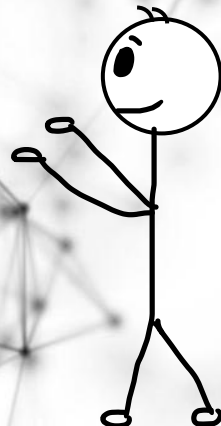# LEVERAGING TECHNOLOGY FOR LOCAL IMPACT

Alison Turner

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Argonne National Laboratory

◇

NM Mainstreet Conference
January 31, 2024
Santa Fe, NM

Quick Disclosure

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.
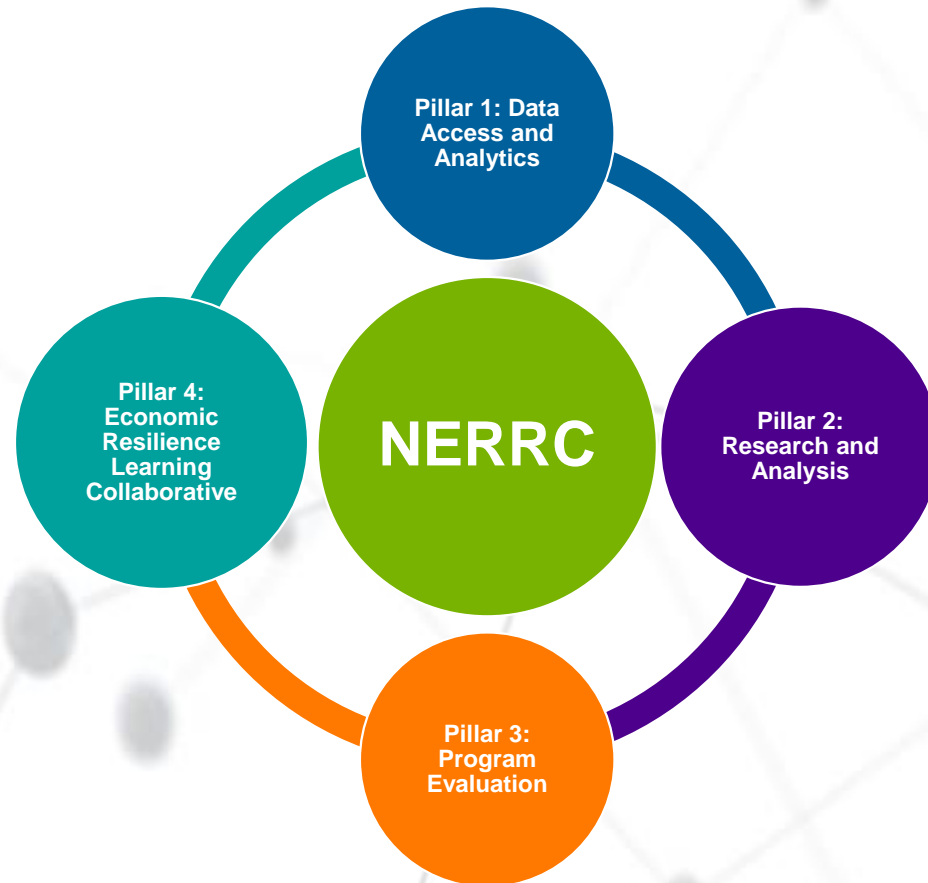
- Find us at: https://www.anl.gov/dis/national-economic-research-resilience-center

Research and National Technical Assistance Cohort
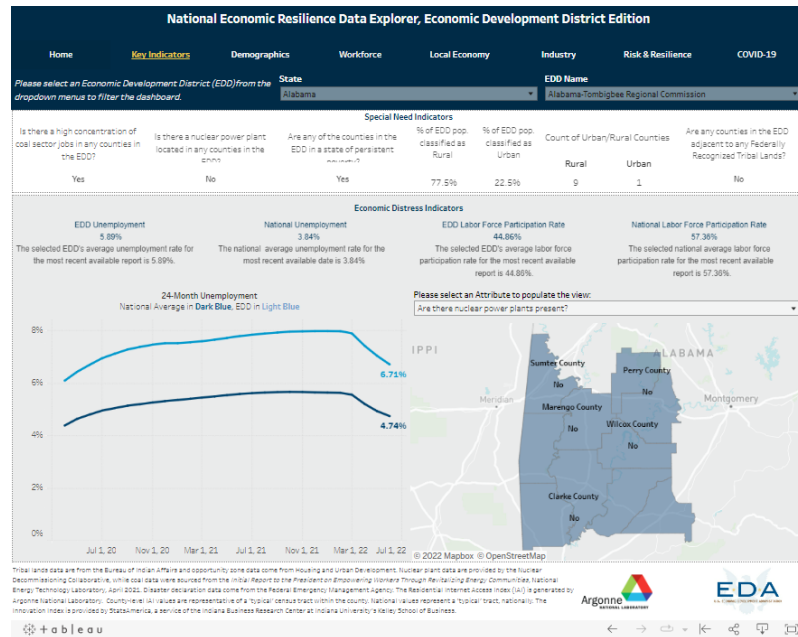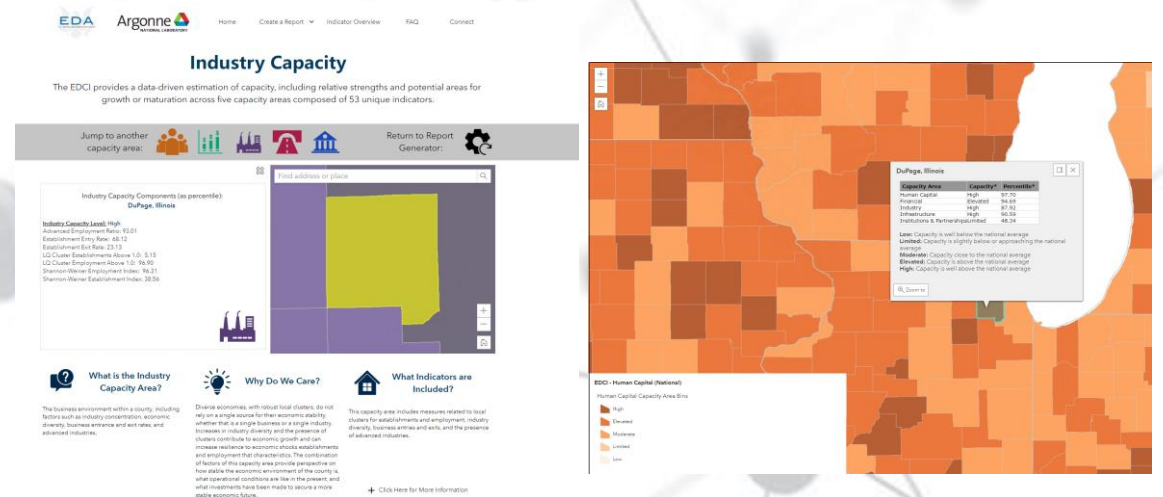
Our Work

Our Tools

National Economic Resilience Data Explorer

Baseline economic context

Economic Development Capacity Index

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

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
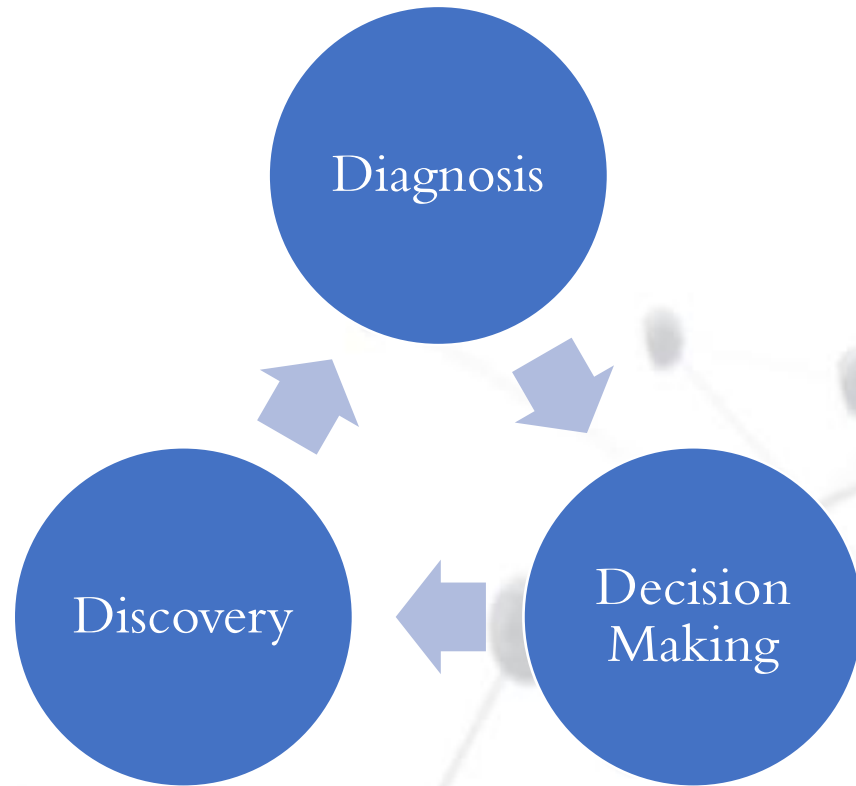
- The future of figures

Why is data important?

- Federal Requirements

- Planning Continuation

- Accountability, Equity, Fairness

The 3-D Principals of Data

Diagnosis

Decision Making

Discovery

Discovery

- Asking questions
  - Understanding Space, Time, and Source

Diagnosis

- Evaluation of quality
- Relationships between metrics

Decision Making

- Coming back to the question

Data for Small Areas

Data for Small Areas

- Asking the right questions

- Finding the right data

- Geographic Constraints

- Data accuracy

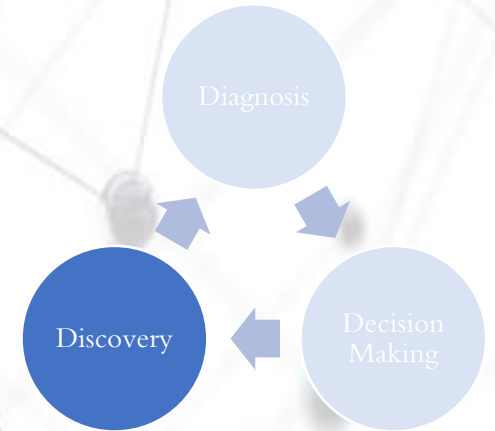- Displaying and describing data for the community

Discovery – Asking the right questions

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

Diagnosis

Discovery

Decision Making
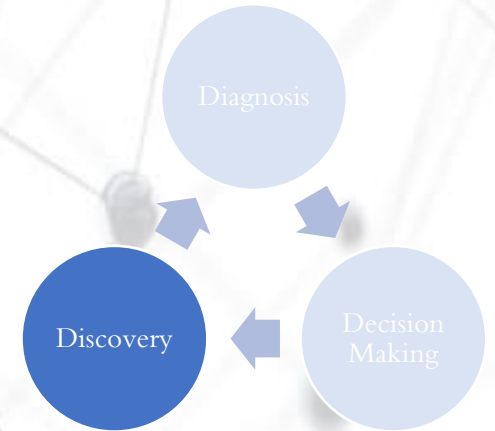
Discovery – Finding the right data

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)

Diagnosis

Discovery

Decision Making

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

Discovery

Decision Making
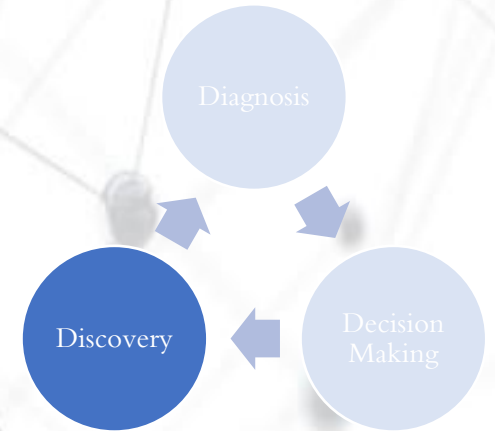
Diagnosis – Geographic Constraints

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

Diagnosis

Discovery
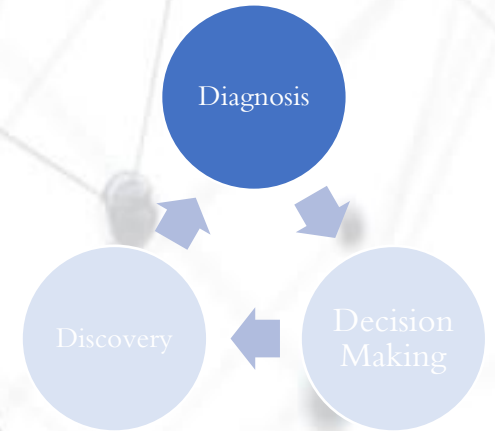
Decision Making

Diagnosis – Data accuracy

How do I know if my data is accurate?

- Does it look like you would expect?

- Response rates

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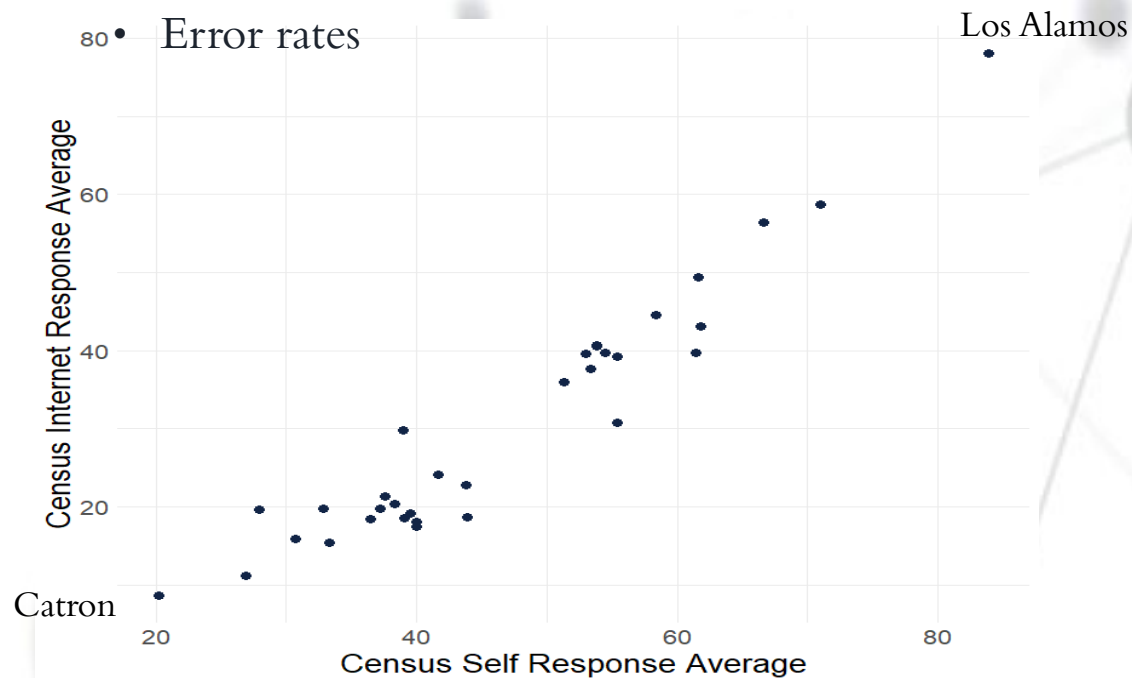
Label		Estimate	Margin of Error
	Truth		
	Total		
Total population		6,030	±19
AGE			
Under 5 years		297	±118
5 to 9 years		324	±137
10 to 14 years		393	±110
15 to 19 years		458	±198
20 to 24 years		156	±96
25 to 29 years		327	±212
30 to 34 years		213	±101
35 to 39 years		420	±189
40 to 44 years		678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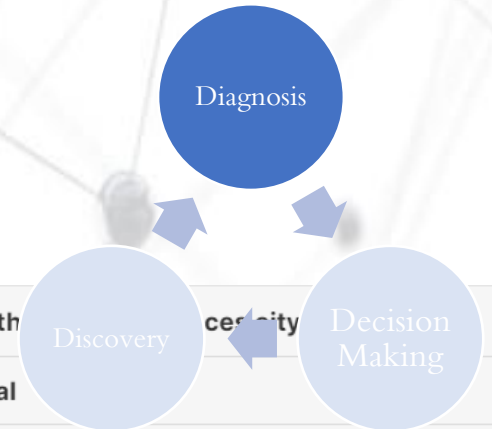
Diagnosis – Data accuracy

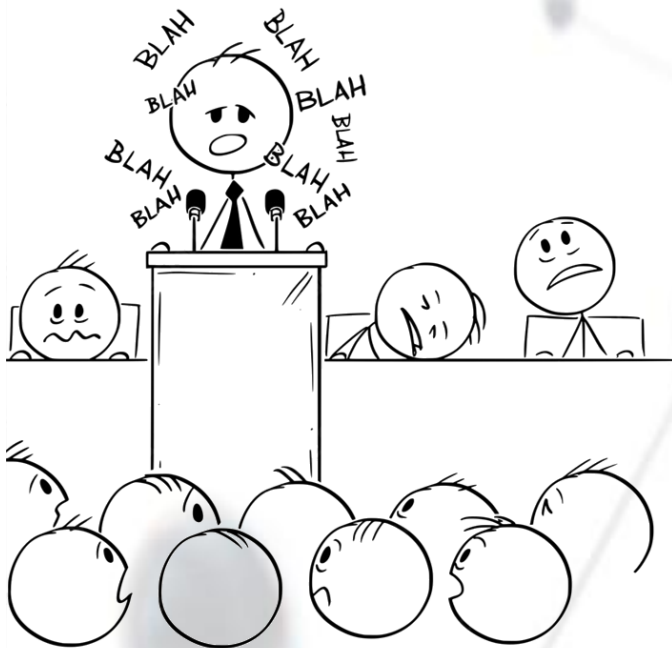How can I improve data accuracy?

- Tracking

- Supplementation

- Check, then check again
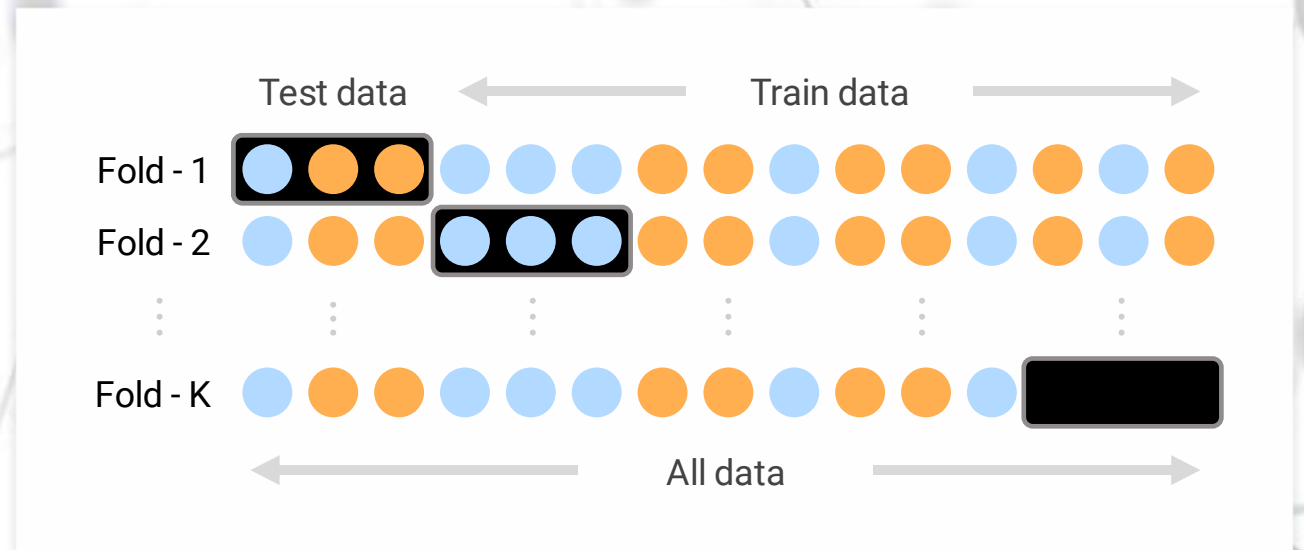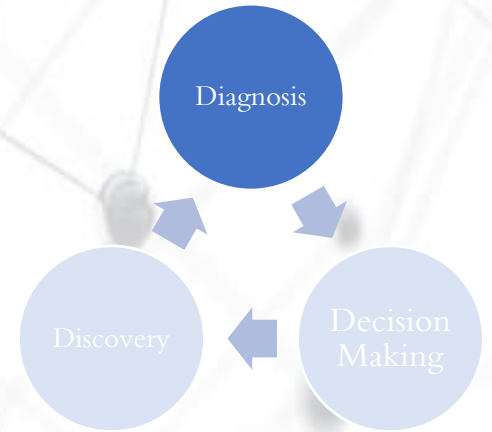
Decision Making – Displaying and Describing Data
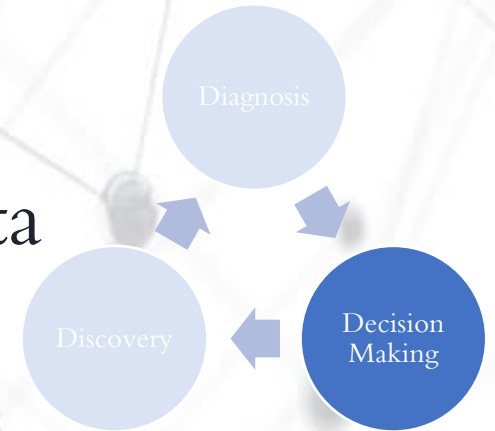
- Context
  - Ensure narrative connects
- Communication
  - Create approachable visuals
- Connection
  - Follow up with community members

The Future of Figures

The Future of Figures

- Place Based Policy

- Large Language Models (AI)

- Networks and Machine Learning

- Big Data

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
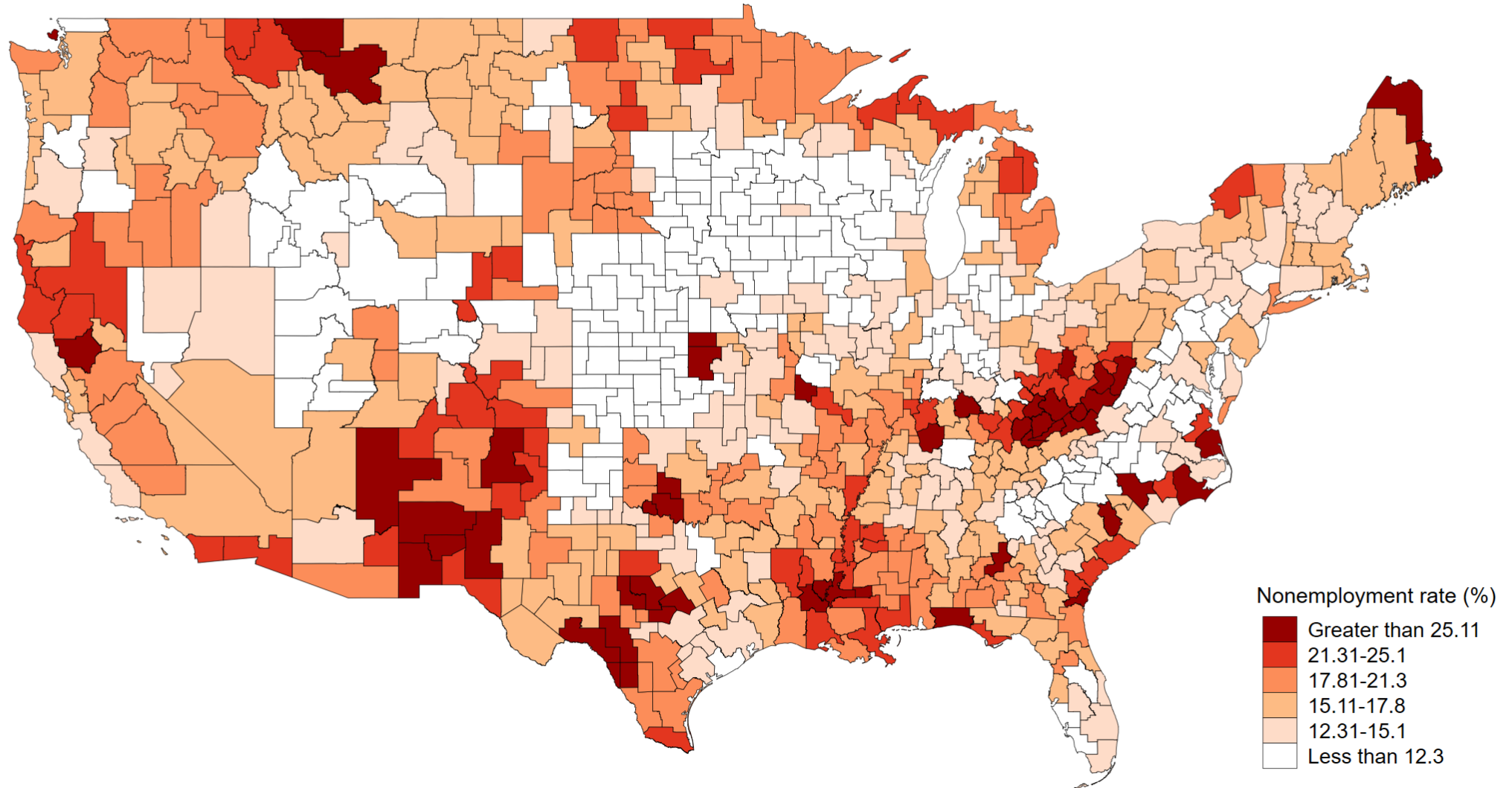
Nonemployment rate (%)

- Greater than 25.11
- 21.31-25.1
- 17.81-21.3
- 15.11-17.8
- 12.31-15.1
- Less than 12.3

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
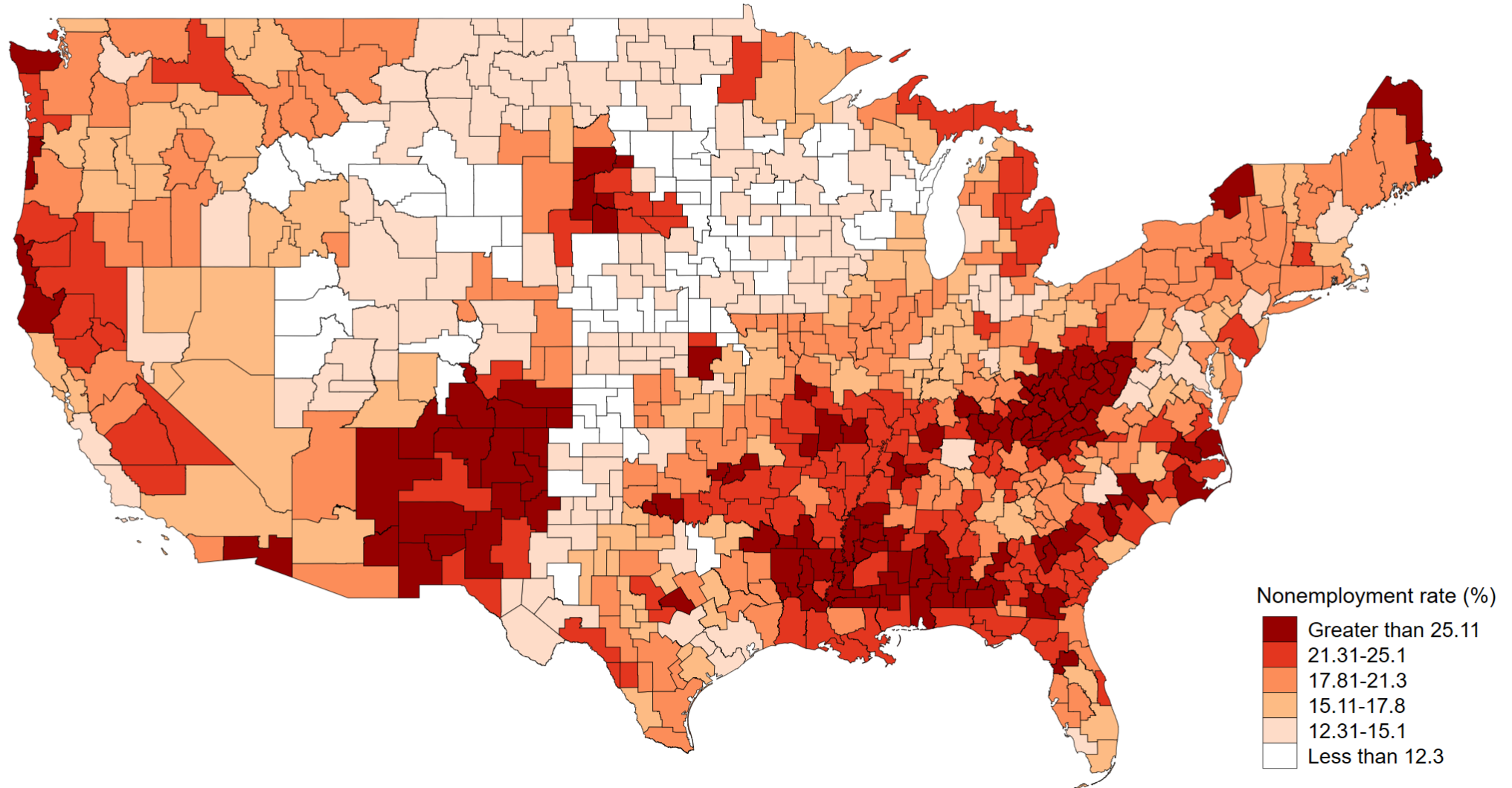
Nonemployment rate (%)

- Greater than 25.11
- 21.31-25.1
- 17.81-21.3
- 15.11-17.8
- 12.31-15.1
- Less than 12.3

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

- 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

Big Data

- Collecting from new sources
  - Financial transactions
  - Social media

- Creating a mixed base of information
  - Supplementation
  - Validation
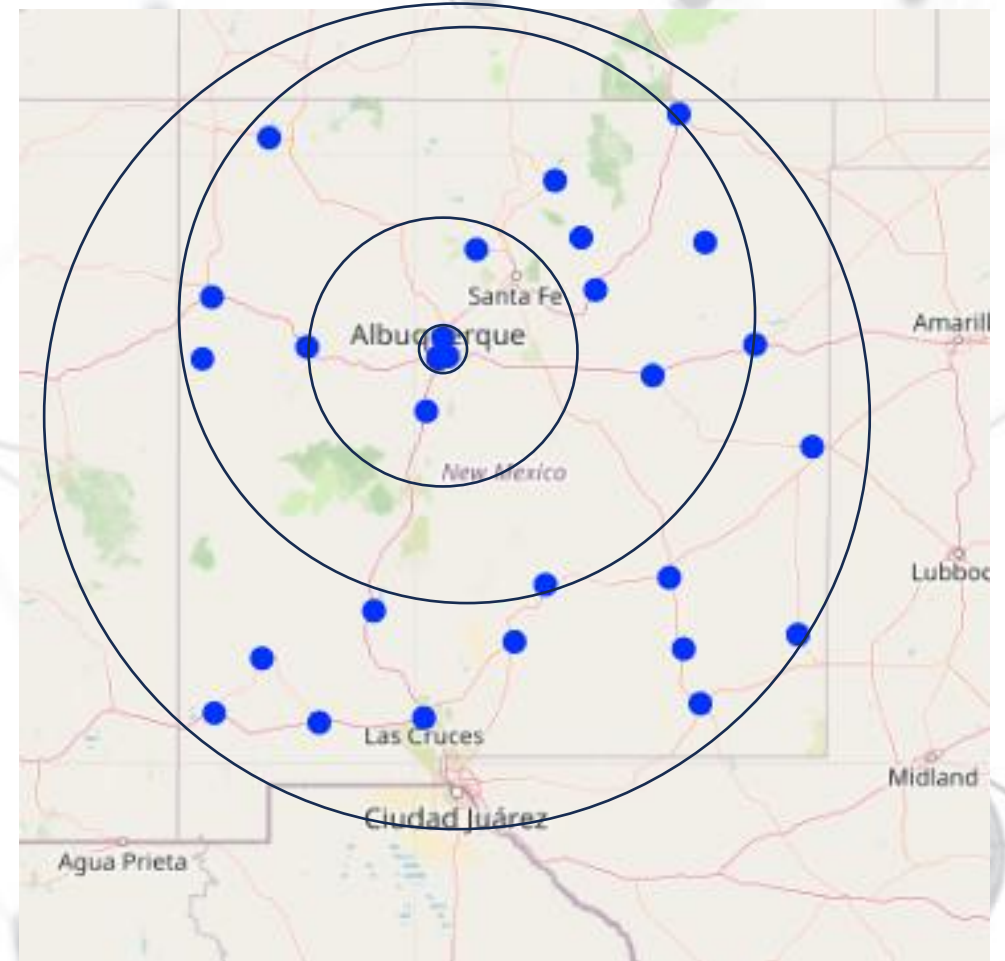
Recap

- 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

THANK YOU

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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](#)