

MEMOS FOR A TECH TRANSITION

Building State Digital Capacity
in the First 200 Days

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Co-chair Letter

The events of the last three years have revealed opportunities for governments at every level to ensure that they are better serving the public. Modern technology offers a tantalizing but often bewildering array of tools that states can use to translate policy goals into valuable, functioning programs.

[Tech Talent Project](#) has collaborated with [American Enterprise Institute](#), the [Beeck Center for Social Impact + Innovation at Georgetown University](#) and [New America](#) to release a series of memos to help states make quick, meaningful progress in building technical capacity while avoiding past pitfalls.

Demand for government services to families, businesses and communities during the COVID-19 pandemic was unprecedented. In the first year alone, an estimated 46 million people claimed unemployment benefits,¹ 93% of households with school-age children used remote learning,² and Medicaid enrollment jumped more than 20%.³ As the technical systems supporting some of these programs buckled, states struggled under increased administrative burdens and the need to serve huge numbers of people virtually.

Since March 2020, the federal government has made at least \$750 billion available to state and local governments to ease the economic damage suffered across the country.⁴ While some states quickly took advantage of this money, many are still deciding where to invest it to strengthen service delivery and prevent future technology failures. This moment represents a once-in-a-generation opportunity to improve interaction between states and their constituents.

Luckily, there are over a decade of best practices that states can learn from. We have written nine memos to share these best practices. Four focus on how states can maximize foundational tools such as tech talent, data practices, procurement processes and cybersecurity to strengthen programs and provide human-centered services to residents. Five memos speak to critical program areas where these best practices could be implemented: broadband access, child welfare, education data systems, safety net program coordination, and unemployment insurance.

How to use these memos:

¹ <https://www.cnn.com/2021/09/02/pandemics-794-billion-unemployment-benefits-were-historic-heres-why.html>

² <https://www.census.gov/library/stories/2020/08/schooling-during-the-covid-19-pandemic.html>

³ <https://www.ncsl.org/research/fiscal-policy/how-states-are-spending-their-stimulus-funds.aspx>

⁴ <https://www.nytimes.com/interactive/2022/03/11/us/how-covid-stimulus-money-was-spent.html>

- » **FOR GOVERNORS OFFICES:** Each memo outlines specific, actionable opportunities to build momentum in the first 200 days of 2023, including hiring for specific senior-level positions that require technical expertise. We include a two-page executive summary of all memos and a list of key roles.
- » **FOR AGENCY LEADERS:** Each memo summarizes opportunities to deliver services well using technology and avoid problems with it. They provide an overview of the subject area and outline key best practices for delivering services effectively.

We are deeply grateful to the nearly 140 nonprofit, government and technical leaders who contributed to this project. We all benefit from the tireless efforts of people who are passionate about good government, regardless of their party affiliation or policy positions.

Sincerely,

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SIX KEY TAKEAWAYS FROM THE TECHNOLOGY TRANSITION MEMOS

[Tech Talent Project](#) has partnered with [American Enterprise Institute](#), the [Beeck Center for Social Impact + Innovation at Georgetown University](#) and [New America](#) to bring together nearly 140 government, industry and nonprofit leaders to outline the key technology opportunities facing states in 2023.

These memos focus on how states can improve foundational tools that enable technology delivery, such as talent acquisition, procurement processes, data practices and cybersecurity. They also address five key program areas where states can leverage federal dollars to transform the constituent experience: broadband access, child welfare, education data systems, safety net program coordination, and unemployment insurance. Below are six key takeaways.

1. FEDERAL DOLLARS CREATE A TIMELY OPPORTUNITY FOR SUCCESS OR FAILURE

From [\\$65 billion for broadband expansion](#) to [\\$1 billion for cybersecurity](#), states have an unprecedented amount of federal resources to spend on technology upgrades. While some of the money has already been allocated, many states are still deciding how and where to invest. If states spend these dollars in traditional ways — large contracts, with a single technology vendor, over multiple years — the projects are unlikely to succeed. There are proven best practices that states can use to deliver modern technology effectively. States can leverage the best practices, tools, resources and organizations outlined in these memos to deliver better services now, and to make institutional changes that will pay dividends into the future.

2. STATES NEED LEADERS WITH MODERN TECHNICAL EXPERIENCE FROM DAY ONE

States cannot deliver 21st-century government services without the technical talent to build and use modern systems effectively. Many governments rely heavily on contractors to fill the tech talent gap, but this can be risky. While government can contract with companies to build and operate technology, they cannot outsource

accountability for its success or failure. States need skilled internal technical leaders to oversee vendors and ensure that online systems work for the people who use them.

To do this, states must recruit and retain technical talent. Yet many count themselves out, assuming they can't hire without matching private sector salaries. It is possible for government to recruit and retain top technologists who are eager to improve people's lives at scale, but only by employing best practice strategies and processes for hiring. States can make progress in early 2023 by appointing and empowering modern technical leaders, investing in digital services capacity, laying the groundwork for modern hiring practices, and building pathways for early and mid-career technologists into government.

3. PROCUREMENT PRACTICES CAN MAKE OR BREAK A TECHNOLOGY PROJECT'S SUCCESS

State and local governments pay millions to contractors each year for goods and services that keep their agencies running. The technology that vendors build, helps deliver essential services and shapes whether residents think their government is doing a good job. This means that a failure of procurement — the processes, policies and people behind all this spending — can disrupt services for millions and derail an administration's ability to deliver its priorities.

One reason many government technology procurements fail is states' antiquated practices and strategies. Agencies use the same processes to procure a constantly evolving, \$100 million software system that they would use to buy a bus that costs less than \$500,000. No state can radically transform its procurement processes in six months, but they can set new expectations and start making changes. Early in 2023, states can improve rules for the procurement of custom software, build teams with the skills and support to succeed, and conduct a review of ongoing and upcoming large-dollar software procurements.

4. BUILD ACCESS TO SECURE, HIGH-QUALITY DATA TO MAKE INFORMED POLICY DECISIONS AND DELIVER SERVICES THAT WORK

When the pandemic began, every state began publishing figures on cases, testing and vaccination rates. Governors across the country began presenting data in their daily press conferences and using data to make decisions in real time. There's no reason states can't apply this approach to other critical issues.

Data is a powerful tool that states can use to answer critical policy questions, make operations more effective and increase trust in government. While building modern

data infrastructure is the work of years, not months, states can make meaningful progress in early 2023 by closely aligning their data efforts with key policy priorities in the state. In these areas, officials can gain early momentum by building a team of experts in critical areas, prioritizing data-driven decision-making at all levels, focusing on specific problems while building long-term data projects, and investing in data quality and protection.

5. CYBERSECURITY MUST BE A CONSISTENT STATE PRIORITY

State governments have worked for more than a decade to improve their cybersecurity readiness, in partnership with federal authorities for national security. Yet threats persist. Governments must protect their ever-expanding online systems from hacking, ransomware and other threats.

In the face of increasing cyberattacks, governments — especially local and tribal governments — will have to compete with other public and private sector employers for technical expertise. The federal government is providing \$1 billion in cybersecurity grants for state and local governments in the Infrastructure Investment and Jobs Act of 2021. States can use these funds to better understand their current statewide cybersecurity strategy, build their cybersecurity workforce, launch relevant statewide initiatives and actively prepare for cyberattacks.

6. SMALL WINS AND HUMAN-CENTERED APPROACHES TO TECHNOLOGY AND OPERATIONAL IMPROVEMENTS ARE MORE LIKELY TO SUCCEED

A human-centered approach to technology prioritizes the experience of the people using state programs and systems. This means investing resources in understanding what it is like to apply for benefits and where people are getting stuck. States that take the time to talk to the constituents they serve about their experience and use this information to build a technology roadmap are more likely to succeed.

A state's chances of delivering something of value increases when they prioritize solving real customer problems. Starting small can help a state reduce risk and deliver small but meaningful wins that staff and customers can quickly appreciate. This could include digitizing paper forms, finding new data-sharing opportunities across programs or exploring new ways to communicate with program beneficiaries.

SUMMARY OF KEY ROLES

Chief Information Officer: Chief information officers are often the highest-ranking technical decision-maker for a state or agency. They are typically accountable for all technical capabilities within a state, including customer-facing software applications, data storage strategy and email systems for staff.

Chief Technology Officer: Chief technology officers most often act as the lead technical strategists for the government. They're most effective when they engage in improving technology that drives the customer experience.

Chief Data Officer: Chief data officers drive data strategy, manage data assets and build access to the accurate and secure data that internal stakeholders need to do their jobs.

Chief People Officer: Chief people officers are transformative leaders who focus on recruiting a modern technical workforce and making state government a place where technologists want to work and grow.

Chief Information Security Officer: Chief information security officers oversee all aspects of cybersecurity and typically advise the state chief information officer and executive leadership on cybersecurity risk.

Chief Procurement Officer: Chief procurement officers possess a deep familiarity with the complex practices and policies that govern the way states purchase technology and technology services. These experts are invaluable partners in efforts to incorporate innovative methods and steer government purchasing toward improved outcomes.

Chief Customer Experience Officer (Safety Net Program Integration): Chief customer experience officers are executive leaders who focus on enhancing customer experience and improving programs and services for users at all stages.

State Broadband Director (Broadband): Broadband director roles are critical to effectively improving a state's connectivity. They are responsible for developing the state's vision, setting strategy and building strong relationships with key stakeholders.

Broadband Data Director (Broadband): Broadband data directors can ensure that internal and external stakeholders have the information they need to make decisions and implement them effectively. Within the state broadband office they can drive data strategy, manage data assets, ensure strong oversight of data and data privacy, and build timely access to accurate, secure and high-quality data for decision making.

Digital Equity Director (Broadband): State digital equity directors can play a key role in developing relationships with communities and businesses reliant on strong broadband access, understanding community needs, and developing partnerships and projects to shrink the digital divide. Ideally they are a partner to the state's broadband director.

State Director of Transition (Child Welfare): Directors of transition could play an invaluable role in helping design technology that better serves older youth in the foster care system in a range of ways, from child welfare to employment and economic opportunity.

Chief Privacy Officer (Education): In education agencies, chief privacy officers are responsible for developing strategies to safeguard student data, establishing cultures of respect and transparency, and coordinating among key actors. This includes school district administrators, teachers, parents, and privacy advocates.

TECH TALENT

EXECUTIVE SUMMARY

In October 2013, President Barack Obama rolled out HealthCare.gov, the highly anticipated website for Americans to enroll in his signature Affordable Care Act. The overloaded system immediately crashed, infuriating millions of voters and dealing a political blow to the administration. When COVID-19 struck years later, federal and state agencies suffered similar problems when they tried building websites too quickly to schedule vaccine appointments and enroll people for unemployment.

Since 2020, the federal government has sent at least \$750 billion to support state and local governments with their response and recovery from the pandemic.⁵ This is a crucial moment to avoid past mistakes and improve how government serves the public. Yet states have struggled to recruit the technical talent they need to build and use modern systems effectively. States need skilled technical leaders to ensure that services are successfully delivered to the people who need them. Attracting these leaders will take time, but starting early will help deliver quick wins and make a crucial difference for achieving an administration's top policy priorities.

This memo lays out actions states can take in the first 200 days of 2023 to hire the technical talent they need to build digital capacity and deliver 21st-century services.

SUMMARY OF OPPORTUNITIES

Appoint and empower leaders with modern tech expertise

Government technology leaders can set the tone for their agencies and put people and policies in place that enable progress — or stymie it. Administrations that build the most effective technical teams clearly articulate the skills, experience and leadership qualities they need, and prioritize recruiting leaders with these attributes. By quickly hiring the right

⁵ <https://www.nytimes.com/interactive/2022/03/11/us/how-covid-stimulus-money-was-spent.html>

technical leaders and bringing them to the table, states can put themselves in a position to succeed where governments often stumble.

Build digital services capacity

Americans expect a seamless and user-friendly online experience, whether they're ordering a meal or filling out an application for government services. But the expertise needed to build digital services that meet these expectations is typically absent in government technical teams. This expertise includes:

- » Human-centered design;
- » Product management;
- » User research;
- » Software development.

By building capacity in these areas, states can improve how they deliver services. This means hiring technical leaders who understand the need for product management and design, for example, and training current staff accordingly.

Lay the groundwork for modern hiring practices

Attracting strong technology leaders does not require states to match industry salaries. When the government commits to best-in-class hiring practices, it can attract technical experts who are excited about government's mission and motivated by the scale and complexity of its challenges. Governments, for example, have a long history of competing successfully against top law firms for talented lawyers.

States can strengthen their hiring process by collecting data on applicant experience, setting goals and hiring leaders who help the state build a competitive advantage in hiring. However, governments that attract technical experts often lose candidates when they cannot move quickly enough, are unwilling to let them work from home, or are unable to offer other forms of flexibility that the professional workforce has come to expect.

Build pathways into government for early and mid career technologists

Existing government technology teams tend to skew older than the overall state workforce. As older workers retire, the lack of younger replacements will make it harder for states to deliver services effectively. The pandemic has further increased the number of state employees retiring early.⁶

⁶ <https://slge.org/wp-content/uploads/2022/01/greatresignationinfographic.pdf>

Governments that are investing now in early and mid-career technologists will be better able to deliver services in the future. To attract talented staff, states could build remote friendly work policies, provide opportunities for career growth inside state government or pilot student loan assistance programs for technologists who commit to service.

TECH TALENT

OVERVIEW

The COVID-19 pandemic reinforced the need for states to rely on technology to stabilize families, businesses and communities during a crisis. The demand for government support that emerged during the pandemic is unprecedented. In the first year alone:

- » An estimated 46.2 million people claimed unemployment benefits.⁷
- » 93% of households with school-age children transitioned to remote learning.⁸
- » Medicaid enrollment jumped more than 20%.⁹

States struggled under the weight of increased administrative burden and the need to serve people virtually as the technical systems that supported several of these programs buckled.

Since March 2020, the federal government has sent at least \$750 billion to state and local governments to support their pandemic response and recovery efforts.¹⁰ While some states quickly took advantage of this money, many are still deciding where to invest it to strengthen service delivery and prevent future technology failures.

To meet the moment, states need to recruit and retain technical talent. Yet recruiting is one of the most significant barriers governments face in executing their delivery goals. The pandemic exacerbated this challenge with employee burnout, expectations of greater employer flexibility and a tight labor market taking a toll on states' hiring efforts.

Many governments rely heavily on contractors to fill the tech talent gap, but this can be risky. While government can contract with companies to build and operate technology, they cannot outsource accountability for its success or failure. States need skilled internal technical leaders to oversee vendors and ensure that online systems work for the people who

⁷<https://tcf.org/content/commentary/1-in-4-workers-relied-on-unemployment-aid-during-the-pandemic/?session=1&session=1>

⁸<https://www.census.gov/library/stories/2020/08/schooling-during-the-covid-19-pandemic.html>

⁹<https://www.ncsl.org/research/fiscal-policy/how-states-are-spending-their-stimulus-funds.aspx>

¹⁰<https://www.nytimes.com/interactive/2022/03/11/us/how-covid-stimulus-money-was-spent.html>

use them. Without experts who understand modern technology, the government is destined to repeat past failures.

There's plenty of evidence that prioritizing recruitment and retention of modern technical talent pays off. California's [Office of Enterprise Technology](#) created its open source COVID digital vaccine record in just six weeks. Six months later, this digital vaccine record was adapted for use in Washington State, Oregon and the District of Columbia. To date, the tool has been used by over 11 million people.¹¹

Similarly, in Minnesota, a [new state product team](#) worked side-by-side with Code for America to learn new ways of working, train existing staff and bring on new talent. The team piloted and successfully launched a new online application for five safety net programs, retired their outdated legacy application, and set the stage for more services to be added in the future.

FEDERAL DOLLARS CREATE A TIMELY OPPORTUNITY FOR SUCCESS OR FAILURE

In addition to the two COVID response packages Congress passed in 2020, states received a significant influx of funds from two additional federal aid packages in 2021: the [American Rescue Plan Act](#)¹² and the [Infrastructure and Investment Jobs Act](#). These aid packages are the single largest federal investment in state systems and local municipalities in U.S. history.^{13, 14}

Many states are planning to use these dollars to support technology investments, with most of it likely to go to private vendors to build and maintain new systems. Yet without using some of the money to improve internal technical capacity, state tech projects are more likely to fail. This will make it harder for states to successfully deliver programs and services using technology - and for those states to grow into digital leaders of the future.

¹¹ <https://techblog.cdt.ca.gov/2022/01/californians-have-downloaded-over-11-million-digital-vaccine-records/>

¹² <https://www.whitehouse.gov/american-rescue-plan/>

¹³ <https://www.whitehouse.gov/bipartisan-infrastructure-law/>

¹⁴ <https://www.ncsl.org/research/fiscal-policy/arpa-state-fiscal-recovery-fund-allocations.aspx>

TECH TALENT

KEY TECHNOLOGY OPPORTUNITIES FOR THE FIRST 200 DAYS OF 2023

Below are meaningful steps that state leaders can take at the beginning of 2023 to support the growth of technical talent and help achieve their program delivery goals. In the first 200 days:

1. Appoint and empower leaders with modern technical expertise.
2. Build digital services capacity.
3. Lay the groundwork for modern hiring practices.
4. Build pathways for early and mid-career technologists into government.

APPOINT AND EMPOWER LEADERS WITH MODERN TECHNICAL EXPERTISE

Technical leaders are most effective when they're engaged in policy discussions early, rather than brought in after decisions are made.¹⁵ To be effective, these leaders must have the skills and experience necessary to deliver 21st-century technology well. The following early hires can set the stage for successful delivery of modern government services.

Chief Information Officer (CIO)

The chief information officer (CIO) is often the highest-ranking technical decision-maker for a state or agency. They are typically accountable for all technical capabilities within a state, including customer-facing software applications, data storage strategy and email systems for staff. Some CIOs are gatekeepers for technology budgets, human resources and project approval.¹⁶

¹⁵ <https://ourpublicservice.org/wp-content/uploads/2020/04/Tech-Talent-for-21st-Century-Government.pdf>

¹⁶ <https://ourpublicservice.org/wp-content/uploads/2020/04/Tech-Talent-for-21st-Century-Government.pdf>

A CIO's skill and mindset have an outsized impact on whether a state delivers technology successfully. Historically, CIOs have been chosen based on years of experience with technical budgets and procurement in government. But in an age of rapidly advancing technology and consumer expectations, government needs CIOs who:

- » Have direct experience with modern technical principles and practices, like product management, human-centered design and security reliability engineering (SRE);
- » Bring a track record of delivering software;
- » Are capable decision-makers who prioritize user needs.¹⁷

Beyond this technical expertise, CIOs need the leadership qualities to be successful in a government environment, like:

- » Deep curiosity about people and systems;
- » The courage to push when needed;
- » A commitment to supporting and empowering those around them, including building bridges between different teams.

Chief Technology Officer (CTO)

Chief technology officers (CTOs) most often act as the lead technical strategists for the government. They're most effective when they engage in improving technology that drives the customer experience.¹⁸ Empowered CTOs may decide or recommend technical approaches to solving business challenges or problems in technical platforms. They may also help define enterprise technology approaches and product roadmaps that serve staff and customers.

The most effective CTOs are deeply technical and act as enthusiastic and creative partners to frontline operational leaders. They have experience delivering customer-facing technology and significant leadership experience. Because CTOs typically lack the staffing and statutory authority that CIOs have, they also need to:

- » Be adept at leading through influence rather than authority;
- » Have the support of executive leadership at the highest levels;
- » Have the authority to set technical direction and convene resources across the state or agency.

¹⁷ <https://ourpublicservice.org/wp-content/uploads/2020/04/Tech-Talent-for-21st-Century-Government.pdf>

¹⁸ <https://ourpublicservice.org/wp-content/uploads/2020/04/Tech-Talent-for-21st-Century-Government.pdf>

Chief Data Officer (CDO)

Chief data officers (CDOs) drive data strategy, manage data assets and build access to the accurate and secure data that internal stakeholders need to do their jobs. A great CDO will have experience managing data, setting strategy and delivering the technical tools needed to use data in a meaningful way. States that hire effective CDOs prioritize hands-on experience delivering software products and building data architecture, rather than a deep background in data science and research.

CDOs often work with antiquated systems and build support in their agencies for modern data approaches. It's helpful if they have direct experience with digital transformation and are prepared to incrementally improve the quality of aging data systems. An effective government CDO:

- » Serves on a state or agency leadership team;
- » Has the support of executive leadership at the highest levels;
- » Has the human and financial resources to move projects forward.

Consider modern technical experience when filling critical program leadership roles

Agency leaders like secretaries, commissioners and their deputies, as well as chief procurement officers and general counsels, will at times be called on to oversee major technology projects. These leaders will also be asked to:

- » Determine which services must be upgraded;
- » Select private contractors;
- » Explain technology strategy to external stakeholders, like regulatory and legislative bodies;
- » Make decisions about how to allocate staff in support of technology efforts.

Ideally these leaders have some experience with effective modern technology and systems that deliver products and services to citizens.

Government leaders should know what good looks like, particularly when it comes to executing contracts and driving results that serve the public. When leaders do not understand the constraints and opportunities of technology, they can develop plans and

implement agreements with vendors that increase risk of failure. Best practices in procurement decrease risk by ensuring that technology solutions are:

- » User-centered;
- » Built with a focus on continual improvement;
- » Integrated using open standards;
- » Updated frequently.

A savvy chief procurement officer can partner with a technical or program leader to ensure that these best practices are built into agreements from day one.

An important note of caution: The terms that vendors use may not reflect their actual practices. Successful procurement will require understanding what questions can help distinguish between a sales pitch and a genuine commitment to using modern technology for public benefit.

Consider making the state CIO a cabinet-level position

Executive leadership teams benefit from having a qualified technologist at the table during cabinet discussions. Making the CIO a cabinet-level position and ensuring the CIO is a modern technical leader can help ensure that leadership understands the technical implications of policy decisions. And it allows leadership to address technical issues as they arise.

Governments should not only hire leaders with modern technical expertise, but also provide the CIO with a direct line of communication to the governor. This helps ensure that:

- » Policy and technical goals are aligned;
- » Resources are allocated appropriately;
- » Any risks that surface are discussed and mitigated early, before they impact service delivery.

BUILD DIGITAL SERVICES CAPACITY

States can better deliver the user-friendly digital services that Americans expect by:

- » Launching a digital services team;
- » Hiring diverse tech teams and leadership;

- » Training staff in needed skills;
- » Adding modern procurement expertise to the state's technology team.

Consider launching a digital services team

To create a safe space for experimentation and innovation — something that doesn't typically exist in government today — states can consider launching a digital services team. A digital services team is an interdisciplinary group that uses research and software development techniques to deliver high-quality government services quickly and affordably across government offices.

If a state already has a digital services team, 2023 is a great time to build momentum. The state can ensure that the team has the resources, staff and executive support it needs to make the government a savvier buyer and builder of technology solutions. And the team can be deployed to work on the state's most intractable technology problems or most important policy goals. Typical roles on a digital services team include:

- » Software development;
- » Human-centered design/user research;
- » Product management;
- » Strategic procurement.

Colorado started its digital services team in 2019 with seven staffers. In its first three years, the team:

- » Installed contact tracing software to help the state contain the spread of COVID-19, saving \$15 million through their procurement strategy;
- » Proposed and piloted the self-report feature used in Apple's and Google's exposure notifications platforms, which was subsequently released nationwide and internationally;
- » Turned around the child welfare application to manage cases of abuse and neglected youth.

Today, the team has a staff of 11, which will grow to 20 in the coming months. They work on some of the most high-profile projects in the state, including universal preschool and behavioral health services.

Some states place their digital services team within their IT agency, while others place it in the governor's office. Best-in-class teams are able to:

- » Hire quickly and competitively;
- » Access necessary resources;
- » Help make decisions about technology, budget, vendor selection and project scope and timeline;
- » Work with state procurement teams to bring on vendors quickly and work nimbly;
- » Work directly with the public.

States interested in building a digital services team can use the guide in [Appendix A](#) as a reference.

Hire diverse technical teams and leadership

Government must build products and deliver services that work for everyone. Governments that do this should ensure that their technical teams reflect a diversity of lived experiences and perspectives — and that they engage users throughout the software development process. This is fundamental to creating technical systems that reflect the needs of a state's communities. The most effective technical teams reflect the diversity of the communities they serve.

The [United States Digital Service \(USDS\)](#) was born out of the failed launch of HealthCare.gov in 2013 and has continued through three presidential administrations. The USDS has worked to ensure that its staff understands the varied experiences of the public. While the composition of its workforce varies, it exceeds private sector benchmarks for the diversity of the tech workforce. This is true for its leadership and frontline teams.¹⁹

Upskill existing staff in modern technical competencies

While hiring new technical staff is an important way to address skill and experience gaps in government agencies, it isn't sufficient. The most effective governments invest in training their existing technical workforce to build their long-term digital capacity. Key skills to develop include user research, agile or iterative software development practices, product management and flexible vendor management. States could gain early momentum in 2023 by focusing on one or two areas to build critical skills. The most successful states:

- » Improve existing or build new training opportunities for technical staff;

¹⁹ <https://www.usds.gov/assets/files/usds-di.pdf>

- » Identify opportunities for staff to apply those skills to new and existing projects;
- » Regularly offer continuing education opportunities, mentorship or project participation.

Continual investment in employees improves the outcomes of projects and provides a growth path for civil servants.

Add procurement expertise to the state's technology team

When it comes to successfully handling large IT contracts, governments have faced major challenges.²⁰ Contracts are typically either too large or too rigid to allow for effective software development and often increase the risk of failure. State agreements with vendors often take months or years to complete. And they either place the vendor in a position of power or create an adversarial relationship from the start.

Failures of government technology procurements may be due to arbitrary rules and processes. Yet many are also the result of not having procurement staff familiar with the practices of effective technical contracting. Governments need procurement teams that know what good tech looks like. To get better results and help a state hold vendors accountable, procurement and technology experts can partner to find the right vendor and craft agreements. More information on critical procurement opportunities for states in the first 200 days of 2023 can be found [in the procurement memo](#).

LAY THE GROUNDWORK FOR MODERN HIRING PRACTICES

To compete with private industry and hire qualified, motivated technical workers, government can focus on:

- » Hiring a tech-literate chief people officer (CPO) to help the state attract and retain up-to-date technical and product talent;
- » Involving subject matter experts to qualify candidates;
- » Identifying a small number of important hiring metrics and assessing them against industry benchmarks.

²⁰ https://www.standishgroup.com/sample_research_files/Haze4.pdf

Hire a tech-literate chief people officer (CPO) to attract, hire and retain up-to-date technical and product talent

Consider appointing a chief people officer who can help the state's technology leaders understand their technical skill gaps and how to address them. Successful CPOs are transformative leaders who focus on recruiting a modern technical workforce and making state government a place where technologists want to work and grow. This proactive approach shows current and potential staff that they are a priority and positions the state to solve current and future talent gaps.

The expertise of the CPO is distinct from the state's human resources (HR) leader. The head of HR ensures that the state's hiring and employment policies and processes are legally compliant and well documented. They often oversee a significant number of staff and handle some of the most intractable personnel challenges for the state, from union negotiations to addressing employee performance issues. The HR leader often holds important institutional knowledge and the state can't operate without them.

The CPO works collaboratively with the head of HR to support recruiting and employee development. In some places the leaders are peers; in other cases the HR lead reports to the CPO. A strong and trusting relationship is paramount. The CPO oversees areas that are critical to improving the state's ability to compete for technical talent, including:

- » Recruitment;
- » Staff training and professional growth;
- » Work culture and diversity.

In the first 200 days, a CPO can be empowered to identify and address one or two problems that have alienated state employees in the past. Boston took this approach and in the first three months of hiring their CPO closed several loopholes in the family leave policy and implemented a hybrid work policy. These simple but meaningful changes made a big difference for staff and required no new financial investment on the part of the city. Boston's CPO also quickly implemented a transit benefit idea generated by an internal employee resource group, which was an effective way to show employees that their voices are heard.

The most effective CPOs will:

- » Have experience leading organizations;
- » A track record of effectively recruiting for and supporting teams;
- » Understand the principles of change management;

- » Have a track record of working creatively within a bureaucracy.

They will also understand how to turn a big ship by setting strategy and chipping away at problems with a long-term vision in mind. And they will be passionate about the role of people in that process. It's helpful for a state CPO to have firsthand experience with the challenges of hiring in government and to be able to use that experience to drive change.

Involve subject matter experts to qualify candidates

An important best practice in technical hiring is pairing a subject matter expert (SME) with an HR professional to review job applications. Together, they can identify a qualified pool of candidates while also ensuring a fair process that's compliant with state hiring rules. This can help ensure that the specific experiences described in the resume — such as expertise in certain programming languages or platforms — can be accurately assessed against the minimum and desired qualifications for the role.

When SMEs are not engaged during application review, a qualified technologist may be evaluated based on their ability to meet the requirements of the application process, rather than whether they have the skills and experience required for the role. This is particularly true when technologists with no prior government experience are applying for roles. Expectations for government resumes vary considerably from what is typical in the private sector. Government resumes are often more than double the length of industry resumes and have specific requirements for font size and page margin. Applicants are traditionally expected to mirror the exact language contained in the job posting in order to prove that they're qualified for the role. Any deviation from these norms will result in an applicant being disqualified, even if they are ultimately the strongest candidate for the role.

At the federal level, the Office of Personnel Management piloted a Subject Matter Qualifications Assessment (SME-QA) approach with 42 different agencies.²¹ This approach increased equity by ensuring that all qualified applicants got the chance to compete for a role. It also reduced overall workload, because positions were more likely to be filled, instead of needing to be reposted because an entire slate of candidates was rejected at the outset.²²

In the first 200 days, a state could build on federal experience and direct HR to launch a pilot that pairs SMEs with application evaluators for high-priority technical roles.

²¹ <https://smega.usds.gov/>

²² <https://pahlkadot.medium.com/what-on-earth-is-sme-qa-and-why-should-you-care-about-it-66383167387c>

Identify priority hiring metrics and assess them against industry benchmarks

To improve performance, it is critical to collect baseline data, set measurable goals and check in on progress regularly. Unfortunately this is relatively uncommon in government, particularly when it comes to employee recruitment and retention. Unless state governments begin to set concrete goals for the hiring process, they will continue to struggle to hire diverse, highly skilled technical talent.

Government agencies that effectively hire often follow several best practices:

1. Identify critical hiring metrics for technology roles.
2. Collect baseline data to understand current state.
3. Benchmark performance against industry standards.
4. Use this information to set goals for improvement.

Hiring data can provide useful feedback to hiring teams and help them understand how to improve the applicant experience. The Partnership for Public Service's [Mobilizing Tech Talent](#) notes that tech industry best practice is that it should take no longer than 30 days from the time a candidate expresses interest in a role to making an offer. This data can help improve hiring speed, candidate experience and qualification.

Best-in-class metrics include:

- » Time to hire, from position posting to a formal offer being made;
- » Time to start, from formal offer to employee start date;
- » Percentage of applicants who are disqualified from hiring slates due to administrative reasons (like resume font size);
- » Percentage of positions that need to be reposted because they are unfilled;
- » Percentage of candidates that start the process and then drop;
- » Percentage of tech roles that include subject matter experts in the hiring process;
- » Percentage of tech workforce retained after 12 months and five years, respectively.

By breaking down the data by specialty, race and gender, the state can also identify previously undiscovered biases that get in the way of building their technical workforce.

BUILD PATHWAYS INTO GOVERNMENT FOR EARLY AND MID-CAREER TECHNOLOGISTS

According to our analysis of 14 state government tech workforce profiles,²³ government tech teams tend to skew older than the state workforce as a whole. Governments that invest in early and mid-career technologists now will be in a better position to deliver service into the future. To do this effectively requires:

- » Getting connected with early and mid-career technical talent quickly;
- » Considering policies that make the public service work environment more competitive.

Engage with organizations that can connect agencies with early and mid-career technical talent quickly

A growing number of organizations across the country can help connect state and local governments with early and mid-stage technologists to improve service delivery now. Some organizations can connect states with volunteers, while others can work with agencies to place fellows in tour-of-service opportunities.

In the first 200 days of 2023, states could make progress on their critical technology needs by reaching out to one or more of the organizations below.

- » [Code for America](#)
- » [U.S. Digital Response](#)
- » [Coding It Forward](#)
- » [Bitwise Industries](#)
- » [Govern for America](#)

Allow a fully remote or hybrid work environment

The COVID-19 pandemic has forced employers to think differently about how to attract high-quality employees who have reassessed how they spend their time. Remote work is

²³ Data was derived from the 14 state government workforce summarizations/profiles that have age demographic information specific to the staff of their statewide IT departments or offices.

becoming common in the tech workforce because digital tools have made remote work more possible.

States offering greater flexibility for remote work will be able to reach more technical talent.²⁴ While government can't compete with private-sector salaries, states can provide opportunities for staff to work remotely at least some of the time. This is important because new data suggests that workplace flexibility is more important to the technical workforce than pay.²⁵ To maintain productivity and a positive work culture, states will also need to invest in the tools and training necessary for employees to work efficiently and effectively from a distance.

²⁴ <https://www.govtech.com/workforce/here-there-anywhere-the-evolving-government-workforce>

²⁵ <https://www.edenworkplace.com/blog/where-tech-works-report>

TECH TALENT

BEYOND THE FIRST 200 DAYS

The first 200 days of 2023 will be a critical time for states to showcase priorities, make ambitious investments and achieve quick wins that build momentum. However, it is the subsequent hard work that will build their 21st-century digital capacity. This is particularly true when addressing the state's technical talent gap, which requires long-term commitment and prioritization.

Opportunities include:

- » Creating a map of the hiring process, identifying choke points and prioritizing efficiencies;
- » Aligning jobs and qualifications for critical technical roles with the private sector;
- » Connecting with colleges and technical schools that train technologists.

CREATE A MAP OF THE HIRING PROCESS, IDENTIFY CHOKES POINTS AND PRIORITIZE EFFICIENCIES

Building a hiring process that provides a best-in-class candidate experience is critical to the government's ability to recruit technical staff. A map of each step of a candidate's hiring process can help a state agency fashion a hiring process from the applicant's perspective. It records a candidate's every step and interaction during hiring, and often how long each step takes.

These [journey maps](#) are still relatively rare in government, but the private sector uses them frequently. The simple exercise of creating a journey map helps identify common points of confusion and process bottlenecks. This list of problems can be used as a roadmap for improvement.

ALIGN POSITION TITLES, DESCRIPTIONS AND QUALIFICATIONS FOR CRITICAL MODERN TECHNICAL ROLES WITH THE PRIVATE SECTOR

Most technical job titles and descriptions fail to clearly communicate the vision for the role and the opportunity for impact. This can be due to legal concerns or a lack of understanding of technical roles. Because job titles for state technical jobs are often different from what they are called in the private sector, it can be difficult for candidates applying to government jobs to understand if their private sector jobs qualify them for the position. States that hire digital talent effectively have often aligned roles with modern job titles and descriptions for roles like:

- » Product managers (distinct from project managers);
- » User researchers;
- » Designers;
- » Software engineers;
- » Procurement strategist.

The Beeck Center for Social Impact + Innovation at Georgetown University and U.S. Digital Response are partnering with other experts in modern technology to build basic job descriptions for each of these roles.^{26, 27} HR professionals can also collaborate with modern technologists to make job descriptions clearer.

CONNECT WITH COLLEGES, UNIVERSITIES AND TECHNICAL SCHOOLS THAT TRAIN TECHNOLOGISTS

While most new technology graduates will launch their careers in the private sector, many seek a more meaningful mission. But government typically hasn't had a strong presence at technology career fairs and recruitment events.

To open the door to new and diverse talent pipelines, states can work to build mutually beneficial relationships with institutions that train technologists. Through these relationships, states can identify creative ways to engage new graduates in government service — from

²⁶ <https://beeckcenter.georgetown.edu/projects/digital-service-network/>

²⁷ <https://www.usdigitalresponse.org/services/procurement-and-vendor-evaluation>

participation in career fairs, to apprenticeships, to student loan forgiveness based on years of service.

One important resource for states is the [Public Interest Technology University Network \(PIT-UN\)](#), which has brought together nearly 50 colleges across the country to build the field of public interest technology and to help support young technologists interested in public service.

TECH TALENT

OTHER RESOURCES

WHAT TO READ?

- » [United States Digital Service Playbook](#)
- » [Memos for a Tech Transition](#)
- » [Tech Talent for 21st Century Government](#)
- » [Mobilizing Tech Talent](#)
- » [SME-QA Hiring Strategy, United States Digital Service](#)
- » [Performance.Gov CX Resources for Agencies](#)

APPENDIX A

CREATING DIGITAL SERVICE TEAMS

Digital service (DS) teams are interdisciplinary, collaborative teams that use technology, research and software development techniques to deliver high-quality government services quickly and affordably. They often help other government offices do the same. Several states already have DS teams, including Georgia, New Jersey and Colorado.

COVID-19 upended the way government serves people, swiftly shifting needs and expectations toward online services. At the same time, the pandemic exposed aging technologies at all levels of government, making clear a critical opportunity to improve service delivery for residents by building digital services that are accessible, responsive, secure and easy to use.

To take advantage of this opportunity, **states may consider creating digital service teams to help their government meet constituents' modern expectations of government services.** In this Appendix, we introduce the value of DS teams in state government, outline key elements of high-impact DS teams, and offer ongoing support for states looking to stand up a DS team of their own.

Successful DS teams have:

1. An **experienced leader** who brings strategic vision and promotes collaboration;
2. Team members with **modern software development skills**, as well as skills in navigating government procurement and other processes;
3. A **mandate** that empowers the team;
4. **Budget and resources** to move quickly and with autonomy.

The Georgetown University [Beeck Center](#) for Social Impact + Innovation, [U.S. Digital Response \(USDR\)](#) and [Tech Talent Project](#) can help with recruiting, technical assistance, research, peer-learning and sharing opportunities to support states in creating and sustaining an effective digital service team.

THE VALUE OF A DIGITAL SERVICE TEAM

Government services should be accessible, responsive, secure and easy to use. Digital technologies can play an important role in building these types of government services.

Digital service teams are interdisciplinary, collaborative teams that use technology, user research and software development best practices to design and implement high-quality government services quickly and affordably, and often help other government offices do the same. DS teams help transform government services for the better across policy domains by centering those services around the people who use them.

Several states already have DS teams that are building track records of success. For example:

- » The [New Jersey Office of Innovation](#) worked extensively with the NJ Department of Labor to modernize its unemployment insurance application and certification system, including a plain-language overhaul and mobile-responsive design.
- » [Digital Services Georgia](#) conducted statewide user research to completely reimagine its website so residents could quickly and easily access information they need.
- » The [Colorado Digital Service](#) is currently designing the state's new Universal Preschool program to provide an easy-to-use, simple-to-navigate experience to help families understand how many hours of preschool they qualify for and how many providers they have access to, and how to submit an application for preschool services.
- » The [California Office of Data & Innovation](#) built and launched covid.ca.gov in five days at the start of the pandemic as a single, trusted source of truth for pandemic-related information.

CREATING A HIGH-IMPACT DIGITAL SERVICE TEAM

The Beeck Center and USDR have worked closely with DS teams in states across the country. Through this work, they have identified a couple of core attributes of successful DS teams.

1. Strong, experienced leadership

DS teams need a leader who can incite the technical shifts necessary for transforming services across a state.

The right leader for a DS team isn't just a technologist — they also understand policy, politics and management. They recognize that improving services with digital tools is about much more than just technology. It's also about people and process. Effective leaders of DS teams are:

- » **VISIONARY:** They chart a clear, strategic path toward improved services that prioritizes the needs of residents while balancing operational realities.
- » **TECHNOLOGICALLY SAVVY:** They've led interdisciplinary teams that build user-centered digital products using software development best practices.
- » **COLLABORATIVE:** They understand the importance of various forms of expertise and build strong partnerships with staff across agencies to get things done.

2. A team with modern skills

DS teams bring new skills and ways of working into government. High-impact DS teams have teammates with experience building popular, high-traffic digital services for mobile and web using best practices in modern software development. They also have teammates with expert knowledge in programs, as well as procurement and other complex government processes.

Building a team with the right mix of expertise often means creating new job descriptions and doing some external recruitment. Below are some examples of the types of roles that DS teams tend to recruit for externally and internally.

Roles that may need to be recruited externally

While these roles are commonplace in the private sector, they are often new jobs and require new descriptions in state government:

- » **PRODUCT MANAGER:** Leads a cross-functional team to ensure digital services are designed and implemented in a way that is iterative, fluid and collaborative, and which centers user needs alongside organizational goals.
- » **USER RESEARCHER:** Plans, designs and carries out research activities to build deep understanding of the people who use government services.
- » **SERVICE DESIGNER:** Designs the experience for government services based on the evidence of user needs and organizational goals.

Roles that may be recruited or trained internally

These roles are generally found in abundance inside state government, though job descriptions may need to be retooled to meet the specific needs of a DS team:

- » **PROJECT MANAGER:** Coordinates and documents project work and provides status updates to key stakeholders.
- » **SOFTWARE DEVELOPER:** Develops high-quality, well-tested and maintainable code.
- » **ANALYST:** Maps out processes, supports usability testing and analyzes service performance.
- » **PROCUREMENT SPECIALIST:** Plans, manages and advises on processes to acquire technology or services.

3. A clear mandate

Improving services across a state is more than a discrete technology challenge — it's an organization-wide effort involving many people and processes.

Successful DS teams tend to have a mandate and clear authorities that enable them to work swiftly and collaboratively across agencies to improve services. Components of an effective mandate may include:

- » Legislation that paves the way for a more user-centered, digital experience in government and/or defines the DS team's scope of authority and role.
- » Reporting authority to a high-level executive. Executive champions are critical to advancing the type of cross-cutting work done by DS teams.
- » Influence and ability to help create and enforce consistent standards across government services.

4. Budget and resources

DS teams are able to work best when equipped with the resources needed to support their work. Resources that high-impact DS teams often rely on to thrive include:

- » **TOOLS:** DS teams equipped with the right tools are not only able to design and implement high-quality government services, they can also move with speed and agility. Important tools include collaborative platforms for code development, internal messaging apps and web design applications.

- » **CONSULTANTS:** For one-time costs, consultants can add capacity and expertise to a DS team to help move projects forward swiftly.
- » **VOLUNTEERS AND COMMUNITY PARTNERS:** Programs like the [U.S. Digital Response](#) and the [NYC\[x\] Innovation Fellowship](#) can bolster technical capacities, often for free.
- » **IN-HOUSE AGENTS:** A discretionary fund for digital service projects can quickly kickstart digital transformation efforts and help build buy-in for bigger projects down the road. Notable models include the State of California's [Data & Innovation Fund](#), or New Jersey's Resident Experience Program. Although these grant programs are rare, they can be highly impactful.

Supporting state digital service teams

The [Beeck Center for Social Impact + Innovation](#), [U.S. Digital Response](#) (USDR) and [Tech Talent Project](#) can:

- » Help recruit top talent for a high-impact digital service team;
- » Provide fast, free technical assistance to support digital transformation initiatives;
- » Share best practices and lessons learned from other states' efforts to modernize government services.

These organizations also offer no-cost resources, templates, playbooks, consulting and more to help states work better for the people they serve.

CYBERSECURITY

EXECUTIVE SUMMARY

It is not a question of whether a state will face a cybersecurity attack, but when it will occur, when it will be discovered and how bad it will be. A critical question every governor should ask is, “How will I find out about a cybersecurity incident?” All state leaders should ask this question on day one of their administration with an eye to addressing gaps, overlapping jurisdictions and other areas where a state’s response could encounter confusion.

State governments have worked for more than a decade to improve their cybersecurity readiness, in partnership with federal authorities. As states continue to modernize their technical infrastructure and systems for delivering government services, it is increasingly easy for people to access everything from fishing licenses to financial assistance for health care from state and local websites. Along with those improvements has come a crucial challenge for governments — protecting their ever-expanding online systems from hacking, ransomware and other threats. Cybersecurity must be a persistent and top state priority.

Recent years have seen a pronounced increase in malicious online actors accessing government systems, wreaking havoc, costing governments money, endangering those who rely on public services and embarrassing elected officials. Airports, police departments, local water systems, schools and hospitals have been victimized. Atlanta was targeted with a ransomware attack in 2018 that cost it \$17 million. Baltimore saw hackers take control of 10,000 of its computers, with the city’s email and other channels shut down for weeks. In the last 24 months, it is estimated that nearly every state has dealt with a cyberattack, including more than 60 public safety agencies and 191 local governments.²⁸

Foreign actors also pose a threat to state services. In the early months of 2022, Ukraine alerted the world that the Russian invasion of its country included a barrage of cyberattacks on the Ukrainian power grid. In March, President Biden sent a [letter to governors](#) warning that Russian President Vladimir Putin might launch cyberattacks on American infrastructure as the U.S. confronted Moscow over its attack on Ukraine. The president offered states his administration’s assistance and suggested specific steps for governors to take to secure their

²⁸ <https://www.seculore.com/resources/cyber-attack-archive>

critical infrastructure, including gathering and preparing state emergency management and cybersecurity leaders.

The coming years will see continued challenges, but also opportunities. In the face of increasing cyber threats, governments — especially local and tribal governments — will have to compete with other public and private sector employers for technical expertise to manage their cybersecurity needs. Many states have started to establish the necessary laws and regulations, organizational structures and skilled workforce to address these challenges. To help build capacity, there is \$1 billion in cybersecurity grants for state and local governments in the \$1.2 trillion Infrastructure Investment and Jobs Act of 2021, as well as other programs that states can turn to for cybersecurity assistance.²⁹

This memo lays out actions that states can take during the first 200 days of 2023 to secure their data systems and ease public concerns about their state's cybersecurity readiness.

SUMMARY OF OPPORTUNITIES

Prepare for a cyberattack early in the administration

The best defense against a cyberattack is preparedness. Early in 2023, the governor can lead a tabletop exercise in which officials practice their roles in an emergency. This can strengthen the state's readiness for a broad cybersecurity attack by testing existing plans for keeping government functioning and responding to incidents at state and agency levels. As part of this exercise, state leaders should strengthen how they coordinate with federal, other state, local and tribal authorities, and how to best communicate with the public, private companies and utilities, schools and other institutions.

Conduct a broad review of the statewide cybersecurity strategy

In the first 100 days of 2023, the governor should make sure state leaders understand the state's current cybersecurity strategy and funding, and set priorities for the most urgently needed improvements. More than 30 states have formally established a cybersecurity task force, commission, advisory council or other group of experts to assist with this critical work.³⁰ Such a review lays the essential groundwork for ensuring that appropriate resourcing, hiring and prioritization is done at a statewide level.

²⁹

<https://www.cisa.gov/cybergrants#:~:text=Through%20the%20Infrastructure%20Investment%20and,be%20awarded%20over%20four%20years>.

³⁰ <https://www.govtech.com/security/which-states-have-cybersecurity-task-forces>

Build cybersecurity leadership and a strong technical workforce

Cybersecurity demands a government-wide approach, and every state executive should put protecting data and information systems on their list of priorities. To execute a robust strategy, state leaders and agencies need an experienced cybersecurity professional regularly reporting to the governor and top officials. A state chief information security officer not only advises on the secure and responsible operation of technical infrastructure, but is a key engine for developing effective cybersecurity policies and best practices. They are also responsible for building a strong technical workforce and strengthening a culture of information security.

Launch a statewide cybersecurity campaign

The governor sets the tone for embedding a culture of information security across the state. Early in an administration, this can be done with the launch of a visible campaign to improve cybersecurity that includes all state offices and agencies, employees, vendors, private companies and the public. State leaders can announce steps to undertake critical protections, such as phishing-resistant multifactor authentication and Zero Trust systems for verifying the identities of every user of all state systems, including vendors. They can also unveil cyberhygiene training for all state employees and contractors, and technical support for local governments to move their websites to the .gov domain for greater security.

CYBERSECURITY

OVERVIEW

Americans increasingly rely on online access to government services, whether it's applying for health care assistance, seeking public records or buying a fishing license. This puts a heavy burden on states to protect their information systems, including online portals, at a time when it is increasingly challenging to provide effective cybersecurity.

Even as they expand online services and modernize outdated systems, many state governments are incurring "security debt," the unaddressed security needs that grow over time as they add new software or hardware³¹ or fail to update old technologies. Hackers and other malicious actors exploit these weaknesses and have ever more sophisticated, powerful ways to penetrate state technical and data infrastructure.

Malicious actors have broken into online systems run by state and local governments around the country. For example:

- » In Oldsmar, Fla., hackers gained access to the water system in 2021 and attempted to poison the drinking water supply,³² briefly increasing the amount of lye in the system.³³
- » A multistate hospital system was recently the victim of ransomware, delaying patients' timely care.³⁴
- » In Baltimore, a ransomware attack seized 10,000 government computers and shut down communication channels including emails and online transactions for weeks.³⁵ This mirrored a 2018 attack in Atlanta that cost the city \$17 million.
- » Airports in several states have been attacked, including recent outages at major hubs in Los Angeles, Chicago and Atlanta.³⁶

³¹ <https://www.infiyo.com/what-is-cybersecurity-debt-and-how-does-it-impact-your-business>

³² <https://www.wired.com/story/oldsmar-florida-water-utility-hack/>

³³ <https://www.nytimes.com/2021/02/08/us/oldsmar-florida-water-supply-hack.html>

³⁴ <https://www.nbcnews.com/tech/security/ransomware-attack-delays-patient-care-hospitals-us-rcna50919>

³⁵ <https://www.npr.org/2019/05/21/725118702/ransomware-cyberattacks-on-baltimore-put-city-services-offline>

³⁶ <https://www.forbes.com/sites/emilsayegh/2022/11/16/snakes-on-a-plane-beware-of-airport-cyber-attacks/?sh=622fab044c24>

- » In Suffolk County, N.Y., a 911 dispatch system was knocked offline.³⁷

In this digital age, states can and must be able to offer robust online services and systems and ensure their protection from unauthorized access and exploitation. Most states have been working on statewide cybersecurity strategies to protect their systems and data, and develop their cybersecurity workforce.³⁸ According to the National Conference of State Legislatures, every state now has a chief information officer (about half of whom report directly to the governor) and a chief information security officer (typically reporting to the CIO).³⁹ Still, governments have struggled to recruit the cybersecurity workers they need. While the U.S. cybersecurity workforce grew by 5.5% over the past year, the number of unfilled cybersecurity jobs in the U.S. grew by 9% to over 400,000 positions.⁴⁰ This has led to federal agencies competing for the same talent.⁴¹ The situation is worse for state and local governments, where many positions are left unfilled.

Even in states that have mature cybersecurity teams, those teams can be hampered by narrow ranges of authority and bureaucratic barriers in which there is little coordination among agencies. To accelerate security improvements, cybersecurity leaders need organizational structures that facilitate cooperation and information sharing with other agencies; federal and other state, local and tribal partners; private companies; and the public.

FEDERAL DOLLARS CREATE A TIMELY OPPORTUNITY FOR SUCCESS OR FAILURE

The \$1.2 trillion Infrastructure Investment and Jobs Act enacted in December 2021 includes \$1 billion for state and local cybersecurity grants and a path to a strong state cybersecurity strategy.⁴² Called the [State and Local Cybersecurity Grant Program](#), funds will be distributed over the next four years.⁴³

The U.S. Department of Homeland Security issued a [Notice of Funding Opportunity](#) in September 2022 that explains how to apply for the grants and what they can be used for. To

³⁷<https://www.nbcnewyork.com/news/local/suffolk-county-hack-cripples-911-call-center-and-police-hq-as-they-turn-to-nypd-for-help/3871797/>

³⁸ <https://www.in.gov/cybersecurity/files/NGA-Cyber-Compact.pdf>

³⁹ https://ipsonet.org/wp-content/uploads/2021/04/NCSL_Cybersecurity_Conversation_Guide.pdf

⁴⁰ <https://www.crn.com/news/security/report-cybersecurity-labor-shortage-grows-worse-in-u-s-and-worldwide>

⁴¹ <https://www.fedscoop.com/cybersecurity-skills-shortage-has-pushed-federal-agencies-to-poach-staff-from-one-another-says-comm-erke-cio/>

⁴² <https://thehill.com/policy/cybersecurity/580649-state-and-local-officials-celebrate-passage-of-infrastructure-bill-with/>

⁴³ <https://www.route-fifty.com/tech-data/2022/10/1b-cybersecurity-grant-program-still-coming-focus/378482/>

be eligible for a grant, a state must have a Cybersecurity Planning Committee with at least half the committee's members having professional cybersecurity experience, and including representatives from counties, cities and towns, and public education and health agencies.⁴⁴

States can then submit a cybersecurity plan to the Cybersecurity and Infrastructure Security Agency (CISA). The plan must outline the state's strategies for managing, monitoring and tracking information systems, as well as its plans for improving the preparedness, response and resilience of IT systems against risks and threats. It should also include details on how the state will implement best practices in cybersecurity.

The Jobs Act includes other new programs that states can use to strengthen their cybersecurity protections. For example:

- » A \$100 million cybersecurity response and recovery fund that can include grants and cooperative agreements with state, territorial and tribal governments, with no cost-sharing requirement for state and local government;
- » A \$250 million Rural and Municipal Utility Advances Cybersecurity Grant and Technical Assistance Program to help increase the use of advanced cybersecurity technologies by electric utility systems such as state-owned utilities, rural electric cooperatives, municipally owned electric utilities and small investor-owned utilities;
- » A \$50 million Energy Sector Operational Support for Cyber Resilience Program to enhance and periodically test the emergency response capabilities of the Department of Energy, expanding its cooperation with the intelligence community. This can include technical assistance to small electric utilities.⁴⁵

There are also federal and state resources that can help states understand the current status of their cyber defenses and what to prioritize. CISA, the government's lead agency for responding to cyberattacks, provides a comprehensive set of [tools, guides and services](#) that states can use to understand and respond to threats. The National Institute of Standards and Technology (NIST) also has a wealth of [best practices and standards](#) that states can use to assess their capacity, though doing so requires a team with deep technical and security expertise. The [National Governors Association](#) and [National Conferences of State Legislatures](#) also offer resources aimed specifically at state cybersecurity practices.

⁴⁴ Many states already have cybersecurity committees that may meet this grant requirement.

⁴⁵<https://www.nga.org/news/commentary/opportunities-for-cybersecurity-investment-in-the-bipartisan-infrastructure-investment-and-jobs-act/>

CYBERSECURITY

KEY TECHNOLOGY OPPORTUNITIES IN THE FIRST 200 DAYS of 2023

Below are meaningful steps that state leaders can take at the beginning of 2023 to assess and improve their state's protections against cybersecurity threats. In the first 200 days:

1. Prepare for a cyberattack;
2. Conduct a broad review of the statewide cybersecurity strategy;
3. Build and empower state cybersecurity teams and technical talent;
4. Launch a statewide cybersecurity campaign.

PREPARE FOR A CYBERATTACK

It is not a question of whether a state will face a cybersecurity attack, but when it will occur, when it will be discovered and how bad it will be. A critical question every governor should ask is, "How will I find out about a cybersecurity incident?" All state leaders should ask this question on day one of their administration with an eye to addressing gaps, overlapping jurisdictions and other areas where a state's response could encounter confusion.

Cybersecurity incident response plan

States must have a written plan for answering an attack, and keep it updated. This requires coordination by a large group of people and agencies, including the cybersecurity team, communications, legislative affairs, operations, National Guard, law enforcement, perhaps the governor's office and others. Plans should clearly lay out incident response management responsibilities, such as in [Louisiana's Cyber Incident Response plan](#) (annex to the Emergency Support Function - 17 at p. 184). It will also likely require engagement with outside organizations including private businesses, utilities, insurance companies and others. In 2019,

the National Governors Association examined the 15 states that have publicly available cybersecurity incident response plans. An overview of that research can be found [here](#).

The cybersecurity team should be immersed in the state's plan for responding to attacks, including a state's determination of what, if any, resources will be provided for local incidents. In building relationships with local governments, state cybersecurity officials should share the plan with those officials so they will know what state resources are available during incidents. More information about handling cybersecurity attacks is available from [CISA](#), including steps for states to [report an incident](#) and receive assistance if necessary.

Strengthen statewide communication channels

State governments are a critical interchange for information sharing by federal, state, local and private sector stakeholders during a cyberattack. Many attacks happen at the local level, such as at police departments, colleges, hospitals or airports, where the state does not have direct authority or control. As such, it is important to create lines of communication with these organizations before an incident. Strong relationships pay dividends by enabling an immediate, statewide response to an attack and helping prioritize the allocation of resources in preventing a breach.

[New Jersey's Cybersecurity and Communications Integration Cell](#) was established in 2015 as the state's central unit for cybersecurity threat analysis, incident reporting and information sharing. It sets priorities for disseminating information from the federal government and for proactively communicating and sharing intelligence with the public.⁴⁶ In 2022, North Carolina's governor signed an executive order to establish the state's Joint Cybersecurity Task Force. It works to build relationships among state and local government agencies and educational institutions to provide incident coordination, resource support and technical assistance.⁴⁷

Ensure every agency has a documented continuity of operations plan

States should consider the loss of computer function as the loss of a government's ability to operate overall. As with any unexpected disaster, governors should plan as if this will happen in an administration's first 200 days.

States should review and update their [continuity of operations plans \(COOP\)](#), which typically are used to outline how they would deliver services during natural disasters. A COOP is often separate but complementary to a cybersecurity incident response plan. Most cybersecurity incident response plans detail how a state would coordinate the response to a cybersecurity

⁴⁶ <https://www.cyber.nj.gov/>

⁴⁷ <https://governor.nc.gov/media/2990/open>

attack, including plans to involve law enforcement, the National Guard and other agencies. A COOP, on the other hand, lays out how a state will continue to run the essential functions of government itself — and serve constituents — while addressing the incident. To maintain readiness, states should conduct exercises to test this capability annually or at least participate in regional or national exercises to identify any gaps.

States can also help local governments and [providers of essential infrastructure](#), like electric utilities, have plans in place as well. The consequences of not having a plan for continuing services during a cybersecurity breach can be severe. In 2018, a local police department in Riverside, Ohio, was a victim of a cybersecurity attack that shut down all of its systems for a full week. The community did not have a continuity plan, leaving officers taking reports on yellow notepads with no system for processing them.⁴⁸ This weakened the department's response to problems.

CONDUCT A BROAD REVIEW OF THE STATEWIDE CYBERSECURITY STRATEGY

Most states already have some cybersecurity strategies, many of which were developed out of necessity from increasing incidents of malicious hacking and security breaches. In the first 100 days of 2023, governors and top officials should broadly review the state's cybersecurity strategy to assess existing assets, vulnerabilities, talent needs, funding, administrative obstacles and opportunities. Such a review establishes an informed foundation for the ongoing management and readiness posture of the state's cybersecurity team. Moreover, it helps leaders set realistic priorities to protect the state's data and information systems.

To begin, the governor should identify a trusted cybersecurity advisor as soon as possible to help lead this assessment. This may be the state CIO or CISO, or it may be a special advisor or another official with technical knowledge. The advisor should understand the state's technical infrastructure and organizational structure to help lead a productive discussion with leaders.

As a starting point for organizing a comprehensive review, the National Institute of Standards and Technology's Cybersecurity Framework⁴⁹ provides a guide that cybersecurity professionals often use to understand risks and ways to reduce them. NIST's suggestions include:

⁴⁸ <https://www.govtech.com/public-safety/us-secret-service-investigating-cyberattack-on-ohio-city.html>

⁴⁹ <https://nvlpubs.nist.gov/nistpubs/CSWP/NIST.CSWP.04162018.pdf>

1. Describing their current cybersecurity status;
2. Deciding their cybersecurity target;
3. Prioritizing opportunities for improvement as part of a continual process;
4. Assessing their progress;
5. Communicating with internal and outside participants about cybersecurity risk.

Building off of NIST's framework, CISA offers a template [agenda](#) for state, local, tribal and territorial governments to understand their cybersecurity posture. Similarly, the National Conference of State Legislatures (NCSL) has published a "Conversation Guide" developed for state governments. For example, NCSL suggests asking the state's CIO or CISO about risk assessment and cyber strategy, including questions such as:

- » Who are your executive branch customers?
- » If there are parts of state government not under your control (i.e., constitutional officers), who are your counterparts in those offices?
- » Does your authority extend to local jurisdictions such as cities, counties, parishes or school districts?
- » CIO question: What are the programmatic priorities for your office?
- » Who sets the priorities for your office? How often is the overall security strategy updated?
- » Are audits part of the overall security plan?
- » CISO question: What are the cybersecurity priorities for your office?
- » How can I help promote a "culture of information security" that includes state leadership and all key stakeholders?

For the full resource, see the [NCSL Cybersecurity Conversation Guide](#). For more technical inquiries, some states have published their own cybersecurity guides. For example, the Washington state auditor's office has a [tool](#) for local governments to assess the strength of their cybersecurity systems. Each state's review will be different, but should aim to be broad, involving leaders across state agencies and offices. The goal is to understand the cybersecurity threat landscape and the state's capacity to protect its data, systems and residents.

BUILD AND EMPOWER STATE CYBERSECURITY TEAMS AND TECHNICAL TALENT

Make sure top officials know cybersecurity is a priority

Reducing cybersecurity vulnerability is such a fundamental challenge that it needs attention and buy-in from governors, department heads and other senior administration officials. While these leaders don't have to understand the detailed technical aspects of cybersecurity, they do need to grasp how crucial it is for critical government functions. Every state executive should have cybersecurity on their list of priorities and should have a staff with appropriate technical expertise to ensure the effective, secure delivery of government services.⁵⁰

To solidify cybersecurity as a priority in the state's leadership, many states have established cybersecurity committees or councils that include state leaders from departments and agencies, as well as experts from across the private sector and academia. In 2017, Indiana established the Indiana Executive Council on Cybersecurity "to form an understanding of Indiana's cybersecurity risk profile, identify priorities, establish a strategic framework of Indiana's cybersecurity initiatives, and leverage the body of talent to stay on the forefront of the cybersecurity risk environment."⁵¹ The [35-member council](#) includes local, state, federal, private sector, military and academic members. In 2021, it produced a [statewide cybersecurity strategic plan](#). These expert committees can fulfill federal cybersecurity grant requirements and help develop statewide plans.

The role of the state chief information security officer

Chief information security officers (CISOs) oversee all aspects of cybersecurity and typically advise the state chief information officer (CIO) and executive leadership on cybersecurity risk. They develop security management systems and standards for safeguarding government information.

The job of the CISO goes beyond compliance. The person should advocate for best practices while being able to make risk-based decisions to balance security with the effective delivery of services. For example, a CISO should understand Zero Trust, a security strategy the federal government is adopting with 2022 [OMB guidance](#), which would require all system users to be authenticated and authorized.⁵² A strong CISO must be able to assess how such rigorous

⁵⁰ For more information about hiring technical talent, see [Talent Memo](#).

⁵¹ <https://www.in.gov/cybersecurity/executive-council/>

⁵² <https://executive.gov.com/2022/01/omb-unveils-federal-zero-trust-strategy/>

security measures benefit the state and how they can be implemented with minimal harm to overall service delivery and other priorities.

The CISO⁵³ is typically accountable for:

- » Building a cybersecurity team;
- » Developing a strong working relationship with IT and engineering teams implementing solutions;
- » Describing cybersecurity issues to nontechnical audiences, like legislatures;
- » Cybersecurity threat risk management and detection;
- » Preventing financial and digital loss;
- » Insuring and de-risking organizations;
- » Creating multiple lines of defense across state agencies;
- » Preparing plans for conducting business if a cyberattack forces a state system to be taken offline.

While reporting structure varies by state, the CIO and CISO must be strong partners in running its technical infrastructure. To be effective, the CISO should have the power to make decisions, including those impacting staffing and budget. Whatever the organizational structure, the CISO should be in regular and direct communication with the governor and top state officials. It is not only best practice, but often legally mandated, for corporate boards to receive regular reports on cybersecurity risks. State governments should adopt a similar practice with their top officials.

Provide funding for state employees to develop their cybersecurity expertise

The number of cybersecurity training and certification programs is growing rapidly. These programs provide paths for training a state's existing workforce. The NCSL provides a [list of cybersecurity training](#) resources specifically for state executive branch employees.⁵⁴ Many state governments offer tuition assistance to employees, but states could provide even greater incentives for employees' professional growth, such as Virginia's [Cybersecurity Public](#)

⁵³ A CISO hiring profile is included in Appendix A.

⁵⁴

<https://www.ncsl.org/ncsl-in-dc/standing-committees/law-criminal-justice-and-public-safety/state-cybersecurity-training-for-state-employees.aspx>

[Service grant](#).⁵⁵ At a time when cybersecurity professionals are in high demand, training programs can help states develop a technical workforce from within.

LAUNCH A STATEWIDE CYBERSECURITY CAMPAIGN

Protecting state systems and sensitive information from hackers requires every government employee to be aware that some of the most effective cybersecurity protections come from how they behave online, not just the technology itself. A top state security official in Indiana said last year that “80% of the threats faced by an organization could have been mitigated through basic nontechnical education of teams and leaders.”⁵⁶

Creating a culture of information security must come from the top, starting with the governor. In the first 200 days of 2023, the governor can launch a public campaign to improve cybersecurity that includes all state agencies, employees, vendors, private companies and the public. State leaders can announce several initiatives, described further below, which can dramatically improve security.

Statewide employee cybersecurity training

According to [a 2018 Microsoft report on strengthening cybersecurity in state governments](#), only 18 states require cybersecurity training for all employees. While this number has likely increased, it is also likely that gaps remain. Ensuring that every worker understands the basics of cybersecurity practices and their importance is critical for keeping state systems safe. This is particularly important as more governments let employees work remotely. Workers should be given practical recommendations and support to protect their state system and personal digital identities and accounts, since professional and personal accounts can be targeted.

“Cybersecurity hygiene” refers to the standards that staff follow and the habits workers can form to protect sensitive information and systems.⁵⁷ It’s akin to the daily choice to wash our hands to prevent the spread of germs. Proper cybersecurity hygiene includes.⁵⁸

- » Having strong passwords that are not duplicated in different systems;
- » Using multifactor authentication;

⁵⁵

<https://www.schev.edu/financial-aid/financial-aid/federal-state-financial-aid/workforce-credential-grant/cybersecurity-public-service-grant>

⁵⁶ State of Indiana, Security Director Interview 2022

⁵⁷ <https://sopa.tulane.edu/blog/cyber-hygiene>

⁵⁸ <https://www.cisa.gov/cyber-essentials>

- » Ensuring that people have only as much access to change a computer system as is needed;
- » Automatically updating operating systems and third-party software.

State leaders, in collaboration with the CIO, CISO or other cybersecurity advisor, should be tasked with developing and deploying basic cybersecurity hygiene training for all state employees, contractors and vendors.

Use multifactor authentication for state employees and contractors

Using multifactor authentication for state employees and contractors is one of the most effective ways to increase information security. It is “an authentication method in which a computer user is granted access only after successfully presenting two or more pieces of evidence to an authentication mechanism that involve: knowledge (something the user and only the user knows) and possession (something the user and only the user has).”⁵⁹

Multifactor authentication (MFA) is important because even if the first credential is compromised, it is unlikely the second credential will be illicitly obtained because it requires having a physical tool like a mobile phone or access to a particular physical location.⁶⁰ The strongest forms of MFA are designed to be resistant to phishing attacks (this is sometimes referred to as “security keys” or “WebAuthN”), and should be preferred where possible for new systems. It is also a best practice to invest in Single Sign On systems wherever possible, so that state employees only need to interact with one sign-on system for all of the systems they use in their jobs.

Installing MFA in hundreds of systems can take years. States can start by focusing on core email and productivity tools to build momentum and then move toward more comprehensive improvements over time. The Illinois Department of Innovation and Technology details its plans for rolling out multifactor authentication [here](#).

Identify and protect government websites not on a .gov domain

All 50 states have .gov domains, which let users know they are on an official government website. Moreover, .gov domains provide built-in access to important security features such as two-factor authentication and continuous vulnerability monitoring.⁶¹

⁵⁹ <https://www2.illinois.gov/sites/doi/Strategy/Cybersecurity/Pages/MFA.aspx>

⁶⁰ <https://www.cisa.gov/publication/multi-factor-authentication-mfa>

⁶¹ <https://statescoop.com/cisa-makes-gov-domains-available-for-free/>

Some older websites affiliated with agencies and departments, as well as numerous local governments, still house their websites on .com or .org domains. In 2020, the computer security company McAfee released a study that showed 80% of county election offices had yet to move to a .gov domain, posing a potential risk to election security.⁶² Similar risks exist for any online government services sites that might be spoofed by a malicious actor in order to obtain sensitive personal information from the public. States can help local governments move their websites to .gov, especially now that those domains are available at no cost.⁶³ This would also make it easier to monitor the performance and security of all state-run websites.

Set minimum security standards for new technology investments

Governments are attractive targets for hackers because of the valuable information they keep and vital services they provide. These systems are often built or purchased from third parties, so it is critical to ensure that all suppliers are also secure by developing standards that their technology projects must follow. This includes state vendors, service and technology providers, as well as state offices and agencies. Establishing and enforcing such requirements demands collaboration across many teams. Moreover, the state CISO must continually monitor and update standards to match rapid changes in the industry and the security threat environment.

In September 2022, the White House's Office of Management and Budget released guidance for federal agencies entitled "[Enhancing the Security of the Software Supply Chain Through Secure Software Development Practices](#)." While this only applies to federal agencies, states can use it as a model for addressing their own technology supply chain issues. Similarly, both CISA and NIST have published best-practice guidance that states can use as they make decisions about purchases.⁶⁴ States may even require software vendors to certify that they are following secure development practices that meet these best practice requirements.

⁶² <https://statescoop.com/county-elections-websites-https-gov-mcafee/>

⁶³ <https://home.dotgov.gov/help/#what-does-a-gov-domain-cost>

⁶⁴

<https://www.marshmclennan.com/insights/publications/2018/oct/guarding-the-public-sector--seven-ways-state-governments-can-bo.html>

CYBERSECURITY

BEYOND THE FIRST 200 DAYS

Although some steps can be taken within a year, governors can also make improvements in cybersecurity that will have a longer range impact. Specifically:

ENCOURAGE COUNTY AND LOCAL GOVERNMENTS TO PRIORITIZE SECURITY

States can encourage local governments to strengthen their cybersecurity with financial support and by holding them accountable to agreed upon standards. As noted above, many cybersecurity incidents occur at the local level and it is important for state leaders to build trusted relationships with local governments over time rather than swooping in during a crisis. As partners, state and local resources can support each other with information, threat analysis and other assistance.

As noted by the [National Association of Counties](#) (NACo), local governments need resources — funding and technical support — to develop and maintain security.⁶⁵ To assist local governments, states can apply for CISA's \$1 billion state and local cybersecurity grants, which will be released in phases. Local governments can also seek help from programs, including some suggested by NACo, that offer free assistance like vital alerts and notifications on cyber threats and cyberattacks.

ESTABLISH A VULNERABILITY DISCLOSURE PROGRAM

States should establish [vulnerability disclosure programs](#),⁶⁶ which let anyone inside or outside the government securely report cybersecurity weaknesses. A team and process should be created, likely within the CISO office, to handle incoming reports. Most federal agencies are

⁶⁵ <https://www.naco.org/resources/naco-cybersecurity-priorities-and-best-practices>

⁶⁶ <https://www.cisa.gov/publication/vulnerability-disclosure-policy-vdp-platform-fact-sheet>

required⁶⁷ to maintain such programs, and states can learn how they might do this themselves. See the [CISA](#) and the federal [General Services Administration](#)⁶⁸ resource pages for examples.

WORK WITH COLLEGES AND UNIVERSITIES TO BUILD A SECURITY WORKFORCE

Cybersecurity training programs are growing. From university degrees to certificates and apprenticeship programs, there are many paths to cybersecurity expertise. The most successful states are building relationships with colleges, training programs and businesses to support cybersecurity training and provide a pathway to government service.

One promising model is the federal [Cybercorps Scholarship Program](#), which provides up to three years of financial aid for graduate or undergraduate students studying cybersecurity. When they complete their course work, students agree to work for the federal, state or local government for the same number of years for which they received scholarships. States can use these students to fill cybersecurity jobs. They can also develop their own similar scholarship programs at home.

CONSIDER BUILDING A VOLUNTEER RESPONSE TEAM OR REGIONAL COALITIONS

As states struggle to fill cybersecurity positions, many are appealing to individuals' sense of civic duty to build volunteer cybercorps. While the structure and formality of these models differ across states, the focus is on recruiting teams that can be activated during a large-scale cyberattack or one that puts the delivery of government services at risk.

States, including [Ohio](#) and [Michigan](#), have invested heavily in building a corps of cyber experts who can be called to duty during a cyberattack. Michigan's model, known as MiC3, requires all volunteers to pass a background screening and to complete annual training. MiC3 members are assigned to regions of the state and work alongside state employees to respond to a cyberattack.⁶⁹

⁶⁷ <https://www.cisa.gov/sites/default/files/bod-20-01.pdf>

⁶⁸ <https://www.gsa.gov/vulnerability-disclosure-policy>

⁶⁹ <https://www.nga.org/wp-content/uploads/2020/05/MiC3-Memo.pdf>

The National Governors Association's Center for Best Practices has compiled a [list of recommendations](#) for states that are considering this option. Case studies from Michigan, Ohio and Wisconsin can be found [here](#). These approaches can be explored to complement full time technical leaders.

ACCELERATE CLOUD TECHNOLOGY TO MAXIMIZE THREAT MONITORING, PREVENT BREACHES

Moving information technology to the cloud can enhance a state's cybersecurity, decrease costs and strengthen system reliability. While most states are increasing their use of the cloud, many agencies still rely on their own antiquated systems, which are costly and vulnerable to hackers. To accelerate adoption, state leaders can:

- » Ask for a detailed briefing on the status of cloud transitions across agencies;
- » Don't accept a transition date that's years away, tied to a long-term modernization program;
- » Seek transition plans that are incremental, increasing use of the cloud in steps;
- » Avoid migration plans that attempt to move everything at once.

CYBERSECURITY

OTHER RESOURCES

- » Aspen Institute — [Building a More Diverse Cyber Industry](#)
- » Michigan Cybersecurity Corps — [Building a Civilian Cyber Corps](#)
- » [CISA Resources](#)
- » [Enhancing the Security of the Software Supply Chain](#) (White House)
- » [NCSL — Cybersecurity Conversation Guide](#)
- » [NGA Resources Center for State Cybersecurity](#)

PROCUREMENT

EXECUTIVE SUMMARY

State and local governments pay millions to contractors each year for goods and services that keep their agencies running, help the public and shape whether residents think their government is doing a good job.⁷⁰ This is particularly true for technology. States depend on contractors for the software that provides people with services they take for granted — and demand.

This means that a failure of procurement — the processes, policies and people behind all this spending — can disrupt services for millions and derail an administration’s ability to deliver its priorities. Problems with these contracts abound. One consulting firm found that only a small portion of large software projects launched by the government and other sectors of the economy are considered successful.⁷¹

High-profile examples of such problems are all too plentiful. There was the calamitous 2014 rollout of HealthCare.gov, the Obama administration’s flawed health care web portal. Rhode Island’s [Unified Health Infrastructure Project \(UHIP\)](#) collapsed when it opened in 2016, leaving thousands unable to access health, food and other critical services or get in touch with eligibility specialists for months.

One reason for these failures is states’ antiquated procurement practices and strategies. Agencies use the same processes to procure a constantly evolving, \$100 million software system that they would use to buy a bus that costs less than \$500,000.

In addition, officials often gamble that they will fulfill their mission by turning the entire project over to one vendor with a single contract. They might have rigorous oversight of spending, but no way to gauge the quality of software development or ensure that the project is producing the desired outcomes.

This “big bang” approach to technology projects was trendy in the private sector in the 1990s. After a few years they found it led to high rates of failure and largely abandoned it. But most

⁷⁰ <https://www.sciencedirect.com/science/article/abs/pii/S1478409219301530>

⁷¹ https://www.standishgroup.com/sample_research_files/Haze4.pdf

states still use this practice, leaving it harder for them to procure the custom software that industry builds today.

SUMMARY OF OPPORTUNITIES

No state can radically transform its procurement processes in the first 200 days of 2023, but they can set new expectations and start making changes.

Improve rules for the procurement of software

States should consider breaking up large, risky projects into smaller, more manageable contracts spread across multiple vendors. Keep each contract small so that failure will not bring down the entire project.⁷² Contracts should call for developing software incrementally, allowing end users to quickly put the improved software to work.

Build teams with the skills and support to succeed

The first step for changing procurement processes is gaining support from state and agency leadership. This includes agency leaders, senior procurement officials and legal offices, including both appointed officials and career staff. States must also ensure that they have modern technology expertise on their procurement teams. States are most effective when they start small and build on what's working as they grow their teams.

Review ongoing and upcoming large-dollar software procurements

When a new governor takes office, hundreds of millions of dollars of projects are already queued up. If those projects fail, that governor will be blamed, not the prior one. Every existing software procurement project should be reviewed, led by an official from the governor's office. The review should find contracts that are at risk of failure, and each should be reevaluated for modification or termination.

⁷² The larger the contract, the greater the odds of failure. Vanishingly few large-dollar custom software projects succeed, but among projects with labor costs under \$1 million, most succeed. Break projects into smaller contracts and the odds of success will go up. https://www.standishgroup.com/sample_research_files/Haze4.pdf

PROCUREMENT

OVERVIEW

States pay many millions of dollars every year to the private sector for goods and services that keep their agencies running. These purchases help agencies fulfill their missions and shape whether residents think their government is doing a good job. This is particularly true for technology. States depend on contractors to build and maintain the software used to provide people with services they want — and need.

This means that a failure in procurement — the processes, policies and people that states rely on to buy or build technology — can disrupt services for millions and derail an administration's ability to deliver on its priorities. State governments have a long history of problems with technology contracts. One consulting firm found that large government technology projects are more likely to fail than to succeed.⁷³

High-profile examples of such problems are all too plentiful. There was the calamitous 2014 rollout of HealthCare.gov, the Obama administration's flawed health care web portal. Rhode Island's [Unified Health Infrastructure Project \(UHIP\)](#) failed when it opened in 2016, leaving thousands unable to access health, food and other critical services or get in touch with eligibility specialists for months.

California canceled its 10-year unemployment modernization project when the vendor failed to produce working software.⁷⁴ Michigan is replacing the child welfare computer system it installed seven years ago, which cost more than \$200 million, because it was so difficult to use. Staff had to spend more time at their computers and less time in the field on investigations, putting some of the state's most vulnerable children in danger.⁷⁵ *When software procurement fails, government fails.* These examples are routine, not extraordinary.

⁷³ <https://www.opendoorerp.com/the-standish-group-report-83-9-of-it-projects-partially-or-completely-fail>

⁷⁴ <https://insider.govtech.com/california/news/edd-strike-team-recommends-immediate-comprehensive-change-technology-updates.html>

⁷⁵ <https://www.fox47news.com/neighborhoods/state-capitol/michigans-child-welfare-computer-system-is-deeply-flawed-the-state-is-paying-49m-to-replace-it>

States' acquisition and procurement strategies set projects up to fail from day one. Agencies use the same practices to procure \$100 million software systems that they would use to buy a bus that costs less than \$500,000. This approach is a poor match for building 21st-century technology. Today's software must be constantly maintained and improved to match changing customer expectations and program requirements.

Agencies are most successful when they procure *the services of a vendor* to build software, rather than focusing on buying a *thing*. When states approach software contracting as if they are buying a thing, they tend to meticulously document a large set of inflexible requirements and use that as criteria for selecting a vendor. Like a gambler betting everything on a roulette wheel landing on 36, they take a chance on fulfilling their mission by turning the whole project over to one firm with a single contract. They might have rigorous oversight of spending, but no way to gauge the actual quality of the software. These types of agreements also prevent contractors from easily adapting to changing circumstances or priorities without lengthy contract amendments and significant additional cost to the state.

When procuring a *vendor's services*, states detail how they want to work, the skill sets they need and the outcomes they aim to achieve. These types of contracts are most effective when they are small and flexible, prioritize software features based on actual user need and incentivize collaboration between states and vendors.

Procuring *the services* of a qualified vendor is not only important when building customized software, but is also crucial when buying "off the shelf" technology tools. When states hire a vendor to make changes to, or "configure," prebuilt software, they are essentially customizing that software — i.e., making changes that will need to be managed and maintained as long as they use it.

There are many people in government who want better outcomes for these projects. And there are many who believe that the current procurement process is broken. While no state can radically transform its procurement processes in the first 200 days of 2023, they can set new expectations and make early improvements that will build momentum for long-term change. By leveraging best practices in agile, human-centered procurement, states can adopt proven new approaches to make success far more likely.

PROCUREMENT

KEY TECHNOLOGY OPPORTUNITIES FOR THE FIRST 200 DAYS OF 2023

Below are meaningful steps that state leaders can take at the beginning of 2023 to improve technology procurement and help government deliver services more effectively. In the first 200 days:

1. Improve rules for the procurement of software;
2. Build teams with the skills and support to succeed;
3. Review ongoing and upcoming large-dollar software procurements.

IMPROVE RULES FOR THE PROCUREMENT OF SOFTWARE

The first step for improving software procurement is establishing updated rules for doing it. While existing procurement processes may seem inflexible, most state procurement laws and regulations provide the authority and flexibility required to substantially improve the process.

The most effective rules reflect proven best practices in modern software procurement. States that are most successful break up large, risky projects into smaller, more manageable ones. They keep each contract small so failure will not bring down the entire project.⁷⁶ They also ensure that each contract rests with one vendor that will develop software to be delivered incrementally. Delivering working software in stages enables system users to see real improvements in their day-to-day experience and helps the state monitor quality based on what is actually delivered, rather than on planning documents.

⁷⁶ The larger the contract, the greater the odds of failure. Vanishingly few large-dollar custom software projects succeed, but among projects with labor costs under \$1 million, most succeed. Break projects into smaller contracts and the odds of success will go up. https://www.standishgroup.com/sample_research_files/Haze4.pdf

States are more successful at technology procurements when their project approval, contracting and executive branch budgeting processes are aligned around these best practices.

Here are some best practices to consider:

- » Require that every technology project or budget be backed by rigorous user research. User research is the practice of interviewing state staffers and external customers about their experience with a program or system. The goal is to identify real pain points and then prioritize technology projects that will solve identified problems and improve the user experience. The resulting approach is also known as human-centered design. Ideally states will have the internal resources to conduct this research. States without this capacity can get help from nonprofits like [Code for America](#) and [U.S. Digital Response](#) to conduct user research side by side with their teams. Alternatively, they can contract with a vendor that offers this service.
- » Simplify approval and oversight processes for projects or contract requests under \$1 million. Smaller projects inherently carry less risk and are much likelier to succeed. Streamlining approval processes will incentivize breaking up large projects into small, manageable components that can be delivered more quickly.
- » Limit the number of individual software development contracts that exceed \$6 million or take more than three years to complete, including options to extend the length of the contract.⁷⁷ Ideally, vendors should be able to deliver working software that improves the user experience and/or solves an existing problem within six months.⁷⁸
- » Require vendors to deliver working software incrementally. Pay them for each piece of working software they deliver, rather than in one lump sum or for planning milestones they complete.
- » Measure a project's success by the results it produces, rather than how well it is planned. Moving a software project from phase one to phase two is meaningless. What matters is if the project has resulted in a tangible, measurable benefit to the state and the public.
- » Base oversight of budgeting and the evaluation of potential contracts on meeting user needs, not hitting financial goals. Never consider a project more successful for spending all its money — “hitting its budget” — than for accomplishing its goals for a fraction of the possible budget.

⁷⁷ <https://derisking-guide.18f.gov/state-field-guide/budgeting-tech/#limit-contract-sizes>

⁷⁸

<https://derisking-guide.18f.gov/state-field-guide/budgeting-tech/#measure-success-based-on-iterative-outcomes-not-project-milestones>

- » Require that state-employed software developers approve every line of code produced by a vendor, in coordination with the contracting officer's representative, before accepting it. This will require hiring software developers with experience performing code reviews.

Make customer experience an explicit priority

States that do not emphasize the needs of end users — the public and state workers — in the vendor proposals they request and the contracts they negotiate are more likely to end up with software products that fail to deliver value.

The most effective governments prioritize work that addresses specific problems, sets tangible goals and uses data to measure progress toward those objectives. This means getting feedback from the public and state employees about how well a program is working and where improvements should be made before a project is started. It is important to fight the instinct to make assumptions about user needs and to instead ask, "What is the user need?"

Improving people's experience can guide how teams make decisions and evaluate vendor performance. For example, a state can help constituents applying for benefit programs if it sets goals for them to be able to:

- » Apply in 20 minutes;
- » Enroll in 24 hours;
- » Only have to share their information once across many benefit programs;
- » Receive services within a week of providing all necessary information.⁷⁹

Developing concrete customer service goals and building them into the formal requests for proposals from contractors can help state staffers and vendors share a clear vision for success and work as partners to achieve it.

Create low-risk ways for teams to try new things

Changing software procurement processes can be unsettling to state workers, so agency leadership should explain the reasoning behind the updates.

⁷⁹ <https://www.performance.gov/about/performance-framework/>

Leaders should start with a small procurement project — perhaps a contract worth \$1 million or less, that is well defined and not crucial. Make clear to the agency team that it's an experiment. They should be told to follow the new procedures and document what works and what doesn't.

If they follow the prescribed model, *there is no way to fail*. That is, if the vendor isn't performing and the agency needs to end the contract early, that's a success because they avoided wasting money. If the vendor does perform, as determined by ensuring that the software is solving user needs at every step, that's also a success.

These commitments should be considered:

- » **Make clear within the organization that a team will be trying new things.** Leaders should consistently show support. If new oversight procedures show that no contractors' proposals are acceptable, the team should be loudly praised for having identified that. If the new process determines that a vendor's work is poor and that contract is terminated, the team should be praised for that too.
- » **Start early.** Ask for a review of procurement rules and major problems right away. Also request a review of state laws and regulations that would let an agency change its procurement process.
- » **Declare early and often that decision-making will be steered by the needs of customers, as identified by research.** No funding proposal should be considered without documented research about what a system's users need. Solicitations for bids from contractors on software projects should include a statement of objectives and data about user needs that the software is to address.
- » **Push agencies to work together and share data and systems where possible** to make related constituent experiences and save money.

Map the existing technology procurement process

A [journey map](#) — a visual tool that illustrates a procedure step-by-step — is a powerful way for an agency to understand procurement as state staff and vendors experience it. At each stage, it displays what an individual does, whom they interact with, the time involved and any roadblocks. An example of a journey map created by U.S. Digital Response of families applying for child care services can be found [here](#).

The procurement process consists of a web of forms, reviews and approvals. A journey map can help identify problems like common points of confusion, bottlenecks and unnecessary

duplication. States can use this information to pilot changes that streamline processes and reduce friction.

Vermont used journey mapping in 2018 to understand its procurement process for its Integrated Eligibility and Enrollment Program, which upgraded its technical systems for health care and other services. The exercise included procurement officials from relevant agencies and program staff, technology specialists and lawyers. Through this exercise, the team piloted a new, more agile procurement process for smaller technology contracts that let Vermont move from soliciting bids from vendors to a contract in 90 days. It is not uncommon for government procurement cycles to take 9 to 12 months or more.

States with digital services teams, like Georgia and New Jersey, can turn to them for assistance with journey mapping. States without those teams can contact groups like [Code for America](#) and [U.S. Digital Response](#) for help. There are also web-based tutorials like [NYC Service Design Studio's guide to user journey mapping](#).

Transforming state procurement processes can take years. By starting with steps that can be accomplished quickly, a state can demonstrate meaningful improvement to staff and vendors early on. It can then use the momentum to focus on other, longer-range improvements.

BUILD TEAMS WITH THE SKILLS AND SUPPORT TO SUCCEED

The first step for changing procurement processes is gaining support from state and agency leadership. This includes agency leaders, senior procurement officials and legal offices, including both appointed officials and career staff. It may include the legislature, particularly budgeting and oversight staff. There is likely to be a well of frustration with existing procurement processes that can be tapped to create support for improvements. But experienced hands may be skeptical of change, having encountered past plans to “fix procurement.” This time, state leaders should start small, experiment and double down on what works.

Special attention will be needed by procurement professionals deeply familiar with the complex ways that states purchase technology and services. These experts are invaluable partners for innovating and making sure contracts improve how the government works. Their involvement can help ensure that changes comply with laws and regulations. *Best in class states empower procurement professionals as partners in innovation.*

In the first 200 days of 2023, states have an opportunity to create the partnerships and support that procurement leaders need to think outside of the box and lead on modern approaches.

Elevate a chief procurement officer who understands modern technology and brings a spirit of innovation

Procurement professionals possess a deep familiarity with the complex practices and policies that govern the way states purchase technology and technology services. These experts are invaluable partners in efforts to incorporate innovative methods and steer government purchasing toward improved outcomes.

However, procurement leaders often exist in a compliance-first culture, asked to enforce myriad outdated rules. A transformation in the way states deliver services will require procurement professionals to be at the table — not as enforcers, but as enablers of change.

The most effective chief procurement officers have credibility within the procurement community and a respect for procurement processes. They help elevate the role of procurement within the state agency. Importantly, they also:

- » Recognize and embrace the need to experiment with new approaches;
- » Understand the costly shortcomings of current practices;
- » Approach their role with a collaborative, customer-centric mindset;
- » Work to build trust across agencies.

If this person does not have experience with modern technology, then they should be paired closely with a technology leader who does. This could be the state's chief technology officer.

Engage procurement experts in project planning early

Procurement officers often have a reputation for being blockers to innovative procurement approaches. This is in part due to the compliance culture that permeates procurement teams. But it is also because procurement is not often involved in technology strategy conversations. Instead, they are brought in at the final stage when it is time to issue a request for information (RFI), request for proposals (RFP), or request for quotations (RFQ). At that point, it is difficult for a procurement officer to offer alternative approaches that may improve the chances of success.

Instead, procurement officers need to be involved at the strategy stage — while teams are forming high-level goals for a project or initiative. This involvement allows procurement

experts to play an advisory — rather than a compliance — role. It also helps them understand the goals and constraints of the project from day one, allowing them to be partners in thinking through how to overcome obstacles and set up projects for success.

For example, a procurement lead was the first hire for the State of Colorado Digital Service, beyond the director and the deputy. Not only has this role helped ensure that procurement expertise is engaged from day one, but it also helped influence other areas outside procurement that have a significant impact on success, like legal and fiscal factors.

This kind of tight collaboration allows teams to build mutual trust and a shared language about process and risk. As a result, procurement teams can:

- » Better understand project goals;
- » Explain the intent of procurement rules;
- » Ultimately support procurement processes that will be most effective at reducing cost and building or identifying products and services that meet users' needs.

And in turn, innovation teams can:

- » Develop a better understanding of the procurement process;
- » Appreciate the valid reasons behind its complexities;
- » Navigate the process more effectively.

Include program leaders in presentations about software improvements

Leaders are accustomed to receiving reports that projects are going well, then learning that everything is going terribly and always has been. It's important that instead of reports, leaders are shown demonstrations of live, functioning software. This can be done by inviting them to join "sprint reviews," presentations run by software development teams every two weeks. It's important that they join periodically to show support for the project and learn how they can track progress.

At least every two weeks, project teams should send "[ship reports](#)" providing updates about what the project has accomplished since the last report, upcoming work and potential stumbling blocks. These reports should go to the highest level of leadership that is willing to review them. They should occasionally respond with short comments or suggest ways to resolve problems so the team understands that their work is valued.

Train leaders so they can understand what is being asked of staff

It is not enough to ensure that procurement teams include staff who understand modern technology, or for technology teams to comprehend procurement and for everybody to appreciate the importance of user research. Leaders should also understand these areas. Require them to receive basic training in user research and modern software development and contracting practices, like agile. This will help leaders understand why they must not demand specific plans for works still in progress or try to substitute their preferences for the identified needs of end users.

REVIEW ALL COSTLY, CURRENT AND UPCOMING SOFTWARE PROCUREMENTS

Traditional procurement methods for expensive software projects require years of work before a contract is even signed. The largest government technology projects are often the most likely to fail because they rely on antiquated procurement processes and focus on whether contract requirements are being met, not whether the upgrades help customers. Hundreds of millions of dollars of projects are already queued up when a new governor takes office. If those projects fail, the current governor will be blamed, not the prior one. At the beginning of an administration, it is wise to review current software procurement projects, whether they're nearly completed or just starting.

A review of these projects should be led by an executive leader who has a deep understanding of modern technology and who has a successful track record of delivering software and negotiating vendor agreements. The review should produce a list of contracts that are at risk of failure, and each should be reevaluated for modification or termination.

Take advantage of existing federal research and resources

The "[de-risking guides](#)" from the U.S. General Services Administration's 18F program, which provides technology advice to federal agencies and states, are invaluable resources for improving budgeting, oversight and procurement of custom software projects. Documents such as the Defense Department's [Guide to Detecting Agile BS](#) and 18F's [Agile Software Solicitation Guide](#) can help states understand and apply best-practice language and norms to technology contracts. States can also learn from programs such as the [federal 10x funding program](#), which solicits suggested technology improvements from federal workers and develops them as models for fostering innovation.

Define the procurement strategy and standards by which projects will be reviewed

It is important to understand what strategy the state is currently using to procure software and to determine if and how it needs to be modernized.

A contract's success is typically measured by whether it is completed on time and on budget. While these criteria can be important, they omit the crucial question of whether the software meets users' needs. Every contract should stem from rigorous research on what users' problems are and whether the contract, when executed, will solve them.

The General Services Administration's "de-risking guides" for states provide [a helpful set of initial questions to evaluate projects](#).

At a minimum, the review should examine:

- » Which user needs the software addresses;
- » Contract cost and timeline;
- » The need for state workers to support the software and their level of experience;
- » How frequently vendors demonstrate working software that can be tested by state staff;
- » How quickly information learned during user research and testing gets incorporated back into a software product;
- » How frequently code is tested (included security) and deployed, so it can be used by the people who need it.

These project standards should be public, because transparency is critical for building trust.

Take a hard look at contracts up for extension or renewal

Contracts reaching their ends are at the perfect point for review. There should be ample evidence that they long ago delivered value to their users. Any major software development contract that a project team intends to renew or extend should be studied for how well it is working. If it does not meet best-practice criteria, the contract should not be renewed, or the need for it should be reevaluated. Modern software procurement language should replace whatever provisions led the previous contract to fail.

Best practices rules for reviewing contracts up for renewal include:

- » Avoid the sunk cost fallacy — a reluctance to abandon a failed strategy that has cost a substantial investment. Don't throw good money after bad to save a system that was built without adequately considering users' needs.
- » Do not extend any contract that isn't centered on continually upgrading software that addresses users' needs.
- » Do not extend any contract that doesn't clearly state goals for serving users, which lets a project team know what the objective is.
- » Encourage opportunities to break work into smaller components, where vendors are rewarded for improving customer experience in increments. This also gives the state flexibility to alter or end the arrangement if it is not meeting those goals.

Include someone on the review team who is familiar with the state's budget cycles to help the team understand how quickly technology can be purchased. This can reduce the risk that procurement cycles will slow down priorities for the first 200 days. It also helps avoid missing deadlines needed for a state legislature to provide funds or update regulations.

PROCUREMENT

BEYOND THE FIRST 200 DAYS

Improving procurement outcomes is a multiyear investment. Beyond an administration's first 200 days, there are longer-range, systemic changes that can help transform the state's procurement approach for the long term and improve how the government delivers services digitally.

CONSIDER BUILDING OR LEVERAGING AN EXISTING PREQUALIFIED VENDOR POOL

Using a prequalified vendor pool is one way a state can speed up the contracting process before a critical need arises. As a part of this approach, states competitively award master contracts to a pool of technology vendors and negotiate base agreements for certain skills and services. [Vermont](#) is one state that has used this approach to speed up contracting for small technology projects. When an agency has a technology project need that can be filled by vendors in the pool, it submits a statement of work (SOW) to the prequalified pool. The state selects a vendor from the pool after a short bidding process and the SOW is quickly approved. Because the base contracts have been prenegotiated, the contract does not get hung up in traditional approval processes or contract negotiations for months before work can begin.

States can also use [GSA's Cooperative Purchasing program](#) (formerly Schedule 70) to buy software and hardware more cheaply than if they negotiated them on their own.

FOSTER A MORE DIVERSE AND INNOVATIVE VENDOR ECOSYSTEM

Improving the diversity of vendors a state can turn to, can save money and improve outcomes by encouraging greater competition. A leader looking to use software

procurement to improve service delivery must not expect new results from the same vendors.

States generally have requirements that help small businesses and companies operated by people from disadvantaged communities get contracts. States can do other things to increase supplier diversity:

- » Perform deeper research into how vendors get procurement contracts. Consult the procurement journey map, ask people from small and disadvantaged businesses about their problems and address their issues.
- » Increase the simplified procurement threshold for small and disadvantaged businesses. This is the dollar amount below which there is a streamlined process for getting a contract. Some states have not increased this threshold to adjust for inflation for decades. New York's \$20,000 ceiling was raised to \$150,000 in 2017 and then to \$500,000 in 2019. This means that agencies can buy software rapidly while awarding more contracts to small and disadvantaged businesses.

Further reading: "[For Diversity, Equity, Inclusion, and Accessibility in Government, Update Procurement Policies](#)," from *Reconceptualizing Public Procurement to Strengthen State Benefits Delivery and Improve Outcomes*.

INVEST RESOURCES IN MAKING INNOVATIONS IN PROCUREMENT

Creatively improving how procurement works can save time and money and help an administration deliver on policy priorities successfully. To do this, teams need staff and training. Before rolling out big changes, try them with a small test project first.

One example comes from how Washington state awards primary and secondary contracts. If the primary contractor is not meeting expectations, Washington does not have to solicit new bids. Instead, it can switch to a secondary contractor it has lined up. See other ideas from the [Tech Transit Lab](#).

It's not enough to talk about working differently — procurement and technology staff must be trained to use the improvements. Procurement staff working on technology contracts should be familiar with modern technology principles and practices, like DevOps, human-centered design and product management. Technology staff should be taught about procurement, including how the state seeks bids for custom software and how contracting

officers measure contract effectiveness. Only when each group understands the other's work can they work together effectively.

Find and train promising workers who are eager to expand their knowledge. This can help leadership build support from staff and improve workers' understanding of the complexities of existing programs.

Staff may not be interested in this training or assume they do not have time for it. After all, it is not obvious that a contracting officer should be trained in software development. Leaders should encourage attendance and go to the sessions themselves.

PROCUREMENT

OTHER RESOURCES

WHAT TO READ?

- » [City of Chicago Strategic Vision for Procurement](#)
- » [New America's Guide to Re-Conceptualizing Public Procurement](#)
- » [18F De-Risking Guide](#)
- » [A Guide to Reforming Tech Procurement in Canada](#)
- » [“For Diversity, Equity, Inclusion, and Accessibility in Government, Update Procurement Policies,”](#) from *Reconceptualizing Public Procurement to Strengthen State Benefits Delivery and Improve Outcomes*
- » [Procurement Excellence Network](#) | Harvard Kennedy School Government Performance Lab
- » [Transforming IT Procurement: Framing the Problem](#) | Harvard Kennedy School Government Performance Lab
- » [Transforming IT Procurement: Understanding the Marketplace](#) | Harvard Kennedy School Government Performance Lab

DATA

EXECUTIVE SUMMARY

When the pandemic began, every state began publishing figures on cases, testing and vaccination rates. Some states used established systems to quickly compile and share their latest data with the public on freshly designed websites, while others developed new systems and tools to gather and report data. Eventually, governors across the country were presenting data in their daily press conferences and using data to make decisions in real time. There's no reason states can't apply this approach to other critical issues.

As states look to ahead to what's next, they can learn from the difficulties of the past three years and build on what's working in states and cities across the country to:

Answer critical policy questions. Do workforce training programs result in higher wages? How well aligned is the secondary education system with the needs of employers? Which programs are most effective at reducing recidivism? Integrating data across programs and services makes it possible to get answers to critical policy-related questions.

Make state government operations more efficient and effective. Data and analytics allow states to process permits faster and more effectively. Businesses can get started faster, back office processes can be automated, and costs can be reduced through access to timely and accurate data.

Allow government to be outcome- rather than process-focused. Data can help states better understand whom they are serving and whether they are serving them well.

Increase trust in the government. Residents often ask why they need to enter the same data in multiple places to access services. Others might want to know how their tax dollars are being spent. Prioritizing data access and integration can reduce the frustration of interacting with government services.

This memo lays out actions states can take in the first 200 days of 2023 to gather data to shape policy that answers residents' needs and build programs that are responsive to future crises.

SUMMARY OF OPPORTUNITIES

Build a team of data experts in critical areas, and use contractors wisely

Though outside contractors can help states build databases and the tools to use them, they must be guided by government data experts and steered by clear handling processes. State staff must know why data is important and how to assess whether data systems are effective. While these steps can't be finished in 200 days, states can begin by focusing on one or two priorities.

Emphasize data-driven decision-making

State leaders should be explicit that data will be used to drive decision-making. Being clear about which policy areas, departments and programs are a priority will bolster a state's efforts and provide clarity to the staff who will be involved. It's likely a state already collects much of the data necessary to answer critical policy questions, yet it is spread across multiple departments and programs. This upfront clarity will help agencies mobilize the staff necessary to support these efforts and aid in coordination. State leaders can drive this home by publishing performance data on top programs, releasing data publicly and developing better tools for understanding what the information means.

Focus on a specific problem while building long-term data projects

Setting broad and ambitious data goals is important, but so is using the information a state already has in a timely way. Governments should build technology systems in steps, focusing on projects for which resources and momentum are available. Money from federal pandemic relief programs offers states a chance to use existing data to attack current problems.

Prioritize data quality and protection

Many state data systems have evolved over a series of decades. These systems were initially set up to administer a specific program or service, and did not have the benefit of foresight into how these systems and programs related to one another. The result is that many of these systems lack consistency of quality control and standards for how they can interact. Acting early to control, protect and improve the quality of data is crucial to ensure data across systems can be efficiently integrated and analyzed.

DATA

OVERVIEW

When the COVID-19 pandemic began, every state began publishing figures on cases, testing and vaccination rates. Some states used established systems to quickly compile and share their latest data with the public on freshly designed websites, while others developed new systems and tools to gather and report data. Eventually, governors across the country were presenting data in their daily press conferences and using data to make decisions in real time. There's no reason states can't apply this approach to other critical issues important to an administration, like measuring the number of homeless youth or tracking households without high-speed internet access.

Data can help states understand the people, communities and businesses they serve and who they are leaving behind. From education to workforce development to social safety net programs, data can measure progress and evaluate if programs are achieving their goals. Managers with comprehensive, quality data can make informed decisions that help frontline workers deliver seamless services.

States gather huge amounts of facts and figures, and their usage can be the foundation for sound policy decisions and efficient operations. But during times of stability, the quality of states' information systems can gradually decay. Duplicative, ineffective processes combined with a lack of quality control can make data hard to access in a comprehensive way. This can hinder a state's ability to serve its people.

As states look ahead to what's next, they can learn from the difficulties of the past two years and build on what's working in states and cities across the country to:

Answer critical policy questions. Do workforce training programs result in higher wages? How well aligned is the secondary education system with the needs of employers? Which programs are most effective at reducing recidivism? Integrating data across programs and services makes it possible to get answers to critical policy-related questions.

Make state government operations more efficient and effective. Data and analytics allow states to process permits faster and more effectively. Businesses can get started faster, back

office processes can be automated, and costs can be reduced through access to timely and accurate data.

Allow government to be outcome rather than process-focused. Data can help states better understand whom they are serving and whether they are serving them well. States can use this information to put processes and policies in place that will address real problems and improve the constituent experience.

Increase trust in the government. Residents often ask why they need to enter the same data in multiple places to access services. Others might want to know how their tax dollars are being spent. Prioritizing data access and integration can reduce the frustration of interacting with government services.

States can take important steps in the first 200 days of 2023 to gather data that will let them shape policy that answers residents' needs and build programs that are responsive to future crises.

FEDERAL DOLLARS CREATE A TIMELY OPPORTUNITY FOR SUCCESS OR FAILURE

Funds from the [American Rescue Plan Act of 2021](#), aimed at helping the country cope with the pandemic, can help states bolster their data infrastructure. The money can be used for staff and technology upgrades to systems that support pandemic response and economic recovery.

The law gives states \$195 billion in COVID-19 recovery funding.⁸⁰ From one fund totaling \$25 billion, each state and the District of Columbia can receive at least \$500 million. The remaining \$170 billion is allocated based on each state's and the District of Columbia's share of unemployed workers during the last three months of 2020.

The program is flexible; states can use the money to modernize data systems and improve cloud computing, data security and the delivery of constituent-facing services, like unemployment insurance.

⁸⁰ This is derived from the \$350 billion ARPA referenced earlier, minus appropriations to local and tribal governments. Specific funding breakdown is listed as follows, according to the Treasury Department: \$195.3 billion available to states and D.C. \$154.7 billion available to counties, municipalities, tribal governments, etc. = \$350 billion total package.

Rhode Island used this funding to [make improvements to its call center data system](#) after the pandemic caused a surge in unemployment insurance claims. This cloud-based system upgrade allowed them to move from concurrently answering 75 calls to 2,000. The new system provided staffers with real-time data that let them analyze how well claimants were being served. Rhode Island's experience illustrates how states can use data to identify urgent issues and use technology to solve them.

DATA

KEY TECHNOLOGY OPPORTUNITIES FOR THE FIRST 200 DAYS OF 2023

Below are meaningful steps that state leaders can take at the beginning of 2023 to improve their data practices and help government deliver services more effectively. In the first 200 days:

1. Build a team of data experts focused on critical areas and use contractors wisely;
2. Emphasize data-driven decision-making;
3. Address immediate priorities while working on long-term data improvements;
4. Invest in data quality and protection.

BUILD A TEAM OF DATA EXPERTS IN CRITICAL AREAS AND USE CONTRACTORS WISELY

State data is often stored in aging, siloed systems with few data quality controls. This makes it difficult for leaders to access the information they need to accomplish top policy priorities and manage operations effectively. While states can bring in vendors to help build databases and visualization tools, contractors should be steered by officials who are technology and policy experts and by clear government decision-making and data control procedures. In the first 200 days of 2023, states can take concrete action to build the teams and expertise they need to use data well.

Appoint a chief data officer

A chief data officer (CDO) drives data strategy and manages data assets, building access to high-quality insights that help state officials do their jobs well. An effective state CDO is an active partner to a state's program and technology leadership teams. When paired with a strong chief information officer and/or chief technology officer, a CDO can help a state build a data-informed technology roadmap. A CDO informs how data is used for policy and

operational decision-making and may also be responsible for data oversight, sharing and governance. Ideally, a CDO's priorities are aligned with the state's major policy goals.

[Based on a Beeck Center survey in June 2020](#), 28 states have a chief data officer. Their roles are usually chiefly strategic or operational:

- » A **strategic data officer** helps set policy, educates officials and consults with departments on data use.
- » An **operational chief data officer** focuses on more technical areas like building and supporting technology platforms or providing data analysis to agencies.

These insights are summarized in the Georgetown University Beeck Center's [Framework for the Evolving Role of CDOs](#) and [Tips for Creating an Effective CDO Position](#).

Effective chief data officers are experienced in managing data, setting strategy and creating ways to use data smartly. They should have experience delivering software products and designing how data systems are built. Since they often work with antiquated systems and build support in agencies to modernize them, they have experience in upgrading technology and are willing to focus on small wins.

Some chief data officers work in the governor's office, while others are in a state's centralized IT agency. Regardless of where they sit, best in class CDOs:

- » Serve on a state or agency leadership team;
- » Have the support of executive leadership at the highest levels;
- » Have sufficient staff and funding;
- » Have authority to make decisions;
- » Work toward data sharing among agencies and advise on procurement policy for contracts.

Train state staff in data fundamentals

Many state officials already work with data regularly, but are likely not using it to its full potential. This can keep states from taking advantage of opportunities to streamline program administration and build policy that solves real world problems. Having program staff who understand data fundamentals may feel aspirational, but is an achievable priority to set in the first 200 days.

States can empower and resource their CDO to help program staff build data basics, including understanding:

- » Why data — and carefully managing it — matters;
- » How relevant program data is collected and used;
- » How to ensure data privacy and protection;
- » When and how to use the data tools available to them. This includes how to create and use dashboards to display important data.

The key is to start small and train staff in program areas that are a priority for an administration. This will not only help make the goal of training staff achievable, but ensure that program data delivers clear value, quickly.

States could start by deciding which agency teams are needed to achieve one or two top priorities and work with the chief data officer to create a training plan. Oregon is one example of a state that has prioritized building a data-informed culture in its [2021-2023 Data Strategy](#).

There are a number of organizations providing support to states as they build out their data strategy and increase their internal expertise. In the first 200 days, states can engage with organizations working on state data governance and use, like:

- » [Actionable Intelligence for Social Policy \(AISP\)](#)
- » [Beeck Center for Social Impact + Innovation at Georgetown University](#)
- » [Coleridge Initiative](#)
- » [Data Quality Campaign \(DQC\)](#)
- » [National Association for Budget Officers \(NASBO\)](#)
- » [National Governors Association \(NGA\) Center for Best Practices](#)
- » [National States Geographic Information Council \(NSGIC\)](#)
- » [Results for America](#)
- » [Urban Institute](#)

While the areas of expertise and partnership opportunities within these organizations are different, they are all committed to helping states better leverage data to positively impact the lives of people the government serves.

Encourage data sharing among agencies

State agencies collect large amounts of data to administer specific programs, but often encounter challenges when trying to share it with others. Yet sharing data across departments and programs is one of the most effective ways to streamline administration and improve the customer experience. Combining workforce development and benefits data, for example, can help states identify residents receiving benefits who are eligible for jobs programs and help them get back on their feet faster.

Obstacles to data sharing among states often arise due to unique systems, data quality and legal interpretations of rules and policies. States need support from top officials, funding and expertise to overcome these obstacles.

At least [36 states are currently working on projects](#) for sharing data among agencies. Combining data across agencies can present privacy concerns, and states need to consider ways to improve data governance and management to address them. Agencies can safeguard data they are publicly sharing by only releasing aggregated data and individual data as needed, including robust consent processes, consulting the public and allowing individuals to opt out of data sharing.

EMPHASIZE DATA-DRIVEN DECISION-MAKING

Data usage has the best chance for success when it is aimed at achieving a state's priorities. The goal is to focus on solving problems for residents and staff, not report on everything a state or agency does. State leaders who use data for important decisions send a message to staff that data is valuable and should be collected consistently and responsibly. It can also encourage agencies to focus on technology upgrades that have the best chance at designing better services, increasing efficiency and strengthening protections for important programs.

Some states have been recognized for building secure yet transparent data systems for decision-making. States listed in [this Results for America What Works 2022 survey](#) demonstrate that data can help achieve policy goals. In 2023, states can take the following actions to improve their ability to make decisions with data.

Use key indicators to identify priorities for action

Data focused on how processes are working can help states identify problems and improve how agencies work, thereby better serving constituents and reducing the burden on staff.

States can look to examples like Code for America's [Safety Net Scorecard](#), which provides a model for evaluating how well a state delivers digital benefits. The scorecard focuses on data in three categories: equitable access, effective delivery and compassionate integrity (meeting people where they are). States could start by selecting one or two items from the scorecard to measure how well agencies are performing, such as average days to process an application, percent of applications that are denied for procedural reasons, and level of churn (movement of people in and out of programs over a short period of time).⁸¹

Indiana and Oregon are among the states leading the way in building reliance on data by centralizing how they manage it. Indiana's [Management Performance Hub](#), an agency responsible for collecting and analyzing the state's data, has led the way by working with other agencies to provide technical assistance. The Hub recently launched a cloud-based centralized data repository called the [Enhanced Research Environment](#). Projects like this help agencies easily contribute data to state projects and let independent researchers and outside organizations access information securely.

While it is not possible to set up a performance management or research hub in 200 days, the state chief data officer can set goals and provide resources for initial steps.

Invest in a robust open data program

Open data is information that is publicly available without fees or other restrictions. This can let states work with public and private partners to solve problems.

Governments with open data programs work to ensure the information is well documented and accessible online. It can be downloaded by researchers and used in different formats. [Research](#) shows that when open data practices are robust and states publish the data users want, governments save time and money on public record requests.

Open data programs like those in [Virginia](#) and [California](#) have policies that require disclosure of nonsensitive information. States can set priorities for what data will be made public and create tools for helping agencies provide it. These can include detailed maps of local jurisdictions, which the public and state agencies could find helpful.

States can find information on open data in the Beeck Center's [Open Data for Economic Recovery](#) guidebook, which lists the top 20 fundamental and critical datasets to publish for economic recovery, basic information on open data and examples from states. While publishing open data in structured, easily downloadable formats is helpful, states may also provide the information in PDF or other forms, or other ways that are less user-friendly. The

⁸¹ <https://codeforamerica.org/programs/social-safety-net/scorecard/>

Center for Democracy and Technology has [produced guidance](#) on how to navigate these constraints responsibly when publishing government data. Because government data comes from individuals, states should ensure that sharing data publicly does not violate personal privacy.

The State Chief Data Officer Network has compiled this [catalog of open data portals](#) in states, along with information about software used for each portal. Nevada is the only state without a statewide open data portal. States can track data downloads, monthly views and third-party data uses to assess how their open data programs are working.

Redesign data management to ensure equity

Unlike the private sector, governments have a mandate to serve all constituents. Ensuring that government programs work for everyone takes commitment from executive leadership. Utah's "[Striving Toward Equity: Utah's COVID-19 Vaccine Distribution Roadmap](#)," developed with input from [community-based partners](#), outlined equitable vaccine distribution by collecting racial and ethnic data. As a result, missing race and ethnicity data was reduced by 50% and vaccination rates improved for specific communities. The vaccination rate among the Hispanic population increased by 463% at the same time it grew for the white population by 262%.

States have tried to embed equity into statewide data operations beyond their pandemic programs. Oregon's statewide [2021-2023 data strategy](#) outlined a vision for more ethical data use (called data justice) that included changes in data collection and use, community engagement and transparency.

Governments are working to protect constituents from the unintended consequences of new technologies like artificial intelligence. The Urban Institute, a D.C.-based think tank, has provided [recommendations](#) for how governments can publish helpful data while protecting privacy and preventing bias.

[Identifying and mitigating data bias](#) requires strong documentation on how data is collected and requires responsible and transparent data oversight so residents can hold governments responsible when data is used inappropriately. Redesigning procedures to reflect equity for different communities can help states protect personal data and ensure it is used responsibly. By starting with executive or legislative policies that prioritize collecting and sharing data on equity, like [Indiana](#) and [Illinois](#) have done, states can incorporate equity into training and data collection efforts.

MATCH PRIORITIES TO TIMELY OPPORTUNITIES FOR QUICK IMPROVEMENTS

While many states are setting ambitious data goals, states have to make day-to-day decisions that would benefit from smart data usage. Government has a long history of launching technology projects that fail because they are too big, aren't focused on real people's needs and rely on outdated systems. Governments can incrementally approach building technical capabilities and focus on projects for which they already have resources and momentum. States that have established successful data programs typically start with a single issue they are seeking to address. Indiana's Management and Performance Hub began with a single use case of working to reduce infant mortality. Indiana has used critical data to reduce infant mortality to the lowest rate since 1900.⁸² Virginia started by trying to gain better insights into the opioid and overdose epidemic.⁸³ Both states have since scaled these efforts across a number of critical policy areas.

Implement data drills or other emergency response tests

Like natural disaster drills that states have conducted for decades, data drills are a best practice for helping governments use data effectively during emergencies. They can help agencies understand what data they might need on short notice and how they would use it.

New York City [piloted its first drill](#) in 2015, modeling an extended power outage affecting 97,000 residents.⁸⁴ The exercise helped identify gaps that might exist in a real emergency, and allowed the city to train workers to move quickly and use data to respond in such a crisis. Best in class leaders use data during emergencies and make data a cornerstone of their efforts to overhaul their information systems.

State leaders can use money from the American Rescue Plan to train data staff to respond to emergencies and to create regularly used pathways for data sharing in states. This is one way leaders can ensure their teams are ready for the next disaster.

Incorporating data into emergency response goes beyond commissioning online dashboards.

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https://www.thepilotnews.com/news/gov-holcomb-announces-indiana-s-infant-mortality-rate-falls-to-historic-low/article_34d16a40-03fa-11eb-88a3-4fdf32899682.html

⁸³ <https://www.vdh.virginia.gov/opioid-data/>

⁸⁴ <https://beeckcenter.georgetown.edu/we-have-fire-drills-why-governments-need-to-run-data-drills-as-well/>

Focus on data that supports economic recovery

In the wake of the pandemic, many states are still focused on the economic damage caused by COVID-19. States can use federal programs to build data systems that help encourage recovery. The Beeck Center's report on [Leveraging Data for Economic Recovery in States](#) identifies how states can improve data systems to do just this. The report focuses on workforce and education, health and benefits, neighborhood well-being and budget reallocation.

Several states also participated in the [Data Labs program](#), an incubator housed at the Beeck Center for state data and policy leaders which catalyzed new data projects around housing, higher education and other key policy priorities.

Before making specific big-ticket investments for data, states can get input from community members to better understand their needs. Many states struggle to engage with people on issues like education, as [outlined in this report](#) by the Center for Democracy and Technology. Issues that directly support economic recovery, such as sharing data, are ideal candidates for data improvements.

INVEST IN DATA QUALITY AND PROTECTION

States that prioritize data quality and protection when building new software or upgrading IT systems are more likely to deliver successfully. This means ensuring that data definitions are documented and that data is handled consistently across programs and within systems. Rather than approaching data documentation as a standalone project, for example, best in class states incorporate it into the design and implementation of technology upgrades. This helps direct the states' energy toward improving data in areas that will have human impact.

Additional best practices a state can use in the first 200 days of 2023 are:

Strengthen documentation of critical data sources

Strong data quality starts with documentation. Documentation includes how data is defined, where it comes from, who has access to it and how it connects to other data sources. This is the least glamorous work related to data, and therefore has historically gotten the least attention, yet it is the equivalent of establishing a strong foundation. To improve data quality, states can assign workers to document where data is stored and how it is managed.

Listing sources of data and building the documentation to accompany this data (definitions, data owners, etc.) is not possible in 200 days. Despite this, states can decide which data

inventory efforts should be top priorities so leaders have information they need to make decisions. In the long term, this also helps simplify the data-sharing process, reduce duplicative data collection, and provide insight into which types of analysis are possible.

Build and strengthen data governance

Data governance refers to the standards and processes states use to protect the quality and security of data.⁸⁵ This often includes:

- » Dictionaries that define commonly used data elements across agencies and systems;
- » Committees with officials from different agencies who can make decisions about data use and maintenance;
- » Policies on data sharing;
- » Data quality projects like Master Person Index (MPI) that uniquely identify an individual in a data set;⁸⁶
- » Officials who are responsible for ensuring information is accurate, reliable and protected.

Data governance varies widely among states, and it takes time to create strong systems. But states can act quickly in 2023 to understand what data controls already exist and have their chief data officer begin improving them. The [IT Modernization Centers of Excellence at the General Services Administration](#) has one model states can use to strengthen their approach.

Build cybersecurity into data management practices

As online security threats increase, states like Maryland, New York, Florida and Ohio are spending more on cybersecurity capabilities and investing in the workforce they need to manage cybersecurity threats.

Major initiatives like cybersecurity centers can help states focus attention and resources on cybersecurity, though this is only one piece of the puzzle. Some states have internal cybersecurity experts and chief data officers who together conduct risk assessments of data systems.

States can also spend money on training staff, improving processes and taking other steps to keep data and systems secure. This includes accelerating cloud adoption, implementing multifactor authentication and running incident response drills. More information on early actions states can take to improve cybersecurity can be found in the [cyber security memo](#).

⁸⁵ <https://www.ibm.com/topics/data-governance>

⁸⁶ <https://portal.ct.gov/DSS/ITS/DSS-HealthIT/Business-Intelligence-and-DSS-HealthIT/Enterprise-Master-Person-Index>

DATA

BEYOND THE FIRST 200 DAYS

The first 200 days of 2023 will be critical for states to showcase data priorities, make ambitious investments and achieve quick wins that build momentum. Hard work throughout the year will lay the groundwork for important, longer-term improvements in data systems.

CONDUCT DATA INVENTORIES STARTING WITH KEY PRIORITIES

Starting with an administration's key priorities can help officials stay motivated while conducting data inventories, which are efforts to index the information they keep and its sources. Starting with key priorities can also show leaders and staff clear examples of data inventorying before doing it themselves. Once states are set up to conduct inventories, they can document how agencies collect, store and share data.

Comprehensive data inventories can be difficult because some data cannot easily be tracked across agencies. But data inventories don't have to be perfect and comprehensive to be effective. Partial inventories can focus on specific agencies with especially important data and help them catalog that data over time. These inventories form a foundation for good data management, letting officials document systems and find ways to share data or open it to the public.

The [State Chief Data Officer Network](#) has a working group that is conducting data inventories in their states. The District of Columbia has a unique [data policy](#) that requires departments to conduct "enterprise data inventories" in which they must classify each dataset by how sensitive its data is. The data officer can then review datasets that are considered ready and decide whether to publish them publicly.

The organization [Actionable Intelligence for Social Policy](#) at the University of Pennsylvania helps state and local governments use data sharing between agencies to learn about the benefits of using data to make policy. The center works with [36 data-sharing efforts across the country](#). This includes 27 sites where state and local governments routinely integrate data

across agencies to improve services for residents. In a project with North Carolina, data officials at their Department of Health and Human Services used their inventory of data-sharing processes to launch a [Data-Sharing Guidebook](#) for North Carolina DHHS internal and external partners.

Review integrated data systems and recommit to long-term impact

Beeck Center's [Leveraging Data for Economic Recovery: A Roadmap for States](#) identifies common integrated data systems, which combine data from more than one source. These include databases that track health care claims; case management systems for Medicaid, food assistance and other benefits; students' performance over time; adult and juvenile correctional data and unemployment insurance information. These are just some areas where states have made the biggest investments in data infrastructure.

[Forty states currently connect data](#) between at least two of four core educational data systems — early learning, K-12, postsecondary and workforce. Longitudinal systems tracking data on individuals over time are core parts of states' data infrastructure. But as many states' systems age, leaders can seek [federal grants](#) to support their data programs and develop plans for long-term sustainability.

State legislatures have struggled to adapt these systems over time, at times opting to discard them or divest from them completely. Residents are increasingly concerned that these decisions might result in their private information being released. State leaders focused on best practices can consider how to upgrade these systems for the future and use data transparently and with input from community members.

Consider restructuring innovation and data management functions

States should decide how to restructure data and innovation teams by reviewing centralized data and innovation functions and understanding how they work for agency-level data stakeholders. As previously noted, chief data officers can take strategic or operational roles in managing data. While both can be helpful, most data and innovation offices were established when states were still learning about how these functions would look in government.

State leaders who want to learn about data and innovation structures can speak to data leaders and agency-level stakeholders to explore how to create a more data-informed culture statewide. Most data teams are understaffed and under-financed for handling the task of working across policy areas and different agencies. Geographic information systems leaders in different states have noted that providing general fund support for these systems could help states level up their use of mapping and better meet the needs of key stakeholders across government. Data teams were essential in supporting the recent Census, yet many

geographic information systems are in agencies that don't facilitate the most effective statewide collaboration and reach.

California recently merged the state's data analytics department with the Office of Digital Innovation, the state's digital service team. The new Office of Data and Innovation has focused on strengthening the state's digital services and helping agencies launch new technology projects and conduct data and technology initiatives. This formalizes California's commitment to imagining how data and technology can improve everyday governing processes on a comprehensive scale.

DATA

OTHER RESOURCES

State Chief Data Officers

- » [The Path to Creating a Chief Data Officer Role in States: Tips for Crafting an Effective CDO Position](#) | Beek Center for Social Impact + Innovation at Georgetown University
- » [The Evolving Role of the State Chief Data Officer: A Framework for Today](#) | Beek Center for Social Impact + Innovation at Georgetown University

Data as Critical Infrastructure

- » [States Leading on Data Use and Integration See Significant Results](#) | Results for America and Actionable Intelligence for Social Policy (AISP)
- » [Business Case for Open Data: Six Reasons Why Making Your Agency's Data Open and Accessible Is a Good Business Decision](#) | Data.gov
- » [Geospatial Maturity Assessment](#) | National State Geographic Information Council

General Data Innovation Resources

- » [Blueprint for Delivering Results in State Government: Leveraging Data](#) | Results for America
- » [How States Use Data to Inform Decisions: A National Review of the Use of Administrative Data to Improve State Decision-Making](#) | Pew Charitable Trusts
- » [Introduction to Data Sharing and Integration](#) | AISP
- » [Leveraging Data for Economic Recovery: A Roadmap for States](#) | Beek Center for Social Impact + Innovation at Georgetown University
- » [Using Data and Evidence in the States](#) | National Association of State Budget Officers (NASBO)

Privacy & Legal Data Sharing Considerations

- » [Data Sharing and Privacy Demands in Education](#) | Center for Democracy and Technology
- » [Finding a Way Forward: How to Create a Strong Legal Framework for Data Integration](#) | AISP

SAFETY NET PROGRAM INTEGRATION

EXECUTIVE SUMMARY

The COVID-19 pandemic triggered a surge in demand for government services as Americans navigated illness, job losses, work from home and school closures. As need increased, so did pressure on officials to make it easier for lower-income people to apply for government benefits that were suddenly being sought more than ever.

The crisis forced states to find new ways to be efficient and accurate as they addressed the tsunami of applicants and beneficiaries. With the pandemic's intensity easing, at least for now, states are focusing on how they can build on lessons learned, including addressing a longtime goal of using technology to streamline eligibility and enrollment processes for people who need low-income benefits.

These programs saw millions of new enrollees from the start of the pandemic, from the Supplemental Nutrition Assistance Program (SNAP),⁸⁷ once known as food stamps; to Temporary Assistance for Needy Families, or TANF; to unemployment insurance and Medicaid health coverage for lower-earning people.

The Trump administration declared a federal public health emergency in January 2020 due to the pandemic. That declaration included a waiver of interviews for SNAP and jobless benefit applicants, and temporarily paused the need for Medicaid enrollees to reapply for their benefits. This helped states by temporarily reducing their [administrative burden](#).

While the public health emergency has been extended through early 2023, the Omnibus spending bill passed by Congress in December 2022 allows states to restart Medicaid redeterminations on April 1, 2023⁸⁸. This development is prompting states to confront how they'll handle remaining backlogs of beneficiary renewals and resume normal operations without burdening beneficiaries and agency staff. It also gives states an incentive to administer benefits from multiple programs more efficiently.

⁸⁷ <https://frac.org/blog/new-data-snap-benefit-redemptions>

⁸⁸ <https://www.healthinsurance.org/blog/should-medicaid-recipients-worry-about-losing-their-coverage-in-2022/>

States that have already tried consolidating the administration of various benefit programs have had mixed results. But they can use the pressure of the eventual end of the public health emergency as a forcing mechanism for action. Together with billions of dollars in pandemic relief that the federal government has made available to states, they have an opportunity to invest in the technical talent and approaches needed to streamline application and delivery of benefit programs.

SUMMARY OF OPPORTUNITIES

This memo lays out meaningful actions states can take in the first 200 days of 2023 to improve access to benefits, make sure tax dollars are appropriately spent and ease staff workload:

Engage technical leaders who prioritize the customer experience

Engage technical leaders who prioritize making the public's experience with social safety net programs simpler. People have become used to digital transactions that are fast and understandable, and governments must give Americans the user-friendly experience they expect.

Leverage the pressure of the sunseting public health emergency

Use the impending expiration of the federal public health emergency, and federal pandemic aid, as incentives for action. Minimizing churn — when recipients lose coverage, often to quickly re-enroll — running programs efficiently and giving the public the service it deserves will be challenging as states face their own workforce shortages. However the sunseting public health emergency is a strategic window of opportunity.⁸⁹

Improve data sharing across programs

Improve data collection and its sharing across different programs. Many states store benefit program data on outdated technology, making the sharing of information difficult. With the right expertise, states can improve accuracy, reduce redundant information collection and enhance how beneficiaries are served.

⁸⁹ <https://www.cbpp.org/research/poverty-and-inequality/opportunities-to-streamline-enrollment-across-public-benefit>

SAFETY NET PROGRAM INTEGRATION OVERVIEW

The COVID-19 pandemic triggered a surge in demand for government services across the country as millions of Americans coped with illness, job losses, working from home and school closures. At the same time, states were adjusting how their own employees would work during the pandemic. They were also deciding how to enroll large numbers of people for assistance remotely for the first time.

This increased pressure on state programs to become more efficient and reduce barriers for people seeking benefits, including for programs that help lower-income earners. These programs include the Supplemental Nutrition Assistance Program (SNAP); Temporary Assistance for Needy Families (TANF); unemployment insurance; Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); Medicaid health coverage and the Children's Health Insurance Program (CHIP). All of these programs saw large increases in enrollment from the start of the pandemic, including 5.8 million additional enrollees in SNAP and 19.3 million enrollees in Medicaid and CHIP.^{90, 91}

As the pandemic began in January 2020, the Trump administration declared a federal public health emergency, a declaration that temporarily reduced the [administrative burden](#) for states. This order waived interviews for SNAP and jobless benefit applicants, and paused renewals for Medicaid enrollees. It also increased federal payments to states for Medicaid coverage and financial support for health care providers.

The Trump and Biden administrations both extended the public health emergency several times and it remains unclear exactly when it will end. While the administration extended it again through early 2023, the omnibus spending bill passed by Congress in December 2022

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[https://www.kff.org/coronavirus-covid-19/issue-brief/analysis-of-recent-national-trends-in-medicaid-and-chip-enrollment/#:~:text=Data%20show%20that%20Medicaid%2FCHIP,76.0%25%20\(Figure%202\).](https://www.kff.org/coronavirus-covid-19/issue-brief/analysis-of-recent-national-trends-in-medicaid-and-chip-enrollment/#:~:text=Data%20show%20that%20Medicaid%2FCHIP,76.0%25%20(Figure%202).)

⁹¹ <https://frac.org/blog/new-data-snap-benefit-redemptions>

allows states to restart Medicaid redeterminations as soon as April 1, 2023⁹² regardless of when the PHE ends.

The emergency's end will force states to confront how they will handle the extra administrative requirements that will return after the declaration expires. This means they will also have to assess how they'll handle remaining case backlogs and resume normal operations without burdening beneficiaries and agency staff. Because the pandemic forced states to handle benefit programs for vast numbers of lower-income people, the crisis has served as a lab for studying weak spots in their programs.

Best in class states strive to administer benefits from multiple programs more efficiently, and there are plenty of incentives for states to do that. Having separate applications for benefit programs, for example, requires people to complete duplicative forms and contact multiple call centers, providing the same information to different agencies. This is cumbersome for the public, inefficient for states and increases opportunity for fraud, waste and abuse.

States have seen the costs of inefficient and burdensome approaches before. When Tennessee required 319,000 Medicaid recipients to use paper forms to renew coverage in 2019, 63% of these forms were never returned, leading to 10% of children on Medicaid losing coverage.^{93, 94} The paper process has since been replaced by a digital one, significantly easing the burden on both families and staff.

The use or absence of user-friendly technology has an outsized impact on whether benefit programs help the people they were designed to serve.

Many states have experienced the same technical challenges with streamlining benefit programs that they did with the health insurance exchanges in 2014,⁹⁵ when online health care marketplaces created by the Affordable Care Act had problematic rollouts.⁹⁶ Risky, outdated approaches to technology projects continue to make it harder for states to deliver on ambitious priorities in human services programs.

Even so, states can use the pressure of the eventual end of the public health emergency as a forcing mechanism for action. Together with billions of dollars in pandemic relief for states from the federal government, states have an opportunity to invest in the technical talent and approaches needed to streamline application and delivery of benefit programs and turn a

⁹² <https://www.healthinsurance.org/blog/should-medicaid-recipients-worry-about-losing-their-coverage-in-2022/>

⁹³ <https://www.healthaffairs.org/doi/10.1377/hpb20200904.405159/>

⁹⁴ <https://www.tennessean.com/story/news/investigations/2019/07/14/tenncare-coverkids-medicaid-children-application-insurance-denied/1387769001/>

⁹⁵ <https://www.rimonthly.com/unified-health-infrastructure-project/>

⁹⁶ <https://www.bizjournals.com/pacific/news/2015/12/30/audit-alleges-155m-investment-in-hawaii-medicaid.html>

difficult moment into an opportunity.

FEDERAL DOLLARS CREATE A TIMELY OPPORTUNITY FOR SUCCESS OR FAILURE

Financial help for these investments can come from aid packages enacted during the pandemic. These include:

- » The American Rescue Plan Act, approved last year, allocated \$1.15 billion to states to support investments in processes and technology to modernize systems and improve the public's experience in the SNAP Program.⁹⁷ According to the American Public Human Services Association's survey of state agencies, 61% plan to spend these dollars on internal systems, and 38% on public-facing systems and better accessibility.⁹⁸
- » That same law provided \$350 billion under its [Coronavirus State and Local Fiscal Recovery Funds](#), which also gave governors flexibility to use the money. It includes aid for collecting and analyzing data and for improving equipment so people would have easier access to government programs.
- » The 2021 Infrastructure Investment and Jobs Act let state and local governments use money to [invest in cloud-based business technology platforms capable of connecting multiple benefit applications across different agencies, acting as a hub to collect and share data](#).
- » Centers for Medicare and Medicaid Services (CMS) and the Agriculture Department's Food and Nutrition Service (FNS) subsidize technology projects that bring states into compliance with new federal rules, retire outdated applications and improve the public's experience. States can submit applications in the form of advanced planning documents to the CMS and FNS. CMS will fund 90% or 50% of technology development costs, depending on the phase of the project.⁹⁹ FNS will reimburse at 50% regardless of the project phase.¹⁰⁰

⁹⁷ <https://files.constantcontact.com/391325ca001/23677955-fa3e-4fe0-aae0-3221f7b0eab2.pdf>

⁹⁸ <https://files.constantcontact.com/391325ca001/2929c1e0-5449-46f0-a739-a6e5c288ac26.pdf>

⁹⁹ <https://www.law.cornell.edu/cfr/text/45/95.610>

¹⁰⁰ <https://www.fns.usda.gov/sso/fns-handbook-901-v2-advance-planning-documents>

SAFETY NET PROGRAM INTEGRATION

KEY TECHNOLOGY OPPORTUNITIES FOR THE FIRST 200 DAYS OF 2023

Below are meaningful steps that state leaders can take at the beginning of 2023 to streamline benefit program delivery and improve the beneficiary experience. In the first 200 days:

1. Empower technical leaders who prioritize customer experience;
2. Use the end of the public health emergency to spur action;
3. Improve data sharing across programs, and data collection.

EMPOWER TECHNICAL LEADERS WHO PRIORITIZE CUSTOMER EXPERIENCE

Americans expect speed and ease in digital transactions, from shopping for groceries to applying for jobs and finding places to live. Government has lagged behind the private sector in providing a 21st-century customer experience. This contributes to constituent frustration and growing distrust in the government's ability to deliver at the moment of need.

Some of the gap between how the private and public sectors serve their users can be explained by technical capability. But even more is due to the government's lack of focus on improving customer experience. Private sector companies focus on their customers by working to improve things like:

- » Ease of interactions on their websites;
- » Speed that customer service representatives answer the phone;
- » Ability of their products to solve real problems.

To deliver significant improvements that staff and constituents will recognize in their day-to-day interactions with government, states can find and empower agency leaders who prioritize customer experience and allocate resources needed to improve it. Doing this early in an administration can build momentum and set the tone for prioritizing customer experience as agencies set policy, build technology and develop their operations.

Engage the state's technology leadership in policy and implementation planning

Governments that successfully build resilient, human-centered programs include technical leaders in policy and implementation discussions from the start. Modern technical leaders have a clear track record of delivering software and personal experience with approaches like:

- » Product management
- » Human-centered design
- » DevOps
- » Cloud adoption
- » Security reliability engineering (SRE)

Experienced leaders with these skills can help a state's human services program leaders develop a plan for integrating benefit programs that is incremental, low-risk and focused on the populations they serve.

Hire and empower a chief customer experience officer (CXO)

A CXO is an executive leader who focuses on enhancing customer experience¹⁰¹ and improving programs and services for users at all stages.¹⁰²

Many families seeking Medicaid, SNAP or TANF benefits expect the process to be slow and confusing. Government's lack of customer focus can come at a cost to staff as well, with hours wasted each year tracking down paperwork and collecting the same information multiple times. This creates an unnecessary administrative burden and increases opportunities for errors and fraud. A great CXO, partnered with the right program and technology leaders, can help build an integrated benefits program strategy anchored in the customer experience, and create small wins and measurable progress to move toward efficient, human-centered services.

¹⁰¹ <https://www.practicalbydesign.co/service-design-101>

¹⁰² <https://civicservicedesign.com/what-is-civic-service-design-9fd9deebef99>

An effective CXO has the authority to convene resources across agencies, experiment with new initiatives and hold officials accountable for improving how services are delivered. While they do not need to be a technology professional, they should be familiar with modern technical principles and practices, and know how to engage technology teams to improve the public's experience. They must be leaders who earn trust, are empathetic and can persuade staff from different agencies to move goals and ideas forward. They must also have access to operational and technical officials who can test and implement new ideas.

In the private sector, CXOs typically oversee developers, designers and researchers who deliver software that improves customer experience.¹⁰³ In state government, the CXO's responsibilities could include:

- » Creating better digital experiences for constituents;
- » Making services easier to access;
- » Coordinating a unified customer experience across government programs and services;
- » Fostering interdepartmental and intergovernmental collaboration;
- » Working with teams to set benchmarks and provide technical guidance to the officials implementing them.

Hiring a CXO will not immediately revolutionize the day-to-day customer experience. However, creating the role sends a powerful signal to agency teams that customer experience is an administration priority.

Notable best practice: Issuing a customer experience executive order

A governor's executive order can be a powerful way to establish priorities and allocate resources. Clearly articulated priorities, combined with resources and empowered leaders, can accelerate transformative change.

[Virginia](#) and [Pennsylvania](#) have issued customer experience executive orders in recent years, laying out "citizen-focused" technology priorities and goals for "customer service transformation." The orders set measurable goals for improving beneficiaries' experience, providing a single entry point for multiple benefit programs and collecting and publishing feedback from people using the system.

¹⁰³ <https://www.indeed.com/career-advice/finding-a-job/what-is-chief-experience-officer>

At the federal level, a recent customer service [executive order](#) directs agencies to:

- » Design customer experiences to reduce administrative burden, improve efficiency and empower the workforce to solve problems;
- » Coordinate with one another to ensure applicants and beneficiaries are automatically enrolled in “programs for which they are eligible”;
- » Take specific actions to streamline constituent services;
- » Test new ways to address problems and provide digital services through integrated platforms.

USE THE END OF THE PUBLIC HEALTH EMERGENCY TO SPUR ACTION

With the sunset of the federal public health emergency on the horizon, states are developing plans to address the backlog of cases on food stamps (SNAP), unemployment insurance and Medicaid that has accrued over the past two years.

However, the approaching expiration of the emergency, along with large amounts of available federal pandemic aid, are key incentives to improve safety net programs and deliver better outcomes for constituents and staff.

Processing backlogs, minimizing the churn of beneficiaries, ensuring well-run programs and providing the public with high-quality service will be a challenge, especially as states still face their own workforce shortages. This means that capitalizing on available resources and acting decisively to implement crucial reforms in the first 200 days of 2023 will have a big impact on how much progress states can make. In addition to the opportunities outlined below, states can find additional information [here](#) in Center on Budget and Policy Priorities’ Opportunities to Streamline Enrollment Across Public Benefit Programs.

Rethink timing and technology to reduce administrative burden in Medicaid

While the public health emergency gives states administrative flexibility across several programs, only Medicaid has let states pause their eligibility evaluations for current enrollees. This has allowed millions of beneficiaries continuous coverage for over two years. While beneficiaries are still expected to report income and household changes, they did not have to go through the usual annual recertification process to maintain their benefits.¹⁰⁴

¹⁰⁴ <https://www.kff.org/medicaid/issue-brief/key-questions-about-the-new-increase-in-federal-medicaid-matching-funds-for-covid-19/>

Once the public health emergency designation ends, states will have 12 months to complete Medicaid eligibility evaluations. The scope of this task is huge. During the pandemic, the number of recipients on Medicaid increased 20% from 71 million to 86 million.¹⁰⁵ An estimated 17.4% of enrollees — about 15 million individuals — will leave the program. Another 9.5% of enrollees — about 8.2 million individuals — will lose coverage because they are no longer income eligible. However, most of these enrollees will likely be eligible for significant subsidies in the form of advanced premium tax credits, which help people afford coverage on their state's health insurance exchange. Importantly, around 5.3 million children are expected to lose coverage under Medicaid or the federal Children's Health Insurance Program.¹⁰⁶

To minimize disruptions and confusion,¹⁰⁷ states can consider several steps.

Spread the Medicaid redetermination backlog over 12 months to make the administrative burden more manageable

The federal Centers for Medicare and Medicaid Services is encouraging states to do this. The private Kaiser Family Foundation Data found in early 2022 that 41 states plan to spread their redeterminations over nine to 12 months.¹⁰⁸ States that have not done this yet could reconsider in early 2023.

Maximize automated renewals

According to Medicaid rules, if a state can validate that a household still meets income requirements during the annual reexamination process, the family can be automatically renewed without requiring any additional information. This process, also known as ex parte renewal,¹⁰⁹ can significantly lower the burden on staff and reduce gaps in coverage that occur when paperwork is not processed on time. By validating eligibility using electronic data sources and simplifying program administration, a state can also reduce errors and strengthen program integrity.

A state's ex parte renewal process is an important indicator of its ability to deliver digital services to the public. While most states have a version of this renewal process, the percentage of enrollees they can verify electronically varies widely.¹¹⁰

¹⁰⁵ <https://www.npr.org/sections/health-shots/2022/04/13/1092401294/state-texting-medicaid#:~:text=A%20Kaiser%20Family%20Foundation%20report,individual%20or%20automated%20phone%20calls>.

¹⁰⁶

<https://www.kff.org/medicaid/issue-brief/fiscal-and-enrollment-implications-of-medicaid-continuous-coverage-requirement-during-and-after-the-phe-ends>

¹⁰⁷ <https://www.shvs.org/public-health-emergency-phe-unwinding-reporting-requirements-considerations-for-states/>

¹⁰⁸ <https://files.kff.org/attachment/REPORT-Medicaid-and-CHIP-Eligibility-and-Enrollment-Policies-as-of-January-2022.pdf>

¹⁰⁹ <https://www.cbpp.org/research/health/streamlining-medicaid-renewals-through-the-ex-parte-process>

¹¹⁰ <https://files.kff.org/attachment/Table-9-Medicaid-and-CHIP-Eligibility-and-Enrollment-Policies-as-of-January-2022.pdf>

States can prioritize developing technology to strengthen their ex parte processes and perform automated renewals now. Electronic data sources that can help states verify income include:

- » Federal Data Hub can provide access to the previous year's income data for the IRS and more current Experian data;
- » Quarterly wage data and unemployment insurance information from the state's labor department;
- » Verified SNAP income data;
- » Asset Verification System data to support redeterminations for the aged, blind and disabled Medicaid population.

The non-profit Center on Budget and Policy Priorities (CPBB) offers [one important](#) and detailed resource on Medicaid redetermination that states can use as they lay out priorities for 2023 and beyond. CBPP also offers guidance to improve the ex parte renewal process.

Use text messaging to communicate with Medicaid and SNAP enrollees

Eighty-one percent of Americans text regularly, sending 6 billion texts every day.¹¹¹ Yet few states use automated text messaging to communicate with program beneficiaries. Texting gives states an opportunity to increase effectiveness and reduce enrollment churn. A Louisiana pilot project that texted Medicaid and SNAP enrollees to remind them to submit renewal information improved their renewal rate by as much as 20%.¹¹²

Previous rules made it difficult to communicate with beneficiaries by text. However, in 2021 the Federal Communications Commission (FCC) allowed states to text with beneficiaries for eligibility and enrollment reasons.¹¹³ States can use that to update contact information in a beneficiary's Medicaid and SNAP case.

Up to 14.2 million Medicaid beneficiaries could lose health coverage when redetermination processes resume,¹¹⁴ some for administrative reasons. For example, they may not receive and return required paperwork on time due to an address change. These families may only realize the problem at a visit to the doctor, resulting in a potentially destabilizing lapse in benefits. This problem can occur with SNAP and unemployment insurance recipients as well.

¹¹¹ <https://www.localproject.net/docs/texting-stats/>

¹¹² <https://www.cbpp.org/blog/states-can-use-text-messaging-to-communicate-effectively-with-medicaid-and-snap-enrollees>

¹¹³ <https://www.cbpp.org/blog/states-can-use-text-messaging-to-communicate-effectively-with-medicaid-and-snap-enrollees>

¹¹⁴

<https://www.kff.org/medicaid/issue-brief/fiscal-and-enrollment-implications-of-medicaid-continuous-coverage-requirement-during-and-after-the-phe-ends/>

To assist states, CMS has put together a [toolkit on enrollee communication](#). Benefits Data Trust and the Beeck Center for Social Impact + Innovation at Georgetown University have also produced a [toolkit to support standing up a text messaging program to reduce SNAP churn](#).

IMPROVE DATA SHARING ACROSS PROGRAMS, AND DATA COLLECTION

Data is the foundation of a state's integrated benefits efforts. States that streamline beneficiaries' experience across programs use data to reduce redundancy and improve the accuracy of eligibility determinations. But because many states' SNAP, TANF and Medicaid data is kept in isolated and outdated systems, sharing it across programs is a challenge.

It's not an insurmountable hurdle. To combine data and improve the public's and staff's experiences, states need modern technical talent and approaches. Even small steps can improve state systems.

Hire or appoint an integrated benefits data leader

Whether a state's goal is "no wrong door" or "one-stop shop," it cannot meaningfully improve people's experience or eliminate redundancies across programs without good data. When data is accurate and accessible, states can determine eligibility for multiple programs at once and reduce the times they ask applicants to share the same information.

To progress toward integrating benefit programs, a state can hire and empower a data leader who can develop a data strategy, identify opportunities for data sharing and work with program and technical teams to get tools that provide value. Integrated benefits data leaders will have hands-on experience delivering data tools and software products and a track record of building teams that can deliver results.

Convene a sprint team to identify high-priority data-sharing opportunities

State agency data systems are often isolated from each other, which can increase staffs' administrative burdens and frustrate beneficiaries by making them provide the same information multiple times to different agencies. A top integrated benefits goal and best practice is for applicants to share their information only once across benefit programs.

A sprint team is a targeted team brought together temporarily to rapidly solve a challenge. When given appropriate resources and authority, it can deliver tangible progress quickly. A team could identify three data-sharing opportunities that would reduce administrative burden for beneficiaries and staff and can be implemented in six to nine months. An effective team is empowered to deliver the process changes and technology needed to share the data.

While the composition of a sprint team may vary, it should include:

- » A subject matter expert for each benefit program. Having fewer benefit programs to start will help make the effort more manageable;
- » A legal expert on data-sharing rules and policies;
- » A software engineer with hands-on delivery experience;
- » A product manager;
- » A project manager.

States that do not have a digital services team may not have product managers and software engineers on staff. To fill this gap, they could contact organizations like Code for America and U.S. Digital Response, or use existing private contracting to bring in expertise.

When tackling data-sharing projects across programs, it's critical that states engage legal counsel early. Counsel will have to determine how data sharing can happen safely while following regulations. When legal teams take an overly cautious interpretation of federal guidance, useful data sharing can stall.

An example of a data sharing opportunity with real world impact occurs in the [Free and Reduced Price School Meals Program](#), where states can [get permission from the Food and Nutrition Service](#) to automatically qualify children in families who are income eligible for Medicaid. Today, 26 states do this. This data sharing ranges from spreadsheets to full-scale, automated data integration across systems.¹¹⁵

Focus on small wins to gain momentum

Many states set ambitious integrated benefits goals. While a clear vision is critical for uniting staff and vendors on a common goal, the technology to support it is most effective when it's delivered incrementally and prioritized based on user needs.

This can help a state reduce risk and deliver small but meaningful wins that staff and customers can quickly appreciate. Small wins are important for projects like streamlining the redetermination process, finding new data-sharing opportunities across programs or exploring new ways to communicate with beneficiaries.

¹¹⁵ <https://www.statedatasharing.org/data-sharing/>

Vermont developed a [digital uploader](#) to let applicants submit documents for health care or economic services programs. The digital tool replaced mail and in-person submissions and reduced processing times by 40%.¹¹⁶

When the Vermont uploader was developed, the state first tested the tool with 50 users in one office. While the uploader was being gradually expanded to the entire state — which took a year — Vermont used the time to also prioritize other investments in integrating technology.

Collect and publish performance data to identify priorities

A state cannot understand how its benefit programs are serving residents without data on performance and accessibility for Medicaid, SNAP, WIC and TANF.

Data that states provide to the federal government on these programs often focuses on compliance. Some states like California and Washington have taken a broader approach and collect information that includes [publicly available data on recipient churn](#) and advanced call center metrics. This has helped identify problems serving residents. States achieve the best outcomes when this data also advances their efforts to integrate programs.

An important first step toward improving customer experience is collecting baseline customer service data. In 2021, Code for America released the [Safety Net Scorecard](#), which states can use to evaluate how effectively they are delivering digital benefits. The scorecard focuses on data in three categories: equitable access, effective delivery and compassionate integrity — meaning recipients receive the benefits they need fully and forthrightly. States could start by selecting one or two items from the scorecard to develop performance measurements like average days to process an application, percent of applications that are denied for procedural reasons, and level of churn among beneficiaries.¹¹⁷

States can use this information to set clear performance goals and define the ideal customer experience. Gold standard examples include ensuring that applicants:

- » Can apply in 20 minutes;
- » Can enroll in 24 hours;
- » Only have to share their information once across benefit programs;
- » Receive services within a week of providing all necessary information.¹¹⁸

¹¹⁶ <https://www.navapbc.com/case-studies/integrating-eligibility-enrollment-software>

¹¹⁷ <https://codeforamerica.org/programs/social-safety-net/scorecard/>

¹¹⁸ <https://www.performance.gov/about/performance-framework/>

Once performance goals are set, agency leaders can work with technical leaders to:

- » Understand which technical systems need change;
- » Search existing data for more powerful insights;
- » Identify what industry-standard tools can aid progress.

Map beneficiaries' movement through the renewal process to find bottlenecks

A [journey map](#) is a powerful tool for an agency to understand the redetermination and renewal process as the recipient experiences it, and how to improve it. A map documents each step an individual takes, including what they do, whom they interact with, time involved and where they get stuck. Journey maps, frequently used in the private sector, remain rare in government. An example of a journey map created by U.S. Digital Response to better understand the experience of families applying for child care benefits can be found [here](#).

This simple exercise can help identify problems, including common points of confusion, process bottlenecks and unnecessary duplication.

States with digital services teams, like Georgia and New Jersey, can charge them with journey mapping. States without digital services teams can contact groups like [Code for America](#) and [U.S. Digital Response](#) for help. There are also web-based tutorials like [NYC Service Design Studio's guide to use journey mapping](#).

A journey map can help states set priorities to improve the redetermination process. The team can develop performance goals and a technology and business process roadmap to make the public's experience better. By starting with things that can be accomplished quickly, the state can demonstrate meaningful improvement to staff and beneficiaries early on. It can then use the momentum to focus on improvements that take more work.

Colorado did this successfully in 2019, when they worked with Code for America to map how it redetermined Medicaid recipients, letting them simplify the process whereby enrollees report changes to their household information. The result was [a simple website](#) that let beneficiaries provide updated information without having to visit an office or submit paperwork. The first version laid the groundwork for more complex technology and data integration with Colorado's Medicaid record system.¹¹⁹

The [Preparing for Human-Centered Redesign toolkit](#) from Civilla and the Beeck Center for Social Impact + Innovation at Georgetown University offers a helpful starting point.

¹¹⁹ Proof Points for Human-Centered Benefits Administration: Maintaining safety net benefits in Colorado, <https://codeforamerica.org/news/proof-points-for-human-centered-benefits-administration/>

SAFETY NET PROGRAM INTEGRATION

BEYOND THE FIRST 200 DAYS

While the first 200 days of a new or returning administration are critical for building momentum needed for delivering policy priorities, some longer-term strategies can also help deliver better services for residents.

LEVERAGE FEDERAL FUNDS TO BUILD MODERN TECHNICAL TEAMS AND APPROACHES

States can submit proposals to CMS and FNS for money to plan and implement technology modernization. These are known as advanced planning documents, or APDs. States can use technology to help integrate benefit programs by applying for funds that will help:

- » Conduct a comprehensive audit of existing data systems;
- » Diagnose opportunities and challenges to share key data between systems;
- » Provide a strategy for next steps in data source sharing.

Many states take multiyear approaches to technical planning. States could use APD funds to hire consultants to develop a roadmap for incremental but important progress. This could produce outcomes including:

- » Developing examples for integrating data sources;
- » Creating a more accessible system of data records;
- » Developing a strategic playbook for handling data governance in various scenarios.

BUILD DIGITAL SERVICES CAPACITY

Using technology to integrate benefit programs in a way that reduces administrative burden and improves the enrollee experience requires specialized expertise like:

- » Design that focuses on user experience;
- » Beginning-to-end management of tech products;
- » Research on user experiences and needs;
- » Development of software that meets team needs and adapts over time.

More information on how to build a digital services capacity can be found in the Talent memo.

BUILD PROCEDURES TO SUPPORT PROCUREMENT OF MODERN TECHNOLOGY

States often lack the in-house talent and procurement procedures to make sure the technology they buy provides a worthwhile benefit. With many pandemic-era contracts due for rebidding, states have a chance to hold contractors accountable.

Contracts that favor user-centered, incremental ways to obtain technology have a better chance of success. This often requires state officials to explore new approaches. Beyond the first 200 days, states could pull together a small team of procurement, program and technical experts who can:

- » Explore fast-working procurement procedures for prequalified vendors or smaller projects;
- » Ensure that vendors are chosen based on their work, not sales pitches;
- » Use advice from trusted third-party organizations like [18F](#) to evaluate services;
- » Propose how to train procurement officers on digital services to improve how they vet vendors;
- » Explore cooperative agency and departmental purchasing opportunities;
- » Use technology procurements to improve policy and practice, alongside the new systems;

- » Use contracts to tie vendor incentives to customer-service goals.

For more information regarding state procurement, see the [procurement memo](#).

SAFETY NET PROGRAM INTEGRATION

OTHER RESOURCES

WHAT TO READ?

- » [Coronavirus State and Local Fiscal Recovery Funds — Rules on Eligible Uses for Funds](#)
- » [Presidential Executive Order on Transforming Federal Customer Experience and Service Delivery](#)
- » [NYC Service Design Studio — Guide to User Journey Mapping](#)
- » [Beeck Center for Social Impact + Innovation — Preparing for Human-Centered Redesign Toolkit](#)
- » [Beeck Center for Social Impact + Innovation — Text Messaging and SNAP Churn](#)
- » [Code for America — Safety Net Scorecard](#)
- » [Centers for Medicare & Medicaid Services — Communications Toolkit on Continuous Enrollment Unwinding](#)
- » [Digital Benefits Network at the Beeck Center for Social Impact + Innovation at Georgetown University](#) and [Digital Benefits Hub](#)

UNEMPLOYMENT INSURANCE

EXECUTIVE SUMMARY

The 2021 CARES Act helped keep [12 million families out of poverty](#) and reinforced the nation's wounded economy during the COVID-19 pandemic. But states faced fresh challenges as they struggled to deliver the new and expanded unemployment benefits the legislation provided.

Processing jobless claims and efficiently delivering benefits can be an issue for states during periods of stability. But even as the pandemic forced states to abruptly confront a steep increase in unemployment, the CARES Act presented them with fresh complications by creating new types of federal benefits they had to quickly administer. For example, the new law established pandemic unemployment assistance, which made self-employed and gig workers eligible for benefits for the first time.

A federal government study last year found it took states too long to get new, extended jobless benefits to people who'd lost jobs during the pandemic.¹²⁰ States encountered problems including complicated language in benefit applications that resulted in inaccurate responses on forms, slowing benefit payments and forcing state workers to spend time investigating and correcting those problems.

Even so, the pandemic and the government response revealed valuable lessons states can use to handle future unemployment surges. That experience shows that in the first 200 days of 2023, states can take steps that would make their handling of benefit applications more efficient, reduce the burden on state workers and — importantly — better serve out-of-work people seeking aid.

¹²⁰ <https://www.oig.dol.gov/doloiguioversightwork.htm>

SUMMARY OF OPPORTUNITIES

This memo lays out meaningful actions states can take in the first 200 days of 2023 to strengthen their unemployment systems and improve how they serve jobless people who need assistance. These steps can also improve how taxpayer dollars are spent and help state officials and workers do their jobs.

Take proactive steps to prevent future unemployment backlogs

Help prevent future claims backlogs and other snags in the system by better measuring the number of pending applications and determining where in the process problems are occurring.

Evaluate identity verification solutions for equity and fraud

Improve how people's identities are verified to guard against fraudulent applications, while getting benefits to qualified applicants and making sure disadvantaged communities aren't disproportionately excluded.

Ground progress in measurable improvements, not modernization

Assess unemployment system improvements with data that measures how well the public is actually being served, not simply whether a mainframe computer has been updated with better technology.

Focus on quick wins that can improve the customer experience

Focus on improving how beneficiaries are served by prioritizing efforts in user experience and unemployment claims processing.

UNEMPLOYMENT INSURANCE

OVERVIEW

[Every \\$1 spent on unemployment insurance under the CARES Act created \\$1.61 in local spending](#), according to a Bureau of Labor Statistics study. This helped keep the economy afloat during the pandemic. [Nearly one in four workers relied on unemployment insurance to weather the pandemic](#), with insurance claims peaking around 30 million in late June 2020. Less generous unemployment benefits [would have made the recession even worse](#), demonstrating how necessary these benefits were to families.

Yet states have faced significant challenges delivering these benefits.

Coming out of the last recession, the American Recovery and Reinvestment Act of 2009 provided up to \$7 billion for states to modernize their benefit programs. But in 2016, the Government Accountability Office, Congress' nonpartisan auditor, [asserted](#) that only 40% of states had completed successful updates of their unemployment systems.

Underscoring that disappointing performance, the [experiences of states delivering unemployment insurance](#) during the pandemic provided little evidence that the \$7 billion in federal incentives had helped states improve the delivery of benefits.

[The U.S. Department of Labor Inspector General's 2021 report](#) highlighted that it took far too long for states to disburse payments — an average of 50 days under pandemic emergency unemployment compensation, which let states extend jobless benefits by up to 13 additional weeks. States also didn't always follow federal Department of Labor guidance, leading to unnecessary hardship for workers while increasing improper payments.

During the first year of the pandemic, New Jersey and Arkansas worked with the U.S. Department of Labor to streamline complicated language that made it hard for people to apply for jobless benefits. That complication had caused some applicants to unintentionally submit inaccurate forms that took additional effort by state workers to investigate and correct.

In response to these challenging experiences some states are prioritizing broad improvements that point toward a future when beneficiaries can navigate the application process more easily. Payments could begin the same day applicants file, and anti-fraud measures could curb benefit and identity theft without preventing legitimate claimants from seeking help. These states are starting to gather reliable metrics that track how well they are serving applicants and how equitably they are doing it across all populations.

FEDERAL DOLLARS CREATE A TIMELY OPPORTUNITY FOR SUCCESS OR FAILURE

The federal Office of Unemployment Insurance Modernization was created in September 2021. It is attached to the Secretary's office within the U.S. Department of Labor and works closely with the Employment and Training Administration, Office of the Chief Information Officer, and the Office of the Assistant Secretary for Administration and Management. The office recently released example initiatives and sample code from states and territories that agencies can implement to improve accessibility and claimant experience. This Office is part of an overall effort within DOL to help states strengthen their systems and operations.

The DOL has approved [Equity Grants](#) to 31 states and the District of Columbia, totalling more than \$157 million to date.^{121, 122} Broadly, there are seven topics states can address using the grants: claimant communication, equity improvements through technology, translation services, data analysis to understand equity disparities, plain language communication, backlog reductions, and workflow analysis.

The DOL has also deployed technical assistance teams, known as “tiger teams,” to 30 states to work with state labor agencies in developing custom solutions to address equity, timeliness, and fraud prevention. The tiger teams are composed of multiple experts in areas like computer engineering and project management. The DOL has allocated \$200 million for tiger team deployment. Equity recommendations have included a focus on improving plain language and providing better translations in communications to claimants. Timeliness and fraud prevention recommendations have focused on increasing automation for making determinations and improving cross matching efforts using the [National Association State Workforce Agencies \(NASWA\) Data Hub](#).

¹²¹ <https://www.dol.gov/newsroom/releases/eta/eta20220301>

¹²² <https://www.dol.gov/newsroom/releases/eta/eta20220921>

UNEMPLOYMENT INSURANCE

KEY TECHNOLOGY OPPORTUNITIES FOR THE FIRST 200 DAYS OF 2023

Below are meaningful steps that state leaders can take at the beginning of 2023 to improve the resilience of their unemployment systems and the quality of the customer experience. In the first 200 days:

- » Take proactive steps to prevent future unemployment backlogs;
- » Evaluate identity verification solutions for equity and fraud;
- » Ground progress in measurable improvements, not modernization;
- » Take action to improve the customer experience.

PREVENTING BENEFIT BACKLOGS AND OTHER SNAGS

Large claims backlogs can pressure state officials to make bad decisions about how to fix a systemic problem.

During the pandemic, many states hired hundreds or thousands of new employees to answer phones and process claims. They then realized, too late, that these new hires could not get up to speed fast enough. Experienced claims processors spent so much time training new hires that states were processing fewer claims than they could before the new hires.¹²³

States can avoid these mistakes by using the suggestions below to test the impact of potential changes before implementing them.

Develop a real-time claims progress dashboard

Develop a real-time, easy-to-understand visual display of the number of jobless claims awaiting agency action and their progress as they move through the state system. Such a

¹²³ <https://www.govops.ca.gov/wp-content/uploads/sites/11/2020/09/Assessment.pdf>

dashboard can help a state understand the amount of work in the queue and how many claims are in a backlog — typically defined as awaiting agency action for more than 21 days.

Administrations are accustomed to using retroactive reports manually generated by humans. But relying on real-time dashboards can help prevent surprises like a huge backlog or secret waiting lists.¹²⁴ Making the switch to real-time data requires a culture shift, a transition that will take time. States can set deadlines with individual departments for converting their manual reporting to real-time dashboards. While it is unlikely that a backlog will reach zero, data on how long it takes to service claims can help measure operational efficiency and how well customers are being served.

States can set targets to distinguish between routine backlogs and those that suggest a serious problem. The threshold for a problematic backlog could be when only 80% of all claims are processed within expected timeframes.

Real time dashboards can also pinpoint where applicants might have unintentionally fallen out of the process, such as by not completing their claim because they were confused by the process. Dashboards can help states learn where they must improve customer service. A dashboard that refreshes key metrics at least daily can help leaders address upticks before they become a crisis.

An effective system will count all claims awaiting agency action at every step of the process, including unopened mail. It should err on the side of helping applicants, such as by counting claims if officials are unsure whether to do so. And it should at least meet the federal Department of Labor's standard that at least 87% of claims should be paid within 21 days of submission.

The State of California defined its backlog [in the Employment Development Department Strike Team Detailed Assessment and Recommendations](#) (in Appendix A). Once leadership made the backlog a priority, it took California approximately seven weeks of concerted effort to define and instrument its backlog dashboard.

Develop a working burndown chart, and test its capacity for sudden increases

Spreadsheets called burndown charts can help estimate how long it will take a state to process a current workload. These charts can help states develop plans for handling inevitable future surges in unemployment claims.

A burndown chart will show the number of claims at each step in the process, the time it takes a worker to complete each step and the number of worker-minutes available daily for

¹²⁴ <https://www.npr.org/sections/thetwo-way/2014/05/28/316712039/report-finds-evidence-of-secret-wait-lists-at-va-hospital>

each step. The charts can also show how much additional work each step of the process generates, another useful planning tool for states.

The spreadsheet should calculate how many days it will take to process the claims that come in today. This can let states adjust factors like the number of trained employees or employee hours they'll need. It can also reveal changes they can make in their processes. For example, if a state lacks capacity to conduct certain required interviews, it could decide to waive some interviews.

Burndown charts can also help states identify opportunities for automation, such as steps like password resets that could be performed by strong systems. The goal is not to replace humans with computers but to ensure that eligibility specialists can focus on their most important task — approving claims for people who qualify.

Set key performance indicators (KPIs) for processing unemployment claims

States can improve how they process unemployment claims by using data that measures progress toward improving the customer experience. The best goals are aimed at the desired outcome, not the overall process itself. For example, instead of saying “use cloud computing,” a key performance indicator should be, “the website is up at least 99.9% of the time.”

It is best to start small, because having too many key performance indicators can make it hard to prioritize. Consider selecting three major indicators and work with the unemployment agency on how to define and report them. Wherever possible, seek real-time dashboards, not human-generated reports.

Examples of indicators that can help reduce claim backlogs and other service problems include the number of claims in the backlog and average processing time.

Helpful data can also be collected on how frequently people don't complete applications, average time on telephone hold, how often problems are resolved during their first contact with the agency, how many applications are erroneously rejected and how often people appeal an initial eligibility decision.

Have a plan for standing up an integrated command center

These can be a way to make strategic, timely decisions during both crises and periods of stability. An integrated command center should be highly visible across the organization and have the authority to make decisions and changes rapidly.

Rather than setting up an integrated command center once a crisis erupts, it would be better to start it in advance so there is a functioning team ready to handle future problems.

States that lack an integrated command center can start on a smaller scale. Rhode Island regularly reviews the 400 codes that kick applications out of the automated process to manual review. This helps them identify opportunities to increase automation.

A command center works best when it is chaired by a single individual with sufficient authority. Meetings should rely on the real-time data and reports described above.

A well run command center, staffed with program and technical experts was critical to the solutions credited with fixing HealthCare.gov, the Obama administration’s website for registering for Affordable Care Act coverage, which crashed when it was initially unveiled in 2014. The HealthCare.gov rescue team, which subsequently became the California Unemployment Strike Team, has written [best practices for running an integrated command center](#).

IMPROVING IDENTITY VERIFICATION TO PREVENT FRAUD WHILE PROVIDING EQUITABLE SERVICE

One of the most important pillars of an unemployment insurance process is an effective, highly automated identity verification process with thoughtful “escape hatches” to trained workers if needed. That helps fight fraud while providing the self-service that people expect.

There are two main types of unemployment insurance fraud. Benefit theft is when a person provides false information to increase the benefits they receive in their own name. Identity theft is when a criminal impersonates a different person to obtain benefits.

Before the pandemic, only about 1% of unemployment fraud was identity theft.¹²⁵ But during the pandemic, the number of fraud cases involving identity theft exploded.¹²⁶ Pandemic Unemployment Assistance, which made self-employed and gig workers eligible for unemployment benefits, suffered because many states had ineffective identity verification methods. Until the pandemic, identity verification fraud for jobless benefits was harder because applicants had to provide verifiable information about their former job.

But the Pandemic Unemployment Assistance Program made identity theft that led to fraud easier because the identity information needed to apply relied on easily obtainable information like names and Social Security numbers. In many states, criminals’ neatly formatted spreadsheets of tens of thousands of stolen identities sailed through automated

¹²⁵ https://cms.detr.nv.gov/Content/Media/Strike_Force_Report_2021_FIN.pdf

¹²⁶ p2. https://www.oig.dol.gov/public/oaprojects/DOL_OIG_Updated_Pandemic_Response_Oversight_Plan.pdf

claims systems. At the same time, desperate, real claimants who typed “Kathy” instead of “Kathryn” on their application were held up for months awaiting manual review prior to payment.

Many states took measures to strengthen their identity verification methods during the surge of pandemic unemployment claims. While these measures helped decrease the flow of fraudulent claims, they also put in place new barriers to rightful claimants.¹²⁷

Evaluate your identity verification solution for equity and effectiveness

The National Institute of Standards and Technology (NIST) is the [federal gold standard](#) for secure identity verification. States can see if they meet these standards, such as enabling two factor authentication, by checking independent auditing bodies like the [Kantara Initiative](#) for a list of NIST-compliant vendors. States can also look to this [recent publication](#) by the Cybersecurity & Infrastructure Security Agency for practical guidance on implementing multi-factor authentication. NIST recently [released draft updated guidance](#), and is accepting feedback through March 2023, with full adoption of the updated guidance in federal fiscal year 2024.

Applicants should be able to reach a trained worker the same day they apply, either through a wait time, call back or appointment scheduling feature. This can help make sure applicants having problems with an automated verification process can get additional help from a worker. The Kantara Initiative also has information about which providers make workers available to applicants when needed.

People should be able to verify their identity in person, such as at state offices or United States Postal Service locations and at United Parcel Service stores. States' Department of Motor Vehicles (DMV) are another potential option.¹²⁸ Per [REAL ID](#) requirements, in-person applicants without a valid ID (e.g., with an expired license) can use their birth certificate for identity verification.

People who do not have a bank account often have difficulty passing identity tests that rely on credit histories. States should evaluate solutions that claim to rely on data in records alone with a skeptical eye — 45 million Americans have little to no credit history.¹²⁹ This data has also

¹²⁷ https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4063962

¹²⁸ https://static1.squarespace.com/static/5a7b7a8490bade8a77c07789/t/63937744d04cfd3dfa8d9838/1670608710401/Better_Identity_Coalition+-+State+Blueprint+-+Dec2022.pdf

¹²⁹

https://content.transunion.com/v/global-report-empowering-credit-inclusion-a-deeper-perspective-on-credit-underserved-and-unseved-consumers?utm_campaign=pr-financial-inclusion&utm_content=report&utm_medium=press-release&utm_source=press-release&utm_source=press-release

been compromised via prior breaches for most banked Americans. NIST has advised states to not rely solely on knowledge-based proofing.

Other best practices to improve identify verification include:

- » Set an expectation for completing identity verification the day the process begins. This should be possible whether an individual is relying on an automated process or a trusted referee, a trained customer service agent to help prove the individual's identity.
- » Accept all variations of people's names and make sure the process is provided in multiple languages. Over 67 million Americans speak a language other than English at home.¹³⁰
- » Align state and vendor incentives, such as by paying for identity verifications which are completed, not just attempted.
- » And retain records appropriately. Follow [National Archives and Records Administration document retention guidelines](#) for retaining copies of the underlying identity documents.

Monitor for equitable outcomes

When many applicants drop off at the identity verification step, it may mean the system is successfully preventing fraud. But it could mean people are too confused by the process or have run into other problems. Auditors have flagged some states for using identity verification methods that systematically disadvantage certain communities.¹³¹ States can prevent this by:

- » Using NIST [identity verification standards](#), which are routinely improved for equitable outcomes.
- » Gathering data on the total numbers of people applying. Audit fraudulent and high-risk claimants to ensure fraud estimates are accurate and are not masking poor service.
- » Measuring jobless claim results by race and ethnicity and investigating disparities. Look for disparities in rates of denial, appeal and award, and also the rate at which applicants are denied based on identity verification alone.

¹³⁰ <https://cis.org/Report/673-Million-United-States-Spoke-Foreign-Language-Home-2018>

¹³¹

<https://www.newamerica.org/pit/reports/unpacking-inequities-unemployment-insurance/a-focus-on-fraud-over-accessibility-the-punitive-design-of-ui/>

Build sharing opportunities across state agencies

Sharing data across agencies can reduce the burden on staff, save the state money and improve the public's experience. States that have compliant identity proofing at one agency, like the Department of Motor Vehicles or tax board, may be able to rely on that identity proofing when individuals apply for unemployment.

Governors can ask agency officials for a list of places where their state verifies identities online and how it's done. If a state's unemployment agency does not use identity proofing from other state agencies, ask why. Be sure to avoid expanding any existing identity verification processes that are not compliant with best practices.

GAUGE PROGRESS WITH MEASURABLE IMPROVEMENTS, NOT MERELY MODERNIZATION

Newer technology is not inherently better than older technology. There are ways to assess whether modernization of technology and other changes are making actual improvements in how states deliver jobless benefits.

Center the lived experience of claimants and staff who use the system

To enhance the unemployment program so it works for the people who use it, states must involve actual users in every step of the process. [Nava](#) — a public benefit corporation that helps government agencies modernize their systems and improve user experience — conducted research that has shown that communicating with applicants during the process can decrease stress and workload for call center workers.¹³²

State officials can look for user research activities in procurement statements of work. When checking in on how a project is going, routinely ask how the public is responding, what the agency did to address people's concerns and how constituents responded to those updates.

Employees and contractors who use the systems should also be consulted from day one to get their improvement ideas and buy-in.

¹³² <https://www.navapbc.com/insights/reimagine-unemployment-insurance-services-start-small>

Tie funding and approval of multiyear improvement projects to key performance indicators

States can measure how people are being served in unemployment benefit systems to encourage a state's unemployment agency to start with small but meaningful changes that staff and claimants can feel.

Some states make funding contingent on agencies achieving goals. Before approving a 10-year, billion-dollar budget, a state might require a series of smaller projects that demonstrate success, as measured by performance data. This provides feedback faster than a decades-long, big-bang modernization plan could and allows leaders to change course when results do not meet expectations.

Adopt an iterative approach to technology updates

Resource-strapped states may be relieved to learn that new technology isn't an all-or-nothing decision. No state has ever fully replaced a legacy mainframe system in unemployment or any other benefits.

Instead, states can gradually replace a mainframe with newer technology. It's more effective than multiyear planning projects that are meant to design a "perfect" end-to-end future solution.

States using best practices initially focus on improving just one part of the unemployment insurance process, such as checking claim status or filing lower-level appeals. Or they might move first on beginning an innovative new process like same-day payments or gig worker wage verification.

When doing this, states should redesign the process to reflect users' experience and what they've learned from using data to measure progress. This step is likely to involve a lot more business process and policy redesign than technology.

The redesigned process should exist outside of the old system mainframe a state is working to replace. If the mainframe has constraints that hurt user experience, make the improvement with the new technology with the least amount of integration necessary between systems.

For example, Rhode Island's mainframe cannot store names with special characters like apostrophes. Instead, they provide claimants an inclusive name input field where users can enter their names accurately, and then the new field stores a separate version of that name that can be read by the mainframe. The name is changed behind the scenes to transmit to the mainframe.

To help make these step-by-step improvements, states could appoint a product manager. This person would own the end-to-end process and help leadership make informed decisions based on key performance indicators.

For more background, states can learn from [New Jersey's success](#) using an iterative approach to procurement.

FOCUS ON QUICK WAYS TO IMPROVE THE PUBLIC'S EXPERIENCE

Provide a way for people to track the status of their claim

To reduce contact center volume and increase public satisfaction, make it easier for claimants to track their own claim status. Many states including North Carolina and Oklahoma have improved how claimants can do this.

The most successful claim status trackers feature self-service online and by phone, have plain-language explanations of claim status and what to expect next, give clear steps for claimants when they need to take action and provide “push” updates by email or text messages.

During the pandemic, some states were able to start self-service claim status trackers in a matter of weeks.

To get started, states can review the information that front-line call center agents are able to easily provide over the phone. Then look for ways to make that information available for self-service. Once the status information is translated to plain language, advertising it to claimants can significantly reduce call volumes and allow staff to prioritize the cases that need more specialized assistance.

Implement tools for real-time monitoring of system reliability

Monitoring all systems involved in processing unemployment claims can provide valuable information about downtime, slow response times and error rates. If a website is down or there are slow response times or other problems, leaders should be able to see this on a dashboard in real time, not learn about it from constituent calls or an after-action report.

Tools for monitoring systems are not particularly expensive and require little maintenance. If it will take significant time to get long-term solutions in place, consider free or low-cost tools that can at least regularly ping a site or application to ensure that it is up and running.

Call center agents should have access to a dashboard tracking outages. It creates a much smoother experience if they can immediately verify an outage to callers versus trying to troubleshoot many individuals' connections.

Use plain language for applications and instructions on how to use them

This can make the unemployment system much easier for people to use and reduce the workload on agency staff.

For advice, states can ask local nonprofits and grassroots organizations to highlight their constituents' biggest challenges navigating unemployment applications. They can also consult frequently visited state agencies like the Department of Motor Vehicles and community-based service providers for more help in using clear, plain language in English and languages common to the area.

There is a common misconception that any language at the state level must be approved by the U.S. Department of Labor. But in fact, the federal government is trying to take steps to clarify that states can use their own language without approval.

States do not have to start from scratch when developing plain-language materials for unemployment. Here are some resources to build on:

- » [U.S. DOL's plain-language resources](#)
- » [U.S. Digital Response's plain-language services](#)
- » [Improving communication and messaging for unemployment insurance in Michigan](#)
- » Beeck Center for Social Impact + Innovation at Georgetown's [Designing for Multilingual Translation](#) and [Tools to Manage and Share Content](#)

Use inclusive lists of names

Most unemployment benefit applications might reject people based on their real names because of issues with a name's length or special characters like hyphens. Common names like Wu or O'Brien will encounter problems in many systems: Wu might have too few characters or the apostrophe in O'Brien might trigger an issue.

To prevent this, states could try giving this [list of real names](#) to their unemployment division to have them confirm all these real names work in your current system.

UNEMPLOYMENT INSURANCE

BEYOND THE FIRST 200 DAYS

The first 200 days of 2023 are key for states to understand their unemployment systems and to benefit from quick wins that demonstrate their ability to make improvements. After showing they can bolster services to people and understand how proposed changes would improve their efficiency, states can begin even more ambitious upgrades.

LEVERAGE AND WORK ON SOLUTIONS WITH OTHER STATES

While every state has its own rules and processes for unemployment claims, there are many shared goals and steps. Rather than tackling every possible improvement from step one, states can learn from each other and collaborate. This can be as simple as testing plain-language application form questions in one state while another tests the best options for an automated contact center menu.

CONTINUE IMPROVING THE UNEMPLOYMENT CLAIM PROCESSING IT SYSTEM ONE MODULE AT A TIME

It would be smart to pick one specific part of the system and improve it at every level — considering the process, policy, user experience and technology — then use data to measure how effectively the changes are working over time.

But this approach should not be used only once. States should continue improving their unemployment systems, piece by piece, over time.

It could be tempting to fall back into multiyear planning efforts for “big bang” or “rip and replace” improvements for subsequent problems. Subsequent processes may hit unforeseen challenges or be harder to fix. Support from state leaders to stay the course will be key to deploying a better unemployment system that meets the needs of beneficiaries, taxpayers and agency workers.

UNEMPLOYMENT INSURANCE

OTHER RESOURCES

WHAT TO READ?

- » [U.S. Department of Labor: Unemployment Insurance Modernization](#)
- » [A Playbook for Improving Unemployment Insurance Delivery](#)
- » Civilla + New America Sprint Reports on Michigan Unemployment:
 - [Sprint 1: Increasing cross-enrollment between unemployment insurance and supporting benefits in Michigan](#)
 - [Sprint 2: Improving the delivery of unemployment insurance benefits](#)
 - [Sprint 3: Improving communication and messaging for unemployment insurance in Michigan](#)
- » [The Status Quo of Safety Net Assessment](#)
- » [“To reimagine unemployment insurance services, start small.”](#)
- » [USDR’s case study of UI user research in Pennsylvania](#)
- » [Digital Identity in Public Benefits](#)
- » [Better Identity Coalition State Policymakers Blueprint](#)
- » [Subscribe to the UI Quarterly Roundup from the Digital Benefits Network at the Beeck Center for Social Impact + Innovation at Georgetown University](#)
- » [NIST Digital Identity Guidelines](#)

BROADBAND

EXECUTIVE SUMMARY

The \$1 trillion Infrastructure Investment and Jobs Act marked the most significant infusion of federal resources for public works projects in decades for states and local communities. The year-old law included \$65 billion to expand broadband services to communities that have little or no high-speed internet access, which has become key for economic growth and job creation.¹³³ Broadband's importance was underscored by the COVID-19 pandemic and the problems it caused for the economy and communities.

[All states](#) are preparing plans that will prioritize the broadband projects supported through new federal funds. These funds will unlock economic and educational opportunities for millions of people in underserved rural and urban communities.¹³⁴ Maximizing these funds will require states to build a strong structure of technical leadership, engage outside stakeholders and experts, and leverage broadband lessons from the last decade.

While a sustained investment in technology is required to successfully deploy broadband, states will need to look beyond laying fiber and hiring internet service providers. The new federal assistance may seem narrowly designed, yet states actually have significant latitude in deciding how to use it. Some of the planning funds can help states better understand why people and communities remain unconnected, while other funds can be used to deliver the secure and affordable digital systems these areas need.

SUMMARY OF OPPORTUNITIES

This memo lays out actions states can take in the first 200 days of 2023 to start bringing broadband to more communities and make sure it's done effectively.

¹³³ <https://web.csg.org/recovery/wp-content/uploads/sites/24/2021/11/Infrastructure-Investment-and-Jobs-Act.pdf>

¹³⁴ <https://www.congress.gov/bill/117th-congress/house-bill/3684/text>

Build technical teams to make effective broadband investments

The first step is for states to put together robust technical teams — a necessity in our modern, digital world. These teams must be able to roll out broadband investments that work over the long term. Governors can build expertise within their administrations and rely on national and local expertise to supplement their teams.

Use effective data and analysis to drive broadband decisions

States can prioritize gathering data that will let them produce a reliable statewide broadband map showing access gaps. These will be critical for understanding residents' broadband needs. Officials must understand how people interact with technology and services, identify problems and address them. This can help states decide how to best distribute funds and workers for broadband projects. Broadband mapping data is also essential for determining if state broadband goals have been met.

Prioritize ensuring that all individuals and communities get connected

States need to ensure that their digital services and products are inclusive and accessible to all. Consider access, digital literacy and meaningful use of digital technologies for different groups, particularly from underrepresented communities. States can also utilize funds such as the [Broadband Equity, Access and Deployment program](#) to boost digital equity efforts.

BROADBAND

OVERVIEW

The passage of the \$1 trillion Infrastructure Investment and Jobs Act in 2021 marked the most significant infusion of federal public works money for state and local governments in generations. The measure provides \$65 billion to expand broadband to communities with little or no high-speed internet access, which is necessary for economic growth and job creation.¹³⁵ Broadband's importance was only underscored by the COVID-19 pandemic given the sudden shift to online services for government, businesses, schools, and healthcare providers.

As federal and state governments map broadband access nationally, figures on the exact number of people living in areas that lack internet access vary significantly. Current estimates span from 14.5 to 42 million people,¹³⁶ with all sources recognizing that a significant number of Americans lack what is largely considered today a basic utility. This doesn't include the number of people who live in places with broadband coverage with slower speeds or higher costs.¹³⁷

One of the primary sources of funds for states is the \$42 billion contained in the [Broadband Equity, Access and Deployment \(BEAD\) program](#). Each state will receive an initial allocation of \$100 million with additional funding provided based on the number of unserved and underserved communities. In order to receive funding, each state must submit a five-year plan that identifies locations that should be prioritized for support; outlines how to serve unconnected locations; and assesses how long it would take to build out universal broadband.¹³⁸ States receive the first 20% when their initial proposal is approved and the other 80% when they submit their Final Proposal. An overview of funding opportunities and a timeline are [here](#).

In 2023, states will need technical telecommunications and community development expertise to develop their broadband plans. States may also need to collect their own data

¹³⁵ <https://web.csg.org/recovery/wp-content/uploads/sites/24/2021/11/Infrastructure-Investment-and-Jobs-Act.pdf>

¹³⁶ <https://www.npr.org/2021/11/22/1037941547/life-without-reliable-broadband-internet-remains-a-daily-struggle-in-nevada>

¹³⁷ <https://www.pewresearch.org/internet/2021/06/03/mobile-technology-and-home-broadband-2021/>

¹³⁸ <https://web.csg.org/recovery/wp-content/uploads/sites/24/2021/11/Infrastructure-Investment-and-Jobs-Act.pdf>

relative to unserved and underserved communities to ensure they are targeting their investments effectively.

States focused on best practices will look beyond laying fiber and hiring internet service providers to successfully deploy broadband. A crucial step will be understanding the barriers to connecting communities, such as affordability for individuals, lack of access to devices and digital literacy.

States can take effective action early to deliver implementation goals that will benefit residents over the next decade and beyond. States can create technically proficient leadership and equip them with financial, human and institutional resources to connect every resident with usable and affordable broadband. They can supplement these internal teams by engaging key stakeholders and building strong partnerships with outside stakeholders and experts.

FEDERAL DOLLARS PRESENT A TIMELY OPPORTUNITY FOR SUCCESS OR FAILURE

The 2021 Infrastructure Investment and Jobs Act provided the largest federal investment in state broadband access to date, with \$65 billion¹³⁹ for state broadband investment projects:

- » \$42.5 billion for the Broadband Equity, Access and Deployment (BEAD) Program, a new grant program providing formula funding to states for broadband deployment. Governors will need to develop plans in 2023 to prioritize projects and communities, including how to make broadband more affordable for low-income families;
- » \$2 billion for the Tribal Broadband Connectivity Program, an existing program to enable broadband access in tribal communities;
- » \$1 billion for middle-mile broadband, support for infrastructure that does not connect to an end user;
- » \$2.75 billion for the Digital Equity Act, which provides grants to states and nonprofit entities for digital inclusion;
- » \$14.2 billion for the Affordable Connectivity Program, which provides monthly subsidies to support low-income individuals with affordable broadband services.

¹³⁹ https://www.ey.com/en_us/infrastructure-investment-and-jobs-act

As of the end of 2022, all 50 states as well as DC and Puerto Rico received their BEAD 5 Year Planning Funds and their Digital Equity Funds.¹⁴⁰

The infrastructure measure is not the only federal resource for states to jumpstart their broadband programs. In response to COVID-19, the federal government provided billions of pandemic relief dollars for infrastructure investment, including broadband access.

- » **Coronavirus Capital Projects Fund:** This provides \$10 billion for states to help communities get needed equipment and systems, including projects that would improve employment, education and health care, such as remote monitoring of patients. Broadband infrastructure projects and digital connectivity are covered in this program.
- » **Coronavirus State and Local Fiscal Recovery Fund:** This includes \$350 billion for projects to counter COVID-19's economic fallout and facilitate recovery.¹⁴¹ The program gives state, local, territorial and tribal governments significant flexibility to allocate the funds based on local needs, including for broadband infrastructure.

States are already using COVID-19 relief funds to improve broadband access. [More than half of states](#) have made improvements to high-speed connectivity or have created new broadband programs. Here are some notable trends in broadband spending by states:

- » **Expanding access to underserved communities by connecting public buildings and infrastructure to high-speed broadband.** States have been prioritizing public space connectivity — or establishing Wi-Fi hotspots in public places like libraries and parks — as a way to provide free and easy access to broadband for individuals and communities. Other investments include Wi-Fi connectivity throughout school systems; [curb-to-home broadband](#), as was done in Connecticut to expand service to households; and expanding broadband access along highways [like in Arizona](#) to reach more remote areas of their state.
- » **Providing grants to contractors and organizations to build broadband systems.** Many state and local governments are turning to public-private cooperation to deploy needed infrastructure. From [Washington](#) to [Georgia](#), states are using money from last year's pandemic relief bill, the American Rescue Plan Act and the Capital Project Fund, a Treasury-led program that allocates funds to states to invest in their infrastructure. These investments include building physical fiber optic infrastructure

¹⁴⁰ https://www.internetforall.gov/sites/default/files/2022-12/IFA_2022_End_of_Year_Fact_Sheet.pdf

¹⁴¹

<https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/state-and-local-fiscal-recovery-funds>

(referred to as middle-mile broadband) and connecting providers' networks to end users (known as last-mile broadband) in unconnected areas.

States working with private companies should consult with procurement experts to be sure key contract provisions are being followed, including minimum speed guarantees, benchmarks for connecting communities and getting reimbursements when justified.¹⁴²

- » **States' technical and administrative capacity for handling broadband projects is critical.** Many grants to states are being administered by state technology or broadband offices. Many of these offices also handle state broadband coverage mapping, or the process of determining what areas of the state are not connected to broadband, as is the case with [Colorado's Broadband Office \(CBO\)](#) and [ConnectMAINE](#). States should consider allocating some ARPA or infrastructure funds to improve their oversight of these projects. This includes tracking whether internet service providers (ISPs) and other partners are fulfilling their commitments.

¹⁴² <https://www.pewtrusts.org/en/research-and-analysis/data-visualizations/2019/state-broadband-policy-explorer>

BROADBAND

KEY TECHNOLOGY OPPORTUNITIES FOR THE FIRST 200 DAYS OF 2023

Below are meaningful steps that state leaders can take at the beginning of 2023 to start expanding broadband access for their residents. In the first 200 days:

- » Build technical teams with the ability to roll out investments that work over the long term;
- » Use effective data and analytics to drive decisions;
- » Prioritize ensuring that all individuals and communities get connected.

BUILD TECHNICAL TEAMS TO MAKE EFFECTIVE BROADBAND INVESTMENTS

From telework to telehealth to telelearning, the COVID-19 pandemic required widespread shifts to digital service delivery at a pace and scale never seen before. This unprecedented reliance on technology revealed the huge benefits of living and working in communities that are connected to the internet. It also revealed the disabling reality of not being connected, especially in low-income rural and urban areas. Some connectivity gaps are due to a complete lack of access to a high-speed internet connection. Others are caused by the absence of devices or affordable service plans.

States will be hamstrung without the right technical teams to lead planning and implementation, even with an influx of federal dollars to tackle these problems. During the first 200 days of 2023, states can build these teams. This will likely require hiring for internal expertise and relying on outside experts where hiring does not make sense.

Appoint a state broadband director with technical and management expertise

As of August 2022, all 50 states have active broadband programs. Their sizes and structures vary considerably, with some offices housed centrally in a state broadband office and others distributed across agencies. Regardless of the state's approach, the broadband director role is critical to effectively improving a state's connectivity. They are responsible for developing the vision, setting strategy and building strong relationships with key stakeholders. A successful director will have appropriate operational and technical skills, the power to make decisions and support from the state executive team.

Critical skills for a broadband director include:

- » **People-centered management and delivery:** The measure of a successful state broadband program will be whether people are actually connected to the internet. It will not be based on how quickly fiber is laid or how many internet service providers offer plans. The most successful broadband directors will drive their teams to root every decision they make, contract they sign or stakeholder they engage in the experience of the end user. They will have experience in delivering programs and processes that engage the public early and often.
- » **Tech-informed decision-making:** The most effective directors will be familiar with the basic practices of using technology to deliver for everyday people and ensure that other technical leaders are involved when policy, planning and implementation decisions are made.¹⁴³
- » **Operational strategy and oversight:** Building and using a broadband infrastructure plan is complex. It includes everything from applying for funding to managing stakeholders to negotiating contracts. An effective broadband director will have experience overseeing operations and leading digital improvements. This will ensure they have the skills to build and manage teams, define and measure success, and react to changing circumstances.
- » **Stakeholder management and community building:** Delivering broadband will require states to work with a diverse group of public and private stakeholders who have different priorities. To be successful, the state broadband director will need relationship savvy to understand stakeholders and bring disparate groups together to achieve broadband for all.

¹⁴³ <https://ourpublicservice.org/wp-content/uploads/2020/04/Tech-Talent-for-21st-Century-Government.pdf>

Even a broadband director with the right skills and experience can only be successful if they have the authority they need and direct support from the governor's office. To ensure that their broadband directors can be successful, states could:

- » **Have the broadband director report directly to the governor.** This will send the message that broadband investment is a statewide priority. It can also help remove obstacles that arise as the broadband director fulfills their role as an agent of change.
- » **Centralize broadband work into an office that can be staffed for the long term.** While a surge of broadband planning and spending will happen over the next 24 months, states' work on broadband connectivity will stretch through the next decade. Maintaining service and infrastructure and making steady progress on digital access and equity will require sustained attention and resources. The broadband office will need to collaborate across state agencies. Centralizing functions into a single office with staff can help states use resources effectively.

Identify and use shared resources from the nonprofit community

Many states struggle to staff broadband offices, so philanthropies and nonprofit organizations have helped provide resources. States could reach out to the following organizations to help build capacity for policy, research, mapping and planning.

Some key resources include:

- » [Bloomberg HUB for cities and mayors](#): The HUB is a collaboration of nonprofits and foundations that connect cities and towns with expert advice on accessing funds and drawing effective plans.
- » [EducationSuperHighway](#): This organization connects the most underserved households by driving eligible household adoption of the Affordable Connectivity Program — an FCC-administered \$30-per-month discount on broadband service plans — and providing free Wi-Fi networks to low-income and public housing apartment buildings. They provide pro-bono support to help states integrate these programs into the broadband funds they get from Washington.
- » [Heartland Forward](#): Heartland Forward provides advice and support to states in the center of the country to improve broadband and drive economic renewal.
- » [National Broadband Resource Hub](#): The National Broadband Resource Hub contains hundreds of memos and guides created by broadband experts. Government leaders can book time with experts for free at the [Help Desk](#) to ask broadband questions. The

Hub also can connect offices to talent recruitment nonprofits that can help staff up teams quickly.

- » [National Digital Inclusion Alliance \(NDIA\)](#): NDIA advances digital equity by supporting community programs and equipping policymakers with the research and technical knowledge to act.
- » [Pew Charitable Trusts](#): Provides research, best practices and technical assistance to states seeking to leverage infrastructure dollars effectively.
- » [U.S. Digital Response \(USDR\)](#): USDR helps jurisdictions ensure equitable access to high-speed internet. They build capacity by pairing government teams with experienced technology specialists.

Use existing teams and resources from different state agencies

When households are connected to internet services, governments can serve them better and use staff resources more efficiently. State agencies like social services, housing authorities and economic development have a stake in successful broadband delivery. The broadband director can collaborate with these agencies to assess existing technical resources and address staffing gaps. To the extent resources like geographic information systems (GIS) mapping (or systems that combine location data with descriptive information like income levels or broadband accessibility), digital services and analytics teams exist in other agencies, states can leverage them to support broadband planning and delivery until they can build the staffing they need.

USE EFFECTIVE DATA AND ANALYSIS TO DRIVE BROADBAND DECISIONS

The COVID-19 pandemic demonstrated that states need to collect and analyze data to understand what is happening in their communities and respond to people's needs. States need real-time information to make informed decisions about policy, resource allocation and how processes are working.

It is impossible to make investment decisions about broadband without data. Leaders must understand:

- » Where the current infrastructure is and who manages it;
- » Who is and is not connected;
- » Why people are not connected.

This kind of data will let states maximize their ability to get federal funds, implement broadband access effectively and evaluate the success of their work with outside partners. Data helps a state hold contractors and other third-party partners accountable. Most states procure data from companies to build broadband coverage maps. The [National Broadband Resource Hub](#) can help states vet companies and proposals.

Many states lack the technical expertise and tools they need to understand their data and use it to make decisions. The following are early actions states can take to build data capacity.

Hire a broadband data director with technical expertise

Building the ability to use broadband data effectively is a substantial undertaking that includes:

- » Collecting complex broadband coverage data that is not always publicly available;
- » Geographically mapping that data alongside demographic information;
- » Applying it to prioritize resources.

A state's broadband office requires strong, modern data leadership. A data director can ensure that internal and external stakeholders have the information they need to make decisions and implement them effectively by:

- » Driving data strategy;
- » Managing data assets;
- » Ensuring strong oversight of data and data privacy;
- » Building timely access to accurate, secure and high-quality data.

Historically, overseeing government data systems might have been considered a job for middle management. But in an age when detailed information drives nearly every government interaction, data leaders have become critical members of state and agency leadership teams. The responsibilities of a data leader have expanded not just to data management using new technologies like cloud computing, but also data governance — the stewardship and protection of end-user data.

The broadband data director should have hands-on experience delivering data tools and software products and a track record of building multifaceted teams. The data leader will likely need a small team of analysts and engineers to support data collection, analysis and development of tools necessary for data use.

If a state already has a chief data officer, they can work directly with the broadband director instead of hiring another person. This person would need to be well resourced to support broadband delivery efforts effectively.

Collect and analyze geographic broadband data for insight on who is not connected, where and why

The Federal Communications Commission (FCC) is releasing data that will drive the amount of money states receive to improve broadband access. The primary window states have to submit challenges to the FCC location-level map closed on January 13th and NTIA expects to announce BEAD Program allocations by June 30, 2023.¹⁴⁴

The FCC's methodology can overstate how well communities are connected. For example, it considers a census block — the smallest area for which the Census Bureau gathers data — served if at least one household or business has broadband access.¹⁴⁵ Because census blocks can range from a single city block to hundreds of square miles, thousands of households may find themselves excluded from investments.¹⁴⁶ This has led to pockets of served and unserved communities scattered across the nation. These will be expensive to upgrade because providers must now move across service areas to upgrade small portions of communities.

Without local mapping capabilities, many households will be left out of new state-facilitated service offerings and upgrades due to lack of information on where resources need to be directed. States that are leading on broadband, gather and use data to understand barriers to connectivity, such as:

- » Service affordability;
- » Limited English proficiency;
- » Affordable Connectivity Program uptake (dashboard for state leaders [here](#));
- » Access to devices.

¹⁴⁴ <https://ntia.gov/press-release/2022/biden-harris-administration-announces-timeline-national-high-speed-internet>

¹⁴⁵

<https://www.cnet.com/home/internet/features/millions-of-americans-cant-get-broadband-because-of-a-faulty-fcc-map-theres-a-fix/>

¹⁴⁶

<https://www.pewtrusts.org/en/research-and-analysis/articles/2019/02/05/better-maps-better-connectivity-how-data-can-close-the-broadband-gap>

Gathering data to understand connectivity barriers can help states build a data-informed vision for the success of their broadband efforts. It can also be used when states are making decisions about partnership agreements and contracts with vendors.

Many states have already begun prioritizing broadband coverage mapping. For instance, in 2018 Georgia worked with service providers and county officials to verify access in individual households in three counties. Unlike the FCC's approach, Georgia considers a census block unserved if at least 20% of households do not have access. Georgia's pilot program completed its mapping effort in June 2020 and found that the FCC had misidentified half of Georgia's locations as being served by broadband providers, when they actually lacked broadband access.¹⁴⁷ Maine also takes data on the speed and reliability of broadband connections into account to create their data maps instead of relying on the speed-testing data that internet service providers report.¹⁴⁸ These approaches are critical to accurately mapping broadband data.

PRIORITIZE ENSURING THAT INDIVIDUALS AND COMMUNITIES GET CONNECTED

Last year's federal infrastructure bill provided \$2.75 billion that was spread across three programs for digital equity project planning and implementation.¹⁴⁹ Digital equity means investing in the broadband infrastructure necessary to ensure all individuals and communities — regardless of socioeconomic background — have full access to the internet and can participate fully in American society and the economy.¹⁵⁰ As a part of this, states must also improve outreach to tribes and consider supporting tribal-specific strategies for outreach and digital equity.

Planning grant applications for Digital Equity Act funds — a grant program established by the Infrastructure Investment and Jobs Act to promote digital skills education to low-income populations and improve the online accessibility of social services — were due in July 2022, and project implementation grants will launch in 2024.¹⁵¹ While states are not required to take advantage of Digital Equity Act funds, it is hard to see how states can meet their broadband connectivity goals without using these funds to reach unserved and underserved populations.

¹⁴⁷ <https://broadband.georgia.gov/fcc-vs-georgia-broadband-program-comparison>

¹⁴⁸ <https://www.mainebroadbandcoalition.org>

¹⁴⁹ <https://broadbandusa.ntia.doc.gov/resources/grant-programs/digital-equity-programs>

¹⁵⁰ <https://www.digitalinclusion.org/definitions/>

¹⁵¹ <https://www.internetforall.gov/sites/default/files/2022-05/digital-equity-act-info-sheet.pdf>

Conduct discovery sprints to quickly understand resident challenges and test solutions

Discovery sprints are a tool leveraged frequently in modern software development. They let technical teams developing a product work directly with the product end users to understand what their problems are and get feedback for proposed solutions or prototypes. Involving users early in the process can help a state solve the most important problems and ensure that solutions will actually work for the people who need it.

To better understand what problems they must address to help unserved and underserved communities, states must think about:

- » **Access:** The availability and affordability of high-speed, reliable internet and related equipment. This includes having internet connections and technology at home or in community institutions, such as providing free public Wi-Fi and public computer centers.
- » **Digital literacy:** An individual's ability to use the internet and technology like computers and smartphones.
- » **Meaningful use:** This refers to how an individual uses their digital literacy skills to enhance educational and employment opportunities.

Hire a digital equity director

Laying fiber and ensuring coverage by internet service providers can be completed in a few years. Making sure a state's residents are connected will take decades or more. A state's digital equity director can play a key role in developing relationships with communities and businesses reliant on strong broadband access, understanding community needs and developing partnerships and projects to shrink the digital divide. Ideally they are a partner to the state's broadband director. The National Digital Inclusion Alliance (NDIA) also recommends that states consider establishing a [Digital Equity Office](#) to coordinate digital equity efforts across the state.¹⁵²

A successful digital equity director will have expertise in technology and working with underrepresented communities. They also have a track record building and delivering programs to support underrepresented communities. These include people of color, people with disabilities, low-income households, retirees and rural residents. They should also be centered on users' needs and prioritize community engagement.

¹⁵² <https://www.digitalinclusion.org/defining-a-state-digital-equity-office/>

To be effective, the digital equity director should have the authority and resources to:

- » Convene stakeholders;
- » Conduct research;
- » Collect and analyze data;
- » Define strategy and priorities;
- » Develop and implement projects — and evaluate their impact.

The NDIA's [Digital Inclusion Startup Manual](#) and [State Digital Equity Plan Toolkit](#) are powerful resources that digital equity directors can use to jumpstart their programs.

Hold listening sessions in communities to build trust and increase visibility

States that have begun listening sessions are making progress.¹⁵³ For instance, Maine's Connect Maine Authority holds stakeholder engagement meetings and runs workshops to gain feedback on grants and align programs with user needs and state priorities.¹⁵⁴ The North Carolina Department of Information Technology's Division of Broadband and Digital Equity has created a statewide survey assessing broadband availability. It also has an outreach guide to encourage communities with limited broadband access to take the survey.¹⁵⁵

To reach all residents effectively, it's critical to identify the needs and challenges they face. State leaders could consider partnering with community organizations that are trusted in the communities they serve. States can hold listening sessions to:

- » Learn what residents need;
- » Build trust and demonstrate to community members that their voices matter;
- » Let residents know what to expect and by when.

This kind of engagement with communities can help states identify the right problems and build plans and systems that can solve them. Ultimately, state leaders can use the information from listening sessions to inform planning, drive prioritization and test ideas.

¹⁵³

<https://www.pewtrusts.org/en/research-and-analysis/speeches-and-testimony/2022/04/29/how-states-can-engage-regional-and-local-stakeholders-in-broadband-expansion>

¹⁵⁴ <https://www.maine.gov/connectme/grants/engagement>

¹⁵⁵ <https://www.ncbroadband.gov/north-carolina-broadband-survey>

BROADBAND

BEYOND THE FIRST 200 DAYS

The first 200 days of a new or returning administration is a critical time to build the momentum needed to deliver on policy priorities. But it is the daily work of months and years that will determine whether the government serves its constituents well. In the case of broadband infrastructure development, there are several areas for long-term focus.

USE DATA TO TRACK PROGRESS

Broadband expansion requires continual studies of the access communities have to it. To keep track of places that need help, access studies let states measure how progress is going. States that conduct regular broadband access studies will learn what is working and can adjust their plans accordingly. As organizations and states receive more feedback on how to measure broadband access, states should update their analysis to reflect this feedback.

CONNECT WITH COLLEGES, UNIVERSITIES AND TECHNICAL SCHOOLS

Broadband team members should ideally have technical expertise creating and working with vast quantities of data, and should have expertise working with broadband technology. While it can be difficult to identify the proper talent necessary to equip these broadband teams, some states have made progress.

To open the door to new and diverse talent pipelines, states can build mutually beneficial relationships with institutions that train technology specialists. This can help states engage with new graduates by doing things like attending career fairs and offering student loan forgiveness, based on years of service, if they accept state job offers.

One important resource for states is the [Public Interest Tech University Network \(PIT-UN\)](#). PIT-UN has brought together nearly 50 colleges across the country to build the field of public interest technology and to help support young technologists interested in public service.

Another example is Louisiana's broadband office, which is working to address state broadband workforce needs. According to Pew Charitable Trusts, the state has encouraged internet service providers applying to its Granting Unserved Municipalities Broadband Opportunities (GUMBO) grant program to work with community colleges to fill broadband infrastructure job vacancies and develop broadband-specific training programs. The office is also hosting regional workforce summits to support cooperation between industry and other programs.

BROADBAND

OTHER RESOURCES

WHAT TO READ?

- » [Council of State Governments — Infrastructure Investment and Jobs Act Broadband Funding Breakdown](#)
- » [National Telecommunications and Information Administration — Broadband USA](#)
- » [National Broadband Resource Hub](#)
- » [Pew Charitable Trust infrastructure resources](#)
- » [Benton Institute for Broadband & Society](#)
- » [National Digital Inclusion Alliance — State Digital Equity Plan Toolkit](#)

CHILD WELFARE

EXECUTIVE SUMMARY

Nearly a half a million children live in foster care in the United States. Foster care is a temporary living arrangement made when a child's family is experiencing a crisis or is considered unable to safely care for them, usually due to neglect or abuse. Around one in 17 children under age 18 has lived this way, staying with relatives or close family friends, unrelated foster families, or in group homes or institutions. Foster care is often traumatic and unstable for young people, particularly when they are placed with strangers and especially when they are [placed in institutions](#).¹⁵⁶

States have a frontline stake in this issue. They and tribal territories are responsible for placing foster children in safe settings. Yet these governments are woefully behind in their ability to leverage data to more effectively manage abuse and neglect cases. States that collect data that measures how foster children and their families are faring over time have the power to transform the experience of foster care for children. This data can be used to redesign foster care technology systems to implement best-practice policies that lead to better outcomes. Examples include simplifying qualification processes and prioritizing kinship connections — i.e., placing children with relatives or close family friends. Some state data can also be used for prevention, with the goal of keeping children from entering foster care in the first place.

Leveraging data and technology to improve outcomes can also save taxpayer dollars. When states make better foster care placements, they reduce the high cost of moving a child from one caregiver to another. Federal reimbursements for placing children in group homes or institutions — often a last resort — are also lower than they are for finding families the children could live with. Note that while making a good match up front is crucial, wraparound services like therapy or training to help maintain placement when necessary are also important. Strong data and systems can help states provide the right services and the right time for families and children.

As states look to the first 200 days of 2023, this is a critical moment to take advantage of federal reimbursement available for foster care and other child welfare programs. They can maximize matching federal funds by leveraging the government's new Comprehensive Child

¹⁵⁶ <https://www.acf.hhs.gov/sites/default/files/documents/cb/afcarsreport28.pdf>

Welfare Information System (CCWIS) guidelines to update their technology systems. The guidelines reward states that implement best-practice policies and streamline the operational process with more generous federal aid.

States can also increase their reimbursement by leveraging new federal dollars to improve their foster parent licensing processes, especially for caregivers who are relatives or close family friends, as part of these IT upgrades. To be successful, states should make sure that their planned technology improvements will actually provide the savings and enhanced productivity they desperately need.

SUMMARY OF OPPORTUNITIES

This memo lays out meaningful actions states can take in the first 200 days of 2023 to make significant improvements in their state's child welfare programs:

Make sure technology and policy improvements focus on children and families

Focusing IT system upgrades on the concrete needs of children and families will yield the strongest results. This means making the state's child welfare technology simple and intuitive to use. To do this, states need to bring the voice of system users into their planning process and understand where the pain points are. Best practices include creating advisory councils of parents and children, letting foster youth help redesign programs and hiring officials who will prioritize the people being served.

Fix burdensome rules and processes while improving technology

States that upgrade their technology at the same time they fix problems in their underlying child welfare programs are more successful in building systems that work for the people who use them. By addressing key bottlenecks in their foster care processes, such as requiring foster families to register their pets or provide tuberculosis test results from grandparents, states can improve the experience for children. They can also increase the number of quality caregivers they have and save money on program administration.

Use data to improve program administration and how well children are served

The need for high-quality, accessible data to bolster child welfare programs cannot be overstated. From understanding how children are faring to the help that caregivers need, data is a powerful tool for decision-making. In 2023, states can improve their data

management to measure how well programs are working, support children leaving foster care and expand resources.

Prioritize incremental improvements to child welfare systems

The technology used by states' child welfare programs has an outsized impact on how children — and those who care for them — experience the foster care system. By leveraging proven approaches to make incremental improvements to underlying technology systems, states can make meaningful improvements to the experience of families and children, while reducing the risk of technology projects gone awry. States can best strengthen their IT systems through steps like breaking their IT projects into small pieces and focusing on low-risk system components first. Avoid immediately tackling programs that have a direct effect on children, like child abuse hotlines, which if upgraded poorly could jeopardize children if reports of mistreatment end up falling through the cracks.

CHILD WELFARE

OVERVIEW

Nearly a half a million children live in foster care in the United States. Foster care is a temporary living arrangement made when a child's family is experiencing a crisis or is considered unable to safely care for the children, usually due to neglect or abuse. Around one in 17 children under age 18 has lived this way, staying with relatives or close family friends, unrelated foster families, or in group homes or institutions. Foster care is often traumatic and unstable for young people, particularly when they are placed with strangers and especially when they are [placed in institutions](#).¹⁵⁷

States have a frontline stake in this issue. They and tribal territories are responsible for placing foster children in safe settings. Yet these governments are woefully behind in their ability to leverage data to more effectively manage abuse and neglect cases. States that collect data that measures how foster children and their families are faring over time have the power to transform the experience of foster care for children. This data can be used to redesign foster care technology systems to implement best-practice policies that lead to better outcomes. Examples include simplifying qualification processes and prioritizing kinship connections — i.e., placing children with relatives or close family friends. Some state data can also be used for prevention, with the goal of keeping children from entering foster care in the first place.

An effective child welfare system can save money in many ways. Every time a child moves to a different foster caregiver, it takes at least 25 hours for staff to process the paperwork.¹⁵⁸ A state must pay significantly higher fees to overnight workers and to move a child to a temporary lodging every night while awaiting a longer-term placement. The Family First Prevention Services Act sharply limits federal reimbursement when children are placed in group homes or institutions, making these last resorts even more expensive to states. Finding a good match for care upfront, improving how states find relatives or close family friends, using data to better recruit foster parents, and providing services like therapy or additional training for foster families are much better for children's outcomes *and* much cheaper for taxpayers.

¹⁵⁷ <https://www.acf.hhs.gov/sites/default/files/documents/cb/afcarsreport28.pdf>

¹⁵⁸ <https://cdss.ca.gov/inforesources/guides>

FEDERAL DOLLARS CREATE A TIMELY OPPORTUNITY FOR SUCCESS OR FAILURE

Now is an important time for states to get all the federal reimbursements they are entitled to for foster care and other child welfare programs. Title IV-E of the Social Security Act is the largest stream of federal funding for child welfare. States have a May 2023 deadline for submitting information on their foster care programs to the new federal Adoption and Foster Care Analysis and Reporting System (AFCARS), which the government uses to determine how much Title IV-E aid states will receive. States that miss the deadline or fail to report key information on children risk missing out on significant federal payments.

States can maximize matching federal funds by leveraging the government's new Comprehensive Child Welfare Information System (CCWIS) guidelines to update their technology systems. The guidelines reward states that implement best-practice policies and streamline the operational process with more generous federal aid. To be successful, states should make sure that their planned technology improvements will actually provide the savings and enhanced productivity they desperately need.

States can also increase their reimbursement by leveraging new federal dollars to improve their foster parent licensing processes as part of these IT upgrades. In a federal [Notice of Proposed Rulemaking](#) published in the fall of 2021, the government said it plans to update how states can qualify for federal reimbursement for foster caregivers who are relatives or close friends — such as teachers or neighbors — of the child's family. This can have a huge impact on how much money states pay these caregivers — whom most states currently do not pay at all — and whether states could get federal reimbursement for those payments. Simplifying the approval process for these caregivers and paying them for the care they provide is not only beneficial to children who need a stable home, but will reduce administrative burden on state workers. State leaders will likely need to make decisions about this new guidance in the first 200 days of 2023, and they will want to be ready to take advantage of it.

CHILD WELFARE

KEY TECHNOLOGY OPPORTUNITIES FOR THE FIRST 200 DAYS OF 2023

Below are meaningful steps that state leaders can take at the beginning of 2023 to improve child welfare systems and improve the experience for children and families. In the first 200 days:

- » Make sure technology and policy improvements focus on children and families;
- » Fix burdensome rules and processes while improving technology;
- » Use data to improve program administration and how well children are served;
- » Prioritize incremental improvements to child welfare systems.

MAKE SURE TECHNOLOGY AND POLICY IMPROVEMENTS FOCUS ON CHILDREN AND FAMILIES

The most effective technology projects build the voices of system users into every part of planning and development. In the case of child welfare systems, this means asking children, caregivers and their families about what's working and where they get stuck. This information, known as "user research," should provide the foundation for the state's technology and operations roadmap. By making IT system and program improvements at the same time, states can maximize benefit to humans and give child welfare priorities center stage in 2023.

Washington state did this successfully when they redesigned their foster parent licensing process at the same time they updated the parent licensing component of their CCWIS system. This included human-centered improvements like:

- » Making all state forms easier to use;
- » Removing redundant approval steps;
- » Clarifying policy guides;

- » Removing outdated requirements like tuberculosis tests and dog registration.

In 2023, states can gain insights from the families they serve to build better systems and deliver more effective support for children and caregivers in need.

Establish a youth and parent advisory council

States that codesign their systems with the people who use them make better policy decisions and deliver more effective technology. Getting input from foster youth and parents allows the technology a state develops to reach its full potential and avoid costs of having to rebuild after another failed delivery attempt.

One best-practice approach is for officials to establish state and local youth and parent advisory councils with members who have been impacted by the child welfare system. These firsthand experts can help ensure that changes in policies or procedures meet the needs of communities and can point out unintended consequences of proposed changes.

States can gather input from focus groups, roundtable discussions and public opinion surveys. They can also create formal structures that let residents point out roadblocks and help them feel comfortable speaking up. To do this effectively, officials should designate a point of contact within the appropriate state agency and/or create an online portal for written feedback. A state interested in going further could establish a children's ombudsman's office where young people in foster care can report problems that could be investigated by an impartial third party.

Appoint a state director of transition

A state can appoint a director of transition who could play an invaluable role in helping design technology that better serves older youth in a range of ways, from child welfare to employment and economic opportunity.

The time between ages 16 and 26 is a time of transformation and potential as children age into adults. In most states, children age out of foster care at age 18, with the option to remain in extended foster care until their 21st birthday. By investing additional resources to help children at this critical moment in their lives, states can avoid the future societal costs of a transition to adulthood gone awry. It is estimated that the nation could prevent \$4.1 billion in spending for unemployment or incarceration per age group. The value to society of having foster youth grow into skilled workers and successful people cannot be overstated.

Supporting older children in the foster care system can require the resources and coordination of several agencies. Child welfare programs are often used as the doorway to programs they don't control such as aid for housing, child care and disability benefits. A director of transition can help ensure needed coordination among agencies and promote the program integration and data sharing needed to do this effectively. The right candidate for this role will be informed by young people who have been in the foster care system.

Engage youth in efforts to improve the system

Develop a plan for getting meaningful input from young adults about how to change state policies and procedures. This should include clear mechanisms for meeting with young people affected by the child welfare system and letting them know the results of their feedback. Compensate participants for their time.

FIX BURDENSOME RULES AND PROCESSES WHILE IMPROVING TECHNOLOGY

States that upgrade their technology while improving their child welfare programs that underlie it build systems that work better for the people who use them. By eliminating bottlenecks in foster care system processes, like requiring foster families to register their pets, states can increase the number of quality caregivers they have, improve children's experiences and save money on program administration.

Fix the out-of-state child abuse and neglect registry response process

When someone applies to be a foster parent, the federal [Adam Walsh Act](#) requires that their state check the child abuse and neglect registries of other states where that individual has lived in the past five years.

States have different ways to respond to these requests. This can put children at risk and can cause some of the most significant delays in licensing foster parents. In one alarming example, when a state receives no response to its request from another state, it is often interpreted as "no child abuse history," even though it might mean the other state never processed the inquiry. This check can be particularly problematic in geographic areas with lots of cross-state movement, such as in New England and the Washington, D.C., metropolitan area, which includes Maryland and Virginia.

This is a serious yet addressable issue within the first 200 days of 2023. While states could build new or improve existing systems to respond to requests from other states more

effectively, there are also low-lift solutions states can put in place immediately. This includes ensuring that they can receive electronic requests, setting up a secure centralized inbox for inquiries and waiving processing fees for requesting states. [Check this dashboard for a state-by-state comparison](#) of promising practices for administering out-of-state registry checks.

Remove unnecessary foster home licensing requirements before upgrading the IT system

Many states mistakenly believe that the federal government sets foster parent licensing standards. There is only one federal requirement for foster parent licensing standards: a background check of the fostering family, as specified under 42 U.S.C. 671(a)(20)(A-C). A state can have any additional licensing requirements it wants — including additional background check requirements — but these are not federally mandated. As long as states follow their own process, they are eligible for federal reimbursement for roughly half¹⁵⁹ of the foster care maintenance payments (FCMPs) that states make to foster parents to help them cover their costs.

To help relatives and close family friends qualify to foster children and to lower the workload on staff, states can assess whether any of their licensing requirements can be updated or dropped. Many states have outdated rules, like requiring foster parents to have landline telephones or recycle their waste. States that have recently updated their licensing processes have eliminated hundreds of days of processing time.

An administration that wants to understand the licensing requirements the state uses can ask to see a submission to the federal government known as Attachment X. Many states have licensing requirements that are unique to them, so it may be worth reconsidering one if it is used by only one state. For example, Maryland is the only state where [children in foster care cannot sleep in bunk beds](#).

[New America's New Practice Lab's Resource Family Working Group](#) conducts free evaluations of state licensing practices. Conducting such an evaluation before or during the development of a foster parent licensing IT system can make a state's work faster and easier.

Compare how states find children's relatives and family friends, and how engaged they are

Systems for finding a child's relatives and family friends are one area where states can find free, easy-to-implement improvements — a rarity in child welfare. The Child Welfare

¹⁵⁹ Depending on the state's IV-E penetration rate.

Playbook, produced by state, local and private child welfare organization officials, has a [full list of national promising practices](#) that have proven effective. These include using social media to find family and friends, asking children a series of specific questions, and using [genograms](#) and [heart maps](#). However, it's not enough to find these relatives and friends — people seeking to foster a child should be continually engaged in that child's life. Many of these practices could be adopted in the first 200 days.

In early 2023, the Grandfamilies and Kinship Support Network will be [providing implementation guidance](#) for states to adopt more of these promising practices, which can be built into states' technical systems and case management approaches.

Consider exceptions to licensing rules for relatives

Having an expansive yet simple system for granting exceptions to foster care licensing rules for relatives and family friends can make it easier for a state to pay them and receive federal IV-E reimbursement for those payments.

Under current interpretations of federal guidance, states must apply the same licensing requirements to family and close friends as they do to other potential caregivers. This is almost certainly going to change in 2023, per this [Notice of Proposed Rulemaking](#), which will clarify that states can have entirely separate kin and non-kin processes. In the meantime, states can have exceptions to these requirements for relatives and close friends. Many states have discovered they have needlessly restricted themselves by:

- » Not allowing any exceptions;
- » Allowing only a narrow list of exceptions;
- » Using a complex form or process to approve exceptions.

It can be helpful to understand a state's current process for making exceptions, which are also known as waivers or variances. States differ in the flexibility of their process:

- » Oklahoma allows exceptions for any licensing requirement;
- » Maryland and California do not allow any exceptions;
- » Hawaii allows a specific list of exceptions.

One best practice is [Oklahoma's flexible](#) process.

Some states [allow the workers conducting the home study](#) to approve exceptions rather than requiring approval from higher-level officials.¹⁶⁰ The exceptions can be incorporated into the existing home study template instead of requiring a separate form. Rhode Island is a leader in using this flexibility.

Defining these exceptions early and building the ability to make exceptions into IT system upgrades is critical to maximizing kinship support for children in need of a stable and familiar home.

USE DATA TO IMPROVE PROGRAM ADMINISTRATION AND OUTCOMES

Child welfare systems need high-quality, accessible data to run effectively. From understanding where children are located and how they are doing to assessing what support caregivers need, data is a powerful tool for decision-making. In 2023, states can use effective and widely accepted practices in data management to ensure the child welfare system is working effectively.

Use high-quality data to maximize federal reimbursement

Federal data¹⁶¹ on child welfare is an important tool for measuring whether programs are achieving their intended outcomes. This makes it essential for states to collect data that is accurate and timely.

States face a due date of May 15, 2023, for submitting updated information to the new federal Adoption and Foster Care Analysis and Reporting System. The government uses that system's data for many things, including determining a state's IV-E reimbursement for children in foster care. If a child's data is missing or is completed incorrectly, a state will not be reimbursed for that child. Of the fields of data collected, six¹⁶² must be fully completed. States should ensure that they are ready to submit accurate and comprehensive data well in advance of the deadline.

Set key performance indicators to define and measure success

To guide decisions on technology investment, a state should have ambitious key performance indicators — data that lets it measure performance over time. For example, for

¹⁶⁰ <https://www.childwelfareplaybook.com/recommendation/empower-line-level-exceptions>

¹⁶¹ The two other federal data collections are NCANDS (National Child Abuse and Neglect Data System) and the upcoming FFPSA (Family First Prevention Services Act). A third type of data collection, child and family services reviews (CFSRs), is actually a series of key performance indicators and case reviews based on AFCARS and NCANDS data.

¹⁶² These six are: Title IV-E agency; report date; local agency; child record number; child's date of birth; and child's sex.

foster parent licensing, some states measure whether they are licensing at least 80% of relatives and friends seeking to provide foster care within 90 days of when they applied. The national average is around 200 days. State leaders could request updates on the percentage of children in foster care who are placed with relatives and family friends and set tangible goals around it. Ideally, this should be available on a dashboard displaying data in real time. New technology can help achieve this goal, but other process improvements will probably be necessary to achieve it.

Promote data sharing among agencies to reduce homelessness among older youth

Since 2020, all states can get federal housing choice vouchers — which help lower-earning people afford rent — to help prevent homelessness among youth who are becoming too old for foster care. These are called Foster Youth to Independence vouchers. Despite high rates of homelessness among youth aging out of foster care, few states have drawn down these vouchers, sometimes because officials didn't know about them.

To help more youth leaving foster care get these vouchers and find housing, state officials could enable child welfare agencies and public housing authorities to communicate better and share data proactively so these opportunities won't fall through bureaucratic cracks.

States can also improve how they use data to identify older youth leaving foster care who are most at risk of becoming homeless. As a state improves its data system, it can create early warning systems to identify older youth who are not connected with family or close friends and have significant physical and behavioral health needs.

States can also take steps to protect older youth from homelessness during widespread emergencies. During the pandemic, many states issued executive orders that let children in foster care remain there for the duration of the pandemic.¹⁶³ This protection can help prevent children from aging out of care during any emergency a state has declared. States could also allow former foster youth under certain ages to reenter care during an emergency.

[Washington, D.C.'s statute](#) is one model.

Use data to serve older youth and connect them with family or close friends

Forty-eight states, along with Puerto Rico and the District of Columbia, have extended their foster care programs beyond the typical age 18 to age 21, with some offering some services up to age 23. Older youth have unique needs and can benefit from case management that

¹⁶³ <https://www.cwla.org/older-youth-pandemic-relief-extension-of-foster-care-services/>

focuses on that. Services a state provides for older youths can be included when it designs new case management programs under federal guidelines.

[The best way to avoid youth aging out of foster care](#) without anyone reliable to move in with is to connect them with relatives or close family friends. Child welfare agencies can be effective at finding care arrangements for children in foster care but as they age, they are often not provided with these critical connection services.

To change this, states could:

- » Assess existing programs that help older youth find a permanent place to live and double down on what works. Examples include efforts to connect these youth with relatives or close family friends, or to provide secure housing with a mentoring program;
- » Make sure these supports are provided to young people until they age out of the child welfare system;
- » Consider incentivizing staff to connect older youth with family and close friends;
- » Prioritize ways to find relatives and close family friends and the state's plans for keeping youth connected to their supportive adults as the state updates its child welfare IT system under federal guidelines.

PRIORITIZE INCREMENTAL IMPROVEMENTS TO CHILD WELFARE SYSTEMS

In the first 200 days of 2023, states can make technology improvements that will strengthen their child welfare programs while also reducing risks.

Improve the child welfare IT system step by step

More than 45 states have committed to upgrade their child welfare systems under new federal guidelines. That federal guidance has requirements that are less restrictive than the government's older Statewide Automated Child Welfare Information Systems. New rules emphasize data quality and gradual improvements to IT systems that favor smaller upgrades to individual components, rather than replacing an entire system all at once.

Instead of building one big system at once, a step-by-step approach lets a state improve parts of a new IT system, ensuring that they work well and deliver value, before moving onto another. Not only does this improve the state's chances of delivering successfully, but it reduces the risk of disrupting services if an upgrade goes wrong. The federal government has

encouraged states to use these new IT guidelines by offering matching grants for those who do.

In the first 200 days of 2023, state officials can check on how their CCWIS system upgrade is going and ask what its goals are, whether a product manager has been assigned to oversee it and how input from foster families and other users will be incorporated in its development. This is a critical moment for officials to make sure that the project centers the needs of the children and families served and that it is set up to receive maximum federal reimbursement.

Award incremental contracts that pay for system upgrades in stages

Instead of awarding one huge, multiyear contract to a single contractor, several states have reduced the risk of their IT system improvements by paying vendors incrementally as each stage of the project is successfully completed. This can mean awarding one contract for each part of the project, or issuing an individual task order for each part of the work under a single contract. If the first contract goes well, the state can award the next one to that vendor. If not, the state can pursue a different contractor. This incentivizes vendor performance and reduces the risk that the state will end up with products that do not work as expected. [New Jersey has an example](#) of such an agile procurement. See Michigan's list of CCWIS modules in Other Resources.

Focus on lower-risk modules first

When breaking an IT upgrade up into pieces, it is not necessary to work in the chronological order of how the child welfare system works. To reduce risk, states can focus on improvements in lower-risk parts of the IT system first. Foster parent licensing has been a consistent successful first step for states modernizing their systems.

For example, states that focus on upgrading their child abuse hotlines first could be putting children in danger if the technology fails. States receive reports of mistreatment from their child abuse hotlines before investigations occur. If a new IT system has a flaw that results in a report of child abuse being lost, a child could lose their life.

On the other hand, if a new system loses a foster parent application, that person will probably resubmit their application. The first stage of an IT upgrade often encounters more problems than later pieces of the project, by which time some early kinks have been resolved.

Learn from the experience of other states

Officials can look to other states that have already modernized their systems for examples of what works. [Colorado credits the following steps](#) with successfully turning around its

struggling effort to adhere to new federal guidelines for updating its child welfare technology:

- » **Assign a product manager.** The product manager is responsible for getting the system to achieve its goals. They push for changes in policy and practices that drive toward a state's child welfare goals and that harness IT improvements to pursue those goals. This makes the system work better for everyone.
- » **Release code often.** When a technological improvement is completed and the new system is in public use, a state needs to quickly fix bugs and adapt to new requirements. It is important for child welfare IT systems to be easily updated because lawsuits often mean a state must abruptly make significant changes in its child welfare programs. Colorado pushes upgrades into its child welfare IT systems every two to four weeks.
- » **Dedicate resources to updating software infrastructure.** Spending to keep underlying infrastructure up to date protects systems against security flaws and other risks. One recommended guideline is to consistently dedicate at least 10% of work on a project to infrastructure.
- » **Use operational, not capital, funding to upgrade technology.** A successful IT upgrade to meet federal standards will always have new features to develop, processes to continually improve and infrastructure to upgrade. It will never be finished. States like Colorado provide ongoing operational funding for a new system, instead of a large amount upfront to complete the entire project, followed by small amounts of maintenance funding.

DEVELOP AND TEST CHANGES WITH END USERS

It is important to include end users — both employees and the children and families served by the child welfare system — in designing and testing how well the improved system works. When Washington state tested its foster parent application form with prospective foster parents, officials were surprised to learn that many people who had only taken high school Spanish checked the “Spanish” box under “What languages do you speak?” This was routine form-filling behavior, not deliberate lying. When the state tried a new question — “In what language(s) can you fluently communicate with a child?” — the number of Spanish speakers dropped off. This simple language tweak helped avoid the dangerous scenario of placing a child in a home where they could not communicate.

CHILD WELFARE

BEYOND THE FIRST 200 DAYS

The first 200 days of 2023 can set the stage for a child welfare system that prevents kids from entering foster care in the first place, and a workforce that can help children and families thrive. Best practices to consider include:

ENGAGE IN DATA-DRIVEN FOSTER HOME RECRUITMENT

Seven states have signed up for a data-driven test project for recruiting foster homes, which is being run by New America's Resource Family Working Group and the University of Chicago's Center for Radical Innovation for Social Change. When it is completed, states will have a data-rich, continually updated list of the specific types of foster parents that their child welfare systems need, sorted by factors like languages spoken, bedroom capacity and school district. The project will also test different ways of recruiting these types of families.

One of the project's goals is to make the underlying data model, technology and recruitment strategies available to states for free. States can request an update on the project or seek to participate by [contacting the Resource Family Working Group](#).

INVEST IN WAYS TO PREVENT CHILDREN FROM ENTERING FOSTER CARE

Over half of children in foster care are there because of neglect, which is often a proxy for poverty. [According to data](#), reports from some people who encounter children from outside the child welfare system, such as teachers and doctors, are often unsubstantiated. Such reports add an additional burden to overworked child abuse hotline workers, delays that could keep children who are in actual danger from getting timely assistance. States should consider reworking their reporting process and requiring new training for people who are mandated to report safety concerns by law, like teachers, therapists and doctors.

USE STEP-BY-STEP IT SYSTEM IMPROVEMENTS WITH DATA THAT MEASURES PERFORMANCE

A successful IT upgrade in child welfare will improve how children and families are served, increase worker productivity and satisfaction, and maximize a state's federal funding. Doing this requires continual support for a gradual approach in which every improvement is linked to data that measures how well the upgrades are working. The entire agency will need to work together to revamp forms, policies and possibly state laws in addition to technology itself.

It's tempting to successfully upgrade one part of a system and then fall back into a multiyear planning process that leads to one huge procurement purchase for everything that is left. Support from top officials can keep a state focused on piece-by-piece improvements that are driven by performance.

KEEP TRACK OF EVOLVING FEDERAL RULES FOR LICENSING RELATIVES FOR FOSTER CARE

The federal government may publish proposed guidance in 2023 for states to create separate licensing and approval processes for relatives and friends providing foster care, per the 2021 [Notice of Proposed Rulemaking](#). States vary in calling this process approval or licensing. States should watch for this guidance and will have 90 days once it is issued to offer feedback.

States can maximize their federal reimbursements for foster care costs by elevating their existing emergency approval process as their kinship approval process. This is important because it will allow states to get federal reimbursements on day one of placement, rather than waiting for some longer, internal processes — like home studies — to be completed.¹⁶⁴ Most home studies can take more than 200 days to complete.

Expanding a state's definition of who qualifies to be a relative or close friend can be important. Potential caregivers who qualify as "kin" in a state can benefit from this streamlined approval process, saving states money and staff time for licensing and approving homes while increasing permanency for children.

¹⁶⁴ This emergency process usually consists of a background check and a safety walkthrough of the home to provide missing items like car seats. If a state has an "unlicensed kinship caregiver" process such as a home study or reference check, it can continue doing those steps internally — but will miss out on IV-E reimbursement from the federal government if it submits that longer process as its relative licensing/approval process.

Once the new proposed rule is announced, states can [contact New America's New Practice Lab's Resource Family Working Group](#) for an update on what other states are submitting as their new licensing processes for kin.

CONTINUE TO IMPROVE HOW RELATIVES AND FRIENDS ARE FOUND TO PROVIDE CARE

For states that want to increase placement of children with relatives and friends, processes for locating them can be improved at very low cost. States can measure their rates of placing children with them, adopt [all national promising practices for this](#) and encourage experimental programs to improve how it's done. States can learn about the latest developments through the [Grandfamilies and Kinship Support Network](#), which runs the federal technical assistance center on kinship.

IMPROVE THE FOSTER PARENT LICENSING PROCESS

Streamlining the foster parent licensing process is a low-risk, high-reward area for states to increase their supply of available foster homes. It can also decrease demands on staff and the state's costs for enforcing superfluous requirements.

States like Washington that recently completed an overall redesign of their licensing process under federal guidelines were able to remove hundreds of steps and many months of processing time. Washington completed this redesign in one year. States can request a free evaluation of their licensing process and how it compares to other states from [New America's New Practice Lab's Resource Family Working Group](#), which helped coordinate Washington's process.

FOCUS ON WORKFORCE DEVELOPMENT

Workforce recruitment and retention is becoming a critical issue for many child welfare systems. Including child welfare and IT staff in job interviews and trying out test projects to attract talented workers and retain existing ones may help identify opportunities for building a stronger workforce.

States should push to hire people who have had personal experience with every level of the child welfare system. This can help incorporate their perspectives into decisions a state

makes. States should support peer-led services, in which people who were served by the child welfare system can help others navigate its challenges. These programs have been shown to be effective and cost-efficient.

Responsibly engaging with communities with personal experience in child welfare programs requires a commitment to training staff at all levels, including IT. This will help staff learn to consider the input provided by impacted communities in a responsive way. Effectively doing this requires coaching and feedback. Many agencies have created learning communities to help staff overcome bias and embrace working with communities.

CHILD WELFARE

OTHER RESOURCES

WHAT TO READ?

- » [Federal Guidance for Child Welfare IT Systems](#)
- » [From Red to Green: Transforming Government Technology in 22 Months](#) by Colorado's CCWIS management team

LIST OF COMPREHENSIVE CHILD WELFARE INFORMATION SYSTEM (CCWIS) MODULES

This list of modules is from Michigan's planning efforts. Individual states may decide on a different set of modules, but this can serve as a basis for brainstorming.

- Intake
 - Reporting abuse and neglect
 - Screening
 - Investigations
- Licensing
 - Initial licensure of resource families
 - Kin
 - Non-kin
 - Initial licensure of group homes
 - License renewals
 - Monitoring and complaints

- Resource family recruiting, upskilling and retention
- Placement of children with families or group homes
 - Matching
 - Stepping down to least restrictive settings
 - Finding family members
- Courts
 - Scheduling hearings and other court matters
 - Payments handled by courts
 - Report generation and transmission
- Case management
 - Planning [toward outcomes]
 - Assessments of families and children
 - Monitoring
 - Task management
 - Tracking contacts
 - Longitudinal genograms
 - Adoptions
 - Independent living plans for children aging out of care
 - Compliance
- Resource management (e.g., daycare, inventory, therapists)
 - Inventory
 - Utilization
 - Gap analysis (what resources do we need?)
 - Measuring effectiveness
- Child welfare eligibility
- Financial management

EDUCATION DATA SYSTEMS

EXECUTIVE SUMMARY

Coast-to-coast school closures during the COVID-19 pandemic caused unprecedented disruption to the nation's education system. As states rebound from the resulting unfinished learning, their use of technology and data will be vital in recovering and building stronger school systems to help students accelerate academically.

COVID-19 relief bills provided more than \$263B in education-oriented funds. While these funds helped support immediate educational needs during the pandemic, they are also an opportunity for schools to strengthen their operations into the future. Data systems can help states make better decisions and prioritize investments effectively. However, only 18 states have full [P20W longitudinal data systems](#) that connect data in PreK to K12 to post secondary to workforce.

This memo lays out actions states can take in the first 200 days of 2023 to build the processes and acquire the talent they will need to deliver 21st-century education services. Building this capacity from day one will help states gain momentum and deliver quick wins that make a meaningful difference for students, teachers, staff, local administrators and parents.

SUMMARY OF OPPORTUNITIES

Invest in talent and processes to strengthen state data systems

State longitudinal data systems are intended to enhance the ability of state leaders to efficiently and accurately manage, analyze and use education data. These data systems can help states, districts, schools, educators and other stakeholders improve student learning and outcomes, evaluate program effectiveness, support accountability systems, and target resources and interventions. To modernize these systems, states need to appoint qualified technical leaders and teams. Specifically, best practices for government organizations include appointing modern technical leaders to statewide chief data officer and chief information officer positions; appointing and empowering a chief privacy officer for education and workforce to protect student and worker data; and building a centralized technical team to

develop and administer state longitudinal data systems (SLDS). While the market for technical talent is competitive, states can attract expertise by emphasizing the rewards of public service and the state's commitment to building diverse technical teams.

Protect students and workers with strong data governance

Safeguarding sensitive student data is a priority for best in class states. To do this, states need policies and security measures in place to protect sensitive data. States also need school leaders who can ensure they are in compliance with state and federal privacy laws.

States are also confronting increasing cybersecurity threats. Schools in particular have been targets for ransomware attacks that undermine public trust in the ability of educational systems to protect sensitive data. States can develop statewide cybersecurity strategies by moving quickly to hire and support qualified technical talent.

In 2023, states can take decisive action to protect student data by investing in cybersecurity and data privacy compliance efforts, appointing a chief privacy officer, engaging state employees at all levels in cybersecurity and distributing guidance to local education agencies and other organizations.

Increase capacity through partnerships, leadership and flexible contracting

States can build their capacity to develop and maintain educational data systems and privacy protections using several strategies:

- » Seeking support from outside organizations and nonprofits to find technical talent or build key systems in the short-term;
- » [Bolstering technical teams](#) by filling key state positions like state's chief information officer, chief data officer and chief privacy officer;
- » Renegotiating vendor contracts and engaging in nontraditional procurement practices to meet evolving needs.

EDUCATION DATA SYSTEMS

OVERVIEW

COVID-19 brought unprecedented disruption to the American K-12 educational system, as nearly 93% of school-age children shifted to some form of remote learning when schools were closed.¹⁶⁵ Many children lacked the ability to consistently participate in school as communities had different levels of broadband coverage and access to at-home computers.¹⁶⁶ School districts and states worked to manage the abrupt transition from classrooms to homes, however student academic outcomes still suffered. Students in fourth and eighth grade saw unprecedented declines in math and reading achievement between 2019 and 2022, according to the results of the [National Assessment of Educational Progress \(NAEP\)](#).

States can begin to understand these gaps with effective state longitudinal data systems (SLDS). SLDS, also known as P-20W (information systems that collect data from pre-K to K12 to postsecondary education to the workforce), combine data from government agencies to help states, districts, schools, educators and other stakeholders improve student learning and outcomes, evaluate program effectiveness, support accountability systems, and target resources and interventions more effectively and equitably.¹⁶⁷ [Unfortunately, most systems are not integrated across preK, K12, postsecondary, and the workforce limiting their ability to provide information to leaders.](#)

At the same time states are building systems to better understand student data, [cyberattacks have become more frequent](#), threatening to disrupt school operations and learning. Education leaders also face challenges with the growing use of systems that leverage artificial intelligence to personalize learning and analyze student performance trends. But unless carefully managed, they can amplify the existing bias within datasets. And the continuous monitoring of student data raises difficult questions around very broad surveillance that could harm students.¹⁶⁸

¹⁶⁵ <https://www.census.gov/library/stories/2020/08/schooling-during-the-covid-19-pandemic.html>

¹⁶⁶ <https://www.fcc.gov/about-fcc/fcc-initiatives/homework-gap-and-connectivity-divide>

¹⁶⁷ <https://dataqualitycampaign.org/resource/education-data-101-2021/>

¹⁶⁸ <https://cdt.org/insights/report-hidden-harms-the-misleading-promise-of-monitoring-students-online/>

State leaders can manage these challenges by establishing data governance strategies with transparent processes that guide what data is collected, how it is used, the conditions under which it is shared, and how it is protected. States should consider investing in robust data privacy practices, developing guidance for local education agencies, and discussing the value of data with local educators, parents and students.

To lead these systems, states need to appoint modern technical leaders and teams. Government organizations ready to build best in class state longitudinal data systems will seriously consider appointing modern technical leaders to statewide chief data officer and chief information officer positions; appointing and empowering a chief privacy officer for education and workforce to protect student and worker data; and building a centralized technical team to develop and administer state longitudinal data systems. These roles enable agency leaders to build systems to hold the data, support data gathering and data integration efforts across government, and build teams. States can follow key best practices in data and governance to improve longitudinal data systems and build technical capacity while safeguarding student and workforce data.

FEDERAL DOLLARS PRESENT A TIMELY OPPORTUNITY FOR SUCCESS OR FAILURE

The three largest COVID-19 relief stimulus bills provided more than \$263 billion in education-oriented pandemic relief funds to help states and schools with their recovery efforts. These funds include the Elementary and Secondary School Emergency Relief Fund, the Governor's Education Emergency Relief Fund, Emergency Assistance to Non-Public Schools and the Higher Education Emergency Relief Fund.

There is an enormous amount of flexibility in the allowable uses of these funds. They can support strategies to address a wide [range of needs including](#):

- » Addressing students' social, emotional, mental health and academic needs;
- » Continuing to strengthen digital equity and access;
- » Implementing rigorous, high-quality curricula;
- » Hiring additional educators and school staff;
- » Sustaining and expanding existing summer learning and enrichment programming or early childhood education programs;
- » Creating or improving existing data systems and collection to identify and respond in a timely manner to student needs in light of the pandemic;

- » Tutoring or other academic acceleration strategies.

Governors, state school chiefs and superintendents face several fiscal cliffs by which these funds must be obligated and spent. A number of [estimates](#) have raised concerns that the slow pace of spending may lead to some funds being left unused. [A McKinsey analysis estimated](#) that by the end of the 2021–22 school year, districts spent less than a quarter of the total funding available. Based on that pace, nearly \$20 billion could remain unused by school districts.

The American Rescue Plan also provides \$350 billion through the [Coronavirus State and Local Fiscal Recovery Fund](#), which provides unprecedented flexible funding to help state and local governments respond to their communities' public health challenges and economic needs created by the pandemic. State leaders have significant discretion in how to best deploy the funds to stabilize revenue, address budget shortfalls and address negative impacts of COVID-19. Among the uses of these funds are [modernizing state data systems](#) and technology infrastructure to improve access to and the user experience of government technology systems. These funds also include technology improvements to increase public access and delivery of government programs and services.

The Infrastructure Investment and Jobs Act (IIJA) also provides more than \$65 billion to close the digital divide including:

- » \$42.5 billion for the Broadband Equity, Access and Deployment (BEAD) Program, a new grant program providing formula funding to states for broadband deployment. Governors will need to develop plans in 2023 to prioritize projects and communities, including how to make broadband more affordable for low-income families;
- » \$2 billion for the Tribal Broadband Connectivity Program, an existing program to enable broadband access in tribal communities;
- » \$1 billion for middle-mile broadband, support for infrastructure that does not connect to an end user;
- » \$2.75 billion for the Digital Equity Act, which provides grants to states and nonprofit entities for digital inclusion;
- » \$14.2 billion for the Affordable Connectivity Program, which provides monthly subsidies to support low-income individuals with affordable broadband services.

EDUCATION DATA SYSTEMS

KEY TECHNOLOGY OPPORTUNITIES FOR THE FIRST 200 DAYS OF 2023

Below are meaningful steps that state leaders can take at the beginning of 2023 to strengthen the technical foundation of their education and workforce systems. In the first 200 days:

1. Invest in talent and processes to modernize state longitudinal data systems;
2. Protect students and workers with strong data governance;
3. Increase technical capacity via hiring, contracting and partnerships with outside organizations.

INVEST IN TALENT AND PROCESSES TO MODERNIZE LONG-TERM DATA SYSTEMS

Longitudinal data systems compile data on students and workers over multiple years and can measure performance and surface problems. States that lead the country in understanding and using educational data build technical teams with deep data experience and provide the resources needed to succeed. States that invest in technical capacity in the first 200 days are more likely to succeed as they will have a chance to tackle education challenges over time.

Coordinating data across government agencies is a challenge. To be effective, states can:

- » Set tangible goals for their data systems. Data should always be used to inform answers to key questions about delivering services.
- » Continually improve their longitudinal data system. Focus on small wins over time, gradually bolstering how they improve student performance.
- » Accept that developing a robust longitudinal data system takes time and will not solve all immediate concerns states want to address.

- » Make data available to stakeholders such as nonprofits and universities to support educational research.

For additional recommendations for improving longitudinal data systems, states can consult the [Data Quality Campaign](#) and [Knowledgeworks](#).

In 2023, states can act early to build processes that strengthen their data systems if they:

Fill key leadership roles with modern technical leaders

States that invest in technical capacity in the first 200 days will have a chance to tackle education challenges over time. Specifically, state leaders can fill key technical leadership positions, including:

- » **Chief information officer**, the highest-ranking technical decision-maker for a state or agency;
- » **Chief privacy officer**, an executive who ensures privacy consideration in developing policy, privacy laws and rule compliance, and appropriate risk management;
- » **Chief information security officer**, overseer of all aspects of cybersecurity, who typically advises the state CIO and executive leadership on cybersecurity risk;
- » **Chief data officer**, the technical executive charged with driving data strategy, managing data assets and building access to accurate and secure data.

More information on how to recruit and retain top leaders effectively can be found in the Talent Memo.

Create a high-quality committee of state officials to establish a data governance strategy

A data governance committee can encourage collaboration among agencies and encourage them to use consistent data access and collection processes. Typical members include leaders of education and workforce departments, though states can include any organization that contributes to this cradle-to-career data pipeline.

Members of these committees can determine the state's data priorities and the data system the state will rely upon. A consensus on data priorities is the first step in moving to a system that produces usable data faster.

When establishing a data governance committee, the Data Quality Campaign, a nonprofit focused on education data policy and use, urges states to:¹⁶⁹

- » Develop a clear vision for the committee's work;
- » Define the committee's roles and responsibilities;
- » Determine where the committee will make data decisions;
- » Define committee processes for communication and [compliance with federal longitudinal data grant requirements](#);
- » Ensure the committee's sustainability by providing money, staff and planning.

Align the goals of data governance committee and stakeholders

Relevant data answers questions, addresses challenges and helps achieve goals. States can make their data systems more transparent and useful by gaining agreement among stakeholders like agency leaders on what data their systems should prioritize.

For example, the [Education-to-Workforce Indicator Framework](#) analyzes guidance from data experts who specialize in education and workforce and from state data experts who manage SLDS across the country.¹⁷⁰ States can use this framework to:

- » Identify important student and workforce data questions;
- » Develop ways to measure student outcomes;
- » Gather data to evaluate educational and financially-based disparities;
- » Collect evidence-based practices on how to use the data to inform key outcomes;
- » Incorporate data equity principles so that communities of students with the most need receive the right help.

Build a centralized team to develop and administer the data

Instead of multiple technical teams across numerous departments carrying out this work, states can build a technical team located with a singular, centralized office to manage the P-20W system and carry out the governance committee's goals. As of December 2021, 28 states have centralized their longitudinal data teams.¹⁷¹ Without such teams, many states

¹⁶⁹ <https://dataqualitycampaign.org/resource/roadmap-cross-agency-data-governance/>

¹⁷⁰ <https://www.mathematica.org/publications/education-to-workforce-indicator-framework-using-data-to-promote-equity-and-economic-security>

¹⁷¹ <https://reports.ecs.org/comparisons/statewide-longitudinal-data-systems-2021-04>

must rely on staff from different agencies to share data — or have no clear data governance structure at all.

Working closely with the data governance committee, a centralized technical team with data, technology and product management expertise can:

- » Improve data collection from different agencies;
- » Collect and manage disparate datasets and data requests;
- » Streamline lines of accountability on data projects that include more than one agency.

Kentucky's Center for Statistics (KYSTATS) was established in 2012 to run the Kentucky Longitudinal Data System. KYSTATS brought together leaders and datasets from the Department of Education, Council on Postsecondary Education, Educational Professional Standards Board, Higher Education Assistance Authority and the state's Education and Workforce Development Cabinet. KYSTATS has also published reports to drive decision-making and has built one of the first K-12-to-career interactive, online portals in the country. Parents and students can access these portals to learn about educational and career pathways.¹⁷² Maryland and Washington state have also established centralized technical teams with promising results.¹⁷³

Prioritize transparency and accessibility

For a state's longitudinal data system to be effective, it must be accessible. Administrators making policy decisions need user-friendly access to data that answers the questions they have when evaluating policy options and decisions. Researchers should also have appropriate access to help them answer policymakers' questions, evaluate how well school and workforce programs are working and make recommendations. Prioritizing transparency and access takes this a step further, helping students, parents and community organizations make education decisions.

To craft opportunities for seamless, privacy-protected access and analysis of data sets, states could identify key target audiences, like individual students or school district administrators, and develop profiles on who they are, what they value and how these data systems can support their goals.¹⁷⁴

¹⁷² <https://kcews.ky.gov/>

¹⁷³ <https://dataqualitycampaign.org/resource/art-of-the-possible-data-governance-lessons-learned/>

¹⁷⁴ <https://statedata.wested.org/topics/purpose-and-vision/>

PROTECT STUDENTS AND WORKERS WITH STRONG DATA GOVERNANCE

State agencies often have sensitive data about students. This requires better methods for safeguarding and protecting that data.^{175, 176} Student data privacy is governed through a series of state and federal laws. They include the Family Educational Rights and Privacy Act (FERPA) and the Children's Online Privacy Protection Act (COPPA). In addition, since 2014, more than 45 states and Washington, D.C. enacted new student data privacy laws that provide additional data-sharing and privacy frameworks. State leaders need to ensure their systems comply with these laws as well as help build the capacity of school systems to ensure privacy protections are central throughout all of their systems and processes. In the first 200 days of 2023, states can take action to strengthen the protection of student data and associated systems.

Invest in cybersecurity and data privacy compliance efforts

State education and workforce data systems contain valuable data, and ransomware attacks have been particularly common in K-12 schools.¹⁷⁷ In malware attacks, files and systems are rendered unusable until the institution pays a ransom.¹⁷⁸ States must invest in technical talent and tools to protect their systems. This includes appointing a state chief information security officer to coordinate cybersecurity. [Tech Talent for 21st Century Government](#) says that “CISOs oversee agency cybersecurity, including training others in information security and ensuring that the agency has an effective information security program, according to the Federal Information Security Management Act of 2014. As leaders in charge of cybersecurity, each CISO should have modern technical expertise and experience.”¹⁷⁹

Appoint a chief privacy officer

The role of chief privacy officer is a relatively new position, especially for state education and workforce agencies. From 2019 to 2022, the number of states that adopted a statewide privacy officer or similar position [grew from 12 to 21](#). But the limited scope of their responsibilities, along with a lack of sustained funding, means states still have work to do. Whether a CPO is statewide or in an agency, a privacy officer needs authority to build a team of experts to fully implement data privacy. Responsibilities of an effective privacy officer include:

¹⁷⁵ <https://er.educause.edu/articles/2020/8/the-post-pandemic-evolution-of-student-data-privacy#fn2>

¹⁷⁶ <https://www.washingtonpost.com/technology/2022/05/24/remote-school-app-tracking-privacy/>

¹⁷⁷ <https://www.cisa.gov/uscert/ncas/alerts/aa22-249a>

¹⁷⁸ <https://www.cisa.gov/stopransomware>

¹⁷⁹ <https://ourpublicservice.org/wp-content/uploads/2020/04/Tech-Talent-for-21st-Century-Government.pdf> p11

- » Developing aggressive strategies for agencies to safeguard data;
- » Establishing cultures of respect and transparency for user data;
- » Coordinating among key actors, from school district administrators to private sector privacy advocates.

[Utah offers one example for how this can be done.](#) In 2015, the Utah legislature asked the State Board of Education in HB 68 to craft proposals to update student privacy laws. It provided funding for a privacy officer and developed comprehensive privacy plans tailored to Utah's needs.

The education board recommended that Utah:

1. Develop a data governance plan for the Board of Education and each *local education agency*;
2. Create data management roles at each local education agency specifically to safeguard personally identifiable information;
3. Provide money for student privacy efforts.¹⁸⁰

Utah now has a dedicated student data privacy team that works closely with local education agencies to provide guidance and assistance.¹⁸¹

States that cannot secure funding for a dedicated privacy office could still have officials from different agencies develop a statewide data privacy plan. The team would include officials who handle cybersecurity, data privacy and legal compliance. See the Other Resources for a list of resources and organizations that states can use.

Engage state employees at all levels in cybersecurity

Cybersecurity requires vigilance at all levels of government. Data breaches can occur during the most mundane activities — clicking on a suspicious link or downloading a file from an email.¹⁸² States need to engage all staff, from teachers to executive-level administrators, in exercises and compliance efforts that teach people to be cautious.

New York's Office of Emergency Management offers a recent example. It piloted a new "data fire drill" program to help government teams review actions to take in emergencies.¹⁸³ The

¹⁸⁰ <https://studentprivacycompass.org/resource/utah-case-study/>

¹⁸¹ <https://schools.utah.gov/studentdataprivacy>

¹⁸² <https://www.linkedin.com/pulse/8-most-common-causes-data-breach-matthew-coker/>

¹⁸³ <https://beeckcenter.georgetown.edu/we-have-fire-drills-why-governments-need-to-run-data-drills-as-well/>

exercise required agencies to prepare data they would use to solve a challenge on short notice. For more information about cybersecurity and data compliance, refer to the memos on [cybersecurity](#) and [data](#).

Distribute guidance to local education agencies and other organizations

Agencies that lack the expertise and staffing to monitor compliance with federal and state student privacy laws can get help from federal privacy offices, including the Department of Education's Student Privacy Policy Office.¹⁸⁴

States can help schools by providing a single point of contact for questions and reinforcing the importance of data privacy training.

In an era of remote learning and student activity monitoring — or the remote tracking of student internet activity on school-owned devices or networks — it's critical to have staff and educators trained to handle sensitive data and situations. This is especially true when sharing data is potentially harmful to students, as illustrated in the Center for Democracy and Technology's (CDT) recent report on student activity monitoring.¹⁸⁵

INCREASE TECHNICAL CAPACITY THROUGH PARTNERSHIPS, HIRING AND CONTRACTING

Building education systems that effectively use data takes time. But states can learn from technical successes in other areas of government:

- » Code for America worked with state benefits administrators in Minnesota to develop an easy-to-use online safety-net benefits application portal that significantly reduced application wait times.¹⁸⁶
- » U.S. Digital Response, a nonprofit group, worked with the New York City Mayor's Office to digitally track inventory levels of personal protective equipment during the height of the COVID-19 pandemic.¹⁸⁷
- » California uses nontraditional private contracting — like the "Request for Innovative Ideas" or RFI2 protocol — with data service vendors that provide more flexibility in contract requirements and parameters to meet its evolving product needs.¹⁸⁸

¹⁸⁴ <https://www2.ed.gov/about/offices/list/opepd/sppo/index.html>

¹⁸⁵ <https://cdt.org/insights/report-hidden-harms-the-misleading-promise-of-monitoring-students-online/>

¹⁸⁶ <https://codeforamerica.org/programs/social-safety-net/integrated-benefits/>

¹⁸⁷ <https://www.govtech.com/civic/nyc-and-usdr-team-up-for-long-term-digitization-amid-crisis.html>

¹⁸⁸ <https://insider.govtech.com/california/news/2-vendors-picked-in-states-first-rfi2-procurement.html>

Below are ways states might build technical systems to support their education reforms:

Recruit modern technical leaders for statewide chief data officers and chief information offices

Whether launching a state longitudinal data team, a student data privacy team or any major education or workforce data initiative, it's essential to gather and use data effectively. This is where having a chief data officer becomes critical. These officers are charged with:

- » Driving data strategy;
- » Managing data assets;
- » Building timely access to accurate, secure and high-quality data.

Chief data officers can work with education and labor departments to organize and manage their data.

A chief information officer is one of the most important statewide technical positions to fill. They are often the highest-ranking technical decision-maker for a state or agency. They are typically accountable for all technical systems within a state, including public-facing software applications, data storage strategy, computer hardware and email systems. In some states, the chief information officer acts as the gatekeeper for technology budgets, human resources and project approval.

For more information on how to recruit and empower modern technical and data leaders, refer to the memos on [data](#) and [talent](#).

Partner with nonprofit organizations that can support hiring and vendor acquisition

One of the more difficult challenges for states is hiring for technical positions. Governments have historically struggled to compete with the public sector for top talent.

There are organizations that specialize in helping states address this challenge. The Tech Talent Project, Code for America and the U.S. Digital Response all offer resources and support for states looking to hire and effectively use technical talent.

There are also state-specific organizations. California IT in Education (CITE), a professional IT membership association, provides contracting that makes purchasing easier for school districts and states.¹⁸⁹ CITE worked with Microsoft to provide a “statewide master purchasing vehicle” — or a negotiated contract with private suppliers of goods that all state school

¹⁸⁹ <https://www.cite.org/about-us/>

districts can utilize. The deal offers school districts greater discounts on Microsoft hardware and software, and streamlines application processes.¹⁹⁰

Provide data governance guidance to local education agencies, workforce boards and other groups

Most states have educational service agencies, also called educational service centers or intermediate units, that administer services and programs to school districts across a variety of areas including data collection and student data privacy. These agencies are often organized by groups of school districts that share resources to better serve students.

According to the Association for Education Service Agencies, there are 553 such agencies in 45 states, reaching about 80% of public and private schools.¹⁹¹ States can work with these organizations to help get technical talent, tools and training necessary to support their school districts.

Create flexible vendor contracts that can adapt to shifting needs

States need technical approaches that can adapt to fit their needs to maintain state data systems and ensure student data privacy. Traditional procurement contracts often prove to be a significant barrier to the flexibility states need. When preparing new contracts, states should:

- » Include data privacy and security requirements in every product rollout;
- » Explore nontraditional arrangements, such as California's [Request for Innovative Ideas \(RFI2\) program](#), which asks potential vendors to craft innovative solutions to the state's problems.

State educational agencies can partner with their state procurement office and department executives to renegotiate educational vendor contracts where needed. For more information on models for flexible vendor contracts, read the [state procurement memo](#).

¹⁹⁰ <https://www.cite.org/CAMSA>

¹⁹¹ <https://www.aesa.us/about/index.cfm>

EDUCATION DATA SYSTEMS

BEYOND THE FIRST 200 DAYS

BUILD WAYS FOR PARENTS, STUDENTS, TEACHERS, AND ADMINISTRATORS TO ACCESS DATA

States following best practices can create tools that make data accessible for the people who make everyday education decisions including school district administrators, teachers, parents and students.

- » **School district administrators and principals** might use data to better understand how projects and resources affect student learning over time or how the current curriculum has prepared students for college, as shown by test scores, graduation rates or enrollment and retention in colleges or apprenticeship programs.
- » **Teachers** might use data from these systems to help them customize learning approaches for their classes, reduce achievement gaps and address recurring impediments to learning.
- » **Parents and students** might use these data systems to compare their educational achievement to similar cohorts of students and better understand how learning has progressed over time.

IDENTIFY STABLE, INDEPENDENT FUNDING SOURCES FOR STATE DATA GOVERNANCE EFFORTS

Effective data initiatives require dedicated resources. Short-term budget decisions can kickstart data initiatives. However, states with the most effective education and workforce data systems have secured longer-term financing for data teams that is independent of other agency funding streams.

Utah is an example of the benefits of establishing independent, ongoing financing for data teams. In 2015, Utah’s legislature passed HB 68, requiring the Utah State Board of Education to propose a way to fund student privacy efforts.¹⁹² Since then, the state has created a chief privacy officer position and a student data privacy office. This provides local education agencies with state resources they can use to address student data privacy concerns.

¹⁹² <https://le.utah.gov/~2015/bills/static/HB0068.html>

EDUCATION DATA SYSTEMS

OTHER RESOURCES

WHAT TO READ?

- » [Roadmap for Cross-Agency Data Governance](#) | Data Quality Campaign
- » [Education Data 101: A Briefing Book for Policymakers](#) | Data Quality Campaign
- » [Memos for a Tech Transition](#) | Tech Talent Project
- » [Tech Talent for 21st Century Government](#) | Tech Talent Project
- » [Education-to-Workforce Indicator Framework](#) | Mathematica + Bill & Melinda Gates Foundation
- » [SLDS Grant Program](#) | National Center for Education Statistics
- » [2022 Review of State Report Cards](#) | Data Quality Campaign
- » [Principles for Student Data Privacy and Equity](#) | Student Privacy Compass
- » [Nothing to Hide: Tools for Talking \(and Listening\) About Data Privacy for Integrated Data Systems](#) | Future of Privacy Forum
- » [Report on the Evolution of the State Chief Privacy Officer](#) | National Association of State Chief Information Officers
- » [How to Create a Strong Legal Framework for Data Integration](#) | Actionable Intelligence for Social Policy

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