable services, compared to 28.6% nationally.
- Your county has adequate broadband service. 99.1% of locations in your county have 100/20 Mbps service, the FCC benchmark for broadband service, compared to 94.2% of locations nationally.
- Private investment is active in your county. There have been 1 Private investment-backed businesses in your county in the last 5 years.



Navigation

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Introduction

Workforce

- Employment change
- Prime age employment rate
- Average annual pay
- Educational attainment
- Employment by occupation
- Share of employment by sector
- Tech employment
- Productivity

Entrepreneurship

- Business growth
- Private investment per capita
- Business applications
- Self-employment
- Employment by industry
- Industry diversity
- Remote work

Infrastructure

- Broadband service
- Broadband adoption
- Computer access

Demographics

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Quality of life

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Data Visualizations

Business growth

Why it matters

The rate of new business formation indicates entrepreneurial activity in a region. New businesses can diversify the economy, create jobs, and drive innovation.

How to interpret this chart

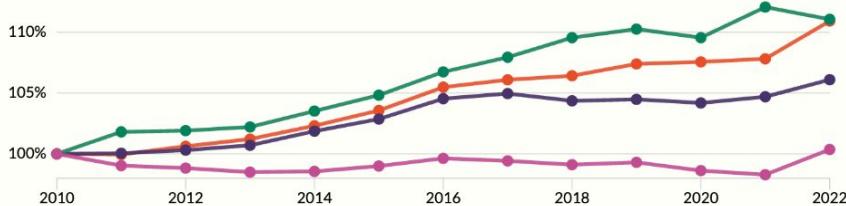
High rate: Suggests a dynamic and entrepreneurial environment, essential for economic growth and innovation.

Low rate: May indicate barriers to starting new businesses, suggesting a need for support and resources to foster entrepreneurship.

Business growth

Total number of establishments, values shown as a percentage of the first year

■ Beltrami County, MN ■ United States ■ Minnesota ■ Rural towns



Source: U.S. Census Bureau Business Dynamics Statistics

Note: Values are summed when aggregating across multiple counties



Interpretation

Data Visualizations

Business growth

Why it matters

The rate of new business formation indicates entrepreneurial activity in a region. New businesses can diversify the economy, create jobs, and drive innovation.

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High rate: Suggests a dynamic and entrepreneurial environment, essential for economic growth and innovation.

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} Context

Source: U.S. Census Bureau Business Dynamics Statistics

Note: Values are summed when aggregating across multiple counties

[Download data](#) [Download image](#)



Data Visualizations

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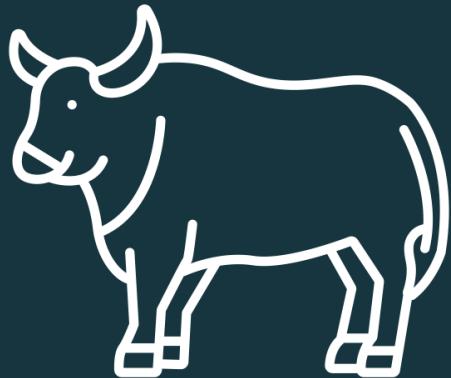
Source: U.S. Census Bureau Business Dynamics Statistics

Note: Values are summed when aggregating across multiple counties

[Download data](#) [Download image](#)

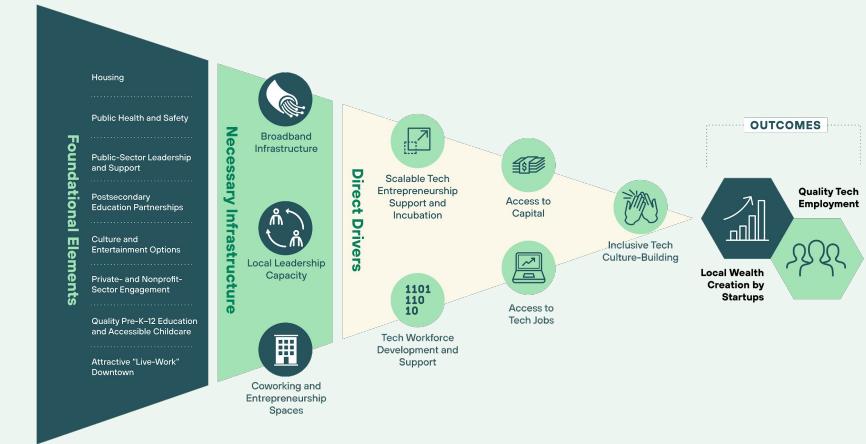


4. A Case Study: Bemidji, MN



Agenda

1. Infrastructure
2. Entrepreneurship
3. Workforce



Infrastructure

Modern infrastructure, especially broadband, enables businesses to compete, innovate, and access new markets. Reliable connectivity supports entrepreneurship, remote work, and workforce development, driving long-term growth and resilience.



Broadband Service

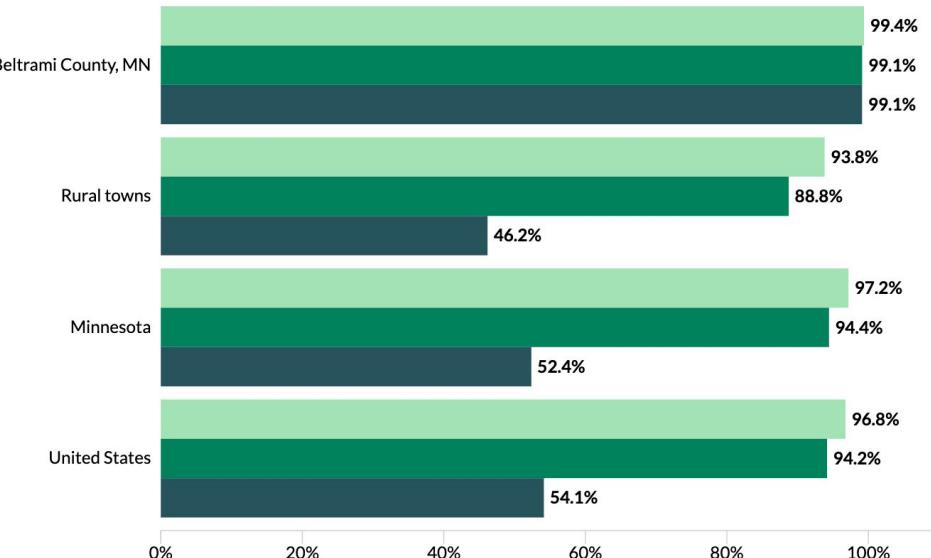
Share with 100/20
Mbps service:

99%

Broadband service

Percent of broadband serviceable locations by service level or technology

■ 25/3 Mbps ■ 100/20 Mbps ■ Fiber

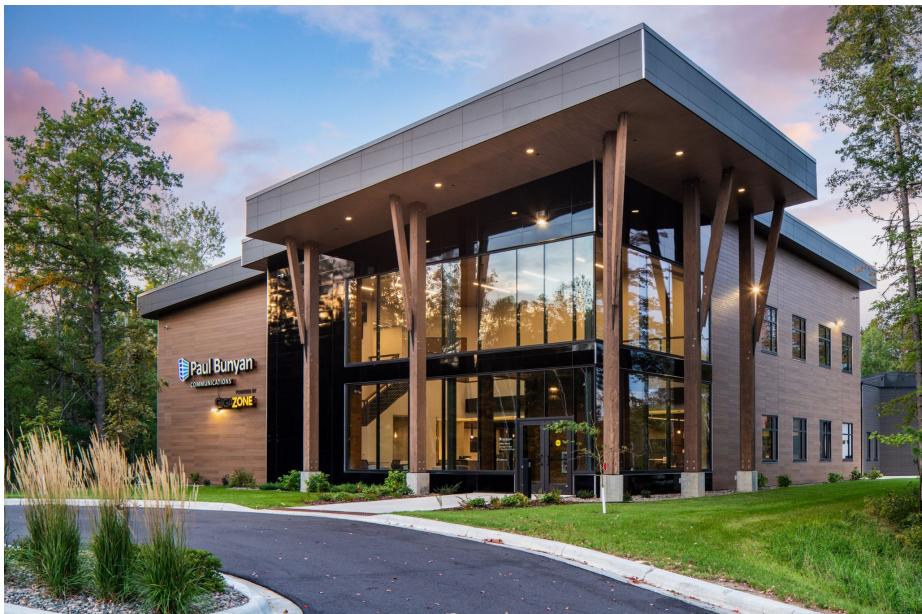


Source: FCC National Broadband Map - December 2024 release

Note: Values are calculated as a weighted mean when aggregating across multiple counties



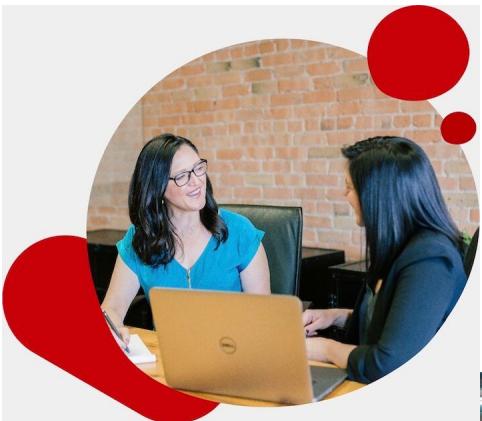
Bemidji, MN (Beltrami County)



Paul Bunyan
Communications built an
**all-fiber network (GigaZone
network)**



Bemidji, MN (Beltrami County)



Paul Bunyan Communications partnered with other organizations (including Greater Bemidji) to leverage broadband for the community and for businesses



**Bemidji Technology Park
LaunchPad**, coworking space and business incubator
NORTHSTARtup pitch competition

Bemidji, MN (Beltrami County)



[HEMO Research](#) was a finalist in the **NORTHSTARtup pitch competition** that takes place during Paul Bunyan Communications' GigaZone TechXpo, and a \$25,000 prizewinner at the Minnesota Startup Cup

HEMO Research is designing a portfolio of plug-and-play hardware modules that accelerates the development of electronic products

Entrepreneurship

Entrepreneurship drives innovation, job creation, and economic resilience, making it a vital indicator of a community's economic health and ability to adapt to changing market conditions.



Business Growth

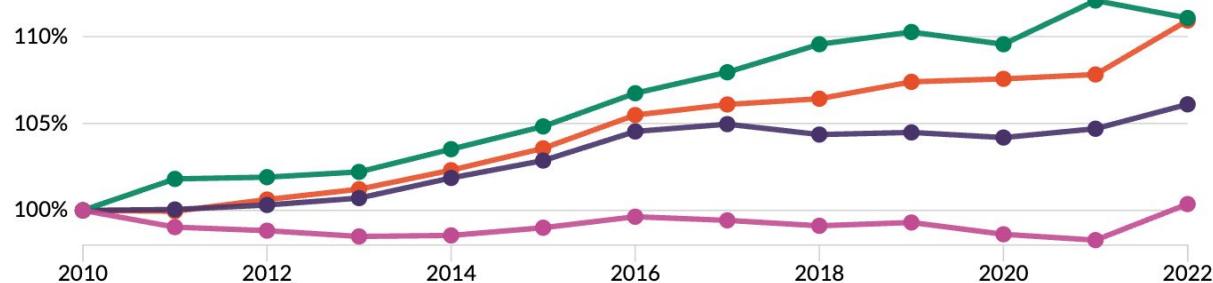
5-year change in businesses:

+110

Business growth

Total number of establishments, values shown as a percentage of the first year

■ Beltrami County, MN ■ United States ■ Minnesota ■ Rural towns



Source: U.S. Census Bureau Business Dynamics Statistics

Note: Values are summed when aggregating across multiple counties



Venture Capital

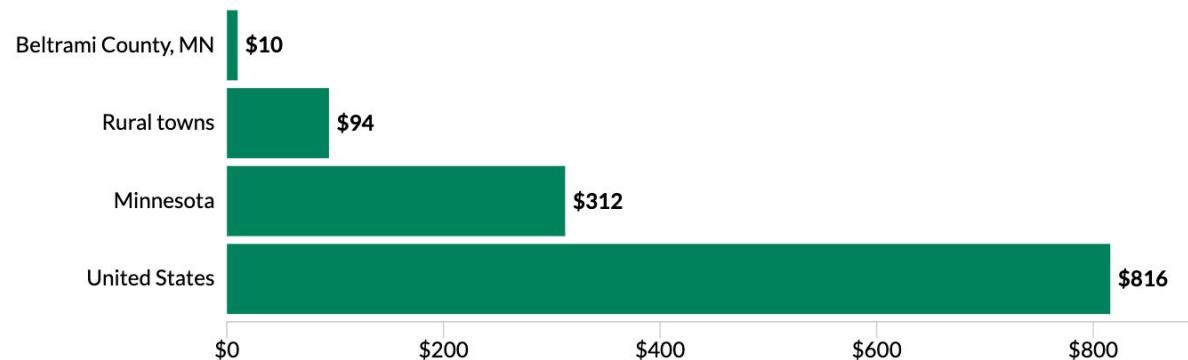
Venture capital
backed
businesses in the
last 5 years:

1

Especially
important for
tech startups

Private investment per capita

5-year averages



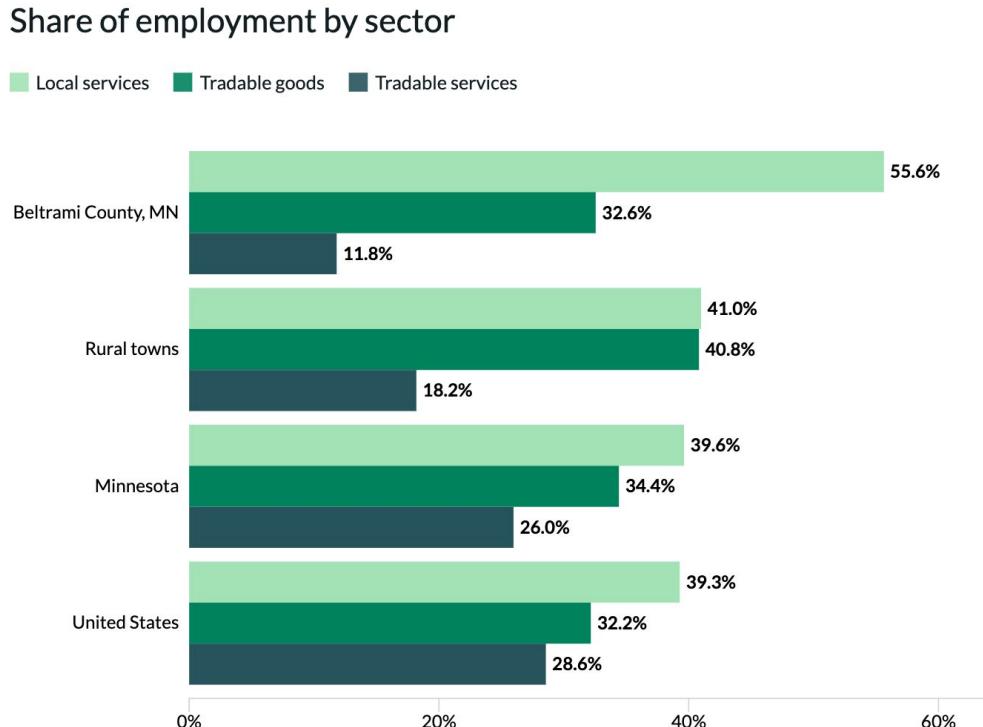
Source: 2020-2024 SEC Form D, 2023 American Community Survey 5-year estimates

Note: Values are calculated as a weighted mean when aggregating across multiple counties



Employment by Sector

The gap in tradable services (tech sector) is fueling the growing rural divide.



Source: 2022 Bureau of Economic Analysis

Note: Values are calculated as a weighted mean when aggregating across multiple counties



Bemidji, MN (Beltrami County)

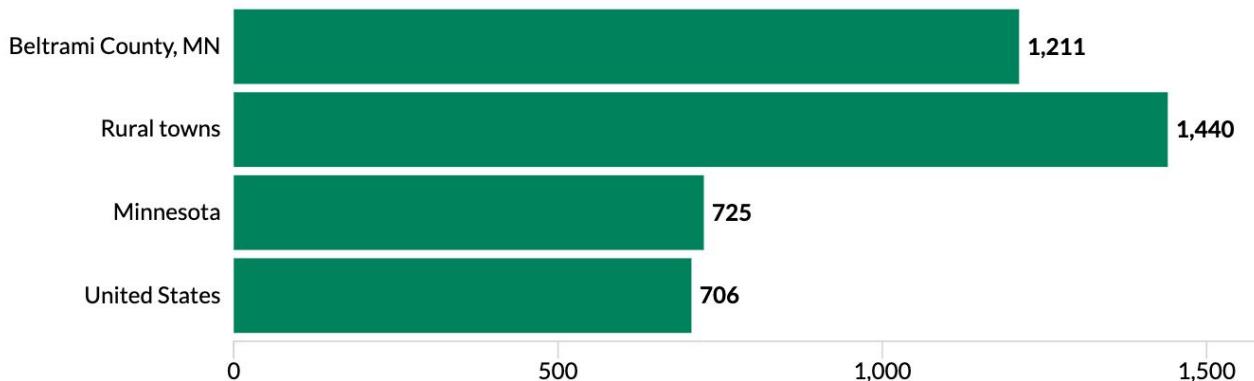
Bemidji serves as a regional hub for health care (Sanford Bemidji Medical Center, the region's largest employer), **education** (Bemidji State University, Northwest Technical College), and **government services** (including tribal governments). In addition, **tourism** boosts demand for local services such as hospitality, retail, and recreation.



Industry Diversity

Bemidji has more industry diversity (less concentration in a single industry) than most other rural towns, but it's less diverse than the state and nation

Herfindahl-Hirschman index



Source: 2022 Bureau of Economic Analysis

Note: Values are averaged when aggregating across multiple counties

Workforce

Understanding workforce dynamics is crucial for developing successful regional economic development strategies. By tracking job trends and productivity, we can target sectors for expansion and foster innovation-driven economies.



Employment Change

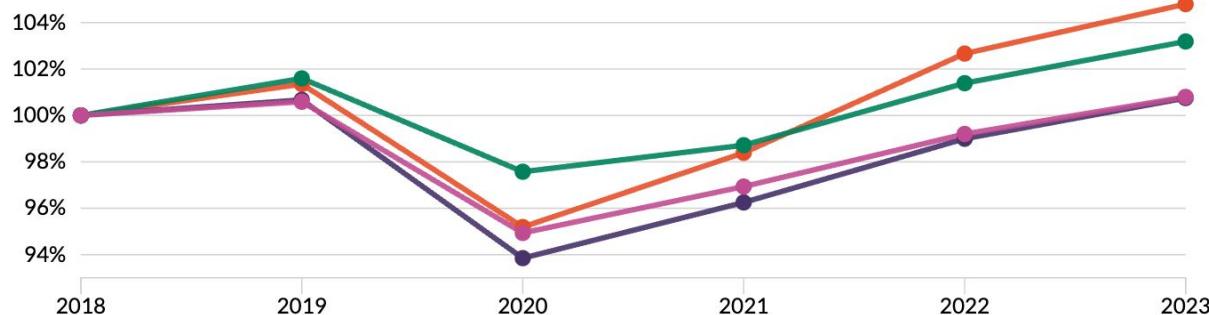
5-year
employment
change:

+633

Employment

Values shown as a percentage of the first year

United States Beltrami County, MN Rural towns Minnesota



Source: 2018-2023 Bureau of Labor Statistics

Note: Values are summed when aggregating across multiple counties



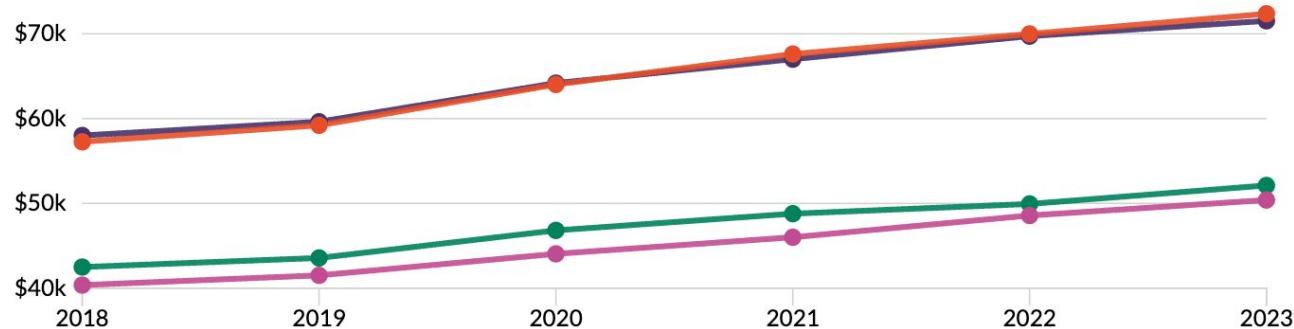
Earnings

Average
annual pay:

\$52,120

Average annual pay

United States Minnesota Beltrami County, MN Rural towns



Source: 2018-2023 Bureau of Labor Statistics

Note: Values are averaged when aggregating across multiple counties

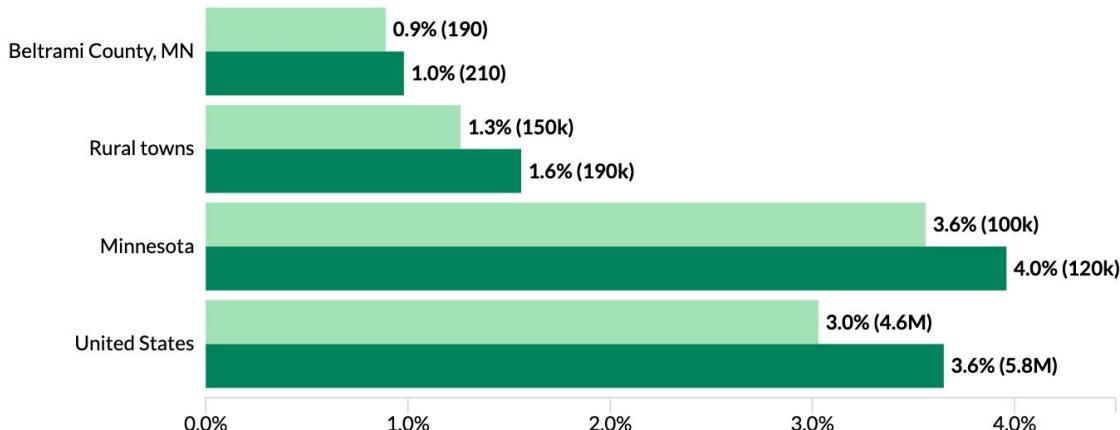
Tech Employment

Tech jobs are growing in Bemidji, but the town still lags other rural communities

Tech employment

Share of workforce employed in computer and math occupations

2018 2023



Source: 2018 and 2023 American Community Survey 5-year estimates

Note: Values are calculated as a weighted mean when aggregating across multiple counties



Bemidji, MN (Beltrami County)



GigaZone Gaming Championship and TechXpo

5. Building your narrative



Building your narrative

Data gives the **30,000-foot view** of your local economy

But data alone isn't enough.

Your **boots-on-the-ground** knowledge is the magic ingredient that turns credibility and numbers into a memorable narrative.



The CORI economic development tool

<https://rural-economic-development-dashboard.ruralinnovation.us/>

