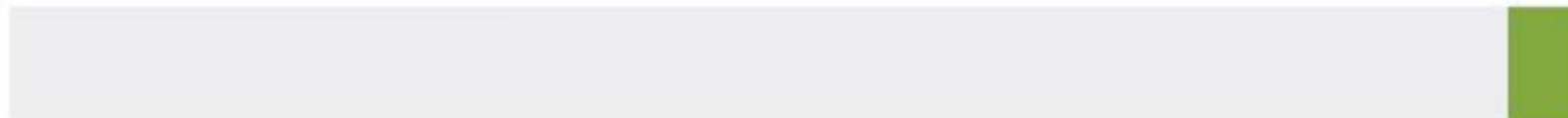


# 2021 STATE AND LOCAL TECH FORECAST



# Speakers



**Doug Robinson**  
Executive Director,  
NASCIO



**Alan Shark**  
Executive Director,  
CompTIA-PTI




# State of the States 2021

## Technology Forecast 2021: Agility, Resiliency and Uncertainty

January 12, 2021

Doug Robinson, NASCIO Executive Director  
@NASCIO





Fiscal impact of pandemic: uncertain revenue levels, constrained budgets, reduced spending levels, additional federal funding? More IT spend?

CIO as broker business model: evolution from owner-operator to more managed services, outsourcing and multi-supplier initiatives

Elevated cyber threats during pandemic, more focus on enterprise cybersecurity models, fraud detection, whole-of-state coordination

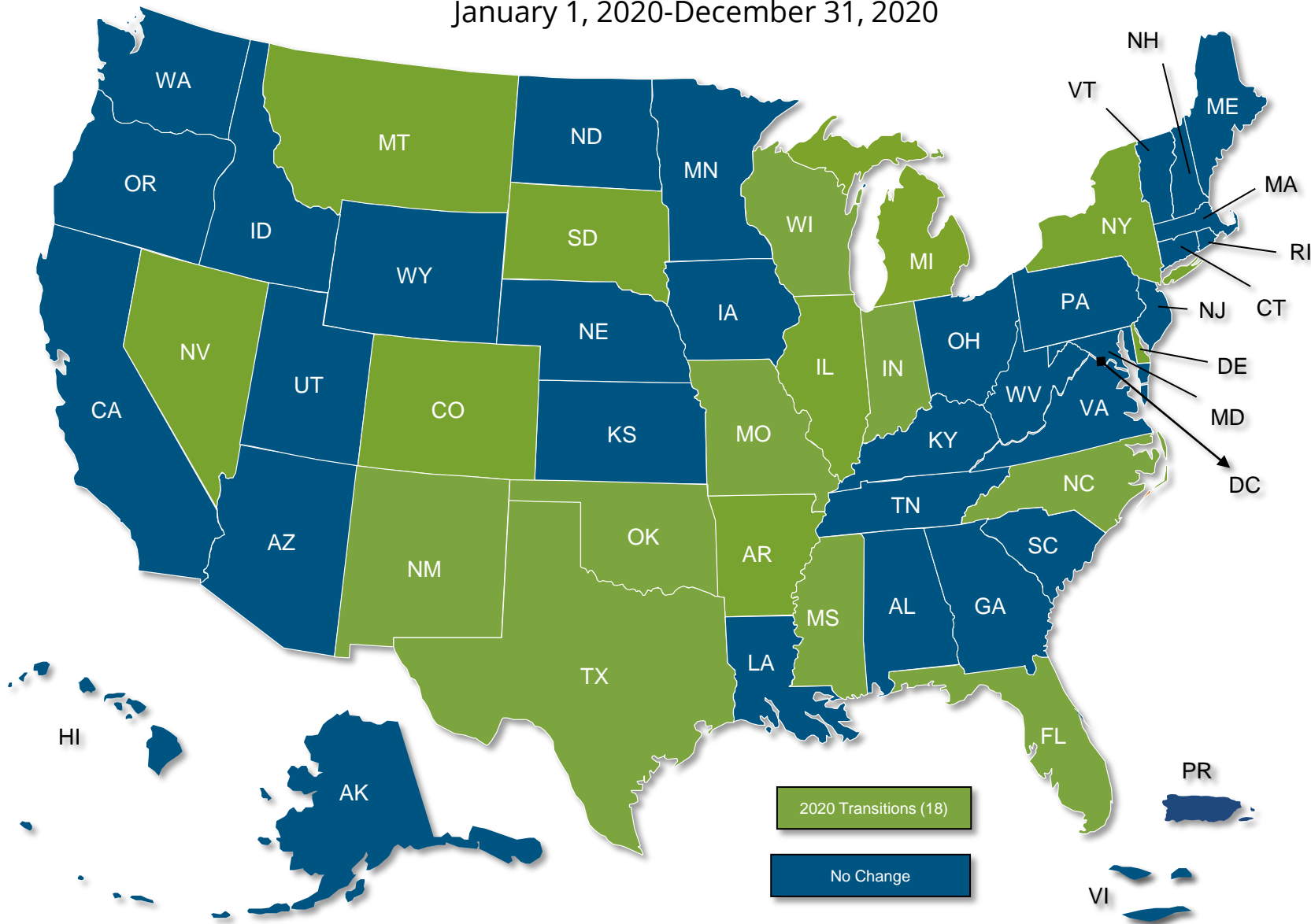
Digital government services: user centric design, streamlining experiences, security, citizen IAM, expansion/adoption of .GOV domain

Emerging technology adoption: need for governance, funding and enterprise direction. Artificial Intelligence (AI) leads the way

18 state CIO transitions in 2020. What to expect in 2021?

# State CIO Transitions 2020

January 1, 2020-December 31, 2020





# STATE CIO TOP 10 PRIORITIES

2021 Strategies, Policy Issues and Management Processes

- |   |  |   |   |
|---|--|---|---|
|    | <b>1 Cybersecurity and Risk Management</b>       | → | #1 for eight consecutive years. On the top ten list since 2006                |
|    | <b>2 Digital Government/Digital Services</b>     | → | Steadily moving up the list. COVID-19 impact                                  |
|    | <b>3 Cloud Services</b>                          | → | Major force of change. In top three since 2013                                |
|    | <b>4 Broadband/Wireless Connectivity</b>         | → | COVID-19 impact. #9 in 2020 - on/off list for a decade                        |
|    | <b>5 Budget, Cost Control, Fiscal Management</b> | → | COVID-19 impact! On the list since 2009                                       |
|    | <b>6 Data Management and Analytics</b>           | → | Holding steady on the list since 2016   |
|    | <b>7 Consolidation/Optimization</b>              | → | CIO priority each year. Frequently #1 since 2008                              |
|   | <b>8 Identity and Access Management</b>          | → | New to the top ten list. Enables digital services                             |
|  | <b>9 Workforce</b>                               | → | Back on the list. COVID-19 priority   |
|  | <b>10 Customer Relationship Management</b>       | → | Key priority because of business model. Intermittently on the list since 2015 |



# State CIOs: COVID-19 Response and Recovery

Secure remote access; remote workstation deployment

IT infrastructure/systems stability, scaling, configuration

Cybersecurity, increased threats and risk management

Digital government, automation, video calls, call centers

Corporate partners and the IT supply chain

Recovery phase: return to workplace? Or not?

Contact tracing, exposure notification, vaccine apps



# COVID-19 and Automation

In your state government, what automation solutions and emerging technologies were first introduced in response to COVID-19?	Introduce
Chatbots (virtual agents) for citizen service inquiries (online citizen service inquiries)	76%
Mobile apps for contact tracing/exposure notification	53%
Voicebots to support call center interactions	40%
Automated body temperature scanners/sensors	24%
Automated fraud detection using predictive analytics	20%
Other	11%
Blockchain to track COVID-19 cases	2%
Wearable social distancing devices/wristbands	2%
Virtual/Augmented Reality	2%







## Digital Government Rising:

How AI is providing new opportunities to deliver value



## AI Today and Tomorrow

AI, ML and RPA offer near- and long-term benefits. Here is a sampling of how states use the technologies now and where they may apply them over the next 18 months.

Current Use Cases	Use Cases Under Review
Chatbots for help desks and call centers	Fraud detection in public assistance programs
Enhancing decision support systems and analyzing public health trends	Natural disaster forecasts and risk analyses
Resource scheduling and optimization	Monitoring transportation systems
Workforce augmentation	Capturing institutional knowledge and best practices
Improving operational efficiency	Enhancing constituent experience
Improving citizen access to government services and benefits	Streamlining workflows and forms processing
Cybersecurity threat assessments	Expanding use for cybersecurity threat assessments



# What Will Change in 2021?

What business process, practices or investments do you believe will change post COVID-19?



Expanded work from home/remote work options



Expanded use of collaboration platforms/remote meetings



Increased attention on digital government services/citizen experience



Investments in broadband expansion/adoption



Increased priority and investment in legacy modernization

6. Expanded cloud services/SaaS deployment

7. Accelerated use of data analytics

8. Changes to state government facilities, reduction of office space and configuration

9. Broader adoption of artificial intelligence/automation

10. Investments in business continuity and operational resilience

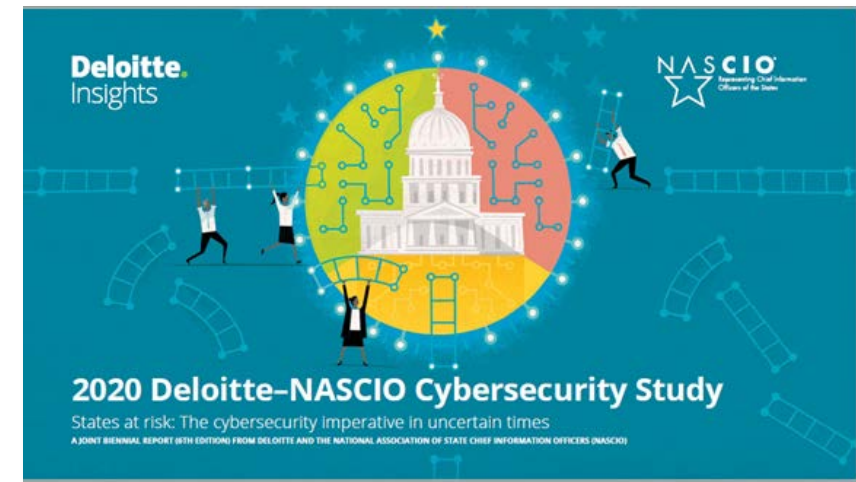
# Cybersecurity Maturity

## Characterize the current status of the cybersecurity program and environment in state government.

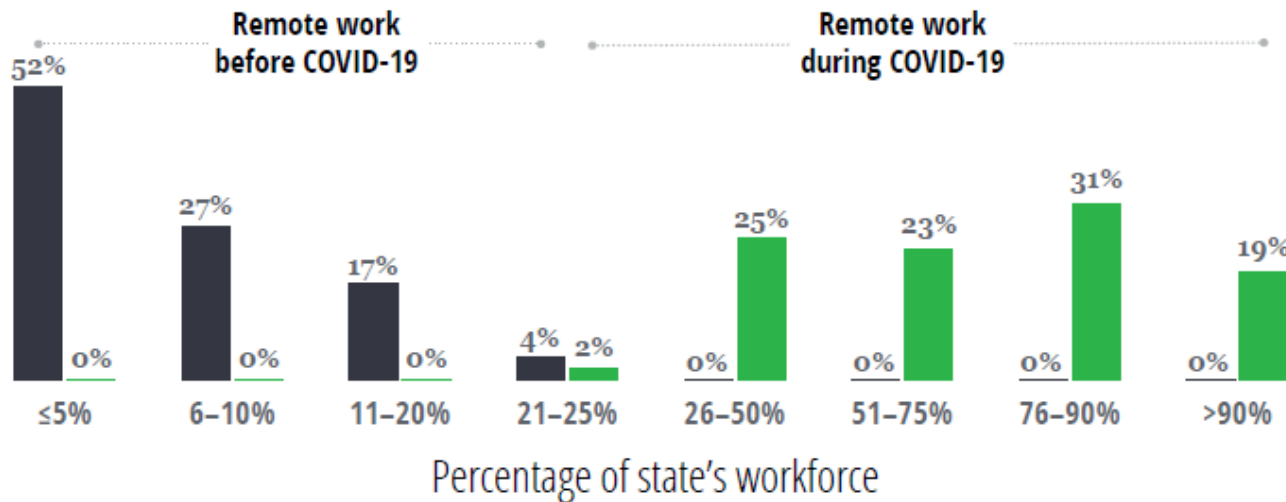
Developed security awareness training for workers and contractors	<b>96%</b>
Acquired and implemented continuous vulnerability monitoring capabilities	<b>89%</b>
Established trusted partnerships for information sharing and response	<b>89%</b>
Adopted a cybersecurity framework, based on national standards and guidelines (based on NIST)	<b>80%</b>
Created a culture of information security in your state government	<b>77%</b>

Developed a cybersecurity disruption response plan	<b>66%</b>
Adopted a cybersecurity strategic plan	<b>66%</b>
Obtained cyber insurance	<b>55%</b>
Documented the effectiveness of your cybersecurity program with metrics and testing	<b>52%</b>
Used analytical tools, AI, machine learning, etc. to manage cyber security program	<b>41%</b>

# The pandemic widened cyber challenges: budget, talent, threats, and the need for partnerships



*What percentage of your workforce worked remotely before COVID-19? And during?*



Top safeguards reinforced or established by CISOs as part of the COVID-19 response

- 01 Safeguard teleconferencing and video solutions and update policy and procedures
- 02 Establish secure work connections with multifactor authentication
- 03 Provide guidance on phishing and disinformation campaigns
- 04 Ensure continuity of operations plans/business continuity plans are up-to-date
- 05 Provide continuous guidance on COVID-19-related scams and precautions



# COVID-19 has challenged continuity and amplified gaps

## Top barriers to overcome cybersecurity challenges



## Average cybersecurity spend in 2020 (percentage of IT budget)

**1–3%** Most state governments

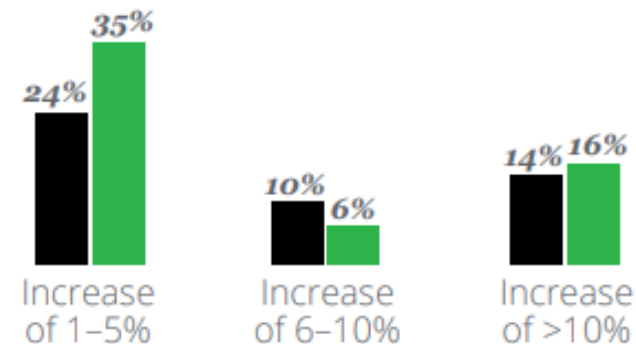
**16.3%** Federal agencies\*

**10.9%** Financial institutions

*\*Federal civilian agencies under the CFO Act of 1990.*

## Only a few states reported a budget increase since 2018

**2018 vs. 2020**



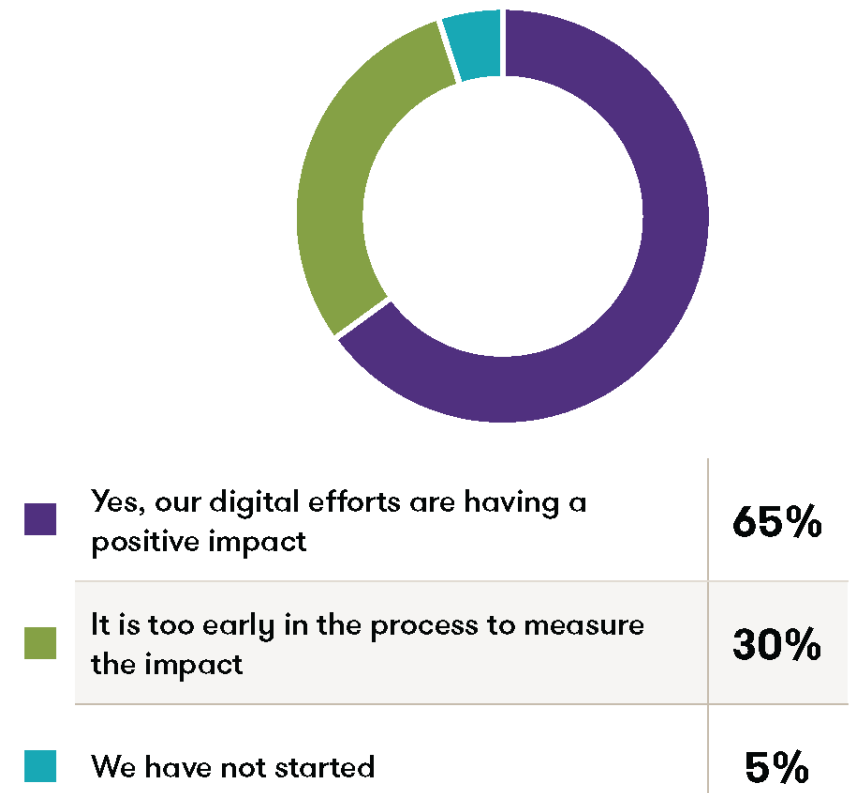


# Digital Government Services

## What is the biggest driver to establishing digital services

Better online experience for citizens	98%
Optimizing operations and lowering costs	73%
Increased public participation and engagement	64%
Better collaboration among state agencies	52%
Providing more opportunities for innovation	48%
Empowering frontline government employees to collaborate and increase productivity (employee engagement)	32%
Leveraging data analytics to identify new service opportunities	32%

## Have you seen any benefits from your digital transformation efforts?



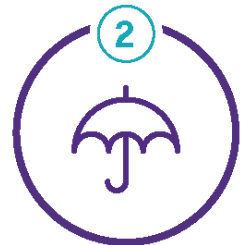


# Cloud Adoption Priorities

What categories of services are your top priorities for migration to the cloud?



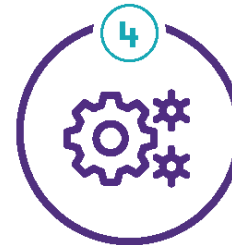
E-mail and collaboration



Disaster recovery



Office productivity software



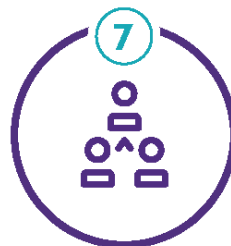
Enterprise Resource Planning



Security services/monitoring



Program/business applications



Citizen relationship management



HR/payroll/time and attendance



Storage



Identity Management



Geographic Information Systems



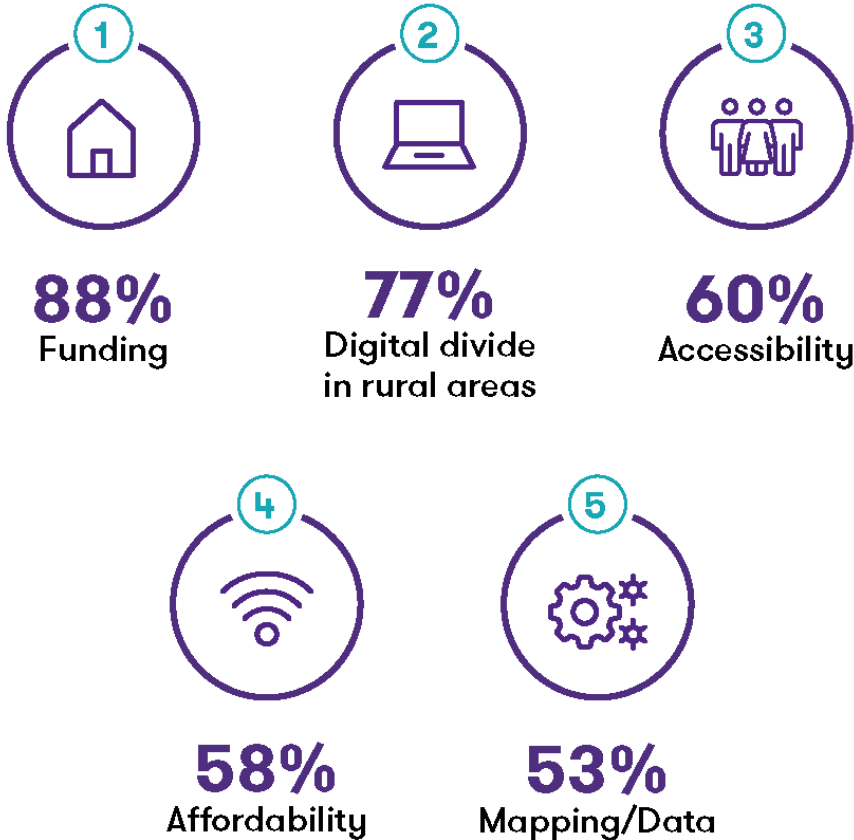
Open data

# Evolving CIO Service Model

How does your state CIO organization plan to deliver or obtain IT services over the next three years?	Introduce	Maintain	Expand	Downsize
State-owned-and-operated data center(s)	0%	47%	11%	42%
Outsourcing service model	9%	40%	49%	2%
Managed services model	7%	33%	60%	0%
IT shared services model	4%	37%	57%	2%
“As-A-Service” models (e.g. SaaS, PaaS, IaaS, etc.)	7%	2%	89%	2%
State IT staff	0%	70%	11%	20%

# Broadband Priorities

What are the top five most important elements in your state broadband strategies?



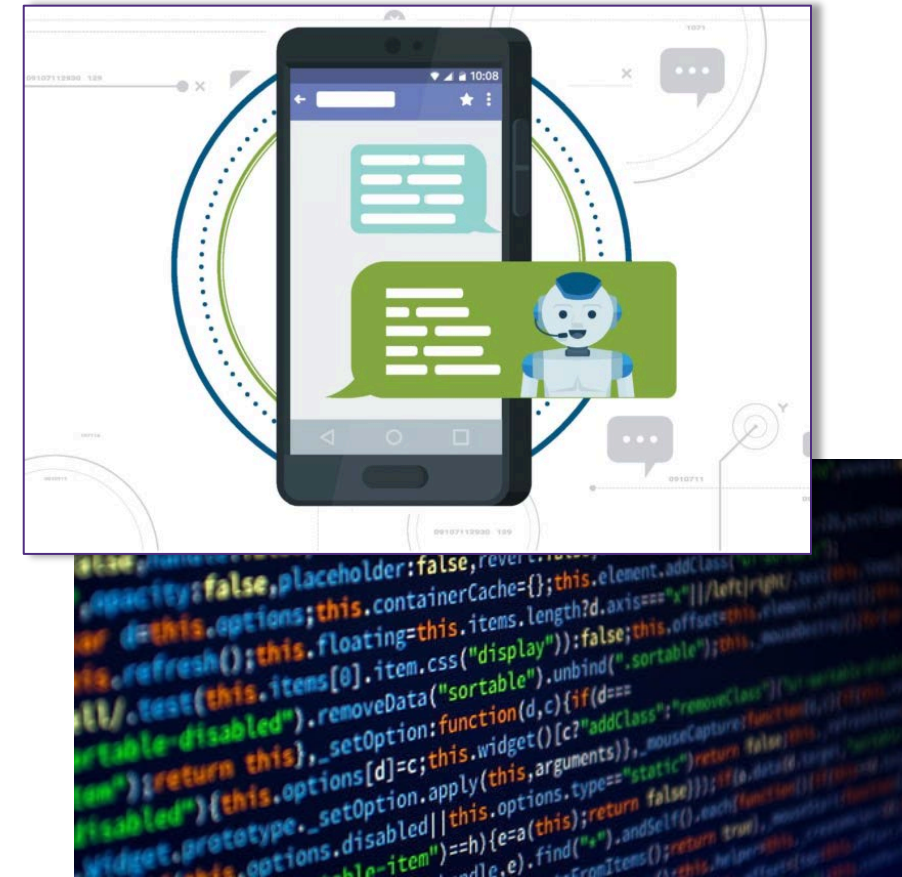
What role does the state CIO play in the state's broadband strategy?

Member of statewide team involved in strategic planning	73%
Contract oversight of broadband providers	28%
Leading strategic planning	23%
Implementation	23%
Other	23%
Network security	18%

# Emerging Technology

What emerging IT area will be most impactful in the next 3-5 years?

■ AI (machine learning, RPA, chatbots)	61%
■ Low-code application development	33%
■ Internet of Things (IoT)	2%
■ Connected/Autonomous Vehicles	2%
■ Other	2%





# Outlook for 2021...

Budget stress,  
deferred projects,  
tough choices

Sustaining remote  
work  
environment  
Return to  
workplace?

Broadband  
priorities:  
funding,  
governance,  
federal policy

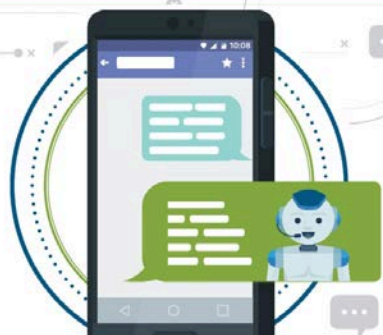
Legacy  
modernization,  
remediation,  
cloud migration

Cybersecurity  
risks: IT supply  
chain, COVID-19  
vaccine logistics

New federal  
administration  
and states: policy  
shift, funding  
priorities



## CHAT WITH US: HOW STATES ARE USING CHATBOTS TO RESPOND TO THE DEMANDS OF COVID-19



accenture



## THE FUTURE STATE CIO

How the role will  
drive innovation

## STRONGER TOGETHER

State and Local Cybersecurity  
Collaboration



NASCIO | Grant Thornton | CompTIA

## The Agile State CIO: Leading in a time of uncertainty

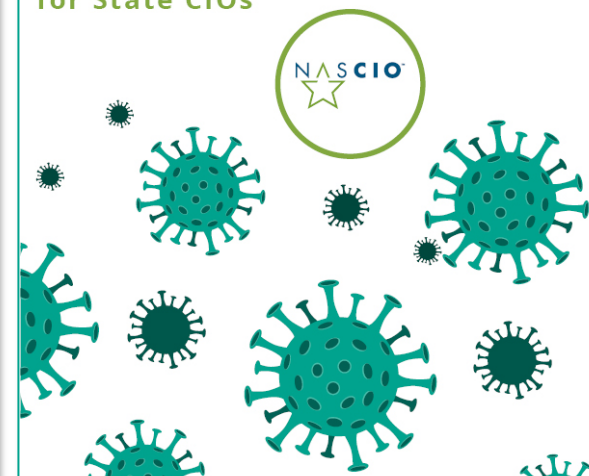
2020 State CIO Survey

## THE STATE CIO OPERATING MODEL: LEVERAGING THE POWER OF THE FOUR FORCES



## COVID -19

### Planning and Response Guidance for State CIOs



Deloitte  
Insights

**NASCIO**  
Representing Chief Information  
Officers of the States

## 2020 Deloitte-NASCIO Cybersecurity Study

States at risk: The cybersecurity imperative in uncertain times

A JOINT BIENNIAL REPORT (6TH EDITION) FROM DELOITTE AND THE NATIONAL ASSOCIATION OF STATE CHIEF INFORMATION OFFICERS (NASCIO)

How will the power of emerging  
technology help reframe your future?

Find out more about emerging technology governance  
[Reframe Your Future: Emergingtech](#)

■ ■ ■  
The better the question,  
the better the answer.  
The better the world works.

**EY**  
Building a better  
working world

**NASCIO**  
Representing Chief Information  
Officers of the States



# 2021 Outlook for Cities and Counties

Dr. Alan R. Shark, Executive Director, PTI/CompTIA



# 2021 Outlook for Cities & Counties

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1. Cybersecurity focus intensifies...
2. Managed services grow...
3. The CIO stature has risen...
4. Citizen-centric focus grows in emphasis and importance...
5. Remote work options become permanent...
6. The future of the office is changed forever...

# 2021 Outlook for Cities & Counties

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7. Broadband expansion in affordability, and accessibility..
8. Greater local state collaboration - especially in cybersecurity.....
9. Emerging tech grows in state and local government.....
10. Digital infrastructure will eclipse physical infrastructure...
11. Micro transportation grows as well as flexible service options...
12. Recent experience with the great tech pivot should secure improved tech funding for years to come.

# 2021 State of City and County Technology National Survey

*(Preliminary Findings)*



Dr. Alan R. Shark,  
Executive Director,  
CompTIA's PTI

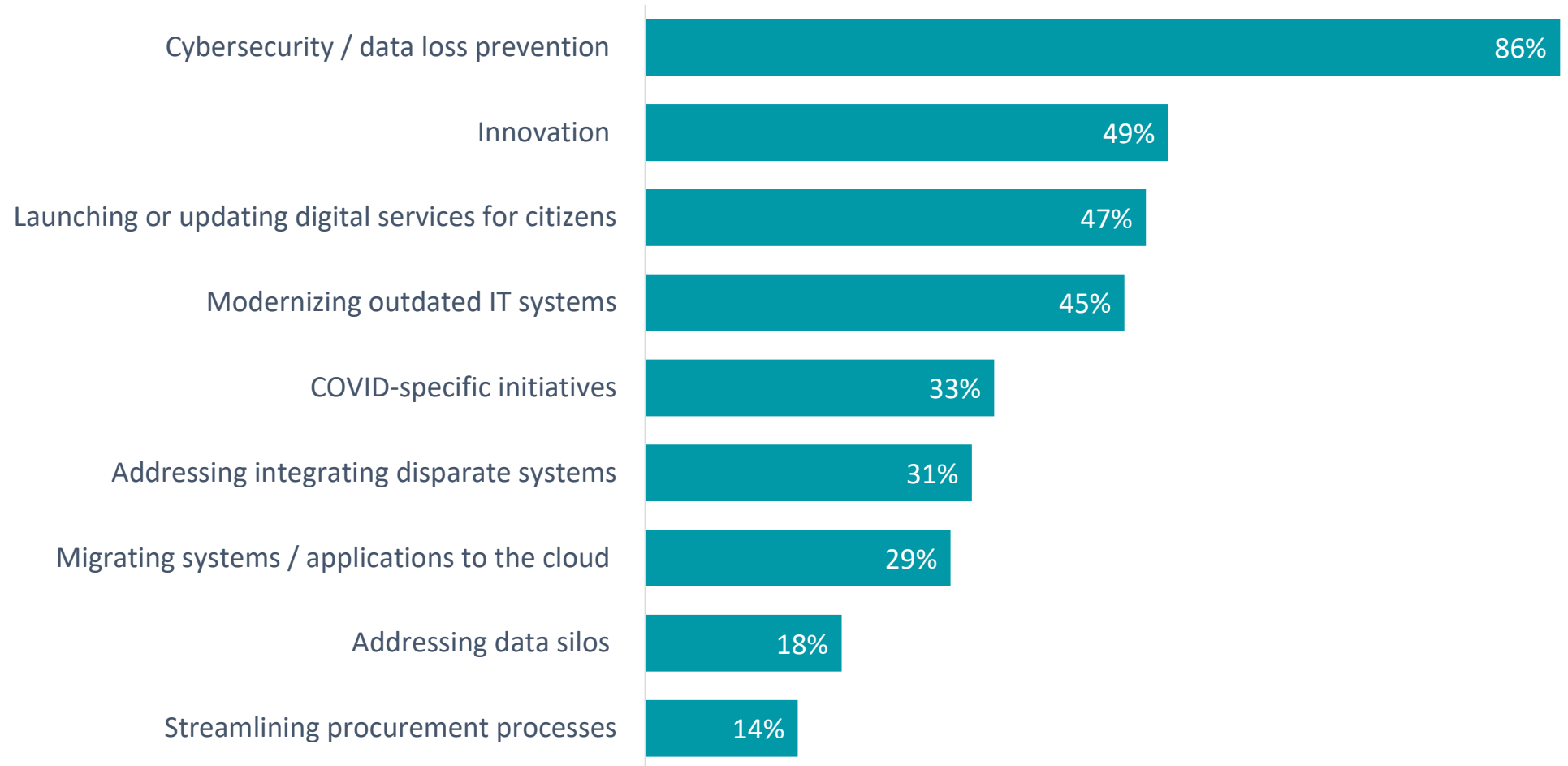
# Select Topics....

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1. CIO Technology Priorities over the next 2 years
2. Budget Expectations
3. Top priorities for bridging workforce skill gaps
4. Cybersecurity priorities
5. Impact of COVID



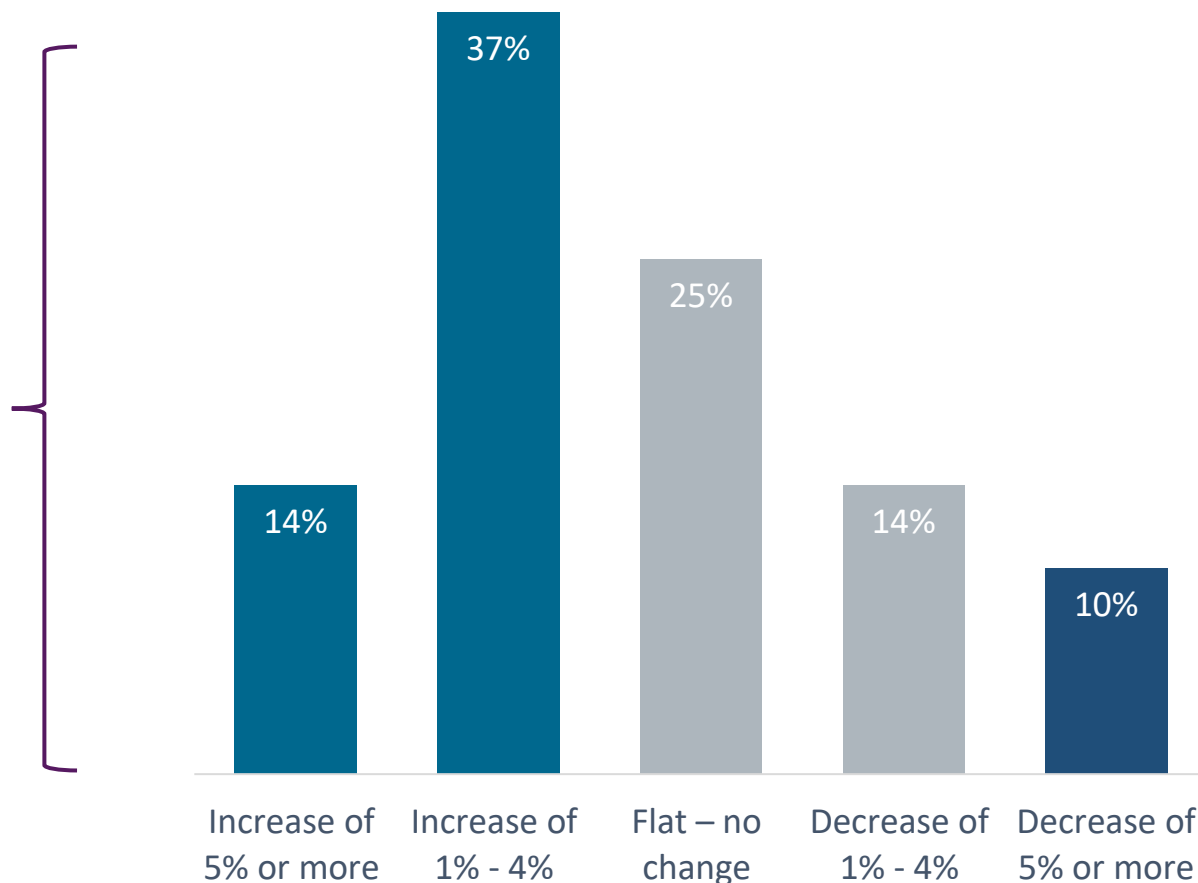
# City/County CIO Technology Priorities Over Next 2 Years





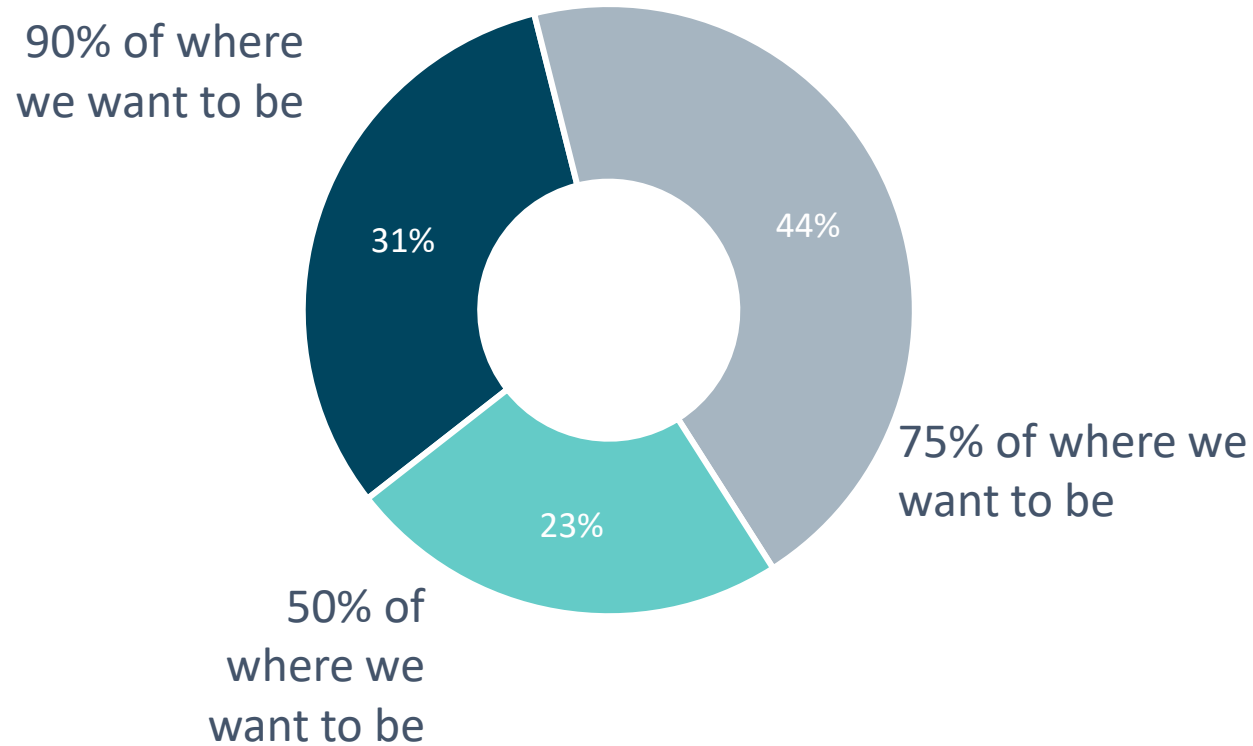
# City/County Technology Budget Expectations

50% of  
City/County  
CIOs (NET)  
expect their  
IT budgets to  
increase in  
the next  
fiscal year



# State of IT Staff Skills

## Assessment of IT team capabilities/skills

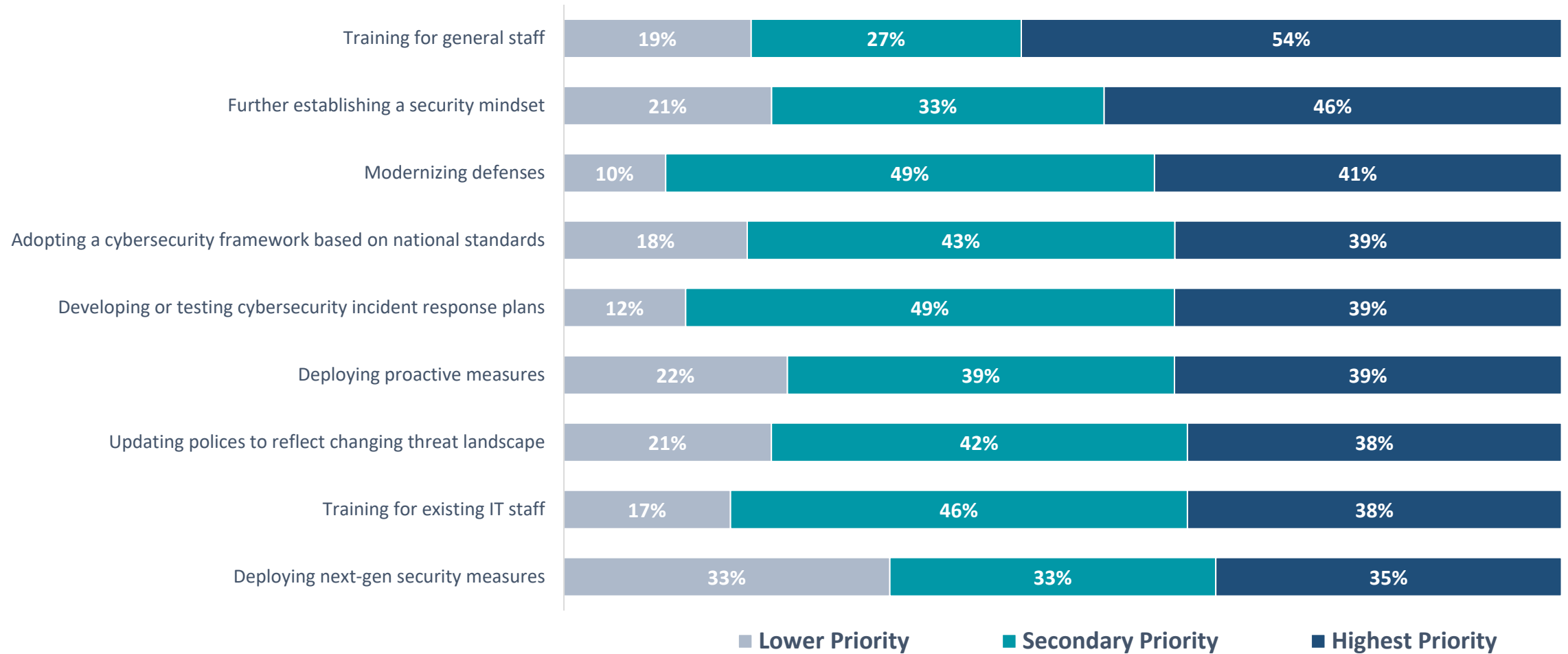


## Top priorities for bridging skills gaps

#1	Cybersecurity
#2	Soft skills, i.e. improvements to communications, collaboration, team IQ
#3	Cloud, i.e. infrastructure migration, application or platform deployment
#4	Digital transformation, i.e. modernizing systems, embracing digital government
#5	Infrastructure, i.e. improvements to network/systems reliability, performance
#6	Integration, i.e. disparate systems, applications, data streams
#7	Crisis management, e.g. readiness, response, recovery

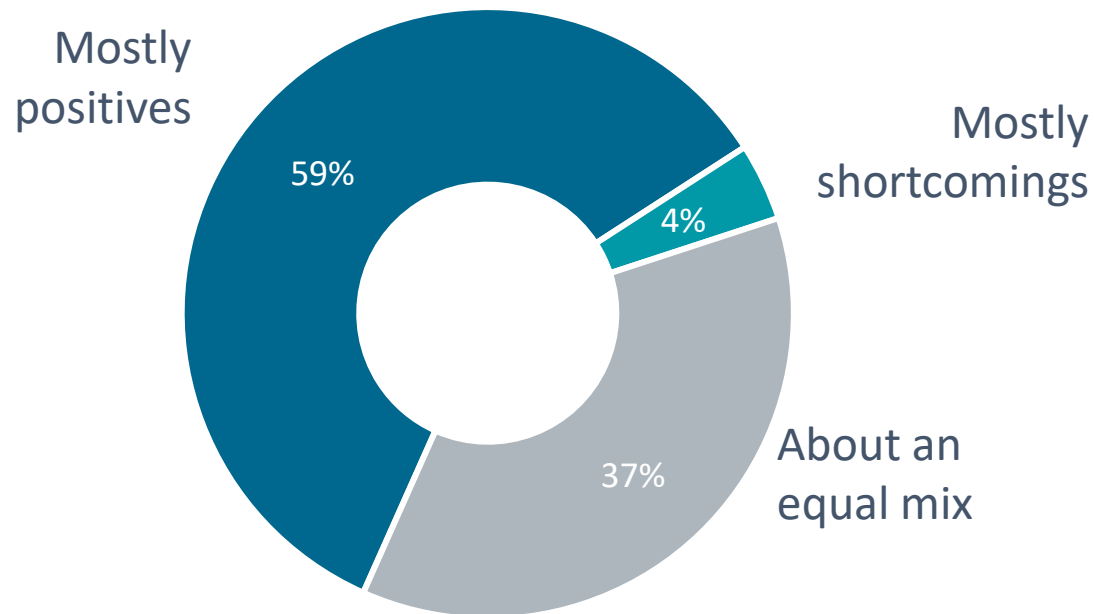


# City/County Cybersecurity Priorities on Many Fronts



# Impact of COVID Situation

## Revelations from COVID



## Actions influenced by COVID

1. Expanded remote work / WFH options (92%)
2. Expanded use of collaboration platforms / remote meetings (92%)
3. Investments in virtual / digital services for citizens (51%)
4. Investments in business continuity and operational resilience (39%)
5. Changes to local government facilities, reduction of office space and configuration (35%)

Visit PTI [www.pti.org](http://www.pti.org)

# TECHNOLOGY MATTERS



Public Technology Institute

CompTIA

January 7, 2021

## TOP NEWS

### 2021 tech trends for cities and counties

CompTIA

It appears evident that no one will look back at 2020 with any regret or nostalgia. Everyone will have their stories to tell for decades. For local governments 2020 was the year of the "great pivot" towards online services and remote work that transformed government in just a matter of weeks. Having conversed with hundreds of local government tech leaders as well as reviewing the many futuristic tech predictions in recent months, I compiled a composite of what cities and counties can reasonably expect in 2021.

READ MORE

## PTI NEWS

### 2021 Technology Forecast: Agility, Resiliency, and Uncertainty



Public Technology Institute

## INDUSTRY NEWS

### 5 state and local government IT trends to watch in 2021

StateTech

As in almost every sector, 2020 proved to be an unprecedented year for state and local governments, which were often on the front lines of combating the coronavirus pandemic and its resulting fallout on the economy, public health and government services.

READ MORE

### Bill to help local governments thwart cyberthreats signed into law

Homeland Preparedness News

A provision to encourage local governments to adopt the .gov domain for websites and email accounts was signed into law as a part of the year-end omnibus funding bill. The provision was originally introduced as the DOTGOV Online Trust in Government Act. It directs the Department of Homeland Security (DHS) to provide resources and assistance to local governments to adopt .gov web addresses. The bill was introduced by Sens. Gary Peters (D-MI), Ron Johnson (R-WI), Amy Klobuchar (D-MN), and James Lankford (R-OK).

READ MORE

### Why connectivity is fundamental to the public sector's rebound

ITProPortal

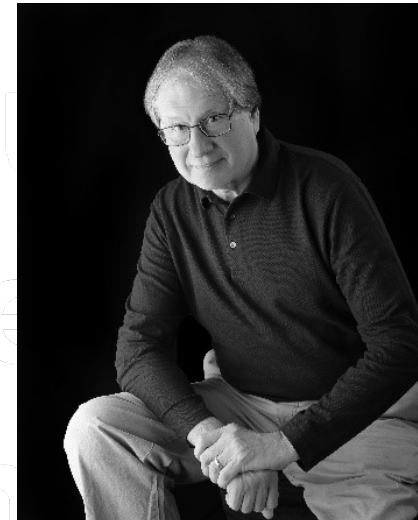
COVID-19 was a revolutionary year for the public sector. It had to take dramatic steps to survive and stabilize, rapidly shifting to remote working for employees and prioritizing digital delivery.

READ MORE

### How to solve inefficient meetings through existing technology

Nextgov

When organizations across the country were forced to move all their employees and operations remote, state and local governments were faced with unique challenges. Their work serving the community was often done in-person, because of both historical practices and laws regulating things like public meetings and sharing of information. Most government organizations quickly adopted tools like Microsoft Teams, so work did not stop completely, but there was a gap in the



Dr. Alan R. Shark, Executive Director, CompTIA's PTI

[ashark@pti.org](mailto:ashark@pti.org)



# 2021 STATE AND LOCAL TECH FORECAST



# Contact Information

**Doug Robinson**

Executive Director,  
NASCIO

[drobinson@nascio.org](mailto:drobinson@nascio.org)



**Alan Shark**

Executive Director,  
CompTIA-PTI

[ashark@pti.org](mailto:ashark@pti.org)





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