



State of the States: Perspectives on the Power of Data

NIEM 2020 Annual Meeting
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NASCIO

About NASCIO

- National association representing state chief information officers and information technology executives from the states, territories and D.C.
- Founded in 1969
- NASCIO's mission is to foster government excellence through quality business practices, information management, and technology policy.

STATE CIO TOP 10 PRIORITIES

2020 Strategies, Policy Issues and Management Processes



1. Cybersecurity and Risk Management #1 for seven consecutive years. On the top ten list since 2006
2. Digital Government Steadily moving up the list. #4 in 2019
3. Cloud Services Major force of change
4. Consolidation/Optimization CIO priority each year. On the top ten list since 2006
5. Customer Relationship Management A key issue because of business model. On the list since 2009
6. Budget, Cost Control, Fiscal Management Back on the list. Last appeared in 2017.
7. Legacy modernization
8. Data Management and Analytics Holding steady on the list since 2016
9. Broadband/Wireless Connectivity
10. Innovation and Transformation through Technology First time on the top ten

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State CIOs: COVID-19 Response and Recovery

Secure remote access; remote workstation deployment

IT infrastructure/systems stability, scaling, configuration

Cybersecurity and risk management

Digital government, automation, video calls, call centers

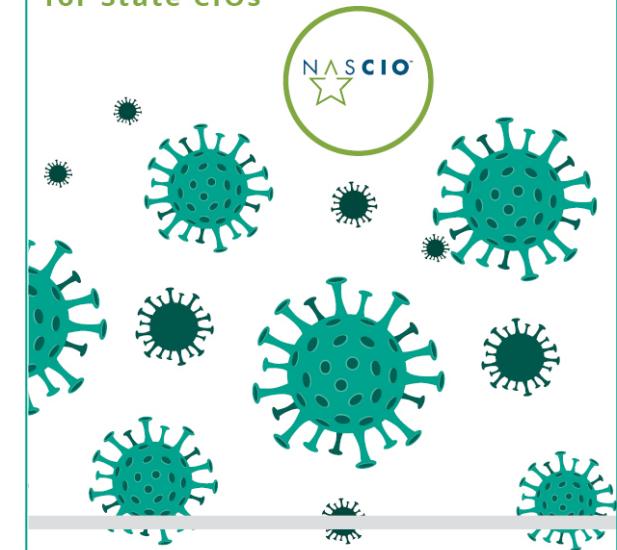
Corporate partners and the IT supply chain

COVID-19 recovery phase and gradual return? Or not?

Contact tracing and exposure notification apps

COVID -19

Planning and Response Guidance
for State CIOs



Early Observations from the States: What Have We Learned?

Need COOP that is documented, well understood, with a well rehearsed pandemic plan

Work from home/remote work options more productive than expected

Security critical to success, especially security of every endpoint

Need to improve citizen experience with digital services; scale services faster

Provisioning/support of video conferencing and other collaborative tools is an imperative

Modernize the aging infrastructure and applications sooner rather than later

Be more prepared in using AI for citizen response and fraud detection

What business processes, practices or investments will change post COVID-19?

1. Expanded **work from home**/remote work options
2. Expanded use of **collaboration** platforms/remote meetings
3. Improving **digital government** services/citizen experience
4. Investments in **broadband** expansion/adoption
5. Increased priority and investment in **legacy modernization**
6. Expanded cloud services/SaaS deployment



NASBO is monitoring budget and fiscal implications as well as broader issues that states are addressing related to the coronavirus (COVID-19). This page includes the latest federal news, press articles, policy briefs, state responses and other resources. NASBO staff will continue to add relevant information to this webpage and provide weekly updates in our [Washington Report e-publication](#).

NASBO [statement](#) on Coronavirus Relief Fund Interim Report (July 29)

NASBO [letter](#) to Administration officials and Congressional leadership. (April 22)

Additional [communication](#) to support requests in March 19 letter. (March 21)

NASBO [letter](#) to Administration officials and Congressional leadership. (March 19)

Staff Contact

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State Budget Actions

Federal Guidance

State Revenue Forecasts

Press Clips by State

State News Flash

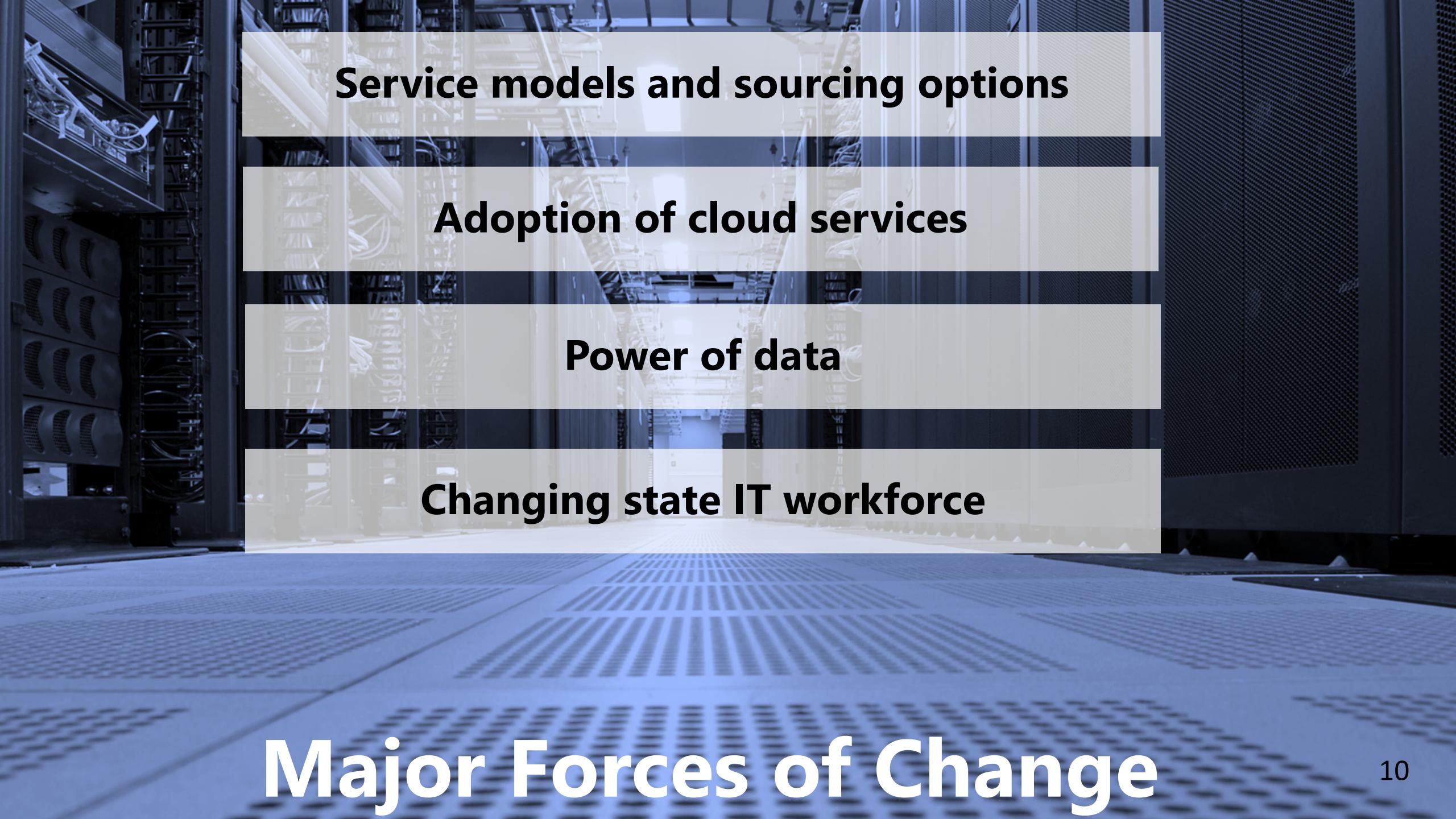
State Coronavirus Websites

Resources

Below is a compilation of recent press articles detailing states' April revenue collections; in addition, please access updated [state revenue forecasts](#) on our Coronavirus Resources webpage.

- Federal Government - [April tax collections plummet 55 percent](#) (May 8)
- Alabama - [Coronavirus pandemic's impact on Alabama's revenue](#) (May 5)
- Arkansas - [State revenue down by 28.3% last month](#) (May 5)
- California - [California Income Tax Payments Plunge 85% in April](#) (May 4)
- Connecticut - [Connecticut tax collections drop sharply as coronavirus shutdown continues](#) (April 30)
- Florida - [Florida sales tax collections fall dramatically, preliminary report shows](#) (May 5)
- Georgia - [Georgia tax revenue drops \\$1 billion in April as pandemic takes its toll](#) (May 6)
- Hawaii - [Tax collections tank as Hawaii lawmakers plan budget fixes to avoid public worker furloughs](#) (May 9)
- Idaho - [Official: Idaho revenue drop due to extended tax deadline](#) (May 7)
- Illinois - ['Perfect Storm' Hits Illinois As Revenue Drops \\$2.74B in April: Report](#) (May 5)
- Indiana - [Indiana state revenues plunge \\$1 billion in April amid coronavirus shutdown](#) (May 11)
- Iowa - [Iowa tax revenue drops by 48% as tax deadlines pushed back over coronavirus](#) (April 28)
- Kansas - [Kansas tax collections down 51.4% compared to last April](#) (May 1)
- Kentucky - [Kentucky tax collections plummet in April due to coronavirus](#) (May 6)
- Louisiana - ['It's surreal': Louisiana tax collections plummet nearly \\$500M as lawmakers balance budget](#) (May 7)
- Maine - [State tax revenues drop as COVID-19 tightens grip on Maine economy](#) (May 19)
- Massachusetts - [April tax collections plunge by \\$2.3 billion](#) (May 5)
- Michigan - [Michigan tax revenues plunged more than 40% in April](#) (May 8)

<http://budgetblog.nasbo.org/blogs/brian-sigritz/2020/05/19/april-tax-collections-plummet-from-tax-deadline-sh?CommunityKey=eca4d2c7-296d-4ab5-aeab-2024a4e7b0b8&tab=&CLK=57d48cba-b7ea-41af-a527-f8078eb256c3>



Service models and sourcing options

Adoption of cloud services

Power of data

Changing state IT workforce

Major Forces of Change



CIO Business Models

How does your state CIO organization plan to deliver or obtain IT services over the next three years?

	Introduced	Maintain	Expand	Downsize
State-owned-and-operated data center(s)	0%	35%	17%	48%
IT shared services model	4%	27%	65%	4%
Outsourcing services model	2%	41%	50%	7%
"As-a-service" models (e.g. SaaS, PaaS, IaaS, etc.)	2%	6%	92%	0%
Managed services model	9%	28%	61%	2%
State IT staff	0%	67%	26%	7%

State Government Data Landscape



Data stored across multiple systems from multiple agencies in multiple formats



Data quality issues: dirty and messy



Lack of enterprise standards, consistency



Data sharing is difficult – format, language, access, culture, myths



Security risks and privacy issues: data classification



Little insightful, usable data on “customers”

Major Changes in State Data

Structured

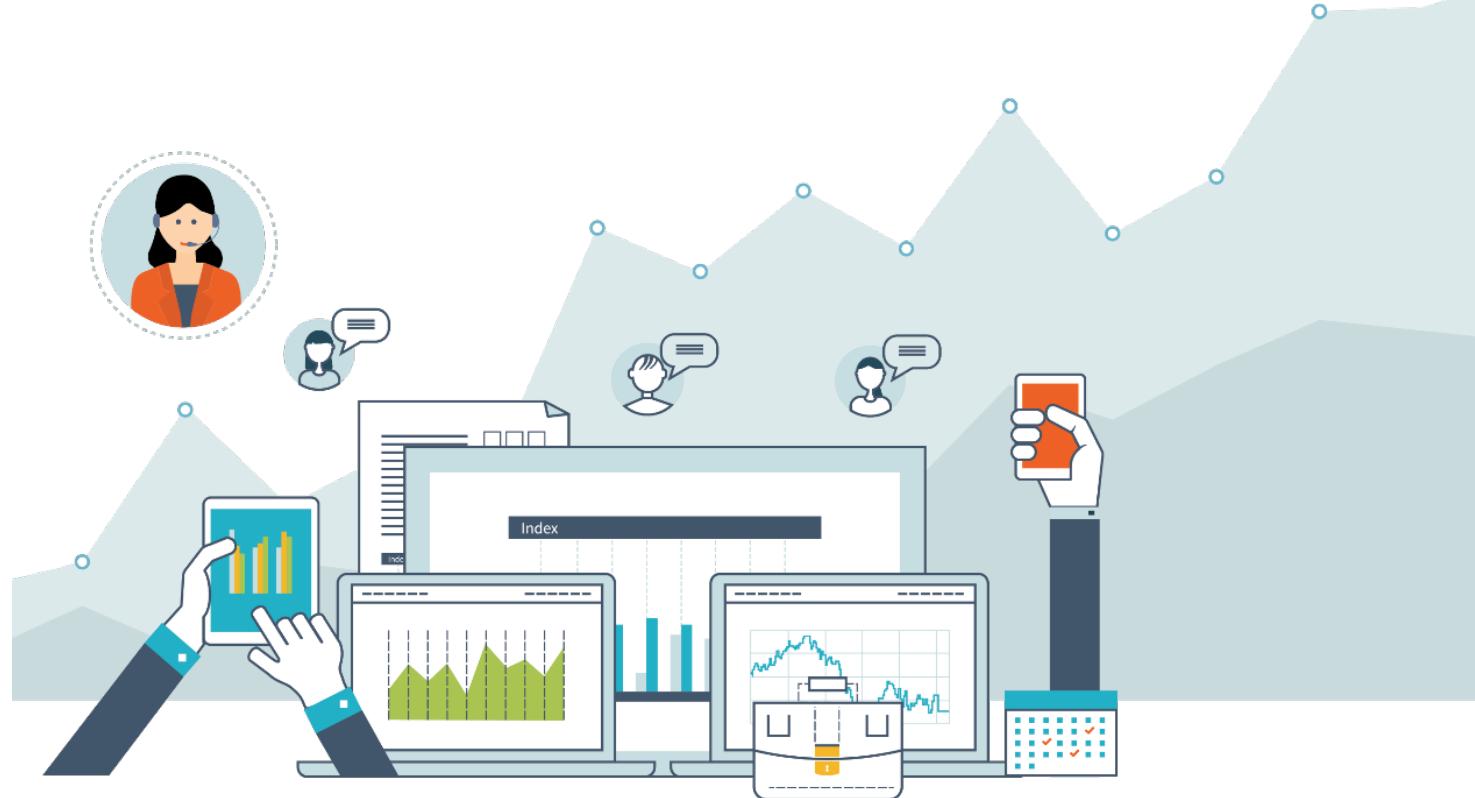
Semi-structured

Unstructured

Sources and Formats
Changing Dramatically

Please describe the current status of enterprise data management in your state.

-  **56%** Have established standards for data classification and security
-  **53%** Have a data governance policy
-  **38%** Hired a state chief data officer
-  **31%** Have a data stewards network in place
-  **31%** Have integrated data architecture with overall enterprise architecture
-  **20%** Have strategy in place to deal with unstructured (as well as structured) data
-  **18%** Have a strategy in place to deal with large volumes of data
-  **18%** Have in place a data and information asset portfolio



Few states are “highly mature” in data management and analytics

Successful, but tactical data analytics in agencies

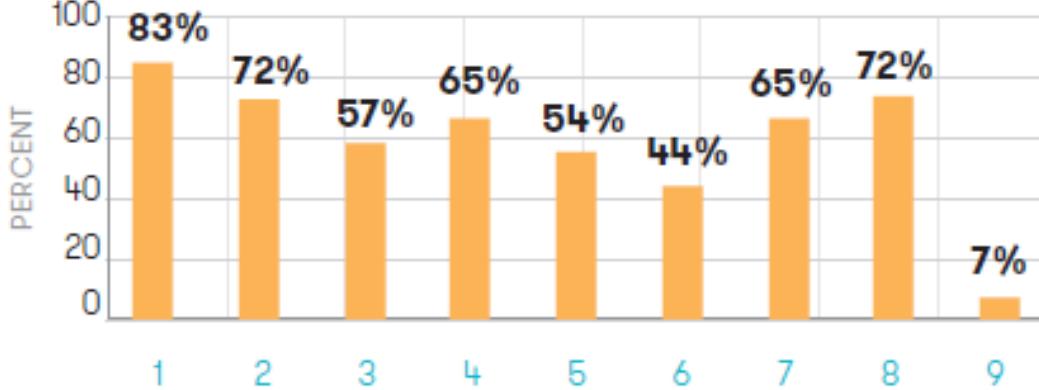
Primary focus on fraud, abuse, improper payments

General lack of strategic focus, enterprise orientation, data architecture, privacy impacts





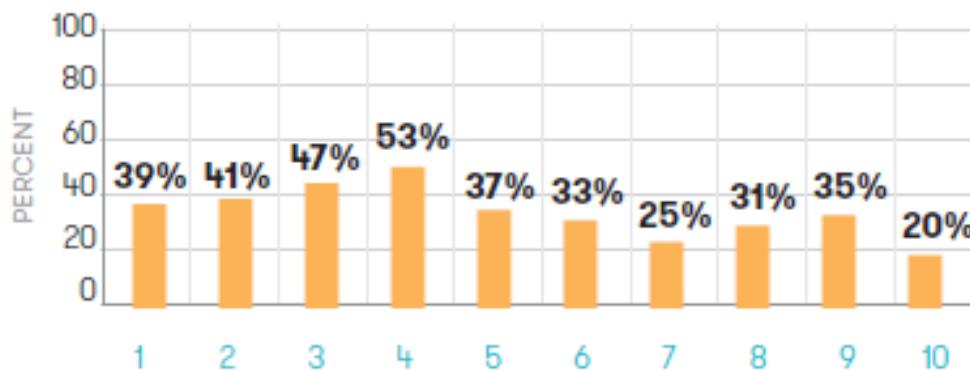
What is the current or planned role of the state CIO organization in enterprise data management?



-
- 1 Take the lead and advocate for data as a strategic asset
 - 2 Have in place/develop an enterprise data strategy
 - 3 Have in place/create a formally documented data architecture
 - 4 Convene the stakeholders for data governance decisions
 - 5 Have in place/create a chief data officer role
 - 6 Host a data stewards' network
 - 7 Issue data governance policies
 - 8 Invest in technologies and tools
 - 9 Other
-



How do you service the data analytics needs of your customer base?

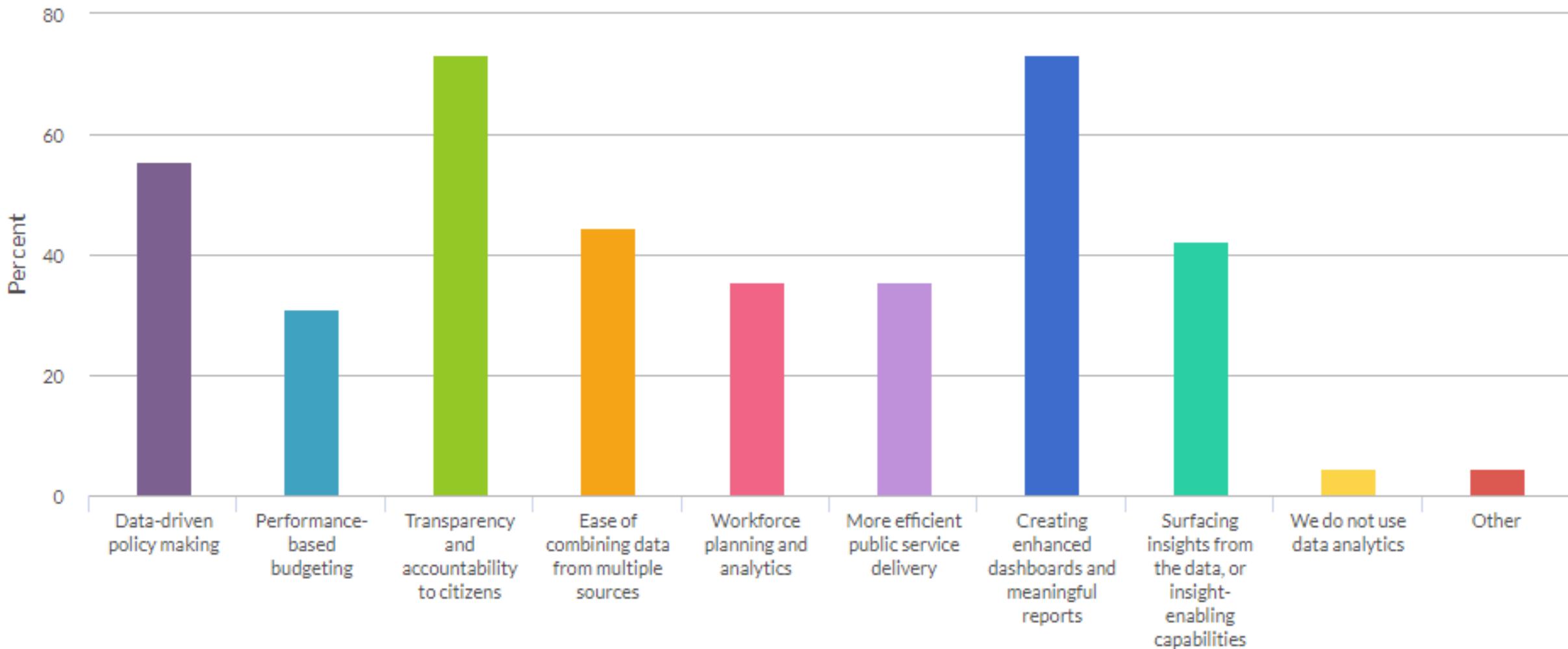


-
- 1 Define enterprise policy
 - 2 Promote the use of insight enabling analytics
 - 3 Procure solutions for use by customers
 - 4 Provide tools
 - 5 Provide training
 - 6 Perform analytics services on behalf of customers
 - 7 Establish a center of excellence
 - 8 Ad hoc
 - 9 Release of data sets for public use
 - 10 We don't provide data analytics services for our customers
-

34. What aspects of a data management and analytics program are most important to you? (Choose top 3)



37. In which of the following areas does your state currently utilize data analytics? (Select all that apply)





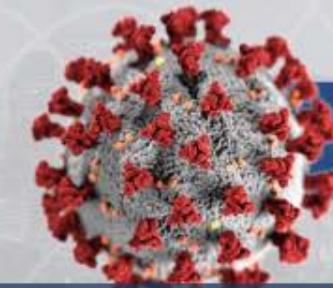
Data Management, Analytics & Visualization

- State of Connecticut: Cross Agency Data Sharing to Drive Value and Save Money
- State of Illinois: Winning Against Tax Fraud with Data Analytics
- State of Utah: Intergenerational Poverty Initiative Data Driven Solutions
- **State of Indiana: Facilitating Data-Driven Innovation – Indiana Management Performance Hub**
- Commonwealth of Pennsylvania: Treasury Transparency Project
- State of Utah: Discover Utah's Base Map and Imagery Services
- State of Michigan: Michigan State Police Department Unifies Data, Improves Visibility into Criminal Activity
- State of Oregon: MAGI Medicaid System Transfer Project
- State of Utah: Discover: Utah's Base Map and Imagery Services

MANAGEMENT PERFORMANCE HUB

MPH provides analytics solutions tailored to address complex management and policy questions enabling improved outcomes for Hoosiers. We empower our partners to leverage data in innovative ways, facilitating data-driven decision making and data-informed policy making.

MPH took home the 2018 NASCIO Award for Data Management, Analytics and Visualization - [Learn More](#)



2019 Novel Coronavirus
(COVID-19) Data

Find the latest Covid-19 datasets on the Indiana Data Hub

Indiana is responding to the worldwide pandemic of COVID-19 using data. Check out the latest publicly-available Covid-19 datasets on the Indiana Data Hub.

[Learn More](#)

OPIOID EPIDEMIC

EDUCATION AND
WORKFORCE

21CTR DATA
DISPLAY

INDIANA DATA
PARTNERSHIP
Empowering

MEDICAID
OPTIMIZATION

Indiana PDMP (INSPECT Prescription Drug Monitoring Program) Dashboard

YTD Dispensations

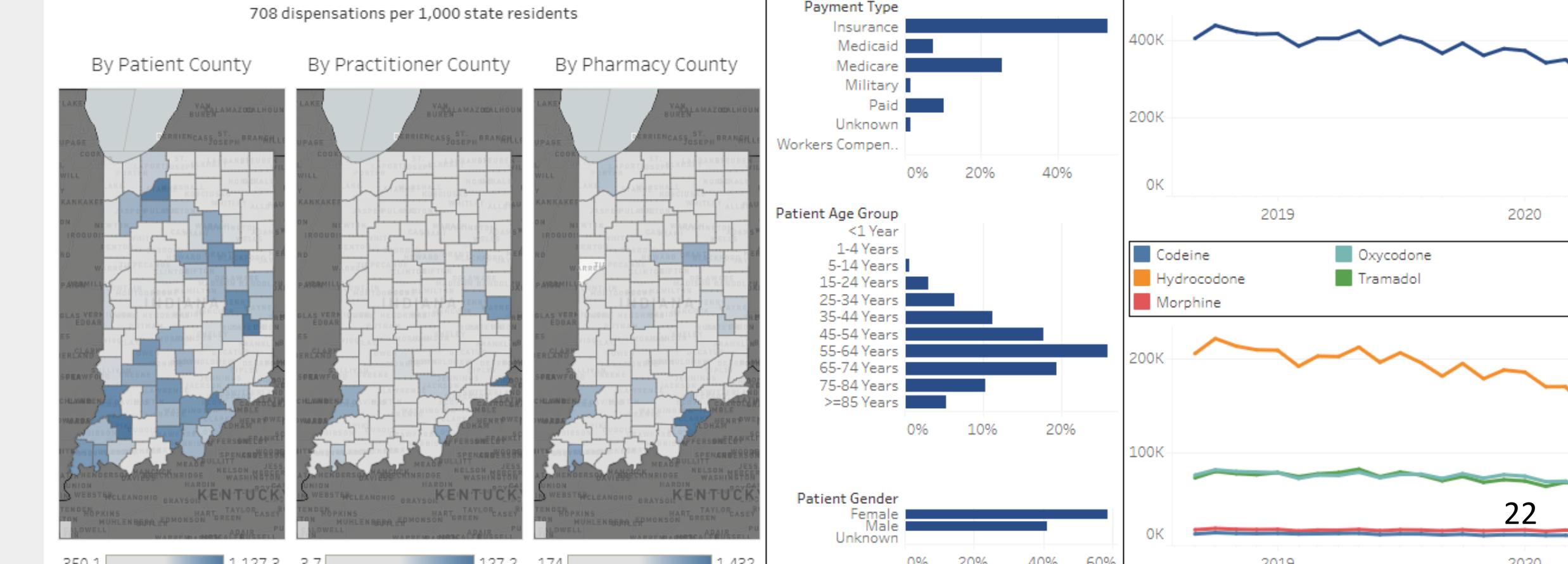
2,080,715

YTD % Difference

-14.04%

Drug Class	Drug	Dispensations or Prescriptions
Opioid Analgesics	(All)	Dispensations

Year: 2019





Compare the FCC to Georgia Broadband Deployment Initiative (GBDI)

Compare the FCC vs GBDI

Served & Unserved Areas

Served

Unserved

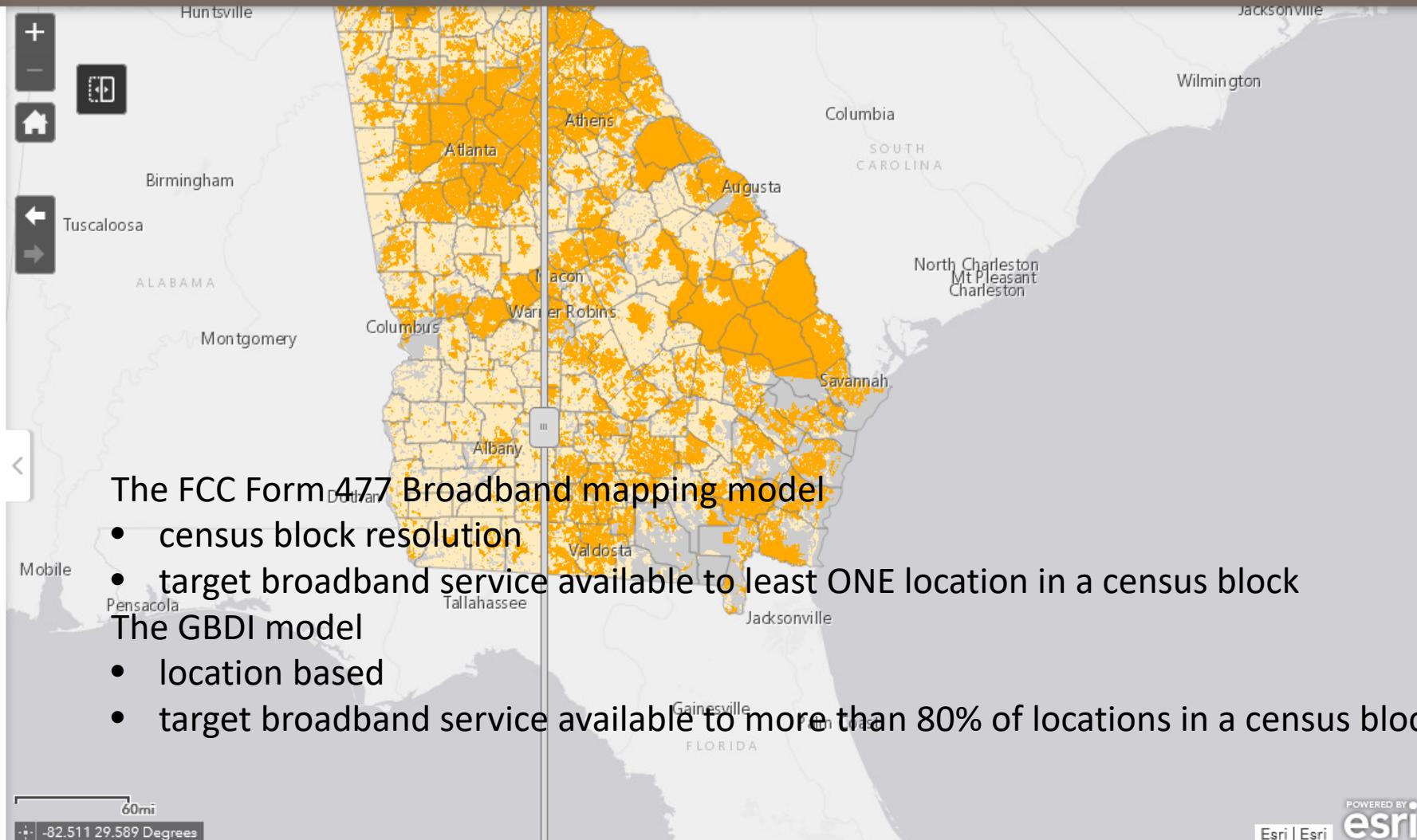
No Locations

The map to the LEFT of the swipe bar represents the Georgia Broadband Deployment Initiative (GBDI) data and the map to the RIGHT represents the Federal Communication Commission's (FCC) Form 477 (June 2019) data. Swipe the bar to visualize either dataset.

The FCC Form 477 Broadband mapping model is inherently census block resolution. This means that if the target broadband service is available to at least ONE location (residential or business) in a census block, the block appears served. Populated census blocks that did not meet this definition are delineated as 'Unserved'.

The GBDI model is inherently location based. This means that the target broadband service must be available to more than 80% of locations in a census block to be served. Census blocks that did not meet this definition are delineated as 'Unserved'. The map depicts access to broadband, not subscription to broadband.

The target Broadband service is based on a fixed, terrestrial broadband definition of 25 Mbps down and 3 Mbps up. The GBDI broadband data is provided by the various Internet Service Providers of the State of Georgia. The GBDI location data are from commercially available sources. The FCC broadband data is based on the June 2019 Federal Communications Commission form 477. The FCC population and location data are from the US Census Bureau (2010 Decennial Census) and commercially available business listings (2014) with at least 3 employees and \$150,000 annual sales.



Data Analytics and States: Looking Ahead...

Need enterprise imperative, roadmap and governance

Focus: start small with confined target and scale - enterprise

Understand security and privacy implications

Power of visualization and dashboards for transparency

Dealing with dark data: compliance and risk

Challenges with state skill sets, competencies, recruiting

Expect surprises and unintended consequences!



Existing and Potential Resources and Capabilities

Centralized IT



Cross Agency



Cross Jurisdictional Partner

Cloud Services

- internal
- external
- ...

NASCIO
National Association of State CIOs

Destination: Advancing Enterprise Portfolio Management - First Stop: Issues Management

Introduction - A Balancing Act for the State CIO

The state CIO is required to manage a vast array of relationships, needs, demands and solutions. From both the departmental and state sides, the state CIO is the primary point of contact and facilitator for continually balancing perspectives. In that role, the CIO is required to constantly evaluate government needs coming in from across government presented by various constituents, and the many possible internal or external partners coming from the private sector, non-governmental organizations, industry partners and cross-jurisdictional partners. A frustration shared by many state CIOs is the lack of a clear vision for the enterprise and the difficulties in managing a diverse issues and investment portfolio.

Matching up those needs with the right solutions requires the business acumen and technical expertise to address problems and surface opportunities that lead to developing effective government services. In that process, the CIO must stay in touch with various stakeholders to:

- evaluate, apply and sometimes reevaluate enterprise standards, disciplines and technologies to:
- reduce risk
- manage vendor relationships
- manage complexity and redundancy
- manage legislative relationships

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State CIO Challenge - Balancing Needs and Resources

NASCIO Enterprise Architecture Value Chain



Observe the Contextual Environment

Fiscal Circumstances
Macroeconomics
Customer Expectations
Customer Behavior
Regulations
New Technology
Competition
Mandate

current issues
emerging issues
anticipated issues
waning issues
expanding issues

Surfaces Business Needs



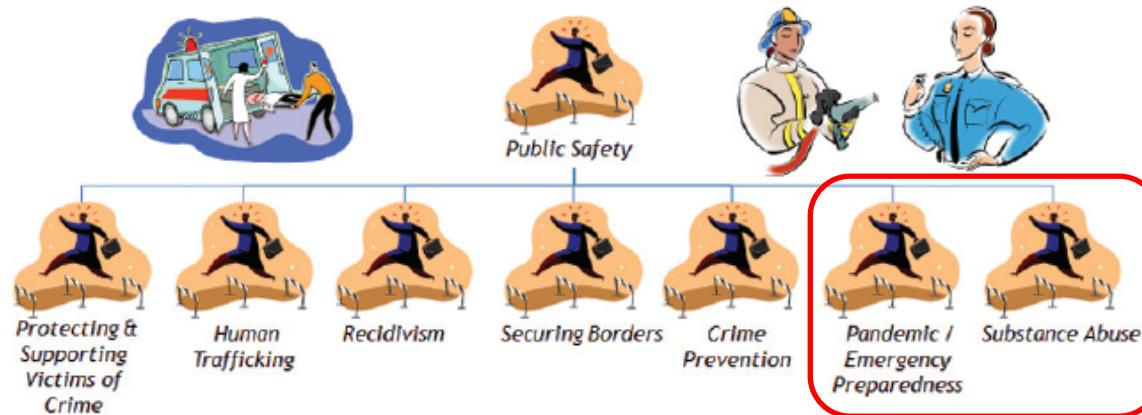
Enterprise Business Needs Organized into Portfolios of Business Needs⁷



Each of the depicted business needs in the figure above expands into a more detailed business need portfolio.

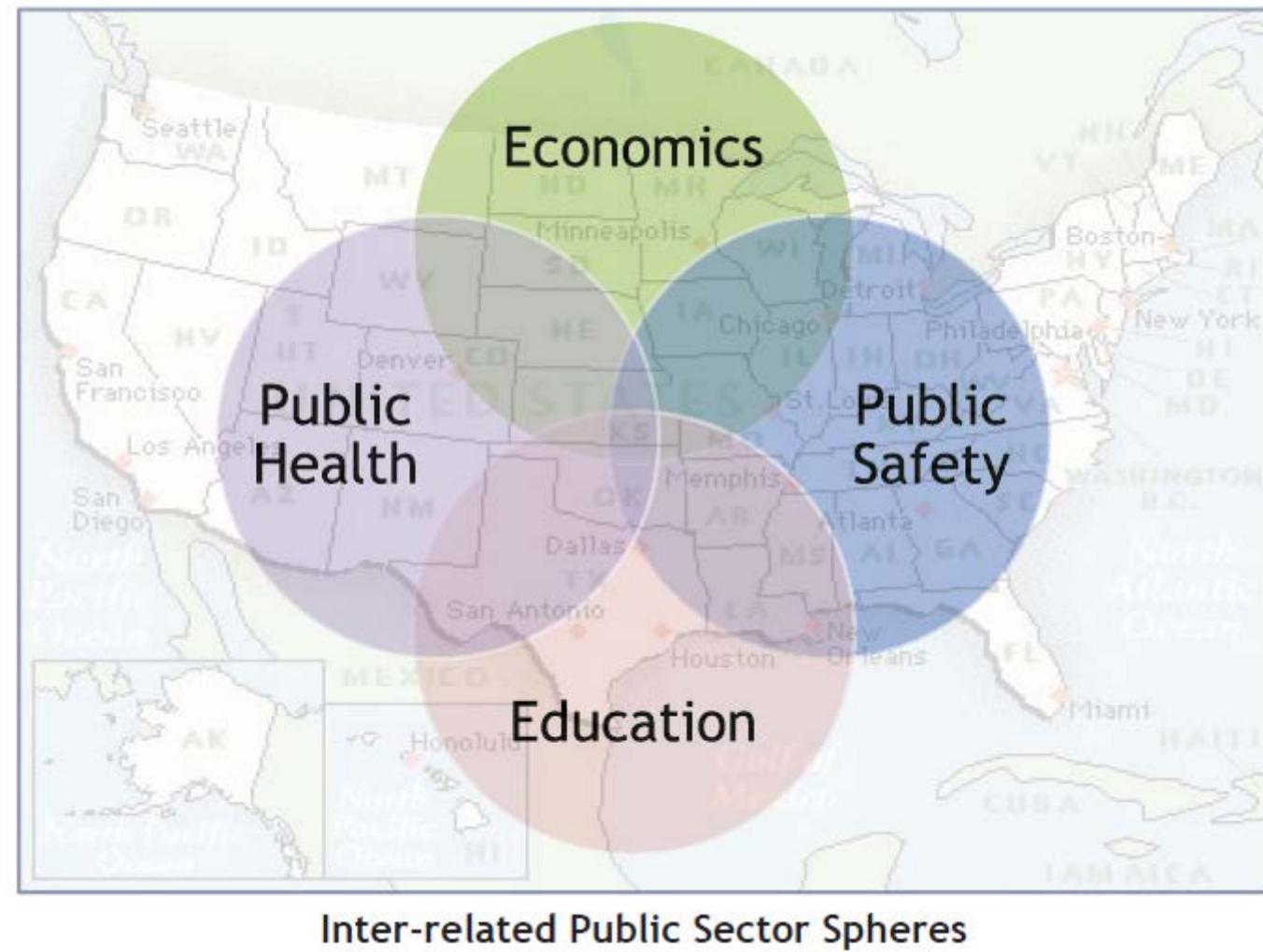


Expansion of the Public Health Issues Portfolio



Expansion of the Public Safety Issues Portfolio





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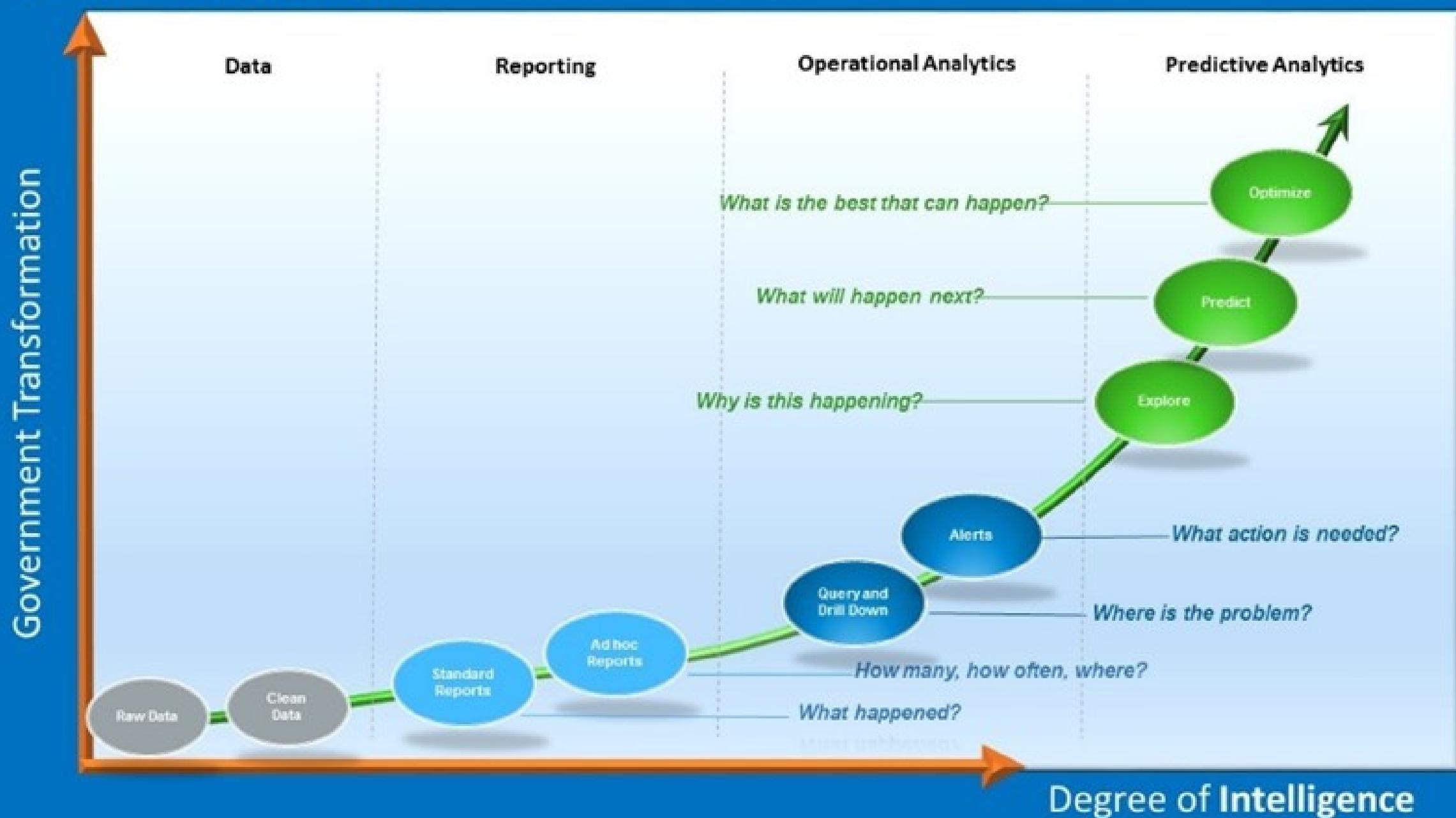
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Analytics Driven Maturity





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Representing Chief Information Officers of the States

The cover features the NASCIO logo at the top left. The title 'Is Big Data a Big Deal for State Governments?' is in large, bold, white font. Below it, a subtitle reads 'The Big Data Revolution - Impacts for State Government - Timing is Everything'. The background shows a blurred image of a computer monitor displaying binary code.

The cover features the NASCIO logo at the top left. The title 'Data: the Lifeblood of State Government' is in large, bold, red font. Below it, a subtitle reads 'Data and Information - A top priority for modern organizations'. The background shows a blurred image of a computer monitor displaying binary code.

Data Management Series Part 1

Data: the Lifeblood of State Government

In this issue brief, the unique description and exploitation of innovations, data is shown to be a key element of data management architecture in state government regarding

Data and Information - A top priority for modern organizations

NASCIO has presented the importance of data and information in its series on records management, its series on data governance and the NASCIO Enterprise Architecture Toolkit. Some states have begun their journey toward a mature data management discipline but there is a vast amount, variety, and complexity of data in state government. State government engine. And the need on the growth in mobile

ADVANCED CYBER ANALYTICS: RISK INTELLIGENCE FOR STATE GOVERNMENT

The stakes are high and unless there are dramatic changes in the way society responds to cyber attacks and deals with cybercrime the losses will continue to exhaust state coffers and strain the economy at a continued alarming rate.

Some estimates present that the impact of cybercrime on the global economy is an annual "leakage" or "hemorrhage" of \$375 billion to \$575 billion per year.¹ Those estimates do not take into account the aftermath on the lives of individuals and families resulting from data breaches, viruses, or restore their losses and get their lives back or the disruption of government operations and services. But do these estimates address the opportunity cost to companies and governments that could have invested these billions to improve the quality of life in our communities that struggle with poverty or populations that are coping with drought or disease outbreaks or even epidemics; the disruption of government; and lost investments in innovation.

Information has been described by some as:

- the lifeblood of democracy;²
- the lifeblood of our economy;³
- the lifeblood of government;⁴ and
- the lifeblood of any organization.⁵

With this in mind, the loss of information can clearly be referred to as a hemorrhage, a drain on democracy, the republic we live in, the economy, government, corporations, and ultimately, a drain on society.

The previously cited report recounts three areas of opportunity cost related to cyber security:

- reduced investment in research and development,
- risk averse behavior by business and consumers that limits Internet use, and
- increased spending to defend networks.

Our nation cannot afford these losses or hope the problem goes away. Further, cyber threats are ever changing. Attacks are more sophisticated, more frequent, more effective and more persistent. Advanced persistent threats continue to infiltrate networks and stay there for months or years without the

The cover features the NASCIO logo at the top left. The title 'DO YOU THINK? OR DO YOU KNOW? Improving State Government Operations Through Business Analytics' is in large, bold, green font. Below it, a subtitle reads 'INFORMATION OVERLOAD - THREATS AND OPPORTUNITIES'. The background shows a blurred image of two people working on a laptop with a chart.

INFORMATION OVERLOAD - THREATS AND OPPORTUNITIES

It is no surprise that the amount and diversity of data that is collected by state government continues to grow. As large enterprises, state government organizations reflect the trend toward data growth. But estimates that worldwide data volumes are doubling every year. State government is already challenged with the nominal growth in data because of new

Better Decisions, Better Government: Effective Data Management Through a Coordinated Approach

So Data is Important - What Now?

Part 1 of the NASCIO Data Management Series, *Data the Lifeblood of State Government*, highlighted the importance of managing data and information as strategic assets. Public expectation of transparency and accountability, government programs, efficient management of food, waste and abuse; improved safety and well-being of the public; strong education and workforce programs; and more engaged interaction with citizens requires that government uses its data and information assets to continually drive efficiencies and effectiveness in business operations, and create value. Given the explosive growth of data, the lack of data governance and consistent standards, and the historical development of government data systems in silos, government is challenged to be able to have access to and confidence in its own data resources, and to exploit it properly to make more effective, strategic and proactive decisions.

So we all agree that data management is important, and that with better data management, government can have a more coherent, trusted and comprehensive view of data - data that can drive insights and help make better business decisions. But how does data management (DM) work and how does government get started in developing and employing DM operating discipline?

Better Decisions, Better Government: Effective Data Management Through a Coordinated Approach



31