OHIO AUDITOR OF STATE
KEITH FABER

Ohio Department of Education

Performance Audit

January 26, 2021

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OHIO AUDITOR OF STATE
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Letter from the Auditor

To the Governor's Office, General Assembly, Superintendent of Public Instruction, State Board of Educaiton, Staff of the Ohio Department of Education, Ohio Taxpayers, and Interested Citizens:

The Auditor of State's Office recently completed a performance audit for the Ohio Department of Education (ODE or the Department). This service to ODE and to the taxpayers of the state of Ohio is being provided pursuant to Ohio Revised Code §117.46 and HB 166 of the 133rd General Assembly, which required the AOS to conduct a performance audit of the Department. The review was conducted by the Ohio Performance Team and provides an independent assessment of selected areas of operations in relation to industry standards and recommended or leading practices.

This performance audit report contains recommendations, supported by detailed analysis, to enhance the Department's economy, efficiency, and/or effectiveness in the areas reviewed. The report has been provided to the Department and its contents have been discussed with the appropriate staff and leadership within the Department. The Department is reminded of its responsibilities for public comment, implementation, and reporting related to this performance audit per the requirements outlined under ORC §117.461 and §117.462. In future compliance audits, the Auditor of State will monitor implementation of the recommendations contained in this report, pursuant to the statutory requirements.

It is the Auditor's hope that the Department will use the results of the performance audit as a resource for improving operational efficiency as well as service delivery effectiveness. The analysis contained within are intended to provide management with information and in some cases, a range of options to consider while making decisions about their operations. Additional resources related to performance audits are available on the Ohio Auditor of State's website.

This performance audit report can be accessed by visiting the Auditor of State's website at ohioauditor.gov and choosing the "Search" option. A detailed website outlining report details can be found here: http://www.ohioauditor.gov/performance/ODE.html.

Sincerely,

Keith Faber
Auditor of State
Columbus, Ohio
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Introduction

Millions of students attend and have graduated from an Ohio public school. For many years the public education system has been a critical piece in ensuring the education and advancement of our youth. Today, the Ohio Department of Education (ODE or Department) oversees more than 600 public school districts, 49 joint vocational school districts, and 325 public community and STEM schools. ODE is also responsible for monitoring 51 educational service centers, early learning programs, and approximately 700 state-chartered nonpublic schools.

The Department's overarching goal is to develop state-level education policies and promote high-quality educational practices across the state. ODE is also responsible for the school funding system; administering state achievement tests; professional development training for educators, administrators, and other school personnel; and licensing educational personnel, among several other tasks. All of these responsibilities are important in keeping Ohio's public education system on target with student achievement, as well as technological training and advancement. ODE strives to ensure equity among students, participation of parents and caregivers, and quality schools within our communities, all to build Ohio's future and have students become positive contributors to society.

The Ohio Auditor of State is required to complete four performance audits of state agencies or institutions of higher education during each biennium.[1] In 2019, the Ohio General Assembly passed House Bill 166 (HB166), the state operating budget. Section 701.43 of the legislation requires that the Auditor of State's Ohio Performance Team (OPT) complete a review of the efficiency and effectiveness of selected offices and programs within ODE. This performance audit seeks to improve the operations of ODE in particular areas of the agency.[2]

⚠ NOTE TO REPORT USERS:

This performance audit was conducted during a state of emergency due to the COVID-19 pandemic. Our analysis was based on current agency operations, with an emphasis on the most recent fiscal year completed, FY2019-20, and the current fiscal year in progress, FY2020-21. The report does not account for the changes that have occurred and will occur from the unanticipated disruption caused by the pandemic. Beginning in March 2020, when the state of emergency was declared in Ohio, ODE had to quickly shift its focus to meet the needs of educational institutions around the State. With students and staff returning to school in the fall of 2020 using several blends of in-person and remote instruction, ODE had to implement new initiatives and suspend some that were ongoing to meet the needs of our current environment.

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[1] ORC §117.46
[2] Performance audits are conducted in compliance with Generally Accepted Government Auditing Standards, see **Appendix A** for more complete scope and objectives information.

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Ohio Department of Education

Public education in Ohio is governed through a series of laws in Title 33 of the Ohio Revised Code (ORC). These laws provide guidance on a variety of topics including state funding, academic standards, and teacher licensing requirements. Founded in 1834, ODE is tasked with overseeing the vast public education system in Ohio, under the governance of the State Board of Education (the Board).[3] There are 19 members on the Board: 11 that are elected by citizens of Ohio and 8 that are appointed by the Governor. ODE is led by the Superintendent of Public Instruction, who is appointed by the Board[4] and is responsible for executing educational policies, orders, and directives of the Board and directs the work of all persons employed by ODE under rules and regulations adopted by the Board.[5] As of June 2019, ODE had a staff of 609, of which 570 were full-time permanent employees.

Department Structure

The Department launched a five year strategic plan designed to ensure each student is challenged, prepared, and empowered for his or her future through an excellent education. As a part of this plan, ODE restructured its operations into four key operational centers. These centers include:

- The Center for Student Supports,
- The Center for Continuous Improvement,
- The Center for Performance and Impact, and
- The Center for Teaching, Leading, and Learning.

Each of these Centers works together to ensure that the common goals and mission of ODE are being met.

Outside of those four centers, ODE also employs superintendent support staff and the Strategy Office. Superintendent support staff consists of Field Relations, Legal, Policy, and Legislative Affairs. The Strategy Office consists of Information Technology, Communications, and Operations. Each of these sectors works together to meet the needs of the Department. Between the four centers and the support staff, ODE is able to work collaboratively with school districts and other Local Education Agencies (LEAs) throughout the state and provide the needed information, support, and supervision to staff and students within those districts.

Department Finances

In FY 2020, ODE had a budget appropriation of approximately $11.75 billion. Nearly 80 percent of these funds came from state sources including a General Revenue Fund allocation and through

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[3] The State Board of Education is a public body as defined in ORC §121.22, comprised of elected and appointed officials as identified in ORC §3301.01 and each serve four year terms. ORC §3301.02.
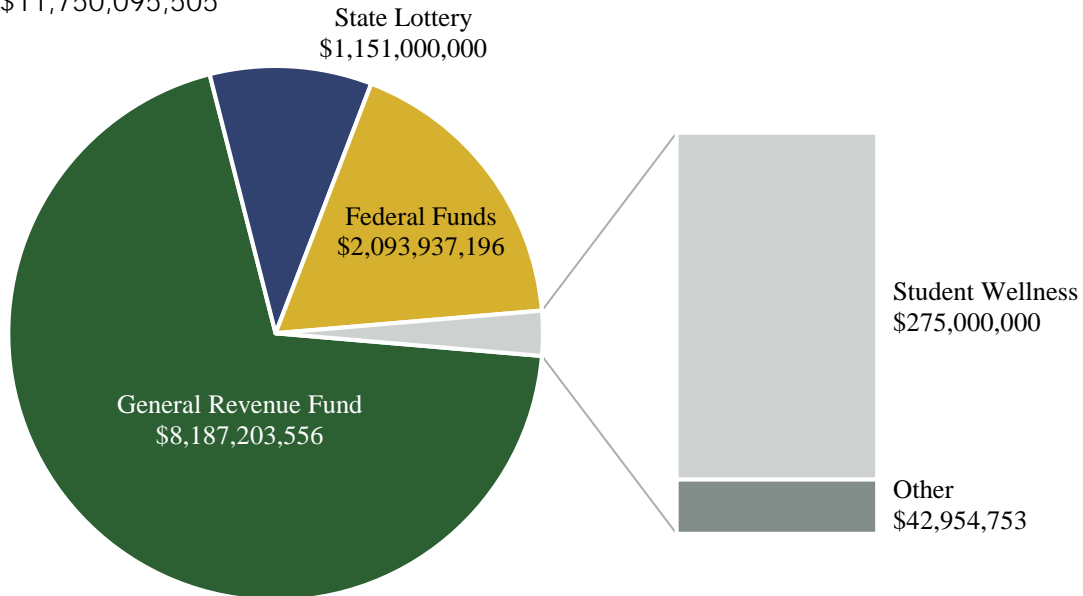[4] ORC §3301.08
[5] ORC §3301.11, additional duties of the Superintendent are identified in §3301.12.

State lottery profits.[67] Approximately 98 percent of ODE's annual budget is passed on to LEAs, such as local school districts and community schools, primarily through state foundation funding.

ODE FY20 Appropriations
Total: $11,750,095,505

Source: ODE

In addition to traditional school districts, funding is also allocated to educational service centers (ESCs). ESCs receive state funding to provide support to other education agencies for basic operations and to assist in ensuring compliance with statutorily mandated services. The overall funding allocated per year from the State for all ESCs is approximately $64 million. OPT previously conducted an operational study of the ESC system in Ohio which can be found here: ESC Operational Study.

ODE also assists in funding the 700 nonpublic schools in the state for costs related to the College Credit Plus and auxiliary services. For both FY 2020 and FY 2021, nonpublic schools were allocated nearly $155 million, with the bulk of funding going towards auxiliary services. These funds can be used to assist in purchasing textbooks and equipment, as well as services such as counseling and security. Nonpublic schools that do not have a religious affiliation may opt to receive funds directly from ODE.

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[6] Pursuant to Ohio Const. Article XV, Section 6, ORC §3770.06(B) creates the Lottery Profits Education Fund which is to be used for the support of elementary, secondary, vocational, and special education programs as determined in appropriations by the General Assembly. In FY 2020, this appropriation was approximately $1.15 billion.

[7] In addition to funds appropriated by the General Assembly for the Department of Education, ODE administers two Revenue Distribution Fund line items allocated to local school districts.

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Department Operations

While 98 percent of ODE's budget is not retained by the Department and is passed through to LEAs, the agency has a number of other significant functional areas including:

- **Data Collection**: The Department collects, verifies, and analyzes critical school fiscal and performance data through the Educational Management Information System (EMIS). This information is used to make decisions relating to funding levels based on the need of individual LEAs;
- **Student Assessments**: Statewide student assessments are required by law and these exams are developed and implemented by ODE in order to ensure uniformity and fairness;
- **Ohio School Report Cards**: ODE issues annual report cards for traditional school districts, as well as community schools and career-technical planning districts, that provide several performance related scores that allow for a basis of comparison across the state;
- **Professional Development**: In order to ensure teachers and administrators remain up-to-date, ODE coordinates professional development opportunities across the state; and,
- **Licensing Services**: ODE is responsible for the licensure of teachers, administrators, treasurers, superintendents, and other educational personnel.

While not a comprehensive list, these areas show the variety of operations ODE is involved in on a regular basis. As part of the performance audit, OPT worked with Department leadership to identify areas for review which would later result in recommendations to assist ODE in improving overall operations and further fulfilling its mission of providing quality education to students across the State. Part of the Department's goals are to ensure education in Ohio fits the needs of its citizens and remains in line with industry standards and leading practices.

Audit Overview

In collaboration with the Department, OPT identified five areas for review within this performance audit. These scope areas were determined based on a variety of factors including ODE's operational goals:

- **Student Success**: Identifying various factors which may impact student performance;
- **Student Assessments**: Reviewing the development and implementation of ODE administered statewide assessments;
- **EMIS**: Determining opportunities for improved data collection efforts;
- **Foundation Funding**: Understanding the foundation funding process and determining ways to expedite final payments; and,
- **Information Technology**: Clarifying operational needs and best practices.

Our audit identified eight recommendations which will assist ODE in continuing to provide critical education services to Ohioans. While these recommendations do not have a direct

calculable financial implication associated with them in regards to potential cost savings, they will assist the Department in improving operational effectiveness and customer satisfaction. Additionally, implementation of these recommendations may lead to future cost savings for ODE and LEAs, as well as Ohio taxpayers and provide critical opportunities for process and program improvement.

Summary of Recommendations

- **Recommendation 1.1**: Additional opportunities to drive efficiency and achievement could be realized by ODE by examining the relationship between district spending and student performance. ODE should monitor districts the Department deems to be high performing or high improving, particularly those that achieve results at lower-than-average expenditure levels in order to determine how other districts might achieve more cost-effective outcomes. This information can be used to assist other districts in areas of strategic spending; program utilization; and resource allocation.

- **Recommendation 1.2**: ODE has 68 separate programs directly or tangentially related to improving student achievement and invests significant financial and personnel resources in deploying these programs. While activity measures and formal reports exist for federal and some state programs, the Department has additional opportunities to establish a routine, timely, consistent objective method to measure the efficacy of state programs and focus on outcome measures to determine if the programs achieve their goals.

  To measure the outcomes of ODE's improvement initiatives, the Department should collect sufficient business intelligence to make quantitative determinations of program success and failure. SMART criteria is one such framework that it could use to help guide consistent development and help to ensure that results are specific, measurable, attainable, reasonable, and timely. (See also **page 27** for a definition of SMART criteria.)

- **Recommendation 2.1**: Tests related to achievement, promulgated by the Department, are in line with federal requirements but districts indicate that too much time is dedicated to testing. Therefore, ODE should more clearly convey the purpose and importance of specific standardized tests to stakeholders in an effort to improve shared understanding of testing goals. Though natural tension exists because tests are used to ensure accountability, ODE could potentially enhance district buy in on the benefits of test data.

- **Recommendation 2.2**: Students have the opportunity to take practice tests, but ODE does not monitor guest login performance on practice tests. Identifying and collecting available data from the practice test website would help inform the Department about the time used to take practice tests, district and student use of the site, and opportunities for continuous improvement related to the resources available to students and educators.

- **Recommendation 3.1**: The Education Management Information System (EMIS) , the technology system used by districts and ODE to track relevant district and student data, has undergone significant improvements in the last several year, but more opportunities exist for improvement. ODE should make strategic improvements to its internal processes involving EMIS to enhance user experience and ensure user needs are met.

- **Recommendation 4.1**: While ODE has improved the turn-around time for final payments to school districts, opportunities exist to further reduce the timeline (and associated uncertainty to districts). It should implement strategic changes to internal processes in order to finalize school foundation funding as soon as possible, preferably prior to November 30th of each year.

- **Recommendation 5.1**: ODE has addressed weaknesses identified in the 2013 performance audit within IT governance, the process by which it selects and identifies projects to fund, through the creation of an IT Governance Committee and project roadmap. Building on these improvements, ODE should further enhance its IT governance by developing an IT strategic plan aligned with the Department's broader strategic plan. An IT strategic plan that contains project prioritization and encourages portfolio management would allow the ODE to better plan and budget for key technology projects.

- **Recommendation 5.2**: The Department has been a pioneer within the state in its use of third-party cloud services and indicated an interest in completing further system migrations. To improve the likelihood of completing these migrations it should develop a cloud migration strategy that establishes funding sources and prioritizes migration based on business use case justification. This strategy should be included in an IT strategic plan.

Noteworthy Accomplishments

In addition to the eight recommendations, our audit identified two noteworthy accomplishments, one of which is in regards to how the Department manages IT projects, the other about how it ensures adoptions of new system, programs and processes. These are described below:

Agile Method Project Management

Project Management can be undertaken using a variety of methods. In particular, the Project Management Institute (PMI) identifies two approaches that could be used; the Waterfall Method and the Agile Method. These processes are significantly different in how they approach the lifecycle of a project. The Waterfall Method includes the following:

- Detailed, long-term project plans with single timeline;
- Definitive and rigid project management and team roles;
- Changes in deliverables are discouraged and costly;
- Fully completed product delivered at the end of the timeline;
- Contract-based approach to scope and requirements;

- Customer is typically involved only at the beginning and the end of a project; and,
- Linear-phased approach creates dependencies.

The Agile Method takes a more nimble approach to project management and includes the following:

- Shorter planning based on iterations and multiple deliveries;
- Flexible, cross-functional team composition;
- Changes in deliverables are expected and less impactful;
- Product delivered in functional stages;
- Collaborative and interactive approach to requirements;
- Customer is involved through the sprint; and,
- Concurrent approach seeks to reduce dependencies.

ODE's Information Technology Office (ITO) has used Agile Method project management practices for several years, which is considered a best practice within the IT sector. Their work is done in an iterative manner and entails daily communication between the IT team and ODE staff responsible for projects. The daily communication allows the ITO to identify potential roadblocks and set plans.

According to the Government Finance Officers Association (GFOA), Agile is a leaner approach to developing software and creates more opportunity for feedback and better alignment with the customer's needs. This process decreases risk by minimizing confusion and also leads to greater employee satisfaction. Ultimately, an organization using the Agile Method will require less resource time discovering the need for corrections and adjustments. This leads to an agency being able to deliver better and more successful projects faster, and at a lower cost.

Project Implementation Team

During the course of our audit we identified that ODE leadership had created a project implementation team. In general, a project implementation team is a management oversight group responsible for ensuring implementation and adoption of major undertakings. They are currently focused on three major areas: policy, program and technology.

ODE identified a need to develop a group that would be responsible for project implementation and ensuring coordination on and among projects. The team consists of four employees who are focused on project work across the Department, focusing on three major areas:

- **Grant Processing**: Ensuring a timely, accurate, and complete process for grant application, management, distribution, and completion;
- **Rules Review**: Conducting regular five-year rule reviews of Administrative code, which is required by law; and,
- **Internal Office Projects**: Managing Department projects including large budget projects and those which are initiated by the General Assembly.

The team has had an identified impact in a variety of areas, particularly by improving the grant process, establishing agency-wide policies and procedures, and by holding projects accountable to timelines and budgets.

The Project Management Institute (PMI) identifies nine elements that are considered best practices for project success. These elements include defined life cycles and milestones, stable requirements and scope, tracking and variance analysis, escalation and issue management, and work authorization and change control.

The project implementation team has been in place at ODE for several years and is meeting the criteria and best practices set by PMI. This team has assisted the Department in making the organization more efficient and effective in regards to project management and implementation. We would encourage ODE to continue to use the project implementation team when large, cross-departmental major projects or program changes arise.

Issue for Further Study

Our audit also identified an area for additional study. This should be undertaken by the General Assembly, with support from the Department and Governor's Office. This issue concerns the cost of student assessment design, implementation and scoring. This analysis determined that ODE was, though ORC 3301.078, prohibited by the General Assembly from continuing its participation in the Partnership for Assessment of Readiness for College and Careers (PARCC) consortia. This prohibition was the result of controversy surrounding the PARCC focus on Common Core standards and the General Assembly's interest in migration toward Ohio specific educational standards. Though Ohio has changed the type, number, and level of customization of its standardized tests over the last 10 years, the General Assembly, through ODE, has not analyzed the costs associated with the number and type of tests used or brokered a shared understanding among lawmakers and other stakeholders on the goals of the tests and how the results are applied. The cost/benefit of more refined, Ohio-educational standard specific tests has not been fully explored and, therefore, the General Assembly and ODE should pursue additional analysis on this topic to demonstrate if the higher cost investment reflect the desired benefits. It should be noted that, in 2015, like Ohio, many other states also left the PARCC consortia and developed strategies of state-specific educational standards and corresponding tests so the recreation of a consortia would require time investment and political agreement on educational standards among participating states.

More information on this can be found in **Section 2: Ohio Student Assessments.**

Student Success

The goal of public education is to provide students the skills and knowledge they need to be successful once they graduate from high school. In order to ensure students succeed, educators need a variety of resources and support structures. Further, as success can be defined in multiple ways and may look very different from student to student, the measurements used to define success must be varied in nature. On occasion, per pupil spending is identified as having an impact on student performance. In other instances, differences in family and community demographics are used to explain differences in student achievement. And, in many cases, the quality of the instructional experience is recognized as having the most significant impact on the performance of individual students.

This section examines the relationship between various spending benchmarks and student achievement, as well as ODE's management of programs related to improving student achievement. This area of analysis has been studied from multiple angles in academia, by Ohio and other states, and on a national level, and a wide range of factors can be considered as impacting student success. However, the analysis in this report focuses on 79 high performing Ohio districts and seeks to explore the relationship between funding and allocation within these districts that consistently achieve good results.

Background

Ohio has more than 240,000 educators serving in 3,500 schools and educating more than 1.7 million students. In Ohio, billions of dollars are spent annually on public education, with the vast majority of funding coming from state and local sources. In FY 2020, approximately 11.75 billion dollars was appropriated to ODE by the General Assembly, with 98 percent of that funding passing through directly to LEAs in the form of state foundation funding for the purpose of providing educational resources to public school children Given the large number of students and the dollars spent on their collective education, it is important that success measures are clearly identified and tracked.

Defining success for that number of individuals is a difficult undertaking. In 2019, the Ohio Board of Education published its five-year strategic plan titled *Each Child, Our Future*. This plan is designed to ensure that each student in Ohio is challenged, prepared, and empowered for his or her future. In particular, the plan addresses the needs of the rapidly changing job market, more diverse students with nuanced learning needs, and increased student exposure to poverty and other social stressors.

Success can be measured in a number of ways; while one student may view success as getting a scholarship to a four year university, another may view success as graduating with a skill set that allows them to enter the workforce immediately, and still others with significant disabilities may view success as simply integrating into the high school environment.

In order to determine how best to identify student success and achievement, we conducted several interviews with ODE and surveyed traditional school district superintendents. While

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ODE measures success on a district level based on a variety of criteria discussed below, district superintendents do not always agree with these evaluations. Approximately 70 percent of survey responses indicated that the Ohio School Report Card was either moderately inaccurate or very inaccurate when determining student achievement. The majority of responses indicated that high school graduation rates, which is one component of the Ohio School Report Card, were the best indicator of student achievement.

Ohio Report Card

The Ohio School Report Cards are issued annually[8] and designed to give citizens and parents information about the performance of LEAs and schools. While these report cards are only one set of success metrics, they provide transparent information that can drive local continuous improvement initiatives and identify those schools that need additional support. Districts are given an Overall Grade[9] based on the grades received in the six individual sections:

- **Achievement**: Represents the number of students who scored proficient or higher on the state tests and how well they performed on them. The Performance Index Score is one component of achievement which measures results from the state assessments on a district-wide level.
- **Progress**: Looks closely at the growth that all students are making based on their past performance. This grade is measured by reviewing the value-added grade for specific student groups within a school or district.[10] Value-added measures how much growth a group of students made relative to the expected growth.
- **Gap Closing**: Shows how well schools are meeting the performance expectations for the most vulnerable populations of students, such as economically disadvantaged, students with disabilities, and English learners, in English language arts, math, and graduation.
- **Graduation Rate**: Looks at the percent of students who are successfully finishing high school with a diploma in four or five years.
- **Improving At-Risk K-3 Readers**: Identifies the success level of districts and schools at improving at-risk K-3 readers.
- **Prepared for Success**: Looks at how well prepared Ohio's students are for future opportunities, whether training in a technical field, entering the workforce, or preparing for college.

The overall grade is based on a weighted average of the component scores with achievement and progress both representing 20 percent of the total grade and the other four components each representing 15 percent of the grade. The grades and assessments, discussed in **Section 2: Ohio**

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[8] Due to the state of emergency declared in March of 2020 as a result of the COVID-19 pandemic, full report cards were not issued in 2020.

[9] For more detailed information on the Report Card, see ODE Guide to 2019 Report Card.

[10] Value-added is measured for all students, gifted students, students with disabilities, and students whose academic performance is in the lowest 20 percent of students statewide.

Student Assessments are used by districts to tailor individual student educational opportunities and supports, and grade level curricula.

Education Improvement Initiatives

ODE administers dozens of programs which are designed to improve student success. These programs range from administering federal lunch programs, to ensuring regular student attendance, to providing districts assistance on key continuing improvement projects and are all designed to provide students with the tools they need to be successful.

Why We Looked At This

Because so many children are educated in Ohio's public schools and the state funding appropriation is so large, we included this area in our audit. Funding for education is comprised of federal, state, and local sources. The level of funding from each source varies amongst the districts, just as any characteristic which can be measured will have variation from one district to another. In order to best allocate and manage funds, it is important to understand differences amongst the districts, and how these differences correlate with the ultimate achievement and expenditure.

We further reviewed ODE's improvement initiatives to better understand how the Department is identifying at risk populations and assisting districts in continuously improving the programming offered to students. The Department identified 68 initiatives and program areas that support student achievement, from distributing federal funds for school lunch programs to managing contracts for a statewide system of school support agencies. We reviewed the Department's management of these initiatives to determine if they were being operated in an effective manner.

What We Looked At

While student success is comprised of numerous metrics, we focused on the District Profile Report, Performance Index Score and the ODE value-added metric as a means of understanding academic achievement on a district level across Ohio. While not an inclusive understanding of student success, these metrics were chosen in consultation with ODE as a standardized measure for district performance. Our analysis within this section focused on traditional school districts in Ohio.

District Profile Report

In this section we used data from the 2019 District Profile Report as part of our analysis of expenditures and student success. It is described as a "comprehensive compilation of some useful data elements on Ohio public schools districts, some of which was released through what was and still is popularly known as the Cupp Report." The data present in the report is some, but not all, of the data elements that represent a public school district. Within the report, the variables are classified into seven different areas:

- Demographic Data, such as District Pupil Density and Total Year-end Enrollment;
- Personnel Data, such as Classroom Teacher Average Salary and FTE Number of Administrators;
- Property Valuation and Tax Data, such as Assessed Property Valuation Per Pupil and Total Property Tax Per Pupil;
- Local Tax Effort Data, such as School Inside Millage and Local Tax Effort Index;
- Expenditure Data, such as Total Expenditure Per Pupil and Instructional Expenditure Per Pupil;
- Revenue by Source Data, such as Total Revenue Per Pupil and State Revenue Per Pupil; and
- School District Financial Status Data, such as Salaries as Percent of Operating Expenditures and Purchased Services as Percent of Operating Expenditures.

District Profiles

ODE publishes District Profile Reports annually which contain data for regular public school districts in Ohio such as revenue, expenditure, valuation, tax, financial, personnel, and demographic data. These reports were used to compare and contrast districts at various ranges in each of these categories as well as identify smaller groups of districts for more specific analysis within this report.

Click Here for the Profiles.

Our analyses is limited to these variables. However, readers should be aware there are numerous studies that include additional variables not included in the District Profile Report that may measure, reflect, or impact student performance. In reality, it is often a combination of variables, not a discreet variable that has the greatest impact on student achievement.

Performance Index
The Performance Index Score (PI Score)[11] is a measure that is required by ORC §3302.03 as a part of the annual Ohio School Report Cards. The PI Score is designed to measure the achievement of every student, beyond a simple recognition of proficiency. Standardized tests have five performance levels[12] as identified in ORC §3301.0710 and §3301.0712 which are used in the calculation of the PI Score. Therefore, during the analysis process, a district which had a PI Score of above 100 was considered to be a "High Performer" for purposes of our analysis.

The Performance Index translates student test performance into an aggregate school or district index score. The performance level on each assessment is weighted so that a level of proficient receives a weighted value of 1.0 whereas lower proficiency levels receive fewer points and higher proficiency levels receive more points. Based on these weighted scores, if every student scored proficient on all the assessments, the school or district would have a PI score of 100.

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[11] Identified in ORC §3302.01 as the average of the totals derived from calculations, for each subject area, of the weighted proportion of untested students and students scoring at each level of skill described in division (A)(2) of ORC §3301.0710.
[12] Possible levels for statewide assessments are: Advanced, Accelerated, Proficient, Basic, and Limited.

These scores are calculated on an annual basis, and while they do not take into account previous test scores, an increasing PI Score from year to year does indicate a general improvement in proficiency levels. Achievement on assessments is one indicator that can be used to identify student success. Because assessments have been carefully designed to be fair and equitable measures of student progress towards mastering Ohio Learning Standards (See **Section 2: Ohio Student Assessments**), this metric was used to compare schools across Ohio.

Value-Added Model

The value-added model is a series of calculations used by ODE to determine year over year progress for students within a district and its schools. This model is used on the student population as a whole and also for specific subsets of students who may have additional educational needs.[13] Value-added measures the change in achievement for students over time and is used to assess the impact of districts, schools, and teachers on the growth of students in a particular group.

Each group is given a grade as a part of the overall Progress component of the Ohio School Report Cards. A group which makes more progress than expected earns a district an A or B, expected growth earns a district a C, and lower than expected progress earns the district a D or F. These grades are then weighted in order to obtain the final component score.[14]

While not all students start at the same place with their learning, it is important to measure how each student learns and grows over time. The value-added grade provides a district level review of how all students are progressing with a particular emphasis on those groups identified as needing additional education needs. If a district receives a score of C or lower in either their lowest 20% of students group, their gifted population, or among students with disabilities, then they do not have the ability to receive an A as their overall value-added grade. Value-added is an important metric used by ODE in order to identify which districts are seeing improved academic achievement over time.

Student Support Initiatives

While measuring student success is an important function of ODE, providing support systems to students and districts is also critical. Without some of these support structures, students would be left in a vulnerable position without resources that are necessary for their success. We reviewed the programs that ODE is currently administering to determine if their outcomes were being appropriately monitored and reviewed.

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[13] Value-added modeling does not provide growth measurements for individual students.

[14] Group weighted values are as follows: all students (55 percent), gifted students (15 percent), students with disabilities (15 percent), and students whose academic performance is in the lowest 20 percent of students statewide (15 percent).

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What We Found

After examining and analyzing the data sets described above, we found that PI scores vary between districts, even at similar expenditure levels. We analyzed more than 600 school districts in Ohio, to determine how expenditure levels may impact district performance on those areas where ODE maintains data. We specifically reviewed the impact per-pupil spending at the district level had on PI score and found that there was a very low correlation. Generally, on a statewide level higher per-pupil spending was correlated to lower PI scores.

We further found that there is a broad range of factors beyond expenditure levels that also impact PI score and other measures of success. These factors impact districts to varying degrees.

High Performing and High Improving Districts

In order to draw any conclusions, we identified a subset of 79 high performing districts to conduct further analysis on. Those districts identified as high performing for purposes of this report obtained a PI score of greater than 100 (or high performing) in FY 2019. The 79 selected districts are listed in **Appendix B**.

Most Cost Effective Districts

Min $87 — Max $389
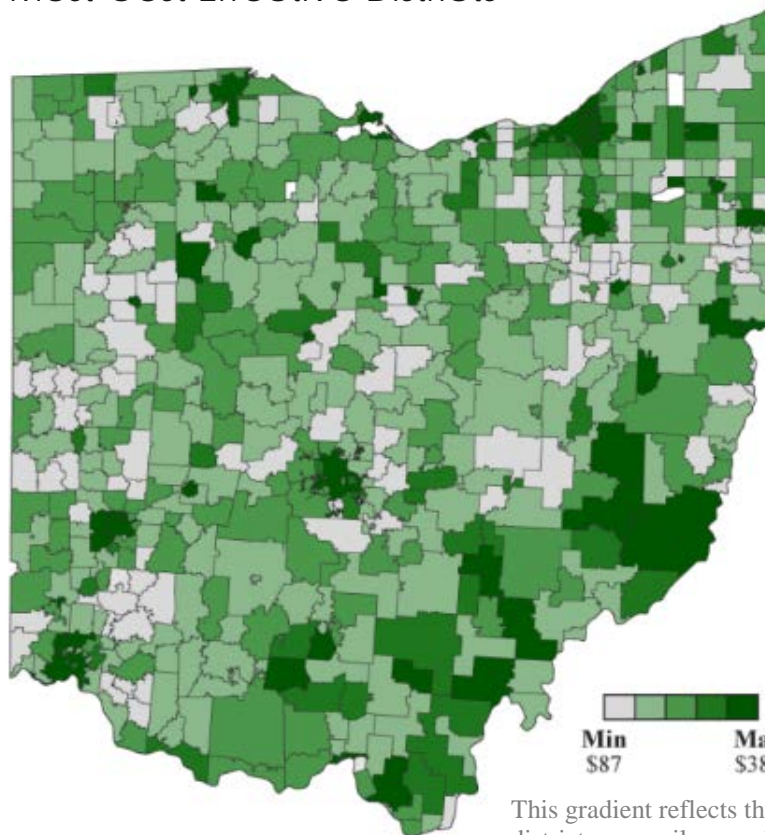
This gradient reflects the district per pupil expenditure divided by the PI score, resulting in a cost per PI point.

Source: ODE and AOS

This map shows each school district with its shading corresponding to its Expenditure per PI Score Point value. This value was taken by dividing the Total expenditure per pupil value by that district's PI Score. Per the legend, the darker the shading the more that district spends per PI Score point. In order to highlight the differences amongst the state, the legend was split into 5 color shades.
Note: A list of all high performing district's expenditure per PI point can be found in **Appendix B.**

In addition to high performing, we found that there were a number of districts that could be considered high improving based on both the PI score and value-added grade.

Spending per PI Score Point

In the map on the previous page, districts are shaded based on the amount of money spent per PI score point. Those districts that spend less per PI score point are shaded in a lighter green, whereas districts that spent more per PI score point are shaded darker.

Readers should note that the map reveals districts that approach student achievement improvement in a more efficient manner. The lightest shaded districts ensure high performance and continuous improvement at a more cost effective rate than the darker shaded districts. These districts are financially efficient and effective in their education delivery approach

Student Success Improvement Programs

In addition to the district per-pupil expenditures, we reviewed ODE's internal programming that is designed to improve student success. Some of these programs operate as a funding pass-through while others are implemented and administered by ODE employees. We found that these programs are not consistently monitored in a manner that allows for quantitative determinations of operational success. Generally, these programs do not have consistent metrics to help ODE determine which are most effective and, therefore, where to allocate resources into programs that get results.

As a result of our analysis we identified two areas relating to student success that ODE could improve operational efficiency and effectiveness:

- **Recommendation 1.1**: Data examining the relationship between costs and achievement are not regularly examined and our analysis indicates little relationship between higher spending and higher achievement. In fact, the data suggests that spending in specific functional categories is more important than total spending in raising and maintain student achievement. To ensure this data is routinely monitored, the Department should monitor districts it deems to be high performing or high improving, particularly those that achieve results at lower-than-average expenditure levels in order to determine how other districts might achieve more cost-effective outcomes. This information can be used to assist other districts in areas of strategic spending, program utilization, and resource allocation.
- **Recommendation 1.2**: ODE has 68 separate programs directly or tangentially related to improving student achievement. While activity measures and formal reports exist for federal and some state programs, the Department has additional opportunities to establish a routine, timely, consistent objective method to measure the efficacy of state programs and focus on outcome measures to determine if the programs achieve their goals. To measure the outcomes of ODE's improvement initiatives, the Department should collect sufficient business intelligence to make quantitative determinations of program success and failure. SMART criteria is one such framework that could help guide consistent development and help to ensure that results are specific, measurable, attainable, reasonable, and timely.

Recommendation 1.1 Monitor District Performance and Apply Lessons Learned

The Department should monitor districts it deems to be high performing or high improving, particularly those that achieve results at lower-than-average expenditure levels in order to determine how other districts might be able to achieve more cost-effective outcomes. This information can be used to assist other districts in the areas of:

- Strategic spending;
- Resource allocation; and,
- Program utilization.

This would enhance the current ODE strategic plan involving continuous improvement, and would be a good use of the business intelligence at the Department's disposal from the various yearly data already being collected. By collecting and applying the lessons learned from this information, ODE may be able to determine strategies to raise performance in all Ohio schools districts without significantly increasing district costs.

Background

School funding in Ohio represents a significant expense at both the local and state level. Generally, a large portion of an individual's property taxes will go towards the local school district. Districts also may receive significant sums of money from the state through the foundation program (See **Section 4: Foundation Funding**).While all districts work towards the same goal of preparing students for success after high school, they do so with widely varying budgets. In Ohio, the average district spends approximately $12,000 per pupil on an annual basis. Expenditures among all districts range between approximately $8,500 and $25,000.

As the **Expenditure vs Achievement** chart to the right shows, there is significant variation in PI scores across districts and expenditures are not a defining factor in determining district achievement. In each of the

Expenditures vs Achievements – All Districts
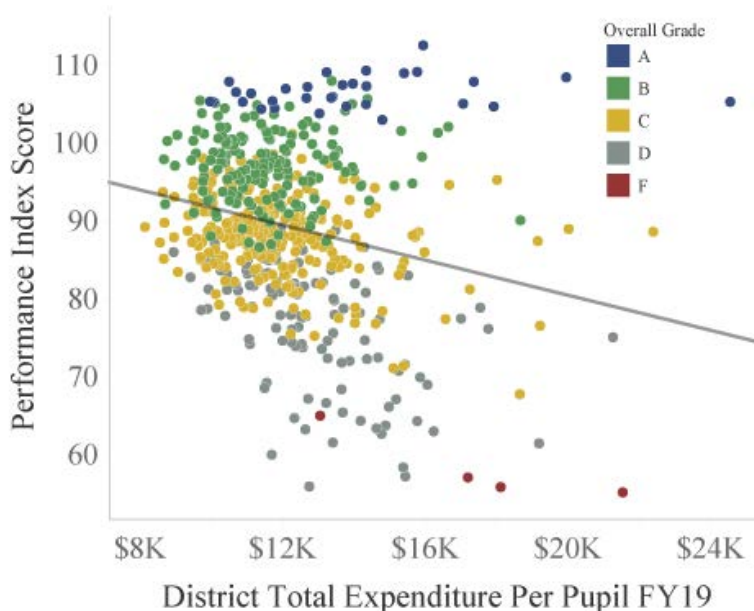
Source: ODE

grade categories, there is a wide disparity in the dollar amount spent per pupil for the grade attained. For example, districts with an A grade spent between $9,921 and $24,510, while those with a C grade spent between $8,096 and $22,351. Specifically, when looking at all districts in Ohio, the four districts with the highest expenditure per pupil had 2019 report card grades of A, C, D, and F.[15]

While it may be believed that expenditures are tied to achievement, our analysis found higher expenditures do not guarantee higher PI scores. Our regression analysis which identified the impact expenditure had on PI score showed that on a statewide level, expenditures were loosely, and negatively, correlated. This means that generally, as per-pupil expenditures increase, a District's PI score decreases. However, this is a loose correlation and should not be used to draw conclusions regarding district wide expenditure levels as there are a wide variety of factors that influence student achievement.

The analyses in this section indicate that it is not necessary for districts to spend more to get better results. The data show that lower spending districts can achieve at the same level as higher spending districts, a point which parents and taxpayers should take into consideration in their personal decision-making surrounding financial and performance issues in their district. ODE and LEAs should consider if there is a point of diminishing returns in spending, where additional district revenue and expenditures will not necessarily increase student success.

Methodology

Throughout the analysis of expenditures versus achievement, we used a linear regression analysis of selected data from the 2019 District Profile Report. A linear regression analysis finds the line that most closely fits the data, which is a form of estimating the relationship between one variable and another. While regression can be done on any number of variables, within our analysis the regression always compared one variable to either expenditures or PI Score. The output can be in the form of a percentage, and this percentage represents the amount of variation in expenditure or PI Score that can be explained by a certain variable while holding any other variable constant. Within the generated regression summary table, there are three components which were important for our analysis:

- **P-Value:** This is also known as a confidence interval. The p-value benchmark that we used, which is the most common, was .05. This is the equivalent of saying our confidence interval was 95%. Essentially, when an output produces a p-value that is equal to .05, we can say we are 95% confident in the results of the output. Anything above .05 would be labeled as not significant.
- **Coefficient:** The coefficient is the slope of the line of best fit created between the two variables. If this number is positive (and the line is trending upward,) then it means as one variable goes up, the other does as well. If negative (and the line is trending downward,) as one goes up the other goes down.

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[15] These Districts were: (A) Orange City SD at $24,510.88, (C) Newbury Local SD at $22,351.67, (D) Cleveland Heights-University Heights City SD at $21,222.14, and (F) East Cleveland City SD at $21,495.93

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- **R-Squared Value:** This is produced as a decimal, but can be converted to a percentage. This value indicates the variation in the response variable that can be explained by the explanatory variable. For example, an r-squared value of .55 indicates that X explains 55% of the variation of Y within the data set examined.

In order to better understand how expenditures might impact a group of similar districts, we identified 79 that had a PI score greater than 100 and were considered high performing for the purposes of analysis. These districts represented a range of spending similar to the state as a whole. Approximately $8,500 to $25,000 per pupil. Although there are a wide range of factors that affect a district, we deliberately chose to narrow our focus to the high achieving districts. Interestingly, the cost range for these high performing districts mirrors the range of spending for districts statewide, regardless of performance level.

We applied the same regression analysis that was conducted on all districts in Ohio to the 79 districts that ODE and AOS designated as high performing. The results of this analysis indicated that there was a loose, positive correlation, meaning that as expenditures increased, PI score would also increase. However, the analysis indicated only a relatively small amount of the variability (19.7%) was explained by expenditure levels.

High Performers, Expenditures vs Achievement
In the chart below, we mapped PI score against expenditures per pupil for the high performing districts in order to visualize the variation in PI score at specific spending intervals.
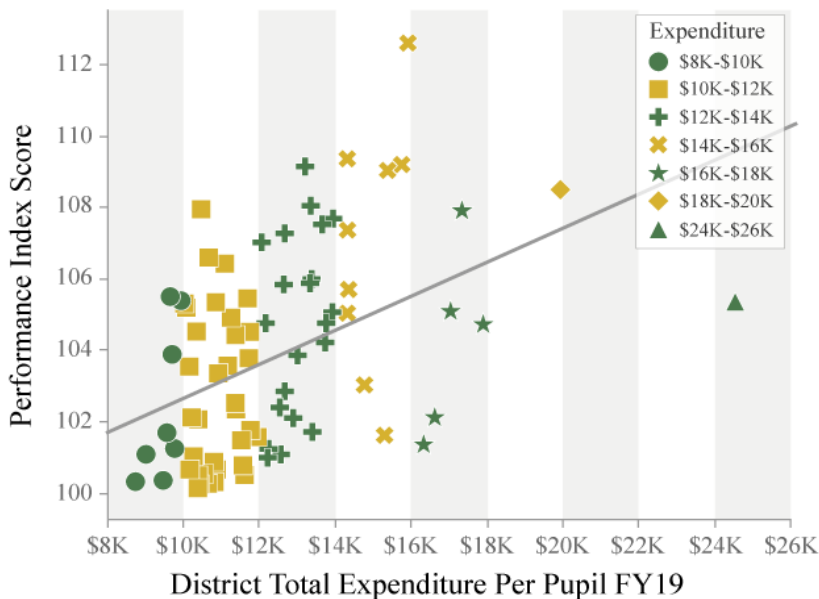
Source: ODE

After determining that there was significant variation in spending for high performing districts with similar PI scores and that there were a wide range of PI scores within each spending band, we used the high performing districts to conduct multiple analyses in order to identify what factors might lead to increased expenditures.

High Improving Districts
In addition to our review of high performing districts, we used the PI score and value-added model to identify districts across the state that could be considered high improving. The high

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improving districts were identified at the request of ODE for use in further review and analysis by the Department.

Analysis

Comparison of Variables

Once we identified the ten most strongly correlated variables which explain variation in expenditure levels between districts, we reviewed how these variables change based on PI score. While this is not a comprehensive analysis to determine correlation or causality, it does provide insight as to what variables may be useful for further study into strategic spending.

In each of the charts on the following page, the high performing districts are plotted based on their spending per pupil and PI score. The district's expenditure levels and PI score do not change from chart to chart. However, the green dots represent a third variable, which is different in each chart. As dots become larger and darker, the value of those dots increases. Using these charts we can see generally what variables impact expenditures and PI scores.

Classroom Instruction (Teacher Salary)

Looking at the teacher salary variable captured in the District Profile, we can see that as expenditure per pupil increases in the 79 high performing districts, teacher salary also increases. On average, 58 percent of a district's expenditures are related to instruction and this includes teacher salary.[16] We also see that as teacher salary increases there is some increase in PI score. This may be indicative of resources directed toward classroom instruction, or teacher experience and tenure. **This is an area of potential further review for ODE to determine if strategic spending in relation to classroom instruction and teacher salary could result in improved PI scores.**

Teacher Salary Correlation – 79 High Performers
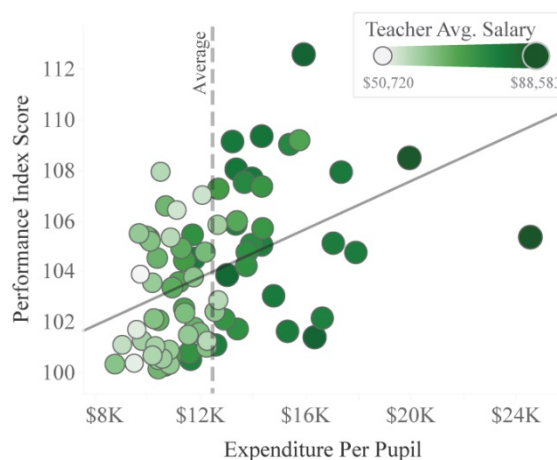
Source: ODE

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[16] *Ohio Education by the Numbers,* Thomas B. Fordham Institute, 2020.

Median Income

Unlike the other variables we reviewed, median income has high correlation with both expenditure levels and PI score in the 79 high performing districts. This is reflected in the chart on to the right, where the dots are progressively darker and larger along the trend line. Essentially, in districts where individuals have higher levels of income, greater financial resources are usually available to the district.

Local Revenue

Local revenue was one of the most strongly correlated factors in regards to expenditure. However, it does not appear to be as tied to PI score, as districts in the same band of expenditure have similar local revenue amounts, regardless of PI score. As noted in the box plots on page 23, expenditures increase across all categories as expenditure per pupil increases. While local revenue determines expenditure levels, it determines overall expenditure levels, rather than targeted spending. Like median income, local revenue may be influenced by residents' capacity and willingness to support a higher level of spending.

These charts represent how three variables are related to expenditures and PI scores. The same analysis was done for all school districts in Ohio using a number of variables. To see our full analysis, please click here: 2019 School District Dashboard.

Median Income Correlation – 79 High Performers
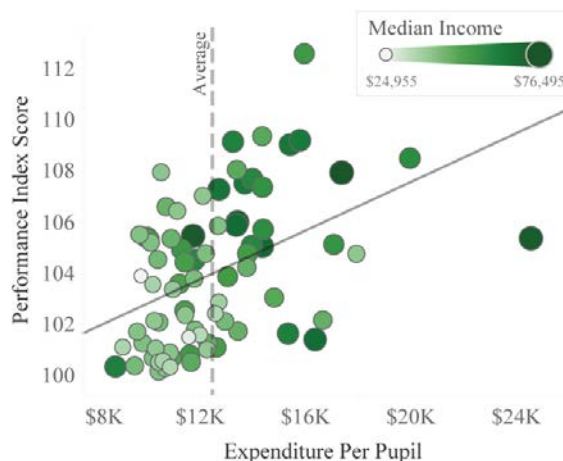
Source: ODE

Local Revenue Correlation – 79 High Performers

Source: ODE

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Regression Analysis

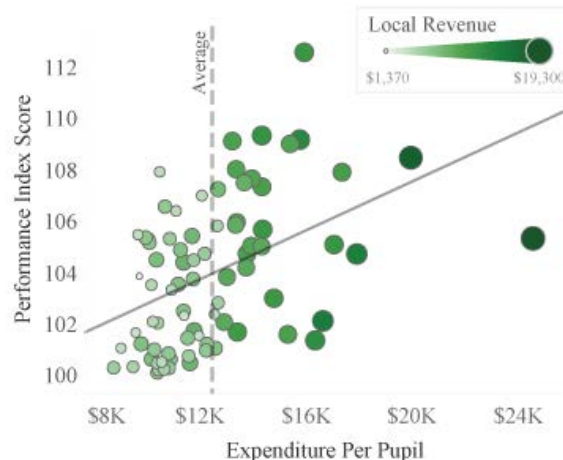We identified ten variables, listed in the table below that most significantly impact expenditures for the 79 high performing districts.[17] Our analysis found that each of these variables had a statistically significant, positive correlation with expenditure levels. This means that as any one variable listed in the table increased, expenditure levels would also increase.

Regression Analysis Summary

Variable	Category	R-Squared	Coefficient
Total Revenue	Revenue	87.26%	Positive
Local Revenue	Revenue	77.42%	Positive
District Total Property Tax Per Pupil	Revenue	72.12%	Positive
District OSFC 3-Year Valuation Per Pupil	Valuation	64.95%	Positive
District Revenue Per Pupil Raised from 1 Mill	Revenue	59.85%	Positive
District Assessed Valuation Per Pupil	Valuation	59.85%	Positive
District Classroom Teacher Average Salary	Staffing	54.41%	Positive
District Median Income	Income	30.21%	Positive
District Current Operation Millage Incl JVS	Revenue	23.17%	Positive
District Administrator Average Salary	Staffing	20.25%	Positive

Source: ODE and AOS

Based on the table, the variable which has the greatest impact on district expenditure is total revenue, with local revenue being a close second. This means that revenues are the single most important factor when explaining expenditures. In other words, LEAs will spend the resources that they have available. Within government entities, this is not uncommon as generally an amount for expenditure is allocated at the beginning of the year. Since public entities are required to maintain balanced budgets, available revenues and fund balances are the typical factors which determine how much entities plan to spend in a given year. However, as costs increase with inflation, this type of budgeting and spending can drive the need for additional future revenues.

Expenditures Analysis

We also reviewed expenditure levels in functional categories identified by ODE to determine if any trends existed regarding where funds were spent. This analysis is to examine if there are areas of spending that stand out in the 79 high permorning districts. In other words, does it matter how a high performing district spends its revenue in contrast to a high improving or low performing district?

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[17] These variables represent the ten variables with the highest degree of correlation. For purposes of analysis we reviewed

Our analysis showed that districts spend similarly across broad categories based on a proportion of the available budget. As seen in the chart to the right, as overall per-pupil spending increases, spending within each category also increases. This would suggest that spending plans or the cost of certain operations as a proportion of total costs are likely similar across districts and funds are allocated similarly based on available resources. However, given the variation in PI score for high performers in similar expenditure buckets, it is possible that strategic spending within any one of these operational areas could be identified in order to provide guidance on resource allocation to other districts.

High Improvers

As a component of this audit, ODE asked AOS if we might review high improvers as a component of this analysis.

ODE uses the value-added metric in order to track district progress in improving student achievement. Districts may move along a graded scaled from year to year based on the test scores of the student population. This measures is described by ODE as being "highly sensitive" by design and it tends to view the measure over a longer period of time than year to year. As seen in the graphic on the following page, there has been significant movement in the past few years, in particular with large number of schools dropping from a grade of A to a grade of B between FY 2018 and FY 2019, in part due to a change in methodology. ODE indicated that a single letter grade decline from one year to the

Expenditure Categories by Total Expenditure

Source: ODE

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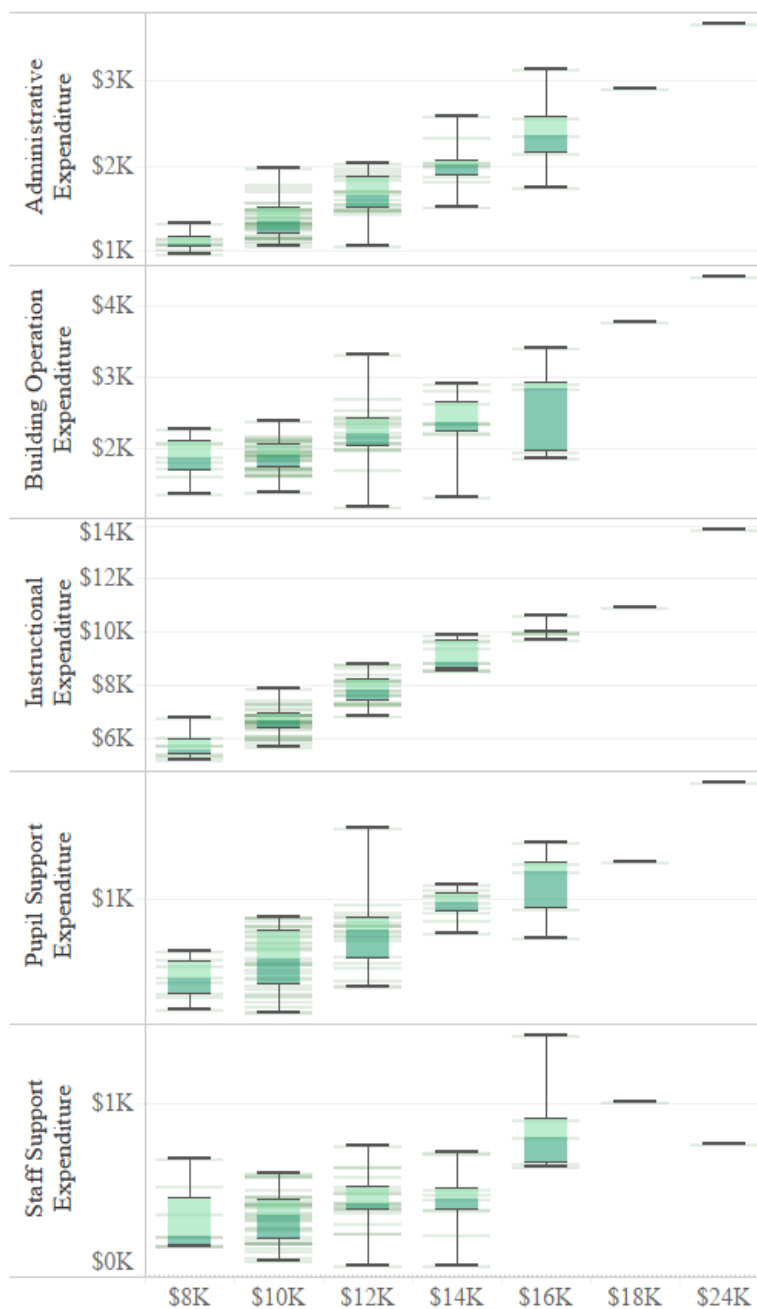
next would not be cause for concern whereas a significant drop coupled with persistent lower performance would be a catalyst for ODE intervention.

During the three year period used for review, some districts saw improved progress, with some moving from a grade of F to A in the span of one year. In order to provide more context to this improvement, we also reviewed the PI score for those districts in order to identify a group of high improvers for review.

Value-Added Grading Distributions: FY17-FY19
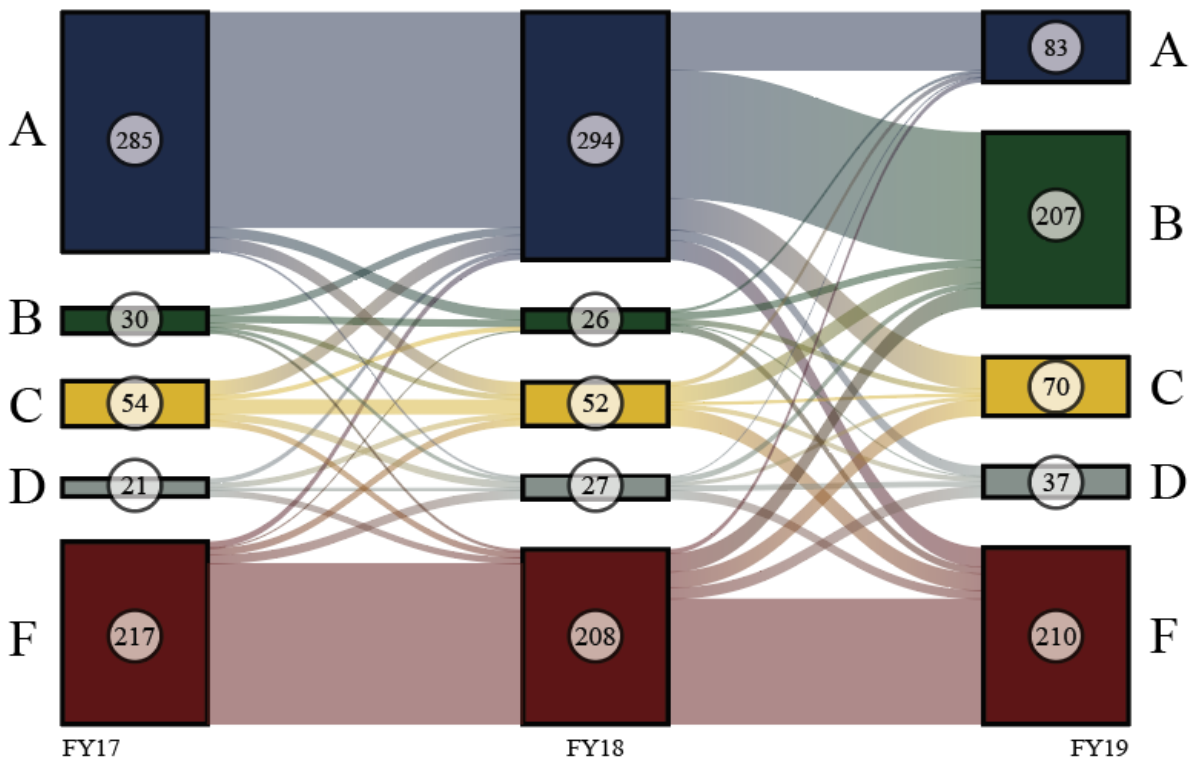
Source: ODE

ODE maintains data which can be used to identify high improving districts on a regular basis. These high improving districts demonstrate that changes in administration, curriculum, learning environment and/or classroom instruction, among other things, can help students improve their level of achievement. However, the Department does not meaningfully review this information in order to identify activities or programs within those districts that might be the driver of district improvement.

If ODE had a review process in place to further study high improving districts, it may be able to determine factors that led to these districts improving, such as expenditure realignment or programmatic innovations. This would allow ODE to identify if programs and initiatives were being utilized, if any, by these improving districts, which would in turn provide feedback to ODE on which programs are the best use of its resources. This additional data on programs and

initiatives, or even local steps that generate improvement, could be shared with low performing districts to provide strategies to raise their performance over time. This, however, assumes the lower performing districts willingly embrace and adopt these strategies and are committed, active participants in their implementation.

At the conclusion of this audit, ODE noted it will apply the additional information we provided regarding high performing districts so that the Department can continue the study of them.

Conclusion

Because statistical analysis shows that expenditure levels do not determine PI scores, ODE should conduct reviews of those districts that are deemed to be high performing or high improving in order to identify any characteristics, best practices, or innovations that could be shared with other districts in the state. This type of individual review would allow ODE to better understand and disseminate those factors which do drive success measures and help Ohio public school students continue to grow and learn.

Furthermore, school districts and their residents should regularly examine the level of spending within the district relative to the level of student achievement. Board members, administrators and tax payers are encouraged to question the efficiency and effectiveness of spending, and how local spending compares to similar demographic districts that are achieving better results. These points bear consideration as our data shows a wide variation in spending levels in the 79 high performing districts, as well as all other districts. A critical examination of efficiency and effectiveness on a routine basis may help districts better understand which programs might drive achievement at a reduced cost to residents.

Recommendation 1.2 Improvement Initiatives

To measure the outcomes of specific improvement initiatives, the Department should collect sufficient business intelligence to make quantitative determinations of program success and failure. A criteria framework could help guide consistent development and help to ensure that results are specific, measurable, attainable, reasonable, and timely. Though activity metrics and periodic reporting are required for some state and most federal programs, other programs within these identified as improvement initiatives do not have routine outcome reporting.

ODE should aggregate performance data in a manner that allows stakeholders to monitor outcomes and results across many of the programs the Department administers. Developing quantitative performance dashboards for some of its programs would present an opportunity for ODE to answer several reasonable questions from the perspective of Ohio taxpayers, such as:

- What student outcomes are attributable to spending within a particular initiative? i.e. "What are we getting for our money?"
- What student outcomes are attributable to a combination of specific initiatives?
- What ODE program or combination of programs has the most overall impact on student academic improvement? The least?
- Where is ODE getting the most 'bang-for-the-buck' in its spending?
- Which programs or combination of programs have improved in performance year-over-year? Which have declined?
- Within the context of limited resources, where should dollars be focused, where should funding be increased or decreased, and which programs should be expanded or phased out?

ODE should work toward developing metrics and measures that would facilitate identifying the impact of its various improvement initiatives, with particular attention given to cost-effectiveness. In addition to increasing transparency into district level and Department spending and results, this type of business intelligence would provide insights as to how future funding increases or decreases should be allocated across ODE programs and where districts should target spending. This recommendation dovetails into **R1.1** as it reflects the state level allocation of resources to programs.

The absence of critical and comparable tracking data means ODE is unable to strategically allocate scarce resources to its programs that have the greatest impact. In order to maximize the effectiveness of its resource investments, ODE needs to identify the programs that are performing as desired and potentially discontinue those with lower value.

During the course of the audit, ODE identified to the auditors approximately 20 programmatic strategies that, taken together represent those most likely to impact overall district, school and student performance. These include curriculum alignment, adoption of high quality instructional materials, investment in coaching for teachers, investment in instructional leadership for principals, focusing on school culture and a reduction in disciplinary actions to reduce disruptions, and implementing trauma informed practices. ODE noted that a challenge in

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measuring the efficacy of performance initiatives and changes such as the above is determining which actions have a greater impact in the holistic diagnosis of school improvement. This recommendation encourages ODE to continue to pursue methods of identifying those components that appear to have a greater impact on school performance, as discussed in **R1.1** and, for specific programs, identifying key outcome metrics that can be tracked and reported.

Background

ODE identified 68 initiatives and program areas which were considered to be significant and include both those areas where the Department acts in a fiduciary manner and distributes funds directly to districts as well as those that ODE has developed internally and administers directly.[18] These initiatives provide direct assistance to students in many ways, such as in the form of subsidized school lunches or mentoring programs. They also provide support to teachers and districts in a variety of ways.

While the improvement measures are varied in nature, they do have the common theme of being designed and implemented with the goal of improving student success, whether by direct assistance for students or through the monitoring and tracking of district level performance metrics. For example, ODE administers the following programs which are considered improvement initiatives:

- **Student Wellness and Success**: Targeted state funding designed to help schools address the non-academic barriers to learning that students face every day. Funding is provided on a per-pupil basis and is scaled using federal census poverty data to provide additional support to high-needs districts;
- **School Improvement**: State funding set aside to provide for regional specialists who support and facilitate school improvement processes with state support teams and educational service centers; and,
- **State Assessments**: Funding used to support the administration of state assessments including the development, production, distribution, collection, scoring, and reporting of assessments.

These programs are housed within multiple ODE program offices and each have unique budgetary requirements and success metrics. Due to the timing of the audit and the reimbursement process for many of the federal programs, we were unable to calculate a total cost for these programs.

Methodology

Because ODE maintains numerous programs with a variety of management requirements, in addition to our survey of district superintendents, we conducted a thorough review of two specific improvement initiatives. These initiatives, the State Support Teams (SSTs) and District Review Program are both designed to provide assistance to districts directly. The SSTs provide districts with a variety of support services and the District Review Program is designed to

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[18] For a complete list of initiatives please see **Appendix B.**

provide specific analysis to assist districts with continuous improvement efforts. School district input was also collected as part of a statewide survey sent to Superintendents.

The information we received from ODE regarding their initiatives and program areas related to student achievement was used to conduct an analysis related to how the Department presently monitors and tracks the successfulness of achievement programs, with a particular focus on the programs identified above.

Analysis

After reviewing the information provided by ODE, we identified that business intelligence metrics were not listed for each of the 68 student achievement initiatives. The absence of these metrics reduces ODE's ability to quantitatively measure the effectiveness of the programs and provide timely and targeted interventions.

Defining objectives related to project or program success prior to implementation is an important aspect of being able to monitor performance. One such way of identifying success is the SMART criteria.[19] SMART is an acronym which states that objectives or goals should be:

- **Specific:** Target a specific area for improvement;
- **Measurable:** Quantify or suggest a progress indicator;
- **Assignable:** Specify who will do a task;
- **Realistic:** State what results can be achieved given available resources; and,
- **Time-related:** Specify when results can be achieved.

Concurrent to requesting information from ODE on all Department student achievement initiatives, we reviewed the SST and District Review programs as case studies to determine how performance measures are being implemented.

District Reviews

The District Review Program is designed to provide local districts recommendations on how to implement or strengthen continuous improvement plans with an emphasis ODE's six district standards.[20] Historically, the program has cost approximately $500,000 annually.[21] The work conducted for these reviews is typically done by third party contractors.

Our surveys resulted in feedback that identified several criticisms of the District Review Program. These issues resulted in the determination that the program did not meet the SMART criteria identified above. In particular, Districts identified issues that indicated the following criteria were not met:

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[19] Doran, G. T. (1981). "There's a S.M.A.R.T. way to write management's goals and objectives". Management Review. 70 (11): 35–36.

[20] District standards include: leadership governance and communication; curriculum and instruction; assessment and effective use of data; human resources and professional development; student support; and fiscal management.

[21] During the course of the audit it was determined that no additional District Reviews would be conducted as ODE is merging two review programs.

- **Specific**: Districts felt that recommendations were too general and were not able to be acted upon;
- **Realistic**: Districts indicated that recommendations often were not useful in regards to hiring additional staff or that they included implementing antiquated programs; and,
- **Time-related:** Recommendations were not given in a time frame that would allow for implementation in a reasonable time frame.

State Support Teams

There are 16 regional SSTs across the state of Ohio that operate as a part of the statewide system of support for education. The SSTs work to coordinate with ODE and schools, families, and regional partners through a continuous improvement process to provide tiered support to Ohio's highest need districts. Some of the main areas of expertise within SSTs include Ohio's continuous improvement process, students with disabilities, early literacy initiatives, early learning and school readiness, and positive behavioral intervention and supports.[22]

SSTs receive funding from ODE in the form of a grant to execute their stated mission. SSTs are responsible for coordinating with ODE and schools, families, and regional partners to ensure each child in Ohio has access to a high-quality education. There are 16 regional SSTs across the state and these teams received more than $33 million in FY 2020 for operational purposes.

OPT conducted a survey that was sent to district superintendents over the course of the audit, which 251 out of 600 completed. The survey captured responses pertaining to SSTs. The responses indicated that most were very familiar with the program and engaged with SSTs on a frequent or regular basis. Responses also reflected that most would like to engage with their SSTs more often, viewing the SSTs as very helpful.

ODE conducts annual evaluations of every SST to monitor performance with respect to the grant agreement between ODE and individual SSTs. Our review of the evaluation process for FY 2018 showed that the feedback ODE gave to SSTs was not fully in-line with SMART criteria. Specifically we found:

- **Assignable:** Improvement areas identified in FY 2018 evaluations did not specify who would complete each task and were not assignable.
- **Time-bound:** FY 2018 evaluations did not provide a time frame for correcting improvement areas, and the FY 2019 evaluations did not follow up on these metrics,

Conclusion

Across the 68 student achievement initiatives ODE identified, many were missing actionable indicators of program success or failure. Viewing the existing program reporting through the lens of SMART criteria helped to highlight specific shortcomings in the data currently being generated for ODE. These gaps in business intelligence constrain efforts to quantify year-over-year program improvement, as well as relative rankings of program effectiveness. ODE's current

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[22] SSTs also provide coaching, professional development and system structure support through a continuous improvement process. This helps support districts in implementing many of the 68 programs identified in this report.

data constraints have implications for agency budgeting, student performance, and public transparency.

Focused guidance from ODE leadership around the creation of quality business intelligence, such as adherence to SMART criteria, could strengthen some existing reporting functionality into truly actionable data, as demonstrated in OPT's analysis of District Reviews and SSTs. This would allow ODE to focus its financial and personnel resources on the more effective programs and initiatives, and combinations thereof, and potentially discontinue those that have lower or no impact.

Ohio Student Assessments

Standardized student assessments are a valuable tool for learning and measuring academic growth and achievement. While standardized testing has been a tool used by both LEAs and departments of education for more than a century, the federal No Child Left Behind Act of 2001 introduced national standards-based testing and mandated annual testing in third through eighth grade as well as once in high school. In 2015, the Every Student Succeeds Act (ESSA) modified national testing requirements with the goal of administering fewer tests of a higher quality. The federal acts include expectations of accountability, increased flexibility, and expanded federal aid for specific programs.

LEAs use assessments for a variety of purposes, beyond simply meeting federal requirements. These tests inform districts about student progress and, when needed, indicate when they should provide additional student support. The results of assessment also help guide and strengthen future teaching through additional training and changes to curriculum. Finally, they help the LEA communicate to citizens how their schools perform compared to others in the state.

Background

In Ohio, the State Board of Education has adopted learning standards in several subject areas including mathematics, English language arts, science, and social studies.[23] These standards outline knowledge and skills students should attain by grade level and subject matter with a focus on preparing school children for success beyond high school graduation. Standards are reviewed on a periodic basis to ensure they

> **⚠ NOTE TO REPORT USERS:**
>
> Due to the state of emergency resulting from COVID-19, Spring 2020 state assessments were cancelled. At the time of this report, Fall 2020 and Spring 2021 state assessments are scheduled to be administered.

remain suitable and appropriate. Standardized student assessments are one way of tracking academic achievement of these learning standards, and the State Board of Education is required to establish a statewide assessment program,[24] which is implemented by ODE. In some cases, the General Assembly may also pass legislation on standardized student assessment to include or remove an assessment beyond those required by the federal government.

The federal government has identified minimum testing requirements based on subject area and grade levels. Ohio's statewide assessment program is approved by the United States Department of Education (US DoE) for compliance with federal regulations, and it also satisfies testing requirements as defined in Ohio Revised Code (ORC).[25] The ESSA and prior federal

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[23] Pursuant to ORC §3301.079
[24] Pursuant to ORC §3301.0710
[25] Ohio testing requirements are identified in ORC §3301.0710 and ORC §3301.0712 and Federal testing requirements are identified in the Every Student Succeeds Act of 2015, Public Law 114-95, 114th Congress, December 10, 2015.

requirements were promulgated to ensure that students in the United States received an appropriate quality of education in grades K-12.

The assessments, which are developed by ODE with significant input from Ohio instructional personnel and other stakeholders and experts, are administered by LEAs and are graded by ODE.[26] Developing and implementing statewide assessments is an evolving process. From changes in testing delivery due to technological advances to updating test questions to ensure fairness to all Ohio students, ODE is constantly reviewing how students are assessed in Ohio. Additionally, changes to federal or state requirements associated with education may necessitate large scale changes in testing procedures, such as the addition or removal of a particular test.

In order to meet the demands associated with statewide testing development and implementation, ODE contracts with a third party vendor which provides a variety of support services related to test development and implementation as well as the technological administration of assessments. These services include the following:

- **Testing Platform:** includes web-based testing systems and a test delivery system that is compatible with most operating systems, allowing districts to use existing infrastructure to access assessments;
- **Technical Support:** allows for testing information to be saved as a student progresses and troubleshooting and technical support is available during testing times from the vendor; and,
- **Test Development:** supports ODE in the development of testing structure and questions by creating potential questions based on Ohio learning standards, field testing sample questions, and scoring and reviewing field tested questions for inclusion in the State's assessment item bank.

Why We Looked At This

The ability to measure student achievement can hold great value for ODE and the LEAs. Developing and implementing statewide tests is resource intensive and represents a significant investment and commitment in terms of public dollars and student and district time. Though there appears to be a shared understanding among stakeholders on the use of assessments to meet federal requirements, as well as the goals and desired outcomes of the student assessment program, there does not appear to be a shared understanding of the benefits of the assessment program among stakeholders.[27] In FY 2019 nearly $46 million was spent on ODE's contract with their testing vendor. The vendor provided several key services including:

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[26] ORC §3301.0711

[27] Responses to the AOS survey of superintendents conducted as a component of this audit included a range of reactions and commentary on the student assessment process indicating a potential gap in shared understanding of the benefits of the assessment process. However, ODE noted that this may also reflect the natural tension between ODE and districts surrounding the assessment process as the results have a role in oversight and accountability. Therefore, some of the gap may represent disagreement on how assessment information is used by ODE in the report card process.

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- **Test Administration**: Create test administration materials including development of manuals for administrators, operate an Ohio specific help desk for LEA troubleshooting, provide directions for setting up test sessions ($17.6 million);
- **Scoring and Reporting**: Electronically score all state assessments and provide reports to ODE and LEAs to be used in assessing student progress ($12.5 million); and
- **Test Development**: Generate potential test questions and other elements and manage field testing and review for inclusion in future statewide assessments ($9.5 million).

The remaining funds were spent on project management, technology, and public engagement. We reviewed this functional area within ODE to ensure the process was efficient, effective, and economic due to the significant investment of state dollars in the process.

Additionally, local superintendents, both anecdotally and through our survey often complain that testing takes up too much of a student's time and detracts from general classroom time. However, our data analysis showed this not to be the case based on federal and state requirements.

What We looked At

We reviewed ODE's process of developing and implementing statewide assessments compared to standards set by the US DoE. Because the overwhelming majority of students take their assessments electronically, ODE's test delivery systems were an area of study as well. We also surveyed LEA officials, particularly those from traditional school districts, in order to understand what areas of concern existed for educators in relation to statewide assessments.

What We Found

While we reviewed the differences in assessment requirements between states, we found that generally states elect to implement the minimum amount of testing outlined by the federal government. Because Ohio's testing requirements were similar to other states based on federal requirements, we did not conduct a comprehensive state assessment peer comparison study. However, in the **Issue for Further Study**, there is a limited comparison to the six most comparable states based on total population.

We reviewed the development and implementation of student assessments in Ohio and found that ODE is presently meeting best practices for testing development and implementation as identified by US DoE. These practices include developing assessments that are fair, in-line with classroom teaching, and demonstrate ability. The implementation of assessments should ensure students have appropriate access to technology, are comfortable with necessary technology, and that test are administered in a controlled environment. (See **Appendix C** for full list of best practices and information on how ODE works to meet these standards).

Last, we found that, over time, ODE has trended from recommending national standardized tests, to using a consortia (a purchasing group) which may have reduce the costs of custom tests. However, several years ago, ODE left the consortia as ORC 3301.078, implemented in 2015 prohibited ODE from continuing its participation in the PARCC consortia. This prohibition was

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the result of controversy surrounding the PARCC focus on Common Core standards and the General Assembly's interest in migration toward Ohio specific educational standards. Though Ohio has changed the type, number, and level of customization of its standardized tests over the last 10 years, the General Assembly, through ODE, has not analyzed the costs associated with the number and type of tests used or brokered a shared understanding among lawmakers and other stakeholders on the goals of the tests and how the results are applied. The cost/benefit of more refined, Ohio-educational standard specific tests has not been fully explored

Development
ODE has an assessment development process that takes between two to three years. It begins with the identification of learning standards which are used to develop what skills or knowledge the assessment will measure. ODE's third party vendor drafts test items[28] to be used in the assessment based on development goals agreed upon by ODE and the vendor. These test items are reviewed and edited by ODE as needed during the process. ODE also seeks advice from a wide range of stakeholders, primarily educators and other individuals who are familiar with the Ohio Learning Standards, to support the development of test items. These stakeholders may serve on one of four committees:

- **Content Advisory**: to review and ensure each question is valid and an appropriate measure of learning standards for each subject area and grade level;
- **Standard Setting**: to produce recommended scoring levels to measure student performance on each assessment;
- **Fairness and Sensitivity**: to ensure each question is fair and unbiased for Ohio students and confirms that questions do not promote or require individual moral, social, or personal beliefs; and,
- **Range-Finding**: to review scoring guidelines for test questions that are open ended.

Once a test item has been reviewed and approved by each committee, it is field tested for quality and appropriateness by including it in a regular state assessment. Items that are in field testing are given to a sample of students in similar testing environments and are not counted towards a student's official test score, but responses are used to determine the appropriateness and fairness of a question. Items that are deemed appropriate after field testing are put into an item bank which contains all eligible test items that may be used to build future tests. The creation of individual test items is outlined in ODE's Item Development Sequence which is found on their website.[29]

Implementation
More than 95.0 percent of all statewide assessments are taken online, which requires both hardware and software.[30] In Ohio, LEAs are responsible for providing the hardware, such as a

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[28] Test items are anything that is approved for use in assessments. While primarily test questions, items may also include visual elements used in science and mathematics tests as well as passages and excerpts used for English language arts tests.
[29] education.ohio.gov/Topics/Testing/Assessment-Committees
[30] Districts have an option to use paper and pencil tests in third grade.

computer or tablet, for taking the exam while ODE's third party vendor maintains the software which is used to deliver the exam materials to the students.

The third party vendor provides a platform with three main systems: test distribution, test delivery, and test reporting. The three systems work together to provide a seamless transfer of information from the registration of a student, through the examination process, and ultimately resulting in a scoring report. While the platform requires software to administer the test to a student, this software is designed to be compatible with most devices and operating systems. Additionally, the other systems on the platform, test distribution and test reporting, are web-based, which allow administrators and test coordinators to access them through a secure log-in when needed.

Because the hardware required to administer online tests is provided by districts, ODE has worked with LEAs to identify issues that may arise due to lack of access to technology, such as limited bandwidth or lack of sufficient devices for administering assessments. ODE has indicated that 99 percent of statewide assessments are now completed online and our survey results indicated that more than 80.0 percent of district respondents felt that their district had sufficient technology to administer statewide assessments.[31]

While ODE meets the identified best practices for both assessment development and implementation, our analysis highlighted two areas of opportunity related to operational efficiency and effectiveness:

- **Recommendation 2.1:** ODE should more clearly convey the purpose and importance of specific standardized tests to stakeholders in an effort to improve shared understanding of testing benefits. Though natural tension exists because tests are used to ensure accountability, ODE could potentially enhance district buy in on the benefits of test data; and,
- **Recommendation 2.2**: ODE should identify and collect available data from the practice test website to use in future decision making.
- **Issue for Further Study:** The General Assembly, supported by ODE and the Governor's Office, should examine the cost of student assessment design, and implementation, scoring, and consider developing general agreement around the student assessment process and assessment results application. Though Ohio has changed the type, number, and level of customization of its standardized tests over the last 10 years, the General Assembly, through ODE, has not analyzed the costs associated with the number and type of tests used or brokered a shared understanding among lawmakers and other stakeholders on the goals of the tests and how the results are applied.

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[31] Responses indicated that some LEAs claim updating devices as the Test Delivery System was upgraded is cost prohibitive.

Recommendation 2.1: Stakeholder Communication

ODE should more clearly convey the purpose and importance of specific standardized tests to stakeholders in an effort to improve shared understanding of testing goals. Both the federal and state government require student assessments in order to track the effectiveness of public education against specific achievement metrics. While ODE administers tests based on these requirements, we found that the majority of LEA officials felt that testing requirements were too time-consuming at all grade levels. By improving communication about student assessments, the federal and state requirements and the time investments expected of school districts, ODE might be able to improve LEA officials' awareness about the benefits of and support of the assessment process. Though natural tension exists because tests are used to ensure accountability, ODE could potentially enhance district buy in on the benefits of test data.

Background

Standardized testing is a requirement of both federal and state law. These tests are designed in such a way as to gauge student progress towards reaching identified learning standards. In Ohio, the content and format of assessments have changed over time in order to address updates to the Ohio Learning Standards. Currently, the ESSA addresses testing in grades 3-8 and 9-12. Ohio's assessment schedule is shown below.

Grades 3-8

In compliance with the ESSA and ORC, public school students in Ohio begin taking statewide assessments in third grade. Elementary and middle school students take tests in English language arts and mathematics annually from third to eighth grade and take two science exams, one in fifth grade and one in eighth grade. The current assessment schedule for grades three through eight in Ohio include no additional tests beyond those which are federally required.

Grades 3-8 Assessment Schedule

	English Language Arts	Mathematics	Science
Grade 3	✓	✓	
Grade 4	✓	✓	
Grade 5	✓	✓	✓
Grade 6	✓	✓	
Grade 7	✓	✓	
Grade 8	✓	✓	✓

Source: ODE

Grades 9-12

Students who began ninth grade after July 1, 2014 are required to take a series of tests known as the College and Work Ready Assessments (CWRA).[32] These assessments are defined in ORC and have been developed with input from both business leaders and representatives from State colleges and universities. The CWRA replace the Ohio Graduation Tests which were a graduation requirement for students who entered ninth grade prior to July 1, 2014.[33]

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[32] ORC §3301.0712

[33] The Ohio Graduation Tests were created under ORC §3301.0710 to replace the ninth grade proficiency tests. The first reading and math OGT were administered to 10th grade students in 2004 and the first science, social studies, and writing tests were administered to 10th grade students in 2005. The first exam that counted toward graduation was

Testing Requirements Grades 9 through 12
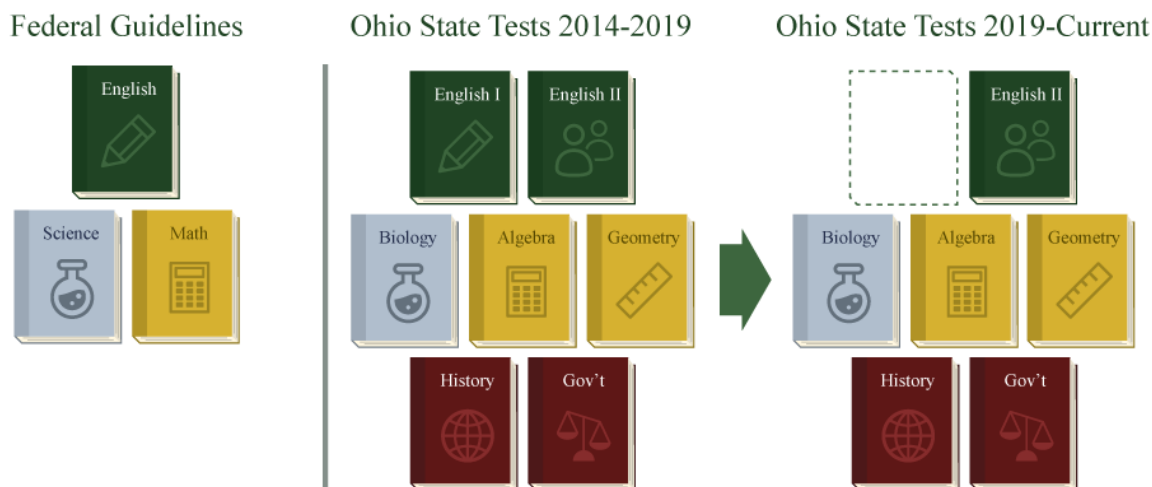
Source: ORC and ESSA

The initial set of CWRA included seven end-of-course tests, including two in language arts, two in mathematics, two in social studies, and one in science. For students who enter ninth grade on or after July 1, 2019, one language arts exam has been eliminated.

While there are standard testing requirements under the CWRA, any student enrolled in an advanced course,[34] such as Advanced Placement or International Baccalaureate may use scores from those classes in lieu of the CWRA testing requirement in science,[35] American history, and American government.

For students entering ninth grade after July 1, 2019, Ohio requires two tests beyond those which are federally required. However, by allowing for alternatives to the end-of-course exams for students in an advanced course, some students may only be required to take two statewide assessments, which would be fewer than the number required by the federal government.

In addition to changing the types and number of tests required for grades 9 through 12, Ohio has also worked to reduce the high-stakes nature of statewide assessments. Only two of the current assessments are considered graduation requirements, and ODE has identified alternative pathways to graduation for those individuals who may be unable to pass one or both of the assessments.

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given in March 2005 effective for the class of 2007. "**State High School Exit Exams:** A Move Toward End-of-Course Exams." *Center on Education Policy (The George Washington University)*, August 13, 2008, accessed September 30, 2020, www.cep-dc.org.
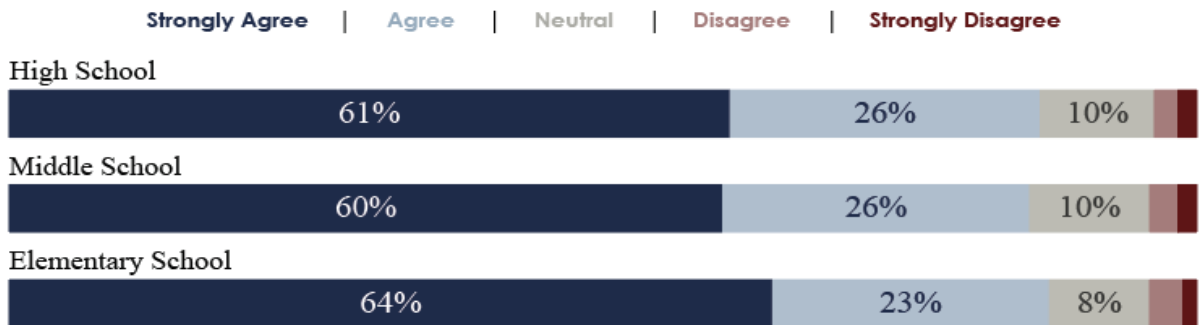
[34] ORC §3313.6013 defines advance standing programs for high school students.

[35] For graduation purposes, a student must take the Science end-of-course exam for federal accountability purposes.

Methodology and Analysis

In addition to examining Ohio's test schedule relative to the federal requirements, we developed and conducted a survey regarding student assessment that was sent to 599 traditional school administrators and received 251 total responses (41.9% response rate). The survey addressed three critical issues related to student assessments: Development, Implementation, and Technology. The survey also collected information regarding how testing was perceived to impact student achievement. Responses to these surveys were assessed using a Likert Scale which ranks question responses by preference. We found that the LEAs overwhelmingly felt that, not only were state assessments not the best indicator of student success, but that students spent too much time on assessments, as seen in the graphic below.

"Students are being tested too much."

Strongly Agree | Agree | Neutral | Disagree | **Strongly Disagree**

High School

| 61% | 26% | 10% | | |

Middle School

| 60% | 26% | 10% | | |

Elementary School

| 64% | 23% | 8% | | |

Source: AOS

Testing Time Limits

US DoE states that it is up to states and districts to determine how to balance instructional time with the need for high-quality assessments and recommends that states place a cap on the percentage of time students spend taking required statewide assessments to less than 2.0 percent of instructional time to ensure that students do not spend time testing at the expense of regular education. Ohio has acknowledged this recommendation and has set a cap of 2.0 percent of total instructional time for the amount of time that may be spent on statewide assessments as well as district-wide assessments as identified in ORC §3301.0729. In order to assist LEAs, ODE issued guidance in December 2017 which outlined legislative requirements relating to testing time limits and provided a workbook to help calculate testing time for students.[36]

We calculated the amount of time spent on statewide assessments at each grade level where testing was required. This analysis was conducted based on the minimum required instructional hours at each grade level and those tests which are administered by ODE. While ODE cannot control standardized assessments that a district may choose to implement beyond the statewide assessments, we found that students at all grade levels spend less than 1.0 percent of the available instruction time on tests administered by ODE.

LEAs have local control and may choose to provide additional instructional hours in which case, the percentage of time spent on standardized testing would decrease. LEAs may also choose to

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[36] Guidance on 2 percent limit for time spent on state or district testing, found here: ODE Guidance Document.

administer additional testing which would increase the amount of time students spend on testing.[37] However, the decision making authority rests with the local Board of Education and not with ODE.

Testing Time vs Classroom Time

	Total Hours of Test Time	Total Minimum Instructional Hours Required Per Year	Percentage of Classroom Time Being Spent Taking Standardized Tests
Grade 3	8.5	910	**0.93%**
Grade 4	5.5	910	**0.60%**
Grade 5	8	910	**0.88%**
Grade 6	6.5	910	**0.71%**
Grade 7	6.5	1001	**0.65%**
Grade 8	9	1001	**0.90%**
Grades 9-12	28	4004	**0.70%**

Source: ODE

Note: Because high school assessments can be taken in various years, we combined the required assessments for all grade levels.

Because high school assessments may be taken in various years, we also calculated the hours a high school student taking a math, English language arts, science, and history/government assessment in the same year would spend on testing as a percentage of the total minimum instructional time in that year. That percentage would be 1.25 percent. This analysis is based on both the minimum instructional hours required by ODE as well as only the tests required by ODE.[38]

Conclusion

Districts representatives responded to the survey that they are testing each age group too much, however the amount of time spent on state administered assessments is below 2.0 percent of classroom time as recommended by ED and required by ORC §3301.0729. Additionally, superintendents did not view the student assessments as the best measure of achievement. ODE should continue to communicate the reasoning and requirements for student assessments to LEA representatives as well as parents and students. Feedback from LEAs should be taken into account when determining if assessments beyond those which are federally required is proper and adequate.

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[37] ORC §3301.0729(C) allows LEAs to administer standardized assessments in addition to those administered by ODE.
[38] ORC §3313.48 identifies the minimum instructional hours for each grade level.

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Recommendation 2.2: Practice Assessment Data

ODE should identify key metrics related to the practice assessment website such as user log-in data, amount of time spent on the website, and the types of assessments accessed. Data related to these metrics should be collected and analyzed for use in future decision making.

Specific user data, including individual log-ins and the amount of time spent on the website, can be used to provide guidance to LEAs in order to ensure compliance with relevant state law regarding standardized assessments. ODE should explore what additional data is available from the test site vendor and how it might be applied to future decision-making.

Background

Practice assessments are available through ODE's website that mimic the State's official testing system. The intention of the site is to allow students to build confidence and develop a comfort level with the login process and general online testing environment. This website is available to the general public and does not require a unique log-in to access information. Samples of Ohio's State Tests, the Alternate Assessment for Students with Significant Cognitive Disabilities, and the Ohio English Language Proficiency Assessment are all available on this practice site. The practice test site allows test administrators and students to become familiar with both the navigation and content of state assessments prior to assessments being administered. While the website has helped students and faculty to become familiar with the software used by the state, ODE does not regularly track the website's traffic.

Methodology and Analysis

During the course of our interviews with ODE administrators, the existence of the practice test site was brought to our attention.[39] In addition to setting a cap of how much time students can spend testing, there is also a cap on the amount of time students may spend taking practice or diagnostic exams. ORC §3301.0729 limits the amount of time spent taking practice or diagnostic exams to prepare for standardized assessments to 1.0 percent of annual instruction time. We requested additional information regarding this website to better understand how it was being maintained and used by ODE, LEAs, and the general public.

ODE has historically been able to track how many students log onto the system using user IDs. Between September 1, 2019 and June 18, 2020, the Department indicated that there were approximately 18,000 log-ins using IDs. However, the system also allows for guest log-ins, which are not currently tracked.

Meaningful and accurate data is a critical component to strategic business decisions. While ODE has historically refrained from tracking significant user data, this information is available and could be used to assist LEAs and to guide future Departmental decision making related to assessments. Some of the data that could be collected for further analysis includes:

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[39] During the course of the audit, ODE launched a new practice test site with additional data collection capabilities.

- District level data regarding the number of users logging into the practice website;
- The amount of time spent on the practice site by individual users; and,
- The specific tests accessed by users.

This data could be used for a variety of purposes, including identifying opportunities to improve the Ohio student assessment platform to ensure it remains equitable in its accessibility and high-quality. Additionally, monitoring the use of the practice website would allow ODE to help ensure LEAs remain in compliance with ORC requirements regarding practice and diagnostic exams. ODE could also use this information to identify what LEAs are and are not accessing practice assessments in order to determine any trends related to usage of the website.

Conclusion

There are multiple benefits that could come from regularly tracking key metrics, such as log-in data, amount of time spent on the website, and which practice exams are accessed, on ODE's practice test website. Identifying who is logging into the practice website would allow ODE to assist LEAs in complying with ORC §3301.0729 and tracking this information would allow ODE to better understand the usefulness of the practice test website for LEAs. Further, this information could be used to identify potential areas for future enhancements within the test delivery system. These efforts could lead to improved stakeholder perception about the utility and importance of the student assessment system.

Issue for Further Study

Our audit also identified an area for additional study that should be undertaken by the General Assembly, with support from the Department and Governor's Office. This issue concerns the cost of student assessment design, implementation, scoring, and assessment results application. The General Assembly and ODE should work to achieve general agreement on the benefits and desired outcomes of the student assessment process. In ORC 3301.078, ODE is prohibited by the General Assembly from continuing its participation in the PARCC consortia or ceding control of the development of state standards to any third-party. This prohibition was the result of controversy surrounding the PARCC focus on Common Core standards and the General Assembly's interest in migration toward Ohio specific educational standards and had the potential to increase the cost of assessment development, delivery and scoring.

Though Ohio has changed the type, number, and level of customization of its standardized tests over the last 10 years, the General Assembly, through ODE, has not analyzed the costs associated with the number and type of tests used or brokered a shared understanding among lawmakers and other stakeholders on the goals of the tests and how the results are applied. The cost/benefit of more refined, Ohio-educational standard specific tests has not been fully explored and, therefore, the General Assembly and ODE should pursue additional analysis on this topic to demonstrate if the higher cost investment reflects the desired benefits. Additionally, ODE should continually evaluate its student assessment expenditures in relation to the services it receives from vendors and evaluate options for assessment development. This information should be routinely shared with members of the General Assembly and other stakeholders (as appropriate). Last, the General Assembly should ensure it is clear in its expectations of ODE, in standards adoption, test development, administration and outcomes; and LEAs in student preparation and application of test results.

As presented in **R2.1**, Ohio's assessment schedule for grades 3-8 is consistent with federal requirements. However, the assessment schedule for high schools exceeds federal requirements but complies with state standards outlined in ORC. We compared Ohio's assessments schedules to those of six peer states[40] to determine if Ohio's assessment schedule was consistent with other states. We found the following:

- **In Grades 3-8:**
    - Four states have the same assessment schedule as Ohio.[41]
    - Two states require additional social studies assessments, Georgia in eighth grade and Michigan in fifth and eighth grades.
- **In Grades 9-12:**
    - Ohio requires seven assessments, including the ACT or SAT, at the high school level.
    - The peer average is six.
    - Two states (New York and Pennsylvania) require additional assessments at the high school level beyond what is required in Ohio.

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[40] Peer states include Georgia, Illinois, Michigan, New York, North Carolina, and Pennsylvania.
[41] Ohio recently eliminated the 4th and 10th grade social studies assessments and the English I exam.

- o Four states (Georgia, Illinois, Michigan, and North Carolina) require fewer assessments than Ohio.
- o Ohio requires eleventh graders to take either the ACT or SAT exam, as well as English and math assessments. North Carolina does the same.
- o Illinois and Michigan require ACT or SAT exams in lieu of English and math assessments.

The Assessment Solutions Group 2018 State Assessment Survey[42] found that Ohio's student assessment costs, in comparison to national averages and other states, ranked 26th in cost for math, ELA and writing, and 21st in total costs on a per student basis. These costs were $24.02 and $54.82 respectively. These costs reflect favorable on ODE's efforts to conduct aggressive cost negotiations with its vendors and focus on controlling cost inflation as much as possible. Compared to cost data reported in *Strength in Numbers State Spending on State Assessments* (Brown Center on Education Policy at Brookings, 2012), which reported that Ohio spent $42 per pupil on student assessments in 2012. At that time, this was significantly higher the peer average of $17 per pupil.

Between 2012 and 2018, the student assessment landscape has changed since significantly. Federal and state expectations have changed; states have migrated to custom testing to better align with state-specific curriculum; and consortia (a multi-state purchasing group) have declined in size and number due to states leaving PARCC and other multi-state purchasing groups. Overall, most states using standardized tests in 2012 have adopted more bespoke assessment tools in the last 8 years in order to align with specific state-level educational standards. In 2015, like Ohio, many other states left the PARCC consortia and developed strategies of state-specific educational standards and corresponding tests so the recreation of a consortia would require time investment and political agreement on educational standards among participating states.

Student assessments are used in a variety of ways by ODE and LEAs. The results may be used as follows:

- Monitor student progress and, when needed, provide additional student support. For example, if a student performs below average on a reading test, additional reading support and intervention might be provided to that student.
- Guide and strengthen future teaching through additional training and changes to curriculum. Areas of low performance within a district (across a grade band) might lead the district to examine its curricula and training to ensure alignment with state curriculum standards and best practices in teacher training.

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[42] ASG put all states on common footing in reporting the state assessment cost numbers. It used ESSA mandated grades (3-8, plus one year of high school) and domains (math, reading, writing). Assessments that are also used for accountability purposes are factored into the cost calculations for the appropriate grade(s). Extra grades tested in math/reading, writing and science were excluded from cost figures except in calculating the total assessment spending per student number. ASG cost figures are therefore, potentially lower than what others report as spending on consortia equivalent assessments

- Communicate to citizens how their schools perform compared to others in the state. By explaining to stakeholders the multiple purposes of the student assessment program, additional buy-in for the process may be generated.
- Serve as a component of holistic district and school level assessments that include both formative and summative components.[43]

Although LEAs commonly use assessment results, the application of these results might be enhanced through more formal guidance from ODE. In the case of districts that struggle academically, this process could be used to guide assessment data application to enhance student performance over time.[44] This additional support from ODE might enhance district appreciation for and understanding of the student assessment process.

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[43] Formative assessments *monitor student learning* to provide ongoing feedback and can be used by instructors to improve their teaching and by students to improve their learning. Summative assessments *evaluate student learning* at the end of an instructional unit by comparing it against some standard or benchmark.
[44] ODE indicated that its Regional Data Leads are currently performing some of this work.

Education Management Information System and Data Management

To carry out its duties in overseeing Ohio's public education system, ODE needs complete and accurate data from all local education agencies (LEAs) on their students, staff, operations, and finances. This data is vital to the State of Ohio and the general public as is dictates how funding is allocated and provides transparency into the operations of Ohio's educational institutions. A single, standardized data collection system is crucial for ensuring that data can be used both to evaluate individual LEAs and to manage the overall statewide education system.

Background

In 1989, ORC §3301.0714 required the State Board of Education to implement the statewide Education Management Information System (EMIS). This system collects data reported directly by LEAs and allows ODE to manage and report on that data. ODE is responsible for maintaining the system and developing reporting standards and procedures. LEAs are legislatively required to report all data specified in ORC §3301.0714. ODE categorizes data collected into the following major types:

- **Student Data**, including demographics, attributes, attendance, courses, programs, and testing;
- **Staff Data**, including demographics, attendance, and course information;
- **General School District and Building Data**, including building lists and student transportation; and
- **Financial Data**, including five-year forecasts, revenues, and expenditures.

The data collected in EMIS is used to support internal ODE operations as well as provide transparency to the General Assembly and public. Student data collected in EMIS is a critical component in the State foundation funding formula, which determines how state funding is distributed to LEAs (see **Section 4: State Foundation Payment Process**). Data collected in EMIS is used in generating statewide and district reports, including academic assessment results; Ohio School Report Cards; district data profiles; and other requested reports from varying stakeholders, such as the legislature, educators, and the general public. EMIS data is also used to meet federal reporting requirements, such as those required by Title I, Title II, and the Individuals with Disabilities Education Act (IDEA) Part B.

Each LEA has a designated EMIS coordinator who is responsible for submitting and verifying all data required for EMIS. While not required, many EMIS coordinators belong to the Ohio Association of EMIS Professionals (OEAP), which provides training and professional certification for its members, and also provides valuable stakeholder feedback to ODE.

Information Technology Centers (ITCs) also play an important role as an intermediary between LEAs and ODE. The ITCs compile and format most LEAs' EMIS data prior to submission. They also provide training and guidance to EMIS coordinators.

ODE created and maintains an EMIS Manual, which includes standards and procedures designed to ensure uniform data collection across all LEAs in Ohio. The manual includes data definitions, requirements, and reporting procedures to assist LEAs with submitting, reviewing, validating, and correcting their data. It is the primary tool used by EMIS coordinators and staff at ITCs to ensure that federal and state reporting requirements are met. The current version is accessible on ODE's website, and is divided into seven sections:

- Section 1: General Information;
- Section 2: Student Records;
- Section 3: Staff Records;
- Section 4: Course Records;
- Section 5: District/Building Records;
- Section 6: Financial Records; and
- Section 7: Five-Year Forecast Records.

EMIS Advisory Council (EAC)

To support ODE's management of EMIS, the General Assembly enacted legislation in 2018 that created an EMIS Advisory Council (EAC or the Council).[45] The Council is made up of ODE employees and external stakeholders, and its purpose is to analyze all aspects of EMIS and make recommendations to ODE to help improve the system, as well as the EMIS Manual.

The EAC currently has 25 members, including a chair and vice chair from ODE and four additional ODE staff members.[46] The remaining council members are selected from superintendents, treasurers, EMIS coordinators, ITC staff, and State Board of Education members.

The goal of the Council is to carefully analyze all aspects of EMIS and gather both short-term and long-term recommendations. The council has created two recommendation reports: the original report completed in June 2019 and a follow-up report completed in June 2020.

Why We Looked At This

EMIS is used by over 1,000 entities including traditional student districts, community schools, joint vocational schools, educational service centers (ESCs), and ITCs. Each of these entities has staff dedicated to collecting and reporting EMIS data. The data outputs from EMIS are used by many departments and program offices within ODE. A review of processes related to EMIS is crucial to ensure appropriate oversight over Ohio's public education system.

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[45] ORC §3301.0713
[46] EAC bylaws allow up to 30 members.

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What We Looked At

Feedback was obtained from EMIS users to identify opportunities for improvements. We also interviewed ODE program offices that use data outputs from EMIS to determine if their operational needs for EMIS are being met, or if there are aspects of EMIS that are inefficient or ineffective for their needs. Further, we conducted a statewide survey of LEA officials to gain insight into how LEAs are using EMIS, the sufficiency of guidance provided by ODE, and if there are opportunities to improve the user experience with EMIS. The survey was sent to a total of 2,151 EMIS coordinators, superintendents, and treasurers. The survey was completed by 44.7 percent of those who received it.

Recommendation reports from the EAC were reviewed and compared with feedback we obtained from ODE program offices and our survey of LEA officials. Last, we assessed if there were opportunities for improvement not already being addressed by the EAC, and if there were common themes that should be the focus of ODE's improvement efforts.

What We Found

EMIS was reviewed in prior performance audits in 2002 and 2013. In those audits, we found significant issues with the EMIS system, system guidance and utilization. Since that time, it appears ODE and the General Assembly have worked diligently to improve the shortcomings of the system.

In this audit, we found that ODE has processes in place to regularly update the EMIS Manual, communicate information to stakeholders, receive and implement stakeholder feedback, and provide EMIS training. Although ODE has made improvements in these areas over time, our analysis identified areas for further improvement that will allow ODE to better meet the needs of EMIS users.

EMIS Manual updates are performed as necessary, and occur as often as two times per week. These updates are communicated to LEAs by ODE through their website and emails directly sent to all users. ODE also publishes an annual EMIS update report showing all changes made to the manual. However, our survey of LEAs found that a significant number of EMIS coordinators do not feel the EMIS Manual always offers sufficient instructions and that they are not always well informed of updates and changes to the manual. ODE program office employees noted that the EMIS Manual is sometimes difficult to understand and should be updated more frequently. These results suggest that there are areas of improvement for ODE.

ODE, along with ITCs and the OAEP, provides several trainings throughout the year for EMIS coordinators. Training is offered through in-person instruction, live video conference calls, and recorded training videos. However, our survey of EMIS coordinators found that more than 20 percent do not think ongoing training is adequate, and more than 45 percent did not think that the introductory training they received was adequate.

Based on our analysis, we identified one recommendation that would assist the Department in improving operational efficiency and effectiveness in relation to EMIS:

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- **Recommendation 3.1**: ODE should continue working to revise and update EMIS, the EMIS Manual, and EMIS trainings to better serve its stakeholders.

Recommendation 3.1: EMIS

ODE should make strategic improvements to its internal processes involving EMIS to enhance user experience and ensure user needs are met. This would ensure that LEAs receive maximum value from the system and are better able to use the management information generated through EMIS reports to tailor district operations.

Key areas to consider include:

- **EMIS Manual Revisions**: ODE should work to continue to improve the EMIS manual relative to language, guidance, and searchability;
- **Stakeholder Communication**: ODE should work to continue to improve communications with stakeholders relative to timing of specific requirements;
- **Training Opportunities**: ODE should work to ensure training is appropriate and available for stakeholders, particularly for superintendents and treasurers;
- **Duplicative Data**: ODE should work to remove data reporting requirements that are duplicative in nature or no longer used by ODE; and
- **Customization**: ODE should work to increase opportunities for customization of EMIS reports.

Further, ODE should review the feedback we received from ODE program offices and LEA officials and implement changes to address identified areas of improvement.

Background

The primary purpose of EMIS is to fulfill state and federal legislative requirements for reporting and funding distribution. The system collects data uploaded by LEAs according to standards established by ODE that allow for comparisons between LEAs, as well as analysis of statewide aggregated data. The process steps for EMIS data submission can be summarized into five main steps:

- Step 1: LEAs input data through their local software;
- Step 2: LEAs review and correct errors automatically flagged by the system;
- Step 3: LEAs submit their data;
- Step 4: ODE reviews and verifies all previously accepted data, flagging any errors;[47] and
- Step 5: Data is stored at the Data Warehouse for ODE use.

Step 2 is a data validation check built into the system so that reporting LEAs have an opportunity to review their data and correct flagged errors prior to submission. ODE processes the statewide data on a nightly basis and flags any cross-district issues or issues across multiple reporting periods. EMIS produces various data output reports, including error reports, missing data reports,

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[47] Flagged data is retained in EMIS. LEAs are responsible for reviewing all flags and making data corrections, if warranted.

and detail reports of submitted data.[48] These reports contain flags, warnings, and error messages intended to alert LEAs to potential errors that may need to be corrected. Further quality control is provided by the Ohio District Data Exchange (ODDEX), a system separate from EMIS, which allows LEAs to communicate with one another to resolve cross-district issues that occur when a student's enrollment changes.

ODE had 30 data collection periods throughout the year in FY 2019, varying in length from a month to several months. Some types of data, such as specific student assessments, have one collection period, while others have multiple periods throughout the year, such as student enrollment data. ODE encourages LEAs to regularly update their data, allowing them to address errors as they occur throughout the year. Our stakeholder survey found that the majority of EMIS coordinators update their data in EMIS on a weekly basis. This allows ODE to have access to the most up-to-date data possible, and reduces the number of corrections needed to finalize data after the data collection period closes. A detailed explanation of the data collection periods can be found in **Appendix D**.

Methodology and Analysis

To determine if there are opportunities to improve the accuracy, efficiency, and effectiveness of EMIS data, we examined ODE's process of updating the EMIS Manual and evaluated stakeholder feedback. We interviewed ODE program offices, reviewed recommendation reports published by the EAC, and conducted a statewide survey of LEA officials.

We interviewed nine program offices within ODE on their experiences with EMIS, and asked them to identify any challenges or opportunities for improvement.[49] Interview topics included the EMIS Manual, data collection, federal reporting requirements, and utilization of reports.

To understand the EAC's role in supporting EMIS, we looked at how the Council operates and reviewed their recommendation reports. The EAC meets regularly to review EMIS and discuss issues raised by stakeholders. To develop their first recommendation report, the Council created four workgroups based on the main components of EMIS. Each workgroup identified challenges within their area and selected three or four of those challenges as priorities. The four workgroups are:

- **EMIS Manual and Data Requirements:** Manual instructions and communication of EMIS updates;
- **District Software and EMIS Data Collector:** Which data elements are included in reports;
- **Department Data Processing and ODDEX:** Data reporting; and
- **Reports and Impact:** Understanding report outputs.

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[48] Examples of detail reports include student full-time equivalent (FTE) daily summaries, career-technical education FTEs, current enrollment headcount, expenditures, and Federal Low Income Counts System student enrollment.
[49] From ODE's Center for Teaching, Leading, and Learning, we interviewed Education Effectiveness, Educator Licensure, Career-Technical Education, and Learning and Instructional Strategies. From ODE's Center for Student Supports, we interviewed Early Learning and School Readiness, Integrated Student Supports, and Exceptional Children. From ODE's Center for Continuous Improvement, we interviewed Federal Programs and Improvement and Innovation.

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The first EAC report was issued in June 2019 which identified 14 priority and 71 additional challenges associated with EMIS. Each of the challenges was used to develop a recommendation, categorized as a short-term opportunity, long-term opportunity, or both. In June 2020, the EAC issued a second report that provided progress updates to original recommendations and introduced the creation of three additional workgroups to review possible challenges within EMIS, including those identified by the group as well as those raised by other stakeholders. One workgroup was created to research creating a certification program for EMIS coordinators, and the other two are specific to certain reports generated from EMIS.

According to the June 2020 report, four of the original 14 priority recommendations from June 2019, and 17 of the 71 additional recommendations, have been completed. The EAC created a comprehensive list of current and future challenges that can drive efficiency and innovation as the recommendations continue to be implemented.

We conducted a statewide survey of school officials to compare the results with the program office interviews and EAC report, and identify any significant issues that have not been considered by the EAC. Our survey was designed to gain statewide feedback from EMIS coordinators, who are highly invested in EMIS, and LEA administrators, who have varying levels of familiarity with EMIS. Survey questions were developed collaboratively with the OAEP and ODE. These questions were intended to gain insight into how EMIS coordinators use EMIS and assess if they have adequate support to perform their duties related to EMIS.

To evaluate which areas ODE should focus its efforts on to improve the efficiency and effectiveness of EMIS, we compared feedback we received from the program offices to the EAC recommendations and survey responses to identify common themes. We identified the areas that should be a priority for ODE to address, as they were recognized as challenges by multiple stakeholders and are crucial to the effectiveness of EMIS. These areas for improvement generally involve continuing to improve the EMIS Manual, stakeholder communication, training, removal of duplicative or unnecessary data, and customization of reports.

EMIS Manual Revisions

The EMIS Manual is described as a "living document" by ODE. ODE regularly updates the manual in accordance with any changes in federal law, state law, administrative codes, internal policies, or systems design. EMIS users may contact their ITC or ODE directly if they encounter issues in the system or part of the manual that lacks clarity. The EMIS staff in the Office of Data Quality and Governance meet regularly with ODE program offices and the EAC to discuss updates and corrections to the manual. Any changes made are documented within the relevant section, and communicated to LEAs through direct emails to EMIS users and announcements on the ODE website. ODE also publishes an annual EMIS update report showing all changes made to the manual. While ODE has sufficient processes in place to receive and incorporate feedback regarding the manual, our analysis of common themes among various stakeholders found that there are still opportunities to improve the content and how the content is presented and organized.

In their recommendation reports, the EAC found that stakeholders feel there are not enough documents explaining how to report specific, uncommon situations. The Council also noted that searching the EMIS Manual for specific data elements is difficult and the manual should have more hyperlinks to related sections to improve navigation and searchability.

Several program offices noted that the EMIS Manual is difficult to understand and not updated frequently enough. They further explained that there are language issues when trying to understand different reporting requirements written by the federal government, state government, and ODE. Comparison language between these different levels of government would therefore be a helpful addition to the manual.

Our stakeholder survey of EMIS coordinators found the following:

- 87 percent of respondents utilize the EMIS Manual frequently or very frequently;
- 34 percent felt the manual does not offer enough information regarding coding;
- 37 percent felt they were not well informed of updates and changes to the manual; and
- Of those who responded to open-ended questions regarding improvements to the manual, 21 percent requested more examples and 18 percent suggested the manual should be updated more quickly.

Stakeholder Communication

The EAC and program offices generally remarked that stakeholder communication can be improved, especially in regards to the timing of specific reporting requirements. The EAC report commented on a lack of a centralized location for EMIS communications and lack of frequent feedback during the collection periods. It was explained that while last minute extensions to a collection window are helpful, it would be more beneficial if more notice could be given. If data fails to update overnight due to a processing issue, this is not always communicated by ODE. A program office commented that they would like to see a "single source" document that can be ran to see when districts are required to report specific information.

Training Opportunities for Stakeholders

The EAC report had several mentions that school administrators other than EMIS coordinators have a difficult time understanding how EMIS works and how data is used. It was noted that explaining EMIS reports to other district staff is difficult when that staff member has not participated in EMIS reporting training. Staff and administrators who enter data in local software systems often do not have sufficient training to understand how data is used in the Ohio School Report Cards and how it impacts the funding their entity receives. Treasurers struggle to reconcile foundation payments to data reported in EMIS. Further, administrators do not understand the importance of reconciling data when the district is already on the transitional aid guarantee or the gain cap (see **Section 4: State Foundation Payment Process**).

In our survey, 22 percent of EMIS coordinators felt that ongoing training provided by ODE was not adequate. The top responses for areas where additional training is needed were Microsoft Excel and how to interpret specific EMIS reports. When asked if there are barriers to accessing training, the most frequent responses were distance and travel time. Nearly 47 percent felt that

the training they received when they first started as an EMIS coordinator was not adequate to prepare them for the position. Additionally, over 29 percent of superintendents and treasurers feel that there is inadequate training available for them to understand EMIS.

Duplicative or Unnecessary Data

Requiring entities to report duplicative data or data that is not utilized by ODE is not an efficient use of time or resources. The EAC remarked that a large volume of data is required to be reported by districts, so a periodic review of data elements should be conducted to identify items that could be deleted if they are not used or required.

Two program offices that work with federal data noted specific areas where there is duplication of data collected for federal programs. Another program office explained that there is data being collected for areas they no longer monitor. They remarked that entities should be focused on working on data collections that ODE needs.

Customization

Responses from the EAC and the program offices found that customized EMIS reports and a dashboard view of summarized data and reports would help in reducing time spent creating manual data comparisons. In the EAC report, it was noted that EMIS coordinators often need information in one place from multiple reports and staff have to spend too much time manipulating data in spreadsheets before they can efficiently review the data. EMIS includes so much information that it can make it difficult to make sure all important and updated items are being reviewed. Both the EAC report and the program offices recommended adding a dashboard view within EMIS.

Conclusion

A prior performance audit of the Department, released in 2002, included a review of EMIS at the time and found several shortcomings. ODE redesigned the system, and in the past 18 years, had made significant improvements. Our review found that ODE has made changes to EMIS based on stakeholder feedback and the work of the EAC in order to address areas of concern. Many of the issues identified in the 2002 audit have been, or are currently being, addressed by the Department as a result of recommendations made by the EAC.

ODE should continue working to revise and update EMIS, and the associated EMIS Manual, for use by its stakeholders. Strategies for improving EMIS include:

- Improving the user experience with the EMIS manual by adding or improving search functions, hyperlinks to other sections, clarifying language, especially with multiple terms that have the same or similar meaning, and guidance for specific reporting situations;
- More frequent and timely stakeholder communication on reporting requirements and deadlines;
- Evaluating training offerings, particularly those for new EMIS coordinators and for school administrators;

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- Regularly reassessing its data collections and available reports to ensure that reporting entities are not spending excess time on submitting data that is not needed or creating manual comparisons that could be in a report; and
- Creating a dashboard view within EMIS and an option to create custom reports.

Increasing the efficiency of EMIS, and the effectiveness of the EMIS Manual, could provide for improved data accuracy and quicker turnaround times on data reporting submission. This in turn could allow ODE the ability to improve the efficiency of their report generation, and funding time frames (see **Section 4: State Foundation Payment Process**).

State Foundation Payment Process

Publicly funded education in Ohio dates back to the 1820s when the state issued a property tax in order to finance the new schools that were being established throughout the state. While the makeup of funding has changed over time, the State continues to provide financial support to local districts. Today, this support is provided, based on a variety of factors, through Foundation Program payments which are administered by ODE based on a formula set in code by the General Assembly.[50] These payments are designed to ensure a basic, or foundational, level of support is provided for every public school student in Ohio. In FY 2018, 48.8 percent, or nearly half of all public school funding came from state sources. While this section covers the Foundation payment process, our examination focused on the end-of-year closeout process.

Background

Ohio Revised Code (ORC) §3317 tasks ODE with calculating and distributing foundation program funding to local education agencies (LEAs) based on the formula set by the General Assembly. The state foundation funding formula undergoes periodic revisions and the current formula has been in place since FY 2014.[51] Traditional schools, which make up the bulk of public education agencies, receive foundation funding based on the following components:

- **Opportunity grant**[52]: An amount set by the General Assembly in the biennial budget which provides a uniform per-pupil funding amount and which makes up the largest portion of foundation aid; districts receive a proportion of this grant based on their identified state share index;[53]
- **Targeted assistance and capacity aid**: Additional funding for districts with lower capacity to raise local revenues and to small districts with relatively low property values;
- **Categorical add-ons**: Variable funding components which assess the needs of students who are considered non-standard, such as those who have limited English proficiency or those who receive special, gifted, or career-technical education services;
- **Performance bonuses**: Formula funding which is available and incentivizes academic performance based on four-year graduation rates and third-grade reading proficiency; and
- **Additional funding adjustments**: in order to address large fluctuations in state aid, the formula includes temporary transitional aid, a gain cap, and a cap offset payment.

In FY 2019, traditional school districts received between 5.0 and 90.0 percent of the opportunity grant based on the state share index. A variety of factors, including the state share index calculation, can cause districts to receive reduced funding year over year. Temporary transitional aid, known as the guarantee, provides districts with a consistent level of foundation funding, generally ensuring that districts receive no less than their guaranteed base from the preceding

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[50] ORC § 3317.022

[51] H.B. 166 of the 133rd General Assembly provides every traditional school district and joint vocational school district with the same amount of funding in FY 2020 and FY 20201 as they received in FY 2019.

[52] In FY 2019 and FY 2020, the opportunity grant was $6,020 per pupil.

[53] The calculation of the State Share Index is specified in ORC §3317.017. The purpose of the index is to measure the wealth of each school district in terms of property tax base and residents' ability to pay.

budget cycle. Similarly, as funding is based on student enrollment, an influx of students may cause a district to see an increase in foundation funding based on the formula. The gain cap (the cap) limits the amount of additional funding a district can receive due to increased enrollment or changes in district demographics.[54] Since FY 2017, the number of traditional districts that were formula funded has decreased significantly while the number of districts that are on the guarantee or cap has increased.

Funding is calculated on a per-pupil basis as identified through an annualized full time equivalent (FTE) enrollment calculation as reported through EMIS. The information which is reported through EMIS allows ODE to track specific attributes of a student, such as being eligible for special education assistance, as that student moves across districts. Through FY 2014, LEAs reported enrollment based on a count of students for one week in October. Beginning in FY 2015, LEAs have been required to report daily enrollment figures for students; while this requires more data entry and analysis, it results in a more accurate reflection of actual student population throughout the course of a school year.

LEAs receive either 12 or 24 foundation payments annually.[55] While state funding accounts for nearly half of all public education funding in the state, in FY 2019 state funding ranged between 10.8 percent and 78.5 percent of total traditional district funding.[56] At the end of each fiscal year, ODE reviews each district's total payment history and makes adjustments based on data corrections, outstanding invoices[57], and LEA appeals[58]. These adjustments are factored into payments that are received in the following fiscal year.

Why We Looked At This

The Foundation payment process was reviewed in a prior performance audit in 2013. At that time, there was a significant lag between the final payment requests submitted by districts and the receipt of that final payment. The audit found that the balance of FY 2009 encumbrances carried over to FY 2012 is $7,873,261. In the 2013 audit, ODE explained that stimulus funds to districts led to the significant open encumbrances; however, the lag in payment and large balance of carry-over encumbrances continued for several years after the stimulus payments were terminated by the federal government. These encumbrances, while permitted by state law for subsidy funds, indicated that LEAs were waiting long periods for receipt of revenues. This impacted the LEAs' ability to engage in ongoing, close financial management of district resources. Last, ODE invests significant time and effort on this process and, if the Department is

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[54] See **Appendix E** for additional information

[55] Community Schools and Joint Vocational School Districts receive 12 payments and Traditional districts, Educational Service Centers and County Boards of Developmental Disabilities receive 24 payments.

[56] Information from the ODE District Profile Report (Cupp Report). State revenue includes sources other than foundation funding, including homestead and rollback funding.

[57] The Jon Peterson and Autism scholarships are included in the School Finance Payment Report (SFPR) as deductions to the districts' state foundation funding. The scholarship deductions are based on the actual amounts invoiced by the provider.

[58] Data appeals that impact foundation funding calculations are Student Appeals, Funding Appeals, Staffing and Course Appeals, and Calendar Appeals.

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able to shorten the window for processing final payments, it would free up its staff to engage in other mission-critical activities.

In FY 2019, ODE distributed over $9 billion in foundation funding to schools, which was more than 10 percent of the State's total budget of just more than $67 billion. This funding is both a significant portion of the State's budget and critical to LEAs. Ensuring the efficient and effective delivery of these resources helps to ensure quality public education is accessible to all Ohioans.

What We Looked At

We reviewed ODE's internal process for issuing regular foundation payments as well as the process for calculating and issuing final reconciliations. We also reached out to LEA officials in order to understand how entities receiving funding believe the process impacts operations.

We paid particular attention to the processes in place relating to final payment adjustments, which occur after the end of the fiscal year during the first half of the following fiscal year.[59] While the second payment in June is the final regular payment of the fiscal year, due to adjustments that must be made as a result in fluctuations in student enrollment and other factors, such as processing of invoices related to educational services, ODE issues final payments to LEAs after the close of the fiscal year.[60] We reviewed the reconciliation to determine if there were opportunities to decrease the length of time between the close of the fiscal year and issuing the final reconciliation payment.

Because the funding ultimately is received and used by LEAs, we also reviewed both their role in the process in regards to providing data and also how they believe the process directly impacts their operations. In order to obtain information related to how the process directly impacts LEA operations, we sent a survey to superintendents, treasurers, and EMIS coordinators.

In order to understand the reconciliation and final payment process we analyzed historic data related to foundation payments. This allowed us to identify potential opportunities for improvement relating to the adjustment process as well as understand how that process was impacting LEAs in regards to their annual budget.

What We Found

We found that the foundation payment process has been increasingly efficient over the past several years and ODE has significantly improved in this area. The internal process for issuing foundation payments occurs twice a month and ends with a payment being disbursed to LEAs. While payments at the beginning of the year are based on the previous year's data, ODE incorporates updates as data becomes available through EMIS and adjusts the foundation payment calculations. As discussed in **Section 3: EMIS**, this process includes regular data

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[59] The last regular payment is received in June, the final reconciliation payment is typically received prior to the end of that calendar year. In FY 2019, ODE issued two final payments to LEAs: one in August 2019 and one in December 2019.

[60] The final payments may be a positive or negative adjustment and are included in a regularly scheduled payment.

validation checks, which helps to prevent significant changes after payments have been disbursed.

There is a necessary reconciliation process after the close of the fiscal year to finalize payments for LEAs. This portion of the foundation payment process has become more efficient based on the available data. In FY 2016, the final reconciliation payment for traditional districts was processed on May 19, 2017, or 323 days after the end of the fiscal year. By FY 2019, this timeframe had been cut to 166 days and was issued on December 13, 2019.

We reviewed the variation in annual funding based on the final regular payment in June against the final reconciliation payment received by each LEA. For traditional school districts, we found that the median variation has remained below 1.0 percent and has decreased over the past five years, beginning in FY 2014. This variance can be either positive or negative, that is the reconciliation process may result in LEAs receiving additional funding or having funding taken away. While the median variation has been historically low, there have been districts that experienced significant changes to state foundation funding based on the reconciliation process. However, in FY 2019, the greatest amount of variation was only 1.8 percent and the median variation was negative 0.0042 percent, meaning that there was an extremely small percentage of funding that was taken away. Our analysis for both community schools and joint vocational school districts resulted in similar results.[61]

The total amount of dollars distributed after reconciling data has also decreased; in FY 2014, ODE distributed nearly $6.5 million in additional funding due to adjustments to traditional school districts and in FY 2019, it distributed just over $2.3 million.[62] Further, in FY 2014, 26 traditional school districts had an adjustment that represented more than 2.0 percent of total annual funding; in 2019 there were none. For all types of LEAs, the variation between the final regular payment and the final reconciliation payment was below 1 percent for the timeframe analyzed.

The decrease in both variation in funding levels for LEAs and the amount of funding issued is likely a result of consistent formula funding. The formula process has not changed since 2014, which has allowed LEAs to better learn and adjust to it. While changes to data reporting did cause issues in 2015, these changes have been identified and ODE has provided guidance through the EMIS manual which allows LEAs to accurately reflect enrollment data. Additionally, between 2017 and 2019, a large number of districts were moved to either temporary transitional aid or the gain cap which reduced variation in funding and resulted in fewer funding adjustments.

While ODE has improved the timeline for final foundation payments, the last payment typically occurs nearly six months after the end of the fiscal year. We identified one recommendation that would assist the Department in improving operational efficiency and effectiveness in relation to the foundation payments:

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[61] See **Appendix E** for additional analysis
[62] This reflects the net amount of additional funding received by traditional districts, for full analysis see **Appendix E**.

- **Recommendation 4.1**: Because districts are reliant on their final payments for continued operations, ODE should review current procedures and implement strategic changes which would allow the Department to finalize foundation funding payments in a more efficient manner.

Recommendation 4.1: Foundation Payment Process

ODE should implement strategic changes to internal processes in order to finalize school foundation funding as soon as possible, potentially prior to November 30th when OBM closes encumbrances for non-subsidy funds.[63] These changes may include:

- An earlier window for Funding Appeals;
- An earlier deadline for provider invoicing for the Jon Peterson and Autism scholarships;
- An earlier deadline for completion of Community School FTE reviews; and
- A reevaluation of staffing commitments during Report Card processing.

Finalizing payments earlier would allow for a more streamlined budget process at the state level and reduce the amount of time invested by LEAs and ODE in the adjustment and appeals process. Additionally, the shorter time frame would benefit LEAs and their budgeting and financial management processes as well.

Overall, ODE should consider the tradeoffs in terms of time and effort for it and LEA representatives in the adjustment process considering the small magnitude of changes the process currently yields. While internal controls over payments and reimbursements are critical for safeguarding taxpayer funds, the process may be sufficiently mature to lead to diminishing returns in the adjustment process.

Background

The State has used the current foundation formula since FY 2014.[64] The foundation payment process has multiple steps which require input or action by a variety of internal and external stakeholders. Because of the complex nature of the process, prior to conducting any analysis, we first worked with several key areas within ODE in order to develop an internal process map for foundation funding. We interviewed the following offices within ODE to develop the map:

- **Data Quality and Governance/EMIS**, which is responsible for calculating student enrollment data and reviewing data appeals from LEAs;
- **EMIS/Foundation Payment Application Services**, which is responsible for calculating each LEA's funding and generating payment reports; and,
- **Office of Budget and School Funding**, which is responsible for conducting the final review before payments are disbursed**.**

Together, these three offices are responsible for taking the data provided by LEAs in order to process and distribute foundation payments.

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[63] November 30th is the current deadline for finalizing encumbrances from the prior fiscal year as set by the Office of Budget and Management.

[64] Although the current formula has been in place since 2014, in FY 2020, the General Assembly suspended the formula and all districts received the same amount of funding as in the prior year. However, this audit does not cover this FY 2020 payment due to timing.

At the end of each fiscal year, ODE issues reconciliation payments based on the full year of data. These adjustments can either be positive or negative and are incorporated into a future payment. LEAs are also offered four appeal windows in order to correct any data errors. These appeal windows are typically short in duration, approximately two weeks long. While the gap between student appeals and the first reconciliation payment is approximately one month, ODE takes nearly two months to fully process funding appeals and issue final reconciliation payments.

Methodology and Analysis

Once a process map for both the standard foundation payments and the annual appeals process was created, we developed and distributed survey questions to external stake holders; specifically, superintendents, treasurers, and EMIS coordinators for LEAs.[65] We asked respondents about their experiences with filing appeals and how foundation payment adjustments after the fiscal year affect their entity. Our survey revealed that 41.8 percent of superintendents and treasurers across all LEAs felt that the timing of the final payment significantly impacted budgeting. Several officials noted that the final reconciliations were difficult to track and to appropriately plan for in their November forecast.[66] While an adjustment may represent a small percentage of overall funding for an LEA, for those districts that may be experiencing acute fiscal distress the information can be critical to proper budgeting and decision making. One District Superintendent responded to our questions by stating:

> "…Delayed foundation payments have a significant impact on our district, we are in fiscal… [oversight] and it is critical we have our funding and data as quickly as possible. This is needed so we can make decisions regarding appropriations, personnel, spending, and financial projections based on information that is as current and accurate as possible."

We then reviewed ODE's internal processes as they relate to the final reconciliation process in order to identify potential opportunities for increased efficiency within the Department. Part of this review was identifying additional factors which may cause delays to this process. For FY 2019, there were five main activities which impacted when final payments were issued:

- **Ohio Facilities Construction Commission (OFCC) data reporting**: ODE is required to report data calculations to the OFCC that use ADM as reported by districts through EMIS. The due date for reporting this information is specified in ORC §3318.011;
- **Jon Peterson and Autism scholarship invoicing**: These scholarships are included in the School Finance Payment Report as deductions to the districts' state foundation funding. The deductions are based on the actual amount invoiced by providers and ODE sets the deadline for providers to submit invoices;
- **Report card data processing**: Per ORC §3302.03, ODE must publish Ohio School Report Cards by September 15th. Many staff members, whose main job duty is to process

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[65] We sent survey questions to representatives from traditional school districts, community schools, joint vocational schools, information technology centers, educational service centers, STEM schools, and some private companies that support schools.
[66] Ohio school districts are required to submit a Five Year Forecast showing projected financial conditions to ODE in November of each year.

EMIS data, are pulled away from their normal duties to work on the Report Cards from early August until mid-September. This reduces staff availability to work on processing the foundation payments;

- **Community school FTE reviews**: Per ORC §3314.08(K), ODE is given authority to conduct FTE reviews of Community Schools, but is required to complete the review within 90 days of the end of the fiscal year, with an optional 30 day extension. The results of an FTE review may result in adjustments to state foundation funding; and,

- **Student Appeals and Funding Appeals**: The student appeals process occurs in July shortly after the fiscal year closes and is completed prior to the first reconciliation payment (issued 8/23/19). The Funding Appeals window, however, is not opened until mid-September. In contrast to the Student Appeals, where 76 appeals were filed and 70 approved in FY 2019, only 6 appeals were filed under the Funding Appeals. Of those 6, 4 were approved, affecting only 3 students.

As seen in the timeline, each of these activities is occurring prior to early October, yet for FY 2019, the last final payment was not issued until December 13th. Making adjustments to the deadlines or workload associated with one or multiple of these activities should allow the last final payment to be issued earlier than the middle of December. This analysis did not assess the workload associated with these activities or the payment process itself, and therefore cannot determine which activities, if moved earlier, would have the greatest impact on when the last final

School District Payment Processing Timeline

Source: ODE

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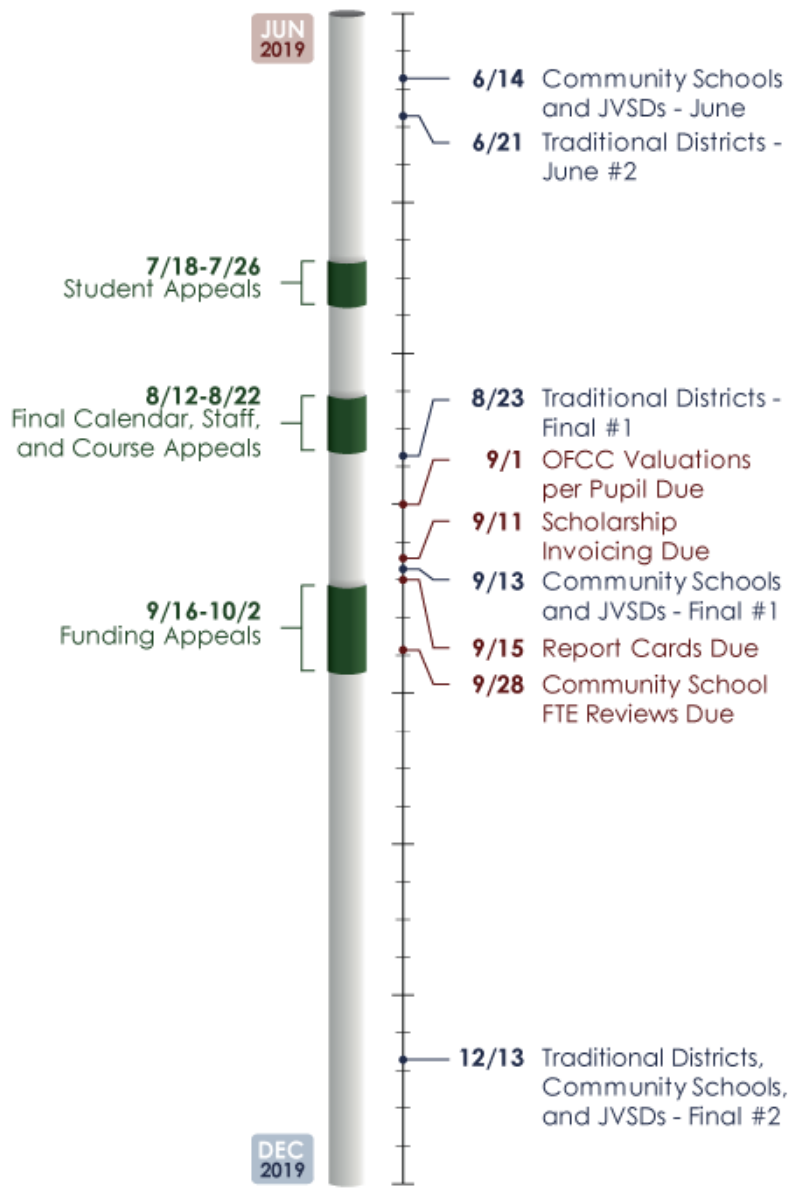
payment can be issued. ODE should assess each of these activities and prioritize changes that would have the most influence on how early the last final payment can be made.

Conclusion

While ODE has reduced the amount of time between the end of the fiscal year and the final reconciliation, the current foundation payment process results in a reconciliation period of nearly six months after the end of the fiscal year. During this timeframe, ODE employees who typically work on the reconciliation process are required to shift focus and perform other tasks, such as processing data for the Ohio School Report Cards. Expediting the payment process through strategic process improvements would result in a more efficient allocation of funds.

Allowing the subsidy encumbrances for ODE Foundation payments to remain open for several months beyond the close of the fiscal year or even multiple years, while allowed, is not a good business practice. Closing these encumbrances and making the final payments sooner has multiple benefits to ODE and the LEAs. In many cases, this multi-month process results in marginal changes and ODE should weight the benefit of these changes in light of total payments and the small magnitude of changes occurring with adjustments. In this case, the internal controls over Foundation payments should not be a barrier to efficient processing. If future changes to the Foundation formula or other school funding model occur, ODE should examine ways to ensure LEAs are able to submit as accurate of information so that the volume and amount of adjustments and duration of the adjustment period is not extended.

In FY 2020, ODE has already made changes that could reduce the timeline for the final payment. The Department opened the Funding Appeals window approximately two weeks earlier than in the previous fiscal year and will close it approximately one week earlier. This should allow the Department to process appeals more expediently.

Information Technology

As workplaces continue to evolve with technical advances, Information Technology, or IT, is the backbone that allows governmental organizations to efficiently and effectively provide services, distribute information, and manage data. An organization's IT department provides critical support that makes it possible to perform all types of daily operations. From providing basic technical support to developing and maintaining complicated databases, IT supports the organization and ensures more efficient operations.

Background

ODE's Information Technology Office (ITO or the Office) is tasked with providing both operational support for the Department and access to educational tools, services, and data for external stakeholders. The ITO maintains and updates the Department's technology tools such as computer hardware, software, and applications. There are 92.0 full-time equivalent (FTE) employees and 20.2 FTE contractors working within the ITO. These individuals are responsible for a variety of tasks including:

- Application Development and Support;
- End User Computing Support;
- IT Administration;
- Production/Storage Infrastructure and Operations; and,
- Network Administration.

While infrastructure management and services are provided by the Department of Administrative Services, Office of Information Technology (DAS OIT), ODE's ITO must continually adjust to the changing demands of a user base that is becoming increasingly dependent on technology as a means for obtaining data and information quickly and reliably.

Why We Looked At This

Based on our planning interviews, we identified the potential for improved operations within IT. Our 2013 performance audit identified weaknesses in ODE's IT governance structure, and subsequent implementation tracking of report recommendations informed our scoping process. Because ITO is a critical component for Departmental operations, we included this area in our audit scope. The specific areas of review and objectives were developed in collaboration with ODE.

What We Looked At

In collaboration with ODE and in order to identify opportunities for increased efficiency and effectiveness, we identified the following scope areas:

- Overall ITO staffing;
- IT governance and strategic planning processes; and,
- Cloud migration.[67]

What We Found

We found that, based on state averages maintained by the Office of Budget and Management, ODE's ITO is staffed consistent with industry standards. ODE dedicates a higher percentage of employees to application development and support compared to other agencies, however this is based on an internal management decision to complete application development work internally rather than outsourcing. Additionally, DAS OIT's efforts to consolidate and centrally operate infrastructure frees up agency resources for application development.

Our review of other scope areas identified two recommendations that could improve operational efficiency and effectiveness and one noteworthy accomplishment or best practice:

- **Recommendation 5.1:** Building its implementation of an IT Governance Committee, ODE should further enhance its IT governance by developing an IT strategic plan aligned with the Department's broader strategic plan. An IT strategic plan that contains project prioritization and encourages portfolio management would allow the ODE to better plan and budget for key technology projects
- **Recommendation 5.2:** ODE should develop a cloud migration strategy that identifies funding sources and prioritizes migration based on business use case justification.

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[67] Cloud migration is the process of moving data, applications, or other business elements to a cloud computing environment.

Recommendation 5.1: IT Governance

ODE has addressed weaknesses identified in the 2013 performance audit within IT governance, the process by which it selects and identifies projects to fund, through the creation of an IT Governance Committee and project roadmap. Building on these improvements, ODE should further enhance its IT governance by developing an IT strategic plan aligned with the Department's broader strategic plan. An IT strategic plan that contains project prioritization and encourages portfolio management would allow the ODE to better plan and budget for key technology projects.

Background

IT governance is a formal framework that provides a structure for organizations to ensure that IT investments support business objectives.[68] Information Technology projects and investments can be costly, and without proper governance and business involvement may not fully support the needs of a department.

ODE has had a system of IT governance in place since July of 2014. This is attributable to recommendations provided to it in the 2013 performance audit. The existing IT governance structure includes senior leaders representing all of the ODE program and operations offices as well as four members from the ITO. This group is responsible for:

- Ensuring ITO is performing project work and supporting investments according to ODE's mission;
- Ensuring projects are aligned to the ODE strategic plan "Each Child Our Future"; and,
- Approving project management assignments and start dates.

While ODE has some components of IT governance in place, it does not have a strategic plan for ITO which ties to Departmental needs and goals. A strategic plan is the formal document which guides policies and procedures over an extended period of time and is a critical component of IT governance.

Methodology and Analysis

We reviewed the existing IT governance structure within ODE and compared it to best practices and industry standards.

It is critical that Departmental leadership be involved with IT governance in order to ensure that internal IT sustains and extends the organization's strategies and objectives. Governance offers a formula for success and allows leaders within governmental organization to be active in the strategic management of IT and make sure the following basic elements are in place:

- **Alignment and responsiveness:** Working with IT portfolio management to align IT investments with agency objectives, which allows managers to improve responsiveness to operational challenges;

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[68] "What is IT governance? A formal way to align business & IT strategy," *CIO* (2017).

- **Objective decision making:** Allowing leadership to actively commit to improving management and control of IT activities in the agency;
- **Resource balancing:** Enabling control in planning and organizing IT initiatives to allow for adequate IT support for current and future IT investments;
- **Organizational risk management:** Understanding risks associated with IT initiatives and providing the basis to implement risk mitigation strategies;
- **Execution and enforcement:** Providing managers with a single point for IT project management and control, which allows for project prioritization and standardization; and,
- **Accountability:** Allowing managers to enforce the responsibilities that relate to IT program management.[69]

IT governance is the framework for aligning IT strategy with business strategy. The policies associated with IT governance ensure projects stay on track and on plan and meet the needs of stakeholders. Ineffective IT governance can result from a variety of issues including a lack of budgetary control, poor quality of data used in decision making, and lack of timely decision making.

Conclusion

ODE should develop a strategic plan for ITO. This plan will allow the Department to ensure that projects can be prioritized based on Departmental needs and goals and that funds are directed to the most critical investments and projects.

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[69] *"Understanding IT Governance and Why it Often Fails,"* *Architecture & Governance Magazine,* (2014), artchitectureandgovernance.com

Recommendation 5.2: Cloud Migration

ODE should develop a cloud migration strategy that establishes funding sources and prioritizes migration based on business use case justification. This strategy should be included in the IT strategic plan that is created as a result of **R5.1**. By planning and budgeting for cloud migration, ODE will be able to ensure that these projects receive priority funding and attention.

Background

ODE maintains databases with an extraordinary amount of information. These databases feed into numerous services that are updated on a regular basis and can be created on-demand when requested by an end-user, either internally or externally. These reports, in aggregate, take a significant amount of processing power to generate, and the inability to scale applications to meet demand rapidly is inefficient. Further, it is not efficient or effective to house the infrastructure systems within ODE that would be necessary to accomplish these tasks.

The Ohio Department of Administrative Services (DAS) operates the State of Ohio Computer Center (SOCC), which is a data center that provides a highly secure facility for state agencies. ODE currently uses the SOCC for server access, application hosting, and infrastructure services. The majority of ODE's applications are housed and run through the SOCC; however, the Department has begun to move applications to a cloud computing model.[70] Cloud computing provides several advantages over other forms of processing including the ability to have broad network access, pooling of resources, and the ability to rapidly scale to demand.[71]

Methodology and Analysis

We interviewed both ODE and DAS staff to determine the cloud migration history and process specific to ODE. We also interviewed ODE staff in order to identify any strategic plan or existing prioritization of applications for cloud migration. We compared ODE's current practices with the National Institute of Standards and Technology (NIST) standards for cloud migration.

ODE's Application Development group was responsible for developing applications that are currently housed on SOCC servers. Since 2017, ODE and DAS have been working to develop a cloud migration process which requires new application development hosted in a cloud environment.

The strategic movement of applications from the SOCC platform to a cloud based platform should be driven by business use cases that optimize migration of system workloads to cloud-based systems to ensure continuous operation, interoperability between internal IT Systems and cloud based systems, and are most cost-effective.[72] Because ODE does not have a strategic plan prioritizing application cloud migration, a formal process for defining the funding source or

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[70] Cloud computing has three service models, see **Appendix F** for additional information.
[71] *The NIST Definition of Cloud Computing*, National Institute of Standards and Technology, (2011).
[72] *NIST Cloud Computing Standards Roadmap,* National Institute of Standards and Technology, (2013).

business case for migration has not been developed. The lack of funding, and migration specific projects, increases the amount of time for application migration overall**.**

While no formal business use case has been developed, ODE has moved some applications to the cloud in order to address high-demand access issues. For example, as seen in the chart on the right, in 2017 when the Report Card application was located entirely on SOCC servers there was a high-demand spike after new report cards were released in September. This would cause servers to crash or be extremely slow for a period of days after the release. In 2019, after the application had been moved to the cloud, the same demand spike in September occurred, but without users experiencing delays in service. Using the cloud allows ODE to scale access for this application during September in order to address the increase in demand.

Executed Reports for Report Card Microstrategy 2017
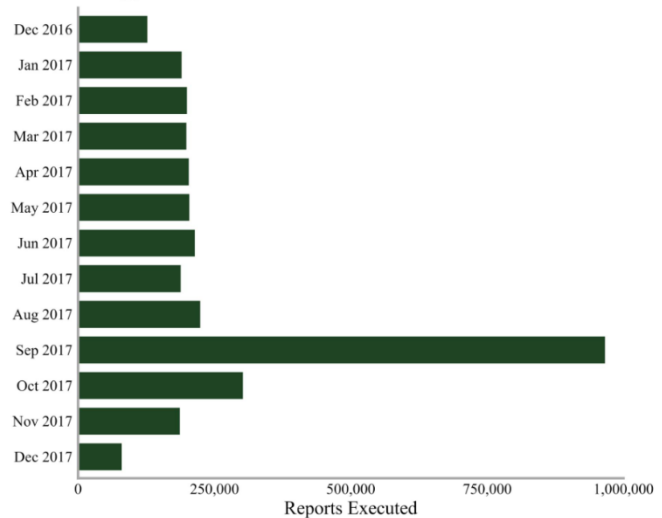
Source: ODE

During the course of our fieldwork, ODE identified additional applications which it would like to move to the cloud, but has been unable to do so due to restrictions on funding, restrictions on infrastructure services, and a lack of process for business use case justification. Because of these limitations, ODE estimates a 10 year timeline for the cloud migration process.

Conclusion

ODE should incorporate a plan for cloud migration into the IT strategic plan. Cloud migration of applications should be based on business use case justification and identify specific funding sources. The migration plan should prioritize applications that will increase ODE's efficiency and capacity.

Client Response Letter

Audit standards and AOS policy allow clients to provide a written response to an audit. The letter on the following page is the Department's official statement in regards to this performance audit. Throughout the audit process, staff met with Department officials to ensure substantial agreement on the factual information presented in the report. When the Department disagreed with information contained in the report, and provided supporting documentation, revisions were made to the audit report.

Mike DeWine, Governor
Paolo DeMaria, Superintendent of Public Instruction

January 19, 2021

The Honorable Keith Faber
Auditor of State
88 East Broad Street, 5th Floor
Columbus, OH 43215

Auditor Faber:

The Ohio Department of Education (ODE) sincerely appreciates the work of the Auditor of State, specifically the Ohio Performance Team, on the recently completed Performance Audit. We value and enjoy our collaborative partnership with your office and our shared commitment to the effective operation of state government and the efficient stewardship of taxpayer resources. We commend you and your team for your diligence and welcome the recommendations that are directed toward the continuous improvement of the Department's operations in favor of Ohio's strategic plan for education, *Each Child, Our Future*.

We thank you for acknowledging the improvements being made by the Department in the areas that were reviewed. These reflect the hard work of Department staff and their dedication and commitment to the success of the agency and its mission. Our staff is amazing, and we pride ourselves on always looking for ways to get better. Also, we are encouraged that most recommendations align with current and planned work, and we appreciate the affirmation that our planned activities have merit.

The following are general responses to the five sections included in the report.

Student Success

The Department's work to promote continuous improvement of the state's education system in the interest of helping more students succeed is its most important mission. We appreciate the deep analysis and review undertaken by the Performance Team. We have been having significant internal conversations over the last several months to drive our continuing efforts to improve our support for schools and districts and better measure the impact of our efforts. We know that we have room to improve and are committed to identifying additional ways to share effective practices from high performing and high improving districts, and to evaluate our monitoring processes. We look forward to seeing the impact of these additional efforts as we more fully measure the outcomes of the Department's improvement initiatives.

Student Assessments

Student assessments play a critical role in gauging and monitoring the status and improvement of the state's education system. Assessments are a key factor in helping to ensure equity for all students and meeting federal requirements. We are proud of the determination made in the course of the audit that we are meeting best practices

25 South Front Street   (877) 644-6338
Columbus, Ohio 43215   For people who are deaf or hard of hearing,
education.ohio.gov   please call Relay Ohio first at 711.

for testing development and implementation. As indicated, the time requirements for state testing are well within legal limitations, and the state testing system is almost entirely comprised of federally mandated tests. The State Board of Education and the Department are on record supporting further streamlining. We are committed to the continued analysis of assessment-related costs and look forward to working with the General Assembly to evaluate the cost efficiencies that can be realized, given the requirements in Ohio law. We appreciate your recommendations to improve communications around the assessments and to better monitor use and access of practice assessments.

Education Management Information System and Data Management

As you know, several years ago the Auditor of State issued a report severely critical of the condition of the Department's Education Management Information System. We are pleased that at this time you have found EMIS to be much improved and well-focused on achieving its mission. We are particularly proud of the stakeholder engagement achieved via the EMIS Advisory Council and our success at improving the EMIS system. We know there is more to be done, and your recommendations in this area echo our own plans for further improvements. We look forward to continuing to improve EMIS, the EMIS manual and professional development opportunities related to EMIS.

State Foundation Payment Process

We appreciate your recognition that the Department has become increasingly efficient in making foundation payments and has made substantial progress in reducing the time it takes by which final foundation payments are processed. This has been a focus of our attention for several years. We look forward to continuing our diligence in achieving even faster completion of this important process based on the recommendations in the report.

Information Technology

We are proud of our IT systems, infrastructure and functionality and the team that maintains it. We are pleased that you found our operations to be within acceptable parameters, and that you also recognize the noteworthiness of our use of Agile programming approaches. Here too, your recommendations for developing an IT strategic plan and continuing our cloud migration strategy align with our current plans and activities. We are excited to continue to ensure that our IT approaches are well regarded, effective and efficient.

Once again, we appreciate the work of the Ohio Performance Team, and look forward to our continuing partnership.

Sincerely,

Paolo DeMaria
Superintendent of Public Instruction

Appendix A: Purpose, Methodology, Scope, and Objectives of the Audit

Performance Audit Purpose and Overview

Performance audits provide objective analysis to assist management and those charged with governance and oversight to improve program performance and operations, reduce costs, facilitate decision making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability.

Generally Accepted Government Auditing Standards (GAGAS) require that a performance audit be planned and performed so as to obtain sufficient, appropriate evidence to provide a reasonable basis for findings and conclusions based on audit objectives. Objectives are what the audit is intended to accomplish and can be thought of as questions about the program that the auditors seek to answer based on evidence obtained and assessed against criteria.

We conducted this performance audit in accordance with GAGAS. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Audit Methodology

To complete this performance audit, auditors gathered data, conducted interviews with numerous individuals associated with the areas of City's operations included in the audit scope, and reviewed and assessed available information. Assessments were performed using criteria from a number of sources, including:

- Peer States;
- Industry Standards;
- Leading Practices;
- Federal and State statues; and
- Policies and Procedures.

Audit Scope and Objectives

In order to provide the City with appropriate, data driven, recommendations, the following questions were assessed within each of the agreed upon scope areas:

Summary of Objectives and Conclusions

Objective	Recommendation
Student Success	
What opportunities exist to increase student achievement by modeling practices used by consistently high performing traditional school districts and implementation of ODE improvement initiatives?	**R1.1**
What opportunities exist for ODE to use the continuous improvement school district reviews to increase student outcomes and achievement?	**R1.2**
Student Assessments	
What opportunities exist to improve the efficiency and effectiveness of student assessment implementation in relation to industry standards and/or leading practices?	**R2.1**
What opportunities exist to improve the efficiency and effectiveness of assessment development process in relation to industry standards and/or leading practices?	**R2.2**
EMIS	
What opportunities exist to improve the accuracy, efficiency, and effectiveness of the data generated by EMIS?	**R3.1**
Foundation Funding	
What opportunities exist to improve the efficiency and effectiveness of the foundation payment process, particularly the final payment adjustments?	**R4.1**
Information Technology	
What opportunities exist to improve the efficiency and effectiveness of IT governance in relation to industry standards and/or leading practices?	**R5.1**
What opportunities exist to improve the efficiency and effectiveness of staffing levels in the IT program office in relation to industry standards and/or leading practices?	**R5.1**
What opportunities exist to improve the efficiency and effectiveness of cloud migration in relation to industry standards and/or leading practices?	**R5.2**

Although assessment of internal controls was not specifically an objective of this performance audit, internal controls were considered and evaluated when applicable to scope areas and

objectives. The following internal control components and underlying principles were relevant to our audit objectives[73]:

- Control environment
    - We assessed the Department's exercise of oversight responsibilities in regards to managing and monitoring selected programs.
- Information and Communication
    - We considered the ODEs use of quality information in relation to district funding, student assessments, and foundation payments.
    - We considered ODE's communication practices to stakeholders in selected areas.
- Control Activities
    - We considered the ODE's compliance with applicable laws and contracts.

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[73] We relied upon standards for internal controls obtained from *Standards for Internal Control in the Federal Government* (2014), the U.S. Government Accountability Office, report GAO-14-704G

Appendix B: Student Success

Below is the table which contains the districts which met the criteria for "high performing". This criteria was having a PI Score that was above 100. This was determined through communication with ODE. A PI Score of 100 meant the district was proficient, so a score above 100 meant the district was above proficient.

High Performing Districts FY2019

District	County	Performance Index Score
Solon City SD	Cuyahoga	112.623
Rocky River City SD	Cuyahoga	109.385
Chagrin Falls Ex Vill SD	Cuyahoga	109.224
Madeira City SD	Hamilton	109.171
Ottawa Hills Local SD	Lucas	109.060
Beachwood City SD	Cuyahoga	108.523
Brecksville-Broadview Height	Cuyahoga	108.071
Marion Local SD	Mercer	107.973
Indian Hill Ex Vill SD	Hamilton	107.960
Bay Village City SD	Cuyahoga	107.715
Oakwood City SD	Montgomery	107.550
Mariemont City SD	Hamilton	107.391
Granville Ex Vill SD	Licking	107.297
Miller City-New Cleveland Local	Putnam	107.050
Minster Local SD	Auglaize	106.620
Russia Local SD	Shelby	106.455
New Albany-Plain Local SD	Franklin	106.019
Wyoming City SD	Hamilton	105.901
Ottoville Local SD	Putnam	105.871
Sycamore Community City SD	Hamilton	105.731
St Henry Consolidated Local	Mercer	105.529
Olentangy Local SD	Delaware	105.476
Avon Local SD	Lorain	105.415
Orange City SD	Cuyahoga	105.383
Kalida Local SD	Putnam	105.369
Highland Local SD	Medina	105.339
Wayne Local SD	Warren	105.221
Grandview Heights City SD	Franklin	105.144
Revere Local SD	Summit	105.095

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Hudson City SD	Summit	105.068
Perrysburg Ex Vill SD	Wood	104.941
Fort Loramie Local SD	Shelby	104.787
Kenston Local SD	Geauga	104.784
Cuyahoga Heights Local SD	Cuyahoga	104.778
Canfield Local SD	Mahoning	104.553
Mason City SD	Warren	104.540
Avon Lake City SD	Lorain	104.454
West Geauga Local SD	Geauga	104.248
Steubenville City SD	Jefferson	103.913
Aurora City SD	Portage	103.883
New Bremen Local SD	Auglaize	103.804
Anthony Wayne Local SD	Lucas	103.600
South Range Local SD	Mahoning	103.575
Versailles Ex Vill SD	Darke	103.385
Westlake City SD	Cuyahoga	103.058
New Knoxville Local SD	Auglaize	102.883
Sugarcreek Local SD	Greene	102.553
Maplewood Local SD	Trumbull	102.432
Botkins Local SD	Shelby	102.376
Independence Local SD	Cuyahoga	102.176
Lake Local SD	Stark	102.149
North Royalton City SD	Cuyahoga	102.129
Anna Local SD	Shelby	102.093
Chardon Local SD	Geauga	101.796
Copley-Fairlawn City SD	Summit	101.743
Bluffton Ex Vill SD	Allen	101.722
Bexley City SD	Franklin	101.651
Hicksville Ex Vill SD	Defiance	101.602
East Holmes Local SD	Holmes	101.508
Upper Arlington City SD	Franklin	101.416
Jackson Local SD	Stark	101.279
Van Buren Local SD	Hancock	101.271
Norwayne Local SD	Wayne	101.118
Loveland City SD	Hamilton	101.111
Northwest Local SD	Stark	101.060
Eastwood Local SD	Wood	101.022
North Canton City SD	Stark	100.908
Forest Hills Local SD	Hamilton	100.806

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Poland Local SD	Mahoning	100.694
Kings Local SD	Warren	100.688
Fort Recovery Local SD	Mercer	100.575
Twinsburg City SD	Summit	100.539
Chippewa Local SD	Wayne	100.529
Liberty Benton Local SD	Hancock	100.388
Springboro Community City SD	Warren	100.353
Archbold-Area Local SD	Fulton	100.339
Wadsworth City SD	Medina	100.297
Green Local SD	Summit	100.277
Miami East Local SD	Miami	100.169

Source: ODE

The following table categorizes the high performing districts based on expenditure per PI point. A lower amount spent per PI point indicates greater efficiency by the district.

High Performing District

Expenditure/PI Scores FY2019

District	County	$ / PI
Springboro Community City SD	Warren	$86.92
Norwayne Local SD	Wayne	$89.00
St Henry Consolidated Local	Mercer	$91.32
Steubenville City SD	Jefferson	$93.23
Bluffton Ex Vill SD	Allen	$93.88
Avon Local SD	Lorain	$94.12
Liberty Benton Local SD	Hancock	$94.15
Highland Local SD	Medina	$95.05
Wayne Local SD	Warren	$95.64
Jackson Local SD	Stark	$96.32
Marion Local SD	Mercer	$96.83
South Range Local SD	Mahoning	$97.93
Canfield Local SD	Mahoning	$98.81
Lake Local SD	Stark	$99.85
Minster Local SD	Auglaize	$99.89
Poland Local SD	Mahoning	$100.80
Northwest Local SD	Stark	$101.47
Anna Local SD	Shelby	$101.65
Kalida Local SD	Putnam	$102.84
Chippewa Local SD	Wayne	$103.14

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Miami East Local SD	Miami	$103.50
Green Local SD	Summit	$103.88
Russia Local SD	Shelby	$104.00
Fort Recovery Local SD	Mercer	$104.68
Versailles Ex Vill SD	Darke	$105.47
Wadsworth City SD	Medina	$105.90
North Canton City SD	Stark	$106.94
Perrysburg Ex Vill SD	Wood	$107.10
Archbold-Area Local SD	Fulton	$107.63
Anthony Wayne Local SD	Lucas	$107.66
Kings Local SD	Warren	$107.82
Avon Lake City SD	Lorain	$108.72
Olentangy Local SD	Delaware	$110.66
Sugarcreek Local SD	Greene	$110.69
Botkins Local SD	Shelby	$111.09
Mason City SD	Warren	$112.22
Miller City-New Cleveland Local SD	Putnam	$112.49
New Bremen Local SD	Auglaize	$112.82
East Holmes Local SD	Holmes	$113.39
Forest Hills Local SD	Hamilton	$114.59
Twinsburg City SD	Summit	$115.34
Chardon Local SD	Geauga	$115.44
Fort Loramie Local SD	Shelby	$115.91
Hicksville Ex Vill SD	Defiance	$117.42
Granville Ex Vill SD	Licking	$117.93
Ottoville Local SD	Putnam	$119.23
Van Buren Local SD	Hancock	$120.76
Eastwood Local SD	Wood	$120.81
Madeira City SD	Hamilton	$120.82
Maplewood Local SD	Trumbull	$122.22
New Knoxville Local SD	Auglaize	$122.96
Brecksville-Broadview Height	Cuyahoga	$123.36
Loveland City SD	Hamilton	$124.12
Aurora City SD	Portage	$125.03
Wyoming City SD	Hamilton	$125.74
New Albany-Plain Local SD	Franklin	$125.99
North Royalton City SD	Cuyahoga	$126.11
Oakwood City SD	Montgomery	$126.79
Bay Village City SD	Cuyahoga	$129.27

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Rocky River City SD	Cuyahoga	$130.72
Kenston Local SD	Geauga	$131.12
Copley-Fairlawn City SD	Summit	$131.49
West Geauga Local SD	Geauga	$131.55
Revere Local SD	Summit	$132.29
Mariemont City SD	Hamilton	$133.21
Sycamore Community City SD	Hamilton	$135.58
Hudson City SD	Summit	$136.08
Ottawa Hills Local SD	Lucas	$140.86
Solon City SD	Cuyahoga	$141.16
Westlake City SD	Cuyahoga	$143.14
Chagrin Falls Ex Vill SD	Cuyahoga	$144.02
Bexley City SD	Franklin	$150.33
Indian Hill Ex Vill SD	Hamilton	$160.42
Upper Arlington City SD	Franklin	$160.83
Grandview Heights City SD	Franklin	$161.87
Independence Local SD	Cuyahoga	$162.49
Cuyahoga Heights Local SD	Cuyahoga	$170.62
Beachwood City SD	Cuyahoga	$183.48
Orange City SD	Cuyahoga	$232.59

Source: ODE

Below is the table containing the High Improving districts, as determined by our analysis. These districts were determined by setting criteria for PI Score and value-added over a specific time period, and identifying which districts met both criteria. The time period was FY17-FY19 based on communication with ODE, due to changes in tests impacting the value-added grades. Criteria for PI Score was the district had to have had an increase in PI Score from FY17 to FY19 of at least ½ a standard deviation of the FY19 PI Scores for all districts. This was approximately 5.00. Criteria for value-added was a two letter grade jump between FY17 and FY19. The list below is comprised of the only 15 districts that met both of these criteria.

High Improving Districts FY17-FY19

District	County	PI Score Change	FY19 PI Score	FY17 PI Score	FY19 Value Added	FY17 Value Added
Bristol Local	Trumbull	5.38	95.26	89.89	C	F
Chagrin Falls Exempted Village	Cuyahoga	5.39	109.22	103.83	A	D
Colonel Crawford Local	Crawford	5.01	90.21	85.20	C	F
Crestline Exempted Village	Crawford	5.65	76.92	71.27	C	F
Danville Local	Knox	7.39	86.93	79.55	C	F
Edison Local	Jefferson	6.86	90.28	83.41	B	F
Jennings Local	Putnam	9.54	96.69	87.15	B	F
Kenston Local	Geauga	6.06	104.78	98.73	B	F
Loveland City	Hamilton	5.89	101.11	95.22	B	F
New London Local	Huron	7.40	88.01	80.61	B	F
New Miami Local	Butler	6.11	77.00	70.89	B	F
St Clairsville-Richland City	Belmont	6.68	93.84	87.15	B	F
Toronto City	Jefferson	7.41	85.24	77.83	B	F
Vanlue Local	Hancock	9.63	90.19	80.55	B	F
Warrensville Heights City	Cuyahoga	8.85	67.87	59.02	A	F

Source: ODE

The following tables list improvement initiatives identified by ODE by program area.

Student Supports

Programs administered under the Center for Student Supports directly fund a variety of student needs such as nutrition, health care, and school safety & behavioral supports.

Program Name	FY20 Budget	Program Name	FY20 Budget
Early Childhood Education Grants and Technical Assistance	$68,116,789	National School Lunch	$418,643,500
Kindergarten Readiness Assessment	$2,760,000	Fruit and Vegetable Consumption	$4,911,207
Child Care Licensing	$2,156,322	Child and Adult Care Food Program	$110,121,168
Prevention Education	$1,000,000	Special Milk Program	-
School Lunch Match	$8,963,500	Summer Food Program	$15,599,467
General State Support - Institution/CBDD Special Education Funding	$33,000,000	Child Nutrition	$11,469,730
Parent Mentor Projects	$1,350,000	Homeless Children	$3,295,203
School Psychology Intern Program	$3,000,000	State Personnel Development Grant (SPDG)	$2,000,000
General State Support – ESC Gifted Unit Funding	$3,800,000	Head Start Collaboration Project	$225,000
School Climate Grants	$2,000,000	School Climate Transformation	$1,226,602
Student Wellness and Success	$275,000,000	Preschool Special Education	$12,555,000
Child Nutrition Programs:	-	Individuals with Disabilities Education Improvement Act	$454,770,591
School Breakfast	$158,726,966	English Language Acquisition	$10,500,000

Continuous Improvement

Programs administered under the Center for Continuous Improvement provide technical assistance to schools and manage grants related to school performance and improvement.

Program Name	FY20 Budget	Program Name	FY20 Budget
School Improvement	$339,783	School Improvement Grants (SIG)	-
Community Schools and Choice Programs Administration	-	21st Century Community Learning Centers (Title IVB)	-
Academic Distress Commissions (ADC)	-	Expanding Opportunities for Each Child Grant Program: Leadership, Support and Technical Assistance	-
School Improvement - ESCs[74]	$3,500,000	Ohio Improvement Process	-
Quality Community Schools Support	$30,000,000	School Improvement Diagnostic Review	-
Migrant Education	-	State Support Teams: Leadership, Support and Technical Assistance	-
ESEA Title IA	-	Charter School Program Grant	-
Rural and Low-Income Grants	-	Consolidated USDE Administration	

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[74] Funds State Support Teams, but flows through ESCs, which serve as fiscal agents.

Teaching, Leading, and Learning

Programs administered under the Center for Teaching, Leading, and Learning include literacy grants, teacher evaluations, and adult learners & post-secondary education.

Program Name	FY20 Budget	Program Name	FY20 Budget
Striving Readers Comprehensive Literacy Grant	$35,000,000 Sept 2017 to Sept 2021	Career Field Technical Content Standards	-
Comprehensive Literacy State Development Grant	$42,000,000 Sept 2019 to Sept 2024	Educator Evaluation Systems	$1,652,644
Model Demonstration Dyslexia Grant	$1,200,000	Equity	-
STE(A)M Designation	-	Mathematics Modeling and Reasoning	$100,000-$150,000
Personalized Learning KnowledgeWorks partnership	Philanthropically Funded	High School Mathematics Pathways Initiative: Rethinking Algebra 2 Equivalency	Application for grant of $4 million being submitted in 9/2020
Adult 22+ High School Diploma Program	$6,900,000	Learning Standards & Model Curriculum	$4,434,215
Adult Diploma	$2,367,641	College Credit Plus	School Districts pay
High School Equivalency	$300,000	Industry-Recognized Credential Implementation	GRF 200478 Industry-Recognized Credentials High School Students ($8,000,000 for reimbursement remains)
Career-Based Intervention	$1,795.11 per student	Credit Flexibility and Integrated Coursework	-
Career-Technical Student Organizations (CTSO)	-	Work-Based Learning	-

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Performance and Impact

Programs administered under the Center for Performance and Impact evaluate performance at the student and district level.

Program Name	FY20 Budget	Program Name	FY20 Budget
Schools of Promise	-	National Assessment of Educational Progress (NAEP)	-
State Assessment	-	Regional Data Leads	N/A (although some federal grant funding will support RDL work in FY 21)
State Report Cards	-	Community School Sponsor Evaluation	-

Appendix C: Ohio Student Assessments

Below are best practices associated with both the implementation and development of standardized assessments. ODE has provided information regarding each practice in regards to how the Department works to meet the stated criteria.

Implementation Best Practices

US DoE Best Practices	US DoE Language	ODE Evidence
Build technological capacity to ensure secure administration of Computer Based Testing (CBT).	Some schools lack sufficient computers, electrical hookups or other capacities needed to administer CBT assessments to all of their students simultaneously.	If districts are unable to deliver tests online due to technological inaccessibility, the Department does work individually with those districts to assist them. Currently, approximately 99.5% of assessments are able to be taken online in Ohio.
Develop standard policies and procedures for test administration.	Panelists advised that states and school districts should prepare administrators with simulated CBT, and provide clear protocols and help-desk support.	A practice test site is available for districts that mimics the operational testing site. This provides test administrators and students the ability to become familiar with both the navigation and content on the state tests well before any student takes the test.
Ensure students are comfortable with a CBT format.	Once the format becomes routine, it will provide numerous advantages over traditional paper-and-pencil testing, especially in terms of improved test security measures.	Based on the survey responses, it is in wide agreement that the school districts believe the majority of students are comfortable with the current CBT format
Train and certify principals and teachers in administering and interpreting academic assessments.	Proper training and professional development at all levels is crucial in creating a healthy testing culture.	Based on the survey responses, it is in wide agreement that the school districts believe that assessment proctors are adequately trained to administer the assessments.
Develop standard policies and procedures for test administration.	Clear policies, procedures, and protocols regarding test administration are essential to prevent misconduct.	The Ohio Department of Education releases a Test Administration Manual every year in accordance to this best practice. It includes the policies and procedures necessary for proper test administration.

Keep testing windows short.	All students should be taking the test at the same time or close to the same time as possible	The Ohio Department of Education sets forth a testing window in which each test must be given. It is a relatively short time frame for each grade level to complete their tests.
Administer tests in controlled environments.	Tests should be administered in controlled and secure environments that limit access to curricular materials, resources, and other visuals that could aid students.	The Ohio Department of Education's Assessment Administration document offers guidelines on administering state tests in a controlled environment.
Remove testing materials from the testing location immediately and score them off-site.	School officials should remove testing materials from the testing location immediately following test administration and score tests off-site to prevent tampering with answer sheets.	ODE currently conducts 95.5% of their assessments online. Online assessments are immediately uploaded to be scored off-site by Cambium and ODE as per the Request for Proposal.

Source: US DoE and ODE

Assessment Development Best Practices

US DoE Best Practices	**US DoE Language**	**ODE Evidence**
In-Line with Classroom Instruction	Testing should be a part of good instruction, not a departure from it. A good assessment is aligned to the content and skills a student is learning, and it requires the same kind of complex work students do in an effective classroom – or in the real world.	Districts, schools, and classroom teachers use student test data to examine performance results and trends that can then be used to inform instruction, local curriculum, and programs.
Demonstrate Ability	Assessment systems should measure student knowledge and skills against state-developed college- and career-ready standards in a way that, as appropriate.	The federal peer review process for state assessments requires states to provide evidence that their tests provide valid and reliable information on how well students are achieving a state's challenging academic standards to prepare all students for success in college and careers.

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Time-Limited	While it is up to states and districts how to balance instructional time and the need for high-quality assessments, we recommend that states place a cap on the percentage of instructional time students spend taking required statewide standardized assessments to ensure that no child spends more than 2 percent of her classroom time taking these tests.	By summing the total amount of time students spend taking assessments at each grade level from the Spring Test Administration Manual, and then dividing that by ODE's minimum classroom instructional time, AOS found each grade level is spending well below the benchmark 2% outlined by USDE.
Fair	Assessments should be fair, including providing fair measures of student learning for students with disabilities and English learners.	Test Development Committees consisting of Ohio educators, parents, and community members review and evaluate test questions to ensure that each question is fair, unbiased, and does not promote individual moral values.
Fully Transparent to Students and Guardians	States and districts should ensure that every parent gets understandable information about the assessments their students are taking, by providing information to parents on any tests students are required to take.	The state provides printed hardcopy individual student reports to families. These reports show students' test scores, performance levels, and relative strength and weakness. The reports also provide general guidelines on what parents can do to help students and where to seek help if needed. Family Reports Interpretive Guides are provided and designed to help families understand the content of the score reports and what the results mean for their student. In addition, translated Family Interpretive Guides are available in Arabic, Chinese, French, German, Japanese, Korean, Russian, Somali, Spanish, Ukrainian, and Vietnamese to assist parents who are speakers of languages other than English.

Just One of Multiple Measures	Assessments provide critical information about student learning, but no single assessment should ever be the sole factor in making an educational decision about a student, an educator, or a school. Information from sources such as school assignments, portfolios, and projects can help measure a student's academic performance.	In many ways, schools are required and encouraged to use multiple measures when making high-stakes decisions. The local report cards include student attendance rate, high school graduation rate, percent of highly qualified teachers, and other measures in the decision of district and school grade ratings.
Tied to Improved Learning	While some tests are for accountability purposes only, the vast majority of assessments should be tools in a broader strategy to improve teaching and learning.	Classroom teachers use state test results to determine where instruction is being effective and where they need to strengthen their teaching.

Source: US DoE and ODE

Appendix D: EMIS and Data Management

Data Collection Periods

ODE sets data collection periods for data submissions. The data collection periods have varying lengths of time. The shortest window is open for 27 days, and the longest stays open more than a year (375 days). The average window is 166 days or close to 5.5 months of the fiscal year. These collection windows can start any month of the fiscal year (except November and March), and over half of them stay open into the following fiscal year.

The various data collections fall into four major data groupings:
- Main Student Collections;
- Additional Student and Staff/Calendar Collections;
- Assessment Collections; and
- Financial Collections.

The main student data collection dates are divided into three ranges:
- Beginning of the Year collection: September 3, 2019 to December 20, 2019;
- Middle of the Year collection: January 3, 2020 to April 30, 2020; and
- End of Year collection: May 5, 2020 to July 15, 2020.

The full data collection calendar can be assessed at ODE's website.
http://education.ohio.gov/Topics/Data/EMIS/Reporting-Responsibilities/EMIS-Data-Collection-Calendars

Even after the data has been collected and processed, ODE asks the LEAs to review and correct any data shown as being incorrect. Any corrections will process during the nightly collections.

Once the data has been processed, the LEAs can view the data for review purposes utilizing EMIS Reports, ODDEX, and the Ohio Educational Directory System (OEDS).[75]

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[75] OEDS is a decentralized directory data system in which organizations maintain their own data. It is searchable by the general public.

Appendix E: Foundation Funding

Foundation Formula Funding

ODE calculates the level of funding for traditional school districts based on the formula identified in ORC §3317.022. Detailed information regarding the funding process can be found in the following documents:

- *School Funding Complete Resource* (**Legislative Budget Office, Ohio Legislative Service Commission, February 2019**), and **www.lsc.ohio.gov/documents/reference/current/schoolfunding/sfcr_feb2019.pdf**
- *FY20 School Finance Payment Report (SFPR) Line by Line Explanation* (**Ohio Department of Education, November 2019**), **www.education.ohio.gov/Topics/Finance-and-Funding/School-Payment-Reports/State-Funding-For-Schools/Traditional-School-Districts**.

To avoid significant variation in funding levels, districts may receive temporary transitional aid or be placed on the gain cap and may move on or off these designations as EMIS data is updated.

Total Districts by Funding Type
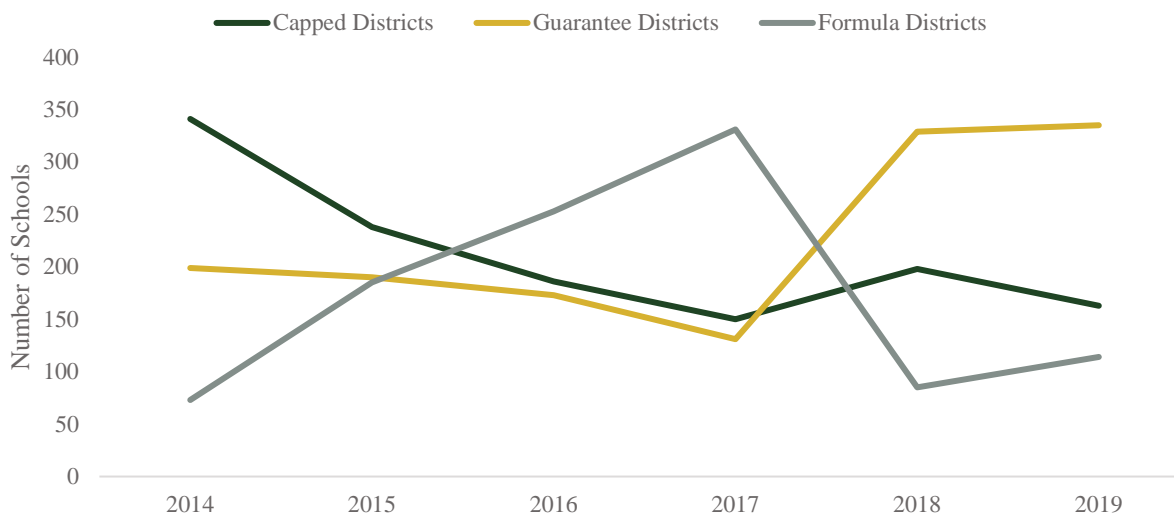
Source: ODE

In 2019, the guarantee ensured that districts received at least the same amount of state aid as in FY 2017. However, districts with declining enrollment were given a scaled amount of funding. Districts with an ADM decrease between 5.0 and 10.0 percent from FY 2014 to FY 2016 had funding scaled between 95.0 and 100.0 percent. Districts with an ADM decrease of 10 percent or greater from FY 2014 to FY 2017 received funding equal to 95 percent of the district's FY 2017 foundation funding.

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The gain cap sets a limit on how much additional funding a district can earn from FY 2017 due to increasing enrollment. In FY 2018 districts with increasing enrollment were able to receive up to 105.5 percent of FY 2017 their funding, and in FY 2019 districts with increasing enrollment were able to receive up to 106.0 percent of their FY 2018 funding. So combining those two years, districts in some cases would have been able to receive 11.83 percent more foundation funding in FY 2019 than they did in FY 2017.

While formula-funded districts (those not subject to the cap or guarantee) made up the majority of districts in FY 2016 and 2017, only 13.9 percent of districts in FY 2018 and 18.6 percent of districts in FY 2019 were formula-funded.

ODE Payment Process

The regular foundation payment process is ongoing and follows the steps outlined in the process map linked below.

See http://ohioauditor.gov/performance/ode_audit/ode-payment-process.pdf

Foundation Funding Appeals

The appeals process is initiated by an LEA and follows the process linked below for both Student Appeals and Funding Appeals. While there are two additional appeal types, we determined they were not significant to the payment process.

See http://ohioauditor.gov/performance/ode_audit/ode-appeals-process.pdf

Funding Variation

As noted, funding due to reconciliation payments does not vary significantly for the majority of LEAs. These adjustments typically are a minimal portion of the total foundation funding received in a particular year. The following charts are additional analyses related to this topic. The chart below shows the median difference in total annual foundation funding between the final regular payment in June and the final reconciliation payment. For the three LEA types where we had sufficient data, we found that the median variation was less than 0.5 percent for all years analyzed. This means that the majority of LEAs experienced a change, whether positive or negative, of less than 1.0 percent of their annual foundation funding due to the reconciliation processes.

Median Absolute % Difference of Last Final vs June #2 Net State Funding
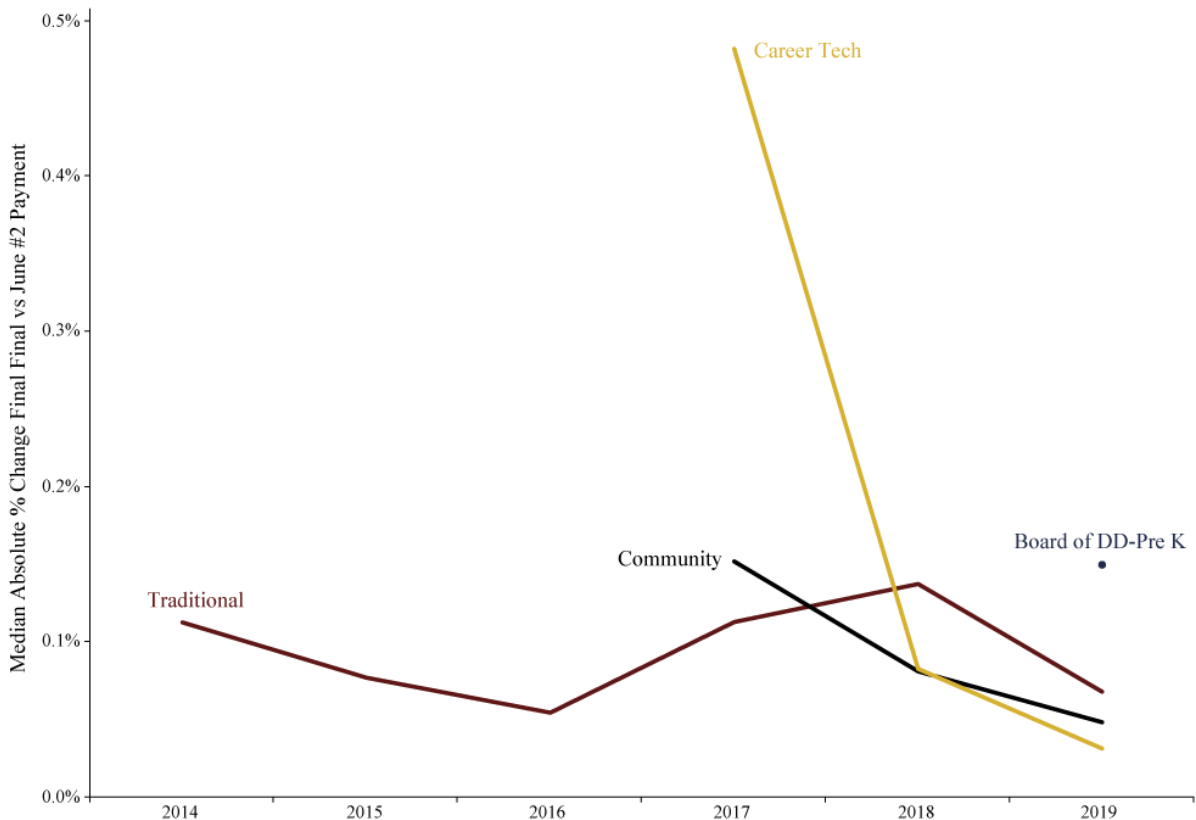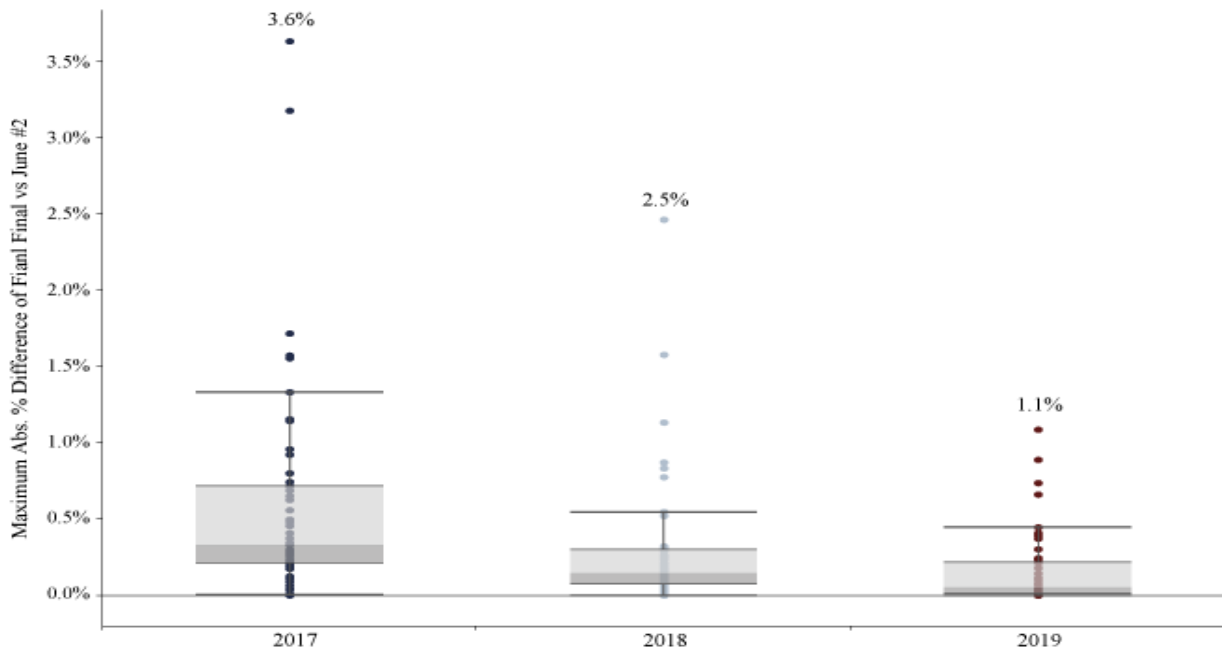

Source: Local Education Agencies

Note: Board of DD-Spec Ed and ESC's are 0.0% in FY 2019 (only year analyzed) and are therefore not pictured.

Note: Excludes Bettsville Schools (49692) which merged with Old Fort Local Schools.

The charts on the following page show the variation for JVSDs and Community Schools for FY 2017, FY 2018, and FY 2019. These charts show the percentage range for the middle 50.0 percent of LEAs as well as identifies individual outliers. As seen in the charts, both LEA types have had decreasing variation both for the middle 50.0 percent as well as a reduction in the variation for outliers.

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Career Tech Max Absolute % Difference of Last Final vs June #2

Source: Local Education Agencies

## Community School Max Absolute % Difference of Last Final vs June #2 Net State Funding

Source: Local Education Agencies

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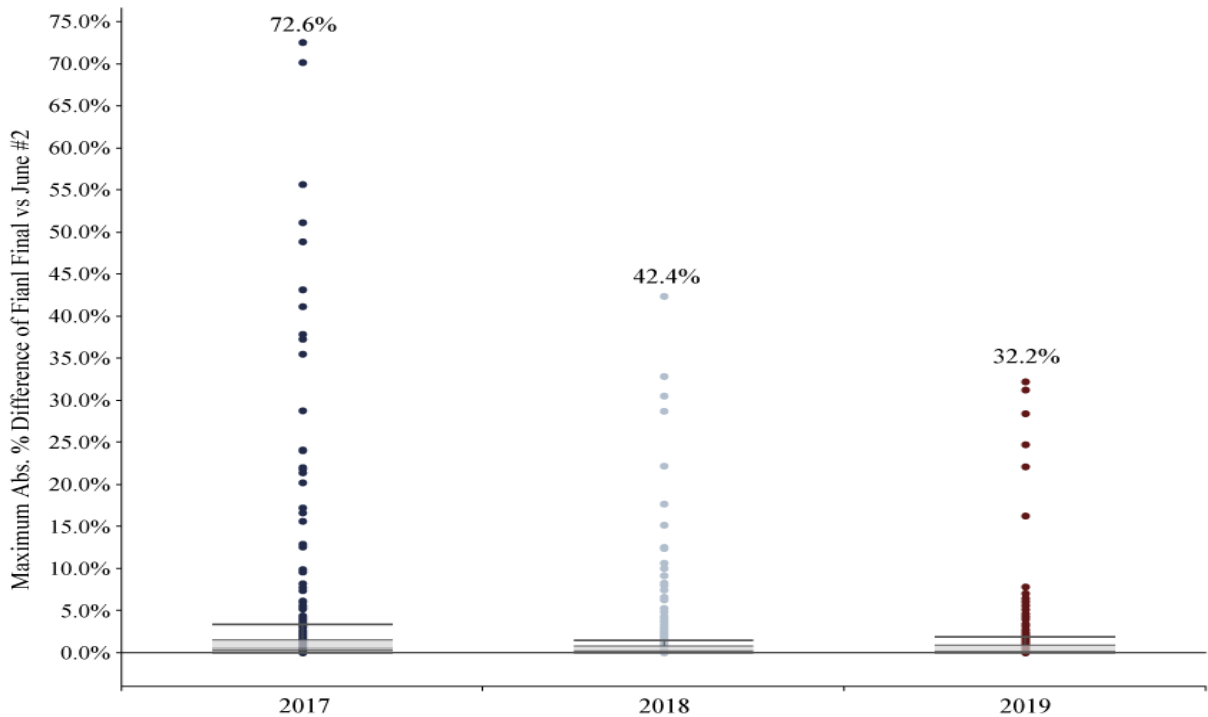
The chart below shows the same variation data for traditional school districts over a five year period. The middle 50.0 percent of districts had very little variation over the course of the analyzed period. There was a spike in FY 2015, both in the number of outliers and the amount of variation, which was likely due to changes in EMIS reporting. Additionally, there were individual outliers in FY 2017 and FY 2018, however these were due to unique circumstances and were not tied to the funding process overall. As seen in the chart, the greatest amount of variation in FY 2019 was only 1.8 percent.

Traditional Districts Maximum Absolute % Difference of Last Final vs June #2 Net State Funding
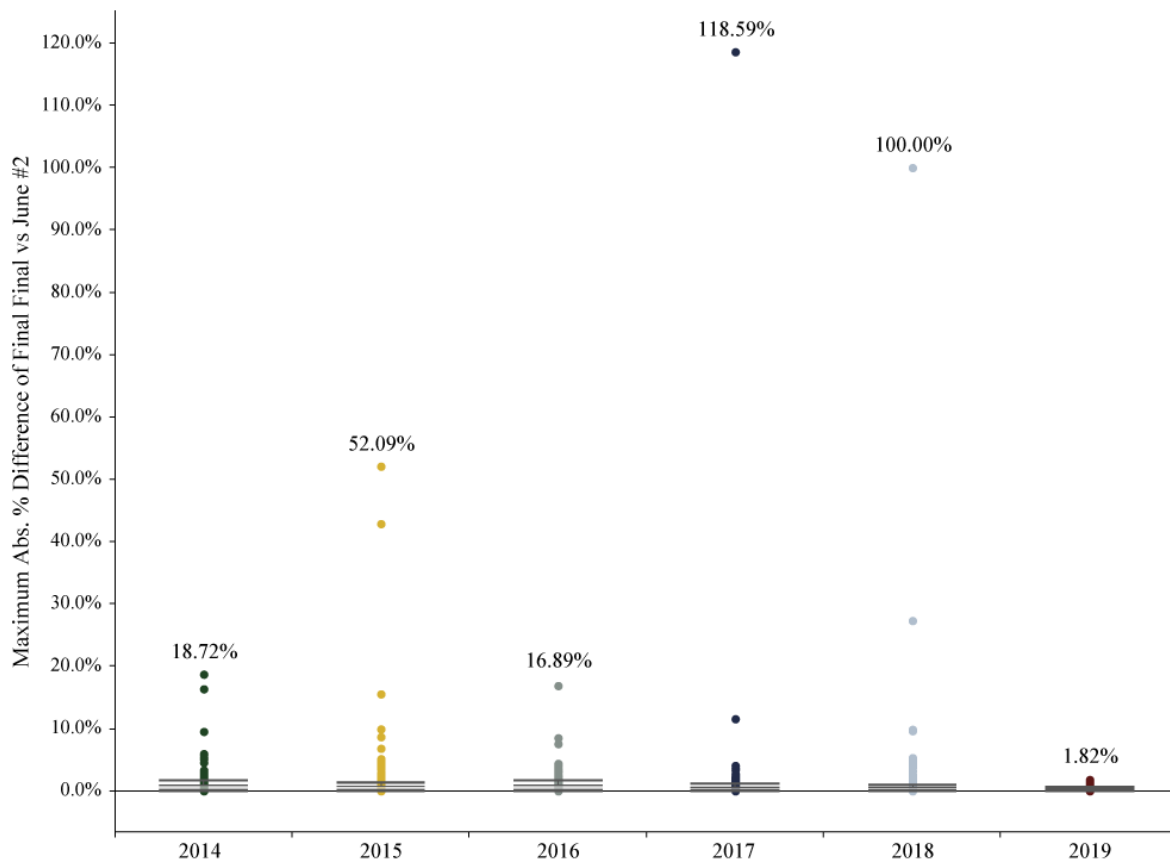
Source: Local Education Agencies

Appendix F: Information Technology

ITO Staffing

We reviewed ITO's staffing compared to benchmarks set by the Office of Budget and Management (OBM). These metrics look at the percent of IT staff dedicated to specific categories. OBM's metric is an average percentage of all state agencies; for example, as seen below, ITO's staffing for IT Administration represents 3.8 percent of all ITO staffing and the state average is 25 percent.

IT Staffing Comparison

| Staffing Category	ODE FTEs	ODE %	OBM Metric %
Application Development & Support	56.2	71.9%	40.0%
End User Computing	12.0	15.3%	12.0%
IT Administration	6.0	7.7%	25.0%
Production/Storage Infrastructure & Operations	3.0	3.8%	20.0%
Network	1.0	1.3%	4.0%

Source: ODE, OBM (Office of Budget & Management) Operating Budget Guidance

Note: Excludes data manager and EMIS FTEs because they do not perform IT functions identified in OBM's metrics.

As seen in the table, ODE is below the OBM metric in all staffing areas except for application development. The additional staff dedicated to application development is an internal decision to maintain that process internally rather than outsourcing to a third party.

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Cloud Computing

IT management requires a significant amount of organizational resources. As organizations have increased their reliance on IT for daily operations, the resources needed to effectively manage IT systems has also increased. In order to address the needs of organizations, alternatives to on-site IT management have developed over time.
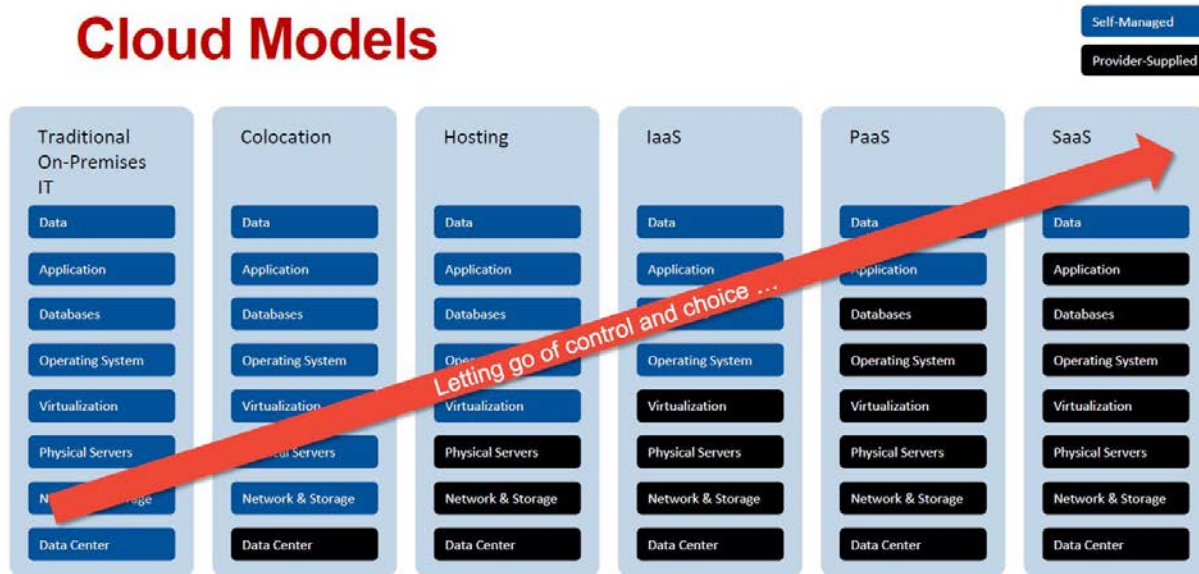
Source: Gartner

As seen in the graphic above, each IT and data management option has a decreasing level of control for an organization. The final three options in the graphic are related to cloud computing. Cloud computing has three service models, each of which provides advantages to organizations:

- **Software as a Service (SaaS):** The capability provided to the consumer is to use the provider's applications running on a cloud infrastructure.
- **Platform as a Service (PaaS):** The capability provided to the consumer is to deploy onto the cloud infrastructure consumer-created or acquired applications created using programming languages, libraries, services, and tools supported by the provider. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, or storage.
- **Infrastructure as a Service (IaaS):** The capability to the consumer is to provision processing, storage, networks, and other fundamental computing resources where the consumer is able to deploy and run arbitrary software, which can include operating systems and applications.

In general, the level of service provided by cloud computing is determined by the end-user's needs. In addition to the base service provided, users have access to proprietary tools that are adjacent to the purchased service; for example, PaaS will include tools that help enable an

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application development team with build, test, and deployment of the application, as well as analytic tools, machine learning capabilities, and AI enabled content.

According to NIST, the cloud model has the following five essential characteristics:

- **On-Demand Self-Service:** A consumer can unilaterally provision computing capabilities, such as server time and network storage, as needed automatically without requiring human interaction with each server provider.
- **Broad Network Access:** Capabilities are available over the network and accessed through standard mechanisms that promote use by heterogeneous thin or thick client platforms
- **Resource Pooling:** The provider's computing resources are pooled to serve multiple consumers using a multi-tenant model, with different physical and virtual resources dynamically assigned and reassigned according to consumer demand.
- **Rapid Elasticity:** Capabilities can be elastically provisioned and released, in some cases automatically, to scale rapidly outward and inward commensurate with demand
- **Measured Service:** Cloud systems automatically control and optimize resource use by leveraging a metering capability at some level of abstraction appropriate to the type of service

Cloud computing offers unique features compared to traditional infrastructure or collocated infrastructure that can enhance ODE's internal application development. Successful movement of applications should prioritize those applications that take advantage of these characteristics.

OHIO AUDITOR OF STATE
KEITH FABER

OHIO DEPARTMENT OF EDUCATION

FRANKLIN COUNTY

AUDITOR OF STATE OF OHIO CERTIFICATION

This is a true and correct copy of the report, which is required to be filed pursuant to Section 117.26, Revised Code, and which is filed in the Office of the Ohio Auditor of State in Columbus, Ohio.

Certified for Release 1/26/2021