Pandemic GIS Task Force and COVID-19 Technology & GIS Findings

October 27, 2020

Agenda

01 History & Overview of the Pandemic GIS Task Force
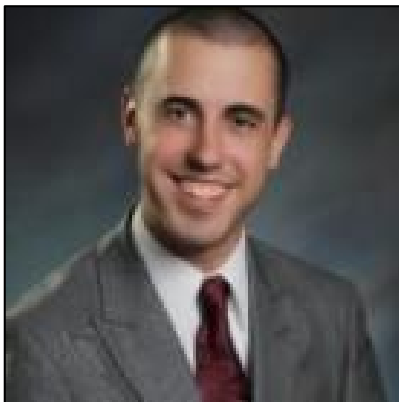
02 Findings from the COVID-19 Tech & GIS AAR Process

03 Path Forward

History & Overview of the Pandemic GIS Task Force

Justin Kates - NAPSG
Director of Emergency Management,
City of Nashua, NH

National Pandemic GIS Task Force

Goal: Increase pandemic preparedness and unity of effort by enabling effective information sharing and use of location-enabled technology for informing critical decision making.

Our Role

- Providing thought leadership, strategic guidance, and expertise in the development and implementation of a nationwide strategy

- Connecting and coordinating across the interagency and community on related efforts

Jointly Led By:

NAPSG Foundation

NSGIC
National States Geographic Information Council

URISA
Fostering Excellence in GIS
www.URISA.org

Elected to act on high priority strategic needs and requirements, to include:

- **Engaging** the public safety community in capturing challenges, successes, and lessons learned.

- **Facilitating** the development of a COVID-19 Technology and GIS After-Action Review and Improvement Plan.

- **Coordinating** across disciplines in advancing consistent use of technology, GIS, and information sharing for pandemic preparedness, response, and recovery.

- **Developing** a standardized National Playbook for Integrating GIS in Pandemic Response & Recovery.

- **Contributing** to and promulgating out a community portal for the curation and sharing of technology and GIS best practices and toolkits.

Pandemic Technology & GIS Preparedness Cycle

Who's Involved

- Two volunteer members from each of the organizations
- Augmented by support staff and other stakeholders with specialized expertise
- Not a formally chartered or governed body at present, does keep seeds of governance

Member	Organization / Agency
Frank Winters	NSGIC / GIO, State of New York
Tony Spicci	NSGIC / State of Missouri
Justin Kates	NAPSG / Director of Emergency Management, City of Nashua, NH
Ken Neafcy	NAPSG / Operations Coordinator, Office of Emergency Management, City of Seattle
Shane Hubbard	URISA / University of Wisconsin, Madison
Carl Anderson	URISA / Senior Solutions Architect, New Light Technologies

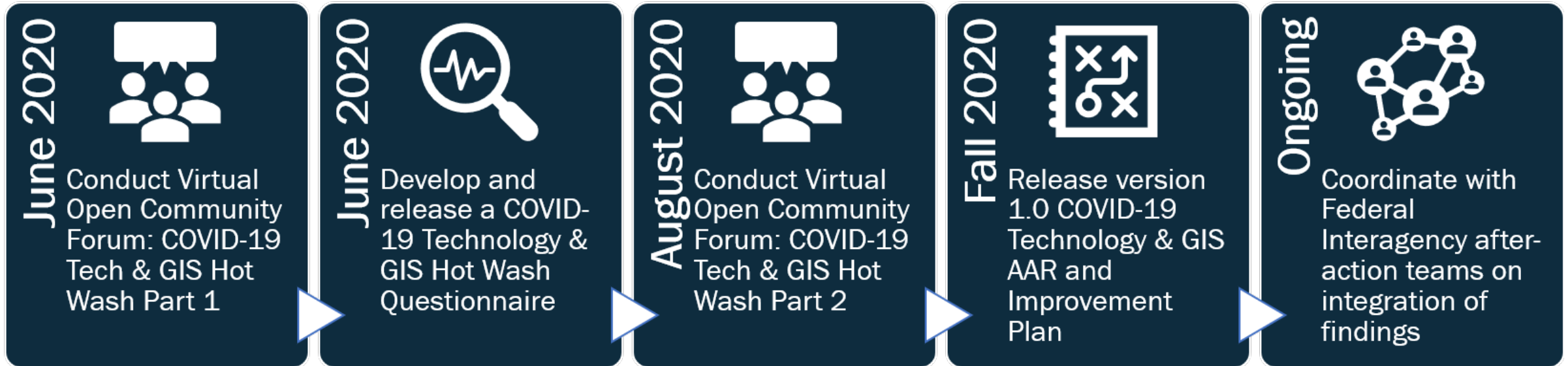# Findings from the COVID-19 Tech & GIS AAR Process

Charlotte Abel
National Alliance for Public Safety GIS
(NAPSG) Foundation

COVID-19 Technology & GIS AAR Process

Identify and document capability gaps and lessons learned in information sharing and the use of GIS & technology to support coordination and decision making by public health and emergency management in response and recovery from COVID-19.

June 2020 — Conduct Virtual Open Community Forum: COVID-19 Tech & GIS Hot Wash Part 1

June 2020 — Develop and release a COVID-19 Technology & GIS Hot Wash Questionnaire

August 2020 — Conduct Virtual Open Community Forum: COVID-19 Tech & GIS Hot Wash Part 2

Fall 2020 — Release version 1.0 COVID-19 Technology & GIS AAR and Improvement Plan

Ongoing — Coordinate with Federal Interagency after-action teams on integration of findings

Functional Areas

Pandemic planning, operations, data sharing, and challenges in COVID-19 – with a focus on seven common functional areas:

- Early Detection & Predictive Impact Analysis
- Controlling & Mitigating Spread
- Monitoring Impact & Case Reporting
- PPE Supply, Allocation, and Management
- Food & Essential Supply and Management
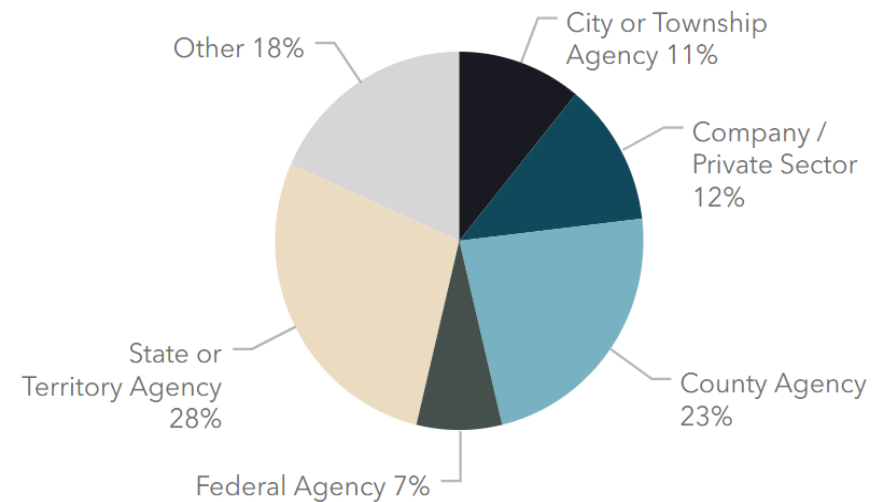- Economic Impact, Reopening, and Recovery
- Critical Infrastructure Impacts
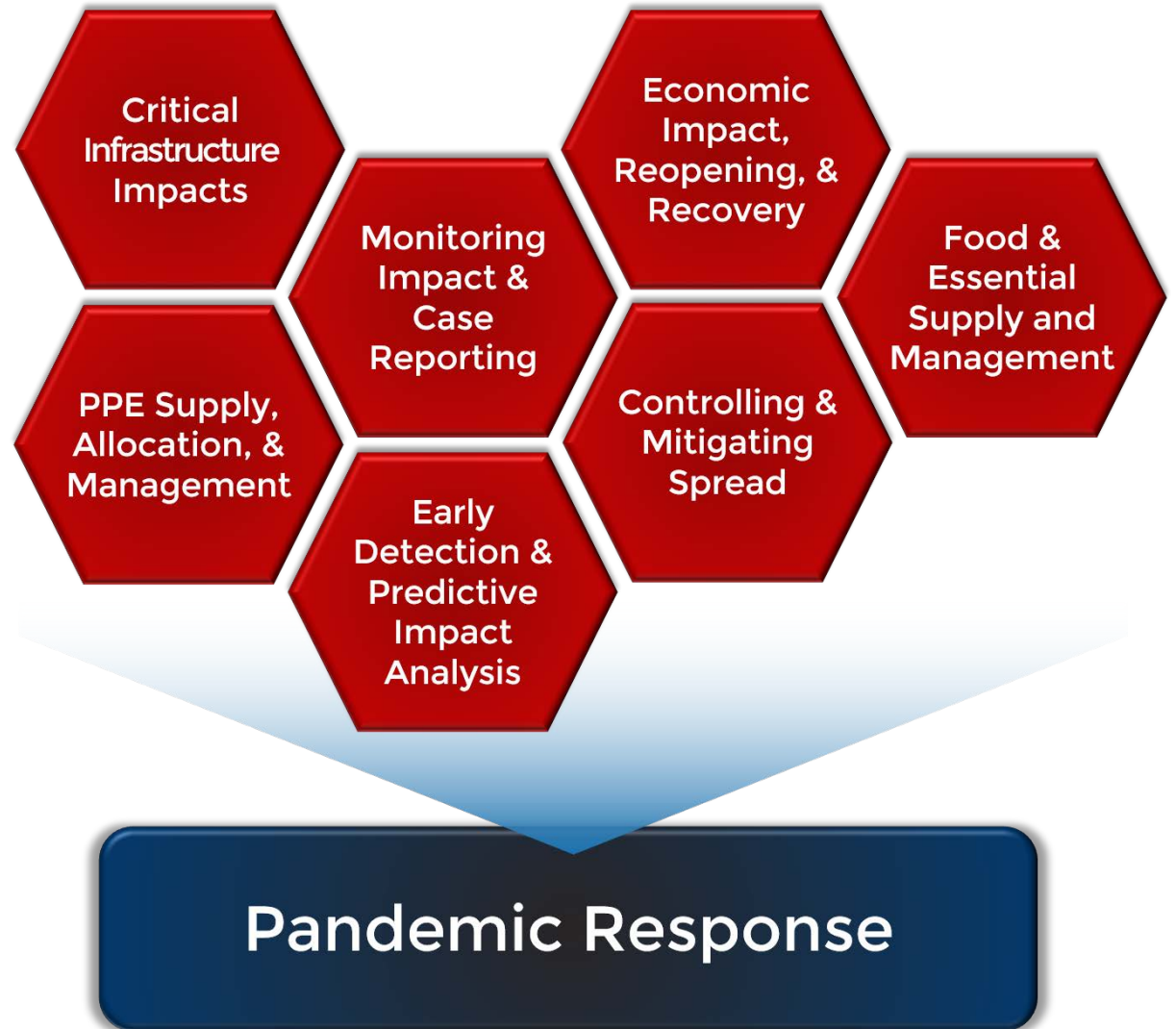
Community Involvement

Engagement Activity	Individuals Involved
Open Community Forum: COVID-19 Tech & GIS Hot Wash Part 1	561
Open Community Forum: COVID-19 Tech & GIS Hot Wash Part 2	248
COVID-19 Tech & GIS AAR Questionnaire (June - Sept. 2020)	147
TOTAL	956

Community Forum Participation

- Other 20%
- Local Government 33%
- Company/Private Sector 12%
- Federal Government 13%
- State Government 22%
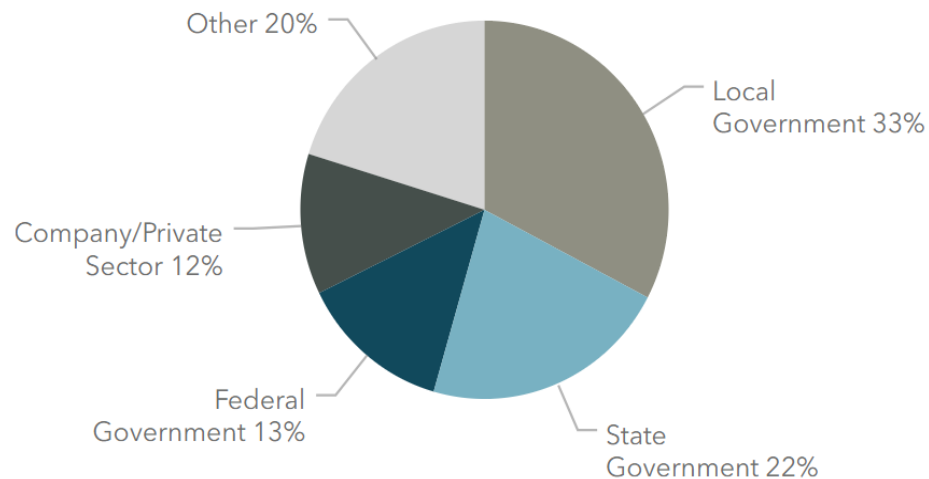
Questionnaire Participation

- Other 18%
- City or Township Agency 11%
- Company / Private Sector 12%
- State or Territory Agency 28%
- County Agency 23%
- Federal Agency 7%

Scope of National Involvement

- Stakeholder participation spanned 49 states, Puerto Rico, and several Tribal Nations
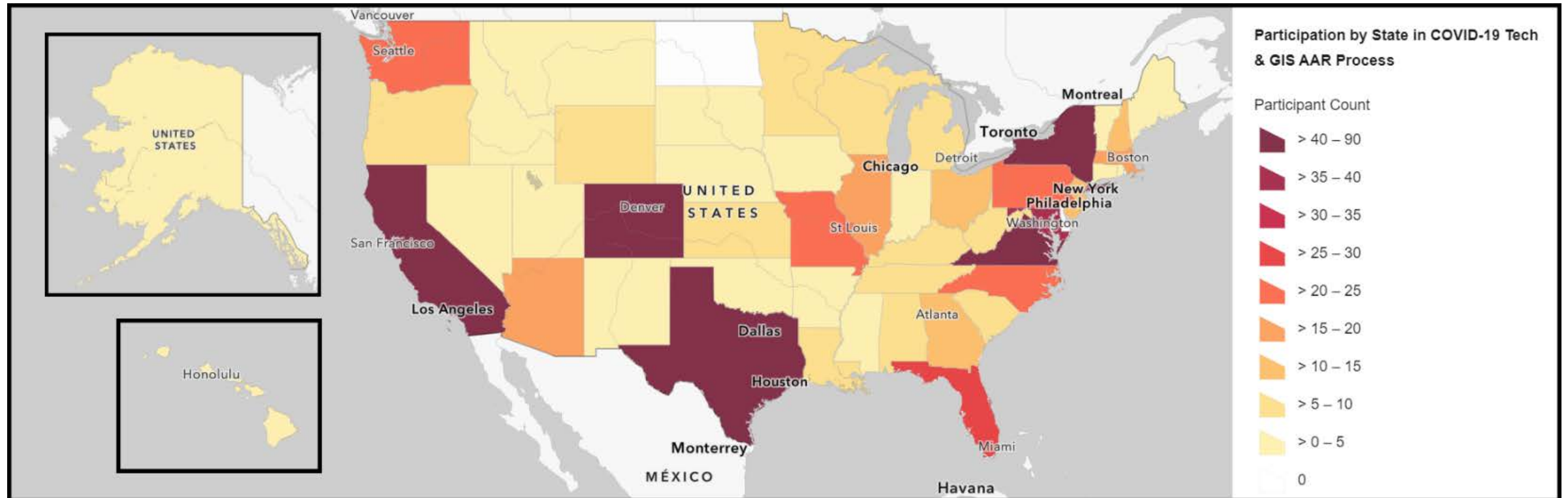
Pandemic Planning and Preparedness

Successful use of a Pandemic Response Plan to guide COVID-19 response

Yes 44%
No 56%
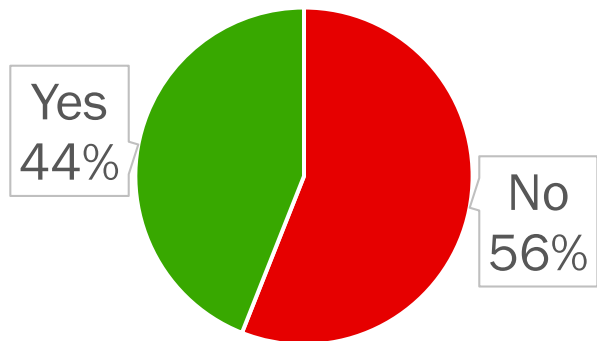
Had a Pandemic Response Plan that included the production and use of data-driven decision support tech

Yes 21%
No 52%
I don't know 27%
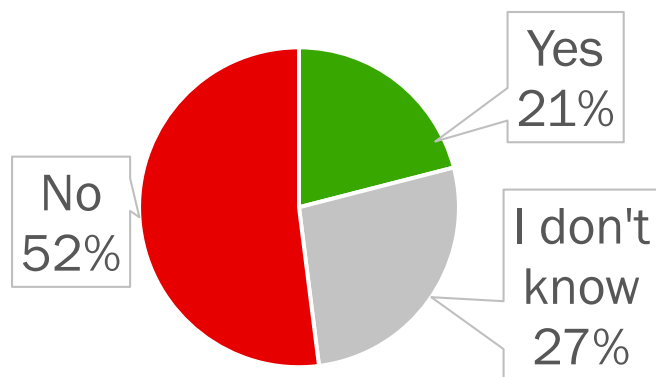
Have products or data sharing now in place that could have been established pre-event

I don't know 20%
No 13%
Yes 67%
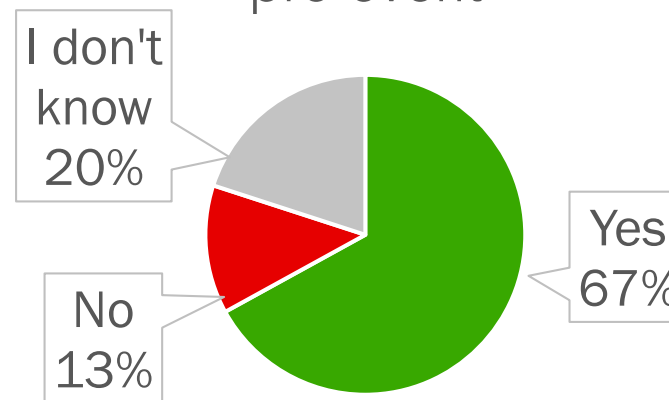
Tech & GIS in COVID-19 Operations

All levels of government and entities indicated **active engagement of Technology, GIS, and/or Data Science Staff** in COVID-19 operations

Active Engagement of Technology, GIS, and/or Data Science Staff in COVID-19 Operations
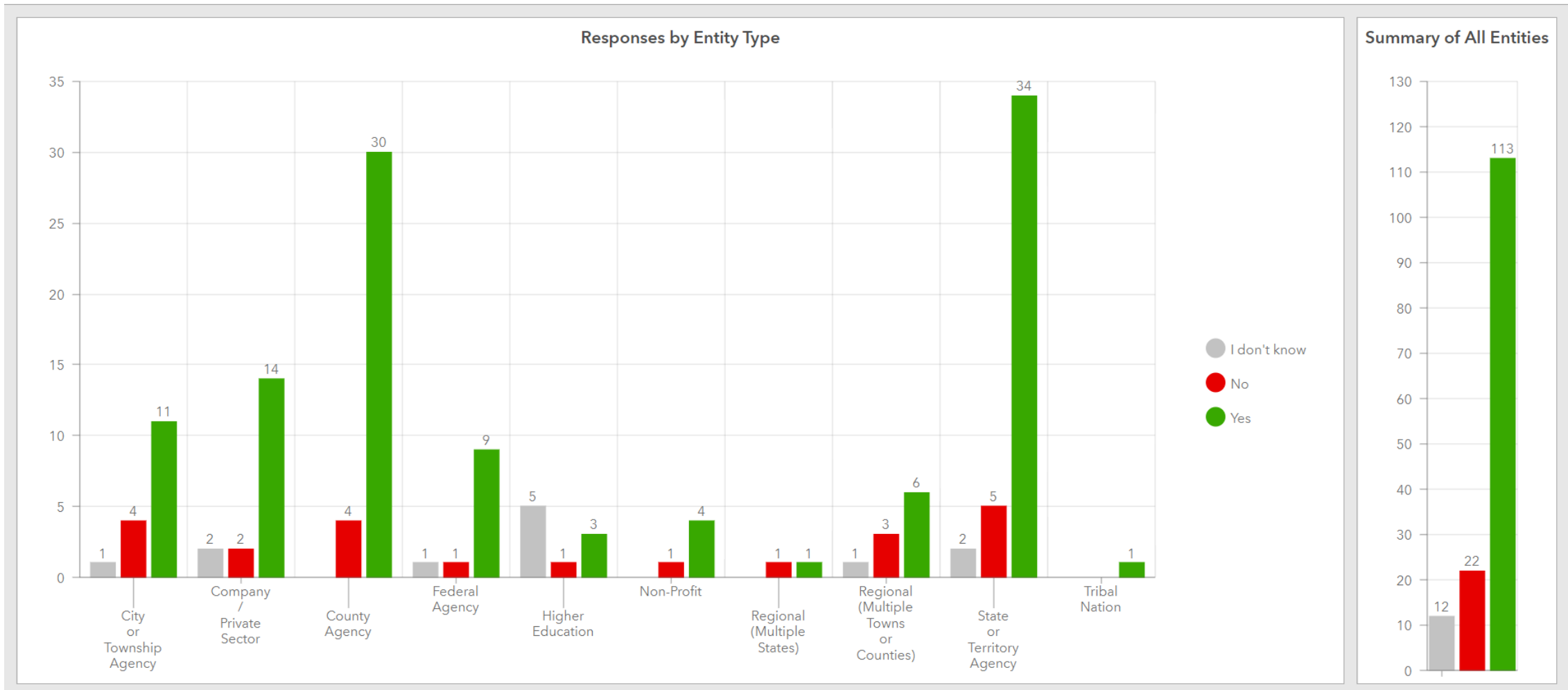
Relatively Low Rate of Use of Data-Driven Technology

Application of data-driven decision support technology... ☰
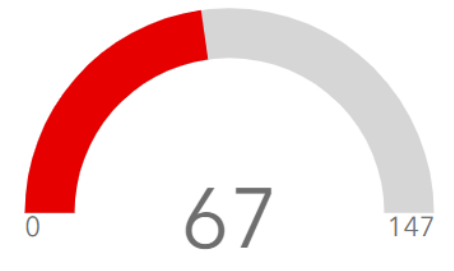

...in **Early Detection & Predictive Impact Analysis** — 0 / 51 / 147
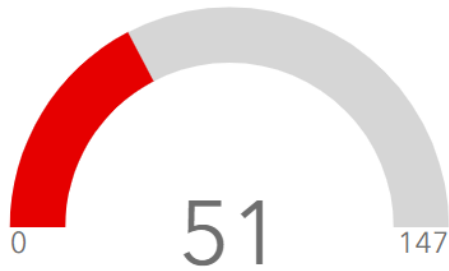
...in **Monitoring Impact & Case Reporting** — 0 / 106 / 147
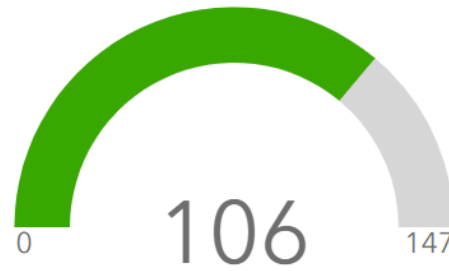
...in **Food & Essential Supply and Management** — 0 / 40 / 147
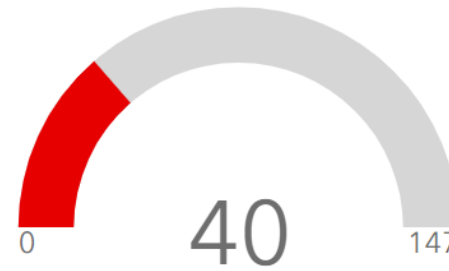
...in **Critical Infrastructure Impacts** — 0 / 67 / 147

...in **Controlling & Mitigating Spread** — 0 / 60 / 147
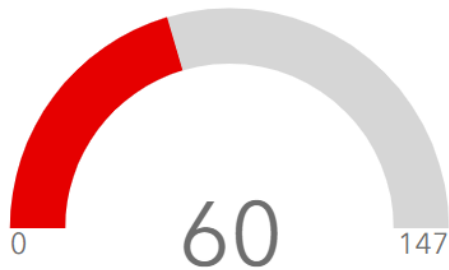
...in **PPE Supply, Allocation, and Management** — 0 / 69 / 147
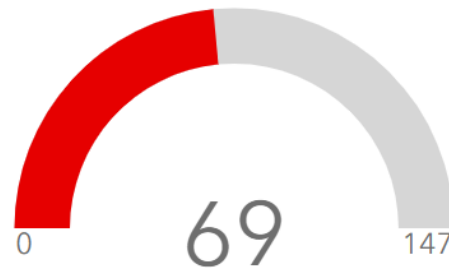
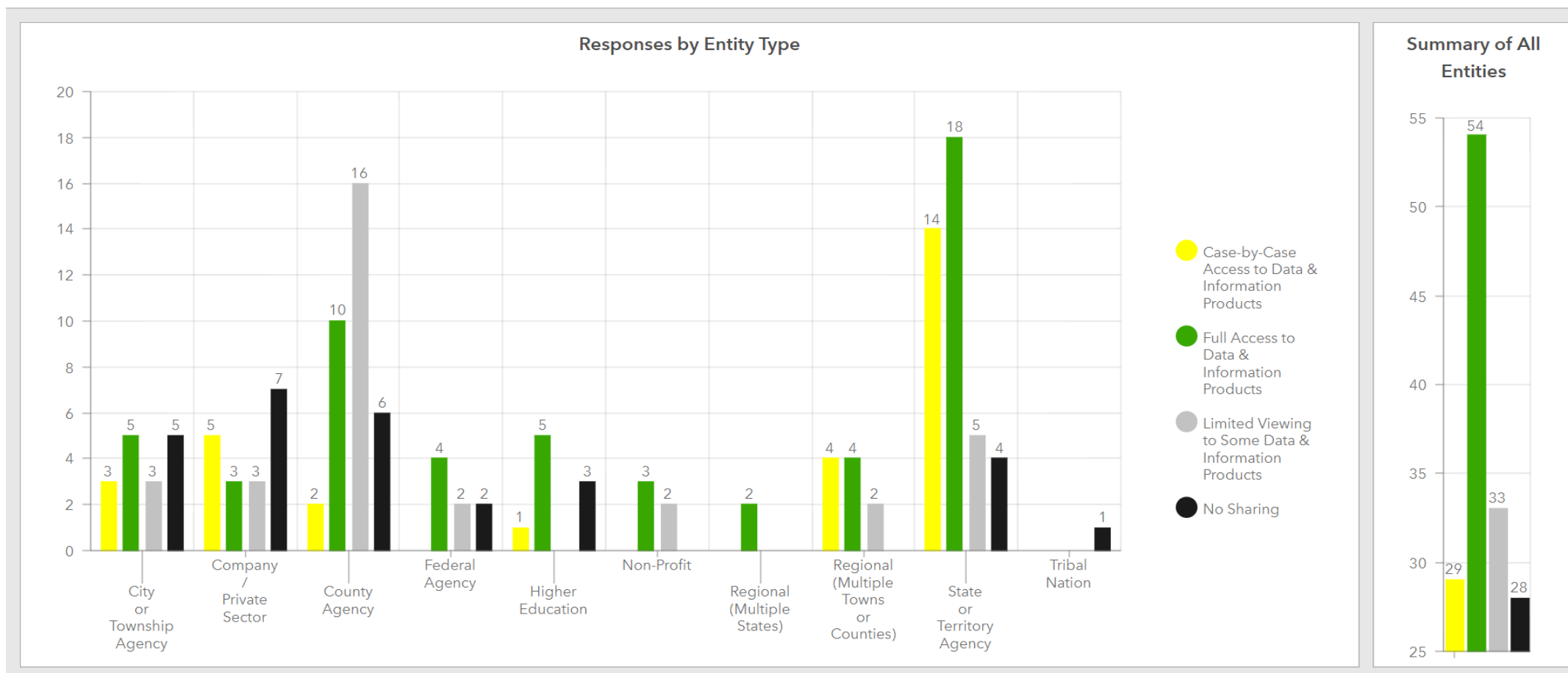...in **Economic Impact, Reopening, and Recovery** — 0 / 63 / 147
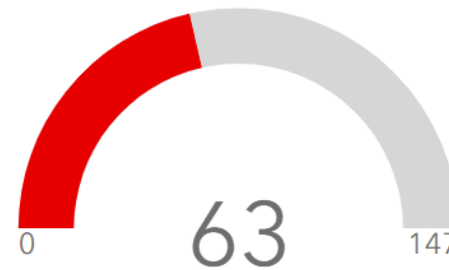
Data Sharing in COVID-19 Response

- **81%** of entities indicated they **shared COVID-19 data and information at some level with state agencies**

Access to COVID-19 Data or Information Provided to State Agencies

Responses by Entity Type

Legend:
- Case-by-Case Access to Data & Information Products (yellow)
- Full Access to Data & Information Products (green)
- Limited Viewing to Some Data & Information Products (grey)
- No Sharing (black)

City or Township Agency: 3, 5, 3, 5
Company / Private Sector: 5, 3, 3, 7
County Agency: 2, 10, 16, 6
Federal Agency: —, 4, 2, 2
Higher Education: 1, 5, —, 3
Non-Profit: —, 3, 2, —
Regional (Multiple States): —, 2, —, —
Regional (Multiple Towns or Counties): 4, 4, 2, —
State or Territory Agency: 14, 18, 5, 4
Tribal Nation: —, —, —, 1

Summary of All Entities: 29, 54, 33, 28

15

Data Sharing in COVID-19 Response

- **31%** of entities across all levels of government and entity types reported <u>not</u> sharing COVID-19 data or information with federal agencies

Access to COVID-19 Data or Information Provided to Federal Agencies
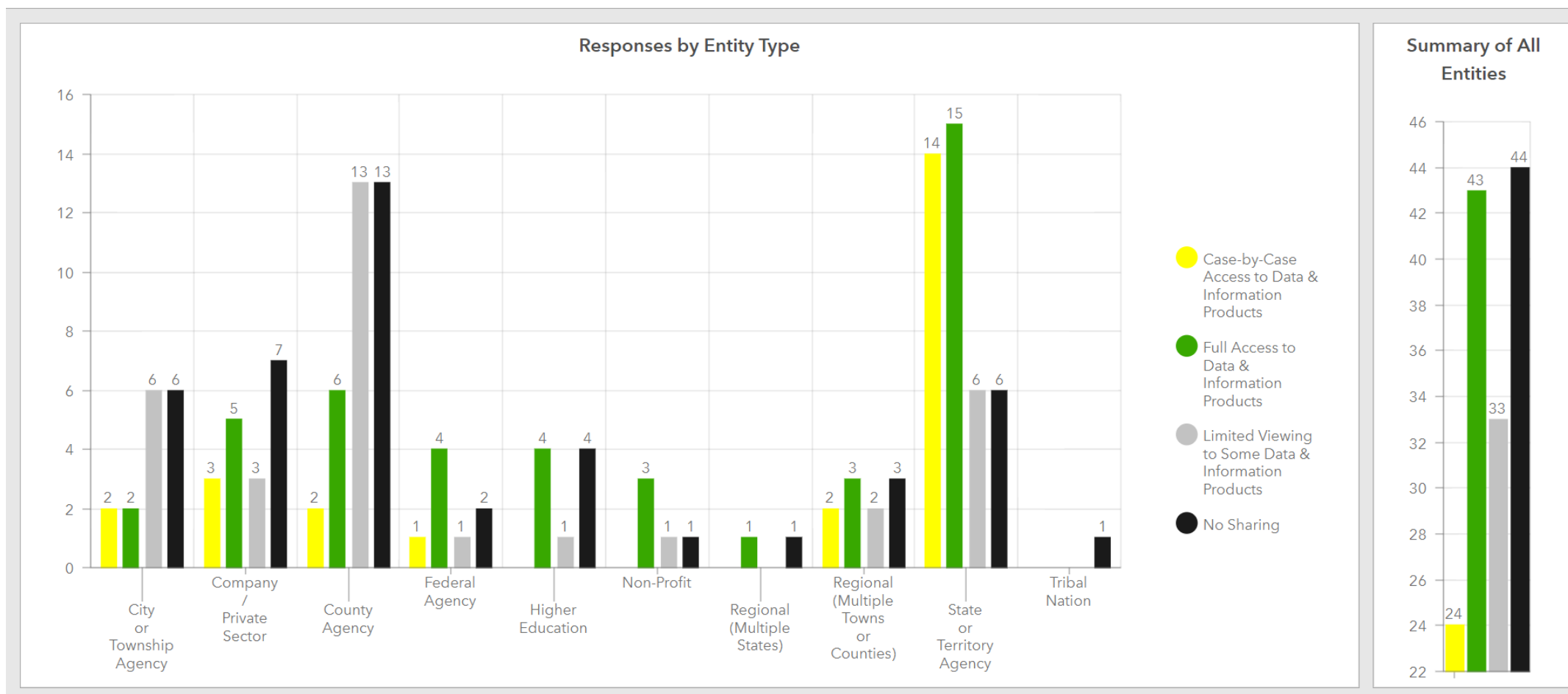
Prevalence of Technology-Related Challenges

Challenge Area	% of Entities Reporting This as a Challenge
Lack of Access to Technology or Licenses	28%
Need to Build Relationships with Technologists/GIS/Data Science	46%
Lack of Trained Staff	46%
Lack of Prior Knowledge About Available Technology Capabilities	54%
Lack of Understanding Models	55%
Restricted Data Access and Sharing	57%
Duplicative Manual Reporting Data Entry	60%
Lack of Reliable Data	70%

Deeper Look at Challenge Areas: *Restricted Data Access & Sharing*

Restricted Data Access and Sharing as a Challenge in Applying Data-Driven Tech

Responses by Entity Type

Summary of All Entities
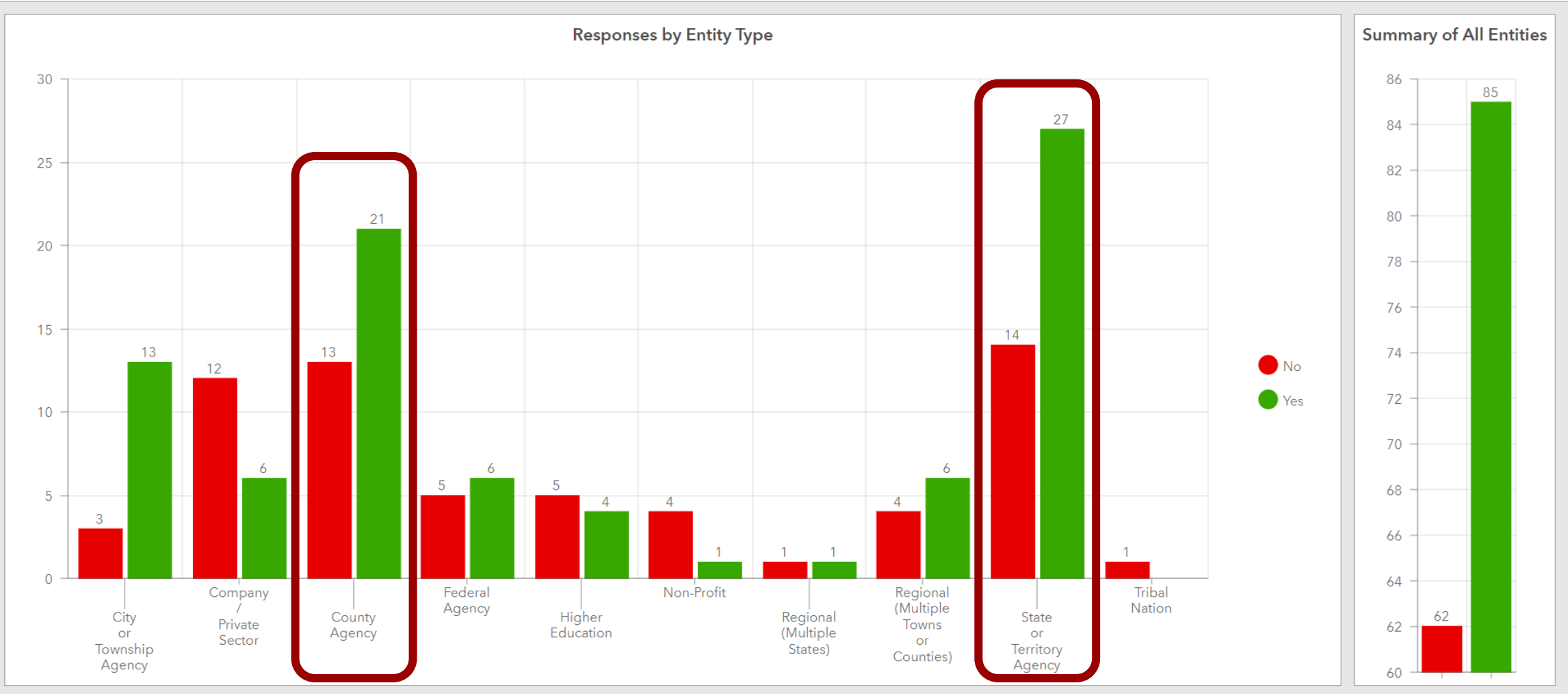
Deeper Look at Challenge Areas: *Duplicative Manual Reporting*

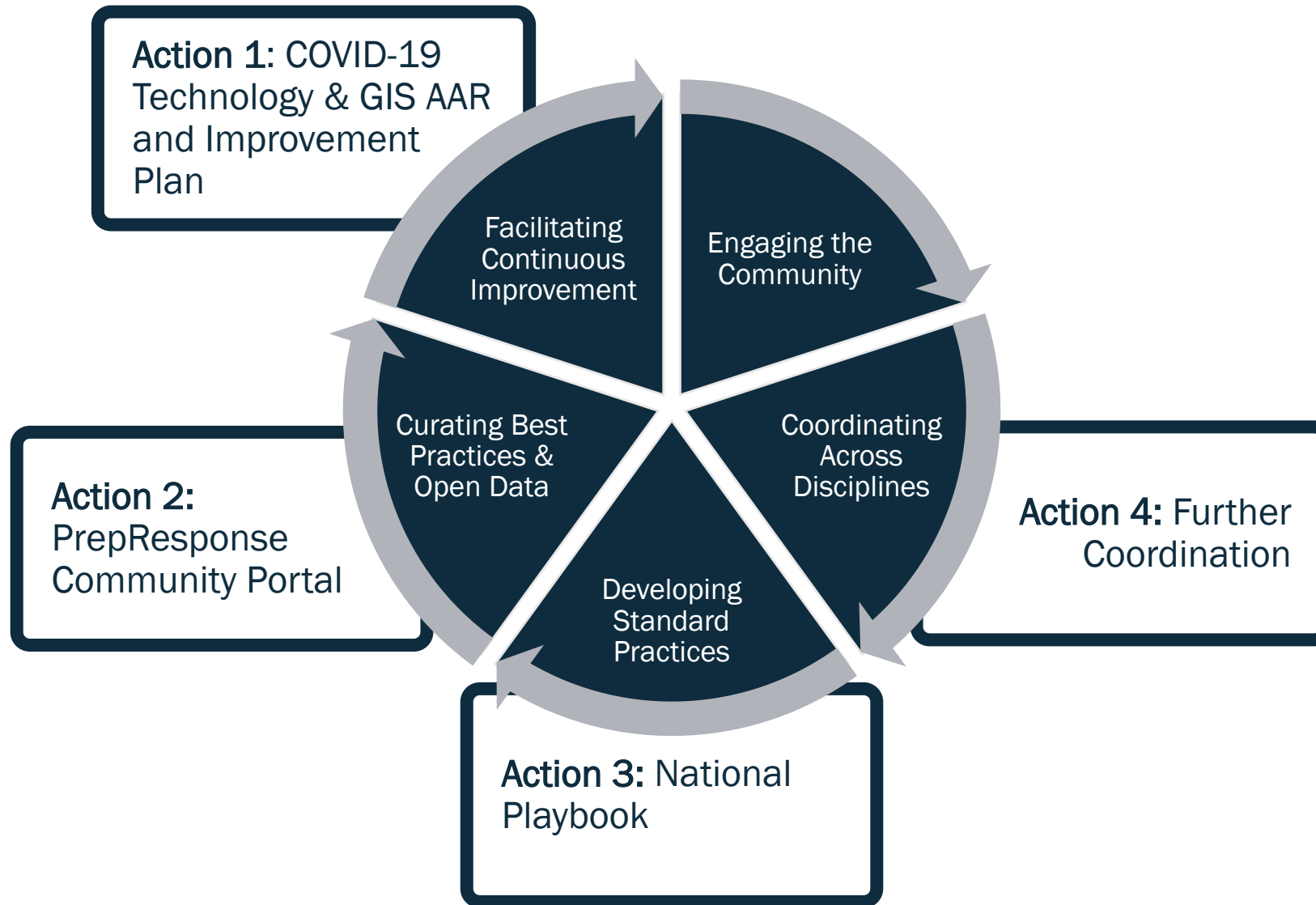Duplicative Manual Reporting as a Challenge in Applying Data-Driven Tech
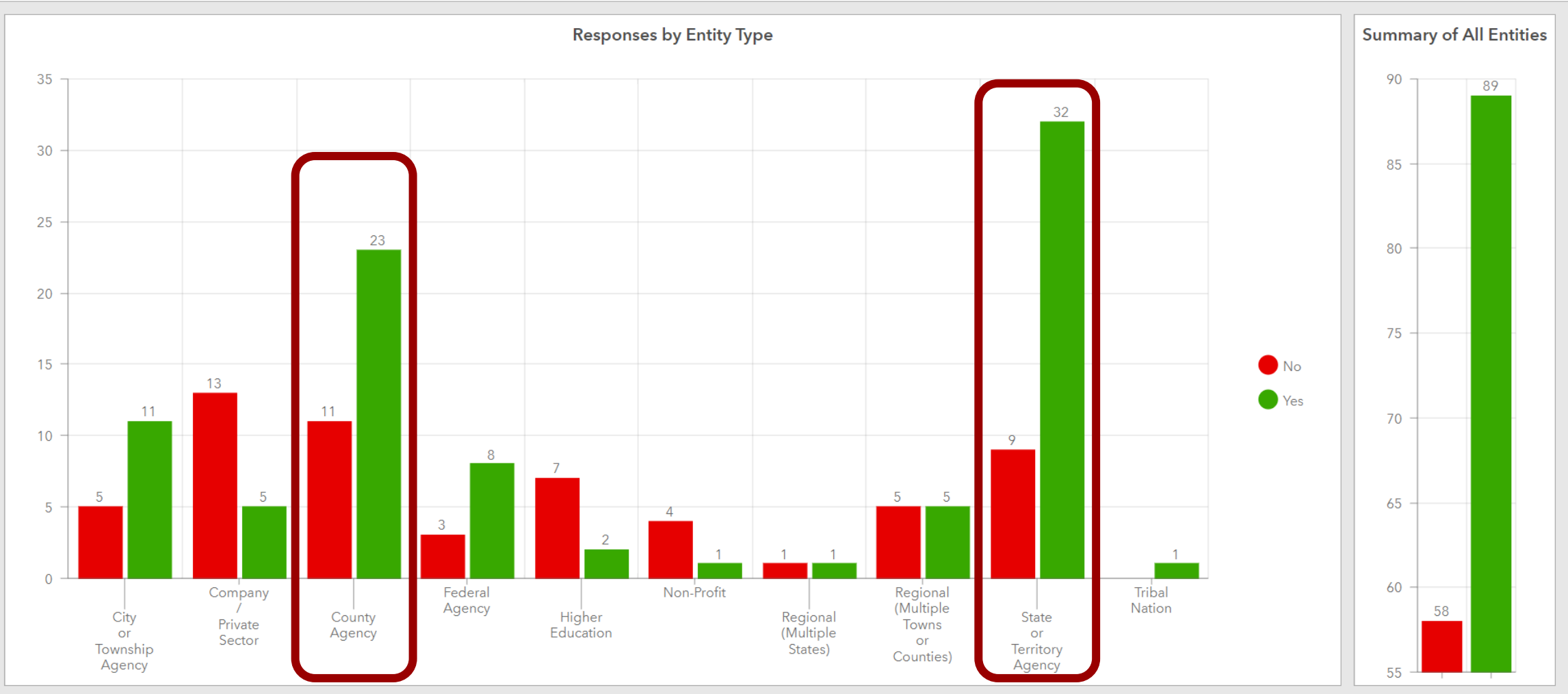
Deeper Look at Challenge Areas: *Lack of Reliable Data*

Lack of Reliable Data as a Challenge in Applying Data-Driven Technology during COVID-19
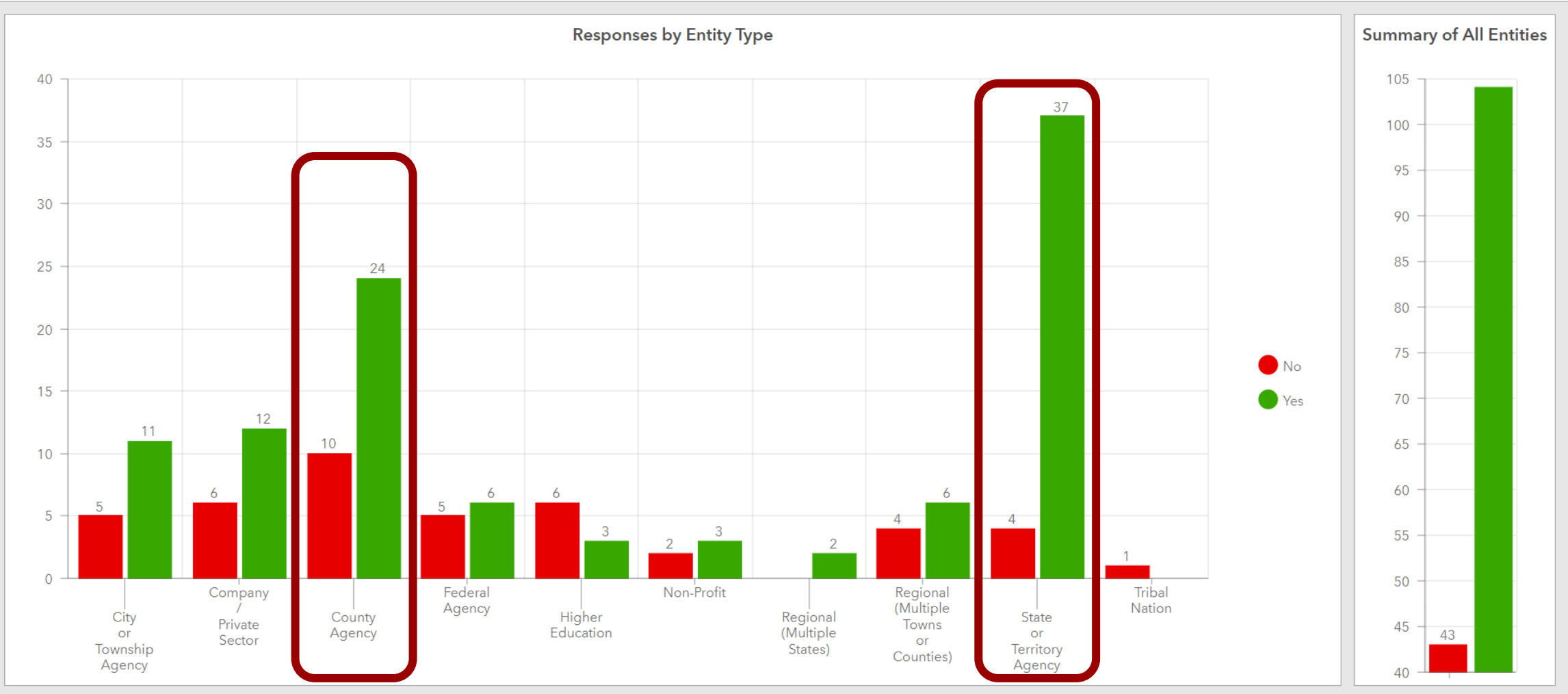
Path Forward

Path Forward

Action 1: COVID-19 Technology & GIS AAR and Improvement Plan

Action 2: PrepResponse Community Portal

Action 3: National Playbook

Action 4: Further Coordination

Engaging the Community

Coordinating Across Disciplines

Developing Standard Practices

Curating Best Practices & Open Data

Facilitating Continuous Improvement

- Pandemic GIS Task Force in process of identifying recommendations for Improvement Plan.

- High-level initial recommendations include:

  - Creation of national guidance and toolkits to aid in incorporating data-driven support technology and data analysis products into pandemic planning

  - Creation of national framework and guidance for increasing data access, consistency and standardization in data reporting, and data sharing

  - Collect and circulate best practices from agencies with successful incorporation of data-driven analytic products

  - Pre-establish and pre-stage data-driven technology, analytic products, and data sharing arrangements.

  - Conduct a broader assessment of the state of pandemic response planning

Fall 2020

Release version 1.0 COVID-19 Technology & GIS AAR and Improvement Plan

23

Action 2 | PrepResponse Community Portal

- Continuing to build out and promote a community portal with a collection of technology and GIS resources.

https://prep-response-portal.napsgfoundation.org/

Develop and promote use of a standardized National Playbook for Integrating Technology & GIS in Pandemic Response & Recovery.

GIS/Tech Playbook framed around emerging pandemic response playbooks
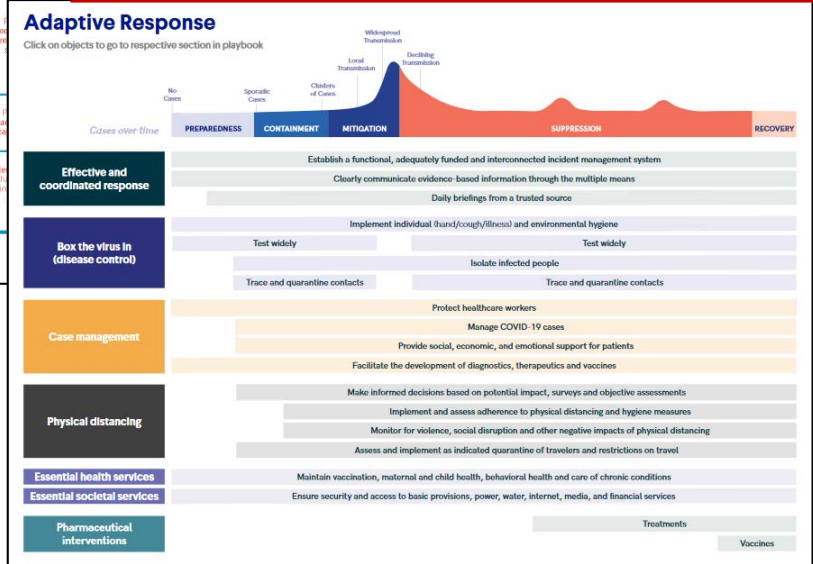
Pandemic Activity

Key Questions & Decisions

Information Needs

GIS/Data/Tech Activities

Tools, Resources, and Best Practices

- In what ways can the Task Force and NGAC work together to coordinate across disciplines to advance consistent use of technology, GIS, and information sharing for pandemic preparedness, response, and recovery?

Thank You!

More Information about the Pandemic GIS Task Force – https://www.napsgfoundation.org/pandemic-gis-task-force/

Join the Discussion – NSGIC's Pandemic GIS Community https://my.nsgic.org/communities/community-home?CommunityKey=3a3f7360-b2c4-48eb-b234-cad3dfb0c18e