

Strategic Partner Briefing: State CIO Priorities, Trends and Perspectives

January 28, 2025

About NASCIO

- National association representing state chief information officers and information technology executives from the states, territories and D.C.
- NASCIO provides members with products and services designed to support the challenging role of the state CIO, stimulate the exchange of information, and promote the adoption of IT best practices and innovations.



VISION

Government in which the public is fully served through business innovation and the optimal use of technology

Advancing government excellence through trusted collaboration, partnerships and technology leadership

MISSION

GUIDING PRINCIPLES: The National Association of State Chief Information Officers will:

be non-partisan

promote the state CIO as the technology leader who drives business innovation and transformation

focus on multi-jurisdictional issues

foster policies that support the public trust

promote strategic alignment of government technology investments and state business agendas

be ethical in our actions and relationships

2025 STATE CIO TOP 10 PRIORITIES

Priority Strategies, Management Processes and Solutions

1 CYBERSECURITY AND RISK MANAGEMENT



2 ARTIFICIAL INTELLIGENCE / MACHINE LEARNING / ROBOTIC PROCESS AUTOMATION



3 DIGITAL GOVERNMENT / DIGITAL SERVICES



4 DATA MANAGEMENT AND ANALYTICS



5 LEGACY MODERNIZATION



6 BUDGET / COST CONTROL / FISCAL MANAGEMENT



7 IDENTITY AND ACCESS MANAGEMENT



8 CLOUD SERVICES



9 WORKFORCE



10 ACCESSIBILITY



What's Trending for 2025?

AI and **Generative AI**: governance, legislation, framework, policy, use cases, data quality, privacy, security, workforce skills

Increase in state tech policy and **legislation**: focus on data privacy, AI, deepfakes, social media safety, cybersecurity, prohibited products

Focus on digital services and modernization: improved **citizen experience**, more AI and automation, citizen **identity management**

Continued investments in **legacy modernization**, growing hybrid **cloud and SaaS adoption**

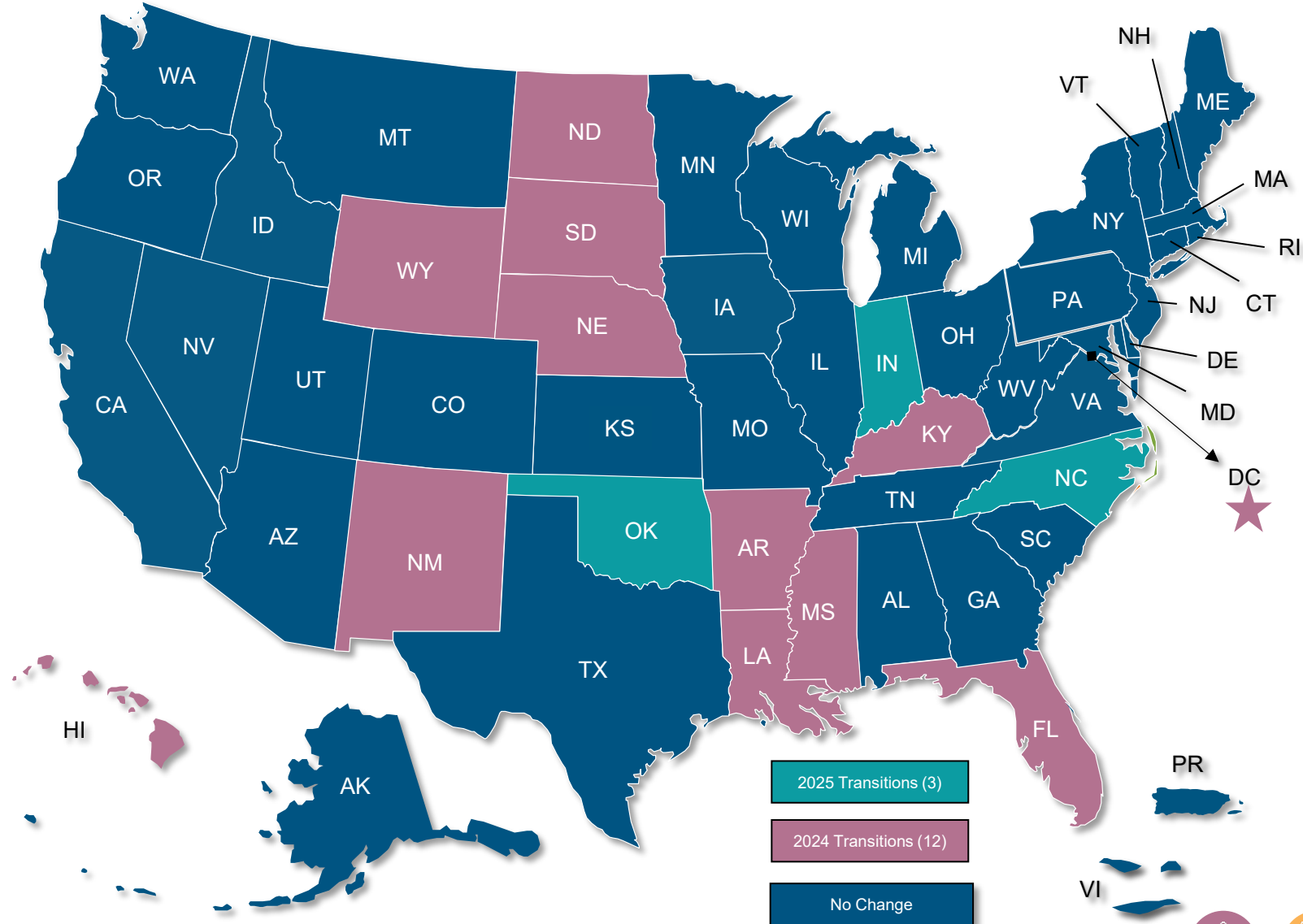
Changing IT workforce: **remote/hybrid flexibility**, skills-based hiring, eliminating 4-year degree requirement

Impact of the **new Congress and administration** on state and local government technology policy?



State CIO Transitions

(January 2025)



NASCIO Considerations for Developing AI Roadmaps

1. Align AI initiatives to strategic drivers for the organization
2. Establish governance and oversight processes
3. Inventory and document existing AI applications
4. Address data quality and sourcing
5. Collaborate with stakeholders and industry
6. Assess privacy and cybersecurity risks of AI adoption
7. Infrastructure and technology
8. Create acquisition and development guidelines
9. Identify potential use cases
10. Expand AI workforce expertise and training
11. Create guidelines for responsible use, ethics and transparency
12. Measure and communicate effectively

Source: NASCIO Your AI Blueprint: 12 Key Considerations as States Develop Their Artificial Intelligence Roadmaps, December 2023



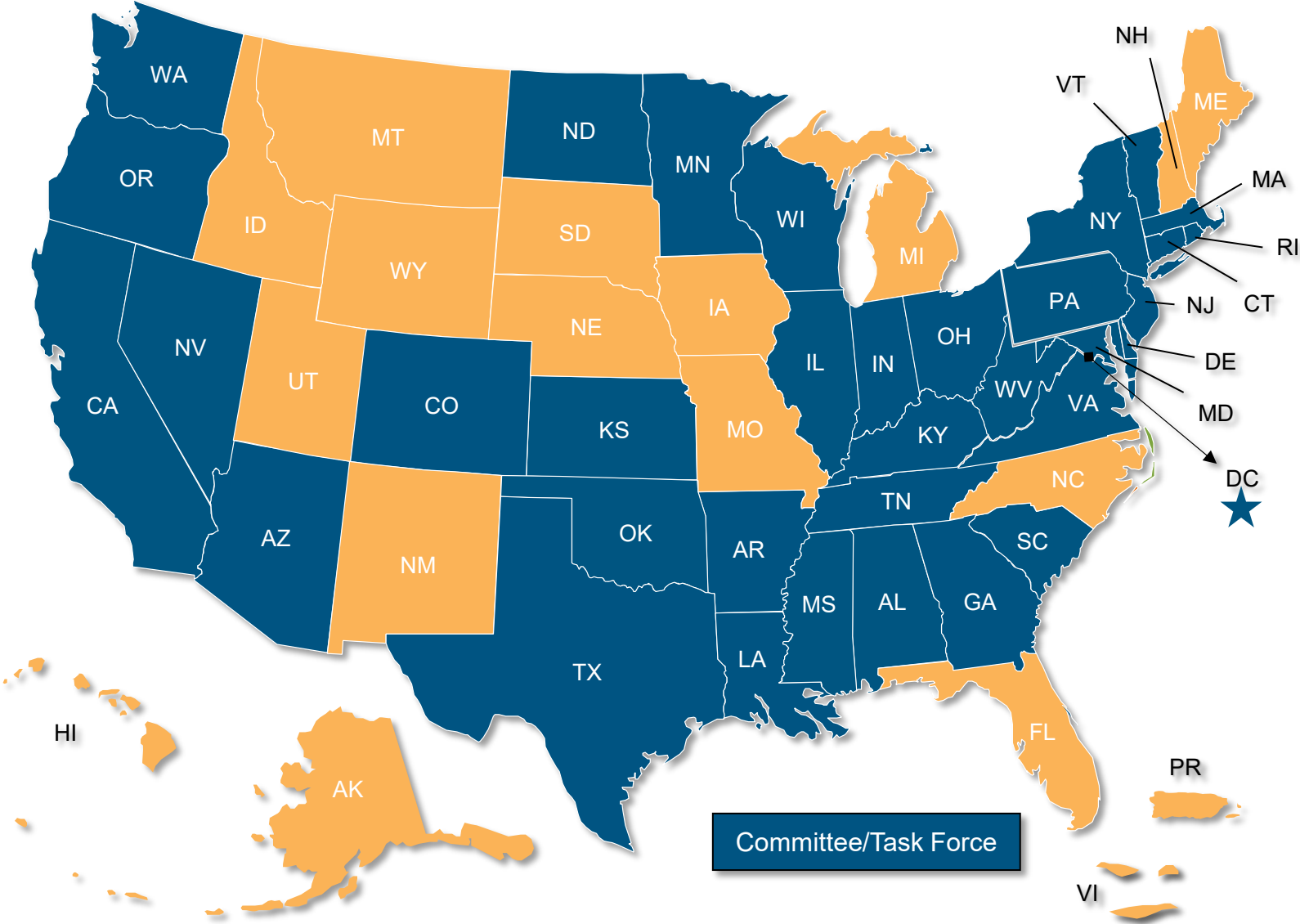
Top AI Actions Taken by States

- ▶ The creation of advisory committees and task forces (78%)
- ▶ Implementing enterprise policies and procedures on development/use (72%)
- ▶ Responsible use / flexible guardrails / security / ethics (67%)
- ▶ Inventory / documenting uses in agencies and applications (61%)



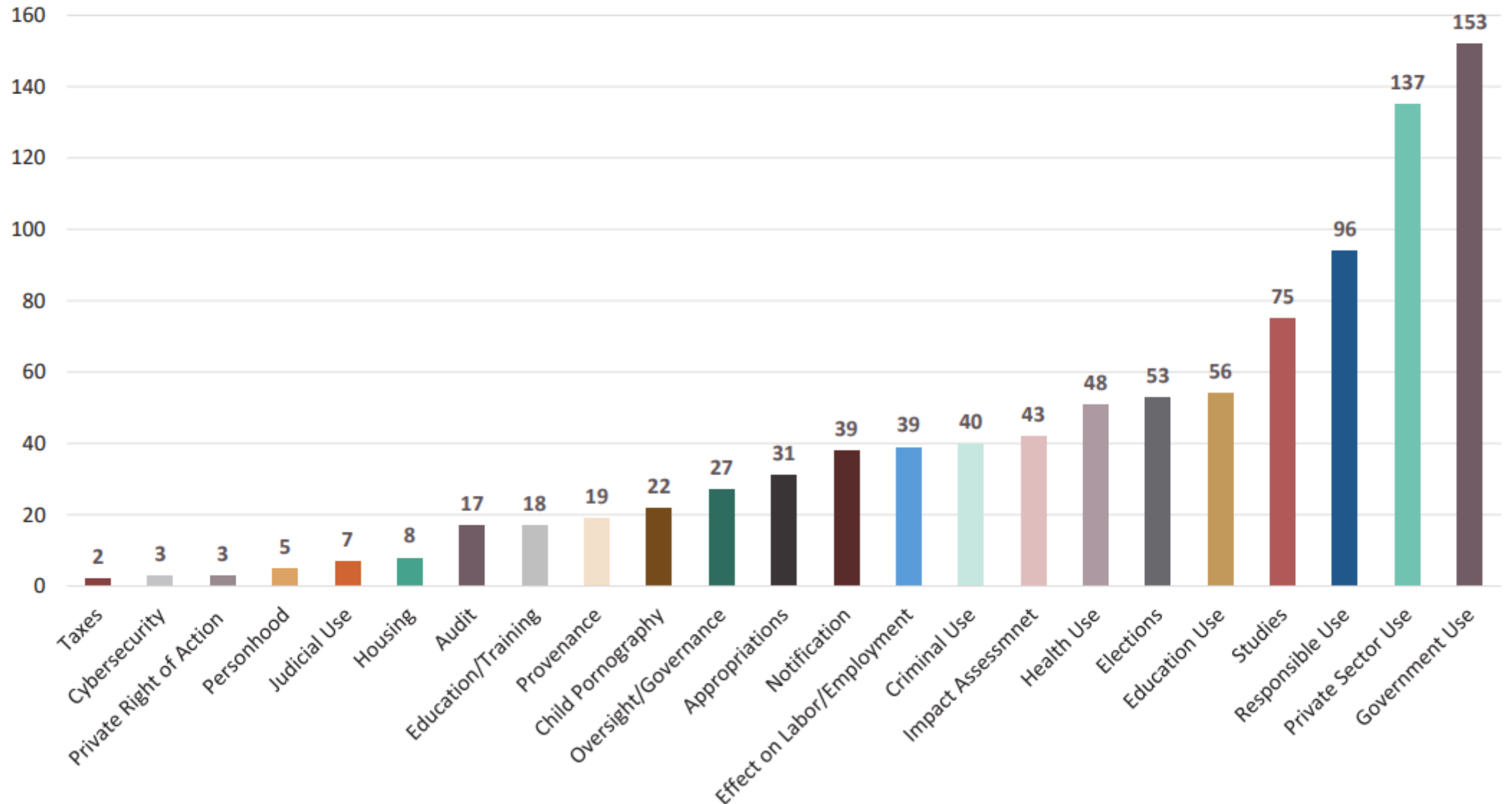
State AI Committees and Task Forces

January 2025



ARTIFICIAL INTELLIGENCE 2024 LEGISLATION

By Issue Category



Top Business Process Where States are Using GenAI

In Use

- 1 Virtual meeting assistant transcription
- 2 Cybersecurity operations
- 3 Document generation and management
- 4 Software code generation

Piloting

- 1 Document generation and management
- 2 Data analytics
- 3 Virtual meeting assistant transcription
- 4 Software code generation

Respondents allowed to make multiple selections



State IT Use Cases for Generative AI

- Supporting virtual agent chatbots to help citizens
- Generating ideas, crafting emails and streamlining research
- Language translation for online services
- Analyzing survey data and making recommendations
- Cataloging databases and identifying their owners
- Downloading and reposting PDFs in more accessible formats
- Converting outdated computer code to modern programming languages
- Fraud prevention and detection



State IT Use Cases for Generative AI (cont.)

- Cybersecurity threat detection, identify anomalies
- Analyzing vehicle crash data
- Streamline health care facility inspections
- AI-enabled bots to assist call center agents
- Monitoring new legislation and creating a summary
- Human resources: writing effective job descriptions, interview questions
- Streamline procurement (repetitive forms, communication)
- Improve traffic patterns and reduce congestion



Analysis: Application Categories

IHE Top Application Categories

1.	Business Automation	123
2.	Data Analytics and Warehousing	70
3.	Content Management System	59
4.	Security Systems	57
5.	Systems Management	38
6.	Document Management Systems	34
7.	Desktop Productivity	30

25%

Business Automation (123 ADS)
accounted for 25% of IHE ADS

14%

Security Systems (70 ADS)
accounted for 14% of IHE ADS

State Agency Top Application Categories

1.	Security Systems	75
2.	Content Management System	44
3.	Business Automation	30
4.	Data Analytics and Warehousing	23
5.	Case Management Systems	20
6.	Systems Management	15
7.	Document Management Systems	12

29%

Security Systems (75 ADS)
accounted for 29% of state agency ADS

12%

Business Automation (30 ADS)
accounted for 12% of state agency ADS

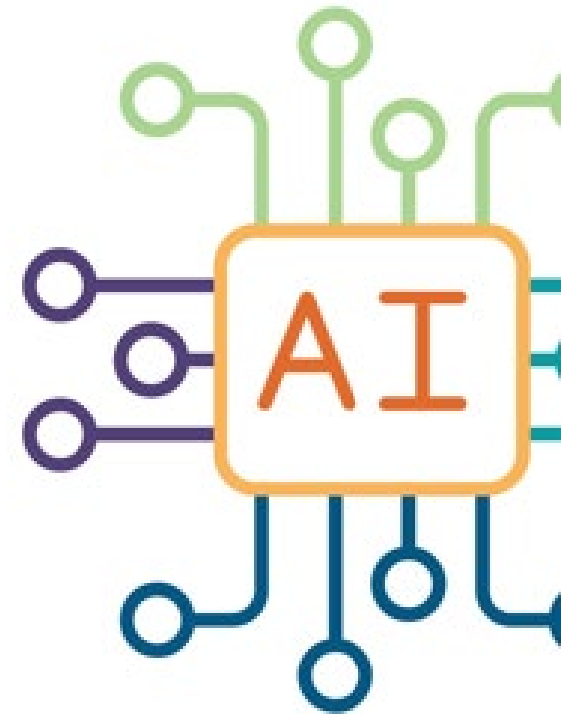


Representing Chief Information Officers of the States



Challenges for States: GenAI Adoption

- **Poor data quality/integrity**
- Lack of enterprise governance
- **Workforce skills gap / lack of training**
- Shadow GenAI use by employees
- Long-term costs
- Legal issues; public records creation
- Accessibility – design and interface
- Technical infrastructure



Generating Opportunity:

The Risks and Rewards of Generative AI in State Government

November 2024



“Our potential use cases span from human resources, correspondence, policy development, review and access, GIS modeling, data analytics, customer engagement, accelerating legacy code review for modernization efforts, coding, security, contracts and procurement process improvement efforts.”

“GenAI can document large scales of what this code is meant to do, give recommendations on how to break it up or modernize it, and then recode it,”

“Generative AI sometimes will give incorrect answers, or partially correct ones. So, with AI-assisted solutions, our government services have to be very carefully crafted and tested to minimize this.”

“There won’t be less jobs, but there will be different jobs. We have to make sure that the workforce is ready for an AI economy (or what’s to come) and we must learn how to build an adaptive workforce.”

“We have to consider the public perception, while it may not always be fair or accurate, artificial intelligence requires us to go carefully and be transparent in everything we are doing. We must over share, be thoughtful and have a steady approach.”

“We want GenAI to get to the point where we don’t have unintended consequences.”



Recommendations for States Using Generative AI

- 1. Encourage Exploration and Set Policies.** Promote a culture of exploration and learning with generative AI. Employees are likely already experimenting with these tools, so state CIO organizations should lead the way by setting clear policies and guidelines for their use.
- 2. Establish Strong Governance and Regulatory Frameworks.** Ensure that a robust regulatory and governance framework is in place before widespread AI adoption. This includes setting up guardrails to protect privacy and ensure responsible use, as well as creating a risk-based maturity scale to manage AI deployment from low to high risk.
- 3. Focus on Data Quality.** The effectiveness of AI systems is heavily dependent on the quality and accessibility of data. Prioritize data governance, including data retention policies, and work closely with state CDOs to ensure clean and reliable data.
- 4. Build Partnerships and Foster Collaboration.** Develop strong partnerships with peers across different departments and agencies.
- 5. Adopt an Incremental Approach.** Start with small, low-risk pilot projects to identify potential use cases and build on lessons learned.
- 6. Be Transparent.** Communicate openly about AI initiatives, including successes and limitations. Transparency with constituents about data practices and AI usage is crucial for building trust.



Five dimensions for consideration in improving GenAI effectiveness



Governance

- **Finalize legislative processes** for government AI use and **appoint AI oversight roles**
- **Implement practical tools and establish oversight mechanisms**, including risk-based assessments and human validation
- **Mobilize a center of excellence** to coordinate and share resources across the state



Funding

- **Allocate adequate capital and operational budgets** for scalable deployment
- **Prioritize high-value, low-risk use cases** to generate economic self-funding and social acceptance
- **Develop cost-effective, agile proofs of concept (POCs)** to refine benefit estimates and capture intended value from GenAI through benefits harvesting



Workforce/skills

- **Assess existing capabilities and forecast future skills** demand and supply
- **Develop and execute a strategic workforce plan** aligning capabilities with demand, emphasizing recruitment and retention of talent
- **Implement competency-based hiring, reskilling programs, and clear communication strategies** to attract, retain, and upskill employees



Infrastructure

- **Enhance AI/ML Ops infrastructure** to facilitate scalable deployment and refinement of generative AI solutions
- **Leverage center of excellence** to develop reusable assets, accelerating product development and adoption across the state
- **Evolve all layers of the client technology stack**, including the experience layer, gen AI use cases, models and ML Ops, data platforms, and cloud foundations



Data

- **Evaluate and customize data architecture** to accommodate unstructured data, **leveraging specialized tools for management and governance**.
- **Tailor data integration efforts** to GenAI implementation strategies, **utilizing appropriate tools for data transformation and seamless integration** across systems, while aligning with the organization's data maturity level.



Cybersecurity Priorities Today

Talent crisis: recruitment, retention, reform, compensation

GenAI impacts on cyber

More centralized operating model; **zero trust framework**

Adopting **whole-of-state cybersecurity** resilience

Executing Year 3 of \$1B State & Local **cybersecurity grant**

Support and partnerships with **local governments**

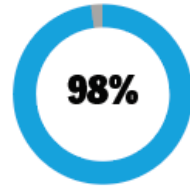
Software supply chain risks



2024 Deloitte-NASCIO Cybersecurity Study: Evolving roles to meet emerging threats

Theme 1

Growing role of the CISO

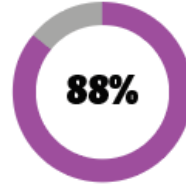


Every state now has a CISO, and **98% of state CISOs** have their authority established by some formal mechanism.

Eighty-six percent of CISOs are involved in protecting privacy, up from 60% just two years ago.

Theme 2

The rise of AI and gen AI brings new threats and challenges



The good news is that **88% of state CISOs** are involved in gen AI strategy development.

The bad news? Forty-one percent reported they were “not very confident” or “not confident at all” about protecting their states from AI threats.

Theme 3

Budgets are uncomfortably murky



Nearly 40% of CISOs say funding falls short of what they need to keep assets and citizens safe, and visibility into both budgets and spending remains lower than state CISOs would like.

Theme 4

An evolving approach to cyberthreats

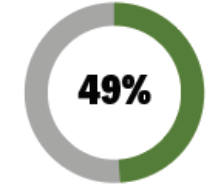


Bad actors and their cyberattacks are getting increasingly sophisticated.

CISOs reported that **third-party security breaches, AI-aided attacks, and foreign state-sponsored espionage** are the top three threats for states.

Theme 5

Ongoing talent crisis



Nearly half of state CISOs said **cybersecurity staffing is a top-five challenge, even as demand for specialists continues to rise.**

Call to action

To match their expanding responsibilities, state CISOs need increased funding—and a say in policy decisions on data security and digital transformation.

CISOs should help guide AI policy development, guard against introducing biases in state services, and educate the state workforce on how AI can enhance mission effectiveness.

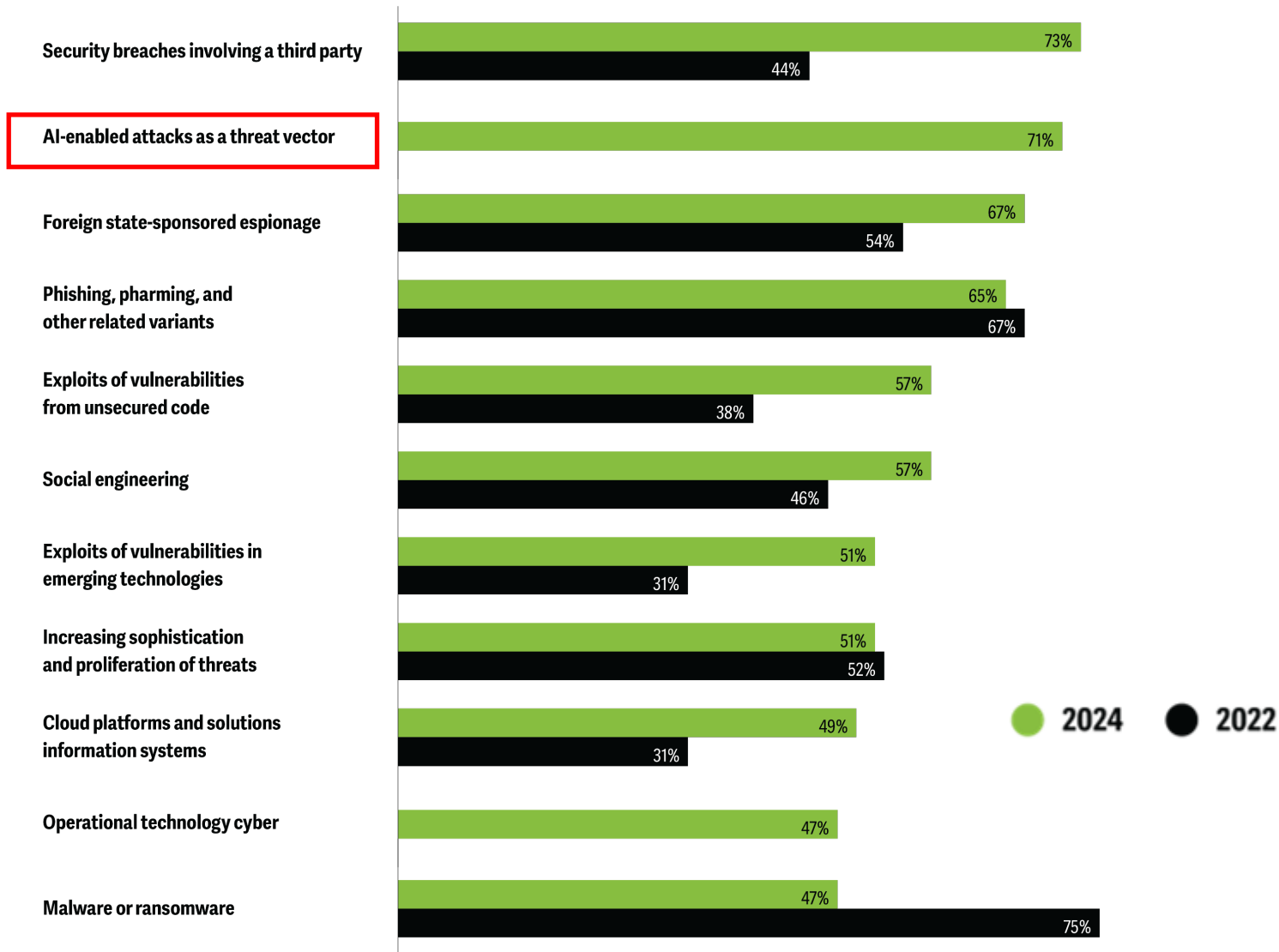
State CISOs should creatively pursue recurring funding, look to improve budget visibility, and adopt a whole-of-state approach for sustainable cybersecurity.

State CISOs should strike an aggressive defense posture, strengthen third-party controls, and modernize threat response tools through public-private partnerships.

Boost staff competencies through continuous training and education to stay ahead of emerging threats and oversee contractor security practices to protect shared data.



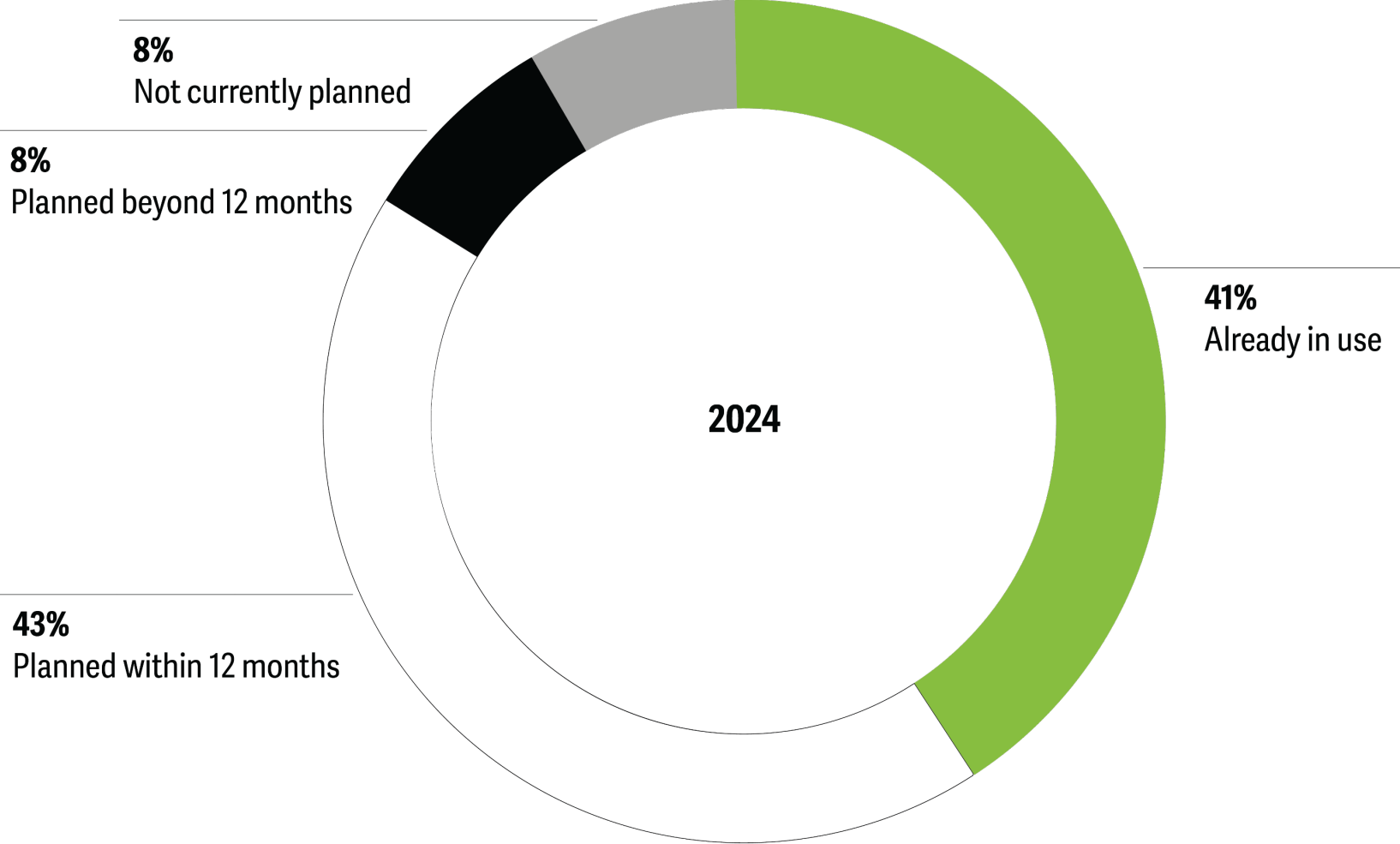
Leading causes of a cybersecurity incident in states over the last year



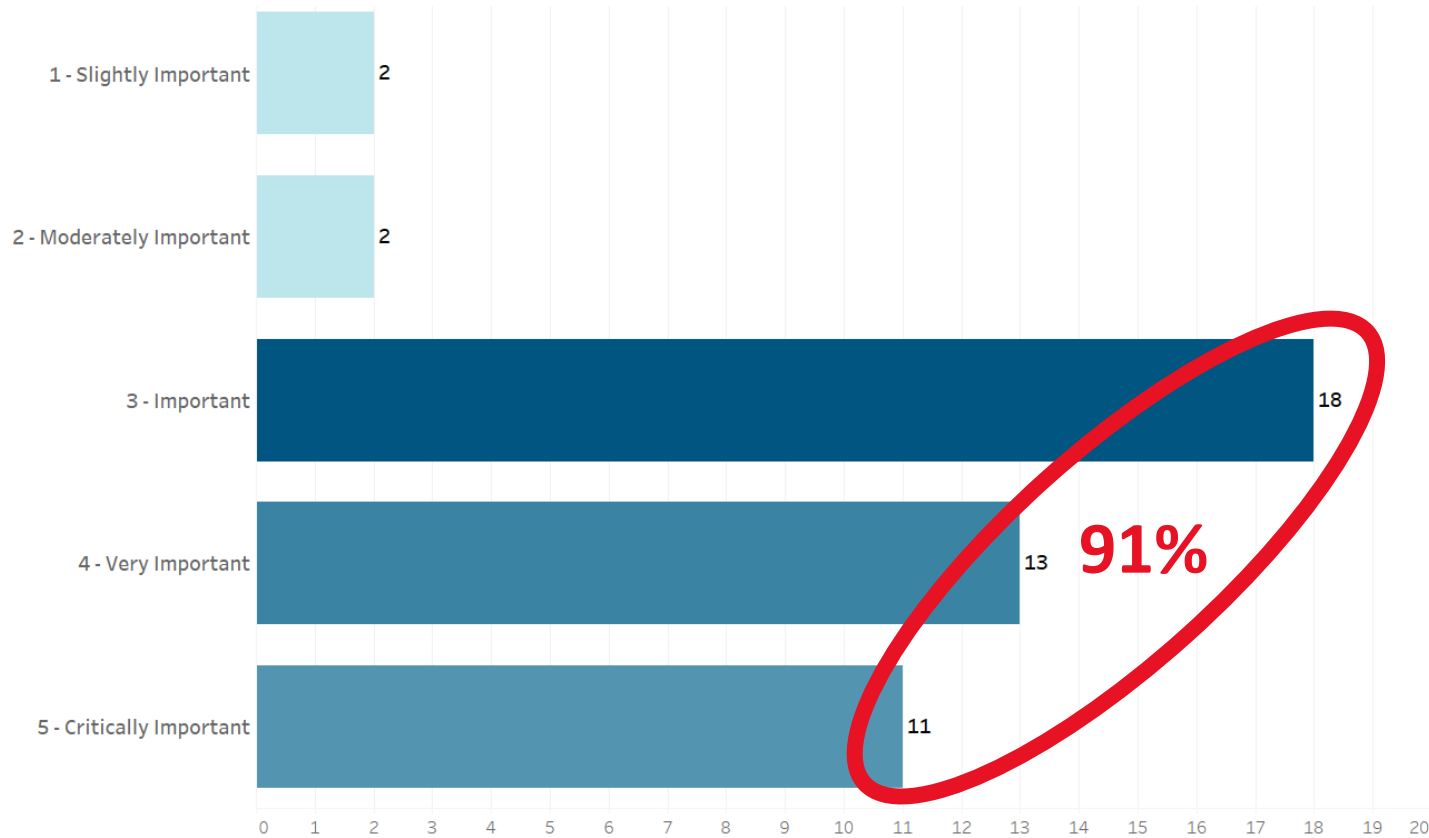
Note: The 2022 survey did not include the options "AI-enabled attacks as a threat vector" and "operational technology cyber."



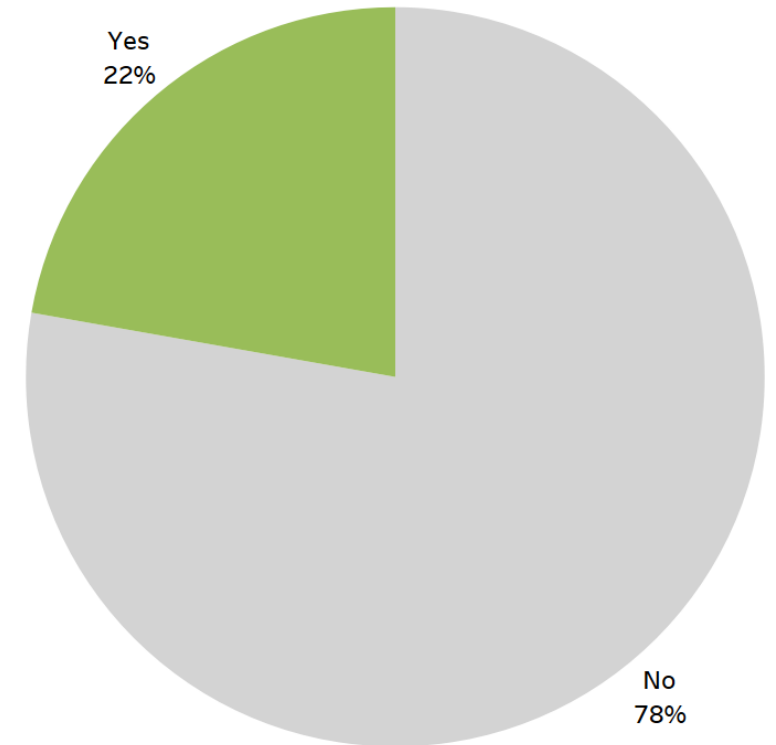
Current and planned use of GenAI in state cybersecurity operations



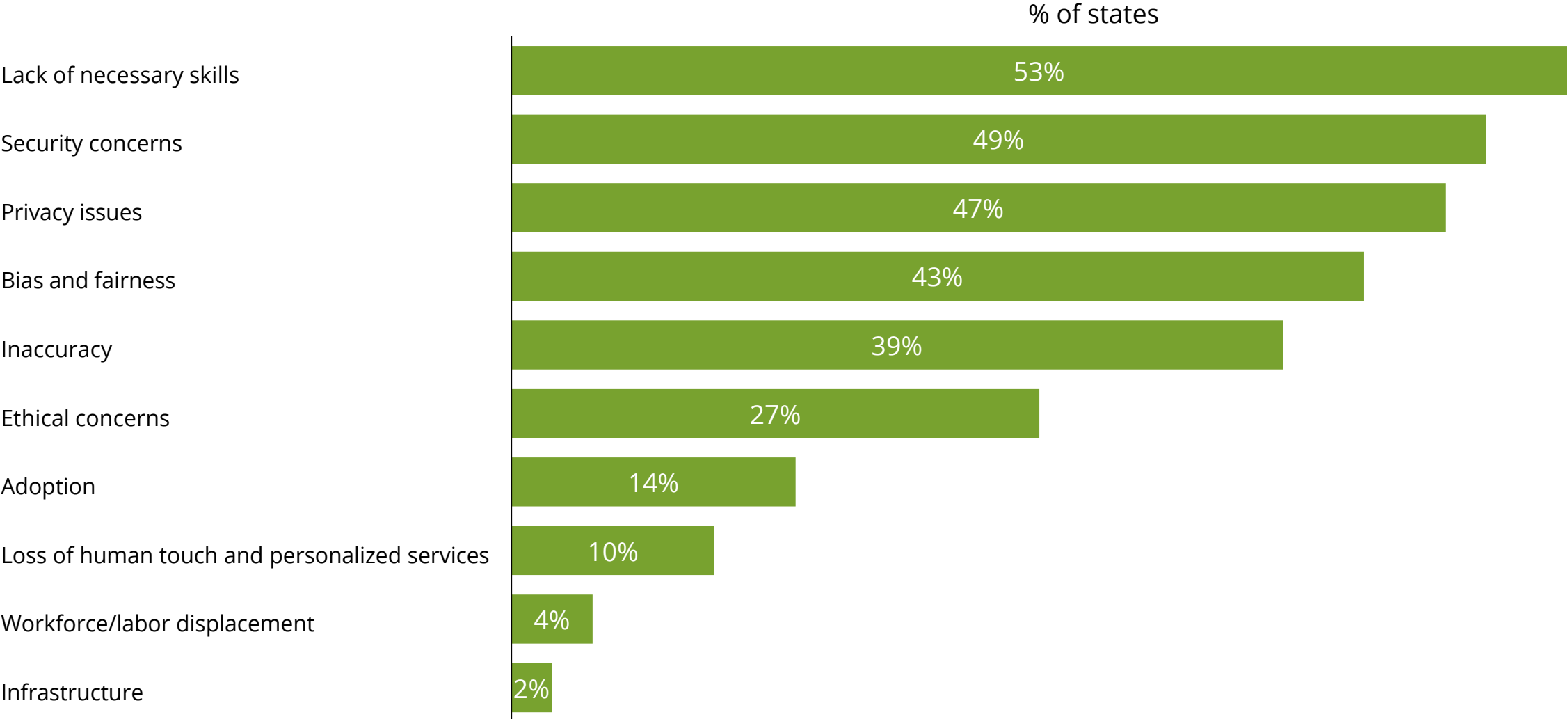
How would you rate the importance of data quality in your organization?



Do you have a data quality program?



Concerns Regarding the Impact of GenAI on State Government Technology Workforce



2025 FEDERAL ADVOCACY PRIORITIES



Ensure Responsible Implementation of the State and Local Cybersecurity Grant Program



Expanding and Strengthening the State Cyber Workforce



Harmonize Disparate Federal Cybersecurity Regulations



Continued Adoption of DotGov Domain is Essential



Artificial Intelligence: States Leading the Way

Resource Center at NASCIO.org

Creating A Citizen-Centric Digital Experience: How Far Have We Come?

September 2023

NASCIO
Representing Chief Information Officers of the States

Data Literacy Within State Government: Building a Knowledgeable Workforce That Knows How to Use Data for Better Decisions

MARCH 2024

NASCIO
Representing Chief Information Officers of the States

Data literacy among state employees was addressed in *The 2023 State CIO Survey*, an annual survey conducted by NASCIO. Only 16 percent of state chief information officers (CIOs) report that they have a formal data literacy/proficiency program for state employees with 84 percent answering no. In light of this data, NASCIO recently convened a panel of state chief data officers who shared their approaches and experiences with data literacy. This panel described six competencies that comprise effective data literacy across the state government enterprise.

- Understanding the importance of data - what is data and what is its importance

NASCIO has published extensively on data management and analytics and data management has been on the *State CIO Top Ten Priority Strategies, Management Processes and Solutions* since 2016. To fully manage data within state government, there is necessarily a minimum capability required among state government staff. As states employ more sophisticated automated and manual capabilities for data driven decisions making, this minimum capability is becoming increasingly important.

Further, with the emerging use of generative artificial intelligence (GenAI), the criticality of data

Your AI Blueprint: 12 Key Considerations as States Develop Their Artificial Intelligence Roadmaps

DECEMBER 2023

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Representing Chief Information Officers of the States

With the mass availability of generative AI (GenAI) tools and large language models in the last year, states are updating or creating new policies and road maps for artificial intelligence (AI).

The NASCIO State CIO Top Ten Priorities list for 2024 includes artificial intelligence for the first time ever. As AI becomes increasingly integrated into the technology infrastructure of government agencies, an AI roadmap will emerge as an indispensable tool for states in the months and years ahead. An AI roadmap not only facilitates the seamless adoption of AI but also enhances efficiency for an already strained state government workforce.

There are several benefits to creating an AI roadmap including improving stakeholder and executive buy-in for AI initiatives, flexibility to adapt as the technology changes, efficient resource allocation and cost savings, risk management and improved service delivery.

Here are a dozen considerations states should include in their AI roadmaps for 2024 and beyond:

- Align AI initiatives to strategic drivers for the organization.** First determine how AI fits into the overall goals of the state IT strategic plan. Don't assume AI will solve every problem or help you reach every goal. In addition, don't go looking for a problem to solve with AI. Identify the business case and overall strategic goals of the organization before deploying an AI tool.
- Establish governance and oversight processes.** Absence of proper AI governance exposes states to potential risks such as data leakage, violations of privacy laws and erosion of citizen trust. To navigate these challenges, it is crucial to adopt established AI governance frameworks such as the *NIST AI Risk Management Framework*, *OECD Recommendations on Artificial Intelligence* and the *European Union AI Act*.
- Inventory and document existing AI applications.** Discover the extent of AI tools employed by agencies.

Generative artificial intelligence and its impact on state government IT workforces

McKinsey & Company

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Representing Chief Information Officers of the States

April 2024

The Shifting Privacy Paradigm

State Chief Privacy Officers' Evolving Roles and Persistent Realities

March 2024

NASCIO
Representing Chief Information Officers of the States

Generating Opportunity: The Risks and Rewards of Generative AI in State Government

November 2024

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The 2024 State CIO Survey

Building Blocks of the Next Generation CIO

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2024 Deloitte-NASCIO Cybersecurity Study

A joint biennial report (8th edition) from Deloitte and the National Association of State Chief Information Officers (NASCIO)

State chief information security officers are striving to counter ever more sophisticated threats

Deloitte Insights

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Data quality - vital to optimizing GenAI

A survey of state chief information officers and chief data officers

EY
Building a better working world

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