Report to the North Carolina General Assembly

Independent Operational Assessment of the North Carolina Department of Public Instruction

Session Law 2017-57, Section 7.23L

Date Due: May 1, 2018
Report # 76
DPI Chronological Schedule, 2017-2018
STATE BOARD OF EDUCATION

SBE VISION: Every public school student, through access to needed resources and rigor, will graduate ready for post-secondary education and work, prepared to be a globally engaged and productive citizen.

SBE MISSION: The State Board of Education will use its constitutional authority to lead and uphold the system of public education in North Carolina that guarantees every student in this state an opportunity to receive a sound basic education.

WILLIAM COBEY  
Chair: Chapel Hill – At-Large

ERIC DAVIS  
Vice Chair: Charlotte – At-Large

DAN FOREST  
Lieutenant Governor: Raleigh – Ex Officio

DALE FOLWELL  
State Treasurer: Raleigh – Ex Officio

MARK JOHNSON  
Secretary to the Board: Raleigh

BECKY TAYLOR  
Greenville – Northeast Region

REGINALD KENAN  
Rose Hill – Southeast Region

AMY WHITE  
Garner – North Central Region

OLIVIA OXENDINE  
Lumberton – Sandhills Region

VACANT  
Piedmont-Triad Region

GREG ALCORN  
Salisbury – Southwest Region

TODD CHASTEEN  
Blowing Rock – Northwest Region

WAYNE MCDEVITT  
Asheville – Western Region

PATRICIA N. WILLOUGHBY  
Raleigh – At-Large

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:
Maria Pitre-Martin, Ph.D., Deputy State Superintendent
6307 Mail Service Center, Raleigh, NC 27699-6307 / Phone: (919) 807-3759 / Fax: (919) 807-4065

Visit us on the Web: www.ncpublicschools.org
Summary

S.L. 2017-57, section 7.23L, directed the State Superintendent to contract with an independent organization for “an organizational, functional, and business-process audit of the Department of Public Instruction,” and to report the results to the General Assembly by May 1, 2018. The Department selected the firm Ernst and Young (EY) to perform the work. After conducting interviews, analyzing data, and reviewing documents, the firm submitted a report with 18 recommendations. These recommendations can be grouped into two broad themes:

- NCDPI can improve services to North Carolina public schools by reducing internal silos, and by delivering a more consistent vision for how to support local schools and students.

- By improving internal business processes and consolidating information technology activities, NCDPI can focus resources on supporting schools, educators, and students.
**Legislative Directive**

On April 27, 2018, the North Carolina Department of Public Instruction (“NCDPI”) received a report from Ernst & Young (“EY”). This document constitutes the report to the North Carolina General Assembly, Joint Legislative Education Oversight Committee, and Fiscal Research Division with the results of EY’s assessment. S.L. 2017-57, Section 7.23L, called for the following:

**AUDIT OF THE DEPARTMENT OF PUBLIC INSTRUCTION SECTION 7.23L.** The Superintendent of Public Instruction shall select an independent research organization that is a public or private entity or university for the 2017-2018 fiscal year to conduct an organizational, functional, and business-process audit of the Department of Public Instruction. The selected organization shall have experience and special expertise in performing the type of audit described above. No later than May 1, 2018, the Department shall submit a report to the General Assembly, the Joint Legislative Education Oversight Committee, and the Fiscal Research Division with the results of the audit including, at a minimum, all of the following information:

1. Identification of cost saving measures that could be implemented within the Department.
2. A statement regarding the minimum funding necessary to ensure that federal grant funds do not constitute more than fifty percent (50%) of the budget of the Department.
3. All maintenance of effort requirements related to federal grants administered by the Department and the financial impact of failing to meet those requirements.
4. Any activities for which the Department uses State funds that are not related to federal or State law or policy.
5. Identification of programs, services, or divisions within the Department that could be consolidated or reorganized.
6. Any positions within the Department that are unnecessary, duplicative, or unrelated to the implementation of federal or State law or policy.
7. Any programs that are ineffective, cumbersome, or no longer functioning as intended by federal or State law or policy.
8. Any recommendations for legislative action.

To conduct this assessment the North Carolina Department of Public Instruction (NCDPI) selected the firm Ernst and Young (EY) through a competitive bidding process. NCDPI selected EY for its extensive experience in K-12 education consulting for multiple state education agencies, school districts, and education stakeholder groups.
Summary of Methodology

EY worked on-site at NCDPI from January-April 2018 to gather two types of information. First, EY interviewed over 100 NCDPI employees and 100 external stakeholders including superintendents, local academic officers, school principals, and teachers. Second, EY collected data and documents to analyze NCDPI’s operational budget, staffing, and businesses practices.

The EY assessment focused on the core operations of NCDPI, and did not include assessment of the three residential schools, the NC Center for the Advancement of Teaching (NCCAT), the NC Virtual Public School, the Innovative School District, or the licensure division (an operational review of the licensure division was completed by TNTP in 2017).

Summary of Recommendations

On April 27th, 2018, EY delivered a final report (attached) to NCDPI with 18 recommendations based on their analysis of NCDPI and extensive knowledge of state education agencies. These recommendations provide a roadmap for improving operations within NCDPI and improving how the agency serves LEAs and charter schools. Table 1 summarizes these recommendations.

Table 1: Summary of EY Recommendations

<table>
<thead>
<tr>
<th>#</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Establish a central repository that sources, validates, and maintains data.</td>
</tr>
<tr>
<td>2</td>
<td>Bolster and embed analytics capabilities across key program offices.</td>
</tr>
<tr>
<td>3</td>
<td>Develop a policy and strategy function to facilitate collaboration and feedback around agency priorities.</td>
</tr>
<tr>
<td>4</td>
<td>Engage and empower division leaders as business owners of their budgets.</td>
</tr>
<tr>
<td>5</td>
<td>Improve the efficiency, governance and transparency of contracting.</td>
</tr>
<tr>
<td>6</td>
<td>Redesign the regional structure to better coordinate and differentiate identified supports to LEAs.</td>
</tr>
<tr>
<td>7</td>
<td>Align, coordinate and potentially streamline assessments.</td>
</tr>
<tr>
<td>8</td>
<td>Combine educator talent-related functions into a single end-to-end talent division.</td>
</tr>
<tr>
<td>9</td>
<td>Reduce IT support response times to the field and improve resolution experience.</td>
</tr>
<tr>
<td>#</td>
<td>Recommendation</td>
</tr>
<tr>
<td>----</td>
<td>---------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>10</td>
<td>Centralize IT capabilities housed in non-IT divisions and consolidate the functions within the IT division.</td>
</tr>
<tr>
<td>11</td>
<td>Repurpose IT by outsourcing common and low value functions and refocusing to advise and support business needs.</td>
</tr>
<tr>
<td>12</td>
<td>Implement a vendor-first approach for application services and prioritize cloud hosting.</td>
</tr>
<tr>
<td>13</td>
<td>Design and implement the future state application portfolio (rationalize/consolidate/upgrade).</td>
</tr>
<tr>
<td>14</td>
<td>Streamline and accelerate the talent acquisition process using technology and internal process optimization.</td>
</tr>
<tr>
<td>15</td>
<td>Enable HR to be a strategic function</td>
</tr>
<tr>
<td>16</td>
<td>Develop an employee engagement and support strategy focused on communication, transparency, learning and development.</td>
</tr>
<tr>
<td>17</td>
<td>Better align compensation levels and changes with performance.</td>
</tr>
<tr>
<td>18</td>
<td>Create a transformation management office to support effective implementation of these recommendations.</td>
</tr>
</tbody>
</table>

These recommendations have identified areas of the department that can be consolidated or reorganized and highlight ways in which NCDPI programs can be improved to better serve schools, educators, and students as directed by federal or state law and policy. A number of recommendations also involve improving internal processes to ensure that, as an agency, NCDPI’s internal operations are as effective as possible so time and resources can be focused on supporting schools, educators, and students.

Some recommendations can be implemented over the course of the next year without additional resources. However, other recommendations will take more time, and may require some upfront investment before yielding long-term efficiencies. Overall, implementing the 18 recommendations will significantly improve the return that North Carolina taxpayers get on the funds that are invested in NCDPI, and how districts, schools, educators, and students are supported across the state.
**Next Steps**

Over the next month, NCDPI will establish a “transformation management office (TMO)” to develop an implementation plan with specific actions, detailed timeline, and milestones to use in leading change efforts in the agency.

To help ensure effective implementation of the EY recommendations the State Board of Education and Superintendent of Public Instruction request two things from the General Assembly:

1) Delay of the $5.1 million management flexibility reduction scheduled to take effect on July 1, 2018. Reductions of more than $5 million for next year will prevent the strategic implementation of thoughtful changes that will yield efficiencies over a multi-year period and improve NCDPI effectiveness on behalf of students.

2) Include language in the 2018 Appropriations Act permitting the Department to restructure positions, operating budget, and related funding and fund code structures on a recurring basis that may be necessary to implement the EY recommendations.
NC DPI organizational assessment

Final report

April 27, 2018
Limitations and restrictions

This report (the “Report”) has been prepared by Ernst & Young LLP (“EY” or “we”), from information and material supplied by North Carolina Department of Public Instruction (NC DPI) (“Client”), for the sole purpose of assisting Client in an organizational assessment.

The nature and scope of our services was determined solely by the Agreement between EY and Client dated February 25, 2018 (the “Agreement”). Our procedures were limited to those described in that Agreement. Our work was performed only for the use and benefit of Client and should not be used or relied on by anyone else. Other persons who read this Report who are not a party to the Agreement do so at their own risk and are not entitled to rely on it for any purpose. We assume no duty, obligation or responsibility whatsoever to any other parties that may obtain access to the Report.

The services we performed were advisory in nature. While EY’s work in connection with this Report was performed under the consulting services standards of the American Institute of Certified Public Accountants (the “AICPA”), EY did not render an assurance report or opinion under the Agreement, nor did our services constitute an audit, review, examination, forecast, projection or any other form of attestation as those terms are defined by the AICPA. None of the services we provided constituted any legal opinion or advice. This Report is not being issued in connection with any issuance of debt or other financing transaction.

In the preparation of this Report, EY relied on information provided by Client from interviews and internal documents, primary research or publicly available resources, and such information was presumed to be current, accurate and complete. EY has not conducted an independent assessment or verification of the completeness, accuracy or validity of the information obtained. Any assumptions, forecasts or projections contained in this Report are solely those of Client and its management (“Management”) and any underlying data were produced solely by Client and its Management.

Client management has formed its own conclusions based on its knowledge and experience. There will usually be differences between projected and actual results because events and circumstances frequently do not occur as expected and those differences may be material. EY takes no responsibility for the achievement of projected results.
Agenda

► Project overview
► Context on NC DPI
► Summary of recommendations
► Potential implications
► Recommendations detail
Project overview
### Project overview

This report is the result of a 12 week organizational assessment of North Carolina Department of Public Instruction (NC DPI)

<table>
<thead>
<tr>
<th>Process</th>
<th>Outcomes</th>
</tr>
</thead>
</table>
| ► Over the last 12 weeks, EY conducted an organizational assessment of NC DPI  
► The goal of the organizational assessment was to identify areas of potential improvement for NC DPI, in terms of effectiveness, efficiency, or both  
► As part of the assessment, EY received feedback from over 200 people, including NC DPI staff as well as Superintendents, principals, teachers, and district staff  
► EY also analyzed budget and personnel data to understand how resources are being allocated at NC DPI today, and assessed existing systems and processes to identify opportunities for improvement and potential efficiency gain | ► Based on stakeholder input, analysis, and EY’s experience, this report lays out 18 recommendations that, in aggregate, describe a potential transformation of key aspects of NC DPI  
► These recommendations are organized into four themes: impact, support, technology and people  
► We have assessed potential external dependencies of the recommendations at the direction of NC DPI management based on our interviews and analysis  
► The potential financial implications associated with the recommendations have been shared with, and all the assumptions and parameters have been confirmed by NC DPI  
► Together, the recommendations aim to assist NC DPI in planning to more effectively and efficiently focus on its core mission of supporting high-quality education for the 115 districts, 173 charters, and 1.5m students in the state |

The School Business Systems Modernization (SBSM) effort is focused on modernizing business systems that impact LEAs. While this organizational assessment focused on the NC DPI core agency it does identify areas of overlap and opportunities for coordination with SBSM.
Project overview
Our scope included an assessment of key questions determined by NC DPI across three categories

Organizational Assessment

- How does spending align with the organization’s priorities?
- What is the appropriate level of resources for administrative functions?
- Can federal funds be used more effectively to accomplish the organizations’ priorities?
- Understand NC DPI priorities
- Conduct interviews
- Evaluate organization charts, business processes and existing priorities
- Benchmarking of other State Education Agencies (SEAs)

Functional and Program Assessment

- How do people and resource align around the organization’s priorities?
- How can NC DPI provide effective operation and academic support to Local Education Agencies (LEAs)?
- Where are there areas of duplication? Where can efficiencies be achieved?
- Analyze budget and Human Resource (HR) data
- Evaluate administrative functions
- Analyze federal funding
- Analyze potential financial implication of identified improvement areas

Budget and Workforce Assessment

- How does spending align with the organization’s priorities?
- What is the appropriate level of resources for administrative functions?
- Can federal funds be used more effectively to accomplish the organizations’ priorities?
- Assessments of performance across IT functions including:
  - Systems
  - Internal management and ownership
  - Procurement, contracts and licenses
  - Project management
  - Security and business continuity

Information Technology (IT) Systems Assessment

- What IT functions does NC DPI currently own? What IT functions and services should NC DPI own?
- What is necessary for an effective IT service delivery model?
- How does NC DPI effectively support LEAs in the areas of IT that further instructional outcomes?

Note: All data and material for analysis and assessment during the project were provided by NC DPI
Project overview
Certain areas of NC DPI were excluded from the scope

- The following were excluded from the scope as defined by NC DPI
  - North Carolina Virtual Public Schools
  - North Carolina Center for Advancement of Teaching
  - Innovative School District
  - Licensure division
  - Residential Schools

- However, with respect to Licensure, we did work to consider how the division could align with other talent-related functions, and assess our recommendations in light of a separate report commissioned by NC DPI focused on licensure
Project overview
Over the course of the project, EY received feedback from over 200 NC DPI core agency staff, LEA staff, and other external stakeholders

Interviews, Survey Respondents and Focus Groups (n=224)

<table>
<thead>
<tr>
<th>Internal NC DPI Interviews (n=123)</th>
<th>External Interviews (n=101)</th>
</tr>
</thead>
<tbody>
<tr>
<td>► Academics (n=17)</td>
<td>► Friday Institute (3)</td>
</tr>
<tr>
<td>► District and School Support (n=10)</td>
<td>► North Carolina Department of Information Technology (DIT) (1)</td>
</tr>
<tr>
<td>► Technology (n=14)</td>
<td>► Former NC DPI leadership team member (1)</td>
</tr>
<tr>
<td>► School Operations (n=7)</td>
<td>► Former LEA Superintendent, North Carolina (1)</td>
</tr>
<tr>
<td>► Financial and Business Services (n=14)</td>
<td>► Other state education agencies (5)</td>
</tr>
<tr>
<td>► Superintendent’s office (n=4)</td>
<td></td>
</tr>
<tr>
<td>► State Board of Education Members and Staff (n=5)</td>
<td></td>
</tr>
<tr>
<td>► Human Resources (n=5)</td>
<td></td>
</tr>
<tr>
<td>► Internal Audit (n=1)</td>
<td></td>
</tr>
<tr>
<td>► Licensure (n= 2)</td>
<td></td>
</tr>
<tr>
<td>► Anonymous Survey Respondents (n=44)</td>
<td></td>
</tr>
</tbody>
</table>
Project overview
Our work highlights 18 recommendations that could be implemented to support the transformation of NC DPI

Transform NC DPI into a collaborative, data-driven, student outcomes focused organization
1. Establish a central repository that sources, validates and maintains data
2. Bolster and embed analytics capability across key program offices
3. Develop a policy and strategy function to facilitate collaboration and feedback around agency priorities
4. Engage division leaders as business owners of their budgets
5. Improve the efficiency, governance and transparency of contracting

Redefine and restructure IT as a lean and agile organization designed to provide value-driven support
6. Centralize shadow IT and consolidate the IT organization
7. Repurpose IT by outsourcing common and low value functions and refocusing to advise and support business needs
8. Implement a vendor-first approach for application services and prioritize cloud hosting
9. Design and implement the future state application portfolio (rationalize/consolidate/upgrade)

Create a more integrated and streamlined system of support to LEAs
6. Redesign the regional structure to better coordinate and differentiate identified supports to LEAs
7. Align, coordinate and potentially streamline assessments
8. Combine educator talent-related functions into a single end-to-end talent division
9. Reduce IT support response times to the field and improve resolution experience

Recruit, retain, and develop the right team
10. Streamline and accelerate the talent acquisition process using technology and internal process optimization
11. Enable HR to be a strategic function
12. Develop an employee engagement and support strategy focused on communication, transparency, learning and development
13. More effectively align compensation levels and changes with performance

A transformation management office should be created to support the effective implementation of these recommendations (Recommendation #18)

Note: Shadow IT refers to resources performing IT related functions that resides in divisions outside of the IT organization
Context on NC DPI
North Carolina’s Every Student Succeeds Act (ESSA) plan lays out a theory of action that prioritizes a set of programs

Theory of Action (per NC DPI ESSA plan)

*North Carolina commits to continue to transform its education system to allow every student to follow the path to success that they decide best fits them.*

**Proven Programs**
NC Pre-K, Smart Start, Career and College Promise, Home Base, NC Virtual Public Schools

**Promising Practices**
English Language Support Teams, NC Read to Achieve, NCStar, Multi-tiered System of Support (MTSS), Positive Behavioral Interventions and Supports (PBIS), Data Systems

**Emerging Initiatives**
B-3 Interagency Council, NC Reads, Whole Child NC, Global Ready Initiatives, Digital-Age Learning, Innovative School District, Lab Schools

Source: NC ESSA Plan
## Context on NC DPI

As a state agency, NC DPI must balance supporting the implementation of key instructional priorities along with more traditional SEA responsibilities (e.g., monitoring)

### Sample of NC DPI Priority Areas

<table>
<thead>
<tr>
<th>Personalized Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Learning</td>
</tr>
<tr>
<td>Literacy</td>
</tr>
<tr>
<td>College &amp; Career Readiness</td>
</tr>
<tr>
<td>Support for Low Performing Schools and Districts</td>
</tr>
</tbody>
</table>

### Typical SEA Responsibilities

#### Policy and Academics
- Develop state standards for K12 education
- Select and administer statewide assessment
- Report on progress of students, schools and other statewide education initiatives
- Develop and monitor policies related to K12 education
- Support districts, as appropriate, with issues of curriculum and instruction
- Take appropriate actions to address low-performing schools and districts

#### Operations and Administration
- Monitor compliance associated with federal and state funding and regulations
- Administer state and federal funds
- Maintain data and reporting systems
- Communicate policies and priorities for K12 education in the state

---

Note: Priority areas identified through NC ESSA plan as well as interviews with leadership.

---

Prepared solely for North Carolina Department of Public Instruction. Reliance restricted. Does not constitute assurance or legal advice. Please refer to limitations and restrictions on page 2.
Context on NC DPI
The diversity of LEAs in North Carolina creates wide variability in need for support and services from NC DPI

North Carolina Student Enrollment in K-12 LEAs,
by total LEA enrollment and geographical classification

Total = 1.5 m

<table>
<thead>
<tr>
<th>Enrollment Category</th>
<th>City</th>
<th>Suburb/Town</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 25,000 students</td>
<td>N=710 k</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>10,000-24,999 students</td>
<td>N=419 k</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5,000-9,999 students</td>
<td>N=203 k</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-4,999 students</td>
<td>N=211 k</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Number of LEAs
- City: 12
- Suburb/Town: 26
- Rural: 28
- Total: 152*

Note: *Data do not reflect 21 of the 173 charter schools in North Carolina due to school openings and missing data
Source: NC DPI website; NCES
Context on NC DPI
The core agency budget for NC DPI represents ~1% of total school allotments

North Carolina Department of Public Instruction Budget, 2017–2018

Core Agency Budget
Total DPI Budget
DPI Central Agency Core Budget by spending type

School Allotments
~$11.6b

Operating
$130m

Personnel
IHE and LEA contractors

Note: Special Fund sources include: Licensure fees, Private Grants, LEA HMRS, etc.; Receipt sources include: Indirect costs, Lottery distributions, Publication sales, etc.
Note: Business Modernization reserve funds for future years are excluded from the total NC DPI 2017-18 budget; Special Funds are those that are earmarked for a specific purpose
Source: Internal NC DPI Data

NC DPI’s Internal Auditor’s estimated contractor spend; not exhaustive and does not include Temp Solutions
Context on NC DPI

More than $100m of NC DPI’s core agency budget is spent on academics, district and school supports, and school operations support.

NC DPI Core Agency Budget by Division and Section, 2017–18

Total= $130m

Note: Data reflects DPI’s budget as of February 2018; funds that are largely pass-throughs (e.g., E-RATE funds, Education and Workforce Commission, SBSM) are excluded from NC DPI budget. Source: Internal NC DPI Data
Context on NC DPI

Federal funds account for ~30% of NC DPI’s total spend when including all areas of the agency budget, including spend on ancillary offices and services.

North Carolina Department of Public Instruction Budget, 2017–18

Core agency budget (excl. ancillary offices)

$130M

- Federal Funds (39%)
- Receipts (7%)
- Special Funds (9%)
- State Appropriation (45%)

Total agency budget (incl. ancillary offices)

$172M

- Federal Funds (30%)
- Ancillary Receipts (6%)
- Special Funds (7%)
- Ancillary State Appropriation (16%)
- State Appropriation (34%)

Note: Ancillary offices and services include NC CAT, Residential Schools and School Insurance.

Note: Special Fund sources include: Licensure fees, Private Grants, LEA HMRS, etc.; Receipt sources include: Indirect costs, Lottery distributions, Publication sales, etc.

Note: Business Modernization reserve funds for future years are excluded from the total NC DPI 2017–18 budget; Special Funds are those that are earmarked for a specific purpose.

Source: Internal NC DPI Data
Context on NC DPI
The vast majority of academic and support resources are supported by specific categorical state or federal funding streams.

NC DPI Academics and District Support Divisions by Funding Source, 2017–18

Note: Special Fund sources include: Licensure fees, Private Grants, LEA HMRS, etc.; Receipt sources include: Indirect costs, Lottery distributions, Publication sales, etc. SBSM is not included in core agency budget.

Source: Internal NC DPI Data
Context on DPI
…While state funding is the key source to support business operations

NC DPI Business Functions by Division and Funding Source, 2017–18

Note: Special Fund sources include: Licensure fees, Private Grants, LEA HMRS, etc.; Receipt sources include: Indirect costs, Lottery distributions, Publication sales, etc. SBSM is not included in core agency budget.
Source: Internal NC DPI Data
Summary of recommendations
Summary of recommendations
Our interviews and experience surfaced several strengths and positive themes for NC DPI

- High performing teachers see **NC DPI as being responsive to their needs and offering a breadth of professional development** services and resources
- NC DPI staff are knowledgeable and have experience in their areas of work, and try to coordinate efforts across divisions even when formal structures to do so don’t exist
- NC DPI IT, and many other divisions in NC DPI, exhibit a strong **service orientation** and support LEAs even when that goes beyond what is mandated
- Employees across the agency indicate that they have **assumed additional responsibilities** in many areas as there have been cuts and delays in filling vacancies

NC DPI strengths, including a dedicated and knowledgeable staff, suggest that the organization could be well-positioned to address some of the more constructive observations that surfaced during interviews, and their implications
Summary of recommendations
There are two areas that we did assess but did not observe any significant recommendations for improvement

<table>
<thead>
<tr>
<th>School operations</th>
<th>Monitoring related to federal funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>► NC DPI provides a range of operational support services to districts, including property insurance and facilities plan review</td>
<td>► NC DPI provides a consolidated grant application and monitoring for Title funding</td>
</tr>
<tr>
<td>► Providing direct operational support services does not always fall within SEA responsibilities in other states, but NC DPI earns revenue from these services that helps to offset costs</td>
<td>► The Federal Program Division has created a strong working relationship with Educator Support Services to create alignment in addressing LEA needs</td>
</tr>
</tbody>
</table>

Observations

- Based on interviews it is recommended that NC DPI continue providing these services even if it is unusual for a SEA to do so, given that:
  - Small and rural LEAs are limited in the resources or content knowledge to provide or purchase these services on their own
  - LEAs report that they value these services and generally view them as high quality

Implications

- While there may be opportunities for further consolidation of monitoring and ongoing continuous improvement, interviews with NC DPI staff indicate that there have been meaningful efforts to streamline monitoring and adopt leading practices seen in other states including:
  - Online grant system
  - Consolidated grant application for LEAs
  - Coordinated monitoring and support to LEAs
Summary of recommendations
Interviews with staff and the field also identified some challenging observations in four key areas

<table>
<thead>
<tr>
<th>Overall observations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Impact</strong></td>
</tr>
<tr>
<td>► DPI’s effectiveness is limited by its tendency to work in siloes – an observation that extends to many functions, including how data is used, how policy is developed, how budgets are created, and others</td>
</tr>
<tr>
<td>► In addition, delays in the contracting process have become a critical issue for NC DPI management</td>
</tr>
<tr>
<td><strong>Support</strong></td>
</tr>
<tr>
<td>► NC DPI appears to lack an overriding theory for how to support LEAs and educators to drive student outcomes; individual offices develop their own support structures, professional development plans and assessments</td>
</tr>
<tr>
<td>► Multiple offices have aligned staff to regions, but those regional support providers do not coordinate or prioritize their work within each region</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
</tr>
<tr>
<td>► Increasing demand for IT services from different business units, and IT’s challenges in responding to these specific needs, has resulted in a fragmented IT organization</td>
</tr>
<tr>
<td>► At the same time, IT is dedicating time and resources towards administrative activities such as supporting desktops and server infrastructure hosted on-premises</td>
</tr>
<tr>
<td><strong>People</strong></td>
</tr>
<tr>
<td>► NC DPI is not succeeding in hiring and onboarding staff in a timely manner, resulting in skill and capacity gaps and hindering the operations of many teams</td>
</tr>
<tr>
<td>► In addition, employee morale is widely perceived to be struggling amidst higher levels of turnover, fragmented communication, and uncertainty about the vision and future funding of the organization</td>
</tr>
</tbody>
</table>

*All these observations tie into a feeling amongst staff that NC DPI articulating an overarching vision of its priorities is key to improving employee engagement and enabling implementation of the recommendations*
Summary of recommendations
Within each of the themes, there are specific recommendations that can support the transformation of NC DPI

A transformation management office should be created to support the effective implementation of these recommendations (Recommendation #18)

Transform NC DPI into a collaborative, data-driven, student outcomes focused organization

1. Establish a central repository that sources, validates and maintains data
2. Bolster and embed analytics capability across key program offices
3. Develop a policy and strategy function to facilitate collaboration and feedback around agency priorities
4. Engage division leaders as business owners of their budgets
5. Improve the efficiency, governance and transparency of contracting

Redefine and restructure IT as a lean and agile organization designed to provide value-driven support

10. Centralize shadow IT and consolidate the IT organization
11. Repurpose IT by outsourcing common and low value functions and refocusing to advise and support business needs
12. Implement a vendor-first approach for application services and prioritize cloud hosting
13. Design and implement the future state application portfolio (rationalize/consolidate/upgrade)

Create a more integrated and streamlined system of support to LEAs

6. Redesign the regional structure to better coordinate and differentiate identified supports to LEAs
7. Align, coordinate and potentially streamline assessments
8. Combine educator talent-related functions into a single end-to-end talent division
9. Reduce IT support response times to the field and improve resolution experience

Recruit, retain, and develop the right team

14. Streamline and accelerate the talent acquisition process using technology and internal process optimization
15. Enable HR to be a strategic function
16. Develop an employee engagement and support strategy focused on communication, transparency, learning and development
17. More effectively align compensation levels and changes with performance

Impact
Support
Technology
People

Transform NC DPI
Impact: recommendations overview
More coordination and alignment around data, policy and budget could help NC DPI become a more outcomes-driven agency

<table>
<thead>
<tr>
<th>Context and rationale observations</th>
<th>Preliminary recommendations</th>
<th>Objectives and desired outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>► Different teams and applications across NC DPI source data independently using unique methods; this results in data inconsistency and inefficient efforts</td>
<td>1. Establish a central repository that sources, validates and maintains data</td>
<td>► Enable teams across NC DPI to access consistent and reliable data to drive more informed decision making</td>
</tr>
<tr>
<td>► The agency’s policy work (Board and legislative) does not always reflect a robust feedback loop from staff or stakeholders, or consistent application of agency priorities</td>
<td>2. Bolster and embed analytics capability across key program offices</td>
<td>► Drive better and more frequent data use by building analytical capacity of program areas and prioritizing key analyses and reports required to drive program and policy decisions</td>
</tr>
<tr>
<td>► The budget process has historically been managed by Finance, with program owners not deeply involved with the development and management of their budgets, and not always a strategic discussion of priorities and tradeoffs</td>
<td>3. Develop a policy and strategy function to facilitate collaboration and feedback around agency priorities</td>
<td>► Improve coordination across offices, and achieve clear alignment of policies and priorities with the creation of a policy and strategy function</td>
</tr>
<tr>
<td>► The contract process is very slow, there is little oversight of contract management and renewal</td>
<td>4. Engage division leaders as business owners of their budgets</td>
<td>► Shift to a priorities-driven budget process with increased ownership and accountability by program areas</td>
</tr>
<tr>
<td></td>
<td>5. Improve the efficiency, governance and transparency of contracting</td>
<td>► Create clarity around contracting decisions and improve efficiency by redesigning the contracting process</td>
</tr>
</tbody>
</table>

Note: Context and rationale observations are based on discussions with management, primary research and data analysis.
Support: recommendations overview
Moving towards a more integrated system of LEA support involves more field coordination, and a clearer prioritization of NC DPI efforts

<table>
<thead>
<tr>
<th>Context and rationale observations</th>
<th>Preliminary recommendations</th>
<th>Objectives and desired outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>► NC DPI has faced state funding cuts and the sunsetting of federal grants, yet has strived to maintain its historic level of support for the field; many NC DPI teams have field-based resources, but coordination is limited and resources are thinly spread</td>
<td>6</td>
<td>Redesign the regional structure to better coordinate and differentiate identified supports to LEAs</td>
</tr>
<tr>
<td>► LEAs seek a more coherent approach from NC DPI, one in which available tools and support align with a clear vision for teaching and learning</td>
<td>7</td>
<td>Align, coordinate and potentially streamline assessments</td>
</tr>
<tr>
<td>► LEAs also seek more clarity from NC DPI on points of contact and processes for resolving questions and issues as they arise, whether related to academics, personnel, technology, or other areas</td>
<td>8</td>
<td>Combine educator talent-related functions into a single end-to-end talent division</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Reduce IT support response times to the field and improve resolution experience</td>
</tr>
</tbody>
</table>

► Drive school and district improvement by focusing regional resources on a few shared priorities and improving coordination and differentiation in the delivery of support
► Districts regularly access easy-to-use and non-duplicative assessment tools to gather better data and support effective instruction
► Educators are supported through their entire career through a single NC DPI function
► Increased satisfaction and use of technology by LEAs due to reworked vendor contracts and self-service capabilities

Note: Context and rationale observations are based on discussions with management, primary research and data analysis.
# Technology: recommendations overview

Realigning and restructuring the IT services and organization could drive better coordination and efficiencies for NC DPI

<table>
<thead>
<tr>
<th>Context and rationale observations</th>
<th>Preliminary recommendations</th>
<th>Objectives and desired outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Shadow IT” resources have emerged throughout the organization driven by inability to respond to immediate division needs</td>
<td>Centralize shadow IT and consolidate the IT organization</td>
<td>Streamline IT organization to align to common goals, with a greater ability to enforce technology standards and policies, and appropriately monitor and support applications</td>
</tr>
<tr>
<td>Technology Services is severely constrained and overburdened by focusing on many services that could be outsourced for greater efficiency</td>
<td>Repurpose IT by outsourcing common and low value functions, and refocusing to advise and support business needs</td>
<td>Improve collaboration with program areas through a dedicated Business Relationship Management function that establishes IT as a strategic partner to the business</td>
</tr>
<tr>
<td>NC DPI Technology Services faces rising costs to manage aging and un-supported hardware platforms. Additionally, basic but critical services (e.g., Disaster Recovery) appear to be lacking</td>
<td>Implement a vendor-first approach for application services and prioritize cloud hosting</td>
<td>Revamp vendor-supported model for IT services for greater financial transparency, increased reliability, scalability, agility, and access to up-to-date technology</td>
</tr>
<tr>
<td>Manual processes and disparate applications can be replaced by moving to modern end-to-end consolidated solutions</td>
<td>Design and implement the future state application portfolio</td>
<td>Reduce support costs through the retirement of outdated technology and legacy applications, and modernized application landscape</td>
</tr>
</tbody>
</table>

Note: Context and rationale observations are based on discussions with management, primary research and data analysis; Shadow IT refers to resources performing IT related functions that resides in divisions outside of the IT organization.
# People: recommendations overview

Improve recruitment, employee retention and satisfaction through the creation of efficiencies and strategic priorities around Human Resources

<table>
<thead>
<tr>
<th>Context and rationale observations</th>
<th>Preliminary recommendations</th>
<th>Objectives and desired outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>► There are a significant number of vacancies at NC DPI that are not being filled in a timely manner&lt;br&gt;► The slow pace of hiring has led to capacity gaps, employees taking on additional duties and the hiring of contractors to address programmatic needs&lt;br&gt;► Significant organizational change, budget cuts, and lack of clarity on a path forward have had an adverse impact on morale&lt;br&gt;► In addition, too many employees do not currently feel valued or see a path forward for their careers at NC DPI</td>
<td><strong>14</strong> Streamline and accelerate the talent acquisition process using technology and internal process optimization&lt;br&gt;<strong>15</strong> Enable HR to be a strategic function&lt;br&gt;<strong>16</strong> Develop and implement an employee engagement and support strategy focused on communication, transparency, learning and development&lt;br&gt;<strong>17</strong> More effectively align compensation levels and changes with performance</td>
<td>► Improve the hiring time for vacancies by leveraging technology and defining roles and responsibilities&lt;br&gt;► Define priorities and responsibilities of Human Resources so that they effectively serve as a support to the agency&lt;br&gt;► Improve employee satisfaction and retention through better communication, thoughtful employee engagement and a more rigorous compensation process</td>
</tr>
</tbody>
</table>

Note: Context and rationale observations are based on discussions with management, primary research and data analysis.
Summary of recommendations
Potential role of a transformation management office

EY recommends setting up a Transformation Management Office (TMO) to manage organizational change and communication, provide program transparency, mitigate risk, track and enable initiatives to deliver the planned value and benefits of NC DPI’s transformation and business modernization programs.

- **Advanced Analytics**
- **Data Governance and Stewardship**
- **Data Integration Service**

**Transformation Enablers**

- **Transformation Management**
  - Coordinate delivery to perform on-time, within budget, and according to scope
  - Manage the linkage and dependencies

- **Quality Assurance (QA)**
  - Lead transition, manage stakeholder expectations and communication
  - Oversee business transformation governance

- **Guidance**
  - Provide insights, trends and leading practices
  - Plan work streams and design

**NC DPI Transformation Management Office**

**DPI’s 17 Transformation Recommendations**

**Other Initiatives (e.g., Business Systems Modernization)**

**Transformation Initiatives**

Note: Some aspects of the transformation enables (e.g., advanced, analytics) are also included in the School Business State Modernization (SBSM)
Potential implications
Potential implications
NC DPI leaders have assessed all the recommendations on the basis of timeframe, complexity, and potential impact.

Recommendation assessment by steering committee and NC DPI directors

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Assessment</th>
<th>Commentary on assessment of recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transform NC DPI for impact</td>
<td></td>
<td>The project steering committee and a group of NC DPI directors met to review recommendations and initiate preliminary planning for implementation.</td>
</tr>
<tr>
<td>Technology systems change</td>
<td></td>
<td>During this session, participants were asked to assess the recommendations as written in terms of timeframe potentially required to execute, complexity of the effort, and potential impact.</td>
</tr>
<tr>
<td>Focus on recruiting and retaining the right people</td>
<td></td>
<td>This type of analysis suggests an opportunity for NC DPI to build momentum in its transformation efforts by starting with “quick wins” in areas that involve low complexity, little time and high impact.</td>
</tr>
<tr>
<td>Policy and strategy</td>
<td>3. First step: Review existing policy process and identify areas for improvement and efficiency</td>
<td></td>
</tr>
<tr>
<td>Contracting</td>
<td>5. First step: Create initial contract tracking process</td>
<td></td>
</tr>
<tr>
<td>Assessments</td>
<td>7. First step: Begin coordination across various assessment program area owners</td>
<td></td>
</tr>
<tr>
<td>Talent acquisition</td>
<td>14. First step: Identify existing technologies capable of increasing process efficiency</td>
<td></td>
</tr>
<tr>
<td>Other efforts may still be important to start quickly, though they may be more complex to implement</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Steering Committee consists of a group of DPI leadership selected by the Superintendent.
### Potential implications

Considering NC DPI feedback and inter-dependencies between recommendations, there may be a logical sequencing of implementation.

<table>
<thead>
<tr>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Create a policy and strategy function</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Develop contract process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Align and coordinate assessment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Hiring process optimization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Establish a central data repository</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Develop budget process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Establish coordinated academic support structure for LEAs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Create an end-to-end talent function</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Consolidate IT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Hire key HR positions and engage in ongoing change mgmt.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Develop an employee engagement strategy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Repurpose IT and establish BRM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Review NC DPI job descriptions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Reduce IT response time to the field</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Future state application portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Transition to more robust data use</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12. Implement a vendor-first approach for application services</td>
<td></td>
</tr>
</tbody>
</table>

**Key**

- Yellow: Transform NC DPI for impact
- Blue: Support to LEAs
- Green: Technology systems change
- Purple: Focus on recruiting and retaining the right people

**Future state application portfolio**

- Transition to more robust data use

**School year (SY) 2018–19**

- Hire key HR positions and engage in ongoing change mgmt.

**SY 2019–20**

- Repurpose IT and establish BRM

**SY 2020–21**

- Implement a vendor-first approach for application services

---

Prepared solely for North Carolina Department of Public Instruction. Reliance restricted. Does not constitute assurance or legal advice. Please refer to limitations and restrictions on page 2.
Potential implications
As NC DPI executes on these recommendations, there are a variety of metrics that could be used to track progress

Transform NC DPI into a collaborative, data-driven, student outcomes focused organization

Potential Impact Metrics
- Number and percent of total of data sets consolidated and validated in the new central repository
- Increased presence of analytical capabilities in program area teams across NC DPI
- Alignment of budget to identified NC DPI priorities
- Reduced contract processing time

Create a more integrated and streamlined system of support to LEAs

Potential Support Metrics
- Improved student outcomes in NC’s lowest performing LEAs and schools
- Reduced licensure processing time
- Reduced IT support response times to the field

Redefine and restructure IT as a lean and agile organization designed to provide value-driven support

Potential Technology Metrics
- Reduced presence (or elimination) of shadow IT throughout NC DPI
- Reduced development of one-off applications (with the implementation of an end-to-end business solution)
- Reduced IT response times to NC DPI business and program area needs

Recruit, retain, and develop the right team

Potential People Metrics
- Reduced vacancies and time-to-fill across NC DPI
- Improved employee engagement and morale as measured by an annual employee survey
- Reduced turnover and employee attrition
- Increased use of performance data to drive decisions about changes in compensation

Transform NC DPI: Metrics for Success
### Potential implications

The recommendations indicate opportunity for potential efficiencies at NC DPI, with most implied investment supported by the Business Systems Modernization effort.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Potential implied investment (One-time)</th>
<th>Potential ongoing efficiencies/ expenditures</th>
<th>Commentary</th>
</tr>
</thead>
</table>
| Transform NC DPI into a collaborative, data-driven, student outcomes focused organization | $3m**                                  | $350k                                       | ➤ Recommendation #1:** $3m investment has been set aside within the SBSM plan and any additional costs will be covered by SBSM.  
➤ Recommendation #3: Based on assumptions described on slide 40, $350k in ongoing costs is estimated to support the development of a policy and strategy function; would be state funded.  
➤ No direct potential financial implications have been identified for recommendations 2, 4, 5.                                                                                                                                                                                                 |
| Create a more integrated and streamlined system of support to LEAs     | ~$0k                                   | ($1.9m)                                     | ➤ Recommendation #6: Based on assumptions that can be found on slide 46, there are potential savings of ~$700k would be a mix of federal and state funding; represent 5% decrease in field positions. However, these funds could be repurposed and reinvested to increase support to the field  
➤ Recommendation #9: Based on assumptions that can be found on slide 52, potential nominal investment required to set up self-service IT functionality to better support LEAs. As IT systems are improved and processes are automated, there are potential savings due to reduction in tech support resources (potential savings of ~$1.1m)  
➤ No direct potential financial implications have been identified for recommendations 7, 8.                                                                                                                                                                                                 |
| Redefine and restructure IT as a lean and agile organization designed to provide value-driven support | $1.1m** ($4.1m) $1.4m**                |                                             | ➤ Recommendations #10–13 are interrelated and have the following potential financial implications  
➤ Based on assumptions that can be found on slide 53-60, an estimate potential net savings of $4.1m could be achieved by shifting resources to DIT, modernizing infrastructure and application rationalization  
➤ $1.1m estimated potential one-time investment needed for application rationalization  
➤ **$1.4M investment has been set aside within the SBSM budget for modernizing applications and business systems based.                                                                                                                                                                                                 |
| Recruit, retain, and develop the right team                           | ~$0k                                   | $100k                                       | ➤ Recommendation #16: Based on assumptions that can be found on slide 66, there is a potential investment in the creation of a position to support learning and development.                                                                                                                                                                                                                               |
| Total                                                                | ~$4.1m in total ([~$0 for NC DPI] ($5.5m) in total ([~$4.1m for NC DPI)] |                                             | ➤ Total potential investment or savings including SBSM investment  
➤ [Potential investment/savings for NC DPI excludes costs associated with SBSM-sponsored initiatives]                                                                                                                                                                                                                       |

Note: ** Indicates investments accounted for in SBSM plan; More detail provided on the potential financial implications in each recommendation, including references to areas which may require TMO support; All data on DPI current budget and organization was provided and confirmed by DPI. Some assumptions regarding potential financial implications are based on EY’s interviews and analysis, and all assumptions were reviewed and confirmed/determined by DPI management.
**Impact: recommendation #1**

Establish a central repository that sources, validates, and maintains data

### Detailed description

- Eliminate duplicative efforts to source data from various places through a central repository managed by a Data Management and Reporting group (DMR) within IT Division
- The DMR could:
  - Establish data governance and stewardship, and provide reporting services to the agency
  - Include representatives from different offices (Finance, HR, Academic areas, etc.) as well as data architects, database developers, reporting developers, data managers, etc.
  - Become the fundamental enabler for the sharing of data across functional areas and consistent reporting across the agency and the building block to developing future analytics capabilities. Functional and program areas would transmit and share data with the DMR so that other functions can quickly access data

### Context and rationale

- Different teams and applications across NC DPI obtain data from multiple sources independently and using inconsistent methods
- Additionally, the applications do not easily share data amongst themselves leading to diffuse data management responsibilities, data inconsistencies, and wasteful efforts to source data
- There doesn’t exist a single group across NC DPI that is primarily responsible for consistently defining and managing data across the agency, and providing a single point of reference for where data lives at NC DPI
- There’s a critical need to standardize data across NC DPI by removing duplicates, and validating to eliminate incorrect data from entering systems

### Desired outcome

- Significant improvement in efficiency driven by an established central source for all data at NC DPI to eliminate duplicative efforts of drawing data from multiple sources
- A well-defined data management framework that addresses data governance, data quality, and data management and stewardship is established
- Centralized function that provides basic reporting services (scheduled reports) to the academic and administrative areas of the agency
- Closer collaboration between Technology Services (DMR group) and the other areas at NC DPI to establish data governance, set business rules for scheduled reporting, and help NC DPI draw insights from managed data

### Key stakeholders impacted

- **Owner(s)**
  - School Business Systems Modernization (SBSM) Team
- **Impacted stakeholders**
  - Enterprise Data Reporting group
  - NC DPI Technology Services
  - Academic program areas
  - Finance
  - HR

Note: Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management

Source: EY interviews, internal documents, EY analysis and discussions with management
Impact: recommendation #1
Improved sharing of consistent, validated data through a central repository, may require initial investment to set up, but may drive significant operational efficiency

1. Potential financial implication for NC DPI
   - **Near-term impact** (First Fiscal Year (FY) of implementation)
     - **Potential investment**: An initial $3m investment has been set aside to setup a single source of data and Data Management and Reporting Group (DMR); additional future costs will be covered by SBSM.
     - *Note: SBSM has included this investment in the School Business Systems Modernization planned scope and has included these expenses in the plan under “implementation of data integration”*

2. Potential milestones and estimated timeframe
   - **Short term** (0–12 months):
     - Design technical integration architecture
     - Design data management framework and DMR organization structure
     - Develop data and analytics strategy and roadmap
     - Identify central repository to expand (e.g., SODS) or stand-up central repository through vendor
   - **Medium term** (12–24 months):
     - Implement and run Extract, Transform and Load (ETL) processes from source systems to central repository or Operational Data Stores (ODS)

3. External dependencies
   - **School Board of Education (SBE) policy**: The recommendation may require new policy to standardize the data formats for HR, finance and SIS data that is mandated to be sent to NC DPI by LEAs
   - **General Assembly (GA) legislative mandate**: N/A
   - **Other state agency**: This may also require coordination between NC DPI, Department of Information Technology, and the Friday Institute to sustainably plan, implement, and maintain central data repository
   - **Change in LEAs**: N/A

Note: The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management

Source: EY interviews, internal documents, EY analysis and discussions with management

More detail can be found on Appendix page 4
Impact: recommendation #2
Bolster and embed analytics capability across key program offices

Detailed description
► Build capacity and leverage reporting and visualization tools to improve the use of data to drive decisions within the department. To build capacity NC DPI could:
► Align across academic areas on the most important outcomes and use that data to prioritize programmatic decisions and support to the field – including deprioritizing support to programs that are not driving intended outcomes (e.g., a common needs assessment across all program areas.)
► Leverage data to understand the effectiveness of programs and use data to drive programmatic and policy decisions in the academic program areas (e.g., through a common needs assessment)
► Include data analysis skills (e.g., familiarity with Excel) as desired skills for new hires in academic areas
► Over the long term, NC DPI could consider ways to leverage external analytics services (e.g., NC Government Data Analytics Center (GDAC)) to enable further efficiencies

Context and rationale
► NC DPI currently collects a significant amount of student, educator and finance data from LEAs
► Individual offices such as Finance, School Research, Data and Reporting, Accountability, Integrated Academic and Behavioural Systems (IA&BS), and Digital Teaching and Learning leverage this data to respond to requests from the General Assembly, provide regular reporting and shape their supports to the field
► Academic areas collect data from LEAs but do not always prioritize the data that is most important or use the data to drive program and policy decisions
► NC DPI does not have a consistent data-driven understanding if their programmatic work is driving towards outcomes
► Creating a more deliberate focus on using data to drive decisions could help NC DPI identify opportunities for improvement and drive towards better outcomes

Desired outcome
► NC DPI has an established culture of data-driven decision-making
► Every academic office is able to identify the most important outcomes of their work and the data required to track outcomes
► Common needs assessment across program areas focuses on the highest-priority outcomes
► NC DPI focuses investment in programs that have data-driven evidence of success
► Staff with analytical skills embedded within program areas
► Better tiering and usage of analytic tools and resources would free time of analysts within NC DPI to focus on the most strategic questions
► Programmatic and support teams within Academics would leverage DMR for basic reporting
► Increased availability and use of analytical tools (e.g., GDAC) would reduce the amount of time spent developing reports and visualizing data

Key stakeholders
Owner(s)
► Academic program areas (identifying key outcomes and programmatic decisions)
► Technology Services (DMR)
► School Business Systems Modernization (SBSM)
Impacted stakeholders
► Human Resources (job descriptions/screening for analytic skills)
► LEAs and schools

More detail can be found on Appendix page 5

Note: Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management
Source: EY interviews, internal documents, EY analysis and discussions with management
Impact: recommendation #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

1. Potential financial implication for NC DPI
   - **Near-term impact** (First FY of implementation)
     - **Potential cost-neutral**: This recommendation could be implemented without new resources; NC DPI may choose to invest in developing additional analytical capability or analytics tools in the future.
   - **Long-term impact**
     - **Potential investment**: Implementation could require investment in order to realize the long-term financial implication or full benefit; ongoing investment in training and analytics tools involves a potential investment of ~$25–30k annually.

2. Potential milestones and estimated timeframe
   - **Short term** (0–12 months):
     - Identify current employees with strong analytical capabilities; screen for analytical capabilities in the hiring process
     - 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)
   - **Medium term** (12–24 months):
     - Provide access to ongoing training and professional development to bolster analytical capacity where it currently exists
     - Focus on developing a culture where all decision-making is grounded in data use
     - Program decisions are being driven by data and outcomes
   - **Longer term** (24+ months):
     - All teams have at least one member with strong analytical capacity; teams have access to more robust analytical and data visualization tools as appropriate

3. External dependencies
   - **SBE policy**: N/A
   - **GA legislative mandate**: N/A
   - **Other state agency**: Office of State Human Resources (OSHR) approval may be required to include new analytical skill requirements in job qualifications
   - **LEA impact**: N/A

Note: The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management.

Source: EY interviews, internal documents, EY analysis and discussions with management
Impact: recommendation #3
Develop a policy and strategy function to facilitate collaboration and feedback on policy priorities

<table>
<thead>
<tr>
<th>Detailed description</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ Create a strategy and policy function in the department. The role of this group could be to:</td>
</tr>
<tr>
<td>▶ Articulate NC DPI strategic priorities and related policy implications based on NC DPI leadership and stakeholder feedback</td>
</tr>
<tr>
<td>▶ Drive collaboration and coordination around NC DPI priorities</td>
</tr>
<tr>
<td>▶ Identify the areas where new policies are necessary and coordinate the policy development process</td>
</tr>
<tr>
<td>▶ This office would be responsible for facilitating the policy development process all NC DPI policies that impact the field including State Board of Education policies as well as internal policies</td>
</tr>
<tr>
<td>▶ The office would work across the department to identify when new policy is necessary, facilitate the development of policy, and help to drive the stakeholder engagement process with more clear channels for two-way feedback with LEAs around policy development</td>
</tr>
<tr>
<td>▶ Program areas would continue to be responsible for working with the office to identify when new policy is necessary, drafting the policy, providing content expertise, and supporting the stakeholder engagement</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Context and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ Currently, interviews conducted suggest that NC DPI does not have a strong formal coordinating function across the department to develop policy or examine the impact of potential policies on the field</td>
</tr>
<tr>
<td>▶ As a result, there are silos that have the potential to develop duplicative work or develop policies without input from all the necessary internal and external stakeholders</td>
</tr>
<tr>
<td>▶ In addition, NC DPI staff expressed frustration with the fact that they do not know what NC DPI policies or programs are being communicated to districts</td>
</tr>
<tr>
<td>▶ The local superintendents also expressed a desire to provide input into the development of policies and better understand DPI’s priorities and how they relate to implemented policies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Desired outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ Stronger coordination between program areas, administrative offices, SBE and Superintendent’s office on policy and legislative issues</td>
</tr>
<tr>
<td>▶ The field (e.g., superintendents) would have had opportunities to provide input into the development of policies</td>
</tr>
<tr>
<td>▶ Shared understanding of priorities across NC DPI and the field</td>
</tr>
<tr>
<td>▶ Development of a clear policy creation process, including timeline, key stakeholders and gating approvals</td>
</tr>
<tr>
<td>▶ A new office that could include:</td>
</tr>
<tr>
<td>▶ Director of Policy and Strategy</td>
</tr>
<tr>
<td>▶ Analysts (1–3) to coordinate engagement and communication (working closely with Communications Office), track policy development and analyze data to drive strategy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Owner(s)</strong></td>
</tr>
<tr>
<td>▶ Superintendent’s Office</td>
</tr>
<tr>
<td>▶ SBE members, staff and attorneys</td>
</tr>
<tr>
<td><strong>Impacted stakeholders</strong></td>
</tr>
<tr>
<td>▶ NC DPI program and business areas</td>
</tr>
</tbody>
</table>

Note: Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management
Source: EY interviews, internal documents, EY analysis and discussions with management
Impact: recommendation #3
Developing a policy and strategy function requires investment in new positions, but a more formal structure should facilitate improved collaboration on policy priorities

1. Potential financial implication for NC DPI
   - Near-term impact (First FY of implementation)
     - Potential investment: If implemented, this recommendation could result in net annual investment of ~$350k to create 3 new positions and cover operating costs for the office. The impacted funding source would be the state appropriation/general fund.

2. Potential milestones and estimated timeframe
   - Short term (0–12 months):
     - Develop job descriptions for new policy team positions, and post/hire for these positions
     - Develop updated policy creation process and communicate it to the agency
   - Medium term (12–24 months):
     - All policies have been inventoried and overlapping policies have been clarified or revised
     - NC DPI evolves towards an increasingly strategic approach to policy, external affairs and government relations
   - Long term (24 months+):
     - Ongoing work to engage with LEAs and other stakeholders for input on new policies
     - Ongoing tracking and development of policies

3. External dependencies
   - SBE policy: The SBE would still be responsible for approving new policies, but could have greater visibility into policies that are upcoming or in development
   - GA legislative mandate: N/A
   - Other state agency: N/A
   - LEA impact: N/A

Note: The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management
Source: EY interviews, internal documents, EY analysis and discussions with management
Impact: recommendation #4
Engage division leaders as owners of their budgets

Detailed description
► Drive program area budget ownership for central agency budget by redesigning the annual budget process with an increased focus on planning, goal setting, prioritization, program implementation, and sustainability. Redesigned approach could:
  ► Launch more robust strategic budget planning process with increased awareness and involvement from the Divisional Heads
  ► Drive the creation of budgets that support DPI’s highest priorities and are aligned to the Division’s priorities
  ► Communicate a clear process and deadlines for budget development to budget owners
  ► Align budget analysts with programs areas to support the development process and track ongoing spending
  ► Enable an annual review of spending against priorities to identify areas of over- or under-spending, as well as any areas where funds are underutilized relative to their impact

Context and rationale
► Interviews with Program areas suggest they do not have a full understanding of their entire budget and how they are spending their resources
► In addition, interviews with Division Heads and Section Chiefs suggest they do not currently have a clear understanding of the end-to-end budgeting process employed by the Financial and Business Services (FBS) team; budget allocation process is viewed as neither transparent nor well-communicated
► Currently, the budget process involves the FBS Office rolling forward each office’s prior year budget; offices then request expansionary funds (though in recent years, such requests have rarely been granted, given budget constraints)
► The current approach described by interviewees does not include a clear process for reviewing impact of spending on outcomes or priorities, nor for considering the reduction or elimination of spending areas where impact or priorities are not being achieved

Desired outcome
► Division leaders can speak with clarity and confidence on the contents of their budget and the trade-offs that were made to arrive at those choices
► Division-level budgets should clearly reflect the priorities of each division and of the agency overall
► The finance team has developed a process to allow each division to drive its priorities, while adhering to overall fiscal constraints and guiding principles
► Shared understanding of prior year’s budget and actual spend data would yield better planning of budgeting for state and federal funds
► External stakeholders may be in a better position to understand how resources are being allocated at NC DPI
► NC DPI overall budget would reflect a more rigorous process of prioritization, including paring back investments that are not showing results

Key stakeholders impacted
Owner(s)
► Finance

Impacted stakeholders
► Division Heads
► Superintendent’s Office

Note: Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management
Source: EY interviews, internal documents, EY analysis and discussions with management
<table>
<thead>
<tr>
<th>Potential financial implication for NC DPI</th>
<th>Potential milestones and estimated timeframe</th>
<th>External dependencies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Near-term impact</strong> (First FY of implementation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► <strong>Potential cost neutral</strong>: This recommendation could be implemented without new resources.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Long-term impact</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>► <strong>Potential savings</strong>: An improved budget process may drive financial stewardship of both federal and state funds (e.g., understand how your budget is being formulated, if your budget is being executed as prescribed, and if expenditures are occurring accurately and efficiently). In the medium to long run, leading practice indicates that this could result in efficiencies or cost savings</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Short term</strong> (0–12 months):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► Documentation of the budgeting process and procedure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► Launch more robust strategic budget planning process with increased awareness and involvement from the Divisional Heads and Section Chiefs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► Pilot the budgeting process with the transfer of ownership to the Divisional Heads</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Medium term</strong> (12–24 months):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► Program areas own budget development process for FY20</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Long term</strong> (24 months+):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► Continuous improvement of budget process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► SBE policy: N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► GA legislative mandate: N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► Other state agency: N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► LEA impact: N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management. Source: EY interviews, internal documents, EY analysis and discussions with management.
## Impact: recommendation #5
Improve the efficiency, governance and transparency of contracting

### Detailed description
- NC DPI could establish a streamlined governance framework to efficiently manage and simplify its contract management processes:
  - Redesign the contract creation, review/approval, and execution processes:
    - Contract creation: Collaborate with state agencies to develop standard templates (e.g., RFPs) to expedite the contracting creation process
    - Contract approvals: Simplify and accelerate review and approval processes by reducing multiple handoffs and setting up a governance structure to approve contracts above established thresholds. This governance structure can identify optimal communication channels and cadences to expedite approvals
    - Fill vacancies within the Procurement and Contracts Section with candidates that have the necessary skills and knowledge in order to support the process redesign
  - Establish contract monitoring and enforcement processes
    - NC DPI can proactively plan to renew or renegotiate contracts prior to their expiration resulting in operational efficiency
    - NC DPI can monitor the inventory of active contracts, and manage vendors more effectively to enforce adherence to established Key Performance Indicators (KPIs), metrics, and Service Level Agreements (SLAs)
- After the establishment of the governance framework and redesigned contract processes, identify and procure an end-to-end contract management solution that aligns with NC DPI application modernization and rationalization efforts. The process must be rationalized and properly designed prior to the implementation of a new system in order to enable a new system to support an effective business process

### Context and rationale
- Interviews suggest the lack of a centralized contract management system has likely contributed to contract mismanagement (tracking, storage, etc.), confusion of contract ownership, and delays in contract approval
- Contractors employed through task orders with Institutes of Higher Education (IHEs) and LEAs are inconsistently tracked or monitored
- NC DPI interviewees mentioned they are is unable to monitor contracts that are reaching the end of their terms because there is not a formal tracking system
- NC DPI respondents expressed having experienced process delays due to multiple handoffs between the originator and approver

### Desired outcome
- Drastically reduce time from contract initiation to approval
- Proactive monitoring and mitigation of risks related to expiration of contracts
- Significantly improved process efficiency resulting from a shift to automated contract management

### Key stakeholders impacted

<table>
<thead>
<tr>
<th>Owner(s)</th>
<th>Impact Stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance- Procurement and Contracts Section</td>
<td>All divisions</td>
</tr>
<tr>
<td>Technology Services</td>
<td>Department of Information Technology (DIT)</td>
</tr>
<tr>
<td>School Business Systems Modernization (SBSM) team</td>
<td></td>
</tr>
</tbody>
</table>

Note: Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management

Source: EY interviews, internal documents, EY analysis and discussions with management

More detail can be found on Appendix pages 8-9
Impact: recommendation #5
Redesigning the contract process can drive transparency and agility, but will require close collaboration with other state agencies to implement successfully

1. Potential financial implication for NC DPI
   - Near-term impact (First FY of implementation)
     - Potential cost neutral: This recommendation could be implemented without new resources. The Transformation Management Office may be able to support implementation of technology and new processes in the near term.
   - Long-term impact
     - Potential investment: After the redesign of the Purchasing and Contracting (P&C) process and the establishment of the governance framework, NC DPI may need to invest in implementing an end-to-end contracts management solution as part of the application rationalization exercise.

2. Potential milestones and estimated timeframe
   - Short term (0–12 months):
     - Redesign the contract creation, review/approval, and execution processes and formalize processes to monitor, enforce, and manage contracts
     - Develop standard RFP templates in collaboration with state-level agencies
     - Redefine the contract approval mechanisms (e.g., governance body, meeting cadence, purchasing thresholds, escalation processes)
   - Medium term (12–24 months):
     - Align with the future state application portfolio for NC DPI to implement an end-to-end contract management solution

3. External dependencies
   - SBE policy: May need to develop or update current procurement and contracts policy to reflect the new process
   - GA legislative mandate: N/A
   - Other state agency:
     - May require the development of a new process to collaborate effectively with the Department of Information Technology (DIT)
     - May require collaboration with state agencies to develop standard templates (e.g., RFPs) to expedite the contracting creation process
   - LEA impact: N/A

Note: The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management

Source: EY interviews, internal documents, EY analysis and discussions with management
Support: recommendation #6
Redesign the regional structure to better coordinate and differentiate identified supports to LEAs

<table>
<thead>
<tr>
<th>Detailed description</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ NC DPI could establish a redesigned regional structure responsible for coordinating academic supports to the field, including intensive support for low-performing LEAs/schools and more targeted, programmatic support for the remaining LEAs/schools</td>
</tr>
<tr>
<td>▶ Each region would be led by a Regional Academic Lead, who oversees a team responsible for:</td>
</tr>
<tr>
<td>▶ Coordinating the provision of identified academic supports across existing field staff and centrally located NC DPI staff teams</td>
</tr>
<tr>
<td>▶ Coordinating academic-related communication and supporting high-quality implementation of new initiatives, programs, or policies in the field</td>
</tr>
<tr>
<td>▶ Centrally, regional teams could be supported by a small team to support the use of data and analytics to drive the identification of necessary supports, manage communication, and coordinate any implementation/roll-out of new initiatives by academic teams</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Context and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ NC DPI has faced significant budget cuts and seen the sunsetting of Race to the Top (RtT) in recent years, but interviews indicate that staff has strived to maintain a high level of service and support to districts through field-based resources; however, they are thinly stretched and coordination is ad hoc</td>
</tr>
<tr>
<td>▶ Existing efforts across DPI’s Academic offices to coordinate support to a focused subset of schools represents a strong starting point for the expansion of this effort state-wide</td>
</tr>
<tr>
<td>▶ However, given current limitations, increased coordination and clear prioritization of time and resources could be critical drivers if NC DPI is to continue or enhance its support of the field going forward</td>
</tr>
<tr>
<td>▶ Specifically, NC DPI may need to more clearly define the supports it is able to provide (and those it cannot) based on the diverse needs of each region, DPI’s priorities, and the evidence-based programs that are already in existence</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Desired outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ Increased coordination across the academic supports in the field available to LEAs</td>
</tr>
<tr>
<td>▶ Reduced siloing within NC DPI as cross-functional field teams coordinate to design support and implementation initiatives</td>
</tr>
<tr>
<td>▶ More efficient deployment of agency resources as duplication of effort is reduced</td>
</tr>
<tr>
<td>▶ Clear articulation of DPI’s priorities as they relate to programs and associated supports</td>
</tr>
<tr>
<td>▶ Access to high-quality, targeted support for LEAs to drive improved outcomes</td>
</tr>
<tr>
<td>▶ Increased use of data to drive decision-making</td>
</tr>
<tr>
<td>▶ Improved field perceptions on the consistency and quality of supports provided by NC DPI</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner(s)</td>
</tr>
<tr>
<td>▶ CAO and academic program areas</td>
</tr>
<tr>
<td>▶ Educator Support Services</td>
</tr>
<tr>
<td>Impacted stakeholders</td>
</tr>
<tr>
<td>▶ Federal Programs Monitoring</td>
</tr>
<tr>
<td>▶ School Operations</td>
</tr>
<tr>
<td>▶ LEAs and schools</td>
</tr>
</tbody>
</table>

Note: Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management
Source: EY interviews, internal documents, EY analysis and discussions with management
**Support: recommendation #6**

Providing more targeted LEA support could be accomplished with more streamlined teams than exist today, enabling the difference to be re-allocated, strategically reinvested or saved.

### Potential financial implication for NC DPI

**Near-term impact** (First FY of implementation)

- **Potential savings**: If implemented, this recommendation could result in net annual savings of as much as ~$0.7m on a baseline of $12.2m current related spending. The current baseline budget reflects the field-based regional staff in the following offices: ESS, IA&BS, Digital Teaching and Learning, Foundations of Reading and Math, K-3 literacy, Early Learning (formative assessment), and CTE. The baseline budget, and potential savings, reflect assumptions about a potential new structure which is described in the appendix. The impacted funding would be ~50% federal and ~50% state funds.

**Note on these financial implications**: NC DPI acknowledges redesigning support to the field should be driven by the department’s long term priorities and needs of LEAs. The potential financial implications above represent one Illustrative scenario.

### Potential milestones and estimated timeframe

**Short term** (0–12 months):

- Establish regional teams by pulling together existing staff in each region and moving staff or positions as necessary
- Establish the Academic Support Office at the NC DPI central office
- Develop and implement single comprehensive needs assessment

**Medium term** (12–24 months):

- Use data to drive instructional, academic and support-related decision-making by LEAs in each region
- Enable low-performing schools and districts have a clear understanding of what a high-quality schools look like and do

**Longer term** (24+ months):

- Increase level of coordination or even consolidation across all field-based resources so that the field experiences a singular, cohesive approach to support from NC DPI (incl. Exceptional Children, etc.)

### External dependencies

- **SBE policy**: N/A
- **GA legislative mandate**: N/A
- **Other state agency**: N/A
- **LEA impact**: LEAs may need to embrace a different, more targeted form of support from NC DPI in order to allow for effective implementation of the regional teams. This new approach to support should be more streamlined and responsive to their needs, but may involve less flexible, as-needed support than LEAs are accustomed to today.

---

Note: The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management.

Source: EY interviews, internal documents, EY analysis and discussions with management.
Support: recommendation #7  
Align, coordinate and potentially streamline assessments

<table>
<thead>
<tr>
<th>Context and rationale</th>
<th>Desired outcome</th>
<th>Key stakeholders</th>
</tr>
</thead>
</table>
| Today, NC DPI provides a range of assessments to the field including summative assessments, as well as variety of formative assessments, diagnostics and benchmarks. While summative assessments are managed by a single team (Accountability), diagnostic and formative tools are “owned” by different teams depending on their origination and intention. Therefore, interviews suggest NC DPI is seen to not have a consistent position on the value or use of these diagnostics and assessments; LEAs and schools perceive that there are many tools available but are not clear on which tools to use when. By establishing a formal process to review the current portfolio of diagnostic and formative assessment tools and gather feedback from the field, NC DPI may then have the opportunity to develop the appropriate policies and structures to provide a more coherent spectrum of assessments— and clearly communicate them to the field. | Rationalizing NC DPI’s portfolio of diagnostics and formative assessments should: Create increased clarity and consistency for the field and may drive greater usage/adorption of NC DPI’s tools. Identify opportunities for NC DPI teams to collaborate on the creation or implementation of “double-duty” tools (those that provide data for more than one purpose). Redundancies across tools are eliminated, and/or diagnostic and formative assessment tools have been consolidated where possible. LEAs and schools experience NC DPI’s portfolio of diagnostics and formative assessments as a coherent and useful set of tools to gather ongoing data about student performance and progress. | Owner(s)  
Academic program areas  
Office of Accountability  
Impacted stakeholders  
LEAs and schools  
Teachers and administrators |

Note: Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management. Source: EY interviews, internal documents, EY analysis and discussions with management.

More detail can be found on Appendix page 15.
Support: recommendation #7
Improving coordination across assessments is a no-cost change that may result in significant improvements in clarity and usage in the field

1. Potential financial implication for NC DPI
   - Near-term impact (First FY of implementation)
     - Potential cost-neutral: This recommendation could be implemented without new resources.
   - Long-term impact
     - Potential savings: Implementation of this recommendation could result in savings if NC DPI were to determine it would support or administer fewer assessments in the future

2. Potential milestones and estimated timeframe
   - Short term (0–12 months):
     - Establish a cross-functional assessment review committee
     - Perform initial cataloguing and review of all diagnostics and formative assessments supported by NC DPI
     - Recommend necessary changes to NC DPI’s diagnostic and assessment portfolio to streamline, reduce redundancy and align tools with NC DPI priorities
   - Medium term (12–24 months):
     - Advocate for legislative changes intended to streamline required diagnostics and formative assessments [as needed, based on DPI’s assessment review findings]
     - Establish policies for ongoing review of NC DPI’s assessment portfolio by cross-functional committee
   - Longer term (24+ months):
     - Ongoing review of assessment portfolio to maintain an assessment portfolio that is up-to-date, standards- and priorities-aligned, and without unnecessary redundancies

3. External dependencies
   - SBE policy: As NC DPI moves towards a more streamlined approach to diagnostics and formative assessment, these changes may require change to SBE policy if the review of NC DPI’s current portfolio recommends changes to DPI-required assessment(s)
   - GA legislative mandate: Similarly, these changes could require change to a GA mandate if the review of NC DPI’s current portfolio recommends changes to legislated assessment(s)
   - Other state agency: N/A
   - LEA impact: N/A

Note: The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management

Source: EY interviews, internal documents, EY analysis and discussions with management

More detail can be found on Appendix page 15
Support: recommendation #8
Combine educator talent-related functions into a single end-to-end talent division

Detailed description

► NC DPI could create an educator talent division to support teachers and educators at any point along their experience continuum by consolidating functions that currently exist in disparate offices or do not exist at all under a single supervisor. The creation of a single office would:
  ► Evaluate the current educator support services and rationalize the supports NC DPI provides to educators
  ► Bring together functions ranging from Licensure to Education Value-Added Assessment System (EVAAS) to create a single point of contact for educators throughout their career
  ► Have the context and breadth of experience to own existing policies related to teachers and educators, and develop new ones as necessitated by the field or required by new mandates

Context and rationale

► Today, teacher support functions within NC DPI are spread out across at least three teams, and interviews suggest this has created unnecessary confusion and frustration among teachers when they require support
► Therefore, creating a single educator talent function that draws together all of the existing teacher supports to increase their coordination and bolster educator support can provide significant value to the field; in the near term, these functions could include:
  ► Educator Prep program approvals, educator effectiveness, talent monitoring and analytics, all basic retirement-related information and educators policies (all part of School Research, Data and Reporting)
  ► Statewide System of Support for Educators including Beginning Teacher Support, National Board Certification, etc. (currently part of Educator Support Service)
  ► Licensure (currently a standalone office)

Desired outcome

► Consolidating educator talent functions should support:
  ► Increased teacher satisfaction and retention
  ► Improved communication and service to LEAs and schools around educator-related policies and supports
  ► Better alignment of NC DPI and LEA efforts and incentives when it comes to recruiting and retaining high quality educators for NC schools
  ► Increased use of data to drive policy due to reduction in silos
  ► Development of policies that reflect the full continuum of needs for teachers

Key stakeholders

<table>
<thead>
<tr>
<th>Impacted stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educator Support Services (System of Statewide Support)</td>
</tr>
<tr>
<td>School Research, Data and Reporting</td>
</tr>
<tr>
<td>Licensure</td>
</tr>
<tr>
<td>Finance and Business Services</td>
</tr>
</tbody>
</table>

Note: Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management
Source: EY interviews, internal documents, EY analysis and discussions with management

More detail can be found on Appendix pages 16-18
Support: recommendation #8
Combining educator talent-related functions can result in a significantly improved service experience for educators

<table>
<thead>
<tr>
<th>Potential financial implication for NC DPI</th>
<th>Potential milestones and estimated timeframe</th>
<th>External dependencies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Near-term impact</strong> (First FY of implementation)</td>
<td><strong>Short term</strong> (0–12 months):</td>
<td>▶ SBE policy: N/A</td>
</tr>
<tr>
<td>▶ Potential cost-neutral: This recommendation could be implemented without new resources.</td>
<td>▶ Existing educator-related functions are consolidated into a single office (both staff and funding consolidated)</td>
<td>▶ GA legislative mandate: N/A</td>
</tr>
<tr>
<td></td>
<td>▶ Vacancies in educator talent-related functions are filled</td>
<td>▶ Other state agency: N/A</td>
</tr>
<tr>
<td></td>
<td>▶ Conduct evaluation of current supports and services and identify areas where training and improved processes are necessary</td>
<td>▶ LEA impact: Educators and administrators in the field would be asked to contact this “one stop” shop for all educator talent-related questions; in return, they should experience more consistent and reliable support from this function</td>
</tr>
<tr>
<td></td>
<td>▶ Develop new processes and cross-train staff as necessary to be able to respond to educators questions and needs</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Medium term</strong> (12–24 months):</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▶ Educators in the field report a significantly improved level of service, communication and responsiveness from DPI’s educator-talent related function</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Longer term</strong> (24+ months):</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▶ Support for educators in the field is strategically and proactively designed and the spectrum of supports is dynamically responsive to the needs of the field</td>
<td></td>
</tr>
</tbody>
</table>

Note: The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management. Source: EY interviews, internal documents, EY analysis and discussions with management.
# Support: Recommendation #9
Reduce IT support response times to the field and improve resolution experience

## Detailed Description
- Reduce field dependence on NC DPI Technology Services and improve issue resolution experience to the field:
  - Build enhanced self-service troubleshooting capabilities for LEA support staff and vendors to create a more low-touch, technology enabled, and less people intensive model to support the field
  - Rework all future IT contracts with vendors to enable LEAs to file issue tickets directly with the vendor rather than having to work through NC DPI IT

**Note:** Building self-service capabilities refers to creating automated basic troubleshooting capabilities, a knowledge-base of known fixes and a self-service portal for password resets, how-to requests, access provisioning or regaining privileges.

## Context and Rationale
- Although interviewees indicate efforts are consistently made to reduce resolution times, technology support to the LEAs continues to have relatively long resolution times due to limited bandwidth in the Technology Support group (constrained by inability to fill vacancies and inadequate staffing).
- Interviews suggest NC DPI today creates a bottleneck for issue resolution for technology-related matters due to the way contracts were historically established with vendors which drives multiple escalations and handoffs for the LEAs to get to the appropriate point of contact with vendors.
- Analysis indicates almost all the functions performed by DPI’s support personnel to troubleshoot issues for LEAs can be automated, facilitating self-service (and more rapid resolution) for LEAs.

## Desired Outcome
- Reduced workloads and issue tickets for the technology support staff at NC DPI.
- Long-term savings in operating costs from reduced tech support footprint.
- Increased LEA and district staff satisfaction due to significantly reduced time to resolution of technology issues.
- Clearly defined Technology Support process documentation that includes the owners, the timeframes, and key metrics of processes.
- Prioritized list of processes based on self-service and automation potential for processes that can replace human touchpoints with tools.

## Key Stakeholders Impacted
**Owner(s)**
- NC DPI Technology Services (Technology Support Center)
- LEA Technology Support Staff

Note: Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management.

Source: EY interviews, internal documents, EY analysis and discussions with management.

More detail can be found on Appendix page 19.
Support: recommendation #9
Reworking support contracts and enabling self-service capabilities could lead to significant cost savings and improved issue resolution experience for the LEAs

1. Potential financial implication for NC DPI
   - **Near-term impact (First FY of implementation)**
     - **Potential cost-neutral**: This recommendation could be carried out internally without new resources in the near term; minimal development efforts will be required to build basic self service capabilities
     - **Potential savings**: Recommendation may result in $1.1m ongoing savings on a baseline of $1.3m currently related spending for 15 FTEs in Technology Support. The savings are based on the assumptions that reworked vendor contracts and enabled self-service will allow a substantial reduction in Tech Support resources (from 15 FTEs to 2 FTEs) as NC DPI staff workloads are reduced and LEAs decrease their dependence on NC DPI for issue resolution.

2. Potential milestones and estimated timeframe
   - **Short term (0–12 months):**
     - Conduct process mapping to identify pain points and perform an assessment of automation/self service potential for Tech Support Processes
     - Develop standard procurement templates with standard Tech Support terms for LEAs to use when engaging new vendors and reworking contracts
     - Develop user experience journeys and identify ways to implement self-service and automation to improve timeliness and the issue resolution experience for LEAs
     - Define and setup the technical requirements for self-service capabilities
     - Develop, test and validate performance of self-service capabilities with local LEA staff

3. External dependencies
   - **SBE policy**: N/A
   - **GA legislative mandate**: N/A
   - **Other state agency**: N/A
   - **Change in LEAs**: This recommendation implies LEAs may need to rework future contracts with vendors. NC DPI can provide support to assist LEAs to rework contracts so that technology support responsibilities shift from the agency to the vendors

Note: The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management

Source: EY interviews, internal documents, EY analysis and discussions with management

More detail can be found on Appendix page 19
## Technology: recommendation #10
Centralize shadow IT and consolidate the IT organization

### Detailed description
- In advance of reorganizing Technology Services, NC DPI could align embedded IT personnel and IT skillsets currently distributed across the business units under a single point of IT leadership (e.g., Data Managers in School Research, Tech Support analysts in NC Virtual Public School, Systems Specialists in Finance, and IT managers in Digital Teaching and Learning).
- Within NC DPI Technology Services, management could consolidate common skillsets and similar roles within the same function to eliminate redundancies (e.g., Data Managers, Infrastructure and Systems Support).

**Note:** Shadow IT excludes technology-related strategic initiatives that leverage already existing IT resources (e.g., SBSM).

### Context and rationale
- Currently, discussions with NC DPI and analysis of internal data suggest shadow IT (embedded personnel in program areas that do not report to IT) accounts for approximately 44 FTEs that represent approximately $3.8m annually. Interviews indicate this practice is creating redundancies in roles that already exist in IT today, but may not be effectively deployed in the current model, and leads to silos of business knowledge.
- These embedded resources have stepped in to perform key IT activities such as managing data, and interviews suggest they are developing applications using a low-code rapid development tool (APEX), and providing technology support, due to IT’s inability to respond quickly and effectively to the agency’s needs.
- However, interviews indicate decentralized IT has resulted in a proliferation of applications developed by individual areas, redundancy of capabilities, and ungoverned IT:
  - Technology Services is often tasked to solve issues for solutions they did not build.

### Desired outcome
- Streamlined and empowered IT organization aligned to common goals, with a greater ability to enforce technology standards and appropriately monitor and support applications.
- Redefined and formalized IT processes and policies.
- Greater transparency of IT spending across NC DPI and reduction of duplicative work performed by multiple groups.
- Improved business knowledge sharing to mitigate the risks of turnover by critically skilled resources.
- Established base-line and foundation for the transformation of the IT organization.

### Key stakeholders impacted
- **Owner(s)**: NC DPI Technology Services.
- **Impacted stakeholders**: School Research, Data and Reporting, Academic program areas, Finance.

---

**Note:** Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management.

**Source:** EY interviews, internal documents, EY analysis and discussions with management.

---

Prepared solely for North Carolina Department of Public Instruction. Reliance restricted. Does not constitute assurance or legal advice. Please refer to limitations and restrictions on page 2.
**Technology: recommendation #10**

A streamlined IT organization may result in significant savings for the agency if duplicative roles are reduced and repurposed

<table>
<thead>
<tr>
<th>1</th>
<th>Potential financial implication for NC DPI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Near-term impact</strong> (First FY of implementation)</td>
<td></td>
</tr>
<tr>
<td>► <strong>Potential savings</strong>: Implementation may result in a potential $1.75m worth of savings per year through a repurposing or reduction of duplicative shadow IT roles that NC DPI can now shift to other value-adding activities. These savings are based on $3.8m of current related spending on duplicative positions outside of IT. The savings reflect the assumption that 17 duplicative roles would be repurposed.</td>
<td></td>
</tr>
</tbody>
</table>

**Note on these financial implications:** Shadow IT was defined as individuals who do not report to Technology Services but were identified in NCAS as pertaining to an Information Technology Job family or to an IT Job description (e.g., Tech Support Analyst, IT Manager, etc.). The following Shadow IT positions were considered to be duplicative roles as they already exist in Tech Services today: Tech Support Analysts, Business Technology Analysts, Data Managers, Networking Analysts, and Systems Specialists

<table>
<thead>
<tr>
<th>2</th>
<th>Potential milestones and estimated timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Short term</strong> (0–12 months):</td>
<td></td>
</tr>
<tr>
<td>► Evaluate the agency for IT activities supported by Shadow IT and map them to current IT operation</td>
<td></td>
</tr>
<tr>
<td>► Identify redundancies and scope for integration of resources</td>
<td></td>
</tr>
<tr>
<td>► Modify the IT organization model according to resource rationalizations and repurposing</td>
<td></td>
</tr>
<tr>
<td>► Evaluate financial and process impact</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3</th>
<th>External dependencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>► SBE policy: N/A</td>
<td></td>
</tr>
<tr>
<td>► GA legislative mandate: N/A</td>
<td></td>
</tr>
<tr>
<td>► Other state agency: N/A</td>
<td></td>
</tr>
<tr>
<td>► LEA impact: N/A</td>
<td></td>
</tr>
</tbody>
</table>

---

Note: The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management

Source: EY interviews, internal documents, EY analysis and discussions with management

---

More detail can be found on Appendix page 20

---

Prepared solely for North Carolina Department of Public Instruction. Reliance restricted. Does not constitute assurance or legal advice. Please refer to limitations and restrictions on page 2.
Technology: Recommendation #11
Repurpose IT by outsourcing common and low value functions and refocusing to advise and support business needs

### Detailed description

- NC DPI IT can shift common, low value functions (e.g., infrastructure support, tech support, desktop support, architecture, etc.) by prioritizing moving functions to vendors (through the exception process, if costs are lower than Department of Information Technology), or centralizing at Department of Informational Technology (DIT).
- NC DPI could repurpose the Business Technology Division and establish an IT Business Relationship Management (BRM) function to advise the business on technology matters and provide timely support for technology needs from the business by acting as the liaison with Technology Services. The recommended new Business Technology Division would be solely responsible for:
  - Business relationship management
  - Business analysis (translating business requirements into IT specifications)
  - RFP development and vendor support

### Context and rationale

- The current IT service model cannot be easily scaled and interviews suggest it would not sustainably address the needs of the agency going forward.
- As NC DPI looks to add more capabilities and require additional IT support, it may become increasingly challenging for Technology Services to support those requests, as they are already constrained by a lack of resources and challenged to retain and upskill IT talent.
- Interviews indicate there are critical capabilities that do not exist in Technology Services that must be added (e.g., Disaster Recovery) and capabilities that must be enhanced and optimized for greater efficiency (e.g., cybersecurity).
- In North Carolina, many IT functions today are centralized at DIT, utilized across multiple agencies, and can be uniformly applied to NC DPI. Interviews indicate that DIT may not offer the most competitive market rates or most efficient IT services, and when that is the case, NC DPI should look to utilize the exception process to leverage suppliers or negotiate competitive rates with DIT.

### Desired outcome

- Revamped, lean and agile IT organization that can focus on supporting and adding value to NC DPI and schools (and which is not focused on supporting common, low value functions).
- Vendor-supported model for common IT services with greater financial transparency, increased reliability, agility, and scalability.
- Clear policies and pricing models to guide outsourcing decisions and vendor evaluation/management.
- Instant ability to ramp up or down IT services.
- Easy access to technical support and up-to-date technology.
- Strong agency-IT alignment through a dedicated BRM in the Business Tech Division that establishes Technology Services as a strategic partner to the business (implies new role).
- Established prioritization processes to handle agency technology demands in a timely manner.

### Key stakeholders impacted

**Owner(s):**
- NC DPI Technology Services
- Department of Information Technology (DIT)
- School Business Systems Modernization (SBSM)

**Impacted stakeholders:**
- Academic program areas
- Finance
- HR

Note: Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management.

Source: EY interviews, internal documents, EY analysis and discussions with management.
Technology: recommendation #11
The new model for IT which emphasizes outsourced functions and the BRM could require minimal investment but may lead to significant net savings

1. Potential financial implication for NC DPI
   - **Near-term impact** (First FY of implementation)
     - **Potential investment:** To implement an IT Business Relationship Management function at NC DPI, an investment of up to $800k annually may be required to staff. This assumes 5 new Business Relationship Manager positions dedicated to each functional and program area. The Business Relationship Management function could also comprise of Business Technology Analysts and Quality Assurance analysts, which may not require an investment as existing positions could be repurposed.
     - **Potential savings:** Implementation may result in over $1.5m worth of savings per year after shifting resources performing non-core IT functions to DIT or to vendors (if more cost effective). This is based on the assumption that 45 FTEs could be shifted to DIT and 18 FTEs would remain at NC DPI to perform necessary functions. These savings assume that NC DPI could leverage resources at DIT. A premium of 15% additional costs for the 18 FTEs were included in this estimate, to account for higher costs NC DPI may incur once resources are transitioned to DIT or vendors.

2. Potential milestones and estimated timeframe
   - **Short term** (0–12 months):
     - Decompose current IT operations into component functions and specify sourcing drivers
     - Develop vendor sourcing strategy and 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
     - Develop vendor and supplier portfolio for IT Functions (includes DIT and vendors) and develop roadmap for transition
   - **Medium term** (12–24 months):
     - Define interactions, activities, roles and responsibilities, decision rights, of the new BRM function
     - Communicate new BRM function and process to rest of DPI
     - Execute on phased roadmap to transition functions to vendors or DIT

3. External dependencies
   - **SBE policy:** N/A
   - **GA legislative mandate:** The recommendation may require legislation that allows DPI to prioritize moving functions over to vendors for higher quality or more cost-effective services during transition period
   - **Other state agency:** This may require DIT to establish a transition and readiness plan to smoothly transition functions to the agency without disrupting services. Pricing models, and exception approval processes at DIT should be clearly defined
   - **Change in LEAs:** N/A

**Note:** The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management

**Source:** EY interviews, internal documents, EY analysis and discussions with management

**More detail can be found on Appendix pages 21-23**
Technology: Recommendation #12
Implement a vendor-first approach for application services and prioritize cloud hosting

Detailed description

► NC DPI could pursue a vendor-first approach for the development, hosting, and maintenance of all applications and hardware. The shift to a vendor-first approach, focusing on Commercial Off The Shelf (COTS) solutions, rather than developing custom applications or maintaining hardware in-house, would require the IT Business Relationship Managers to work closely with the functional and program areas to identify commercially available solutions and services.
► Going forward, a vendor-first approach would seek to eliminate the development of APEX applications, and any other applications developed in-house.
► NC DPI could migrate to the cloud those applications and hardware that cannot be hosted at vendor sites by filing an exception request with DIT for permission to host on the cloud if competitive rates are not offered at Department of Information Technology (DIT).

Context and rationale

► NC DPI IT faces rising costs to manage continuously ageing and unsupported hardware platforms (e.g., mainframes) every year.
► Interviews indicate basic but critical services like Disaster Recovery for applications in production do not currently exist.
► IT and the various embedded IT groups across NC DPI have created an expansive footprint of applications over the years that interviews suggest have led to challenges to deploy and support in production.
► NC DPI acknowledges outdated technology presents significant resource availability challenges, which in turn severely impacts timely response to critical production outages or issues, and presents an unscalable model for NC DPI IT.
► Interviews indicate that NC DPI understands the benefit of getting out of the business of hosting infrastructure and developing applications.

 Desired outcome

► Upgrading, patching, monitoring and supporting servers are outsourced to vendors with specialized expertise and access to modern technology.
► Critical capabilities (e.g., Disaster Recovery) are covered by vendors.
► Vendor-first approach to leverage technical expertise, reliability, and efficiency of suppliers and commercially available products.
► Established roadmap for ongoing modernization as well as scheduled retirement of old or unsupported systems and applications.
► NC DPI resources able to shift focus to advising and supporting LEAs.
► Access to up-to-date technology the field and NC DPI employees.

Key stakeholders impacted

Owner(s)
► NC DPI Technology Services (Business Technology Division)
► School Business Systems Modernization (SBSM)

Impacted stakeholders
► Academic program areas
► Finance
► HR

Note: Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management.
Source: EY interviews, internal documents, EY analysis and discussions with management.
Technology: recommendation #12

Eliminating the need to manage aging infrastructure and systems may yield savings long term, yet efforts to modernize and shift to vendors may cost NC DPI

1. Potential financial implication for NC DPI

   **Near-term impact** (First FY of implementation)
   - **Potential savings:** Implementation may result in ~$200k per year worth of savings through the use of commercial off-the-shelf solutions which limits customizations and saves on infrastructure operating costs. This is based on the assumption that commercial organizations typically save up to 30% of total IT infrastructure and support costs through infrastructure modernization and a cloud model. Using an estimate, NC DPI could achieve savings of at least 20% of total IT infrastructure and support costs a year. Implementation of this recommendation may result in greater long-term savings as NC DPI reduces the need for resources to develop, maintain and support technology
   - **Potential investment:** An investment of approximately $1.4m per year annually over 3–4 years may be needed to modernize and move infrastructure to the cloud. This is based on the current SBSM planned budget

   **Note:** SBSM has included this investment in the SBSM planned scope and has included these expenses under “Legacy NC DPI Systems Investment”

   **Long-term impact**
   - **Potential savings:** Implementation may result in significant long-term savings as NC DPI reduces need for resources

2. Potential milestones and estimated timeframe

   **Short term** (0–12 months):
   - Create development and hosting strategy and plan for NC DPI going forward; establish policies, standards and governance protocols for vendor engagement and procurement
   - Identify and evaluate vendors to take on development and hosting services for NC DPI
   - Develop transition plan and execute

   **Medium term** (12–24 months):
   - Execute transition plan

3. External dependencies

   - **SBE policy:** N/A
   - **GA legislative mandate:** The recommendation may require legislation that allows NC DPI to prioritize moving specific services over to vendors for higher quality, more robust or cost-effective services
   - **Other state agency:** This may require Department of Information Technology to grant NC DPI approvals in the exception process
   - **Change in LEAs:** N/A

Note: The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management

Source: EY interviews, internal documents, EY analysis and discussions with management
Technology: Recommendation #13
Design and implement the future state application portfolio

Detailed description
- NC DPI could perform an application rationalization effort to retire and decommission applications that are rarely used by NC DPI or the LEAs, share similar functionality, or are currently running on outdated technology (e.g., mainframes). An application rationalization exercise includes the following activities:
  - Gather a holistic view of functional and technical information applications, aligning them to NC DPI program and functional areas to understand how applications enable business functions and processes
  - Develop assessment criteria and weightage to assess and classify applications
  - Collaborate with DIT and establish target state business capability model in alignment with DIT’s business architecture framework
  - Develop an application roadmap to keep, tolerate, freeze, replace, or retire an application
- NC DPI could replace/consolidate related but disparate applications with modern end-to-end consolidated equivalents (e.g., Finance suite that includes GL, AP/AR, Contract Management solution, etc.)

Context and rationale
- Interviews suggest limited management of IT assets, strategic planning and road-mapping of asset lifecycles over the years has led to a proliferation of disparate applications and platforms across the agency
- NC DPI continues to support mainframe applications increasing the costs and the resource intensity to support
- Multiple areas at NC DPI (e.g., Finance teams) indicate they are currently not supported by modern end-to-end consolidated solutions resulting in the need for numerous siloed systems and manual processes to operate the agency
- By rationalizing the existing set of applications and designing a future state application portfolio NC DPI could reduce the number of applications used to support the agency and the LEAs, free up resources to perform value adding functions through modern solutions, and identify areas that need to be enabled by technology (e.g., Contract Management)

Desired outcome
- Maximize DPI’s investment in technology and applications
- Eliminate or consolidate unnecessary or redundant applications
- Significantly reduce manual tasks and processes
- Reduce support costs through the retirement of outdated technology and legacy applications
- Move towards more modern end-to-end solutions
- Formalize application strategy and roadmap to manage IT assets going forward

Key stakeholders impacted
- Owner(s)
  - NC DPI Technology Services (Business Technology Division)
  - School Business Systems Modernization (SBSM)
- Impacted stakeholders
  - Academic program areas
  - Finance
  - HR
  - Department of Information Technology (DIT)

Note: Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management
Source: EY interviews, internal documents, EY analysis and discussions with management

More detail can be found on Appendix pages 25-26
## Technology: recommendation #13

Conducting application rationalization could drastically reduce applications supported by NC DPI and replace aging systems, leading to potential cost savings

### 1. Potential financial implication for NC DPI

**Near-term impact** (First FY of implementation)

- **Potential savings:** Implementation may result in a net $1.5m of potential cost savings that includes the costs to consolidate and modernize as well as the savings from retiring outdated technology. The savings is based on achieving 8% savings on the current $20.1m in spending on IT applications (Note: SIS and educator LMS are not included). The 8% savings is an estimate using the commercial industry average of realizing a 25% cost savings, within 12 months of implementation.

- **Potential investment:** An investment of approximately $1.1m may be required for consultant services to perform the application rationalization exercise over 6 months based on an assessment of current market rates. There is potential to reduce the investment, if existing resources in IT are leveraged.

**Note:** SBSM has included this investment in the SBSM planned scope and has included these expenses under “modernize legacy systems”

### 2. Potential milestones and estimated timeframe

**Short term (0–12 months):**

- Conduct holistic application inventory
- Perform application assessment via established criteria and dimensions
- Establish target state application portfolio identifying
- Define application roadmap to keep, tolerate, freeze, replace, or retire applications
- Identify and procure vendors to replace or consolidate applications with modern end-to-end equivalents

**Medium term (12–24 months):**

- Implementation of end-to-end solutions will be ongoing

### 3. External dependencies

- **SBE policy:** N/A
- **GA legislative mandate:** N/A
- **Other state agency:** NC DPI may need to collaborate with DIT to share future state application portfolio and capability model to align with business architecture
- **Change in LEAs:** This recommendation may require coordination with the LEAs to determine the truly business-critical applications and those that are not consistently used or can be retired

Note: The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management

Source: EY interviews, internal documents, EY analysis and discussions with management
# People: recommendation #14
Streamline and accelerate the talent acquisition process through technology and internal process optimization

## Detailed description
- NC DPI could transform HR into a proactive talent acquisition organization by optimizing end-to-end business processes
  - Drive the talent acquisition process and become more responsible and accountable for key hiring activities and provide resources and support to hiring managers throughout the process (e.g., hiring manager toolkit)
  - Have a clear understanding of talent needs and drive a strategic efficient plan around talent acquisition using data. (e.g., a frequent review of vacancy reports with the State Superintendent, CFO, HR leadership, and other key stakeholders)
  - Leverage technology to increase transparency, reduce cycle time, and improve efficiency and capacity
    - Optimize existing technologies to automate and streamline the end-to-end talent acquisition to increase the agility and transparency of the talent acquisition process

## Context and rationale
- Due to current vacancies within the HR division, interviews suggest all employees, including HR Director, are expanding their roles to back fill the vacant positions
- The vacancy to fill cycle is inordinately long, according to interviews, taking about 3 to 4 months to fill a vacant position within the organization, sometimes exacerbated by external factors
- The existing hiring process is not clearly documented and hiring managers may not have clarity on the workflow, forms required and responsibilities
- Both initial application review processes are conducted by Recruiter and Hiring Manager, which are manual and labor-intensive, leading to delays in acquiring right talent
- There is currently limited onboarding support for new hires

## Desired outcome
- Transform HR into a proactive organization that maximizes the use of technology
- Hiring managers should have clear understanding of their role in hiring process, as well as more visibility into the process overall
- Hiring managers should be allowed to focus on key business operations
- HR team should have additional capacity to focus on strategic functions
- Efficient talent acquisition process reduces the risk of losing top candidates to competitors (thereby enhancing new hire quality and satisfaction), and reduces average vacancy duration

## Key stakeholders impacted
- **Owner(s)**
  - Human Resources
- **Impacted stakeholders**
  - Hiring Managers
  - Finance
  - Superintendent’s Office

---

Note: Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management
Source: EY interviews, internal documents, EY analysis and discussions with management

---

More detail can be found on Appendix pages 27-29
People: recommendation #14
Improving the talent acquisition process may require collaboration with OSHR

1. Potential financial implication for NC DPI

   Near-term impact (First FY of implementation)
   - **Potential cost-neutral:** This recommendation could be implemented without new resources. The Transformation Management Office can help to support implementation of technology and new processes.

   Long-term impact
   - **Potential savings:** According to analysis and discussions with NC DPI, implementation of this recommendation could allow NC DPI to decrease cost per hire by 30%–40% over time.

2. Potential milestones and estimated timeframe

   Short term (0–12 months):
   - Fill key HR vacancies
   - Talent acquisition process redesign (includes documenting process, leveraging technology and defining roles and responsibilities)
   - Identification and implementation of areas of enhancement of existing technologies as well as of building additional automation

   Medium term (12–24 months):
   - Change management to oversee the implications of the process/technology changes, doing the right communications and training and providing sustainability of the change.

3. External dependencies

   - **SBE policy:** N/A
   - **GA legislative mandate:** N/A
   - **Other state agency:**
     - The effort to fully utilize the usage of the current technologies available may need NC DPI HR to coordinate with Office of State Controller (OSC) as well as Office of State Human Resources (OSHR). This may call for OSC/OSHR to review the existing contract with the vendor to enable the additional functionality of the systems for NC DPI to use.
     - Additional investments towards automations (e.g., use robotic process automations to automate manual repeated labor intensive tasks) would require HR to coordinate with OSHR/OSC
   - **LEA impact:** N/A

Note: The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management.

Source: EY interviews, internal documents, EY analysis and discussions with management.
People: recommendation #15
Enable HR to be a strategic function

Detailed description
► NC DPI should consider filling the key vacant positions within HR to allow staff to fulfill individual responsibilities, including allowing HR leadership be strategic business leaders focused on building human capital strategies, workforce planning and initiatives and move away from their current transactional role
► In the long term, NC DPI may need to develop a target operating model mapped with the right talent so HR can operate at the right capacity
► NC DPI could build a robust succession plan to help HR identify strong candidates, from both within NC DPI or outside the organization, to fill key positions
► HR works with the Division Heads to strategically implement a succession planning process for the respective divisions across the agency
► Conduct readiness assessments to identify strong NC DPI candidates as potential successors for integral organizational positions, especially where those existing staff may soon retire
► Conduct skills and competencies assessments to enable career planning, career mapping and illuminate opportunities for professional development
► NC DPI could implement HR staffing within the Residential Schools to reduce transactional responsibilities of NC DPI

Context and rationale
► Due to inadequate HR staffing capacity, interviews indicate employees, including HR Director, are expanding their roles to back fill vacancies, which interviewees suggest restricts leadership’s ability to be strategically minded
► Currently, NC DPI has no formal succession planning process in place. Interviews suggest there is no tool or process used to identify the right fit candidate to fill a position
► NC DPI HR support to the Residential Schools has extended beyond its capacity into backfilling the vacant roles which requires significantly more work for the division
► NC DPI HR could continue to serve in an oversight role for the Residential Schools

Desired outcome
► When adequately staffed, HR can focus on more strategic activities for NC DPI human capital
► Succession plans and readiness assessments could help the HR division to identify internal skill gaps and recognize the need for external recruiting, while reducing turnover and supporting improved culture and employee morale
► NC DPI would have the capacity to align key positions with adequate talent capable of filling vacant roles in a timely manner
► Fully staffing HR within the Residential Schools would allow transfer of transactional responsibilities to the Residential Schools, and limiting reliance on NC DPI for guidance

Key stakeholders impacted
Owner(s)
► Human Resources
Impacted stakeholders
► Section Chiefs/Directors/Division Heads
► Superintendent’s Office
► All NC DPI employees
► Residential Schools

Note: Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management
Source: EY interviews, internal documents, EY analysis and discussions with management
People: recommendation #15
Succession planning could help NCDPI reduce recruiting costs over the longer term

1. Potential financial implication for NC DPI

Near-term impact (First FY of implementation)
- **Potential cost-neutral**: This recommendation could be implemented without new resources.

Long-term impact
- **Potential savings**: Succession planning can help significantly reduce recruiting costs; developing a target operating model of HR mapped with the right talent and skill could help NC DPI operate with a smaller HR team, leading to cost savings.

2. Potential milestones and estimated timeframe

**Short term** (0–12 months):
- Fill vacancies in HR
- Fill HR vacancies within the Residential Schools
- Develop and implement a robust succession plan by collaborating with Division Heads
  - Conduct readiness assessments
  - Conduct skills and competencies assessments.

**Medium term** (12–24 months):
- Change management to address HR strategic initiatives and their impacts on the organization

3. External dependencies

- **SBE policy**: N/A
- **GA legislative mandate**: N/A
- **Other state agency**: HR Leadership may need to work with OSHR to create well documented processes and policies to better define roles and responsibilities in the various HR functions
- **LEA impact**: N/A

Note: The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management.

Source: EY interviews, internal documents, EY analysis and discussions with management

More detail can be found on Appendix pages 30-32
People: recommendation #16
Develop an employee engagement and support strategy focused on communication, transparency, learning and development

<table>
<thead>
<tr>
<th>Detailed description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC DPI could establish internal structures at NC DPI to foster clear and consistent communication, increase cross-functional collaboration and transparency, and focus on improving team morale. This includes consistent division and agency communication and communication priorities</td>
</tr>
<tr>
<td>Develop consistent internal communication procedures</td>
</tr>
<tr>
<td>Conduct regular employee engagement surveys to better understand employee morale and expectations</td>
</tr>
<tr>
<td>NC DPI could create a dedicated learning and development function that leads training and professional development initiatives for NC DPI employees</td>
</tr>
<tr>
<td>Drive formal trainings and professional development initiatives for NC DPI employees by identifying competency gaps, training needs, planning and management</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Context and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees expressed concern that they do not learn about new policies or information that may impact their work until it is released to the field</td>
</tr>
<tr>
<td>Employees expressed concern that they do not receive information about priorities and initiatives which can impact their ability to collaborate</td>
</tr>
<tr>
<td>There is no internally driven employee training function within NC DPI</td>
</tr>
<tr>
<td>Few divisions fund staff to attend professional learning opportunities</td>
</tr>
<tr>
<td>The only training available to the majority of NC DPI employees is offered by the state</td>
</tr>
<tr>
<td>There is no observed process for the communication or documentation of organization-wide processes</td>
</tr>
<tr>
<td>Interviews suggest that only a small group of individuals are privy to business policy or process changes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Desired outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual employee survey conducted to assess level of employee engagement</td>
</tr>
<tr>
<td>Increased employee engagement, productivity, and morale by creating a culture focused on learning and development led by a learning and development function</td>
</tr>
<tr>
<td>Increased employee understanding of NC DPI priorities and initiatives</td>
</tr>
<tr>
<td>Increased organizational transparency by creating an updated organization repository for business processes and policies</td>
</tr>
<tr>
<td>Standardizing organizational and communication procedures may increase the cross-functional collaboration and further build a cohesive organization</td>
</tr>
<tr>
<td>NC DPI culture reflects a developmental mindset where managers regularly provide constructive feedback to employees, and employees can access learning and development opportunities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key stakeholders impacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner(s)</td>
</tr>
<tr>
<td>Superintendents Office</td>
</tr>
<tr>
<td>Human Resources</td>
</tr>
<tr>
<td>Impacted stakeholders</td>
</tr>
<tr>
<td>All employees of NC DPI for internal communications</td>
</tr>
<tr>
<td>Division Heads/Section Chiefs</td>
</tr>
</tbody>
</table>

Note: Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management
Source: EY interviews, internal documents, EY analysis and discussions with management
People: recommendation #16
With a new position dedicated to learning and development, NC DPI can increase its focus on employee growth and retention

<table>
<thead>
<tr>
<th>Potential financial implication for NC DPI</th>
<th>Potential milestones and estimated timeframe</th>
<th>External dependencies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Near-term impact</strong> (First FY of implementation)</td>
<td><strong>Short term</strong> (0–12 months):</td>
<td>▶ SBE policy: N/A</td>
</tr>
<tr>
<td>▶ Potential investment: While the efforts around communication and transparency across the department can potentially be implemented without new resources, this recommendation may require an investment of ~$100k to fund a new position focused on supporting increased learning and development across NCDPI.</td>
<td>▶ Establish internal structures at NC DPI to foster clear and consistent communication</td>
<td>▶ GA legislative mandate: N/A</td>
</tr>
<tr>
<td><strong>Long-term impact</strong></td>
<td>▶ Develop and conduct employee engagement survey (to be repeated annually)</td>
<td>▶ Other state agency:</td>
</tr>
<tr>
<td>▶ Potential investment: Over the long term, NC DPI may choose to make further investments to support increased learning and development opportunities for staff</td>
<td>▶ Create a dedicated learning and development function to drive formal trainings and professional development initiatives</td>
<td>▶ Work with OSHR to provide any available trainings (e.g., equal employment opportunity, financial training, etc.).</td>
</tr>
<tr>
<td></td>
<td><strong>Medium term</strong> (12–24 months):</td>
<td>▶ LEA impact: N/A</td>
</tr>
<tr>
<td></td>
<td>▶ Implement changes based on the employee survey results</td>
<td></td>
</tr>
</tbody>
</table>

Note: The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management
Source: EY interviews, internal documents, EY analysis and discussions with management
# People: Recommendation #17

More effectively align compensation levels and changes with performance

## Detailed description

- NC DPI could create a performance-driven culture by tying compensation, salary adjustments and bonuses to performance.
  - After the state roles out the new job classification system NC DPI could conduct a job classification assessment by: (1) Identifying each employee's classification, (2) Evaluating job descriptions against actual responsibilities and activities performed, and (3) Determine whether individual job classifications are appropriately aligned with actual job responsibilities and competencies.
  - Utilize the North Carolina Valuing Individual Performance (NCVIP) system to effectively align salary adjustments and bonuses with performance, and award fairly across the organization.
  - Conduct internal and external pay equity analysis to identify whether NC DPI employees are compensated competitively and equitably across state agencies.

## Context and rationale

- Interviews indicate NC DPI has challenges attracting and retaining talent due to salary disparities with private sector as well as other state agencies.
- Opportunities for better employment or transfers to another state agency are among the most common reasons for employee separation in the last 5 years, according to NC DPI.
- Analysis of past salary increases suggest that they are not always tied to performance and there is a perceived lack of transparency around why salary increases are given.
- NCVIP, which was implemented to drive an outcome-based culture, is viewed by many interviewees as having failed to serve its function. Decrease in NCVIP performance planning completion rate is an obstacle to DPI's goal to transform into an outcome-based culture.

## Desired outcome

- NC DPI can better attract and retain talent by providing transparent, performance-based compensation and aligning roles with job descriptions and classification.
  - By reviewing job classifications and utilizing NCVIP, NC DPI would reorient to an outcomes-based culture focused on rewarding high performing individuals, which may:
    - Increase employee retention and talent acquisition.
    - Drive the transition towards a more equitable, outcomes-based culture with high employee morale.
    - Proactively prevent employee relations issues by assessing the current job with the classification and job description.
    - Employees express improved satisfaction levels/perceived fairness of performance-related pay awards as well as motivation to perform to higher standards.

## Key stakeholders impacted

**Owner(s)**
- NC DPI Human Resources.

**Impacted stakeholders**
- All NC DPI employees.
- Supervisors/Section Chiefs/Division Heads.
- OSHR (DPI-HR needs to collaborate with OSHR to align NC DPI employees with the new classification once the new system is implemented to support DPIs ability to hire.)

## Note

- Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management.

Source: EY interviews, internal documents, EY analysis and discussions with management.

---

More detail can be found on Appendix pages 37-38.
# People: recommendation #17
DPI may need to work closely with OSHR to ensure employees are classified correctly

## Potential financial implication for NC DPI

<table>
<thead>
<tr>
<th>Near-term impact (First FY of implementation)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Potential cost-neutral</strong>: This recommendation could be implemented without new resources, though the Transformation Management Office may be able to support the job description review and analysis. The salary/classification analyst should have knowledge around what responsibilities and roles each classification entails, and be able to readjust NC DPI employees’ classification to the right level if needed</td>
</tr>
</tbody>
</table>

## Potential milestones and estimated timeframe

<table>
<thead>
<tr>
<th><strong>Short term</strong> (0–12 months):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduct job classification assessments once new system is in place</td>
</tr>
<tr>
<td>Drive towards achieving a minimum 90% performance planning completion across the agency using NCVIP as well as conducting a comprehensive calibration process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Medium term</strong> (12–24 months):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reward bonuses and salary adjustments based on NCVIP</td>
</tr>
<tr>
<td>Readjust employee classifications based on the results of job classification assessments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Longer term</strong> (24+ months):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustain the outcome-based culture by tying NCVIP results and compensation with proper professional development opportunities</td>
</tr>
</tbody>
</table>

## External dependencies

<table>
<thead>
<tr>
<th>SBE policy: N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA legislative mandate: May require legislative to implement performance based compensation system</td>
</tr>
<tr>
<td>Other state agency: DPI-HR to collaborate with OSHR to effectively conduct internal job assessments and align NC DPI employees with the new classification once the new system is implemented to support DPI's ability to hire</td>
</tr>
<tr>
<td>NC DPI will also need to work closely with OSHR to implement a performance based compensation system</td>
</tr>
<tr>
<td>LEA impact: N/A</td>
</tr>
</tbody>
</table>

---

Note: The potential financial implications (including estimates) associated with the recommendations are based on analysis where all the assumptions and parameters were confirmed/determined by DPI; Key stakeholders impacted and external dependencies noted were all confirmed by NC DPI management

Source: EY interviews, internal documents, EY analysis and discussions with management
### Recommendation #18
Rationale and benefits of a Transformation Management Office (TMO)

<table>
<thead>
<tr>
<th>People and Org</th>
<th>Current Need</th>
<th>Desired Outcome</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>► NC DPI could define and augment its organization with specialized roles for functions such as business strategy, communications, legislation, program planning, etc.</td>
<td>► Program roadmaps that align with the strategic intent of the transformation&lt;br&gt;► Resource needs identified early for ability to scale up or down access to highly skilled talent to execute the program</td>
<td>The TMO could serve as a trusted support to NC DPI leadership, in order to maintain momentum, provide an objective barometer on program progress, deliver subject matter skills, and realize the vision.&lt;br&gt;► An integrated and governed program to manage risk and drive value and benefit to NC DPI&lt;br&gt;► Strategic clarity with defined roadmaps and architectures&lt;br&gt;► Structured governance to build a common language, clarify priorities, and alignment with the strategic intent of the program&lt;br&gt;► Value-driven and coordinated initiatives execution and program delivery&lt;br&gt;► Execution proceeds in an orderly manner and reduces risks that may lead to cost overruns and timeline slippage</td>
</tr>
</tbody>
</table>

| Processes | NC DPI recognizes the immediate need to define governance, change management processes, communication plans, data and technology architecture frameworks, and a benefits tracking methodology | Well defined architectures, and structured governance<br>► Coordinated execution and delivery of integrated initiatives and program activities, and reduced risks |

| Technology | NC DPI management should consider the following to drive program progress: Data standards and governance across NC DPI, data stewardship on new sources of data, and a data integration architecture | Secure, consistent and validated data<br>► Centrally governed and maintained data for easy efficient and reliable sharing |

Source: EY interviews, internal documents, EY analysis and discussions with management
About EY
EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. For more information about our organization, please visit ey.com.

Ernst & Young LLP is a client-serving member firm of Ernst & Young Global Limited operating in the US.

© 2018 Ernst & Young LLP.
All Rights Reserved.

1804-2668137
ED None

This material has been prepared for general informational purposes only and is not intended to be relied upon as accounting, tax or other professional advice. Please refer to your advisors for specific advice.

ey.com