



Public Schools of North Carolina
State Superintendent of Public Instruction
Department of Public Instruction

Report to the North Carolina General Assembly

Improve Education Financial and
Information Transparency:

Annual Progress Report

S.L. 2017-57, Section 7.16.(f)

Date Due: March 15, 2019

Report # **063**

DPI Chronological Schedule, 2018-19

NC DEPARTMENT OF PUBLIC INSTRUCTION

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SCHOOL BUSINESS SYSTEM MODERNIZATION

2019 Annual Progress Report

Submitted to:

Joint Legislative Education Oversight Committee
and the Fiscal Research Division of the General Assembly

Prepared by

Office of the NC Superintendent of Public Instruction
School Business Systems Modernization
Program Office

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FOREWARD

School Business Systems Modernization (BSM) is specified in *Session Law 2017-57* as follows:

IMPROVE EDUCATION FINANCIAL AND INFORMATION TRANSPARENCY

SECTION 7.16.(a) The Department of Public Instruction shall implement the School Business System Modernization Plan, as proposed by the State Board of Education in the report required by Section 8.15(b) of S.L. 2016-94, using the funds appropriated by this act for that purpose. It is the intent of the General Assembly to fund a multiphase, multiyear project to (i) modernize State and local education financial, human capital, and school information systems, (ii) provide for a common reporting system and analytics system, (iii) integrate financial, payroll, human resources, and related human capital systems through the use of a new software as a service enterprise resource planning (ERP) solution, make enhancements to existing local systems, or both, and (iv) link the State licensure system with the upgraded local systems. The State Superintendent of Public Instruction (State Superintendent) shall review and improve business processes in the Department of Public Instruction, as appropriate, and modernize State systems at the Department.

The NC Office of the Superintendent of Public Instruction provides this report pursuant to Section 7.16.(f) that specifies:

The State Superintendent shall submit annual reports to the Committee and the Fiscal Research Division by March 15 of each year on the expenditure of funds for the project and progress of implementation until the completion of the project.

BACKGROUND

The 2016 NC General Assembly directed the development of a plan to modernize the systems used by the Department of Public Instruction (NCDPI), Financial and Business Services Division, to manage and deliver funds and technical support services to local school administrative units and charter schools (*S.L. 2016-94, SEC. 8.15*). The School Business Systems Modernization plan was presented to the General Assembly in 2017, and the 2017 General Assembly provided initial funding and directed that the State Superintendent implement the plan. Key elements of the plan include modernized local systems that interact with NCDPI systems, modernized NCDPI systems that support and interact with local systems, and modernized data integration, analytics and reporting for improved transparency.

School Business Systems Modernization (SBSM) builds upon successful infrastructure programs and on the establishment of State-level DIT support functions.

SCHOOL BUSINESS SYSTEMS MODERNIZATION OVERVIEW

Vision: Every school district has up-to-date financial, business, and technology systems to serve its students, parents, and educators.

Mission: The School Business Systems Modernization program will focus on providing timely and transparent data from scalable systems on modern infrastructure, while providing intuitive systems and software that improve process efficiency and consistency and allows users the flexibility to retain their uniqueness and autonomy.

Goals:

1. Enable near real-time position visibility and control
2. Provide data management and advanced analytics for decision support
3. Replace discontinued and obsolete systems
4. Simplify monitoring and compliance
5. Eliminate unnecessary duplication
6. Increase efficiency of operations

Initiatives:

- LEA Modernization
- Data Transparency
- Agency Modernization

SCHOOL BUSINESS SYSTEMS MODERNIZATION PROGRAM ACCOMPLISHMENTS TO DATE

The SBSM Program Office has done much planning and budgeting after an initial investigation of inflight projects. Discussions with stakeholders have been held at many venues including meetings of the North Carolina Association of School Business Officers (NCASBO), the Personnel Administrators of North Carolina (PANC), Quarterly Finance Summit, B12 Superintendents Quarterly Meeting and at the NC Technology in Education Society (NCTIES) Conference. The following is a summary of some of the key accomplishments over the past year:

1. Financial Transparency Dashboard launched April 2019.
2. Procurement process completed for school district modern Enterprise Resource Planning (ERP) systems. Convenience contracts awarded to two vendors.
3. Change to Licensure data transfer process to transition more than half of the State's LEAs off of obsolete, unsupported hardware.
4. Migration of 18 LEAs from on-site AS400s to the NC EdCloud, reducing the expense and burden on local LEAs; 46 more scheduled to be migrated in 2019.
5. Projects undertaken for LEA stabilization in Washington, Ashe and Rowan-Salisbury districts to insure they are operationally stable until modernization.
6. Education Business Systems Advisory Committee (EBSAC) formed to provide advice and communication from the Local Education Agencies (LEAs)
7. Grant for teacher recruitment was received and matched, and work begun on a teacher recruitment portal.
8. Modernization Readiness Assessment (MRA) developed to facilitate the prioritization of LEA modernization based on organizational, technical and operational criteria.

SCHOOL BUSINESS SYSTEMS MODERNIZATION PROGRAM APPROACH

The School Business Systems Modernization (SBSM) program approach, built around the concept of improving data driven decision making, or simply stated answering questions quickly using current, accurate and complete data from all the public-school system landscape. Currently, accurate and timely reporting and analysis of financial, employee, student, and related data is cumbersome and confused by independent silos of data. Combined with business processes established decades ago to answer a different set of questions on a different timescale, the current business systems are at the end of their useful life.

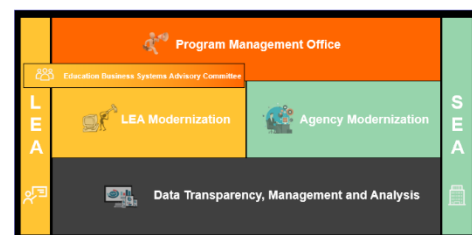
A modern data management environment, currently under development, will provide automated access to the most current data. Advanced analytics will be applied to data on a continuous basis to help the State, Local Education Authorities (LEA), and individual schools make the best decisions to support the operation of schools and the education system. All these capabilities need to be delivered on a more modern infrastructure both within NCDPI and at the LEAs. To enable these capabilities, the core State and LEA financial and Human Resources (HR) systems, most hosted on aged mainframe and AS400 hardware originally deployed in the 1980s will be replaced.

To accommodate new State and Federal requirements, numerous customized off the shelf and home-grown solutions, using a myriad of technologies have been deployed to supplement the core State financial systems. This resulted in dozens of applications that now need to be supported, maintained, and hosted. Currently, distinct business groups at both the LEAs and at NCDPI manually input data into parallel systems. In addition to a duplication of effort, this manual input increases errors and inconsistencies with data being reported differently in distinct reports. The kind of modern systems being provisioned and deployed have an integrated data service at their core that automatically collects data from the single authoritative source systems (e.g., from the ERP system, the student information system, the licensure system) that feeds reporting, analytics, and data visualization systems.

A modern data management and reporting environment, coupled with modern infrastructure within the NCDPI and at the LEAs, will enable consolidation of reporting applications. Legacy applications, workflows, and supporting systems can be retired, thereby reducing total cost to the State and improving the Data Driven Decision making. This program allows the State, NCDPI and the LEAs to make better informed decisions faster, and implementing solutions resulting from these decisions faster, thus improving the value to the State by realizing resultant benefits sooner.

In planning for the School Business Systems Modernization (SBSM) Program it became clear that data was at the heart of the new modern infrastructure landscape. Based on that premise the program was broken down into three (4) focus areas:

- Program Management Office
- Data Transparency
- LEA (ERP) Modernization
- Agency Modernization



PROGRAM MANAGEMENT OFFICE (PMO)

The Program Management Office (PMO) is defining and building a foundation for all the projects, duties, tasks, or intermediate deliverables necessary to achieve success for the program. The PMO shall fulfill the State's contract goals and requirements in a cost-effective manner. From the very first day, the PMO has engaged local LEA resources to aide in the decision-making process. The ERP RFP was written with input from LEAs across the state and the selection of final ERP candidates was made by the LEA driven committee. In addition, a steering committee was established made up of Finance, Human Resources and At Large members to assist the PMO with questions that emerge as a result of typical program operations, LEA needs, and communications. This Committee is responsible for advising the School Business Modernization Team, NCDPI Leadership and others on business systems (people, processes, and technology) available for use by school districts, schools and NCDPI. The members of the committee bring unique knowledge and skills which augment the knowledge and skills of the School Business Modernization Program Office and enable the SBSM Program Director to guide the organization more effectively. The advisory committee serves to make recommendations and/or provide key information and materials to the SBSM Program Office and represent the collective needs of the North Carolina Education Landscape.

The Education Business Systems Advisory Committee (EBSAC) was formed in 2018 and meets quarterly. The current committee membership is as follows:

Voting Members

Finance - Cabarrus County Schools, Region 6-Southwest
Finance - Chapel Hill-Carrboro City Schools, Region 3-North Central
Finance - Cumberland County, Region 4-Sandhills
Finance - Duplin County Schools, Region 2-Southeast
Finance - Hyde County Schools, Region 1-Northeast
Finance - Rutherford County Schools, Region 8-Western
Finance - Wake County Schools, Region 3-North Central
Finance - Wilkes County Schools, Region 7-Northwest
Friday Institute for Educational Innovation, NCSU
Human Resources - Brunswick County, Region 2-Southeast
Human Resources - Buncombe County, Region 8-Western
Human Resources - Charlotte-Mecklenburg Schools, Region 6-Southwest
Human Resources - Cumberland County, Region 4-Sandhills
Human Resources - Edenton-Chowan, Region 1-Northeast
Human Resources - Franklin County Schools, Region 3-North Central
Human Resources - Lexington City Schools, Region 5-Piedmont Triad
Human Resources - Watauga County, Region 7-Northwest

Non-Voting Members

Finance - Guilford County Schools, Region 5-Piedmont-Triad
Finance - Wake County Schools, Region 3-North Central

Human Resources - Charlotte-Mecklenburg Schools, Region 6-Southwest
Human Resources - Gaston County Schools, Region 6-Southwest
Human Resources - Guilford County Schools, Region 5-Piedmont-Triad
Human Resources - Onslow County, Region 2-Southeast
NCASBO Executive Director
PANC President

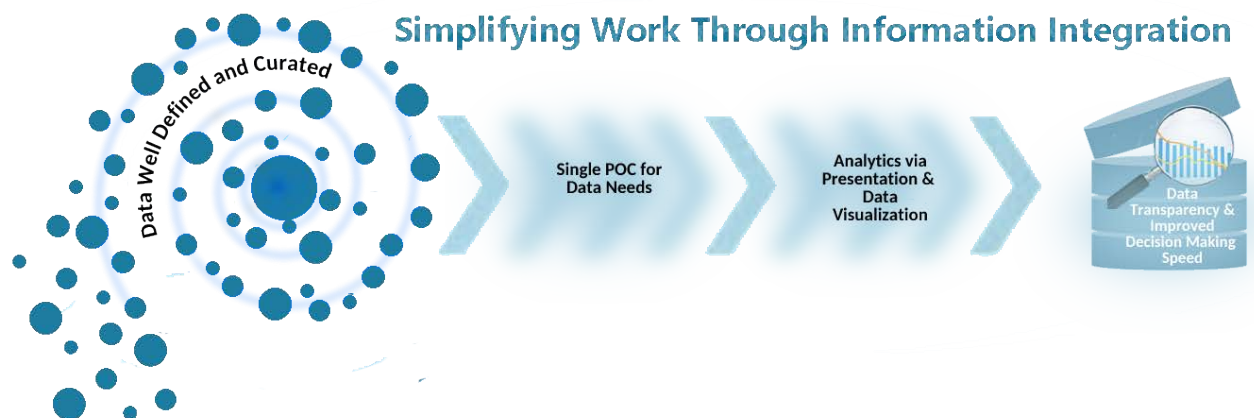
DATA TRANSPARENCY INITIATIVE

NC public schools have a vast amount of existing Student Information, Teacher Preparation, Teacher Recruitment, LEA Human Resources, LEA Finance, and other technical and education data. However, much of our data resides in independent systems, databases, and spreadsheets that are not yet integrated with our new central data store (up and running as of December 2018). This makes interpreting and acting on the data far more difficult and time-intensive than necessary. Manual aggregation and interpretation of data is the norm, often leading to errors, rework and loss of focus from core mission – the education of our future generations.

The DPI SBSM data and integration strategy will:

- Increase decision quality and speed;
- Improve ability to anticipate trends;
- Increase productivity.

Our data strategy and plan will enable us to effectively capture, store, analyze and share new and existing information throughout the public-school landscape. We will recognize the value of data as not just an asset, but rather as a critical piece of providing program, competency and personnel the authoritative, ready-to-use information we need, on demand.



Vision → Be Data Driven

Each day, we use data and systems to understand, plan, decide and act. Turning data into actionable information is not always as simple as it should be. Often, we find ourselves inputting the same data into multiple systems to do our jobs.

We must be able to effectively access, understand, analyze and manage both new and existing data; apply our expertise to obtain and convey insights; and use and reuse the data to make decisions.

Central to this vision is the concept that State K12 Data is a unique entity and will be treated as our most valuable asset. The vision supports the goal that “Data is the Foundation we will build the NC Education Modern future upon”.

DPI SBSM's data strategy will help create an environment where data:

- shares common definitions;
- is valued, managed, secured, reused and accessible;
- increases decision confidence through data integrity;
- increases the speed of making decisions;
- supports predictive analysis;
- accelerates daily activities;
- is managed to reduce costs.

Currently, we use multiple systems with independent entry points to perform our work. These systems are not necessarily integrated, nor are they representative of the way we work, or want to work. For example, when a data request comes in, it is common for us to spend hours manually pulling data from multiple sources, aggregating it, and analyzing how best to depict it. It is often necessary to coordinate with other groups to obtain needed data and properly understand it. Items are routinely overlooked because of the manual search process.

Typically, additional steps are needed to validate data and obtain agreement that the question has been satisfactorily addressed before sending the response. This scenario is repeated daily across NCDPI, LEAs and suppliers of service. Simply put, our data must be managed more effectively so we can focus on the important work that contributes to our outcomes and success.

A clear vision of NCDPI Data as an asset, and what it means to our activities, is the basis for the goals and objectives for strategy implementation. Our data provides hindsight, insight and foresight to drive our decisions. Defined, accessible, authoritative and usable data is key to implementation.

GOAL #1 - ESTABLISH ENTERPRISE DATA STANDARDS

The key to valuing data is establishing definitions, so that elements and fields have a common meaning, and security of the data is clear. Common definitions mean data can be accessed and compiled for use regardless of what system or application holds the data. The establishment of common definitions will be handled via the NCDPI Metadata Standard, based on the Common Education Standard (CEDs). The DPI Metadata Standard will be used for systems and applications across the DPI landscape. It will be coordinated with our partners as part of an ongoing emphasis -for obtaining appropriate data rights and managing data access to support NCDPI needs. We will automate data deliverable validation and ensure data is correctly secured. Recognizing and valuing data demands effective and thoughtful data management. We will develop a strong, flexible and long-term approach to managing data as an Agency asset. This way, data can be readily located, understood and used with confidence.

KEY OBJECTIVES:

- Achieve interoperability through data standards;
- Maintain common data definitions, metadata, syntax and semantics;
- Develop a strong, flexible, long-term approach to managing the data lifecycle, enabling users to extend functionality without modifying code;
- Automate the checking of data rights markings and format when delivered.

RESULTS TO DATE:

- The new Statewide Operational Data Store (ODS) has been built around the Agency-adopted Common Education Data Standard.
- Agency has adopted the SIF and other Interoperability Standards and is currently working with DIT to Integrate these into the new Statewide Integration as a Service (IaaS) offering under development there.
- The Uniform Education Reporting System (UERS) is being expanded into a full specification for all K12 Data, replacing the "System" terminology with "Specification" Version 1.0 is currently under review and will be CEDS-aligned to allow for faster and less expensive systems integrations in the future.

GOAL #2 - INCREASE DATA INTEGRATION

NCDPI SBSM has set ambitious goals for increased data transparency, allowing our teammates to achieve untapped insights contained within new and existing data. We will achieve these goals by making data accessible, authoritative and understandable by putting decision-quality information on demand, in whatever form needed. NCDPI's data infrastructure will secure collaboration networks, data analytics, visualization, decision support mechanisms, and prediction and "what-if" capabilities to support our changing data needs - all built on data quality and confidence.

KEY OBJECTIVES:

- Provide a managed digital thread of data across the K12 Landscape from inception through disposal;
- Facilitate access, creation and visualization of decision-quality information on demand; and
- Develop prediction and "what-if" capabilities to support our changing data needs.

RESULTS TO DATE:

- SBSM in conjunction with NCDIT GDAC has deployed a Financial Transparency Dashboard, which is in final review and expected to be released in April 2019
- Extending Longitudinal Data Warehouse (CEDARS) to the complete CEDS Standard to accommodate data beyond Student Information is currently in process and will integrate seamlessly with State ODS, once approved and implemented.

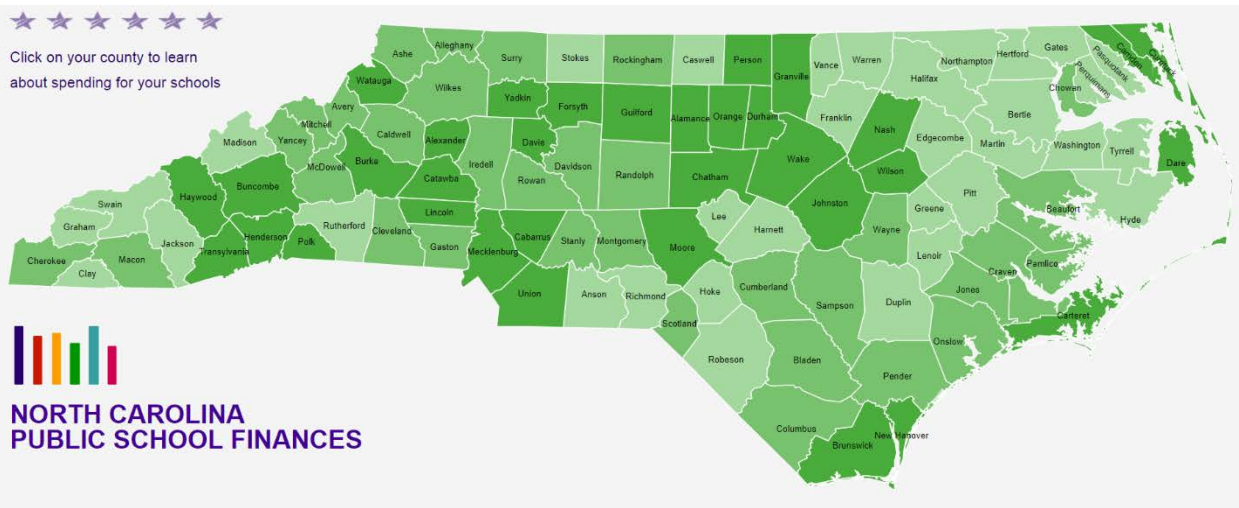
Examples from the NC School Finances Dashboard:



Click on your county to learn
about spending for your schools



NORTH CAROLINA PUBLIC SCHOOL FINANCES



State Counties Districts Schools

Total Spent for Public Schools from Federal, State and Local Sources in 2017-18:

\$15.8 Billion

Percentage of State Budget Dedicated to K-12 Schools:

40%

Annual Average Projected Compensation for Teachers for the 2018-19 school year ⓘ:

\$53,975

Annual Median NC Household Income (includes all household income) for 2017 ⓘ:

\$50,320

Annual Median Wage (individual) in NC for a person with a bachelor's degree for 2017 ⓘ:

\$47,258

Annual Median Wage (individual) in NC for 2017 ⓘ:

\$30,326

Average instructional supplies funding per teacher in 2017-18:

\$511

Average textbook funding per student in 2017-18

\$42

Note - The compensation estimates above for teachers do not include annual estimated benefits which total \$20,300, including annual health benefits of \$6,104, annual estimated SSI benefits of \$4,096 and annual estimated retirement contribution of \$10,099.

2017-18 Select State Funding

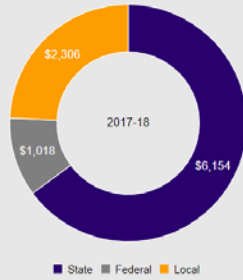
This section shows selected state funding and the reported expenditures of those funds. **Note** - Some districts transfer funds to different state funding sources prior to spending the funds, thus "zero expenditures" may show in some allotment categories. Additional State funding may also be provided in some categories, such as textbooks, later in the school year. Also, additional funds for textbooks and other funding categories are provided throughout the year from other revenue sources.

State Allotment	State Funds Budgeted	State Funds Budgeted Per Student	Average State Funds Budgeted Per Teacher
Textbooks	\$73,726,396	\$42.46	\$795
Instructional Supplies	\$47,426,528	\$30.12	\$511

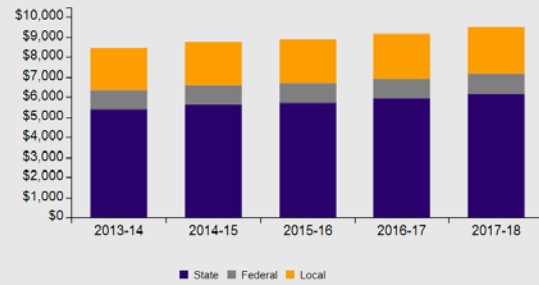
Note - In addition to the reports below you can go the Analytics Site that has additional reports and analysis to let you



School District Per Student Expenditures



School District Per Student Expenditures by Year



District Schools - 2017-18 Funds Sources and Uses

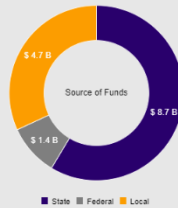
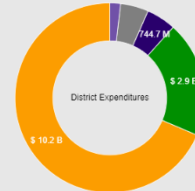


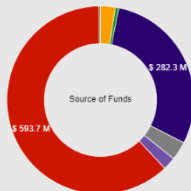
Chart Table

"Click on 'Purpose' or 'Type' below the doughnut to see expenditures shown in two different ways"



Purpose Type Chart Table

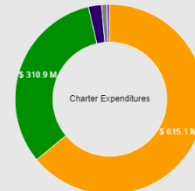
Charter Schools (and other independent schools) - 2017-18 Funds Sources and Uses



(Reserved for LEA or Charter School local use) Capital Assets Local Current Expense Fund Money From Federal Grants Multiple Enterprise Fund State Public School Funding The Capital Outlay Fund Trust and Agency Funds

Chart Table

"Click on 'Purpose' or 'Type' below the doughnut to see expenditures shown in two different ways"



Purpose Type Chart Table

GOAL #3 - IMPROVE DATA ACCESSIBILITY

We will enable data independence from the systems and application layers housing the data, then expand cross-site collaboration methods to include mobile devices. Another aspect involves emphasizing reuse and automation within existing systems, coordinating the interfaces between systems so data can enter and exit as needed. The intent is to apply common definitions to enable users to pull data (based on their role), then analyze, depict, manage and make decisions from the data they have collected - either collaboratively on systems or individually on mobile devices.

The goal is to reduce effort spent developing custom software and reports and make certain value-added data products are standardized and available. We want to operate from a place where requirements are user-driven, and data is accessible. To achieve this, we will establish interface coordination methods between systems and applications.

KEY OBJECTIVES:

- Promote self-service data analysis;
- Establish enterprise-wide information exchange standards and methods; and
- Use standardized business intelligence and technical data approaches.

RESULTS TO DATE:

- SBSM has partnered with DIT to pilot the new State Integration utilizing Dell® Boomi™ by agreeing to pilot the first Molecule and SFTP Appliance

GOAL #4 - STRENGTHEN DATA ANALYTICAL EXPERTISE

Achieving our strategy of treating "data as an asset" includes growing a data-aware user community and strengthening our data analytics expertise. We will form collaborative networks and partnerships to build DPI's data science proficiency, even as we expand our infrastructure to support data science needs. We will continually strive to educate our staff on new techniques and technologies.

The **Data Transparency** initiative is a joint program between DPI and GDAC (S.L. 2017-57, SEC. 7.16(D)) to "ensure all internal and external stakeholders have access to data and reports via state-of-the-art systems". Data Transparency has been the driving force for much of the planning. By working from the finished product backwards we have been able to identify many gaps in our infrastructure and data schema, governance and proliferation, as well as completeness and currency of the data. Major objectives are:

1. Enable near real-time position visibility and control

Currently, calculations and reports related to teachers are stitched together using at least three disparate sources – payroll code data, licensure data, and course code data. There is no single authoritative source for employee records. A modern system will provide robust position control that allows 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 that will then provide enhanced reporting capabilities on licensed and unlicensed positions. Contemporary reports and dashboards will present timely views that include certified position counts, payroll summaries, contract days, and more.

2. Provide data management and advanced analytics for decision support

In general, accurate and timely reporting and analysis of financial, employee, student, and related data is cumbersome and even thwarted by independent silos of data. Combined with business process established decades ago to answer a different set of questions on a different timescale, the current business systems are at the end of their useful life. A modern data management environment will provide automated access to the most current data. Advanced analytics applied to data on a continuous basis will help the State, districts, and individual schools make the best decisions. This modern decision support system will allow for:

- Improved tracking of expenditures against allotments.
- Regular access to the count of certified and non-certified personnel (and vacancies) per school, grade, subject, and mapping of current role.
- Modeling student-teacher ratios to support effective school management.
- Tracking teacher turnover within and between school LEAs.

KEY OBJECTIVES:

- Leverage the cross-functional data expertise of our Subject Matter Experts (SMEs) as well those of other Agencies like the Department of Information Technology (DIT);
- Implement/exploit ready, relevant, learning programs;
- Move from data analysis, to predictive analytics and on to prescriptive data analytics.

RESULTS TO DATE:

- SBSM has worked with DIT GDAC to standup an Enterprise Data Store (ODS and Data Warehouse) to house all the Agency's Data
- Executed MOU and MOA with the Governmental Data Analytics Center (GDAC) with the following deliverables in 2019:
 - Dashboard for school district and charter school budget and expenditure data and class size reporting (*under final review*)
 - Public and private portal interfaces for on-demand data reporting (*in progress*)
 - Reporting ODS & Data Warehouse in the GDAC now operational and populated with Student Information and some Financial data. Expansion planned to accommodate additional data and fulfill the goal of housing all NCDPI's data in one stable, centralized location.
 - Participated with DIT to select the state's next integration platform and are currently piloting several integrations (SFTP and MQseries®)

The LEA Modernization Initiative is focused on the replacement of discontinued and obsolete systems at LEAs and Core State financial systems, which are mainframe-based, originally deployed in the 1980s. To accommodate new State and Federal requirements, numerous applications using a myriad of technologies have been built to supplement the core State financial systems, resulting in dozens of applications that now need to be supported, maintained, and hosted. A modern data management and reporting environment will enable consolidation of reporting applications. Legacy applications, workflows, and supporting systems can be retired.

The **Systems (ERP) Modernization** initiative is focused on modernizing the technology, the integration of business workflows between functions, and integration of data in the current dated infrastructure landscape. There are two (2) major parts to the initiative – LEA and DPI system improvements:

1. **Modern ERP Systems for LEAs:**

Request for Proposals. The first major workstream was to develop the ERP Request for Proposals (RFP) to identify modern Software as a Service (SaaS) partners to be qualified by DPI to be available for the LEAs to select from, in order to move on to the new modernized landscape. This RFP was developed in collaboration with the Friday Institute and internal and local stakeholders. The ERP RFP reflects specifications provided by LEA finance officers and human resource directors.

Golden Templates for Transitioning Systems. One of the primary reasons that it is cost prohibitive for LEAs to move to modern ERP systems on their own is that the first LEA to move must bear the entire cost of the one-time development of a “Golden Template” to transition from their old system to the new system, including all of the various State systems with which the new system must communicate. Accordingly, the SBSM program is supporting the development of a “Golden Template” – detailed specifications of how to connect to NC systems, table formats, workflows, etc. – that can be used to reduce cost and time for future LEAs that move to any cloud-based solution. This will enable transitioning LEAs to pay only the marginal costs of transition. Wake County Public School System (WCPSS) will transition from Oracle to Oracle’s Cloud ERP Software as a Service (SaaS) solution. The SBSM program is supporting the golden template portion of the transition. Identification of pilot LEAs for a second golden template to map the transition off one of the existing multi-LEA legacy systems is also underway.

2. **State-level System Modernization.** The second part of the initiative is to focus on updating the aged Agency infrastructure, applications and data access to further improve on the *time to decision value*.

Status:

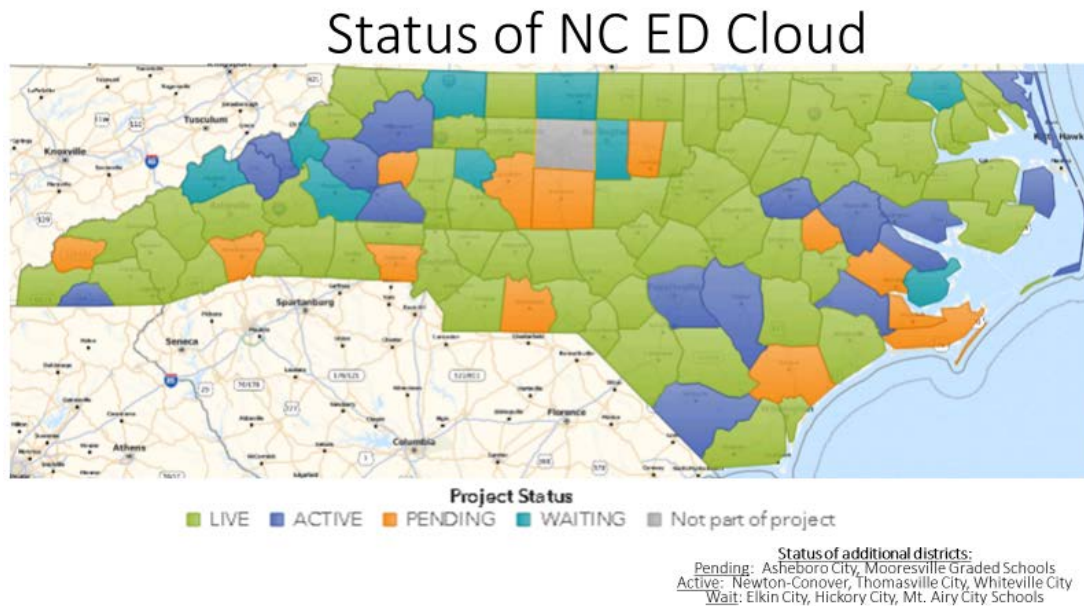
- ERP RFP has been completed and final contract documents have been signed. Convenience contracts have been awarded to Oracle/Cherry Road (integrator) and to Tyler Technologies.
- SBSM is supporting a “golden template” in Wake County Public School System’s (WCPSS) transition to a cloud-based solution (currently underway) and working with other pilot LEAs to support a golden template to map from LEA legacy systems (target date April 2019).
- A detailed inventory and mapping of NCDPI systems and connections is underway.
- The SBSM Program Director is playing a role as consulting architect with the Department of Information Technology (DIT) for the Agency-led RFP for an ERP Solution to State legacy Financial Systems, the State Integration RFP to create improved and modern ways to communicate data and the Statewide Identity Management RFPs. This involvement helps

ensure coordination between various State initiatives and the NCDPI Modernization efforts. We are currently piloting the NCDIT IPaaS offering and have plans to also pilot the rollout of the new Financial System.

- **Additional LEA systems accomplishments to date:**

Many of these initial activities are designed to stabilize the LEA infrastructure to secure and stabilize the environment, while the modernization projects are deployed over the coming years. Additionally, the building of an Operational Data Store (ODS) through the Data Transparency initiative will provide a “decoupling” of the LEA, 3rd Party and DPI systems, allowing for the replacement of the systems with minimum impact to other systems.

Moving LEAs from on premise to education cloud hosted AS400 to reduce hardware costs and streamlined migration process and timeframe. This work relieves the burden on LEA staff running IT infrastructure, allowing them to focus on core mission and improving support and security. We have migrated 15 LEAs (ACTIVE) to EdCloud since the inception of the SBSM program along with all the NCDPI AS400 workloads to the already hosted (LIVE) workloads. Currently in the coming weeks we have the remaining LEA workloads ready to move (PENDING) or waiting on backup tapes (WAITING), all scheduled to be live by the end of the calendar year.



- Developed a single Licensure File feed to go to ERP providers nightly to save the manual work that occurs at the LEA level to determine changes from a 600,000-line flat file for the few affected teachers. This project will lead to the sunset of 50+ aged AS400s (*in final test review*)
- Migrated several LEAs with hardware and software issues to more stable interim platforms.

AGENCY MODERNIZATION INITIATIVE

The **Agency Modernization** initiative is focused on improving technology and data of the Agency business systems. A thorough inventory and mapping of those systems is currently underway.

Other early actions in this initiative include:

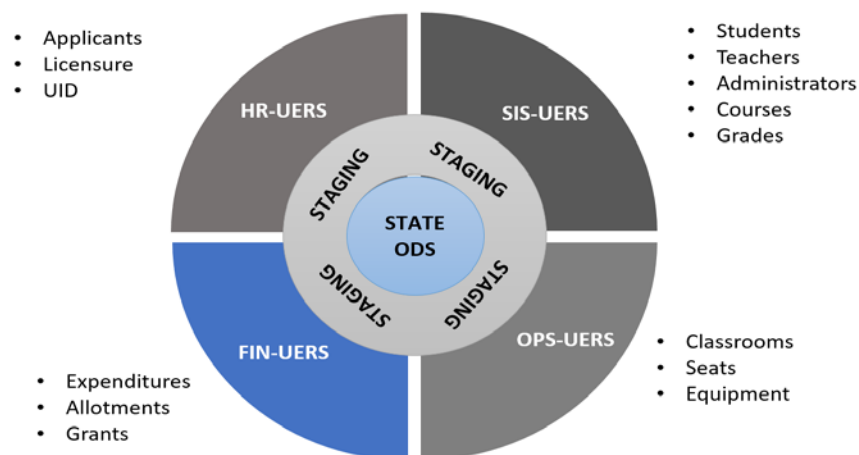
1. Student Information System (SIS): The current vendor transitioned to a cloud environment in March 2019. SBSM is using this transition to optimize and improve the SIS performance.
2. A review of the third-party assessment of the Licensure Division has produced recommendations to improve the Licensure application. The recommendations are being prioritized and scheduled.
3. Working with other NCDPI divisions, software for electronic document handling has been piloted successfully and additional workflows and documents are underway to improve the processing time and oversight and exception handling. HR forms went live March 2019, with many other forms in process.
4. As part of the EY Operational Assessment SBSM has been working with DPI Technology Services and DIT to migrate all IT workloads to modern platforms hosted at DIT. The following is the current status:

Task	Completion Date
Create a licensure feed for vendors to receive licensure data from the licensure system instead of through the legacy AS400 - HRMS as a 600,000-line file. This is a step towards ending the LEAs dependency on the legacy AS400.	Feed to vendor serving 70 districts and all charter schools completed March 2019. Other vendors will be addressed at a later date.
Salary Compliance System and Licensure Salary web server and database server to be upgraded to the latest windows and SQL Server versions and migrated to DIT	September-2019
GDAC/SAS Transparency Reporting	September-2019
Upgrade in progress to the financial software at NCDPI that houses the LEAs' financial data. This will bring us up to the current release of the financial package that is used by the Office of State Controller for the State. This puts us in a position to sustain what we have while pursuing a new modern system.	October-2019
Other servers at NCDPI that house financial applications upgraded and moved to NCDIT	TBD
LEA ERP RFP completed	April-2019
LEA ERP Program Kickoff	April-2019
AS400 move to NC EdCloud	August-2019
Governor's School application sunset and functionally included as part of the State SIS.	July-2019
Legacy Job Board	TBD
Lotus Notes Applications	July 2019 – June 2020
SQL Upgrade	July-2019

SCHOOL BUSINESS SYSTEMS MODERNIZATION PROGRAM NEXT STEPS

A deep dive into DPI's data has revealed that the data required is not only in multiple sources, it is missing entirely in some applications. Data has been copied and moved and then stranded in applications. Many applications are completely disconnected or only provide the minimum amount of data. The one exception was the Financial Data, particularly reporting on expenditures of State funds, which was well defined and governed by the UERS Policy.

The Uniform Education Reporting System (UERS) Policy states that the North Carolina Department of Public Instruction (NCDPI) has the legal and ethical responsibility to use and disseminate appropriate information as one of its most important priorities. The legal aspects of the use of public-school data are based upon several state and federal laws including, primarily, the Uniform Education Reporting Systems (UERS) umbrella as required by General Statute (GS) 115C-12. This policy was then defined for the financial data required to insure oversight of the Allotment and Expenditures in the operations of the NC K-12 operations. Other systems such as Student Information Systems (SIS) and Human Resources data, although implied by the policy is handled in an ad hoc manner. The Program Office then kicked off the initial work of extending the UERS Specifications into those areas as well as a future area of LEA Operations which in the future provide required information on classrooms, seats, technology and even transportation. An overall model can be represented as follows:



The role of the UERS specifications is to provide the details of the data moving in and out of the Operational Data Store (ODS) via a staging area where the data can be transformed as needed to interface with external systems. With a well-governed standard defining and governing the data and data flows, we can now be sure we have all the information required in a central location to base reporting and analytics on. The additional benefits of decoupling the applications from each other allows for smoother changes throughout the DPI/LEA infrastructure and allow for future modernization with minimal disruption.

Working with DIT to select a new Integration Bus to connect and move data leverages the advantage of planning as a State vs Agency. Additionally, any other State enterprise systems DPI may need to interact with are now on the same Integration Bus and also decoupled, allowing other agencies to make changes with minimal disruption.

As the SBSM program moves into the ERP kick off phase, other projects will be worked in parallel. Now that the ERP RFP selection period is over and partners are identified, the SBSM Program Office will do detailed planning and budgeting based on the new partners and cost data. The intent is to establish master contracts and pricing with the partners that LEAs can leverage to sign local contracts. The high-level plan going forward has also been used to drive the budget.

SCHOOL BUSINESS SYSTEMS MODERNIZATION PROGRAM TIMELINE AND BUDGET

The following is the current planning budget for the School Business Systems Modernization Program. It is a preliminary budget and will be validated and adjusted to accommodate LEA vendor selections and deployment plans.

	FY18-19	FY19-20	FY20-21	FY21-22	FY22-23	FY23-24
PMO	\$1,500,000	\$1,700,000	\$2,000,000	\$2,100,000	\$2,200,000	\$800,000
LEA ERP Modernization	\$4,800,000	\$18,200,000	\$29,500,000	\$25,400,000	\$16,000,000	\$12,100,000
Stabilization	\$1,800,000	\$2,500,000	\$2,800,000	\$1,900,000	\$700,000	\$0
DPI Modernization	\$1,500,000	\$2,700,000	\$3,500,000	\$4,300,000	\$4,300,000	\$1,300,000
Transparency	\$3,400,000	\$1,600,000	\$1,700,000	\$1,700,000	\$1,600,000	\$100,000
TOTAL	\$13,000,000	\$26,700,000	\$39,400,000	\$35,500,000	\$24,700,000	\$14,300,000



STATUTORY AND POLICY UPDATES NEEDED

In order to provide funds to LEAs to take advantage of the new ERP convenience contracts, updates need to be made to the Allotment Policy Manual. These updates will be provided to the State Board of Education for approval at their May 2019 meeting. Key elements include:

- Funding will be available for the transition cost and first year of operating/maintenance with whichever vendor is selected from the convenience contracts.
- Potential to allow very large LEAs to select from other modern options and cover the equivalent marginal costs allowed under the convenience contracts.

Local finance officers have also requested statutory changes to reduce the need for customization or configuration of new ERP systems. Specifically, they have requested:

- Amend G.S. 115C-302.1.(b) to eliminate the requirement that teachers be prepaid for the entire month of August and that each monthly payment be equal. This statute, combined with G.S. 115C-84.2.(a) that a school calendar is 215 days, results in three challenges:
 - A requirement that the ERP system pay teachers based on a 21.5 day work-month.
 - The need to recoup compensation paid to any teacher who leaves during the school year (because they have been prepaid).
 - Confusion on the part of new teachers when they do not receive a June paycheck, even though they work some days in June (because they were paid for this time the previous August).
- Provide LEAs with less burdensome options for satisfying the requirement in G.S. 115C-302.1 to offer teachers an option to be paid over 12 months rather than 10 months.
 - One option would be to clarify the statute to allow local education agencies to work with financial institutions to use “summer cash” payroll deduction programs at financial institutions, if desired, to fulfill the requirement.