

# NCDIT

NORTH CAROLINA  
DEPARTMENT OF  
INFORMATION  
TECHNOLOGY

## ANNUAL REPORT

2022-2023



# ANNUAL REPORT

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# SECRETARY'S MESSAGE

Technology is continuously evolving. This evolution brings exciting and transformative innovations in how the state serves its residents, businesses, students and visitors. It also brings increased risk to our data, IT systems and the security of infrastructure and assets. The N.C. Department of Information Technology is focused on driving innovation and promoting efficiency in today's technology landscape while safeguarding our networks and critical infrastructure.

This report highlights NCDIT's work this past fiscal year to carry out our mission and achieve the goals of our department as well as overarching goals for IT across state agencies. I hope that by reading this report you gain a better understanding of our department and how our talented and hardworking employees are making a difference for the people of North Carolina.

Our purview is incredibly broad, as we work to not only provide IT services and support to state agencies, local governments and educational institutions, but also oversee IT procurement, cybersecurity, privacy, data sharing and integration, the enhancement of the state's 911 system, and the expansion of broadband and digital equity, among many other initiatives. We are also continuing our digital transformation efforts to ensure that government services are streamlined and can be easily accessed by anyone from anywhere on any device, and prioritizing efforts to recruit, retain and develop a skilled workforce and establish a strong pipeline of future talent.

I am proud to be part of an exceptional team dedicated to meeting the IT needs of our state. I look forward to building on our successes in 2024 as we continue to live out our vision of strategically leveraging technology for an equitable, prosperous, healthier and educated North Carolina.

Sincerely,



James A. Weaver  
Secretary and State Chief Information Officer



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Secretary and State Chief Information Officer

# ABOUT NCDIT

The N.C. Department of Information Technology oversees IT services for the state of North Carolina and is the primary IT service provider for state government agencies. It also provides services for local governments and educational institutions.

The N.C. General Assembly established the cabinet-level agency in 2015 to consolidate and optimize enterprise IT functions within the executive branch to meet the needs of residents, businesses and visitors while also realizing efficiencies and cost savings through economies of scale.

The Governor appoints the secretary of the department, who also serves as the state chief information officer. The department's primary functions are statewide strategy, governance, architecture and operations.

## Key responsibilities of the state CIO include:

- Ensuring the security of the state's information technology systems, assets and data, and developing standardized systems and processes.
- Developing and administering a comprehensive long-range plan to ensure the proper management of the state's information technology resources.
- Setting technical standards for information technology, reviewing and approving information technology projects and budgets, establishing information technology security and privacy standards, providing for the procurement of information technology resources and developing a schedule for the replacement or modification of information technology systems.

A full list of the powers and duties of the department can be found in [N.C. General Statute 143B, Article 15](#).

**NCDIT's 1,300 employees are dedicated to providing business-driven solutions that meet the needs of North Carolinians while effectively managing security and privacy risks.**

# VISION, MISSION AND PRIORITIES



## OUR VISION

Government that strategically leverages technology for an equitable, prosperous, healthier and educated North Carolina.

## OUR MISSION

Enable trusted, business-driven solutions that meet the needs of North Carolinians.

## OUR PRIORITIES

- Broadband and connectivity
- Cybersecurity and privacy
- Digital transformation



# ENTERPRISE FUNCTIONS AND DIVISIONS

As NCDIT has executed the consolidation of state IT functions, the agency has grown in both size and responsibilities.

## The department's major functions and offices are:

- Architecture & Design
- Broadband & Digital Equity
- Cybersecurity & Risk Management
- Data & Analytics
- Operations & Engineering
- Privacy & Data Protection
- Statewide IT Procurement
- Strategy & Governance

## Consolidated Agencies

As directed in general statute, NCDIT is working to consolidate IT functions of executive agencies under the department. This allows agency IT divisions to better leverage resources and knowledge among other agencies for better solution outcomes and to ultimately reduce costs. To date, the following agencies' IT operations have been consolidated:

- N.C. Department of Administration
- N.C. Department of Adult Correction
- N.C. Department of Environmental Quality
- N.C. Department of Military and Veterans Affairs
- N.C. Department of Natural and Cultural Resources
- N.C. Department of Public Safety
- N.C. Department of Transportation
- N.C. Office of State Budget and Management
- N.C. Office of State Human Resources



## Architecture & Design

NCDIT ensures that IT solutions – either to be built or procured – align with the state’s IT strategic plan. The department proactively implements new solutions based on identified gaps to reduce redundancy of solutions, optimize costs and mitigate risks. NCDIT also works with agencies to apply existing, new and emerging technologies to transform and optimize business and operating models. This helps agencies plan, design, innovate, facilitate, navigate and operationalize the digital enterprise.

## Broadband & Digital Equity

The Division of Broadband and Digital Equity leads the state’s efforts to expand high-speed internet access and promote digital equity and inclusion. It also oversees NCDIT’s First Responder Emerging Technologies program, which helps first responders stay on the leading edge of new technologies, including FirstNet, the nationwide public safety broadband network. The division administers a wide range of state and federal programs aimed at closing the state’s digital divide. Together, these efforts are working to ensure that all North Carolinians have access to affordable, reliable high-speed internet, as well as the devices and skills needed to safely navigate today’s digital world.

## Cybersecurity & Risk Management

NCDIT provides leadership in the development, delivery and maintenance of a whole-of-state cybersecurity program that safeguards North Carolina’s information and supporting infrastructure against unauthorized use, disclosure, modification, damage or loss. NCDIT is also a member of the N.C. Joint Cybersecurity Task Force. Among the task force’s responsibilities are providing incident response, resource support and technical assistance to government agencies and educational entities that have experienced significant cybersecurity incidents.

## Data & Analytics

NCDIT provides the infrastructure to host state projects, services, data and applications. It also manages and coordinates enterprise data integration efforts through the N.C. Government Data Analytics Center. The data division also includes the N.C. Center for Geographic Information and Analysis, which provides geographic information system services; the N.C. Health Information Exchange Authority, which operates NC HealthConnex (North Carolina’s state-designated health information

exchange) and the N.C. Longitudinal Data System, which provides access to cross-sector, linked data.

## Operations & Engineering

With a few legislative exceptions, NCDIT provides all IT support for consolidated agencies. The department partners with other state agencies, local governments and educational entities to provide reliable, cost-effective services that meet current and future requirements, service levels and budgets. NCDIT also centralizes partners’ services, as necessary, for ease of use, security, optimal cost and efficiencies.

## Privacy & Data Protection

NCDIT leads the state’s privacy program to ensure data privacy and security while leveraging data assets to improve North Carolina. It provides strategic direction, services, policy, guidance and best practices to support state agencies in embedding privacy and transparency into their operations. NCDIT also works with stakeholders and business partners to prioritize privacy risk assessment and data protection.

## Statewide IT Procurement

NCDIT is responsible for procuring IT goods and services for agencies whose IT resources have been consolidated. It is also responsible for approving IT procurements for other agencies to ensure they meet current technology standards, are not duplicative, meet business objectives, are cost effective and are adequately funded. The department establishes processes, specifications and standards for IT products and services that are purchased, licensed or leased by state agencies and educational entities.

## Strategy & Governance

NCDIT is responsible for working with state agencies to develop and administer a comprehensive strategic plan to ensure the proper management of the state’s information technology resources. This plan is used to create and maintain a strategically aligned portfolio of IT services and solutions that meets the state’s business needs and effectively leverages state resources to serve residents, businesses and visitors.

The department is also responsible for establishing a consistent process for planning, maintaining and acquiring the state’s IT resources as well as ensuring that state programs and projects align with policies, standards and architecture.

# BOARDS AND COMMISSIONS



**By statute, the state CIO is represented on the following boards and commissions:**

- Information Technology Strategy Board
- N.C. 911 Board
- N.C. Geographic Information Coordinating Council
- N.C. Health Information Exchange Authority Advisory Board
- N.C. Longitudinal Data System Governance Board

## Information Technology Strategy Board

The Information Technology Strategy Board plays a critical role in defining and planning North Carolina's enterprise technology projects. It also advises how to prioritize them and identifies areas where funding adjustments might be needed. In addition, the board uses industry best practices to guide the Statewide IT Strategic Plan.

In addition to the state chief information officer, this 12-person board also includes the state budget officer, the president of the University of North Carolina System, president of the N.C. Community College System, secretary of administration and the state auditor as a non-voting member.

It also includes six North Carolina residents with backgrounds and familiarity with business system technology, information systems or telecommunications who are appointed by the Governor and leadership of the N.C. General Assembly.

## N.C. 911 Board

The N.C. General Assembly created the N.C. 911 Board to consolidate the state's enhanced 911 system under a single board.

The board sets a uniform 911 service charge that is collected by all telephone and voice communication providers. Revenue from the charge goes into the 911 Fund from which the board manages and distributes funds.

The 17-member board also plays an integral role in ensuring adequate funding to maintain and expand 911 capabilities across the state.

The state chief information officer (or the CIO's designee) serves as chair. Eight members represent vendors – including three commercial mobile radio service providers, four local exchange carriers and one provider of voice over internet protocol technology.

**Eight other members are local officials representing:**

- National Emergency Number Association
- N.C. Association of Chiefs of Police
- N.C. Association of County Commissioners
- N.C. Association of Public Safety
- N.C. Association of Rescue and Emergency Medical Services
- N.C. Firefighter's Association
- N.C. League of Municipalities
- N.C. Sheriff's Association

# N.C. Geographic Information Coordinating Council

The N.C. Geographic Information Coordinating Council develops policies regarding geographic information, geographic information systems and related technologies. It also advises the Governor and the N.C. General Assembly on responsibilities and funding for geographic information management and use.

**The council consists of volunteers from the public and private sectors who:**

- Collaborate on geographic information and systems with state, federal and local government agencies as well as academic institutions, private organizations and individuals
- Improve the quality, access, cost and use of geographic information and resources
- Promote geographic information as a strategic resource
- Efficiently collect, develop and use geographic information through the voluntary exchange and sharing of data and technical know-how
- Provide a framework for developing standards, strategic planning and resolving policy and technical issues, as well as providing central direction and oversight

# N.C. Health Information Exchange Authority Advisory Board

The legislatively appointed 12-member advisory board consults the N.C. Health Information Exchange Authority on the advancement and operation of NC HealthConnex, the state's designated health information exchange.

The secretaries for NCDIT and the N.C. Department of Health and Human Services – as well as the directors of NCDIT's Government Data Analytics Center and the State Health Plan – serve as ex-officio members of the advisory board. Additional membership is comprised of representatives from the health care community.

# N.C. Longitudinal Data System Governance Board

Established by Executive Order 249 issued by Gov. Roy Cooper in February 2022, the governance board supports the work of the North Carolina Longitudinal Data System. NCLDS coordinates access to cross-sector, longitudinal and linked record-level data that helps data contributors, practitioners and trusted research partners address the state's most pressing questions via data-informed decision-making, continuous improvement and performance management processes.

**The board provides guidance and advice to the GDAC on:**

- Establishing a policy and research agenda for NCLDS
- Developing data governance, data security and data privacy policies for NCLDS
- Approving new data partners for NCLDS and ensuring coordination among agencies and NCLDS
- Reviewing research requirements, protocols and guidelines regarding the approval of data requests
- Supporting NCLDS goals and priorities
- Phasing in the recommendations of the NCLDS interoperability and modernization study

In addition to non-voting members from NCDIT and the Governor's Office, the board members are senior leaders from each entity that contributes data to NCLDS:

- N.C. Department of Health and Human Services
- N.C. Department of Public Instruction
- N.C. Community College System
- University of North Carolina System
- N.C. Department of Commerce
- Independent colleges and universities in North Carolina

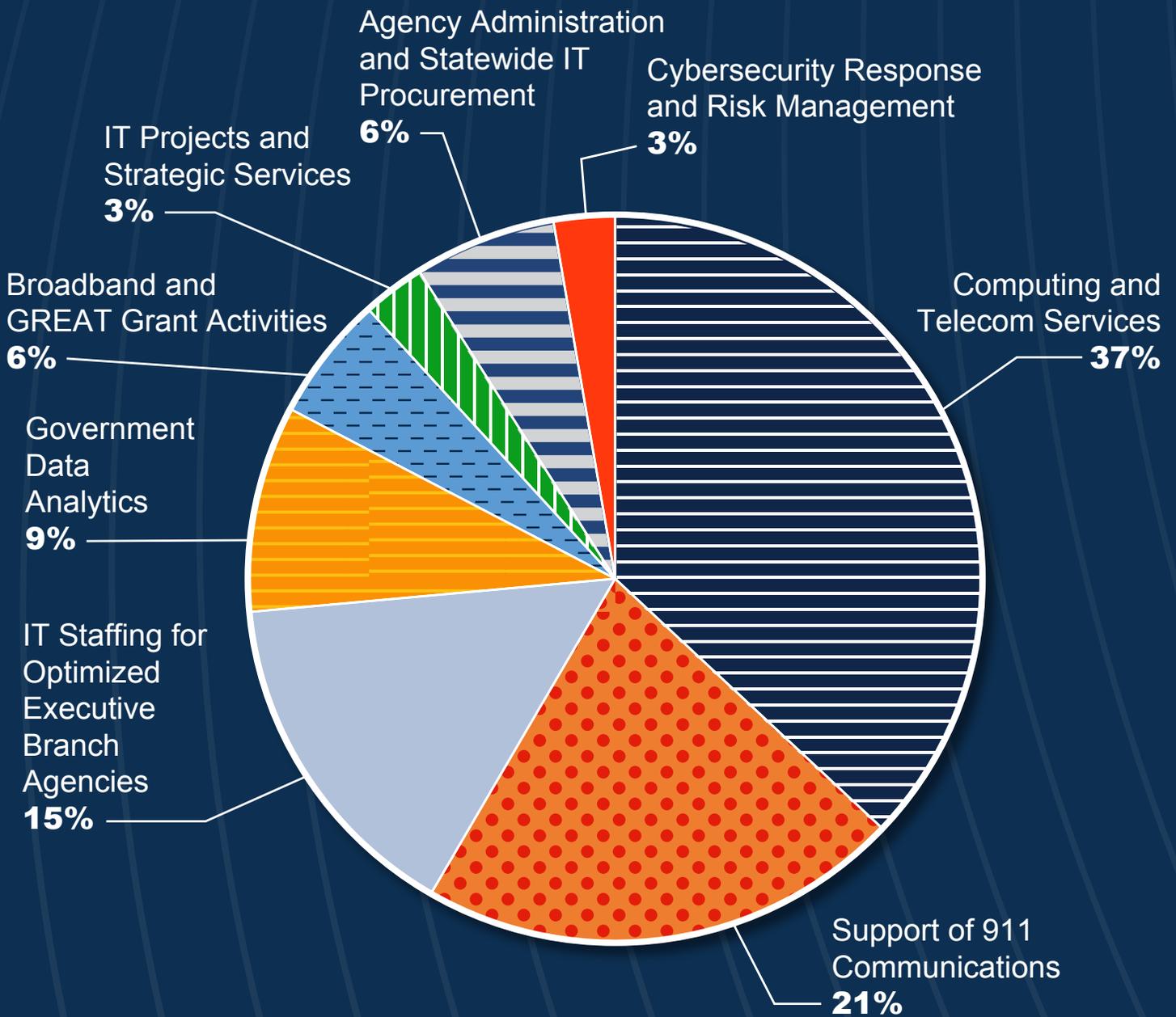
The board's work is supported by two committees on data quality and data governance.

# BUDGET REPORT

## 2022-2023 Budget Expenditures

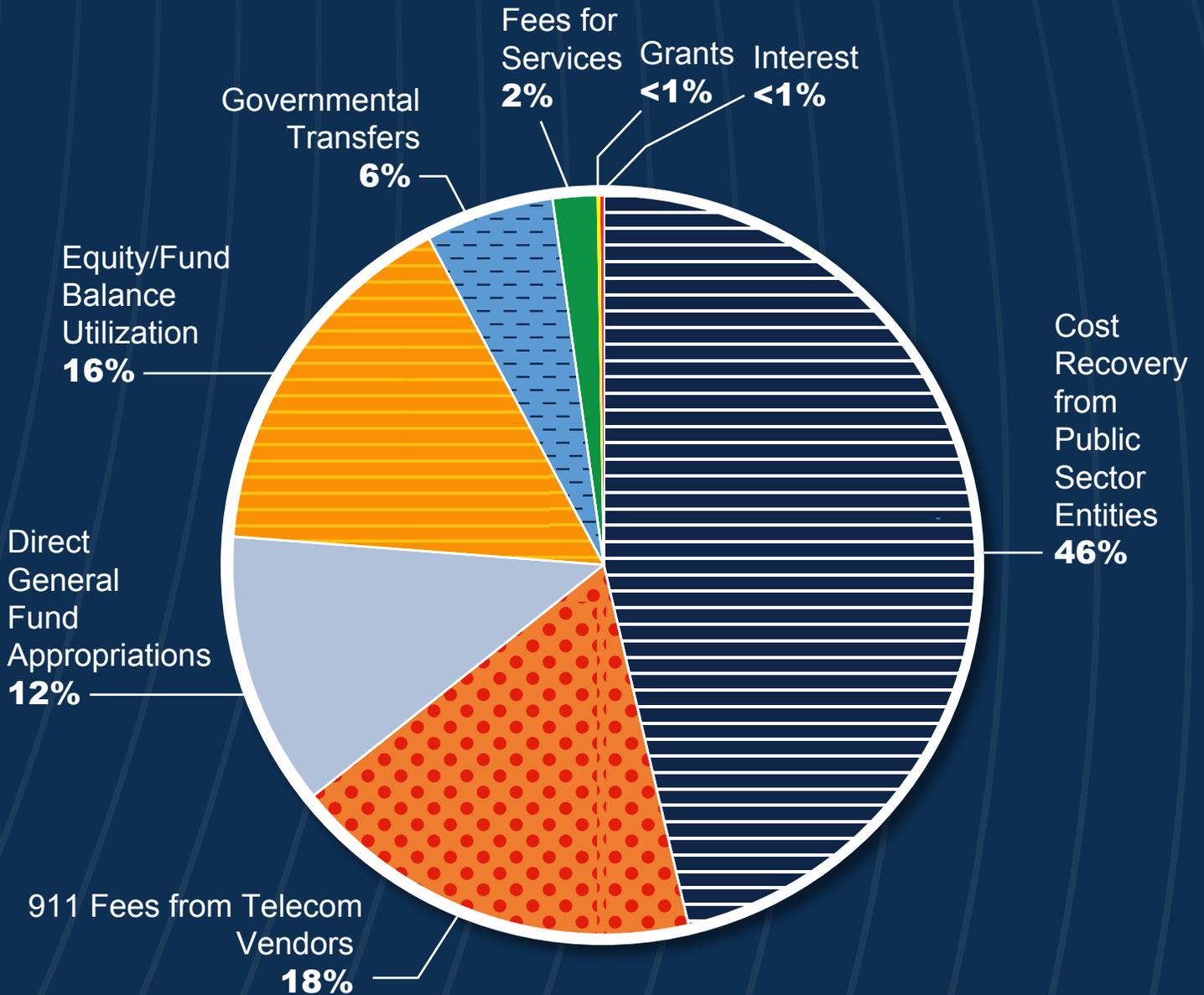


NCDIT's \$651 million budget supports specific programs and activities across multiple divisions.



# 2022-2023 Funding Sources

NCDIT is supported financially by several primary funding sources, including cost recovery from public-sector entities for IT staffing and services, 911 fees from telecom vendors and direct general fund appropriations.



# GOALS AND ACCOMPLISHMENTS



## Foster a connected North Carolina to improve opportunities and outcomes for residents

At least 1.1 million North Carolina households lack access to high-speed internet, cannot afford it or do not have the skills needed to take advantage of the digital economy. NCDIT aims to close this digital divide so all North Carolinians can participate in today's digital world and the opportunities it offers for work, education, business, health and recreation.

The department has also innovated easier, more efficient ways for North Carolinians to digitally access and use the government services they need. Additionally, 911 enhancements provide life-saving service to communities across the state. All of this is achieved through close collaboration with federal, state and local partners.

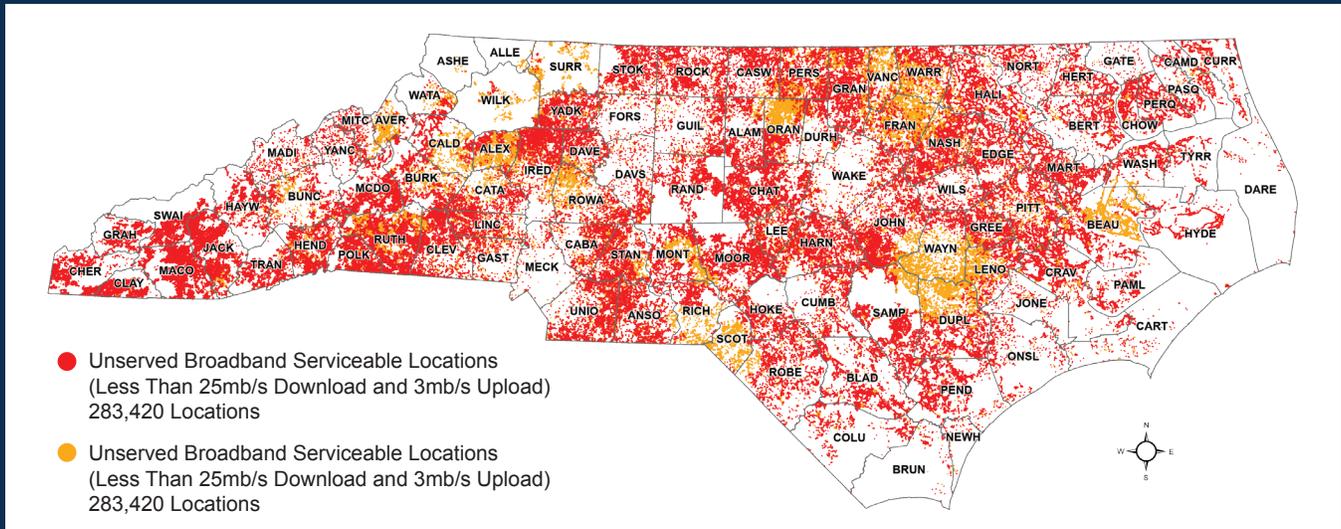
## Expand broadband and digital inclusion and increase digital equity

NCDIT works to not only connect all North Carolinians to reliable, affordable high-speed internet but also ensure that they have the devices and skills to safely use it.

- Accurate identification of homes and businesses that lack high-speed internet plays a pivotal role in closing North Carolina's digital divide. A collaborative effort among NCDIT's Division of Broadband and Digital Equity and Center for Geographic Information and Analysis and NC State University's Friday Institute for Educational Innovation **resulted in nearly 43,000 challenges to the Federal Communication Commission's National Broadband Map**. This aided in surfacing 115,000 additional homes and businesses in the state **that do not have access to reliable, high-speed internet**. North Carolina added more new unserved locations to the map through this process than any other state and **increased its funding allocation through the Bipartisan Infrastructure Law's Broadband Equity, Access and Deployment program by an estimated \$300 million to \$500 million to more than \$1.5 billion**.
- The department **awarded nearly \$80 million in additional Growing Rural Economies with Access to Technology (GREAT) grants to provide high-speed internet access to 25,825 households and 862 businesses in 33 counties**. This brings the total of GREAT grant awards since 2022 to nearly \$350 million to connect 137,646 households and 4,441 businesses in 92 counties.
- **Through the state's first Digital Equity Grants, NCDIT awarded \$9.9 million** in January 2023 to state agencies and universities for digital literacy training, device access and digital inclusion planning. In May 2023, an additional **\$4 million was awarded for the state's first digital navigator initiative** to help connect North Carolinians to services that aid with home connectivity issues, digital device use, digital skills acquisition and Affordable Connectivity Program enrollment.
- As of July 1, 2023, **nearly 790,000 low-income North Carolina households were enrolled in the Affordable Connectivity Program** to save \$30 or more on their monthly high-speed internet bill. The Federal Communications Commission awarded NCDIT a **\$500,000 Affordable Connectivity Program Outreach Grant** in March 2023, to help the state reach its goal of enrolling 1 million eligible North Carolina households.

# A Closer Look

## NCDIT Collaboration Maps Broadband Needs Across the State, Helps Increase Funding



Bringing reliable, affordable high-speed internet access to every corner of North Carolina is essential to closing the digital divide so that every North Carolinian can get online for telehealth, education, services and business.

Knowing where high-speed internet access is lacking across the state is crucial to securing funding and planning infrastructure for broadband expansion.

The N.C. Department of Information Technology's Division of Broadband and Digital Equity collaborated with NCDIT's Center for Geographic Information and Analysis and the N.C. Geographic Information Coordinating Council to ensure accurate mapping of locations in North Carolina that are unserved or underserved with broadband access.

"The granular location data for unserved and underserved households and businesses will help the state strategically invest federal resources to expand broadband infrastructure to all North Carolinians," NCDIT Secretary and State Chief Information Officer Jim Weaver said.

In November 2022, the Federal Communications Commission released its [National Broadband Map](#), which would be used to determine future federal funding allocations for broadband programs. The FCC invited the public to identify potential inaccuracies in locations marked as being served by high-speed internet.

To support challenges from North Carolina, the Division of Broadband and Digital Equity used the CGIA and GICC's mapping tools – [NC OneMap](#), which catalogs and makes the state's geospatial data available to the public, and [AddressNC](#), which serves as the state's most reliable source for the precise physical sites of nearly 6 million locations.

The division also partnered with NC State University's Friday Institute for Educational Innovation to provide data comparisons.

In addition, NCDIT supplied a promotional toolkit to other government agencies and broadband and digital equity partners and urged the state's internet service providers to make any necessary updates to their service location data.

In June 2023, the Division of Broadband and Digital Equity presented 43,000 challenges to the FCC's National Broadband Map, which aided in surfacing an additional 115,000 North Carolina locations unserved or underserved with broadband access.

These challenges resulted in more additions to the national map than any other state in the country and increased North Carolina's funding allocation through the federal Broadband Equity, Access and Deployment program to \$1.5 billion.

## Enhance the customer and citizen digital experience

In today's digital world, people expect online access to government services, and they expect their experiences to be efficient, easy to use and to work for them. NCDIT works with other state agencies to establish a modern, user-focused approach – regardless of whether the user is a resident, business or state employee.

### Citizen Digital Experience

#### Highlights include:

- Procured a **cloud-based website quality assurance tool for the more than 80 state websites** on the state's Digital Commons platform. The tool, aimed at improving the user experience, employs robust features to help content creators identify and quickly fix common website issues, such as accessibility errors, slow-loading pages, large file sizes, broken links and problems that can affect webpages' visibility in search engine results and, therefore, users' ability to find important information.
- Added the capability for the public to use the **state's online third-party payment processor to request and receive certified driving records online**. In the first few months after launching in May 2023, the N.C. Division of Motor Vehicles issued more than 19,000 records in real-time. The decreased number of mail-in requests resulted in cost savings of approximately \$13,660, reduced processing time and decreased the wait for records from several days to minutes. Requests for certified driving records also increased by 70% from the previous period a year before, attributed to a marked increase in public interest and satisfaction.
- Supported NCDMV's continued efforts to increase customer satisfaction and decrease wait times by **expanding the capabilities of the Q-Anywhere application, which allows customers to avoid having to wait in line at a driver license office**. Customers can check in by scanning a QR code and texting a short message to reserve their place in line. They are then free to queue anywhere in the immediate area. Additionally, they can now check online the average wait time at any office before making a trip.
- Launched AccessDEQ for the N.C. Department of Environmental Quality as part of a **multiyear project that will modernize the permitting process**. It will increase efficiency for businesses and organizations seeking permits, reduce the time spent processing permits and improve transparency for the public. In January 2023, the N.C. Division of Coastal Management began using the system to authorize development activities affecting an area of environmental concern in 20 coastal counties. DEQ is on track to implement 20 more solutions in the next two years and 80 within five years.
- Worked with DEQ to **craft a solution to pervasive odor complaints** from several communities. Inconsistent and difficult-to-navigate data created barriers to isolate the source of odors. The new Odor Complaint Tool, which seamlessly integrates with existing DEQ systems, allows the public to report problems online. DEQ staff also spend less time taking complaints by phone and more time locating odor sources to take appropriate actions.
- Worked with the N.C. Office of Historically Underutilized Businesses – part of the N.C. Department of Administration – **to upgrade its 20-year-old reporting system, known as HUBSCO, to HUBSCO Plus**, which increases its insights to improve management of state construction spending. Public schools, county governments, municipalities and other local entities can more quickly report state construction spending through an improved user interface and auto-completed vendor information, which replaces manual reporting.
- Worked with NCDOA's Purchase and Contract Division, the State Construction Office and the Office of Historically Underutilized Businesses **to integrate application interfaces to share data with the new electronic vendor portal**. State agencies and educational entities benefit from more efficient processing of contracts with automated verification of vendor data in all the NCDOA systems that communicate with the electronic vendor portal, including HUBSCO, the state's construction expenditure reporting for historically underutilized businesses, and Interscope, the state's construction projects management system.

## Customer Digital Experience

### Highlights include:

- Helped the N.C. Department of Adult Correction **launch the Extradition Tracking System to support the coordination of highly complex and risky transportation of offenders between states.** The user-intuitive system streamlines the legacy process for tracking hundreds of extraditions and has multiple levels of in-built validation. The system also offers users complete offender profiles – which include risk factors, medical concerns and criminal history – and allows staff to monitor in near real-time the location and travel progress of offenders while they are being transported.
- Launched the Prison Transfer and Logistics application, which **improves DAC’s complex process of transferring more than 50,000 offenders among state prisons each year.** The application allows prison staff to make informed decisions that ultimately reduce the amount of time offenders must wait to be transferred. Users can filter and prioritize a comprehensive list of offenders awaiting transfer and assess each offender against all prison facilities to identify conflicts or concerns. The application also reports on matching bed vacancies and bus transportation availability.
- Supported the N.C. Division of Motor Vehicles and DAC **to implement a re-entry program that provides state ID cards to offenders prior to their release.** NCDMV checks the eligibility of applicants, submitted weekly by DAC, and issues photo IDs cards to help offenders seek access to services as they re-enter society.
- Implemented a **web interface to improve the capabilities, usability and speed of accessing fishery data** for the N.C. Department of Environmental Quality. This was the first step of a multiphased effort to modernize a comprehensive database (developed in 1980) that contains 18 million field sampling collections spanning more than 120 programs. By the end of 2023, the database is expected to be fully operating in a modern unified data platform with robust search capabilities, 10-times-faster search results, a modern architecture and increased security.
- Deployed for the N.C. Department of Administration **a policy and internal audit management storage and tracking system,** which establishes a centralized digital records

**Technology underpins everything we do, but our focus is people and making digital government services seamlessly accessible to all North Carolinians.**

system. Integrated with single sign-on and multifactor authentication, the system increases the efficiency of internal audit operations and provides greater employee awareness of policies.

- Collaborated closely with NCDOA to **create a streamlined digital records process and define scanning requirements.** The new, more efficient process for digitizing and organizing records enables DOA to respond more quickly and efficiently to public records requests. It also enhances accessibility and ensures adherence to all necessary standards, including for compliance and regulations.
- Developed and deployed a **modernized Equal Employment Opportunity Submission and Tracking System** for the N.C. Office of State Human Resources to make state agencies’ annual submission of EEO plans more efficient through automated processes, real-time feedback and a centralized database for reports.
- Developed and launched **the Higher Education to N.C. Government (Ed2NC) Recruitment Contact Directory** on the OSHR website. The directory shares contact information between state agency recruiters and career service professionals at community and four-year colleges so that they can initiate strategies to connect students and recent graduates to careers in state government.
- Implemented a **data-driven application maintenance process that allows for future changes at DAC facilities without requiring downtime for applications.** This process was successfully applied at the Richmond, Foothills, Cabarrus and Lenoir detention centers.

# A Closer Look

## Environmental Permitting Undergoes Digital Transformation



The public's expectations of interacting with government are fundamentally changing, fueled by the power and promise of technology. Known within the technology world as "digital transformation," simply put this term refers to converting manual and paper-based processes into digital ones.

Digital transformation can bring a number of benefits for North Carolinians, as evidenced by the [N.C. Department of Environmental Quality's Permitting Transformation project](#). The project is part of AccessDEQ, a robust digital hub that unites the department's online tools in one convenient place.

The N.C. Department of Information Technology, including the N.C. Government Data Analytics Center, and DEQ partnered on this multiyear initiative to update and improve the permit process and provide better access to permit information.

A central part of the project involves developing a robust online system for applying, tracking and paying for permits issued through DEQ's five regulatory divisions – air quality; coastal management; erosion and sediment control; energy, mineral and land resources; waste management and water resources.

The N.C. Division of Coastal Management was the first division to implement the new permitting system

in January 2023, making available Coastal Area Management Act major permits.

Additional CAMA permits, including general, are now available online, and development is underway to add Erosion and Sediment Control permits managed by DEQ's Energy, Mineral and Land Resources. The team anticipates implementing 20 additional solutions over the next two years.

Residents and businesses can submit applications and renewals, make electronic payments, track the status of applications and projects and communicate with DEQ quickly and easily through a single portal. The system also provides DEQ staff the capability to enter and access data in the field, reducing response time.

These five divisions handle more than 100 types of permits, certificates and licenses statewide, each of which vary greatly in complexity, scope and processing time.

When complete, the project will streamline the permitting process, modernize the permitting system online leveraging AccessDEQ and create publicly available data dashboards.

The result will be greater efficiency, transparency and customer service.

## Enhance 911 capabilities across the state

North Carolina's 911 system and its workforce provide a life-saving service to the state's communities. New initiatives and upgrades continue to ensure that residents and visitors can reach 911 services regardless of their location or the communication technology they use and that North Carolina has state-of-the-art facilities, cutting edge technology and trained staff in place to protect those who are experiencing an emergency.

- **The statewide Emergency Services Internet Protocol Network, known as ESInet**, that supports Next Generation 911 has connected 192 sites, including 124 of the state's 125 public safety answering points, 69 physical backup locations and 16 additional partner agencies. Next Generation 911 now covers 99% of the state's population and 99% of the state's land area. The remaining public safety answering point will migrate in February 2024.
- The Network Monitoring and Assistance Center **reached planned staffing levels** to monitor the service and performance of the state's Next Generation 911 system 24 hours a day, seven days a week. The center provides support to public safety answering points as needed to ensure an uninterrupted flow of communication. All 100 counties and 10 cities engaged in the Next Generation 911 GIS initiative have started to regularly **upload data to the GIS repository to accurately identify 911 caller locations and route them to the appropriate public safety answering points**. Of the 124 public safety answering points involved, 100 meet national standards for GIS call routing, with more expected to meet the standard in the future. In collaboration with NCDIT's Center for Geographic

Information and Analysis, the N.C. 911 Board **built a dashboard to track and monitor the status of GIS data** to identify jurisdictions that might not be uploading data in a timely manner.

- A new **911 call analytics solution was successfully launched for all primary public safety answering points** across the state. The system offers enhanced reporting with real-time display options, as well as an online training center for new and seasoned users.
- The expansion of the session-initiation protocol administrative project allowed public safety answering points on a hosted call-handling solution **to replace analog/copper wire phone lines with an online phone network**. In addition to 911 calls, public safety answering points can also **route administrative calls to another physical location**. This provides multiple layers of redundancy, creates cost savings and supports continuity planning for public safety answering points.
- To help recruit 911 telecommunicators and address high vacancy rates, **the N.C. 911 Board expanded a public service announcement into a statewide media campaign**, including a webpage for open telecommunicator positions statewide. The recruitment webpage received more than 37,000 views from job seekers during the initial 12-week campaign, and many public safety answering points reported that it assisted them in filling critical vacancies. This recruitment effort will continue into the next fiscal year.
- In collaboration with Richmond Community College, the N.C. 911 Board **developed the nation's first 911 Communications and Operations associate degree program**. The virtual program offers educational development for current 911 professionals and an advanced 911 telecommunications curriculum for high school graduates and those seeking a new career. With work to launch the program beginning in fall 2022, the enrollment of 51 students in fall 2023 exceeded the expected number for most new programs in the community college system.



# A Closer Look

## FirstTech Develops Revolutionary Digital Emergency Paging System

Many emergency services across the United States, including fire, medical and law enforcement, rely on analog VHF paging technology to communicate emergency information to responders in the field.

This outdated technology is slow at delivering emergency information and can hinder first responders.

NCDIT's FirstTech team, which helps these agencies use advanced technology, developed an innovative solution to address this challenge – an emergency paging system using next-generation digital television broadcasting.

“We looked at how to alert first responders, and we were looking at the same technology that had been used for 50 years,” FirstTech Director Red Grasso said. “When we looked at NextGen TV, we realized that this may be an opportunity to serve public safety by delivering quicker messages.”

The FirstTech team co-wrote a white paper proposing the method – called datacasting – and it led to the U.S. Department of Homeland Security issuing a Small Business Innovation Grant to develop a system.

FirstTech and its public and private partners – PBS North Carolina, Device Solutions, Wireless Research Center of North Carolina and Triveni Digital – developed a prototype system with a custom paging receiver and miniature antenna encoder that uses the new digital broadcasting standard, Advanced Television Systems Committee (ATSC) 3.0.

“Datacasting really refers to unused capacity of a television signal. It is data, so it's just ones and zeros,” Grasso said. “We were able to really look at that leftover capacity within PBS North Carolina's transmission and utilize it for these very small, very short messages about emergency alerts to the first responders.”

Datacasting can meet the challenges of analog voice paging and provides a redundant method to distribute critical public safety paging data over greater distance and with better coverage than older methods.



Datacasting public safety paging can speed emergency response by delivering more than 2,000 dispatches in the same time that an analog system can perform a single dispatch. This delivery scheme is far more robust and useful for mobile applications, can carry significantly more data and can be reliably received by mobile devices, even when moving.

The team has successfully conducted field testing of emergency pagers over PBS North Carolina's digital signal with emergency responders and firefighters in the coastal, piedmont and mountain regions. Additional field testing is continuing to determine optimum performance configurations for scalability while also exploring commercialization potential.

“Digital paging is pretty revolutionary,” Charles Laird, FirstTech technology specialist, said. “The work that we're doing here in North Carolina is setting a national model.”

## Increase collaboration among state and local entities

As the primary IT service provider for the state, NCDIT works closely with state agencies and other entities to enable trusted business-driven solutions that meet the needs of North Carolinians.

- With established relationships with state agencies, the department **increased its efforts in 2023 to build and strengthen partnerships with city and county governments** that face both similar and different challenges to those of state agencies when it comes to IT solutions.
- Among the initial steps to strengthening collaboration, NCDIT committed to **timely and transparent communications about resources and opportunities**. For example, local governments can take advantage of many of the department's IT services as well as state contracts for common IT solutions and staffing. Leveraging these opportunities has the potential to save local entities administrative, equipment and staffing costs as well as help them meet their needs sooner and more efficiently.
- NCDIT established **quarterly virtual town halls to promote dialogue and better understand local government needs**. The department also created a business relationship manager role to work exclusively with local governments.

## I Transform the delivery of services

**Technology changes at a rapid rate. That is why NCDIT is transforming the way it delivers solutions and infrastructure to state agencies and local government entities to better meet their evolving IT needs so they can better serve those living, working, doing business with and learning in North Carolina.**

## Enhance the NCDIT customer experience

NCDIT strives for transparency as it provides solutions and infrastructure that allow government agencies to achieve their mission and provide exceptional service. A key element of transparency is communications.

- To provide agency chief information officers and chief financial officers a clearer understanding of billing, NCDIT created comprehensible billing dashboards outlining charges for NCDIT services. This effort allows for more informed purchasing decisions and consumption forecasting.
- In addition to evaluating and transforming the **statewide IT procurement process, the department started a newsletter to equip state agency users with the knowledge they need to procure IT goods and services more efficiently and accurately**. Published quarterly, the newsletter provides important reminders, tips for using the state's procurement system and insight into the procurement approval process.

**NCDIT is modernizing the IT procurement process to enhance customer service for state agencies and provide access to cutting-edge vendors and technology.**

## Develop scalable services that meet the current and emerging needs of our customers

Accommodating the demands on government agencies is paramount to minimize and eliminate disruption in services, increase performance and improve the public's experience when interacting with government. That is why agencies need cost-effective services that seamlessly adapt to and work for their changing needs – whether it is unexpected demand or anticipated slowdown in need for a particular service.

- NCDIT partnered with a top mainframe hosting service provider **to provide hosting services for all state-owned mainframe applications**. While the final shift to the new service provider is scheduled to occur in 2024, the department took the initial step of moving its disaster recovery for mainframe services in June 2023. This change

helped NCDIT avoid a \$1 million capital expense, the first step in a strategic initiative expected to save the state more than \$11 million over the next five years. The move also provides NCDIT flexibility in how it uses existing resources by allowing it to reallocate them as needed to be more responsive to state agencies' needs.

## Simplify state IT procurement

NCDIT's Statewide IT Procurement Office works with many government agencies and vendors to deliver technology goods and services to help meet the needs of North Carolinians, necessitating an efficient IT procurement process.

- Aimed at increasing efficiencies and providing more transparency in the IT procurement process, in January 2023, NCDIT rolled out **a revised process for executive branch agencies seeking IT goods and services costing more than \$25,000**. By leveraging a state eProcurement platform that standardizes the process for submitting requests and incorporates automated workflows to coordinate required approvals, the revised process helps ensure agencies have access, without unnecessary delays, to the tools they need.

- NCDIT developed a **new online reporting process to provide improved visibility and transparency of procurement metrics**. This helps stakeholders monitor and manage performance and see the resulting benefits. Information is now easily available for activities involving IT products and services purchased, licensed or leased by state agencies and participating entities within North Carolina. NCDIT can more effectively track, manage and control procurement operations to provide the highest level of customer service.

## Enable a cloud migration strategy

Leveraging the benefits of the cloud can result in increased efficiency, agility, security and cost savings. NCDIT plays a key role in enabling state agencies in adopting and implementing cloud strategies.

- In July 2022, NCDIT and the N.C. Department of Environmental Quality began a **long-term effort to update several applications in preparation to migrate to cloud solutions**. The migration to a workflow cloud solution will create efficiency in handling site preservation requests from the public and provide more transparency in the approval process.
- NCDIT and DEQ also **completed the cloud migration of DEQ's primary electronic content**

**management tool**, which is used to provide environmental permits and other records for North Carolina residents and businesses. This migration has resulted in annual savings of more than \$100,000, improved system performance for employees, enhanced capabilities for the public, reduced support and maintenance, and allowed more time to focus on business capabilities to protect North Carolina's water.

# | A Closer Look

## Statewide IT Procurement Increases Process Efficiencies, Transparency and Accountability

Over the past year, the N.C. Department of Information Technology has worked to transform the process state agencies must follow when procuring high-dollar IT services and products.

The result: greater efficiencies in the review of such purchases and a better customer experience for agency customers.

“What we have done is modernize the IT procurement process, providing transparency and accountability from beginning to end,” Chief IT Procurement Officer James Tanzosch said.

Tanzosch oversees the Statewide IT Procurement Office, which is tasked with approving IT purchases greater than \$25,000. The office also develops and manages statewide IT contracts for common IT services and products that any state agency, community college or county or municipal government can use.

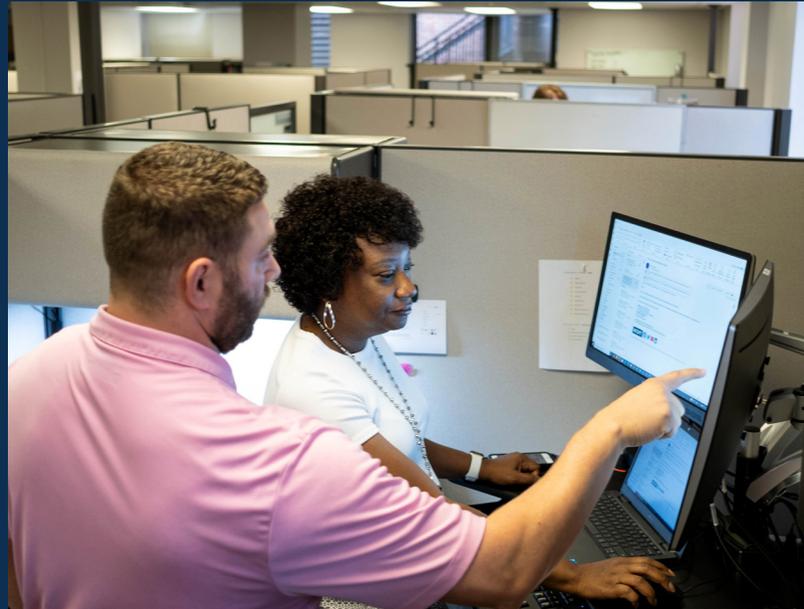
During FY 2023, for example, the office awarded 941 IT procurements – totaling \$962 million – for state agencies. In addition to savings generated from statewide contracts, it also negotiated \$118.5 million in additional savings in large-volume contracts.

These efforts are no small task, which makes streamlining how state agencies acquire IT all the more necessary.

Rolled out to all agencies in January 2023, the new procurement process leverages the state’s existing eProcurement system as the foundation for the new process, which includes:

- Standardizing how agencies submit IT procurement requests
- Reducing the number of unnecessary steps that cause a delay in approvals
- Establishing a clear starting point for procurements and tracking approvals
- Providing improved documentation and training

The eProcurement system provides valuable insight to help procurement staff spot potential delays so they



can work to keep procurements on schedule.

To ensure greater transparency for customers, NCDIT also launched an online dashboard to track the procurement process. The dashboard also includes metrics on the number and value of IT procurements, which help NCDIT staff effectively manage operations and provide the highest level of customer service.

The department also took significant steps to better support state agencies and improve customer service by creating a guidance team to help agencies through the procurement process. This helps ensure procurements stay on schedule.

Another key aspect to transforming the statewide IT procurement process is continuous improvement in the form of an agency-wide procurement improvement committee that regularly evaluates opportunities, considers feedback and develops further improvements.

“With all these changes, we now have a baseline that will allow us to continue to evolve in how we serve our customers and ultimately, the people of North Carolina,” Tanzosch said.

## Optimize and secure the state's IT and application portfolios

Amid ever-evolving cyberthreats, NCDIT proactively implements its whole-of-state cybersecurity and privacy approach, coordinating with other state agencies, local governments and federal partners to protect the state's computer networks and data. The department works to embed cybersecurity and privacy best practices and training in state employees' daily work while providing agencies with updated tools and resources to secure their applications and systems.



## Integrate and operationalize cybersecurity tools across all state agencies

Cyberthreats continue to be an increasing concern and protecting North Carolina's IT networks and data remains one of NCDIT's top priorities.

- NCDIT implemented a **suite of security tools to help detect and respond to cyberthreats as well as provide remediation support for events**. One tool provides the department visibility into mobile devices and computers across all executive branch agencies, as well as the ability to conduct threat hunting, incident response and vulnerability assessments across all agencies. In addition, the platform provides the agencies with management capabilities to quickly resolve identified vulnerabilities within their environments. Another tool is currently being used across more than 55,000 systems.
- To better protect its email system from spam, phishing and other online threats, NCDIT **deployed a new security tool to all state and local government employees who use the department's email service**. The tool provides advanced email filtering and improves the accuracy of inbound email by verifying the validity of the sender and the sender's domain.
- After a yearlong effort to better protect work files, emails and other data, NCDIT **completed the rollout of multifactor authentication** to approximately 65,000 state and local government employees who use the department's Microsoft 365 service.
- To **increase cybersecurity awareness for public safety answering points, the N.C. 911 Board** – in conjunction with the U.S. Cybersecurity and Infrastructure Security Agency, N.C. Joint Cybersecurity Task Force and N.C. Emergency Management – hosted four cybersecurity exercises across the state for public safety answering points managers and staff and the IT staff who support them.

## Promote an inclusive, innovative and highly skilled workforce

NCDIT is building an inclusive, innovative workforce that can understand the needs of residents across North Carolina and deliver solutions to meet those needs. The department has launched programs to create new opportunities for populations underrepresented in the IT field while taking strategic measures to retain its skilled workforce and expand development and advancement opportunities.

### Invest in people through increased training and education opportunities

NCDIT continues to increase learning and training opportunities for employees to help advance their careers while also helping achieve the department's mission and goals.

- The department adopted a workforce development plan to recruit, integrate, develop and retain talent and a training plan that emphasizes the importance of professional development related to technical, organizational and leadership concepts. This includes a goal on employees' performance reviews for **them to complete 36 hours of professional development each year.**

### Attract, develop and retain a skilled and diverse workforce

People are NCDIT's most important asset and has taken steps to build a flexible and inclusive work environment and ensure skilled talent is available to meet North Carolina's IT demands now and into the future.

- NCDIT implemented practical, **data-driven strategies for recruitment**, particularly from populations underrepresented in the IT field:
  - To reach non-traditional job candidates, the department **established 16 paid year-round internship positions** designed for the neurodiverse community, high school students, historically Black colleges and universities and high-potential individuals who lack a traditional IT-related degree.
  - The department **established new internship positions within the Enterprise Security and Risk Management Office** as part of its efforts to grow a talent pipeline in the field of cybersecurity.
- **In partnership with ApprenticeshipNC and the N.C. Community Colleges System, NCDIT established an apprenticeship program** that, when launched, will recruit and develop future technologists in cybersecurity, networking and user support.



Fifteen team members graduated after completing NCDIT's six-month Leadership Development Program in 2023.

# | A Closer Look

## NCDIT Building Career Pipelines from Schools to the State's Workforce

"What work do you want to do?" NCDIT Secretary Jim Weaver asks a classroom of high school students in a computer lab.

"Design video games." "Influencer." "Be a lawyer," the students answer.

Secretary Weaver explains how each of those jobs can be part of an IT career. Video game designers understand code. An influencer leverages the latest social media features. A lawyer can specialize in online privacy.

NCDIT leaders and staff regularly visit schools across the state and partner on various events to raise students' awareness of career opportunities in IT and introduce them to job possibilities they might not otherwise know or think about.

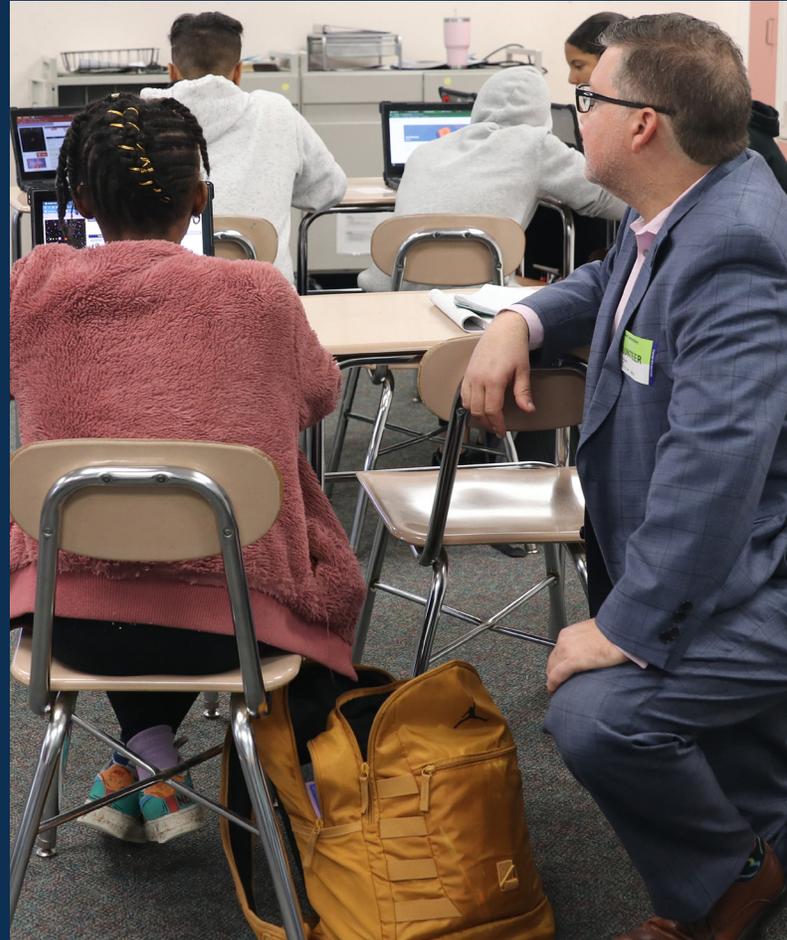
Outreach efforts like these also provide the department an opportunity to engage with educators, share information about programs and resources and learn how it can support school districts' career education programs. These partnerships are essential to build a career pipeline for North Carolina students and young adults from school into the IT workforce – whether via community college, four-year higher education or certifications and training.

"Our workforce needs critical thinkers equipped to use emerging technologies well," Secretary Weaver said. "We're empowering students to become problem-solvers who will create and innovate in all areas of economy."

NCDIT is also using internships to create new points of entry into its workforce for non-traditional job candidates, creating internships designed for the neurodiverse community, high school students, historically Black colleges and universities and high-potential individuals who lack a traditional IT-related degree.

Interns have included high school seniors gaining their first formal work experience and community college students making a career shift along with university students majoring in computer science.

An apprenticeship under development by NCDIT will serve North Carolinians who wish to enter an



IT career but lack the traditional qualifications or education.

NCDIT's support of workforce development in North Carolina extends beyond traditional IT areas. The department has helped establish the nation's first 911 Communications and Operations associate degree program at Richmond Community College and has supported a statewide recruitment campaign amid shortages of 911 telecommunicators.

NCDIT is also identifying ways to build the high-quality, diverse workforce needed to expand broadband infrastructure over the next five years.

The goal is to build a strong and skilled workforce that reflects the talent and diversity of the state and delivers technology solutions for a more equitable, prosperous, healthier and educated North Carolina.



- NCDIT’s **turnover rate decreased from nearly 12% the previous year to 6.5%**. This reduction is attributed to the strategic measures the department developed and implemented to help retain its employees, including:
  - **Working to ensure gender pay equity** in relation to the salary range midpoint across the department leveraging funding for **retention bonuses in high-turnover areas**
  - Promoting **workplace flexibility with a robust remote work program**
  - **Establishing a Diversity, Equity and Inclusion Committee** – with 31 employees representing all work units – to develop a strategic plan aimed at enhancing recruiting and retention, promoting inclusive training and development, and fostering an inclusive culture of belonging.
- Student outreach efforts that support education and inspire interest in the IT field from an early age are vital to helping build a talented workforce.
- In December 2022, 36 NCDIT employees **volunteered in Wake County schools for Hour of Code**, a two-week campaign to demystify code for students and show that everyone can learn the basics of computer science.
- NCDIT has long **encouraged participation in CyberStart America**, a national online competition aimed at introducing high school students to careers in cybersecurity. Of the 1,382 North Carolina students who participated in 2022-2023, 64 won scholarships from the National Cyber Scholarship Foundation.
- In partnership with The Hunt Institute at NC State University, **NCDIT sponsored and conducted the two-day N.C. Education Datathon in March 2023**. NCDIT staff mentored nine teams of high school and college students who used publicly available data to develop solutions to educational disparities.

# Leverage data assets and analytics to further advance a data-driven government

NCDIT provides tools and analysis to support informed strategic decision-making, effective delivery of state services, fraud detection and other aspects of data-driven government. The department also partners with agencies to help them protect the data and privacy of all those who interact with state government.

## Provide data analytics and insights for more informed decision-making

Data drives decisions, and NCDIT has undertaken significant efforts to provide data analytics and insights across state government.

- NCDIT completed significant work to **establish the N.C. Longitudinal Data System**. The initial soft launch of the NCLDS is targeted for the first quarter of 2024. The system will allow state agencies, research and evaluation partners and practitioners to access cross-sector, linked data to answer some of the state's most pressing questions of policy and practice.
- The department also **developed the stakeholder-approved tools, procedures and policies necessary for the 2024 soft launch of the N.C. Longitudinal Data System**. These include the development of a publicly available data dictionary, data request form and formal data request approval process designed to make requests for data more transparent and consistent for non-data audiences.
- Using data assets housed in its Government Data Analytics Center, NCDIT launched the first phase of upgrades to the N.C. Department of Insurance's **Bail Bond Information System** to improve workflows and increase public safety. These upgrades will help bail bond agents better track cases, log complaints from the public and manage workflow by merging multiple systems that were previously unconnected. This multiyear, multiagency project is part of a larger effort to merge existing data assets into useful information to help leaders make program investment decisions and manage resources as well as improve financial programs, budgets and results.
- NCDIT implemented the initial phase of **upgrades to an intelligence platform** that integrates law enforcement investigation management tools that help the N.C. Information Sharing and Analysis Center fight terrorism and criminal activities. The new system, which replaces a legacy system implemented in 2015, helps provide actionable intelligence on immediate and emerging threats in a timely manner for the safety of the state.
- To overcome siloed solutions that create significant barriers, NCDIT **used cloud technology to provide an Enterprise Data Warehouse for analytics and dashboarding** for the N.C. Department of Environmental Quality. A proof of concept can depict permit status immediately instead of a weeks- or months-long process to gather and present data. DEQ can now build and deploy dashboards, which will reduce workload, increase transparency and provide more capabilities for the public.
- The N.C. Health Information Exchange Authority signed NC HealthConnex participation agreements with the N.C. Department of Public Safety and the then future N.C. Department of Adult Correction. The move expands access to the medical records of incarcerated people and provides enhanced continuity of care. Health care providers at the state's 53 prisons will have a more complete view of offenders' health records, allowing them to see their medical histories while incarcerated and share medical information with external providers after they are released.
- NCDIT initiated a new use case for NC HealthConnex as a data partner in the Accountability for Care through Undoing Racism and Equity study, known as ACURE4MOMS. Forty participants in NC HealthConnex are taking part in this five-year study conducted by the University of North Carolina at Chapel Hill and funded by the Patient-Centered Outcomes Research Institute, which addresses racial disparities in maternal and infant mortality and health outcomes.

## Execute enterprise data governance strategies to promote data sharing while ensuring data privacy and security

NCDIT is working to build a culture of privacy across all state agencies to earn and keep the trust of the people the department serves.

- The N.C. Health Information Exchange Authority completed its **first comprehensive assessment of security and privacy controls to comply with the Health Insurance Portability and Accountability Act.**
- NCDIT **continued to grow and mature the state's first enterprise-wide privacy program** to manage information as a strategic resource and implement Fair Information Practice Principles. The program has increased privacy awareness through stakeholder outreach and embedded privacy within agencies through privacy points of contact and monthly privacy meetings. Efforts include:
  - Rolling out **bi-monthly privacy training** and creating policies and guidance for **state employees as well as providing** resources for the larger community
  - **Drafting a framework to guide the responsible use of AI**, which includes risk management standards, adherence to existing state policy and guidance on the use of publicly available generative AI
  - **Providing services to state agencies** including risk assessments, procurement-related reviews, privacy incident response/breach support, federal privacy alignment support, privacy breach exercises, and instruction on industry privacy best practices
- Working with the Statewide IT Procurement Office and the Enterprise Security and Risk Management Office **to embed privacy by design into existing processes**
- **Reviewing proposed IT and other contracts and agreements to identify privacy and data protection issues** and incorporate privacy provisions
- Partnering with procurement to **ensure that privacy and security reviews are embedded into processes that occur after the Request for Proposal (RFP)** to capture changing risks
- **Overhauling the state's privacy threshold analysis** to address privacy and IT concerns more comprehensively, creating the state's first privacy impact assessment as well as a dedicated social media privacy threshold analysis

## Expand the use of modern data visualization capabilities to track performance and impacts

NCDIT continues to leverage opportunities to visually display data in a way that its impact and performance can be easily understood.

- NCDIT implemented a map solution to help right-of-way staff and project managers at the N.C. Department of Transportation **visually monitor the progress of parcel acquisitions in advance of construction.** This system integrates information provided by right-of-way personnel and the state's Parcel Data Service from NCDIT's Center for Geographic Information Analysis. The map layer is embedded in a user-friendly dashboard that allows all parties to see proposed property impacts, acquisition status and the state parcel layer.

# A Closer Look

## NC eLink Improves Service Delivery for North Carolina State Agencies and Residents

The NC eLink data integration utility, built by the N.C. Government Data Analytics Center, is helping to provide more effective services to North Carolina residents and businesses by enabling the linking of data across agencies.

“NC eLink offers countless opportunities for state agencies to collaborate, share and integrate data sources to ensure our residents have access to all the services for which they are eligible, and those services are provided effectively and timely,” said Nitya Ganapathy, analytics director of GDAC.

Administrative processes within government are often siloed, and a person could have different identifications for each service (e.g., driver’s license number, student ID number, unemployment claimant identification number, Medicaid identification).

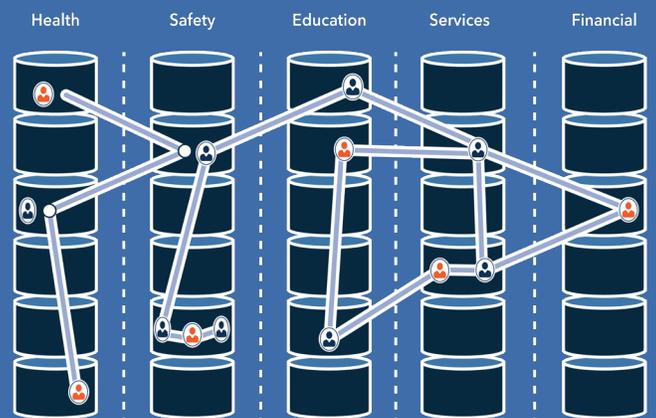
Without the same common identifier to connect records for a person, services become fragmented and inefficient.

GDAC had worked with agencies for many years to link data sources. In the past, however, the matching process was developed to support a single business problem and had to be repeated for each project, which was time-consuming and expensive.

GDAC developed the NC eLink utility – which was launched in 2022 – to reduce the challenges and duplication of effort involved in building individual matching programs. NC eLink matches existing IDs to a unique ID created in the utility, standardizing the matching process. These unique IDs can then be indexed and linked without exposing personally identifiable information.

The COVID-19 pandemic heightened the need for a tool such as NC eLink to increase efficiency, enhance service delivery and detect fraud. During the pandemic, agencies saw a significant increase in identity theft and fraudulent activity, which not only impacted those whose identities were stolen but also slowed down the provisioning of services to those in need.

“During COVID, NC eLink helped the Division of Employment Security to identify 60,000-plus



unemployment insurance claims that were associated with identity theft or fraudulent activities,” Ganapathy said. “By proactively identifying fraudulent claimants before the payments and services are provided, we are protecting North Carolina residents from being associated with false activities.”

State agencies, including the departments of Public Instruction, Public Safety and Commerce, have also used it in criminal justice, fraud detection and education. The N.C. Department of Health and Human Services uses the tool internally to link health and human services across its divisions.

The National Association of State Chief Information Officers recognized NC eLink with the [2023 NASCIO State IT Award in the Cross-Boundary and Partnerships category](#). When agencies work with NC eLink, they begin to complete the picture of an individual and the services they currently receive, which improves outcomes for North Carolina’s residents.



# AWARDS AND RECOGNITION

## National Awards

### National Association of State Chief Information Officers State IT Awards

#### State Technology Innovator

Chief Deputy State Chief Information Officer Susan Kellogg received the State Technology Innovator Award, which recognizes outstanding individual contributions to advance state technology through the promotion of best practices, adoption of new technologies and advancements in service delivery.

Kellogg leads NCDIT's Internal Operations Division, a 450-person team that provides enterprise application and infrastructure services to 375 state agencies, local governments and educational institutions statewide. She has spearheaded digital transformation initiatives in North Carolina to modernize service delivery and improve access to state services and information.

#### Information Communications Technology Innovations

The FirstTech team and its public and private partners were recognized for **the Advanced Television Standards Committee 3.0 in Public Safety Communications project** – an emergency paging system using next-generation digital television broadcasting. ([Read more about this initiative on page 16.](#))

#### Cross-Boundary Collaboration & Partnerships

The N.C. Government Data Analytics Center's **NC eLink data utility** was recognized for crossmatching individuals' data across multiple state government systems. ([Read more about this initiative on page 26.](#))

#### State CIO Office Special Recognition

A collaboration of the Division of Broadband and Digital Equity, Center for Geographical Information Analysis and the N.C. Geographic Information Council, the Broadband Access and Adoption Mapping Initiative was recognized as a finalist for mapping broadband access and adoption across North Carolina. ([Read more about this initiative on page 11.](#))

### National States Geographic Information Council Awards

#### Geospatial Excellence Innovator

The N.C. Center for Geographic Information and Analysis was recognized by the National States Geographic Information Council for its work on the Broadband Access and Adoption Mapping Initiative.

### StateScoop 50 Awards

#### GoldenGov: State Executive of the Year

**Secretary and State Chief Information Officer Jim Weaver** received the GoldenGov: State Executive of the Year Award for visionary state executives who lead state government into a new technology landscape with innovative ideas and inspire others to get on board.

Weaver was recognized for his leadership in increasing affordable broadband, securing state IT systems and data, elevating privacy across state government and delivering modernized citizen-centric solutions since joining NCDIT in March 2021.



Mike Ware, NCDIT's chief information officer for the N.C. Department of Environmental Quality, accepts the NC Tech Award for Public Sector CIO of the Year.

## State Leadership of the Year

**Deputy Secretary for Broadband and Digital Equity Nate Denny** was recognized as a public-sector principal helping government implement new technologies, strategies and IT programs. He was honored for transformative efforts to achieve North Carolina state government's priority to close the digital divide.

## State IT Innovation of the Year

**The N.C. Criminal Justice Analysis Center's Justice Data Portal**, within the Governor's Crime Commission, was recognized for a cutting-edge state IT approach to cross-agency or intra-agency technology that embraces innovation. CJAC worked with NCDIT's Government Data Analytics Center and its vendor partner to launch a centralized, statewide interactive platform for criminal justice data to help inform the investment of criminal justice funds across the state.

## State Awards

### NC TECH Awards

#### Public Sector CIO of the Year

**Mike Ware, chief information officer for the N.C. Department of Environmental Quality**, was named Public Sector CIO of the Year for demonstrating leadership, driving innovation and delivering value to the organization.

Ware, who leads a team of 75 NCDIT employees, champions innovation and more efficient, effective solutions for the state's environmental quality efforts. Among them is DEQ's Permitting Transformation Program to update and improve the permit process. Ware has also led major system upgrades to improve services for DEQ employees and everyone who interacts with the department.

## Use of Technology Award for Government

**AddressNC** was recognized as a finalist for the collaborative work of the N.C. Center for Geographic Information and Analysis, N.C. Geographic Information Coordinating Council and N.C. 911 Board to build, update and expand AddressNC, a statewide geographic information systems dataset that provides the precise physical sites of nearly 6 million locations and is used by state and local governments, the private sector, academia and the public.

## Best of North Carolina Awards

**NCDIT's GenGov team** at the N.C. Department of Administration was recognized for being a small, dynamic team that tackles multiple complex projects, including work on the N.C. Financial System and Electronic Vendor Portal.

**The NCDIT–Environmental Quality Operations Team** was recognized for its work on several major projects, including migrating to a new voice internet protocol phone system and switching the domain name for all departmental email addresses.

**The Division of Broadband and Digital Equity, Center for Geographic Information & Analysis and Geographic Information Coordinating Council** were honored for a collaborative GIS mapping effort that helped surface 115,000 additional North Carolina homes and businesses that lack high-speed internet access. This effort helped increase the state's funding allocation through the Bipartisan Infrastructure Law's Broadband Equity, Access and Deployment program to more than \$1.5 billion.

# LOOKING AHEAD



As we look to the year to come, we remain steadfast in our commitment to delivering the department's strategic plan to provide for the information technology needs of North Carolina state government and the residents, businesses and visitors it serves. Technology underpins everything the state does and is essential to its continued growth and success.

In August 2023, we completed an upgrade of our Digital Commons platform, a single cloud-native web application that serves more than 80 websites for North Carolina state agencies, boards and commissions and services about 100 million web requests per week. The updates enhance accessibility and allow for better performance and a faster, more reliable user experience, positioning us to drive future innovation in the digital landscape.

Along with this, we culminated a two-year effort in September 2023 to complete the first phase of a project to modernize the department's N.C. Identity Management tool. Commonly known as NCID, it serves as the state's primary access control and identity management system that many state and local government agencies use to provide online services to employees and the public. The project involved enhancing security, moving non-government user accounts to a cloud-based system and making improvements that let users more easily and efficiently manage their NCID accounts. Future phases include implementing multifactor authentication.

Anticipating the opportunities and challenges that lie ahead, we have continued our focus on evaluating new technologies and advising agencies on how they can be used to promote efficiency and innovation while also limiting risk. We have already issued interim guidance to state agencies about the use of publicly generative artificial intelligence and are finalizing a framework for the responsible use of AI. When implemented, the framework – which includes input from executive agencies – will form a blueprint to help protect the public's data that is entrusted to the state.

Our efforts also include upgrading existing technology and equipment. In August 2023, the N.C. 911 Board awarded \$16.5 million in grants through the PSAP grant program to support enhancements to 911 centers and equipment, including facilities relocation, new facilities construction and radio and

ancillary equipment upgrades. Another grant project of approximately \$6 million is underway to provide portable radios to public safety answering points for placement at each telecommunicator workstation to ensure backup and continuity. We also anticipate that all PSAPs across North Carolina will be migrated to the state's Next Generation 911 system in early 2024, vastly improving the efficiency and effectiveness of emergency response.

Meeting another vital need for the state, our work to close the digital divide will remain a top priority to ensure that all North Carolinians have access to affordable, reliable high-speed internet and the appropriate skills and devices to safely use it.

In September 2023, we made the first Completing Access to Broadband program awards totaling \$22 million that will connect 6,012 households and 164 businesses in 14 counties to high-speed internet. This program complements the Growing Rural Economies with Access to Technology (GREAT) grants previously awarded to reach additional unserved areas. We are also planning to award \$14 million in digital equity funding in early 2024 through the Digital Champions grant program and \$2 million through a new funding opportunity to expand the public safety broadband network on state agency campuses. Looking further ahead, we have developed an initial proposal for how our state will invest the \$1.5 billion in federal Broadband Equity, Access, and Deployment funding we were allocated for broadband expansion as well as a draft North Carolina Digital Equity Plan to address internet affordability, access to devices and digital literacy needs over the next five years.

All of these efforts, and our many others, play a critical role in ensuring a bright future for our state. We have established a strong foundation of technology and will continue to build on it as we enable trusted business-driven solutions to meet the needs of all North Carolinians.

**NCDIT**  NORTH CAROLINA  
DEPARTMENT OF  
INFORMATION  
TECHNOLOGY