



Public Schools of North Carolina
State Board of Education
Department of Public Instruction

Report to the North Carolina State Chief Information Officer

NC Department of Public Instruction
Information Technology Plan for FY2021-2023
G.S. §143B-1330

Date: December 1, 2020

Report # 115

DPI Chronological Schedule, 2020-2021

STATE BOARD OF EDUCATION (SBE)

SBE VISION: Every public school student in North Carolina will be empowered to accept academic challenges, prepared to pursue their chosen path after graduating high school, and encouraged to become lifelong learners with the capacity to engage in a globally-collaborative society.

SBE MISSION: The mission of the North Carolina State Board of Education is to use its constitutional authority to guard and maintain the right of a sound, basic education for every child in North Carolina Public Schools.

ERIC DAVIS

Chair: Charlotte – At-Large

JILL CAMNITZ

Greenville – Northeast Region

TODD CHASTEEN

Blowing Rock – Northwest Region

ALAN DUNCAN

Vice Chair: Greensboro – Piedmont-Triad Region

REGINALD KENAN

Rose Hill – Southeast Region

DONNA TIPTON-ROGERS

Brasstown – Western Region

DAN FOREST

Lieutenant Governor: Raleigh – Ex Officio

AMY WHITE

Garner – North Central Region

PATRICIA N. WILLOUGHBY

Raleigh – At-Large

DALE FOLWELL

State Treasurer: Raleigh – Ex Officio

OLIVIA OXENDINE

Lumberton – Sandhills Region

J WENDELL HALL

Ahoskie – At-Large

MARK JOHNSON

Secretary to the Board: Raleigh

JAMES FORD

Charlotte – Southwest Region

NC DEPARTMENT OF PUBLIC INSTRUCTION

Mark Johnson, State Superintendent :: 301 N. Wilmington Street :: Raleigh, North Carolina 27601-2825

In compliance with federal law, the NC Department of Public Instruction administers all state-operated educational programs, employment activities and admissions without discrimination because of race, religion, national or ethnic origin, color, age, military service, disability, or gender, except where exemption is appropriate and allowed by law.

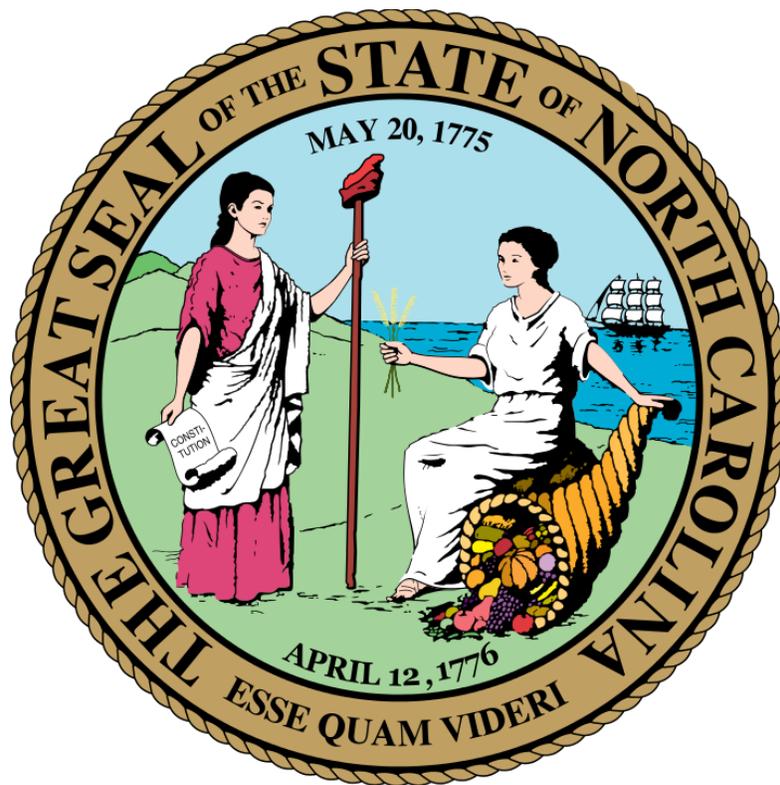
Inquiries or complaints regarding discrimination issues should be directed to:

Beverly Emory, Ph.D., Deputy Superintendent of District Support
6307 Mail Service Center, Raleigh, NC 27699-6307 / Phone: (984) 236-2124 / Fax: (984) 236-2099

Visit us on the Web: www.ncpublicschools.org

North Carolina Department of Public Instruction

INFORMATION TECHNOLOGY PLAN FY 2021 - 2023



By

Michael Nicolaides, CIO, Department of Public Instruction

This page left blank intentionally

Contents

1. Statewide Information Technology Goals	1
2. Department of Public Instruction Strategic Plan Executive Summary and Goals	2
Executive Summary	2
IT Strategic Plan: Principles and Assumptions.....	3
Goals and Objectives	4
Strategy Influencers.....	5
COVID-19	5
Budget.....	6
Ernst and Young Assessment.....	6
NCDPI Data Center Consolidation	6
Business Relationship Management	7
3. Department of Public Instruction IT Plan Initiative Table	8
4. Department of Public Instruction IT Program, Project, or Initiative Justifications	14
Technology Services	14
Support Services	14
Enterprise Applications.....	15
Digital Learning Initiative (DLI)	17
School Business Systems Modernization Program	17
LEA Modernization	18
Agency Modernization.....	19
Data Transparency.....	21
5. Department of Public Instruction Enterprise IT Opportunities	24
Appendix A: Department of Public Instruction IT Organizational Chart.....	26
Technology Services Organization.....	26
School Business Systems Modernization (SBSM) Organization	27
Appendix B: Department of Public Instruction IT Accomplishments and Progress Review	28
Accomplishments and Progress on Continuing FY19-21 Initiatives	28
Completed or Closed FY19-21 Initiatives	31
Appendix C: Progress on the EY NCDPI Organizational Assessment.....	34
Appendix D: Legislative Priorities from the NC SBE- 2025 Statewide Strategic Plan.....	38

This page left blank intentionally

1. Statewide Information Technology Goals

1. Secure IT systems and infrastructure: Provide a resilient infrastructure that mitigates risk, supports business continuity, provides security and privacy of the state's and citizens' data, and supports secure collaboration and information sharing.

2. Deepen trusted partnerships: Support and empower the business of state government by improving processes, enhancing cross-agency collaboration and cooperation, and establishing and managing IT standards.

3. Improve the management and transparency of IT: Improve the usage of the state's IT resources by increasing the visibility into those, the cost of the resources, and their overall utilization.

4. Modernize and centralize IT operations: Through process improvement and optimization, modernize and centralize technology operations to effectively support a 21st century government.

5. Empower our citizens through technology: Provide transparent, easy-to-use, and customer-focused government and student services.

6. Promote better decision-making through analytics: Leverage the state's data to make more informed decisions, policies, and laws.

7. Operation Efficiency: Eliminate redundancy of systems, services, and technologies to streamline operations.

2. Department of Public Instruction Strategic Plan Executive Summary and Goals

Executive Summary

The implementation of this 2021 – 2023 strategy will enable the North Carolina Department of Public Instruction (NCDPI) to realize benefits from information technology innovations, enhanced capabilities, expanded service offerings, and delivery of efficiencies in support of administrative and educational functions. Many projects or initiatives play an important role in supporting the deployment of resources to recruit and retain best-in-class educators, administrators, and agency staff. Furthermore, the ultimate mission of the NCDPI is to guard and maintain the right of a sound, basic education for every child in North Carolina Public Schools.

This strategy puts in place areas of program, project, and specialized effort that enable effective workforce communications, secure information sharing, and promote networkwide collaboration. Partnerships are central to this strategy as they enable the development of robust service delivery platforms to support technological investments that respond to an evolving demand. They also increase engagement between NCDPI Technology Services staff, agency staff, and the broader educational provider network to ensure that service delivery meets the need; this is crucial to partnering with an external agency for service delivery.

Through an emphasis on service availability and delivery, the strategy establishes a managed workload to continue a modernization thrust with an array of complementary and core project completions to increase user and service experience. NCDPI continues to experience efficiency and cost benefits from the recent centralization of the state technology infrastructure, with further benefits expected from the centralization of shared and common services. Subsequent biennium planning periods must continue to focus on procuring and managing to the best value possible for new and existing systems, increasing benefits through improving information quality and accessibility, and enabling better analytic decision making.

With renewed focus and awareness towards efficiency, optimization of assets and workforce resources, and the adoption of best practices, this strategy aims to empower NCDPI Technology Services to innovate, enable the entire NC educational landscape to use systems effectively, and help students improve their digital literacy for discovering, evaluating, and creating an educational experience through technology.

In managing this ongoing and dynamic strategic plan, two core program areas continue with multiple projects or initiatives in each. This bimodal practice will be the focus of this, and subsequent, biennium planning cycles. Please note that Gartner Research defines Bimodal IT¹ as the practice of concurrently managing two separate but coherent modes of IT delivery; one focused on stability and the other on agility. Mode 1 is operational with emphasis on stability, security, and efficiency. Mode 2 is exploratory with emphasis on agility and innovation and on-time delivery. In our case there two areas are:

1. Technology Services Operations
 - a. Support
 - b. Enterprise Applications
 - c. Digital Learning Initiative
2. School Business Systems Modernization (SBMS)

¹ <https://www.gartner.com/en/information-technology/glossary/bimodal>

- a. Local Education Agency (LEA) Modernization
- b. NCDPI Agency Modernization
- c. Data Transparency

Lastly, but of utmost importance, is the long-term impact the COVID-19 pandemic will have on the state education technology landscape. As NCDPI had to react quickly to the shift to remote learning and dynamically adjust to the new normal, while reaching immediate and lasting decisions. The historical normal enjoyed by decades of traditional educational delivery has been replaced by new and innovative solutions.

The SBE and NCDPI, in consultation and response to guidelines issued by the North Carolina Department of Health and Human Services (NCDHHS), have developed guidance to support public school units (PSUs) and communities in determining their plans and strategies for reopening schools. An array of remote learning resources for educators, students and parents have been published, including a comprehensive guidebook, which is a living document that will continue to capture the most current information to help guide districts and communities.

IT Strategic Plan: Principles and Assumptions

The federated nature of the state's shared and common technology infrastructure and services offers advantages and strengths, and at the same time can introduce complexity and inefficiency; technological subsidiarity is a reality within the state's transition planning as understood in G.S.§143B-1325.(d). To implement an NCDPI Technology Services strategic plan for the state in collaboration with NCDIT, a set of principles and assumptions are required to support a balance in transparency and understanding across the organization to promote common direction and alignment. The following principles and assumptions create awareness to providing technology services to the agency's educational community.

1. NCDPI Technology Services and NCDIT staff work in partnership as technology providers to ensure that delivery works as a strategic enabler for the agency and the state. This can only be achieved through transparent understanding of inter-agency functions that may benefit shared or common technology, and therefore require close collaboration of staff, business area subject matter experts, and technology specialists.
2. Centralized state and local agency technology should work in collaboration and take joint responsibility in services delivery to the broader educational community, facilitated by a shared or common (federated) and localized (subsidiary) end-to-end support process.
3. Supporting the agency's digital literacy strategy is a shared objective of all centralized and local services, and in collaboration with strategic partners such as the North Carolina State University Friday Institute for Educational Innovation (NCSU-FI) and MCNC in order to improve the overall student-outcomes experience with a modern approach to that end.
4. The plan aligns with and supports the agency's need to adopt digital technologies for teaching, student success, promotion of increased digital literacy, and effective stewardship of state resources.
5. Investments, benefits, and savings with state supported infrastructure and services are made transparent to encourage adoption and economies of scale across the agency and most importantly across the state's LEAs and Charter Schools.

6. Technology services are delivered in a manner to maximize considerations towards a total cost of ownership, fit within current IT architectures, thoughts towards future architectural shifts where appropriate, assumed benefits to be realized, and value to citizens (parents, students, and educators).
7. Partnership in technology goes beyond the boundaries of the agency to include the State Board of Education, LEAs, Charter Schools, non-profit partners such as NCSU's Friday Institute and MCNC, Institutes of Higher Education, other state agencies such as the North Carolina Departments of Information Technology, Health and Human Services, Public Safety, and Transportation, Departments of Education in other states, vendors, and the public at large.
8. Technology practices, whether created locally in NCDPI or centrally within NCDIT that gain acceptance, have the potential to be promoted to statewide best-practices, with benefit to all agencies for sustainable adoption.
9. NCDPI information and data are treated as assets and governed appropriately, with processes to support, access, store, and conserve data. Governance, as applied to data, is not the function of any one group but requires a joint approach throughout the state.
10. NCDIT has clarity on process ownership and, where possible, adopts agreed and shared processes that can be supported by NCDPI Technology Services.

Goals and Objectives

The NC State Board of Education Statewide Strategic Plan² has been updated to reflect an updated long-term vision for North Carolina education.

Goals	Objectives
I. Eliminate opportunity gaps by 2025.	<ol style="list-style-type: none"> 1. Decrease the number of exclusionary discipline practices by subgroup (suspensions and expulsions) 2. Improve school climate measures across all schools and grade levels <ul style="list-style-type: none"> Component 1. Increase the number of school-based mental health professionals Component 2. Increase opportunities to develop healthy habits in students Component 3. Increase the number of schools and districts utilizing innovative "Breakfast After the Bell, Summer Meals, and At-Risk Afterschool Meals" programs to keep students fed, healthy and engaged 3. Increase percentage of 4-year old children enrolled in state Pre-K from 22% to 34% (above the current national average) 4. Decrease the high school dropout rate for each subgroup <ul style="list-style-type: none"> Component 1. Increase average composite score on state-mandated college entrance exam Component 2. Increase access, readiness, and attainment of early postsecondary opportunities (EPSOs), such as AP, IB, CTE, dual credit/enrollment, work-based learning, apprenticeships 5. Decrease number of students taking remedial courses in college 6. Increase the number of educators of color in schools across North Carolina 7. Increase the number of charter schools providing equitable access to economically disadvantaged students or reflecting the LEA in which they are located

² [North Carolina State Board of Education 2025 Statewide Strategic Plan, 8/8/2019 - 9/30/2025](#)

Goals	Objectives
II. Improve school and district performance by 2025.	<ol style="list-style-type: none"> 1. Allocate financial, business and technology resources according to State and Federal laws and State Board of Education policies 2. Increase the percentage of grades 3-8 math and ELA EOG subgroup test scores meeting the ESSA Yearly Measures of Interim Progress 3. Increase the percentage of students proficient in math by subgroup 4. Increase the percentage of students proficient in reading by the end of 3rd grade 5. Increase the percentage of high school reading subgroup test scores meeting the ESSA Yearly Measures of Interim Progress 6. Increase the percentage of students proficient in science by subgroup 7. Increase number of schools meeting or exceeding growth measure by subgroup Component 1. Increase the percentage of schools with charter-like flexibilities (Innovative Schools, Innovation Zones, Restart Schools, Renewal School Districts, Lab Schools) meeting or exceeding annual expected growth 8. Increase the number of charter schools meeting or exceeding academic, operational, and financial goals
III. Increase educator preparedness to meet the needs of every student by 2025.	<ol style="list-style-type: none"> 1. Increase the number of culturally relevant, equity-focused resources for educators 2. Increase the number of mentors available to beginning educators 3. Strengthen relationships between educator preparation programs (EPPs), districts, and schools to foster collaboration and better teaching practice 4. Increase opportunities for educator engagement inside and outside of school

Strategy Influencers

COVID-19

The long-term impact the COVID-19 pandemic will have on the state is still uncertain. As NCDPI dynamically adjusts to the latest information and navigates immediate and lasting decisions, the largest impact areas will be the rapid adoption to digital content and delivery mechanisms and an increased agility to finance a shifting technological landscape. Collaboration efforts have been naturally heightened between various state educational and health agencies to communicate best-practices and efficiencies within the community. The historical normal enjoyed by decades of traditional educational delivery and evolving teaching methods is being challenged to positively experience an entirely different future. In a hyper connected world where the majority of content and collaboration is engaged digitally, an increased focus on utilizing technology to enable all modes of coordinated and secure delivery is essential to unlocking all student opportunities.

It will be increasingly important for NCDPI Technology Services to continuously consider the strategic implications of each investment while maintaining the adaptability of existing systems. While the digital divide and equity issues are real and must be addressed, abandoning a personalized method of learning when the present crisis subsides is a poor choice. Multiple strategies may come to light, each with many technology solutions, but all will require a clear line of communication between what is capable of being implemented and what may be financed.

The NC State Board of Education and NCDPI, in consultation and response to guidelines issued by the NCDHHS, have developed guidance to support PSUs and communities in determining their plans and strategies for reopening schools. An array of remote learning resources for educators, students and parents have been

published, including *Lighting Our Way Forward: Summary Document*³ which provides an overview and synthesis of NCDHHS requirements, clear, actionable steps that are advisable for students and employees as they return to school buildings, and guidance that is applicable throughout the 2020-2021 school year and beyond. This Summary Document includes links to the more comprehensive and detailed *Lighting Our Way Forward: North Carolina's Guidebook for Reopening Public Schools*.⁴ The Guidebook is a living document that will continue to capture the most current information to help guide districts and communities.

Budget

Many program areas and projects have sustained project shutdowns, schedule extensions and budget adjustments with the 2018 biennium budget not being approved. While effort is still underway on the majority of planned initiatives, the impact is most felt at the local educational agency (LEA) level. Most LEAs are not in a position to engage a state project where a potential absence of funding is a risk. As a result, many LEAs are forced to revert to older at-risk systems due state funding concerns and not join state technology initiatives.

Ernst and Young Assessment

The NCDPI Information Technology plan continues to be influenced by recommendations from the Ernst and Young (EY) NC DPI organizational assessment, as reported to the North Carolina General Assembly under "Independent Operational Assessment of the North Carolina Department of Public Instruction, Session Law 2017-57, Section 7.23L," delivered as Report #76 on May 1, 2018.⁵

Substantial effort has been applied towards the realization of EY proposed organizational and operational changes. That additional opportunities for success are still forthcoming is noted; however, this does not minimize the value of currently adopted recommendations. NCDPI feels this area is significant enough to warrant mention up front for continued focus.

Currently, after a considerable mobilization of workforce resources, NCDPI has accomplished nearly 50% of the recommendations outlined in the report. The remaining 50% is either in-process or, fractionally, not yet started. NCDPI is positioned to accomplish all the EY recommendation that were identified for adoption by the completion of this SFY2021.

Please refer to Appendix C: Progress on the EY NCDPI Organizational Assessment for progress on each recommendation and its corresponding goals.

NCDPI Data Center Consolidation

In order to increase efficiency and reduce long-term costs to the agency, a key recommendation of the EY NCDPI Organizational Assessment was the transition of locally hosted and supported IT infrastructure to NCDIT or vendor hosting and support. To align these goals, NCDPI implemented a plan to consolidate all locally hosted IT infrastructure to NCDIT or vendor hosting. All but essential local network infrastructure servers were moved out of the NCDPI building. Additionally, the NCDPI eliminated the practice of procuring or hosting products and services that already exist as a service at NCDIT. By utilizing the NCDIT managed services and products, the servers previously hosting these products and services at NCDPI were decommissioned.

³ <https://www.dpi.nc.gov/news/covid-19-response-resources/lighting-our-way-forward>

⁴ <https://docs.google.com/document/d/1z5Mp2XzOOPkBYN4YvROz4YOyNIF2UoWq9EZfrivN4x8/edit>

⁵ The Ernst and Young NC DPI organizational assessment and report are posted to the North Carolina General Assembly Joint Legislative Education Oversight Committee (Non-Standing) [website](#), in the following location: Documents\Reports Received\2018 Reports Received\Audit of the Department of Public Instruction.

Business Relationship Management

Technology recommendation #11 in the EY report outlined a repurposing of IT staff by outsourcing common functions and refocusing those team members into advisory and support roles for business need. To satisfy this, Technology Services has embarked on the creation of a Business Relationship Management (BRM) team. The creation of an organizational BRM entity, and an associated array of related policies and supporting business and technology processes, is currently underway.

Business Relationship Management for NCDPI Technology Services is being modeled after the BRM function within NCDIT⁶ and have numerous practice and process similarities to those well documented through the BRM Institute.⁷

Current (EY) goals identified in achieving a successful BRM implementation include:

- Define and communicate to NCDPI the new BRM function;
- Decompose current IT operations into component functions and specify sourcing drivers;
- Develop vendor sourcing strategy, define pricing models, business cases (incentives and risks), and operating model to engage vendors;
- Perform market analysis and develop detailed service descriptions and requirement specifications; and,
- Develop vendor and supplier portfolio for IT functions and develop roadmap for transition.

When defined and implemented, BRM will help with demand shaping the many business needs as requests are evaluated against current capabilities, the need to expand or acquire new capabilities, or even adjust current strategies based on the evolving trends within the educational service delivery landscape.

⁶ <https://it.nc.gov/services/business-relationship-management>

⁷ <https://brm.institute/>

3. Department of Public Instruction IT Plan Initiative Table

FY21-23 Plan #	IT Program, Project, or Initiative	New (Yes/No)	Description *Provide Justification in Section 4	Budget Requirement (\$)	Funding Mechanism	Supported Agency Goal	Supported Statewide IT Goal	Anticipated Completion Date
Technology Services								
Support Services								
1	School Connectivity Initiative	No	To ensure all NC PSUs have equitable access to secure, reliable, and sufficient high-speed Internet access, Provides E-rate filing assistance, common shared services and Cooperative Purchasing Agreements to leverage group purchasing, while enabling the greatest amount of local control in PSU technology decisions. Additional explorations into internet connectivity in remote areas of the state to enable digital remote learning in areas that do not have the necessary broadband access. This "proof of concept" project will ideally find innovative ways to close the connectivity gap.	\$32M, plus \$4.5M recurring via expansion budget request	S.L. 2017-57, Section 7.23A.(b), and expansion budget request	SBE I.7,II.1,III.1 EY 12,13	1,4,7	Ongoing
2	Information Security Program	No	To collaboratively improve the cybersecurity program	TBD	Technology Services 1500	SBE I.2,I.3,II.1 EY 12,13	1,2	Ongoing

FY21-23 Plan #	IT Program, Project, or Initiative	New (Yes/No)	Description *Provide Justification in Section 4	Budget Requirement (\$)	Funding Mechanism	Supported Agency Goal	Supported Statewide IT Goal	Anticipated Completion Date
			ensuring agency-level infrastructure and data security.					
3	SharePoint Online Expansion	Yes	Expand SharePoint Online and Microsoft 365 service offerings to provide standardized solutions improving agency communication and collaboration.	TBD	TBD	SBE II.1 EY 1,12,13	2,4	Ongoing
4	Upgrade Conference Room 150 Audio/Visual	Yes	Audio/ Visual equipment in room 150 (North and South) to be upgraded to current technological offerings.	\$26k	Technology Services 1500	SBE II.1		Jan. 2021
Enterprise Applications								
5	ECATS	No	Online management of all required state and federal reporting for special education students.	\$22.4M	Federal Funding- IDEA VI-B Grant	SBE I,II,III.1 EY 12,13	4,6,7	Dec. 2021
6	K-3 Formative and Diagnostic Reading Assessment (formerly Read to Achieve)	No	Implement statewide K-3 services for formative and diagnostic reading assessment, and student assessment for ELA and immersion schools.	\$8.3M	SB 438	SBE I,II,III.1 EY 12,13	1,5,6	Oct. 2021
7	NCEdCloud IAM Service	No	Implement a rostering solution and migrate Tier I Support to the vendor.	\$200,000	TBD	SBE II.1 EY 11,12,13	4,5,7	Jun. 2020

FY21-23 Plan #	IT Program, Project, or Initiative	New (Yes/No)	Description *Provide Justification in Section 4	Budget Requirement (\$)	Funding Mechanism	Supported Agency Goal	Supported Statewide IT Goal	Anticipated Completion Date
8	Student Information System Modernization	Yes	Implement a modern SIS that delivers value and streamline school operations.	Estimated \$123.5M	HB 1023 Section 2.4, UERS funds	SBE I,II,III.1 EY 12,13	4,5,6,7	March 2022
Digital Learning Initiative								
9	Open Education Resources	No	Adoption of open license, standards aligned educational resources for educator preparedness for digital teaching and collaboration. Educators collaborate with peers to use, re-mix, improve and redistribute openly licensed materials to bring the best, standards aligned content to students.	\$2.3M	S.L. 2013-11, S.L. 2013-12, and S.L. 2013-226, Sec 5.(c)	SBE I,II,III.1 EY 12,13	5,7	Jun. 2021
School Business Systems Modernization Program								
LEA Modernization								
10	(LEAM_1) LEA Stabilization	No	Stabilize the LEA platforms by moving them to the SAS EdCloud, removing the risk of the end of life and out of support AS400 on premise hardware from failure	\$7.5M (\$1.5M/yr) \$1.5M Funds will be in 2021 Budget Request	Legislation S.L. 2017-57 Section 7.16 2020 Expansion Budget Senate Legislation (TBD)	SBE II.1 EY 11,12,13	1,2,3,4,7	2027
11	(LEAM_2) LEA Modernization the LEA financial and HR (ERP) systems to SaaS	No	Move all LEAs to a SaaS financial and HR platform connected to DPI via an integration bus with data	(\$27M recurring for 6 years will be in	Legislation S.L. 2017-57 Section 7.16	SBE II.1 EY 11,12,13	1,2,3,4,5,6,7	2027

FY21-23 Plan #	IT Program, Project, or Initiative	New (Yes/No)	Description *Provide Justification in Section 4	Budget Requirement (\$)	Funding Mechanism	Supported Agency Goal	Supported Statewide IT Goal	Anticipated Completion Date
			being propagated as governed by the newly expanded UERS to the state education ODS.	2020 Budget Request	2020 Expansion Budget Senate Legislation (TBD)			
Agency Modernization								
12	(AM_2) NCDPI Financial Systems Modernization	No	Upgrade DPI financial systems to align with the OSC ERP financial system and eliminate home-grown and unsupportable platforms.	\$2.8M	Legislation S.L. 2017-57 Section 7.16 2020 Expansion Budget Senate Legislation (TBD)	SBE II.1 EY 11,12,13	1,2,3,4,7	2023
13	(AM_3) Licensure Systems Modernization	No	Upgrade the current licensure system to be better prepared to meet new legislative changes, DPI analytical needs and Legislative reporting by migrating to a standard vendor software offering.	\$3M	Legislation S.L. 2017-57 Section 7.16 2020 Expansion Budget Senate Legislation (TBD)	SBE II.1 EY 11,12,13	1,3,4	2021
14	(AM_4) Grants Management System Modernization	No	Upgrade current grant system to add the CTE and EC grants into CCIP system. Strategically, we will move the system to DIT in phase two.	Phase1: Complete Phase 2: \$500,000	Legislation S.L. 2017-57 Section 7.16 2020 Expansion Budget Senate Legislation (TBD)	SBE II.1 EY 11,12,13	1,2,3,4,6,7	Phase 1 – completed 2019 Phase 2 – 2022
15	(AM_5) Applicant Tracking Systems Modernization	No	Phase 1 - Deploy UERS for ATS and build out statewide job board to link all ATS instances and provide a single view of	\$700,000	Legislation S.L. 2017-57 Section 7.16 2020 Expansion Budget Senate Legislation (TBD)	SBE II.1,III EY 11,12,13	1,2,3,4,5,6,7	Phase 1 – Complete 2020 Phase 2 – 2021

FY21-23 Plan #	IT Program, Project, or Initiative	New (Yes/No)	Description *Provide Justification in Section 4	Budget Requirement (\$)	Funding Mechanism	Supported Agency Goal	Supported Statewide IT Goal	Anticipated Completion Date
			the state's teacher recruitment needs. Phase 2 – Expand Data Elements					
16	(AM_6) Teacher Recruitment Project	No	Phase 1 - Establishment and deployment of Teach4NC, a program to attract, capture, cultivate and convert potential teachers into the NC teaching profession through advertising campaigns, mentoring, scholarships, improved licensure process and a statewide job board. Phase 2 – Incorporate Licensure Wizard into Portal	\$820,000 (\$410k/yr)	Legislation S.L. 2017-57 Section 7.16 2020 Expansion Budget Senate Legislation (TBD)	SBE II.1,III EY 11,12,13	1,2,3,4,5,6,7	Phase 1 – Complete 2020 Phase 2 – 2021
17	(AM_7) Educator Preparedness Project	No	Project to determine the required data to meet the new legislation (G.S. § 115C-269.35. Accountability for educator preparation program) and build out the UERS specification and collect and host the data in the state's education ODS and longitudinal data warehouses.	\$300,000	Gates Foundation Grant 2020 Expansion Budget Senate Legislation (TBD)	SBE II.1,III EY 11,12,13	1,2,3,4,5,6	Completed 2020
Data Transparency								

FY21-23 Plan #	IT Program, Project, or Initiative	New (Yes/No)	Description *Provide Justification in Section 4	Budget Requirement (\$)	Funding Mechanism	Supported Agency Goal	Supported Statewide IT Goal	Anticipated Completion Date
18	(DT_1) Data Transparency Dashboards	No	Implement a data transparency data warehouse and dashboard as per N.C.S.L. 2017-57, Section 7.16 section (ii) - provide for a common reporting system and analytics system.	\$7M (\$1.4/yr) will be in 2020 Budget Request	Legislation S.L. 2017-57 Section 7.16 2020 Expansion Budget Senate Legislation (TBD)	SBE II.1 EY 1,2,11,12,13	1,2,3,4,5,6,7	2022
19	(DT_2) Common Education Data Analysis and Reporting System (CEDARS) Expansion	No	Extend the state's educational longitudinal data warehouse schema to house all state education data including financial data and support expanded UERS Specification.	\$1M	Legislation S.L. 2017-57 Section 7.16 2020 Expansion Budget Senate Legislation (TBD)	SBE II.1 EY 1,2,11,12,13	1,2,3,4,5,6,7	2022
20	(DT_3) Statewide Education Operational Data Store (IODS)	No	Integrate existing public-school data into a centralized integrated operational data store (IODS) and reporting data warehouse to provide enhanced public and private reporting to provide more detailed and user-friendly information about public school financial transactions.	\$ included in Project #10	Legislation S.L. 2017-57 Section 7.16 2020 Expansion Budget Senate Legislation (TBD)	SBE II.1 EY 1,2,11,12,13	1,2,3,4,5,6,7	2021

4. Department of Public Instruction IT Program, Project, or Initiative Justifications

Technology Services

Support Services

1) School Connectivity Initiative

- a) Justification: Created by Session Law 2007-323 Section 7.28., SCI ensures all North Carolina Public School Units (PSUs) have equitable access to secure and reliable high-speed Internet access, sufficient to meet instructional and professional needs, through effective and efficient use of federal and state taxpayer funding, establish common shared services and Cooperative Purchasing Agreements to leverage group purchasing, while enabling the greatest amount of local control in PSU technology decisions.

SCI requires an additional \$4.6M recurring, starting in FY2021, to maintain existing service and PSU funding levels to provide secure wireless access to the classroom. The FCC raised the per school budget amount to \$167 per student over five years and now permits districts to pool each school's budget into a district-wide total. The recurring \$4.6M matches the annual percentage increase in each school/district's available E-rate budget limit set by the FCC/USAC.

b) Measures:

- i) Maintain existing levels of service (Internet access, firewall, content filtering, identity management, PSU CTO Executive training) and funding (PSU WAN and E-rate eligible goods/services);
- ii) Improvement of PSU cybersecurity maturity through completion of 115 Cyber Hygiene Assessments, deployment and use of K12-wide cybersecurity awareness training, and introducing PSU IT Risk Management that addresses IT governance, risk, and compliance;
- iii) Increase E-rate service value through production of on-demand training and development of low-cost tools to improve E-rate application accuracy and compliance; and,
- iv) Leverage partnerships with vendors and agencies to identify sustainable solutions to close the Homework Gap and achieve broadband equity at home.

2) Information Security Program

- a) Justification: In general support of G.S. [§143B-1322\(c\)](#) and [§143B-1378](#), NCDPI will continue to collaborate with NCDIT and other state, federal, and industry partners to expand and mature the existing Information Security program and initiatives to ensure continued compliance with State Cybersecurity & Information Security Risk Management requirements and best practices.

b) Measures:

- i) Periodic review and update to the NCDPI Information Security Plan, to include funding requests necessary for implementation and governance;
- ii) Establishment of agency information security risk profile, with review of applied resources to facilitate the relationship to enterprise risk management;

- iii) Continued adoption, operationalizing, and communication of state Information Security policies; and,
- iv) Implementation of a continuous monitoring program to effectively evaluate compliance levels, identify security incidents, and communicate established KPIs.

3) SharePoint Online Expansion

- a) Justification: Expansion of SharePoint Online and other Microsoft 365 products to provide a centralized solution to improve agency communication, collaboration, and knowledge management.
- b) Measures:
 - i) Migration of the NCDPI Intranet to SharePoint Online;
 - ii) Modernization of all SharePoint Online Classic sites;
 - iii) Implementation of the NCDPI Knowledge Base for knowledge management and self-paced training;
 - iv) Deployment of the NCDPI Microsoft 365 Service Request System;
 - v) Deployment of SharePoint Communication sites and Microsoft Teams; and
 - vi) Deployment of SharePoint Online and Microsoft 365 product solutions to streamline and automate business processes.

4) Upgrade Conference Room 150 Audio/Visual

- a) Justification: Improved interaction with DPI staff, State Board membership and public attending meetings in-person through higher quality audio video and presentation equipment.
- b) Measures:
 - i) Updated audio and visual systems.

Enterprise Applications

5) Every Child Accountability & Tracking System (ECATS)

- a) Justification: The NCDPI must implement a special education case management and data analysis system that will serve the agency and all current and future NC LEAs, charter schools, regional schools, educational services, and other public schools to meet federal regulations requiring the state to collect, maintain, and report data on exceptional children in support of Every Student Succeeds Act and Individuals with Disabilities Education Act (IDEA). ECATS has been expanded to include annualized SaaS subscriptions and agency enhancements for improved customer experience and reduced service management response times.
- b) Measures:
 - i) Implementation of methods for the Exceptional Children division to extract data in formats required for reporting:
 - (1) To the Office of Special Education Programs;
 - (2) For the State Performance Plan; and,
 - (3) For the State Systemic Improvement Plan.

- ii) Deployment of web-based functionality for informational access and reporting to eliminate or minimize instances of paper use;
 - iii) Enablement of every NC Pre K-12 public education system to implement and sustain all components of a Multi-Tiered System of Support, including the MTSS module of ECATS, to ensure college and career readiness for all students; and,
 - iv) Provisioning of safe and secure electronic storage of documents.
- 6) K-3 Formative and Diagnostic Reading Assessment
- a) Justification: Read to Achieve legislation was enacted in July 2012 and is required by N.C. Gen. Stat. §115C-83.1 et seq. and State Board of Education (SBE) policies, specifically KNEC-003. The law requires Kindergarten, first, second, and third grade students to be assessed with valid, reliable, formative, and diagnostic reading assessments made available to local school administrative units by the State Board of Education pursuant to G.S. 115C-174.11(a).
 - b) Measures:
 - i) Deployment of K-3 formative and diagnostic student assessment service;
 - ii) Provide training to educators;
 - iii) Assess the progress of kindergarten, first, second, and third grade students to diagnose difficulties, and inform instruction and remediation needs; and,
 - iv) A uniform reporting method established and adopted by all local boards of education that enables the SBE to compile state-wide information.
- 7) NCEdCloud IAM Service
- a) Justification: In the summer of 2020, the NCEdCloud IAM Service Technical Advisory Committee (TAC), which is comprised of PSU Chief Technology Officers and Technology Directors from across the state, ranked the need for application rostering services to facilitate the integration of additional local applications as their highest priority. The NCEdCloud IAM Service vendor, Identity Automation, has offered a rostering solution as a part of the service. This rostering solution would provide PSUs and the NCDPI with the ability to quickly send necessary class rostering data from the NCEdCloud IAM Service rostering platform to local and state applications. This solution will increase the speed with which applications can be used by PSUs and reduce the number of resources needed at state and local levels to integrate and access new applications. Additionally, in 2018, Ernst and Young (EY) published a comprehensive report outlining proposed organizational changes for the NCDPI. The report included a recommendation that all Tier I technical support activities be transitioned to application technology vendors. As directed by the North Carolina State Superintendent and the North Carolina School Board of Education and to align with the EY report recommendations, NCDPI is moving Tier I support services to the vendor.
 - b) Measures:
 - i) The Identity Automation rostering solution (Studio) is implemented as a part of the NCEdCloud IAM Service and made available to all PSUs for use in rostering local applications;

- ii) The rostering solution is implemented as a part of the NCEdCloud IAM Service for state applications; and,
- iii) All NCEdCloud IAM Service Tier I Support for PSU central office staff and DPI users is migrated to the vendor, Identity Automation.

8) Student Information System Modernization

- a) Justification: S.L. 2016-94 SECTION 8.15.(a) requires the State Board of Education to collaborate with the NCSU-FI to develop a plan to modernize the systems used by the Department of Public Instruction. This process also includes modernization of NCDPI systems for student information management, financial and payroll information, human resources information, and capital and repairs and renovations planning information.
- b) Measures:
 - i) Implementation of a new Student Information System;
 - ii) Comprehensive network-wide training for each user role;
 - iii) Reporting capabilities that meet PSU administrative staff, educator, and other mandated need;
 - iv) Review and, where applicable, reengineered school operational processes; and,
 - v) Integrated and error-free inter-system records transfer.

Digital Learning Initiative (DLI)

9) DLI Digital Content – Open Educational Resources (OER)

- a) Justification: Session Laws 2013-11, 2013-12, and 2013-226, Section 5.(c) require the implementation and adoption of educator preparedness for digital learning, providing digital resources, and ensuring technology access across all schools. North Carolina is committed to transitioning to the use of high-quality, openly licensed educational resources in schools across the state that are interactive, flexible and easily updated. OER is built upon a core set of NC Digital Learning Plan guiding principles that include focus on teaching and learning, enabled and enhanced by technology, and leveraging existing innovations, expertise, and resources from throughout the state while building upon national and international models and research.
- b) Measures:
 - i) Number and percentage of educators trained in use of OER resources; and,
 - ii) Teacher participation in OER development or refinement.

School Business Systems Modernization Program

School Business System Modernization (SBSM) is a comprehensive program to update Local Education Authorities (LEA) and NC Department of Public Instruction (NCDPI) core financial, human resources (HR), ancillary systems and applications, and reporting systems that were initiated and funded by the legislature. It is run out of the Office of the State Superintendent of Public Instruction under the direction of the SBSM Program Manager. Session Law 2017-57 Section 7.16, et seq. states the intention of the General Assembly to fund a multiphase, multiyear project by legislating that NCDPI shall:

- Implement the Plan recommended by the NC State Board of Education (SBE);
- Issue a request for (RFP) proposal for a Software as a Service (SaaS) Enterprise Resource Planning (ERP) platform; and,
- Appropriate \$29M for the 2107-19 biennium with a commitment to fund the program over the next five years.

The SBSM program is broke into three workstreams with a Program Management Office (PgMO) added to oversee planning and execution:

- LEA Modernization;
- Agency Modernization; and,
- Data Transparency.

It should be noted that with the 2018 biennium budget not being approved, the SBSM program has suffered project shutdowns and schedule extensions across virtually all areas. This impact is felt most at the LEA level; most are not in a position to start a project on State funding and then pick up the expense if a State budget is not passed. As a result, many LEAs are forced to move back to older at-risk systems due to program funding concerns. The SBSM program is now requesting recurring funding for this portion of the program.

LEA Modernization

The LEA modernization workstream is focused on the replacement of obsolete LEA mainframe and core financial systems originally deployed in the 1980s. To accommodate new state and federal requirements, numerous applications using myriad technologies have been built to supplement the core financial systems, resulting in dozens of applications that now need to be supported, maintained, and hosted. The solution is to modernize data management and reporting environments to enable consolidation of reporting applications, including the retiring of legacy applications, aged processes, and peripheral support systems.

The SBSM PgMO developed an ERP RFP in collaboration with the NCSU-FI and numerous NCDPI and local stakeholders. The RFP incorporates specifications provided by LEA finance officers and human resource directors. The PgMO is in communication with the appropriate areas in the NC Department of Information Technology (NCDIT) regarding this RFP, and NCDIT will conduct the formal approval process once feedback from key LEAs has been incorporated into it.

There are two main projects in this workstream:

- LEAM_1. LEA Stabilization; and,
- LEAM_2. Modernize the LEA financial and HR (ERP) systems to SaaS.

10) LEAM_1. LEA Stabilization

- a) Justification: Many LEAs host their financial and human resource operations either on-premise, on an out-of-support AS400, or both. Since modernization of every LEA is necessary to create a network-wide stable platform capable of being operational over a five to eight-year period, all must be assessed. All LEAs will be moved to the SAS NCEdCloud Hosting environment, relieving LEAs of the burden of supporting out of date and at-risk infrastructure.

b) Measures: The SBSM PgMO has established the following key performance indicator (KPIs) to measure progress towards goal:

i) # of LEAs Hosted on SAS NCedCloud.

11) LEAM_2. Modernize the LEA financial and HR (ERP) systems to SaaS

a) Justification: Move all LEAs to a SaaS financial and HR platforms connected to NCDPI via an integration bus with data propagated by the newly expanded Uniform Education Reporting Standard (UERS) to the State Education Information Operational Data Store (IODS). Currently only financial data is specified in UERS and collected via a comma separated variable (.csv) file format.

b) Measures: This rollout will be phased over the next five years and will be measured by the SBSM PgMO and the selected ERP providers.

i) Pilots in Flight;

ii) Pilots on Hold;

iii) Pilots Complete;

iv) Data Migration;

v) ERP System Available; and,

vi) ERP System interface to IODS.

Agency Modernization

The agency modernization workstream is a human capital management (HCM) Initiative which includes the entire LEA employment cycle from applicant tracking through hiring, evaluation, professional development, and license renewal. A broader HCM solution will be considered to include similar functionality for non-licensed positions.

Modern ERP and reporting systems must link to the NC licensure environment. Licensure status and years of service directly affect salary as reflected in the salary schedule for certified positions, e.g., teachers, principals, and school psychologists. In a modern environment, an ERP platform would interact with the licensure system via current Internet protocols to verify years of service before issuing a paycheck. Related reporting systems would interact with the licensure system through standards-based interfaces and protocols.

There are seven major projects in this workstream:

- AM_1. Agency Systems Stabilization;
- AM_2. NCDPI Financial Systems Modernization;
- AM_3. Licensure Systems Modernization;
- AM_4. Grants Management System Modernization;
- AM_5. Applicant Tracking Systems Modernization;
- AM_6. Teacher Recruitment Portal; and,
- AM_7. Educator Preparedness Project.

12) AM_2. NCDPI Financial Systems Modernization

NCDPI financial systems will be upgraded to align with the new OSC ERP financial system to eliminate inter-system incompatibilities.

- a) Justification: Many of the state’s financial systems have become too proprietary, are multiple versions behind current release levels, or are no longer supported. NCDIT recently selected a new ERP financial system which NCDPI intends to utilize.
- b) Measures: The SBSM PgMO has established the following KPIs to measure progress towards goal:
 - i) Pilot complete; and,
 - ii) Production cutover.

13) AM_3. Licensure Systems Modernization

The current licensure system will be upgraded with industry standard software to become better positioned for legislative changes and the decoupling of customized salary calculations.

- a) Justification: The current licensure system is highly customized and several releases behind the current version. Additionally, there are some customizations currently located in licensure for salary audit which need to be decoupled.
- b) Measures: The SBSM PgMO has established the following KPIs to measure progress towards goal:
 - i) Licensure upgrade to current release; and,
 - ii) Financial systems decoupled.

14) AM_4. Grants Management System Modernization

The current grant system will be changed to add the Career and Technical Education (CTE) and Exceptional Child (EC) grants into the Comprehensive Continuous Improvement Plan (CCIP) system. Strategically, all grants will be electronic in the second of two phases, with new grant types added to further leverage the system.

- a) Justification: The current grant system only covers CCIP; other grant systems are custom or at previous release levels. General statute §143B-1325 requires select agency technology efforts to migrate to NCDIT, and the SBSM PgMO is currently developing a plan to utilize the existing NCDIT/NCDOT grant system long term.
- b) Measures: The SBSM PgMO has established the following KPIs to measure progress towards goal:
 - i) NCDIT grant hosting;
 - ii) Federal Program operations within grant system;
 - iii) CTE operations within grant system;
 - iv) EC operations within grant system; and,
 - v) School Safety Grants.

15) AM_5. Applicant Tracking Systems Modernization

UERS changes will deploy with an Applicant Tracking System (ATS) and build a statewide job board that links all instances to provide a single view of teacher recruitment needs.

- a) Justification: Currently, the state and LEAs use a plethora of ATs creating a barrier to potential teacher recruitment, further exasperating educator shortages. This project will develop a data standard for UERS, a centralized data store in IODS, and a virtual statewide educator job board.
- b) Measures: The SBSM PgMO has established the following KPIs to measure progress towards goal:
 - i) UERS specification;
 - ii) IODS operational; and,
 - iii) Statewide educator job board operational.

16) AM_6. Teacher Recruitment Project

A TeachNC program to attract, capture, cultivate and convert potential teachers into state teaching professionals through ad campaigns, mentoring, scholarships, improved licensure process and a statewide educator job board (refer to AM_5) will be created and deployed.

- a) Justification: North Carolina currently is struggling with a lack of qualified teachers. Three areas of focus will address recruitment: first, there is an inadequate supply of educator talent and interest in teaching; second, NC educator-related agencies and programs lack alignment in how they recruit, prepare (refer to AM_7), license (refer to AM_3), deploy, and support effective teachers; and third, the educator experience is improving, but the public and potential recruits are not aware and therefore may not engage.
- b) Measures: The SBSM PgMO has established the following KPIs to measure progress towards goal:
 - i) End-to-end statewide campaign;
 - ii) Media placements (including TV, radio, digital and social media, and Google ads); and,
 - iii) TeachNC website and a digital recruiting platform operational.

17) AM_7. Educator Preparedness Project

Educator preparedness will determine the required data to meet G.S. §115C-269.35 and build out the UERS specification to collect and host data in IODS and the state’s longitudinal data system.

- a) Justification: North Carolina educators are always striving to improve the quality of teacher preparation. Two primary events have come together to provide an opportunity to focus on improving data available to accomplish this: first, G.S. §115C-269.35 mandates improvement, and second, the Bill & Melinda Gates Foundation in conjunction with NCDPI, Ed-Fi, and UPD Consulting are working on a standard, and eventually the extensions for UERS and IODS.
- b) Measures: The SBSM PMO has established the following KPIs to measure progress towards goal:
 - i) Standard complete;
 - ii) UERS extended; and,
 - iii) IODS expansion complete.

Data Transparency

The data transparency workstream is a joint program between NCDPI and the Government Data Analytics Center (GDAC) to ensure internal and external stakeholders have access to data and reports via state-of-the-art

systems. The major objectives are to enable near real-time educator visibility and control and provide data management and advanced analytics for decision support. Educator visibility and control currently calculates and reports on related data that is stitched together using at least three disparate sources: payroll code data, licensure data, and course code data. While there is no single authoritative source for educator records, a modern system will provide robust employee controls to allow public schools to manage a single-view of positions through allotment, budget, payroll, applicant tracking, onboarding, and human resource management. Position data will roll up to NCDPI data systems to then provide enhanced reporting capabilities on licensed and unlicensed roles. Contemporary reports and dashboards will present timely views that include certified position counts, payroll summaries, contract days, and more.

Data management and advanced analytics for decision support is cumbersome and even thwarted by independent silos of data. The combination of siloed data and aged business processes established decades ago prevent answers to different sets of questions on varying timescale, further hindered by business systems already at the end of their lifecycle. A modern data management environment will provide automated access to current data. Advanced analytics will be applied to data on a continuous basis to help the state, districts, and individual schools improve decision-making in support of school operations and educational systems.

There are three major projects in this workstream:

- DT_1. Data Transparency Dashboards;
- DT_2. Common Education Data Analysis and Reporting System (CEDARS) Expansion; and,
- DT_3. Statewide Education Operational Data Store.

18) DT_1. Data Transparency Dashboards

Implement a transparent data warehouse with dashboard reporting and analytic capabilities as described in NC Session Law 2017-57, Section 7.16 et seq. As work is completed on this project, all operational effort will be transferred out of the program and into Enterprise Data.

- a) Justification: There is no centralized storage of the NC K-12 education data. Session Law 2017-57, Section 7.16 mandates that NCDPI build and deploy dashboards in conjunction with NCDIT and GDAC.
- b) Measures: The SBSM PgMO has established the following KPIs to measure progress towards goal:
 - i) Dashboard 1 – Financial Data;
 - ii) Dashboard 2 – Student Data; and,
 - iii) Dashboard 3 – Incorporated with Student Report Card.

19) DT_2. CEDARS Expansion

Extend the state’s educational longitudinal data warehouse schema to house all education data, including financial data, to adhere to the expanded UERS specification.

- a) Justification: CEDARS longitudinal data system does not handle financial data in the existing schema. This project expands the schema so that we can house the newly incorporated financial data (refer to DT_1).
- b) Measures: The SBSM PgMO has established the following KPIs to measure progress towards goal:
 - i) Development of an extended schema;

- ii) Procurement of software licensing;
- iii) Extended schema in place; and,
- iv) Data interface between IODS and CEDARS operational

20) DT_3. Statewide Education Information Operational Data Store (IODS)

Integrate existing public education data with dashboard reporting and analytic capabilities to provide enhanced reporting and more detailed information regarding school financial transactions through collaboration with NCDIT and the Government Data Analytics Center (GDAC).

- a) Justification: Currently, there is no centralized storage of the NC K-12 education data. Session Law 2017-57, Section 7.16 mandates that NCDPI build and deploy dashboards in conjunction with NCDOT and GDAC, and the design and build of IODS will accomplish this.
- b) Measures: The SBSM PgMO has established the following KPIs to measure progress towards goal:
 - i) Pilot online;
 - ii) IODS architecture and design complete;
 - iii) IODS operational; and,
 - iv) Data interface between IODS to CEDARS operational.

5. Department of Public Instruction Enterprise IT Opportunities

This section provides information about additional initiatives that NCDPI envisions, including possible joint funding opportunities. Several of these are not funded yet.

5.1. Potential Initiatives

- K12 Cybersecurity
 - A two-year non-recurring \$5M investment to establish economies of scale in procuring centralized cybersecurity service to detect and mitigate cyber threats, in the form of advanced endpoint protection, network monitoring, and event processing response that are common to K12 needs, but too costly at per-PSU levels.
 - Leveraging the nexus of NCREN, a shared centralized service can provide economies of scale to provide high quality service at sustainable costs.
- Medicaid Billing
 - A modern, integrated, federally compliant, and comprehensive commercially available Medicaid Billing solution needs to be procured and implemented to replace an expired Medicaid billing system that was used by the North Carolina Department of Public Instruction ELSSP staff. The solution will be used for billing of Medicaid eligible services for children, ages birth through two. Integration with ECATS and other agency business systems will share data for the solution and submit Medicaid claims to NCTracks. In addition to receiving service-related information, the system must also manage physician authorizations to meet requirements for Medicaid billing. Approximately 2,000 children per state fiscal year require services to be submitted for Medicaid claims.
 - This potential initiative is dependent upon receipt of funds via expansion budget request.

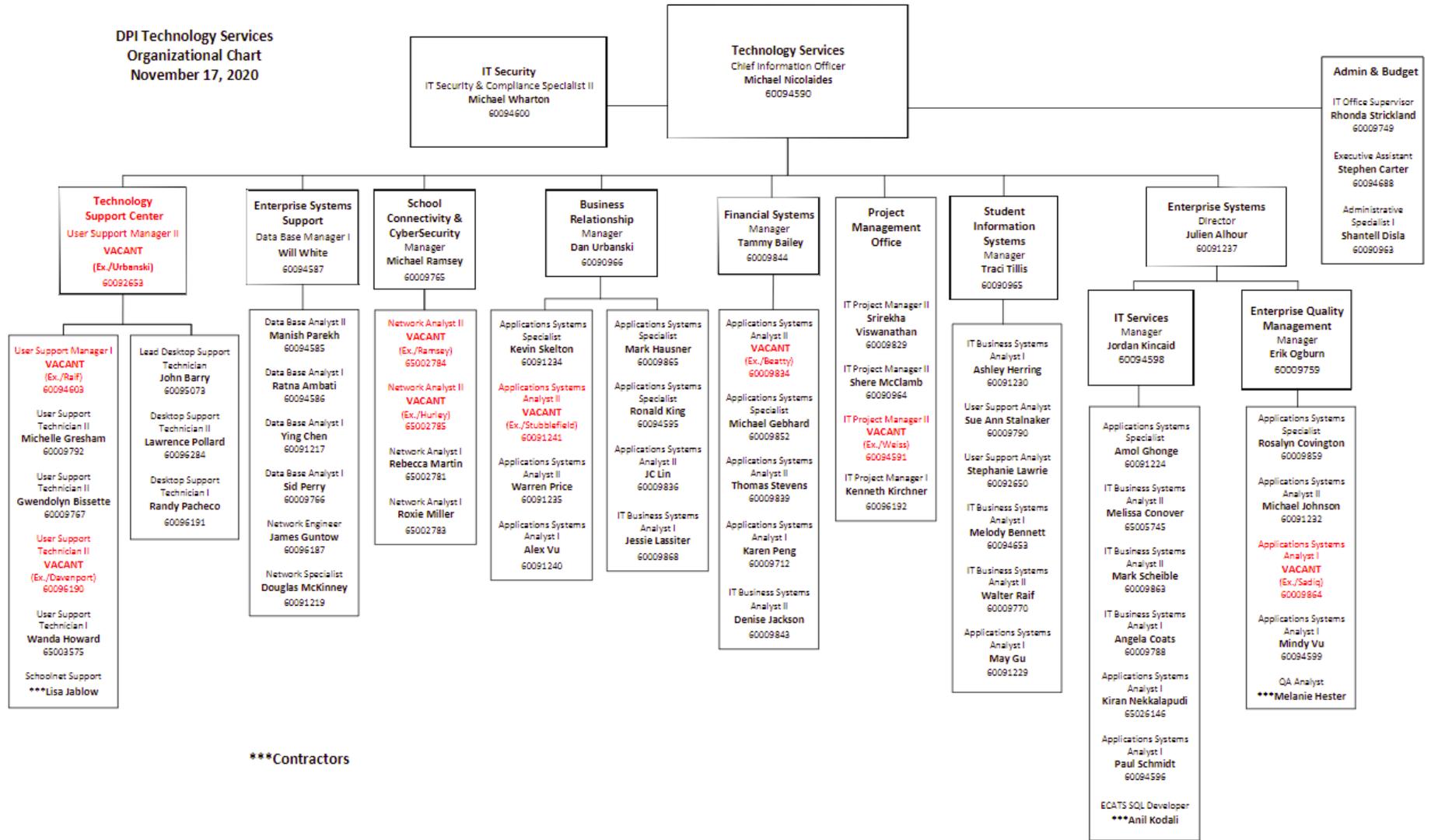
5.2. Collaborative Opportunities

- Qualtrics: Agency-wide adoption of Qualtrics to assist with increased awareness network-wide experience management and the collection of surveys. and as convenience offering to PSUs.
- Demand Shaping of the myriad of potential new requests from Districts and PSUs regarding student reentry, post-COVID, as it relates to Technology Services' current service offerings and the plausible need for increased investment in technologies that enable and improve enhanced digital delivery capabilities.
- SBSM: Public school business system modernization program planning and implementation continues to include tracking of, and integration with, the North Carolina Accounting System (NCAS) modernization work performed by NCDIT.
- Continued work with Community College Systems, UNC System, Independent Colleges and Universities, NCDIT GDAC, Department of Health and Human Services, and Department of Commerce partners on the following initiatives:
 - UID System

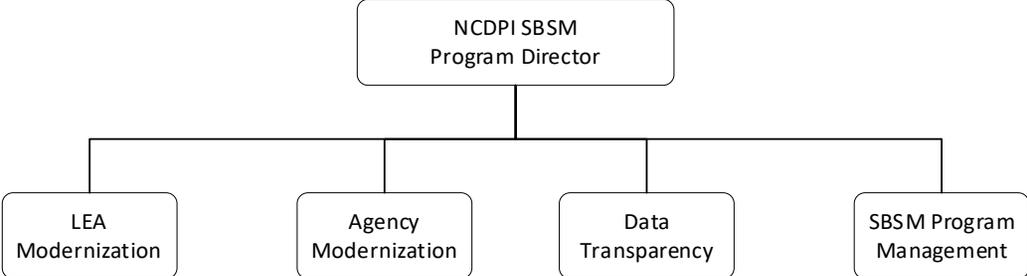
- NC School Works
- Common Follow-Up
- Multiple Measures and College and Career Readiness
- Data integration and consolidated reporting
- Educational Community of Practice: Collaboration continues between the CIOs of NCDPI, North Carolina Community Colleges System and UNC System and the President of the North Carolina Independent Colleges and Universities.
- Cybersecurity: Cooperative or joint investment opportunities in common tools, infrastructure, and resources, as well as shared internship or incident response practices.

Appendix A: Department of Public Instruction IT Organizational Chart

Technology Services Organization



School Business Systems Modernization (SBSM) Organization



Appendix B: Department of Public Instruction IT Accomplishments and Progress Review

Accomplishments and Progress on Continuing FY19-21 Initiatives

FY19-21 Plan #	IT Program, Project, or Initiative	Description	Supported Agency Goal	Progress Review	Anticipated Completion Date
School Business Systems Modernization Program					
LEA Modernization					
1	(LEAM_1) LEA Stabilization	Stabilize the LEA platforms by moving them to the SAS NCEdCloud, removing the risk of the end of life and out of support AS400 on premise hardware from failure	SBE II.1 EY 11,12,13	187 LEAs hosted on SAS NCEdCloud thus far	2027
2	(LEAM_2) LEA Modernization the LEA financial and HR (ERP) systems to SaaS	Move all LEAs to a SaaS financial and HR platform connected to DPI via an integration bus with data being propagated as governed by the newly expanded UERS to the state education ODS.	SBE II.1 EY 11,12,13	Six (6) pilots in-flight with five (5) on-hold	2027
Agency Modernization					
4	(AM_2) NCDPI Financial Systems Modernization	Upgrade DPI financial systems to align with the DIT new ERP financial system and eliminate home-grown and unsupported platforms.	SBE II.1 EY 11,12,13	On-hold pending budget and resource availability	2023
5	(AM_3) Licensure Systems Modernization	Upgrade the current licensure system to be better prepared to accept new legislative changes and decouple salary calculation to drive to a standard vendor software offering.	SBE II.1 EY 11,12,13	On-hold pending budget and resource availability	2021
6	(AM_4) Grants Management System Modernization	Upgrade current grant system to add the CTE and EC grants into CCIP system. Strategically, we will move the system to DIT in phase two.	SBE II.1 EY 11,12,13	Operational grants in the system include: <ul style="list-style-type: none"> Federal – 18 CTE – 7 Exceptional Children – 10 Safe Schools - 2 	2019 Phase 1 Complete 2022 Phase 2

FY19-21 Plan #	IT Program, Project, or Initiative	Description	Supported Agency Goal	Progress Review	Anticipated Completion Date
7	(AM_5) Applicant Tracking Systems Modernization	Deploy UERS for ATS and build out statewide job board to link all ATS instances and provide a single view of the state's teacher recruitment needs.	SBE II.1,III EY 11,12,13	UERS specification and Statewide Educator Job Board complete IODS nearly complete	2020 Phase 1 Complete 2021 Phase 2
9	(AM_7) Educator Preparedness Project	Project to determine the required data to meet the new legislation (G.S. § 115C-269.35. Accountability for educator preparation program) and build out the UERS specification and collect and host the data in the state's education ODS and longitudinal data warehouses.	SBE II.1,III EY 11, 12,13	Standards and UERS items complete IODS expansion remains to be done	2020
Data Transparency					
10	(DT_1) Data Transparency Dashboards	Implement a data transparency data warehouse and dashboard as per N.C.S.L. 2017-57, Section 7.16 section (ii) - provide for a common reporting system and analytics system.	SBE II.1 EY 1,2,11,12,13	Financial and Student Data dashboards complete Incorporation with Student Report Card to be done	2022
11	(DT_2) Common Education Data Analysis and Reporting System (CEDARS) Expansion	Extend the state's educational longitudinal data warehouse schema to house all state education data including financial data and support expanded UERS Specification.	SBE II.1 EY 1,2,11,12,13	Extended schema development and software licensing complete Deployment of schema and data interface to be done	2022
12	(DT_3) Statewide Education Information Operational Data Store (IODS)	Integrate existing public-school data into a centralized operational data store (ODS) and reporting data warehouse to provide enhanced public and private reporting to provide more detailed and user-friendly information about public school financial transactions.	SBE II.1 EY 1,2,11,12,13	Pilot and IODS architecture and design complete IODS operational and data interface between IODS and CEDARS to be done	2021
Digital Learning Initiative					

FY19-21 Plan #	IT Program, Project, or Initiative	Description	Supported Agency Goal	Progress Review	Anticipated Completion Date
16	Open Education Resources	Adoption of open license educational resources for educator preparedness for digital learning, providing digital resources, and ensuring technology access across all schools.	SBE I,II,III.1 EY 12,13	GoOpenNC has been operational since 2019 and has been actively used by over 28,000 educators across the state for teaching and collaboration.	Jun. 2021
Technology Services Operations and Support					
Enterprise Applications					
22	ECATS	Online management of all required state and federal reporting for special education students.	SBE I,II,III.1 EY 12,13	Phase-1 completed Jul. 2019	Dec. 2021
25	K-3 Formative and Diagnostic Reading Assessment (formerly Read to Achieve)	Develop tools for assessing literacy of K-3 students and assist with identification and intervention of learning difficulties.	SBE I,II,III.1 EY 12,13	The DPI awarded the RtA RFP for a new K-3 literacy assessment application to Istation in May of 2019, as the primary tool for achieving the goals of the RtA program. The Istation platform was implemented for all PSUs by the start of the 2019 – 2020 school year. Per the decision of the NC SBE in the Spring of 2020, the Istation contract expired without being renewed and PSUs were given the choice to select their own vendor for K-3 literacy assessments during the 2020 – 2021 school year. The DPI Superintendent requested that a new RFP be released in the Fall of 2020 to replace the previous RtA assessment application	Jun. 2021
Support Services					
26	School Connectivity Initiative	To ensure all NC PSUs have equitable access to secure, reliable, and sufficient high-speed Internet access, Provides E-rate filing assistance, common shared services and Cooperative Purchasing Agreements to leverage group purchasing, while enabling the greatest amount of local control in PSU technology decisions. Additional explorations into internet connectivity in remote areas of the state to enable digital remote learning in areas that do not have the necessary broadband access. This "proof	SBE I.7,II.1,III.1 EY 12,13	As reported annually, per S.L. 2007-323, Section 7.28.(g), to the Joint Legislative Education Oversight Committee (Non Standing), last published January 15, 2020. Additional \$4.5M funding approved through S.L. 2020-4, Section 3.3.(11). for shared infrastructure, monitoring, and support. Supplement to Friday Institute Task Order with School Connectivity is in process for the proof of concept project. Three technologies being explored vigorously: Television White Space, Low Earth Orbit, and Long-Term Evolution Wireless	Ongoing

FY19-21 Plan #	IT Program, Project, or Initiative	Description	Supported Agency Goal	Progress Review	Anticipated Completion Date
		of concept" project will ideally find innovative ways to close the connectivity gap.			
29	Information Security Program	To collaboratively improve the cybersecurity program ensuring agency-level infrastructure and data security.	SBE I.2,I.3,II.1 EY 12,13	Formalization of the plan, assessment, and stakeholder engagement for increased awareness are all currently underway.	Ongoing

Completed or Closed FY19-21 Initiatives

FY19-21 Plan #	IT Program, Project, or Initiative	Description	Supported Agency Goal	Progress Review	Anticipated Completion Date
School Business Systems Modernization Program					
Agency Modernization					
3	(AM_1) Agency Systems Stabilization	Stabilize the DPI IT platforms by moving them to the SAS NCEdCloud and DPI data centers, removing the risk of the end of life and out of support AS400 and on-premise hardware from failure.	SBE II.1 EY 11,12,13	Project complete Four (4) systems migrated to DIT & SAS NCEdCloud, with one (1) development system retired	2019
8	(AM_6) Teacher Recruitment Project	Establishment and deployment of Teach4NC, a program to attract, capture, cultivate and convert potential teachers into the NC teaching profession through advertising campaigns, mentoring, scholarships, improved licensure process and a statewide job board.	SBE II.1,III EY 11,12,13	Campaigns and media placement complete Website and digital recruiting platform operational Project complete and delivered	2020 Phase 1 Complete 2021 Phase 2
Digital Learning Initiative					
13	Digital Supplemental Math	Cooperative purchasing of an online digital supplemental math solution.	SBE II.1 EY 12,13	The contract has been fully executed. DPI has finalized the implementation, district feedback is positive, all invoices paid, project is in the process of being closed.	Jun. 2020

FY19-21 Plan #	IT Program, Project, or Initiative	Description	Supported Agency Goal	Progress Review	Anticipated Completion Date
14	Home Base Portal	A portal to provide a single location for increased Home Base recognition and usability, and to facilitate the potential for increased data integration across the full suite of applications.	SBE II.1 EY 12,13	Project to be closed with reevaluation at future date.	Dec. 2018
15	K-8 Digital Literacy	Cooperative purchasing of an online digital literacy solution.	SBE I,II,III.1 EY 12,13	\$0 convenience contract established for LEAs and Charters; allotments used to offset the costs of economically distress counties. Project complete and closed.	Aug. 2019
Technology Services Operations and Support					
NCDIT Consolidation					
17	Data Center Consolidation	Consolidation of data center and other shared and common infrastructure services to NCDIT.	SBE II.1 EY 5,9,10,11,12	As a part of the Data Center Consolidation efforts, the legacy phone system was replaced with a more modern IP Cisco phone system provided NC DIT in May of 2020. The legacy phone system was replaced with IP phones, including Jabber to make calls from your computer remotely, during the COVID-19 pandemic. Additionally, the transition to this new IP Cisco phone system included WebEx accounts for each phone ordered, which allowed the DPI to let the GoToMeeting contract expire and move to using WebEx for video conferences and training.	May 2020
18	Application and Services Transition	Transfer shared and common applications and services that are currently managed by NCDPI to NCDIT.	SBE II.1 EY 1,5,9,10,11,12	Multiple applications and services transitioned to DIT managed applications and services such as Tableau, WebEx, DIT Oracle server Farm, etc. This effort is continuing and has already produced cost savings and efficiency gains.	Jun. 2021
19	Technology Contract Transition	Transfer of operations and maintenance related contracts directly linked to infrastructure and applications.	SBE II.1 EY 5,9,10,11,12	The agency is utilizing NCDIT O&M contracts for infrastructure transferred to their care as part of the NCDPI Data Center Consolidation initiative.	Jun. 2019
20	Human Capital Transition	Transfer of NCDPI Technology Services personnel directly related to infrastructure, applications, services, and support areas moved to NCDIT.	SBE II.1 EY 5,9,10,11,12	Discussions with NCDIT are continuing. Changes to NCDIT leadership and the COVID19 pandemic introduced delays.	Jun. 2019
Enterprise Applications					

FY19-21 Plan #	IT Program, Project, or Initiative	Description	Supported Agency Goal	Progress Review	Anticipated Completion Date
21	Student Anonymous Safety Tip	Mobile application allowing students/citizens to report tips around potential student/school safety.	SBE I.1,I.3,II,1 EY 12,13	Application implemented and launched, due to COVID, any remaining student training will commence once school reentry is accomplished.	Sep. 2020
23	K-3 Formative Assessment	SBE shall ensure every kindergarten student has an entry assessment within 60 days of enrollment.	SBE I,II,III.1 EY 12,13	The NC ELI application, formerly the K-3 FAP application, was awarded to Teaching Strategies, using their Gold platform. The NC ELI application was implemented for kindergarten students statewide and is fully operational. This project is closed.	May 2020
24	Office of Charter Schools – Web-based Records and Data Management system (WRDM)	Online submission and management of Charter School applications and reporting	SBE II.1 EY 12,13	The Epicenter application was launched for use exclusive to OCS and charter school applicants. This project is in the process of closing.	Jun. 2019
Added and Complete	Child Nutrition System	Consolidate the Child Nutrition Systems under one vendor to increase efficiency and ease with which PSUs can administer and manage free and reduced lunches and other nutritional agency initiatives. Improve the IT infrastructure and security posture of the Child Nutrition System.	SBE I,II	The Child Nutrition System was consolidated under one vendor, Coylar, in the Fall of 2019. Child Nutrition System hosting environment was migrated to be hosted at DIT and the infrastructure was significantly increased to match the new demand that was put on the system starting in 2020. Additionally, the system was upgraded to ensure that traffic to the system meets TLS 1.2 protocol in October of 2020.	Jun. 2020
Support Services					
27	Remedy to ServiceNow Migration	Migration to ServiceNow as determined by NCDIT as the new statewide information technology service management (ITSM) platform.	SBE II.1	The legacy BMC Remedy IT Service Ticketing System has been fully retired. All support efforts have been successfully transitioned to ServiceNow, with support staff trained and in full use of the environment.	Apr. 2019
28	Tier 1 Level IT Support to Vendors	Improve customer resolution experience and reduce IT support response times by reworking future IT contracts with vendors to enable LEAs and charter schools to submit incident and request tickets directly with the vendor.	SBE II.1 EY 9,10,11	Applications transitioned to the owning Vendor: PowerSchool, ECATS, SchoolNet, NCEdCloud IAM, GoOpenNC. Project closed, future vendors are highly encouraged to provide support, save those that are cost prohibitive.	Ongoing

Appendix C: Progress on the EY NCDPI Organizational Assessment

FY19-21 Plan #	IT Program, Project, or Initiative	Description	Supported Agency Goal	Progress Review	Anticipated Completion Date
EY #	EY NC DPI Organizational Assessment				
1	Establish a central repository that sources, validates and maintains data	Goal 1-1: Design data management framework and Data Management Reporting (DMR) Org Structure	SBE II.1 EY 1	Complete	Jun. 2020
		Goal 1-2: Identify central repository to expand or stand-up central repository through vendor	SBE II.1 EY 1	Complete	Jun. 2020
		Goal 1-3: Design technical integration architecture. Implement central repository through vendor	SBE II.1 EY 1	Complete	Jun. 2020
		Goal 1-4: Develop data and analytics strategy and roadmap	SBE II.1 EY 1	Complete	Jun. 2020
		Goal 1-5: ETL processes from source systems to central repository	SBE II.1 EY 1	In Process	Dec. 2020
2	Embedding analytics functionality across teams, and creating a small team focused on academic data, can support a more data-driven culture at NC DPI	Goal 2-1: Identify current employees with strong analytical capabilities; screen for analytical capabilities in the hiring process	SBE II.1 EY 2	In Process	Dec. 2020
		Goal 2-2: Identify common set of outcomes and data to use to drive program decisions and create common needs assessment to drive decisions around LEA support (note: data would be centralized under new data repository created by SBSM)	SBE II.1 EY 2	In Process	Dec. 2020

FY19-21 Plan #	IT Program, Project, or Initiative	Description	Supported Agency Goal	Progress Review	Anticipated Completion Date
		Goal 2-3: Provide access to ongoing training and professional development to bolster analytical capacity where it currently exists	SBE II.1 EY 2	In Process	Dec. 2020
		Goal 2-4: Develop a culture where all decision-making is grounded in data use and decisions are being driven by data and outcomes	SBE II.1 EY 2	In Process	Dec. 2020
		Goal 2-5: All teams have at least one member with strong analytical capacity	SBE II.1 EY 2	In Process	Dec. 2020
5	Improve the efficiency, governance, and transparency of contracting	Goal 5-1: Redesign the contract creation, review/approval, and execution processes and formalize processes to monitor, enforce, and manage contracts	SBE II.1 EY 5	Complete	Jun. 2020
		Goal 5-2: Develop standard RFP templates in collaboration with state-level agencies	SBE II.1 EY 5	Complete	Jun. 2020
		Goal 5-3: Redefine the contract approval mechanisms	SBE II.1 EY 5	Complete	Jun. 2020
		Goal 5-4: Align with the future state application portfolio for NC DPI to implement an end-to-end contract management solution	SBE II.1 EY 5	Not Started	Jun. 2021
9	Reduce IT support response times to the field and improve resolution experience	Goal 9-1: Establish New SLAs based on the New Support model of monitoring and supporting vendor performance	SBE II.1 EY 9	Complete	Jun. 2020
		Goal 9-2: Provide a knowledge base to LEAs through the support center to provide troubleshooting capabilities	SBE II.1 EY 9	Complete	Jun. 2020
		Goal 9-3: Reduce response time to the field	SBE II.1	In Process	Jun. 2021

FY19-21 Plan #	IT Program, Project, or Initiative	Description	Supported Agency Goal	Progress Review	Anticipated Completion Date
			EY 9		
10	Centralize shadow IT and consolidate the IT organization	Goal 10-1: Evaluate the agency for IT activities supported by Shadow IT and map them to current IT operation	SBE II.1 EY 10	Complete	Jun. 2020
		Goal 10-2: Identify redundancies and scope for integration of resources	SBE II.1 EY 10	Complete	Jun. 2020
11	Repurpose IT by outsourcing common and non-essential functions and refocusing to advise and support business needs	Goal 11-1: Decompose current IT operations into component functions and specify sourcing drivers	SBE II.1 EY 11	Complete	Jun. 2020
		Goal 11-2: Develop vendor sourcing strategy, define pricing models, business cases (incentives and risks), and operating model to engage vendors	SBE II.1 EY 11	Complete	Jun. 2020
		Goal 11-3: Perform market analysis and develop detailed service descriptions and requirement specifications	SBE II.1 EY 11	Not Started	Jun. 2021
		Goal 11-4: Develop vendor and supplier portfolio for IT functions and develop roadmap for transition	SBE II.1 EY 11	In Process	Jun. 2020
		Goal 11-5: Define and communicate to DPI new BRM Function	SBE II.1 EY 11	In Process	Jun. 2020
12	Implement a vendor-first approach for application services and prioritize cloud hosting	Goal 12-1: Create development and hosting strategy and plan for NC DPI going forward; establish policies, standards and governance protocols for vendor engagement and procurement	SBE II.1 EY 12	Complete	Jun. 2020

FY19-21 Plan #	IT Program, Project, or Initiative	Description	Supported Agency Goal	Progress Review	Anticipated Completion Date
13	Design and implement the future state portfolio	Goal 13-1: Conduct holistic application inventory	SBE II.1 EY 13	In Process	Jun. 2021
		Goal 13-2: Perform application assessment via established criteria and dimensions	SBE II.1 EY 13	In Process	Jun. 2021
		Goal 13-3: Establish target state application portfolio identifying	SBE II.1 EY 13	In Process	Jun. 2021
		Goal 13-4: Define application roadmap to keep, tolerate, freeze, replace, or retire applications	SBE II.1 EY 13	In Process	Jun. 2021
		Goal 13-5: Identify and procure vendors to replace or consolidate applications with modern end-to end equivalents	SBE II.1 EY 13	In Process	Jun. 2021

Appendix D: Legislative Priorities from the NC SBE- 2025 Statewide Strategic Plan

The SBE, utilizing its constitutional authority to guard and maintain the right of a sound, basic education for every child in North Carolina Public Schools, is proposing the following expansion budget request to fulfill its 2025 Statewide Strategic Plan.⁸ This information is accurate, as of December 1, 2020, but will not be finalized and voted on until January 2021.

Readers of this plan should assume that any expansion budget granted to NCDPI by the NC General Assembly will most likely result in modification or addition to this 2021 – 2023 IT Strategic Plan.

SBE Strategic Plan Item	Approx. Cost (\$M)
1 Early Grades Reading	4.9
2 Teacher Preparation, Professional Learning Opportunities, and Compensation	143.2
3 Principal Preparation, Professional Learning Opportunities, and Compensation	27.6
4 Supporting the Whole Child (Social/ Emotional and Student Mental Health)	208.1
5 School Accountability and Teacher Effectiveness Models	0.6
6 School and District Assistance and Turnaround	82.6
7 Connecting High School to Postsecondary and Career Opportunities	10.2
8 Increasing NC DPI Support Positions	2.2
9 Support for Other Agency Budget Requests	34.5
	\$ 513.9M

⁸ <https://simbli.eboardsolutions.com/StrategicPlan/PlanDetail.aspx?S=10399&PID=487%20>