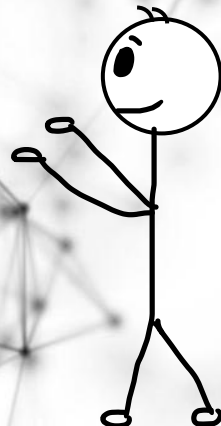


LEVERAGING TECHNOLOGY FOR LOCAL IMPACT

Alison Turner

Senior Economic Development Researcher

Argonne National Laboratory



NM Mainstreet Conference
January 31, 2024
Santa Fe, NM

The background of the slide features a complex network diagram. It consists of numerous grey, semi-transparent circular nodes of varying sizes, interconnected by thin, light grey lines. The nodes are scattered across the entire frame, creating a web-like structure that suggests connectivity and a network of relationships. The overall aesthetic is clean and technical.

Quick Disclosure

The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the views of Argonne National Laboratory nor our sponsors at the Department of Energy nor the United States Economic Development Administration.

National Economic Research and Resilience Center

About Us

- We provide innovative and transparent economic data access, research, and analysis to support and strengthen economic development and resilience in communities across the nation.
- Find us at:
<https://www.anl.gov/dis/national-economic-research-resilience-center>



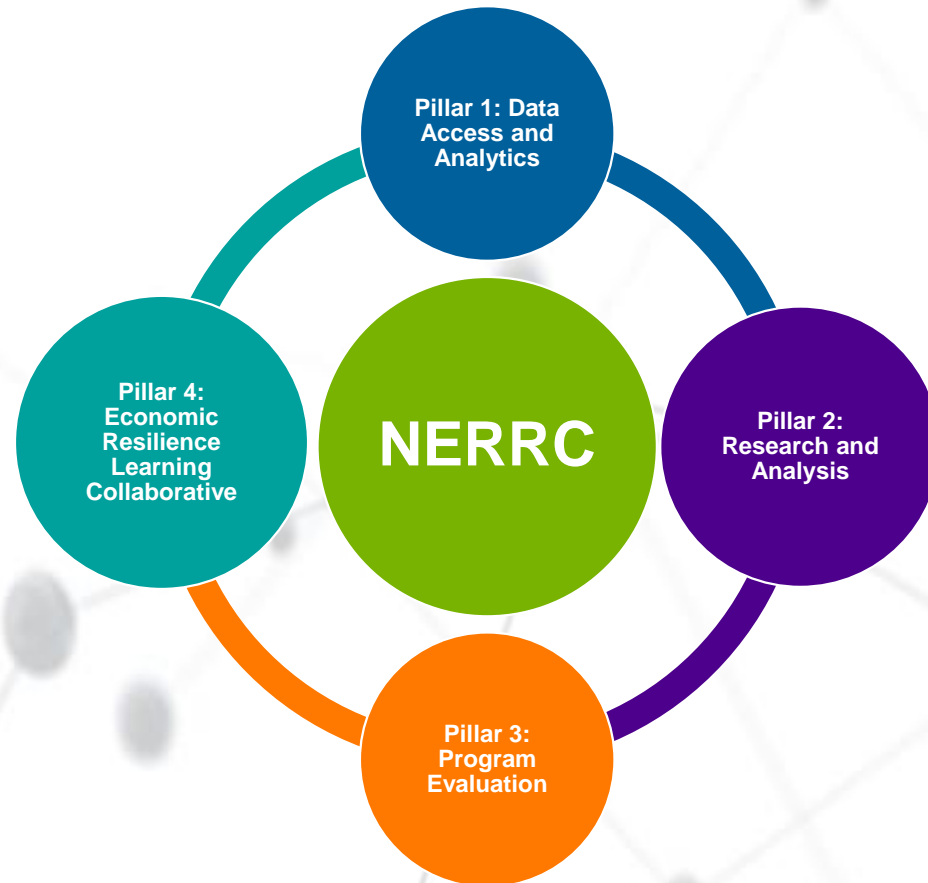
Research and National Technical Assistance Cohort

EDA

U.S. ECONOMIC DEVELOPMENT ADMINISTRATION

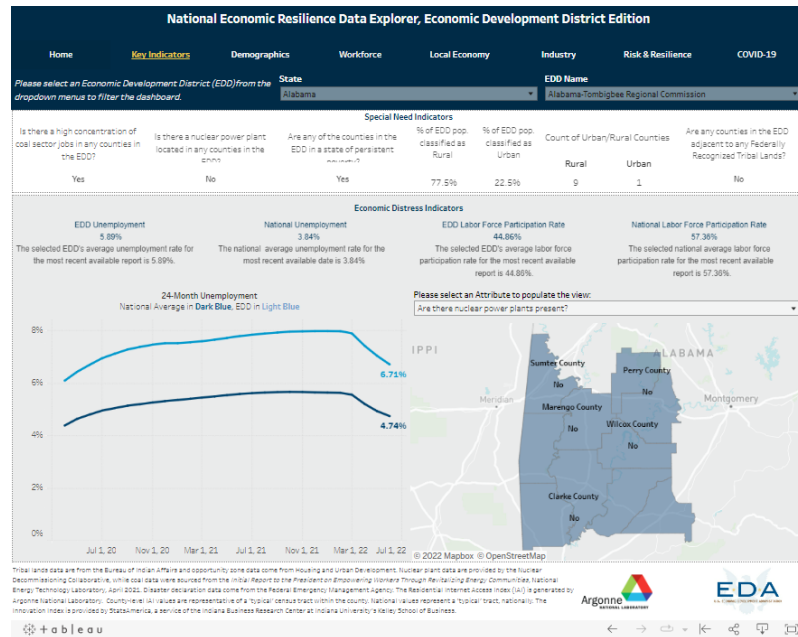


Our Work



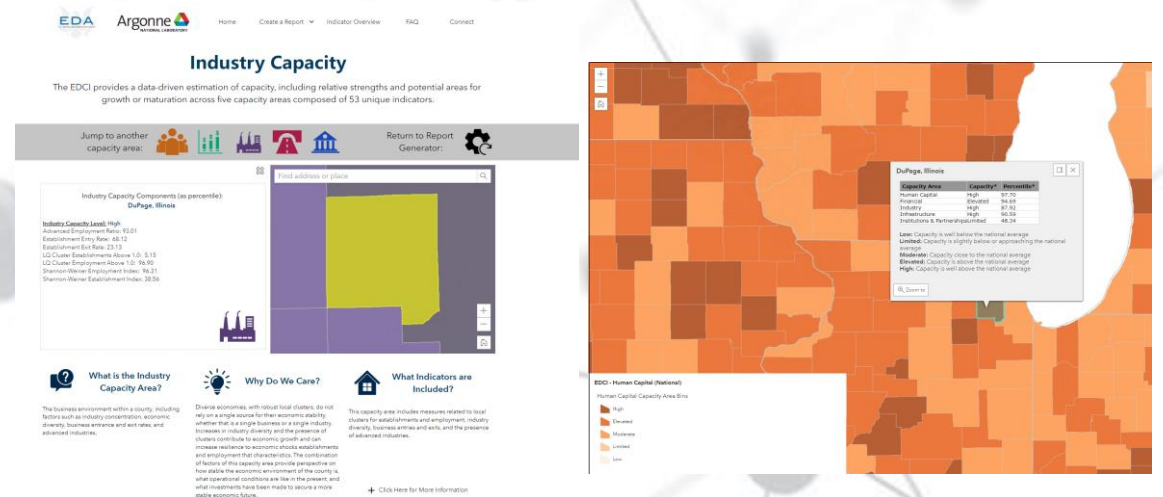
Our Tools

National Economic Resilience Data Explorer



Baseline economic context

Economic Development Capacity Index



Assessment of county-level capacity, strengths, and opportunities for investment

A network diagram consisting of numerous grey circular nodes of varying sizes connected by thin grey lines. The nodes are scattered across the white background, with some forming small clusters and others standing alone. The lines connect the nodes in a complex, web-like pattern, suggesting a network or data structure.

Data in an Era of Technology

Data in an Era of Technology

- Why is data important?
- Dealing with data for small areas
 - Geographic Constraints
 - Data accuracy
 - Asking the right questions
 - Finding the right data
- The future of figures

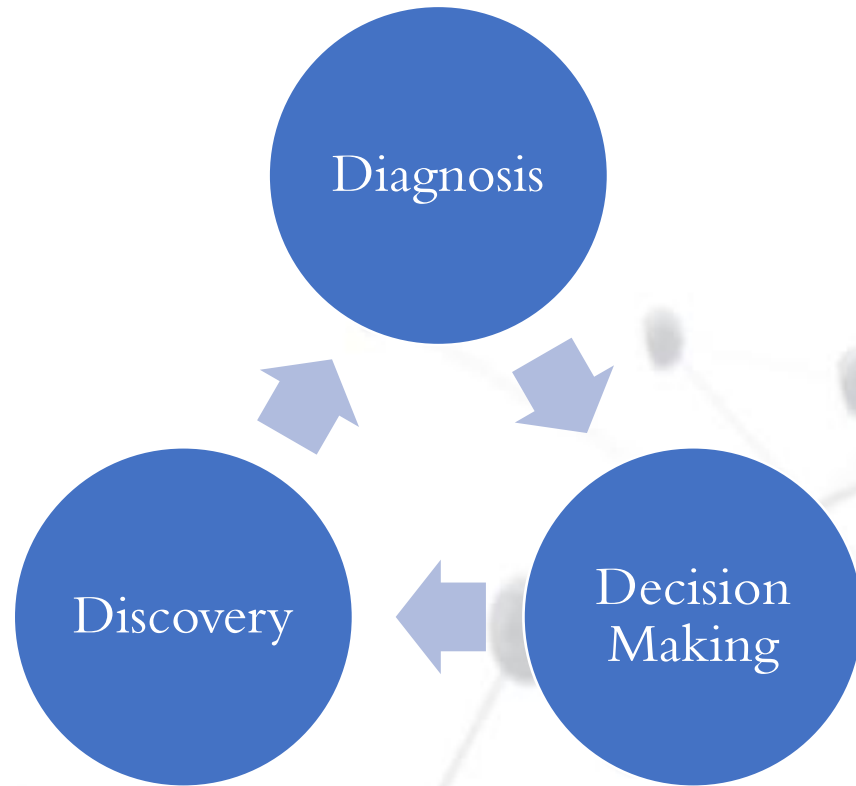




Why is data important?

- Federal Requirements
- Planning Continuation
- Accountability, Equity, Fairness

The 3-D Principals of Data



Discovery

- Asking questions
 - Understanding Space, Time, and Source

Diagnosis

- Evaluation of quality
- Relationships between metrics

Decision Making

- Coming back to the question

A background image featuring a network diagram with grey nodes and connecting lines. The nodes are of varying sizes and are interconnected by thin, light grey lines, creating a complex web-like structure. The overall aesthetic is clean and technical.

Data for Small Areas

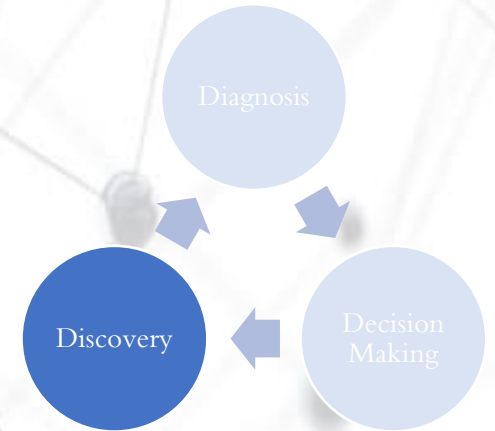
A background network diagram consisting of numerous grey circular nodes of varying sizes connected by thin grey lines, creating a complex web of connections across the entire slide.

Data for Small Areas

- Asking the right questions
- Finding the right data
- Geographic Constraints
- Data accuracy
- Displaying and describing data for the community

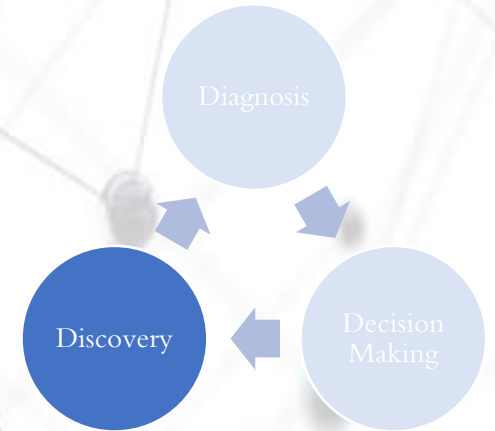
Discovery - Asking the right questions

- Determining a question
 - Trust your instincts
 - Write it down
 - Keep it simple



Discovery - Finding the right data

Research



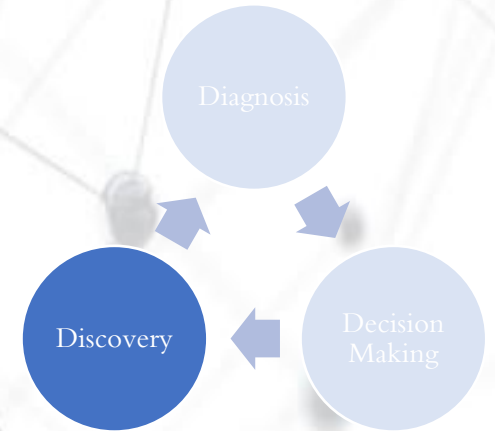
Pros	Cons
Can be done from your office	Can require high technical skill
Shorter time period	May not answer your exact question
Less up-front analysis required	Collaboration with data nerds

Collection

Pros	Cons
Tailored results	Data entry errors
Community trust building	High cost
Survey experience	Potentially high analysis required (aka, collaboration with data nerds)

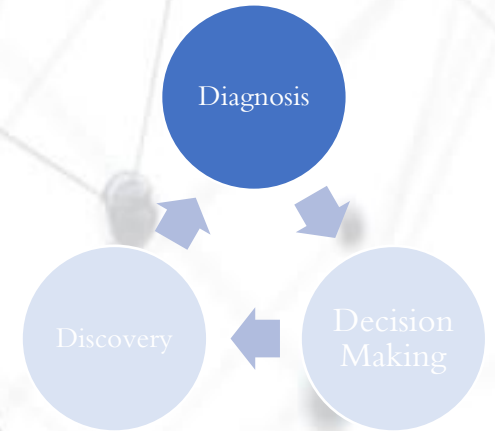
Discovery - Finding the right data

- National Tools
 - NERDE
 - Census/American Community Survey
- State Data
 - NM Bureau of Business and Economic Research
 - NM Indicator Based Information System (IBIS)
 - NM Sunshine Portal/DFA ICIP Dashboard
- Local Sources
 - Assessors
 - Local traffic data
 - Emergency call logs



Diagnosis - Geographic Constraints

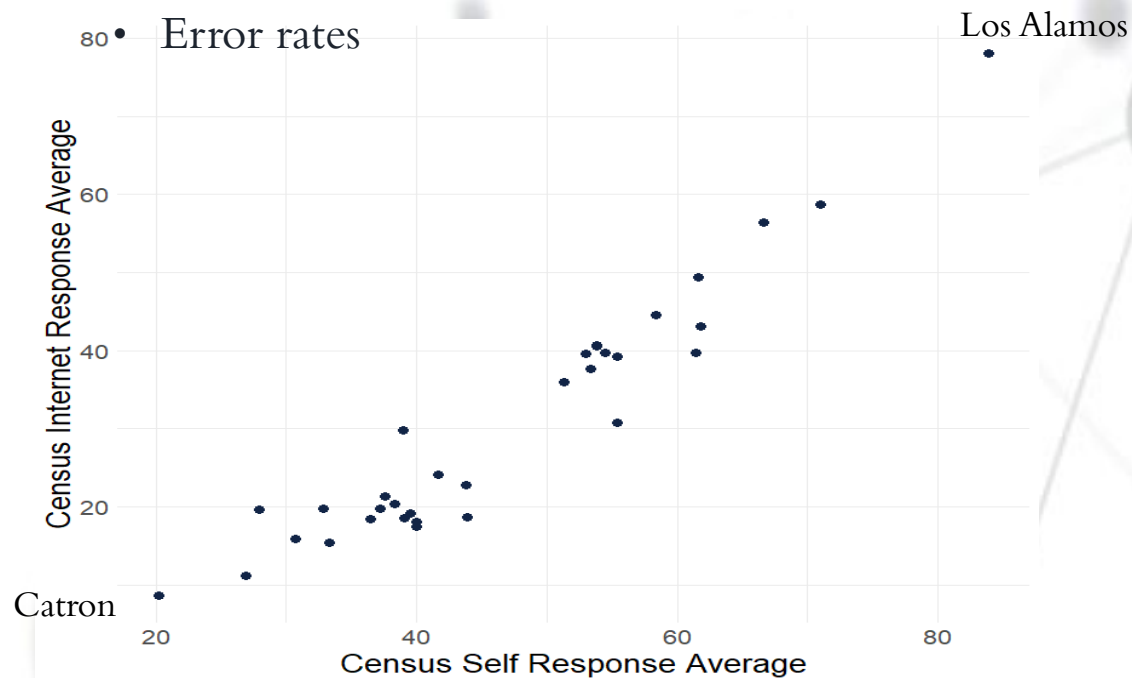
- Diving into Mainstreet Data
 - Sparse populations
 - Small areas
 - Timing
 - Redistricting
 - Years (vignettes)



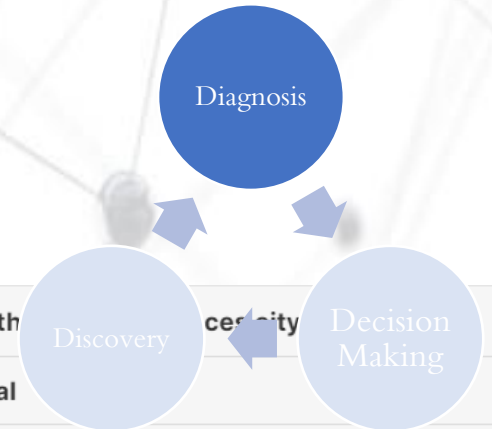
Diagnosis - Data accuracy

How do I know if my data is accurate?

- Does it look like you would expect?
- Response rates
- Error rates



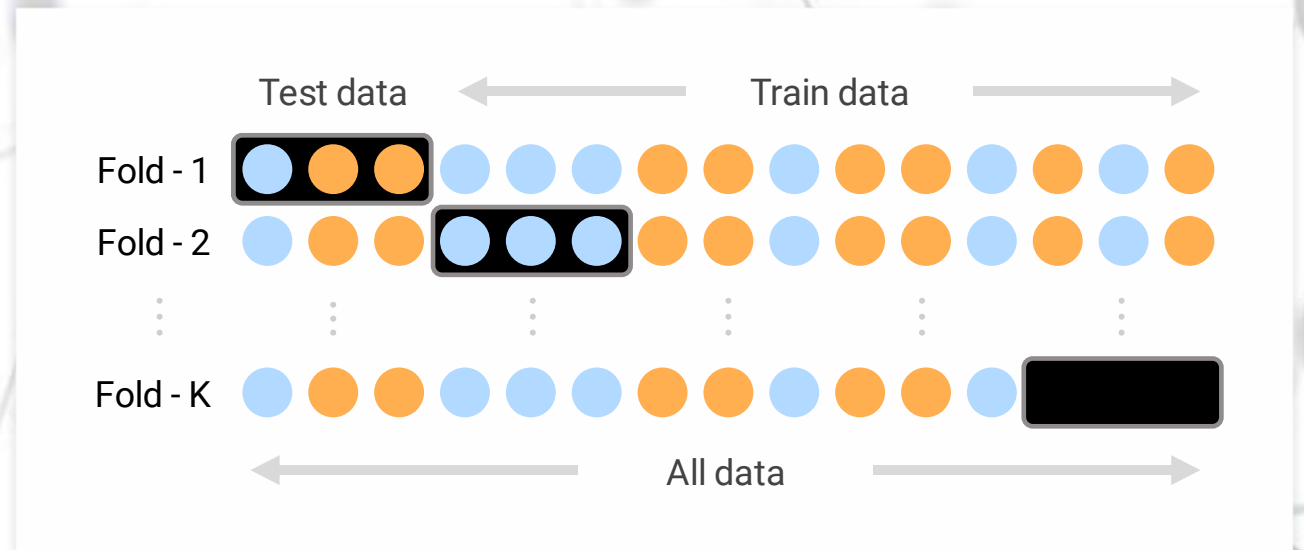
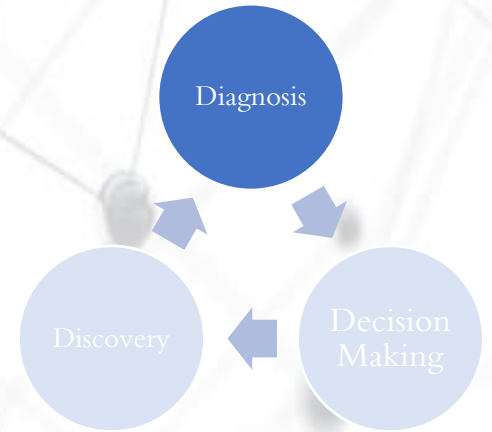
Label	Truth	Accuracy
	Total	Decision Making
Label	Estimate	Margin of Error
✓ Total population	6,030	±19
✓ AGE		
Under 5 years	297	±118
5 to 9 years	324	±137
10 to 14 years	393	±110
15 to 19 years	458	±198
20 to 24 years	156	±96
25 to 29 years	327	±212
30 to 34 years	213	±101
35 to 39 years	420	±189
40 to 44 years	678	±205
45 to 49 years	428	±169



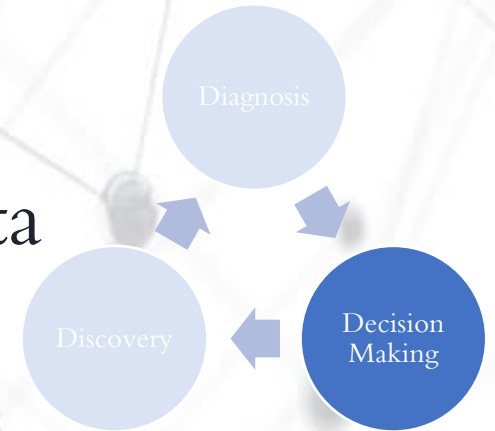
Diagnosis - Data accuracy

How can I improve data accuracy?

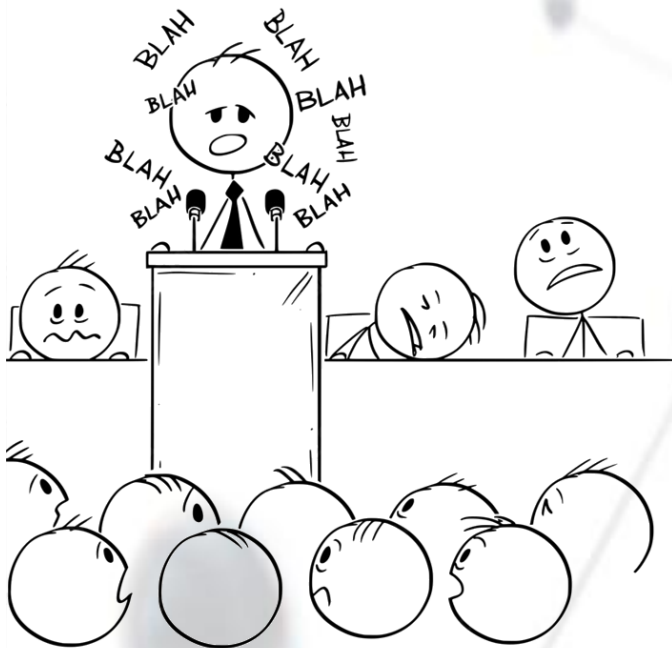
- Tracking
- Supplementation
- Check, then check again



Decision Making – Displaying and Describing Data



- Context
 - Ensure narrative connects
- Communication
 - Create approachable visuals
- Connection
 - Follow up with community members



The background of the slide features a complex network diagram. It consists of numerous grey, semi-transparent circular nodes of varying sizes, interconnected by thin, light grey lines. The nodes are scattered across the white background, with some appearing more prominent than others. The overall effect is that of a digital or data network.

The Future of Figures

The Future of Figures

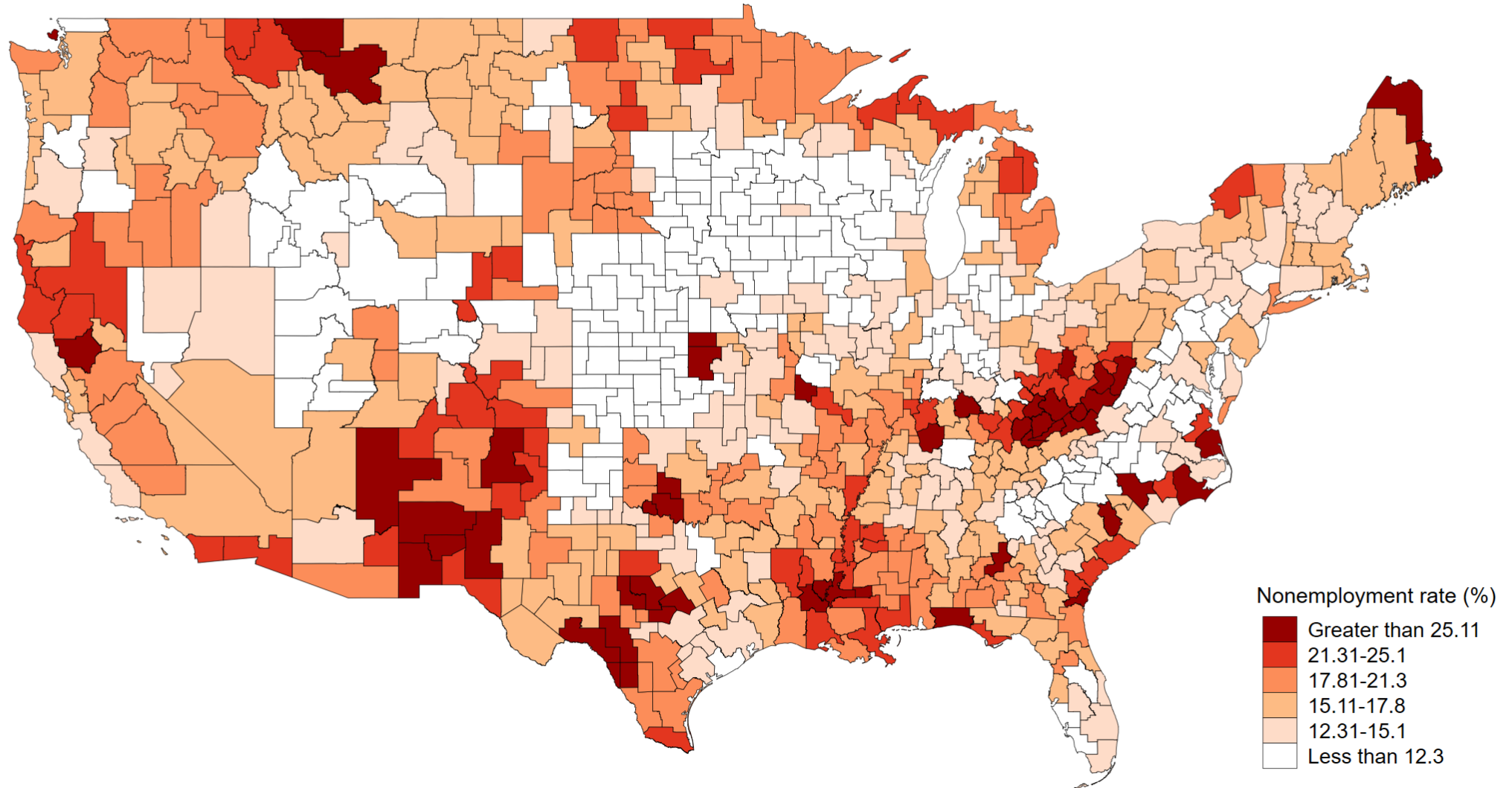
- Place Based Policy
- Large Language Models (AI)
- Networks and Machine Learning
- Big Data

A background network diagram consisting of numerous grey circular nodes of varying sizes connected by thin grey lines, creating a complex web of connections across the entire slide.

Place Based Policy

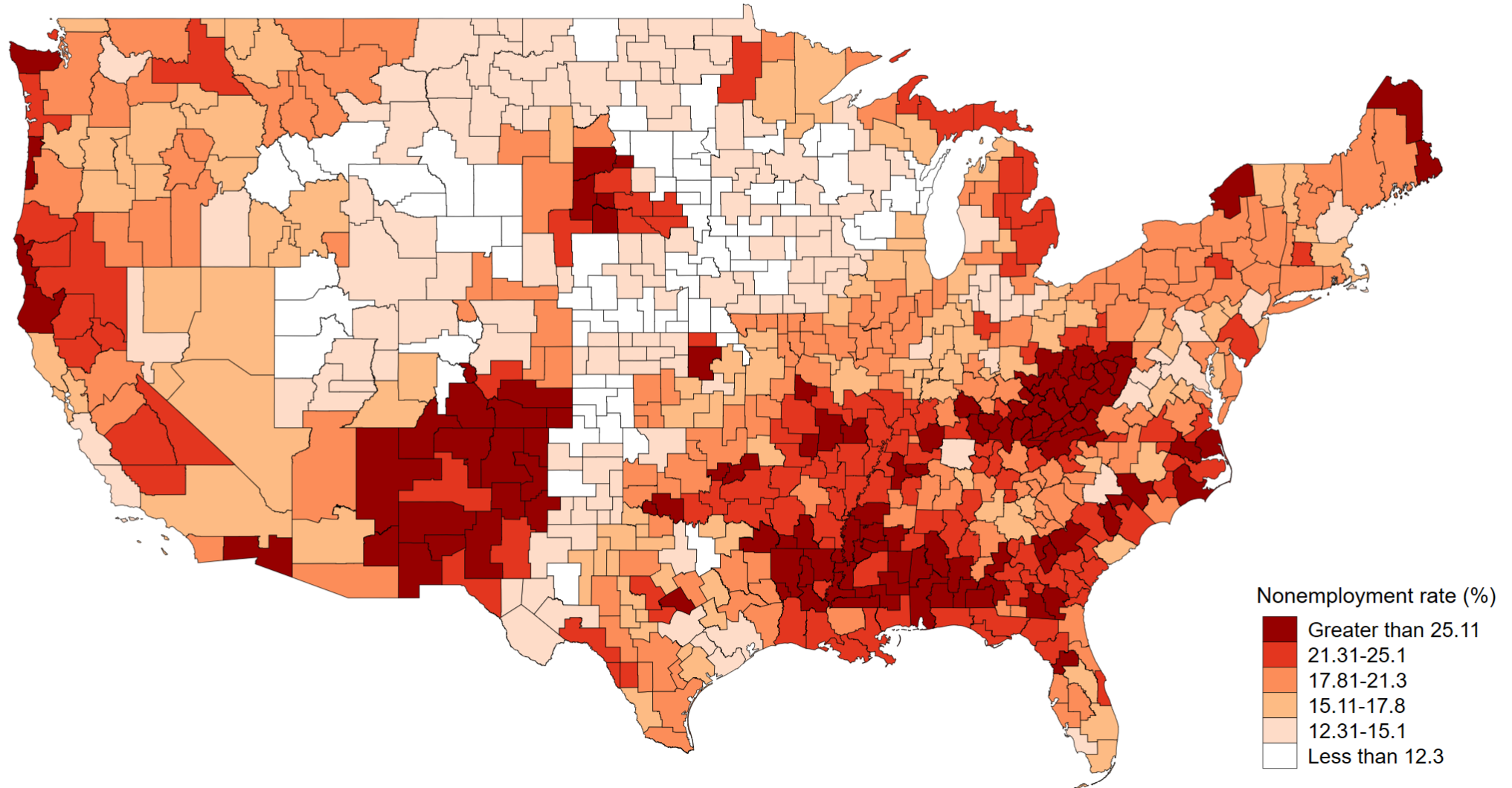
- Increased federal focus on local
- Local economic strengths
 - Business recruitment and retention
 - Workforce development
 - Economic redevelopment

Nonemployment rate for males ages 25-54 without a BA degree, 1990



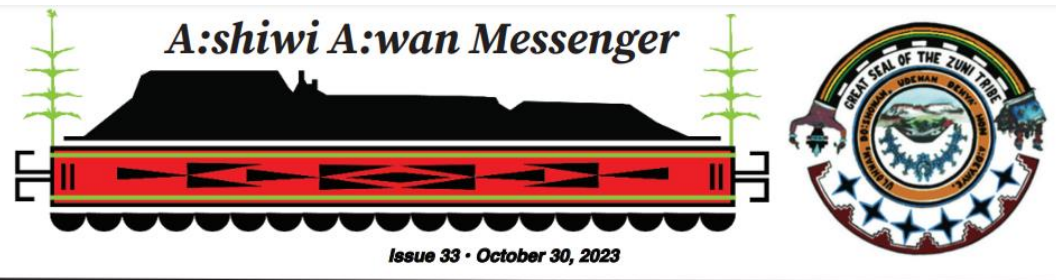
Notes: the nonemployment rate equals those without work (whether unemployed or not in the labor force) as a share of the population.
Source is the 1990 U.S. Population Census (5% sample).

Nonemployment rate for males ages 25-54 without a BA degree, 2019



Notes: the nonemployment rate equals those without work (whether unemployed or not in the labor force) as a share of the population. Sources are the 2017-2019 U.S. Population Census (1% samples).

Large Language Models and Natural Language



Update on the Zuni River Basin Adjudication and Zuni Water Rights Settlement

In a prior article in the *A:shiwí A:wán Messenger*, information was provided that the Tribe's Zuni River Basin (ZRB) Water Rights Settlement Agreement with the State of New Mexico was signed and executed, and will become enforceable when Congress passes federal legislation acknowledging the Tribe's water rights claims.

It was also reported that the Tribe's water rights lawyers are developing federal legislation with the federal water rights lawyers in moving forward to achieve this important legislation.

Additionally, it was stated that work will still entail an unknown timeframe of federal negotiations in developing such federal legislation, but that we are optimistic that it will be a favorable outcome for the Tribe.

As the settlement agreement was executed with the State of New Mexico and sent to the Department of Interior for development of federal

Water Rights continues next page

Suicide Prevention & Advocacy for Students

In the fall semester of 2023, I, Mackenna Epaloose, was given the opportunity to work in the 'Work Based Learning Internship.' From that point on, I was placed at the Shumak'olawa Health Center to work with an amazing leader and mentor, Marnella Kucate-Yepa. In honor of Suicide Awareness Month, I was assigned a project by my mentor to spread awareness on the issue at school.

My original idea for this project was to create a pledge for suicide prevention called "A Pledge of Hope." This idea aimed to solicit feedback from students at school. See the next page for "A Pledge of Hope", which can be cut out, copied, and shared.

When proposing this idea to the school administration, they suggested that in order for my project to be more effective, and to reach a bigger audience, I should create a survey and share information pulled from the survey with all students and faculty at Zuni High School and Twin Buttes Cyber Academy.

I then constructed a survey that consisted of 12 questions, all of which addressed students' mental health, awareness and knowledge regarding the issue of suicide. This survey was then administered to each student on September 12, 2023 during our 3rd period class. From this survey I received a total

of 176 responses, of the 378 students within the two schools.

Key survey questions included, "Have you ever thought about suicide or expressed suicidal ideation recently (in the past 6 months)?" From this question, 138 students (78.4% of survey respondents) stated that they had not experienced or expressed suicidal ideation recently, while 38 students (21.6% of survey respondents) had experienced or expressed suicidal ideation.

Once I gathered and analyzed the data, I created a brief PowerPoint presentation that was provided to ZHS and TBCA students and staff. In the presentation, I shared the aforementioned data, resources and contacts for students to reach out to when they need help, and my personal insight regarding the collective predicament. I also made it a priority to share why everyone should appreciate their lives and love themselves for who they are in the very present moment.

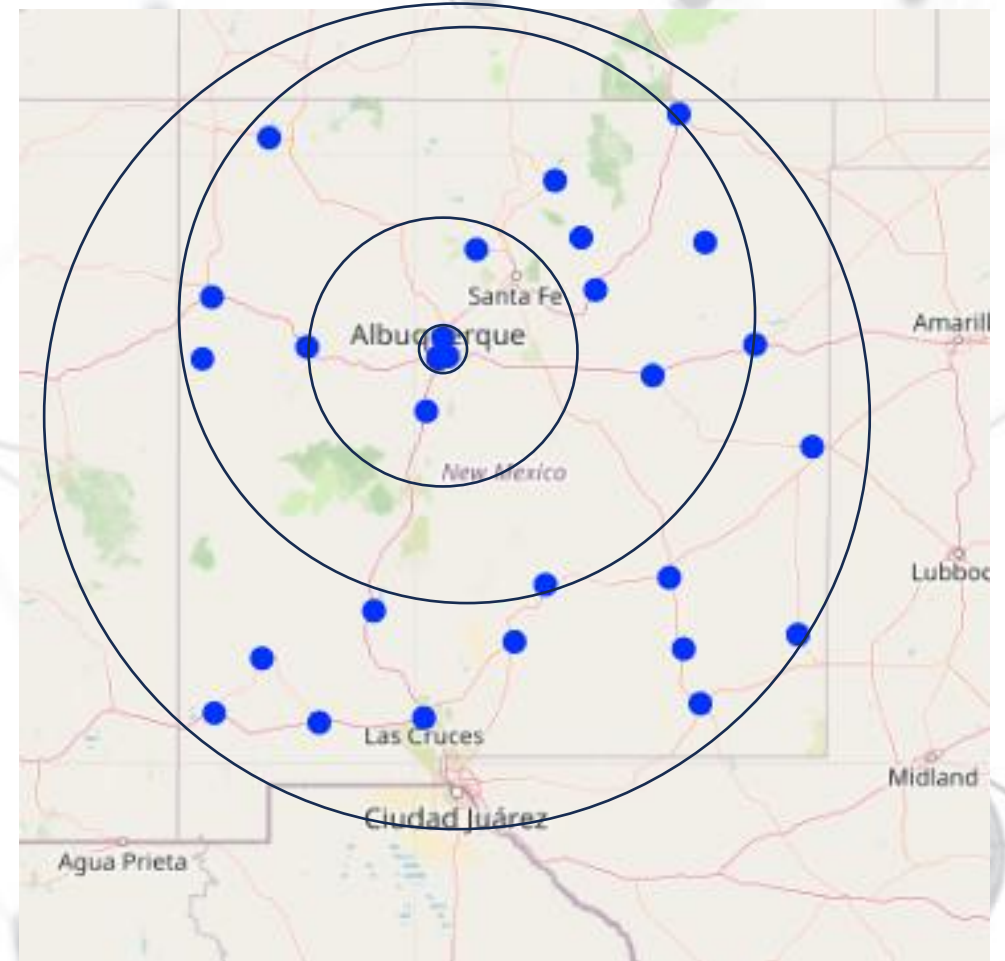
"Your mental health is important, and even if you know this I am here to remind you that well-balanced mental health can be attributed to stress management, emotional stability and constructive coping mechanisms. I encourage all of you

Prevention & Advocacy continues next page

- Use of qualitative data
- Data mining
- Leaning into stories

Networks and Machine Learning

- Network – How things are connected
 - Meeting data
 - Emails
 - Community structure
- Machine Learning – programs ingesting data and finding patterns
 - Requires large amounts of data
 - Requires grounding in reality



Recap

- Harnessing good data can increase funding, streamline process, and improve project outcomes
- Leveraging local knowledge can increase data quality and reveal bias
- Key points when using data for local area planning:
 - Geographic description
 - Data validation (and error)
 - Data collection
 - Data storage

What next?

- Think about the data assets in your area
- Explore our data tools
- Reach out

The screenshot shows the top navigation bar with the logo on the left and dropdown menus for 'Opportunity Explorers', 'Tools & Applications', 'Resource Center', and 'Research Hub' on the right. The main content area features a large background image of a cityscape with wind turbines and greenery. A central text box reads 'National Economic Resilience Data Explorer'. To the right, a white text box contains a welcome message and two buttons: 'About NERDE' and 'Demo Videos'.

National Economic Resilience Data Explorer

Welcome to the new and expanded NERDE! NERDE is now home to so much more than dashboards. Now you can find information on research opportunities, webinars, quarterly reports and more.

NERDE consolidates information and data on economic distress criteria, impacts to local economies, and an understanding of industry clusters.

[About NERDE](#) [Demo Videos](#)

Home to all your Economic Development Data
Explore, Discover, Research



THANK YOU



turnera@anl.gov

nerrc@anl.gov

Resources

National Data and Dashboards

- [National Economic Resilience Data Explorer \(NERDE\)](#)
- [Climate Risk and Resilience Portal](#)
- [IRS Statistics of Income](#)
- [Minneapolis Fed – Native Community Data Profiles](#)

Local Resources

- [NM Bureau of Business and Economic Research](#)
- [NM Indicator Based Information System \(IBIS\)](#)
- [NM Sunshine Portal/DFA ICIP Dashboard](#)
- [NM EDD Weekly Wrap Up](#)