

Measuring What Matters: More and Better Data Needed to Improve D.C. Public Schools

March 10, 2021

A report by Data Ethics, LLC



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March 10, 2021

Dear Mayor Bowser and Chairman Mendelson:

The Office of the D.C. Auditor presents the education data audit required by the District of Columbia Research Practice Partnership Establishment and Audit Act of 2018, ***Measuring What Matters: More and Better Data Needed to Improve D.C. Public Schools.***

This comprehensive study underscores the conclusion reached by the National Academy of Sciences in their 2015 report, [An Evaluation of the Public Schools of the District of Columbia: Reform in a Changing Landscape](#): to achieve equity in learning opportunities the District must have comprehensive and publicly available data to support the ongoing evaluation of schools and student outcomes.

This audit demonstrates that we do not collect the data needed to know whether public education in the District of Columbia is succeeding; we do not know if our interventions are improvements or merely interventions. Our ability to bring about racial equity through education policy and practice is thereby crippled.

Today like other states and cities we face the daunting task of addressing the significant learning loss our students have suffered during the COVID-19 pandemic. But unlike other districts with robust longitudinal student data systems we do not have the data we need to accurately assess where our children stand, what they have lost, and what they need going forward.

The U.S. Department of Education defines a Longitudinal Data System as one that [“collects and maintains detailed, high quality, student- and staff-level data that are linked across entities and over time, providing a complete academic and performance history for each student.”](#) In the District, critical data needed to determine how our most disadvantaged children are performing over time is lacking because our state education agency has never effectively collected it despite having clear statutory authority to do so. Attendance, dropout rates, in-school suspension rates, graduation rates, post-high school college and career success data disaggregated by race, gender, and socio-economic status across all of our public schools over time are compromised or nonexistent.

Across four administrations the District has committed to building a Statewide Longitudinal Data System but despite millions in federal and District dollars spent we do not have this basic tool to inform our decisions. Today other districts are using robust student data to track progress looking both backward and forward to know what each student needs and, thereby, where resources must go to address learning loss. The District does not have that capability.

Knowledge is power. District leaders who want the information needed to finally address the racial and socioeconomic disparities in public education and the additional learning losses of the past year will take seriously the findings and recommendations in this education data audit.

Thank you for having the foresight to mandate this education data audit. The ability to act on the findings is yours.

Sincerely yours,

A handwritten signature in blue ink that reads "Kathy Patterson". The signature is written in a cursive, flowing style.

Kathleen Patterson

District of Columbia Auditor

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Executive Summary

In March 2019, the Office of the District of Columbia Auditor (ODCA) initiated a contract audit of public education data as recommended in the 2015 National Research Council report, ***An Evaluation of the Public Schools of the District of Columbia***, and as required by the District of Columbia Education Research Practice Partnership Establishment and Audit Act of 2018.¹ This audit reviews data practices and datasets over six school years, from 2014 through 2019² to document what education data are collected and how they are used.

We establish a current **data inventory**, including relevant **metadata**, for public education and education-related **data elements** across the District over the past six years, and construct the longitudinal data archive needed to conduct corresponding analyses to assess data accuracy.³ We describe public education data systems and governance in other jurisdictions. We identify obstacles and solutions needed to enable the District to begin using accurate data as a basis for continuous improvement in education achievement. We establish that the District does not have a Student Longitudinal Data System (SLDS) despite years of federal and District funding to that end. And we gather and synthesize best practices for data use by research practice partnerships, including best practices for secure data sharing agreements used by state or local education agencies that ensure high value research is achieved with a low burden on agencies.

Our overall finding is that the absence today of a valid and fully functioning data system puts at risk any and all improvement in public education in the District.

The major findings include:

- The District's education data lack integrity.
- This lack of integrity flows from failure to exercise statutory state agency authority on data which puts education decision-making at risk.
- Without valid data the District has limited ability to produce research needed to understand program impacts, drive continuous improvement efforts, or even maintain and report accurate basic administrative data.

It is impossible to separate the impacts of education data decisions from their impacts on education itself. When important data are not collected, or they are incomplete, imprecise, and even potentially biased, then practitioners, policymakers, and stakeholders cannot know they are making the right decisions for students. Without the appropriate data, teachers, principals, counselors, and parents cannot make the right choices for the best school, program, curriculum, or instructional supports. Programs for special services cannot implement continuous improvement. Advanced opportunities cannot be assessed for equity of distribution or for the necessary supports to help previously underrepresented students enroll

1 ODCA, National Research Council, [An Evaluation of the Public Schools of the District of Columbia: Reform in a Changing Landscape](#), 2015. DC Law 22-268 [District of Columbia Education Research Practice Partnership Establishment and Audit Act of 2018](#), effective March 28, 2019.

2 Note: We identify school years throughout this report by the school-year end. For example, school year 2018-19 is identified as 2019.

3 Note: Technical terms, highlighted in bold italics, are defined in the Glossary at the end of the report as well as in context in the body of the report.

and succeed. Appropriate data is needed to apply for and renew many types of federal grants and meet legal reporting requirements for education programs in the District. Finally, policymakers and administrators cannot make the right funding decisions, and the public cannot trust the accountability data used to evaluate those decisions without appropriate data.

Report Structure and Methods

This report is presented in two volumes. The first volume includes a glossary with definitions and context for all bolded and italicized terms in the report; this **Executive Summary**; the following **Introduction**; **Parts 1-3**, which describe the lack of data integrity, poor decision-making, the many steps needed to produce valid research; and **Part 4**, a comprehensive improvement plan. The second volume consists of **Parts 5-7**, three analytic briefs that apply the knowledge gained in this audit to assess real time education questions on enrollment, longitudinal testing data, and high school pathways. The report concludes with two appendices.

The following is a synopsis of the major findings of each part in Volume 1.

In **Part 1: K-12 Education Data in the District of Columbia Lacks Integrity**, we discuss the District data in terms of the Office of the State Superintendent of Education's (OSSE) specific data system decisions, detailing where many of these decisions depart from standard practices and the implications for District students, educators, and other stakeholders.

In **Part 2: Lack of Executive Accountability Leaves Public Education in the District at Risk**, we show a pattern of consistent abdication of state education agency duties regarding critical data decisions in interactions with LEAs, the D.C. Public Charter School Board (PCSB), and the U.S. Department of Education (ED). This abdication includes declining to exercise current statutory authority and collect data when needed, replacing the exercise of authority with continued negotiation with PCSB over basic data collection. Importantly, this failure to exercise executive authority creates an inappropriate burden on LEAs as they are routinely missing the critical and timely regulation, guidance, and administrative data needed to provide a high-quality education to District students.

In **Part 3: Valid Research in the District is At Risk**, we review the research practice partnership (RPP) best practice resources including the common essential data collection, validation, and documentation practices needed for such partnerships to succeed, as well as the necessary governance structures for working with external research partners. We highlight critical gaps in current practices that need to be closed for the District's stakeholders to begin to benefit from education research. We describe high-value collaborative research data use across the country and the data resources created by this audit that are essential for a successful RPP.

In **Part 4: Comprehensive Improvement Plan**, we provide a blueprint for action based on the findings outlined in the first three parts. This plan leverages the many resources from the Forum and SLDS communities of practice documents to provide both a broad roadmap for establishing an SLDS with integrated governance and stakeholder engagement, and tangible examples from states that have engaged in this work. Given the gravity of the capacity gaps outlined in Parts 1-3, this plan is also accompanied by legislative and oversight recommendations to put a structure in place to monitor progress.

Volume 2

The second volume of this report uses quantitative data audit analysis to address real time education questions in the District. We examine differences based on school sectors traditional public schools and public charter schools—that further illustrate the importance of defining and collecting data in a uniform way across all reporting units, LEAs, and schools. The following is a synopsis of the major findings of each part in Volume 2.

Part 5: Education Data-Analysis Brief on School Enrollment identifies bias in the student records collected prior to 2016 and immediate equity concerns regarding which students experience both mid-year and year-to-year school moves. More specifically, we find that students missing from enrollment records were more likely to be considered at-risk, students with disabilities, or homeless, raising serious implications for any research conducted using data prior to 2016. In terms of mid-year and year-to-year school moves we find that, on average, these disruptive enrollment patterns occur much more frequently for more vulnerable student populations. Finally, we use a new technique to explore the relationship between neighborhood socioeconomic status and school transfers. We find that both mid-year and year-to-year school mobility are, on average, to schools with lower neighborhood socioeconomic status than the school at which students were previously enrolled. The fact that more vulnerable students are more likely to experience these disruptions, points to the necessity of data systems that fully track and monitor all student enrollment events. Complete data is necessary for school systems to design policies to reduce these events and adequately and accurately target supports for the most underserved students.

In **Part 6: Education Data-Analysis Brief on Longitudinal Testing Data**, we use individual student longitudinal test score data to investigate trends in student test score growth in the District over time relative to trends in proficiency levels. We find important trends that are worthy of more research including a strong pattern of increasing English Language Arts test score growth over time, decreasing math growth, and a substantial and consistent drop in test scores in 6th grade. In addition, we show that the District's reliance on proficiency rates and student growth percentiles alone are statistically problematic and therefore misleading. Further, we find that while test scores are strongly related to school neighborhood poverty levels, test score growth is not related to income, providing a more useful metric for understanding school and student learning. We also find that on average, students' own test score growth is several points lower when they experience a midyear school transfer. This is found for students all along the test score scale and is therefore not simply a correlation of lower scoring students being more likely to be transferred midyear. Finally, we compare 7th grade math score distributions of DCPS students considered to be at-risk, relative to others, and find these students underrepresented in advanced 8th grade math opportunities. The District currently relies heavily on aggregate and point-in-time data and does not use individual student test score data linked longitudinally over time for accountability, equity, or improvement-focused analyses. However, longitudinal data use is necessary to analyze these relationships reliably and accurately in order to best inform continuous improvement.

In **Part 7: Education Data-Analysis Brief 3: High School Pathways** District stakeholders will for the first time see complete, District-wide, longitudinal pathways for students entering 9th grade linked to high school and post high school outcomes. We find that in addition to the enrollment instability patterns of student transfers between regular schools, identified in Part 5, there are strong high school transfer patterns out of regular schools and into alternative high schools and adult education programs and

these rates are increasing over time. We also find significant attrition from PCS high schools to DCPS high schools. Further, we find that high school students struggling in their first years of high school were transferred out of PCS high schools at disproportionately high rates. Importantly, the graduation rates of students transferred out of PCS high schools is substantially lower than the graduation rate of students remaining in PCS schools. The same pattern holds for college enrollment rates. The graduation rates of high school students remaining in the same sector throughout high school is similar across sectors. These systemic patterns of school-type and sector transfers of high school students raise concern that graduation rates may be distorted by sector. Further, we find that there is significant student attrition from the DC public schools in high school grades, including from selective DCPS high schools. Finally, and similar to other national research, we find that student participation in an advanced math course test in 8th grade had a highly significant large positive effect on selective high school enrollment in 9th grade even after controlling for all else, including the student's own 8th grade math score.

Appendix A on Data Inventories contains our audit's constructed data inventories and related metadata, one of the first steps needed in developing an SLDS.

Appendix B on: Methods contains detailed technical notes on the methods used for the data analyses and the other audit processes, as well as additional evidence collected.

Major Findings

The following is a more detailed list of the report's findings and recommendations described above.

Part I: K–12 Education Data in the District of Columbia Lacks Integrity

- The District has not built many of the SLDS or RTT grant program data capacity requirements as other states have done despite being awarded the largest per pupil funding amounts.
- OSSE does not have a data warehouse as D.C. Code requires.
- OSSE has not developed the essential SLDS capacities of interoperability, portability, privacy protection assurances, or data quality auditing.
- Many of the standard data elements established by SEAs and LEAs nationally and required under D.C.'s SLDS grant funding are not collected by OSSE.
- OSSE does not follow best practice data collection methods established by SEAs and LEAs through the National Forum on Education Statistics and SLDS cooperative grant best practice sharing requirements.
- OSSE only recently implemented an automated data transfer (ADT) system for consistent and efficient data collections from LEAs and frequently avoids using it, and instead allows sector spreadsheet submissions.
- D.C. student enrollment data files have only included enrollment records for all students since 2016.
- Attendance data are fundamentally flawed, resulting in starkly different levels of unexcused and total absences by sector, with the discrepancies increasing over time.
- Flaws in attendance data pose a risk that the District may not meet local and federal reporting requirements for chronic absenteeism.
- Other essential data collections are missing or incomplete.

- Missing exit data impedes local and federal reporting requirements, limits other data collections based on complete student enrollment files, and preclude robust analysis of confirmed dropout events.
- Student course data are not collected, and relevant student discipline data are determined not by OSSE, but independently by DCPS and PCSB.
- OSSE is at risk of being out of compliance with local and federal reporting requirements of in-school suspension data.
- OSSE has delegated control of important data collections to vendors, severely restricting OSSE's ability to access and report District data.
- OSSE declines to collect essential teacher data and only this year began complying with statutory requirements to use unique teacher identifiers.
- Student college enrollment data are suppressed.
- OSSE did not provide one full year of requested data and used its regulatory status to hinder an ongoing audit. Graduation rates and college-going and success cannot be fully validated until these data are provided.

Part 2: Lack of Executive Accountability Leaves Public Education in the District at Risk.

- Stakeholder-articulated priorities are very specific and common across different initiatives—essentially, a demand for basic data use and transparency. D.C.'s education agency summaries and decisions do not address these stakeholder demands.
- OSSE is missing a formal governance structure for making, documenting, and reviewing data-related decisions and has intentionally removed itself from the specific decision-making, abdicating its SEA responsibilities for the District's education data practices.
- OSSE does not perform some critical state education data responsibilities, including actions required by law and promised in grant applications.
- OSSE delegates its state authority to PCSB and leaves LEA data requirements voluntary.
- OSSE allows third parties to collect and control SEA data and data functions.
- OSSE's failure to exercise authority contributes to error and bias.
- In lieu of exercising authority, OSSE creates burdensome and unreliable workarounds.

Part 3: Valid Research in the District is At Risk

- District practitioners and stakeholders continually seek from OSSE the same highly valued analytic SLDS data use that other SEAs provide.
- Common reliable analytic data capacities are missing in D.C.
- Both types of LDS data archive RPPs that could benefit D.C. and those that align with the D.C. RPP bill and NOI require an SLDS research data infrastructure that OSSE lacks
- This audit has created two major pieces of that infrastructure—a District-wide, longitudinal audit analysis data archive, and a data inventory with detailed data quality caveats.
- OSSE's early LearnDC interactive, District-wide, longitudinal website resources were the type of high-quality education indicators and data visualizations sought by practitioners, parents and others but these were replaced with limited and static Equity Report pdfs and still more limited cross-sectional STAR report cards.

- State SEAs provide valuable local decision support to LEA and school practitioners that OSSE is not able or willing to provide today, including not only creating the analytic tools and preparing the student data, but also collecting all of the essential student longitudinal data linking to teachers and courses.
- Valuable high school to college and career readiness trackers and postsecondary feedback reports and analysis are possible for OSSE to provide based on the longitudinal K-12 data it collects and linked postsecondary data it receives from NSC, but OSSE does not provide these.
- Early warning systems used to target supports to students at risk of dropping out of high school were required of OSSE in federal grant applications but not produced, and the current data could support a simple version of those now, but OSSE has no apparent plans to meet the need.
- There are few policy and program impact evaluations conducted by OSSE or supported by OSSE through research data access and preparation, and the necessity of these for federal grants to SEAs and LEAs has been growing as SLDS data and methods have grown to support this work.
- Facilitation of data access and understanding for external researchers is essential to gain research insights from original studies and to replicate studies to avoid the risk of spurious inferences, yet OSSE has not attempted to support this work, despite committing to do so in prior funding commitments.

Part 4: Comprehensive Improvement Plan

Part 4 provides a blueprint for action based on the findings outlined in the first three parts. Given the gravity of the capacity gaps outlined in Parts 1-3, this plan is also accompanied by the following legislative and oversight recommendations to put a structure in place to monitor progress.

We recommend that the District:

- Review compliance with federal and District law on data collection and reporting with specific attention to data collections on discipline and attendance related to the federal Individuals with Disabilities Education Act, the District's Student Fair Access to School Act, the School Attendance Clarification Amendment Act, and issue a data privacy policy to ensure compliance with the Family Educational Right to Privacy Act.
- Create and implement a best-practices quality control process to ensure that all data integrity issues identified in this report are quickly addressed.
- Insert clear explanations of data limitations in current state education reports to provide full transparency until data integrity can be assured.

We recommend that the D.C. Council enact, and the Mayor implement legislation to:

- Build an SLDS that meets federal requirements and best practices for data elements and system capacities as outlined in this report.
- Require data governance policies and stakeholder engagement practices to help ensure the SLDS is successful and sustainable.
- Provide for regular monitoring and reports on each step to ensure success.

We recommend that the D.C. Council:

- Move quickly to enact this comprehensive data system and data integrity legislation.
- Use its oversight as well as legislative authority through performance and budget hearings to secure adequate monitoring and transparency in this work.

Volume 2

Part 5: Education Data-Analysis Brief on School Enrollment

- There is considerable churn at the beginning of each school year indicating possible significant negative impacts on instructional time.
- Enrollment files do not record demographic fields consistently each year.
- Black students were 67% of the K-12 student population in 2018, but over 80% of those experiencing mid-year school transfers and experiencing between-year, non-matriculation school changes. Also seeing more change than their proportion in the population: students with disabilities, homeless students, and students considered at-risk. In contrast, the proportion of white, Hispanic, and ELL students transferring is lower than their percentage of the student population.
- About 4% of all K-12 students experienced transfers annually. Of these total transfers, 64.9% occur after count day, and 28.3% of those are transfers from PCS to DCPS schools. Only 4% of the post count day transfers are from DCPS to PCS schools.
- On average, mid-year transfers result in students being transferred to schools whose boundaries contain substantially lower household income levels.

Part 6: Education Data-Analysis Brief on Longitudinal Testing Data

- Student, school, and District progress is best analyzed via test scores to show both important variation and change over time. Our graphs show that this variation and change is lost or is likely to be misinterpreted when only using proficiency levels.
- Cross-sectional aggregates do not accurately measure individual student achievement growth on average, without first controlling for a sample of students consistently enrolled over the relevant period.
- On average, ELA growth is positive and math growth is flat. More specifically, ELA growth is substantial and positive in 4th grade, on average, and math growth is substantial and negative in 6th grade, on average.
- DCPS math test score growth is relatively flat (+0.2), while PCS math growth is negative (-1.7). The average growth in ELA is positive in both sectors and the growth in DCPS schools (+6.3) is approximately twice the PCS school average (+3.3).
- More students considered at-risk are in tested grades in DCPS than in tested grades in PCS and DCPS test score growth for these students is slightly higher. More specifically, average DCPS math and ELA growth for students considered at risk is +0.3 and +6.1, respectively, while average PCS math and ELA growth for students considered at-risk is -2.0 and +2.9, respectively.
- As noted in other national research, we find evidence that attempting to identify higher or lower growth schools using school mean proficiency levels rather than test score growth will lead to

invalid conclusions.⁴

- We also find that higher than average mean growth at a school in any given year is not evidence of a pattern of high growth in adjacent years; in fact, we do not find any consistent patterns of growth over time across schools.
- Student longitudinal data show that average student test scores vary by school, meaning that students are clustered together with other similar scoring students in schools and this clustering follows students across school transitions, for example from 5th to 6th grade.
- This clustering provides further evidence that mean test scores of all students at a school or of any student subgroup is not sufficient evidence of that school increasing the achievement of those students, relative to other schools.
- In the District, and as found in national studies, student test scores are highly correlated with school neighborhood income measures. Alternatively, student test score **growth** is uncorrelated with school neighborhood income measures.
- On average, students' own test score growth is several points lower when they experience a midyear school transfer. This is consistent for students all along the test score scale and is therefore not simply a correlation of lower scoring students being more likely to be transferred midyear.
- Using student longitudinal test score data, we find evidence of inequitable access to advanced math course opportunities in 8th grade for DCPS students considered at-risk.

Part 7: Education Data-Analysis Brief 3: High School Pathways

- In 2017-2018 fully 18.2% of D.C. 9th graders were held back, compared with an average retention rate of 2.7% for all other grades. This is consistent with earlier research in other urban systems though recently the retention rates elsewhere have declined, possibly due to use of early warning systems.
- The share of students age 17 enrolled in non-regular schools is increasing over time. For students age 17-18, non-regular enrollments increase from 18% in the first two years shown to 22.9% by 2018.
- Because OSSE does not collect and report the data needed to accurately determine and validate dropout rates we cannot conduct any analysis of which student subgroups drop out at higher rates than others or what school experiences dropouts had relative to graduates: in terms of math course sequences, math and English test scores, retention, absenteeism, or suspensions.
- Through the 2014-2017 high school span, the 2014 9th grade cohort increased in DCPS by more than 500 students and decreased in the PCS sector by more than 300 students.
- High school cohorts from 9th grade onward are those used to ascribe graduation rates to schools. These rates can be distorted under what these data show are large, systematic patterns of school-type and sector transfers of 9th grade cohort students, primarily from PCS to DCPS high schools.
- Students struggling in early high school grades were transferred out of the public charter high schools at disproportionately high rates. More specifically, students transferred to DCPS schools had higher instances of chronic absenteeism, truancy, and rates of out-of-school suspensions.

4 See for example: Glazerman, S. & Potamites, L., [False Performance Gains: A Critique of Successive Cohort Indicators](#), Mathematica, December, 2011. Ho, A. [The Problem with "Proficiency": Limitations of Statistics and Policy Under No Child Left Behind](#), Educational Researcher, 2008. Yee, D. S., & Ho, A. D., [Discreteness causes bias in percent-above-cutoff comparisons: A case study from educational testing](#), American Statistician, 69, 174-181, 2015.

- Between 9th grade in 2013 and the four-graduation year of 2016, 29.4% of the PCS high school cohort were transferred to DCPS schools. The share of students transferred increases dramatically over each of these few years in the data.
- The DCPS four-year graduation rate for students who were not transferred between sectors is similar to the PCS four-year graduation rate for students remaining in PCS schools, at 75% and 77.7%, respectively.
- Similarly, the college enrollment rate is much higher for students remaining in PCS schools than for those transferred out, furthering the need to study these pathways and differences for equity implications.
- Many more DCPS 8th graders than PCS 8th graders are taking advanced 8th grade math assessments.
- Similarly, the percentage of students taking Geometry and Algebra II in 9th grade are much higher in the DCPS high schools than PCS schools.
- There is significant student attrition from the D.C. public schools in high school grades, including from the selective DCPS high schools. After two full years at the end of 2018 only 80% of the admitted 2016 students who were still enrolled in DC schools were also still enrolled in the selective DCPS high schools.
- We find that student participation in an advanced math course test in 8th grade had a highly significant, large positive effect on selective high school enrollment in 9th grade even after controlling for all else, including the student's own 8th grade math score.

Introduction

Overview

The education system in the District of Columbia is at a crossroads. As the pace of technology and data entering the instructional setting continues to accelerate, the reality that the District of Columbia does not have a statewide longitudinal data system (SLDS) continues to undermine the data quality and analytic capacity necessary for serving local education needs. The District can take a new path by acknowledging that no SLDS exists and follow a comprehensive improvement plan to implement this critical capacity. Alternatively, the District can continue on its current path, imply that an SLDS is in place, maintain invalid data collections, and continue to mask the lack of capacity through ad hoc activities to try to keep up with increasing demands for analysis.

Note that all phrases in ***bold, italicization*** are defined in the Glossary at the front of Volume 1 and discussed in context throughout the report.

Data audit background

In March 2019, the Office of the District of Columbia Auditor (ODCA) initiated a contract audit of public education data as recommended in the 2015 National Research Council report, [*An Evaluation of the Public Schools of the District of Columbia*](#), and as required by the District of Columbia Education Research Practice Partnership Establishment and Audit Act of 2018.⁵

This audit reviews data practices and datasets over six school years, from 2014 through 2019.⁶ The audit methods used, both quantitative and qualitative, focused on the following objectives:

- Establish a current ***data inventory***, including relevant ***metadata***, for public education and education-related data elements across the District over the past six years, and conduct corresponding analyses to assess data accuracy.⁷
- Understand and document the public education data systems and ***governance*** best practices from other jurisdictions with similar objectives, and identify obstacles and solutions for continuous improvement for data systems and governance.
- Gather and synthesize best practices for data use by research practice partnerships with state or local education agencies, including best practices for secure data sharing agreements used by state or local education agencies that ensure high value research is achieved with a low burden on agencies.

5 ODCA, National Research Council, [*An Evaluation of the Public Schools of the District of Columbia: Reform in a Changing Landscape*](#), 2015. D.C. Law 22-268 [*District of Columbia Education Research Practice Partnership Establishment and Audit Act of 2018*](#), effective March 28, 2019.

6 Note: We identify school years throughout this report by the school-year end. For example, school year 2018-19 is identified as 2019.

7 Note: Technical terms, highlighted in bold italics, are defined in the glossary at the end of this volume as well as in context in the body of the report.

The audit objectives required the engagement of the following five D.C. government entities:

- Office of the Deputy Mayor of Education (DME)
- State Board of Education (SBOE)
- Office of the State Superintendent of Education (OSSE)
- District of Columbia Public Schools (DCPS)
- Public Charter School Board (PCSB)

Engagement with these entities and stakeholder groups yielded information from multiple sources, including agency documents and data, as well as staff and stakeholder interviews. We reviewed a total of approximately 1,900 documents, analyzed 100 datasets and interviewed 50 people through individual conversations or focus groups.

Longitudinal data systems background

Data managers from State Education Agencies (SEAs) and Local Education Agencies (LEAs) across the country have worked with their agency leadership, local stakeholders, and the United States Department of Education (ED) to establish standards for *longitudinal data systems* (LDS).⁸ These standards include a common set of essential data elements necessary for federal and local reporting, as well as best practices for data systems, management, *governance*, and *stakeholder engagement*. The standard data elements and best management practices ensure both the integrity of the data and that the data are serving the most valued uses. This data audit assesses District practices relative to standard data element definition and collection practices in Part 1, standard systems management and governance in Part 2, and standard applied research or *analytic data use* for stakeholders in Part 3. Part 4 recommends steps that can be taken toward developing an SLDS for the District that meets these standards.

To begin this discussion, we first provide information on the structures these SEA and LEA data representatives use to determine and share the standards nationally. Federal funding to develop these data systems at the state level was authorized through the Educational Technology and Assistance Act of 2002. The Institute of Education Sciences (IES) began awarding grants in 2006 through the Statewide Longitudinal Data Systems (SLDS) Grant program at the National Center for Education Statistics (NCES).⁹ Since 2006, SLDS grants have been awarded to 49 states, five territories, and D.C., with most jurisdictions winning more than one grant round competition. Total funding to date exceeds \$800 million, the bulk of which was awarded between 2009 and 2012. States also invest substantial local funds in these SLDS.

The demand for this funding grew from the educational improvement efforts that state and district practitioners and policymakers were able to implement with these evolving data systems. These SLDS contain detailed data of each student’s educational experience, such as program participation and outcomes, over time, as well as student and *household characteristics*; their schools, teachers, and

8 The term “longitudinal data systems” is used to refer to systems at either the SEA or LEA level and is commonly abbreviated as “LDS” whether singular or plural. When referring to the SEA level specifically, the term “statewide longitudinal data systems” (SLDS) is used. The federal grant program is capitalized as “Statewide Longitudinal Data Systems” and is also abbreviated as “SLDS.”

9 See NCES, [History of the SLDS Grant Program: Expanding States’ Capacity for Data-Driven Decision-Making](#), April 2020, for details of specific grant round amounts, grantees, and priority funded areas, as well as summaries of the relevant legislation.

courses; and increasingly, non-academic data on *whole-student supports* and *school climate*. These investments supported the following aspects of SLDS data and the powerful tools they provide for improving education:

- **Statewide:** In an SLDS, all students are represented, versus older data systems consisting of separate subsets of students, those in a given program, for instance. In an SLDS, students with disabilities (SWD) and those in English language learner (ELL) programs, for example, are included and identified across all files each year, including the years they were not participating in these programs. All other data are also linked for these students and all others, including test records, absenteeism, discipline, graduation, etc. This makes it possible to confirm and compare, for each student each year, which programs they were participating in and their school experiences and achievement outcomes.
- **Student-Level:** The SLDS data are student-level data, as distinct from *aggregate data*. This means that each student can be studied individually, versus relying on group averages. It is far less informative for teachers and administrators, for example, to have aggregate data showing average test scores for one group of students as higher than another, than to be able to analyze each student's own test scores. For data users outside of the controlled access for viewing individual student files, such as policymakers and the public, the questions they can ask about the combinations of student circumstances, opportunities, and outcomes also require the underlying data analyzed to be at the student level. We demonstrate this in Part 3.
- **Longitudinal:** All these pieces of data for each student (e.g., program participation, absenteeism, etc.) are not only linked within each year (i.e., *cross-sectionally*), but they are also linked from year to year for each student. This is what allows for analysis of student test score growth, *student mobility*, interruption of program participation, grade promotion, course sequences, on-time graduation, etc. The individual-level longitudinal data allow students' current teachers and counselors, for instance, to view cumulative test records and other data as they are making course placement and instructional support decisions. The policy research using underlying student-level longitudinal data can answer questions about the role student opportunities in elementary and middle grades play in important high school outcomes, for example. We demonstrate in Part 3 why these longitudinal data are needed for *accountability*.

The District received SLDS grants in federal fiscal years 2007 and 2012 (FY07 and FY12 grants), totaling nearly \$10 million.¹⁰ Together, the District SLDS grant project periods spanned 2007 to 2017. Considering the total grant funds to each grantee as of 2012 and the size of student populations, D.C. received substantially larger awards—per student or per school—than all other grantees. Per school, state grants up through FY12 ranged from approximately \$1,000 to \$30,000, with a mean of roughly \$10,000, compared to over \$40,000 of funding per each D.C. school.¹¹ In addition to these federal investments, the D.C. Council has increased its investment in OSSE's data capabilities as well. For example, in 2016

10 Project applications and abstracts for the DC awarded SLDS grants for FY07 and FY12 are posted on the NCES SLDS program website. See [Grantee State - District of Columbia](#), accessed May 29, 2020.

11 Calculations based on SLDS grantee funding totals through FY12 grant rounds as reported in United States Government Accountability Office (GAO), [GAO-15-27 Education and Workforce Data](#), November 2014. Grantee total K-12 student populations based on reported 2012 student counts to the NCES [Common Core of Data \(CCD\)](#) program, accessed May 29, 2020.

following publication of the National Research Council report on District schools, the Council increased its investment in OSSE's data capabilities with \$1.1 million in new operating funds and \$11.9 in new capital funding. We detail the specific objectives and outcomes of the District's SLDS grant projects in the relevant sections throughout the report. In this current discussion we list the national funding requirements of standard capacities for these data systems that are tracked for all SLDS grant recipients over time. These provide a standard metric to assess the District's SLDS capacity relative to the rest of the country.

The American Recovery and Reinvestment Act of 2009 (ARRA)¹² was the largest source of SLDS grants and established a set of required data elements and capacities on which ARRA funding was conditioned. Specifically, the State Fiscal Stimulus Fund (SFSF) reauthorization in the 2009 Recovery Act stipulated that the 12 data components that were recommended in the America COMPETES Act of 2007 be included in an SLDS.¹³ (They are alternatively referred to as the America COMPETES Act¹⁴ requirements and SFSF requirements.) These include student data links to teacher and course data, and K-12 student links to postsecondary outcomes. The SLDS grant program was charged with ensuring that all states included these 12 required components in their SLDS. The program collected detailed annual data system capacity metrics from the grantees as part of the grant monitoring process. These Interim Progress Reports (IPRs) were used to compile the national status updates on these 12 components and track progress on the additional standard SLDS components required under the grant application priority areas, such as additional K-12 student links to workforce and early childhood data and research data use capacity. We report here on D.C.'s documented progress status on these data capacity items relative to the states and territories monitored over the same period.

The Recovery Act also funded the Race to the Top (RTT) competitive grants. As one of 12 first year (Phase 1-2) grantees in 2010, the District was awarded a \$75 million grant for educational improvement investments. These grants also contain the America COMPETES Act requirements, as well as others for expanded SLDS system capacities, such as data systems for instructional improvement and research. Progress on each is publicly documented in annual evaluations. Specifically, in the District 2010 RTT application, OSSE proposed to create the following:¹⁵

- Fully implemented statewide longitudinal data system.¹⁶
- Data website with *interactive* functions for parents, policymakers, and others.
- Instructional improvement data analysis systems and training for teachers of participating LEAs.
- Research agenda, *research-ready datasets* (of student achievement, teacher, and financial data), and *research request tool*.

12 Pub.L. 111-5.

13 See ED's DC Annual Performance Report, [SFSF APR Report for DISTRICT OF COLUMBIA](#), section VI. *Progress in Advancing Education Reform*, part B. *Implementing a Statewide longitudinal data system* for the list of components with DC's implementation status indicated for each as of September 30, 2010. See the NCES SLDS program history document for summaries of the America COMPETES Act and the ARRA.

14 Pub.L. 110-69.

15 OSSE, [DC Race to the Top Application](#), May 2010, pp. 76-91. ED, [Race to the Top District of Columbia Year 1](#) evaluation report, January 10, 2012, p. 10.

16 According to OSSE's 2010 RTT application, while they do commit to completing a fully implemented SLDS, as required in the request for applications, they did not plan to use any RTT funds to build the SLDS. Instead, the RTT and SLDS plans are complementary and build on one another.

Our findings include the federal SLDS and RTT performance monitoring results for D.C. relative to state and territory grant recipients on each capacity in the relevant sections of this report. The District of Columbia has built very few of the federally required data elements and capacities—even relative to large states receiving much less funding. In Part 1, we highlight findings from the 2017 SLDS national IPR surveys of these data components showing much more progress in the states and territories.¹⁷ A 2012 report evaluating the progress of RTT states gives D.C. a rating 1 out of 5 for progress on data system use for stakeholders.¹⁸

Both the SLDS and RTT are cooperative agreement grants which fund grantees to actively participate in regular best practice development conferences and webinars and require them to contribute expertise and develop shared resources. The NCES SLDS grant program sponsors several public website repositories of these shared best practice resources. These are program-hosted regular webinars that include slide presentations from each participating grantee, annual conference workshop presentations, and a public domain clearinghouse of grantee-contributed best practice resources.¹⁹ For our audit’s assessment of D.C.’s data systems relative to standard capacities, we draw on the guidance in these resources, as well as the other, related sources described in the next section. In reviewing these, we find almost no record of D.C. having participated in these cooperative agreement activities, unlike the vast majority of SLDS grantees.

Regardless of grantee status, all SEAs and a representative LEA from each state also receive federal funding and support for participating in a longstanding national community of practice which has defined the specific components of the standard data elements and practices necessary to meet federal and state reporting requirements as well as local stakeholder needs. This is the National Forum on Education Statistics, known simply as the Forum.

Primary authoritative sources for best practice

NCES established the Forum as a component of the National Cooperative Education Statistics System. The Forum of state and district education agency data representatives from each state and territory meet regularly to establish standards for best practices and develop resources for these in collaboration with the state data managers of the SLDS grant projects. All states and territories have regularly participating members. The District of Columbia is alone in having had no designated SEA or LEA representatives on any of the working groups or standing committees and has only recently had a designated SEA representative member listed as of January 2020.²⁰

The SLDS data element and systems standards are developed by these Forum members and the SLDS grantees. For example, the ED requires SEAs to collect data sufficient to report annual, first-time, ninth-

17 The 2017 survey results are reviewed in the NCES Statistics in Brief, [SLDS Survey Analysis](#), October 2019.

18 Center for American Progress (CAP), [Race to the Top: What Have We Learned from the States So Far? A State-by-State Evaluation of Race to the Top Performance](#), March 2012, p. 15.

19 The resources are found on the following SLDS program websites: the [NCES SLDS program](#) website and the program’s [GRADS360](#) technical assistance communities of practice website.

20 The [NCES Forum website](#) member resources provide updated lists of current members and all historical semi-annual meeting notes of workgroup participants as well as historical communications welcoming new members.

grade, four-year Adjusted Cohort Graduation Rates (ACGRs). These rates, and the underlying data elements and **business rules** that determine them, were developed in collaboration with the Forum. These elements include the confirmed **exit codes** and dates that allow states to identify students who drop out of school. These exit data are among the elements required for SLDS funding, which were initially informed by early Forum efforts (as discussed below) and are included in the Forum’s shared, interactive data dictionary, known as the Common Education Data Standards (CEDS).²¹

In this Introduction we discuss the areas in which education data standards have been developed by and for states and districts. We summarize the two broad categories of these as those standards that define an SLDS—standard data element collection and system capacities; and those that ensure its success—governance and stakeholder engagement standards. In Part 1 we provide evidence of the lack of SLDS data elements and system capacities built by OSSE for D.C. In Part 2, we detail the evidence of the absence of data governance and stakeholder engagement in OSSE’s decision making. In Part 3, we follow those with illustrations and discussions of high-valued stakeholder data use commonly developed by other SEAs across the country. Together, these are the pillars of the SLDS framework which we represent below as we explain their place in the audit content areas and the best practice standards we reference. Together, the NCES Forum of state and district data representatives and the NCES SLDS cooperative grant program communities of practice form working groups drawn from the dozens of leading SEA data divisions, and they intentionally share terms and tools, such as the capacity and needs assessments we draw on in this report.

In 2010, NCES released the Forum LDS four-book series *Traveling Through Time: The Forum Guide to Longitudinal Data Systems*,²² written by the SLDS program and published as a Forum resource just as the first large SLDS grant rounds began. The books take the reader through the stages needed to establish a successful LDS—or an SLDS, in the case of a statewide system specifically. These stages are roughly: defining, planning, managing, using, and sustaining an SLDS. The content areas covered in each book, such as stakeholder engagement and governance, are the same categories as those used for the SLDS program resources we discuss below. Additionally, at the end of each book, are lists of state-specific resources that include leading state documents and tools (e.g., check lists, templates). These are followed by lists of the other Forum Guides on specific SLDS topics, such as linking teacher data, building early warning models, creating metadata, etc., that we also draw on throughout this report.

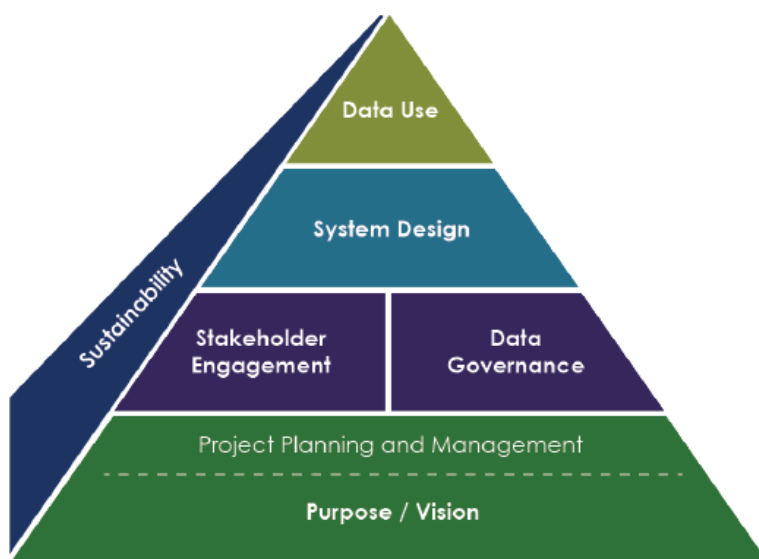
The SLDS grant program has two functions: grant administration and monitoring, and the technical assistance (TA) work that is a requirement of the cooperative agreement that grantees enter to receive the funding. The TA work occurs primarily through facilitated working groups of SEA data leads to share their best practices through resources, such as webinar slide presentations, guidebooks, topical briefs, rubrics, and self-assessments. The SLDS program frames the work of establishing and managing a successful SLDS, and the related best practice communities (or facilitated work groups) in terms of the following SLDS framework pillars.²³

21 [CEDS](#) is a common set of specified data elements that facilitate the exchange of data between education jurisdictions and sectors.

22 The data elements shown in Table I.1 are from the Forum, [Traveling Through Time: The Forum Guide to Longitudinal Data Systems. Book Two of Four: Planning and Developing an LDS](#), December 2010, pp. 48-49.

23 IES, NCES, [The Framework for Data Systems](#), May 2014.

Figure 1.1: SLDS Grant Program Framework of SLDS Pillars



Our data audit report covers these pillars as follows:

- **Introduction and Part 1** cover the *System Design* in terms of the two main parts of an SLDS—the standard data elements, and the standard information technology (IT) system capacities needed to collect, store, link, and access these. These parts of the report detail the data collections and linkages OSSE currently maintains, and contrasts these with the established standards in order to explain the implications of the District not having an SLDS.
- **Part 2** covers *Stakeholder Engagement* and *Governance* by introducing and defining both pillars and comparing the standards and benefits of each to OSSE’s pattern of decision-making. This discussion demonstrates that OSSE decision making has taken place without a discernible governance structure and out of sight of stakeholders, and it explains how OSSE decisions have resulted in the data integrity issues discussed in Part 1. It also explains how responsible, responsive, and transparent decision-making processes based on a governance structure and stakeholder input are needed in the District to secure data integrity and to deliver a standard, highly valued use of data.
- **Part 3** covers this standard *Data Use*, specifically in terms of the collaborative analytic data use that state and district practitioners participate in, through research partnerships of different forms, that benefit their local stakeholders. We highlight best practices regarding *Sustainability* as well—the primary lesson being that providing valuable data use to stakeholders is the best sustainability practice.
- **Part 4** provides a comprehensive improvement plan with recommendations for short-term immediate actions and long-term structural changes. These are designed to finally align the state education agency data responsibilities to the *Purpose and Vision* D.C. stakeholders have articulated. They also draw on the main Forum and SLDS resources that map out detailed components to be planned and implemented to develop an SLDS with all the necessary data elements and capacities, as well as good governance and stakeholder engagement to guide decision making at all levels. The recommendations are based directly on our findings in Parts 1-3, as well as the analytic briefs

of Parts 5-7. Finally, the report's glossary in Appendix C draws on the SLDS program glossary whenever possible.²⁴

Figure 1.2 provides the full list of standard data elements recommended for SLDS data collection by the national Forum in the *Traveling Through Time* series. As the series' table source notes explain, these elements were also sourced from the Education Information Management Advisory Consortium (EIMAC) Task Force of the Council of Chief States School Officers (CCSSO). Many of these individuals were also their state's Forum representative, SLDS grant project leader, or both. These elements and the criteria for ensuring their quality have been detailed in Forum publications as early as 1997.²⁵

Figure 1.2: Key P-12 LDS Data Elements List by the Forum of SEA and LEA Data Representatives

Data Types	Data Elements
Student Data	
<i>Demographics, Status</i>	birthdate, gender, race, ethnicity, language, disability, economically disadvantaged, limited English proficient, Title I, migrant, homeless
<i>Program Participation</i>	IEP, ELL, gifted and talented, early childhood learning, other
<i>Performance</i>	assessments (summative, formative, interim), untested student records, college readiness (AP, IB, SAT, ACT scores), grades, credits earned
<i>Enrollment</i>	campus, grade, attendance/truancy data
<i>Attainment</i>	high school graduate, diploma/credential type, school dropout, dropout follow-up, grade progression and retention
<i>Transcript/Curriculum</i>	course codes and descriptions, completion grades, dual enrollment
<i>Other Student Domains</i>	health and nutrition, safety and discipline, transportation, school climate
Teacher and Staff Data	
<i>Demographics</i>	birthdate, gender, race, ethnicity
<i>Qualifications</i>	years of experience, college institution, highest degree, academic major, graduation, certificates, licenses, assessments, highly qualified status
<i>Professional Development</i>	hours, in-service credits, types of training
<i>Personnel</i>	school, job subject assignment, program assignment, position title, position code, schedules (grade, course, period), compensation (salary, benefits, supplemental contracts), employment status, tenure, mobility/attrition, time spent on administrative duties

Source: Forum, *Traveling Book Two*, Table 4, pp. 48-49.

Defining the data elements is only one part of the process for developing an effective SLDS for which the Forum has established standards. In addition to reporting student dropout rates by year, school,

²⁴ NCES, *SLDS Glossary*, December 2019.

²⁵ Forum, *Basic Data Elements: For Elementary and Secondary Education Information Systems*, June 1997.

and **subgroup**, SEAs and LEAs use these same data elements to build their **early warning systems** (EWS) to improve targeted supports for students at risk for dropping out. These EWS are included among the strongly recommended data capacities on which the SLDS grant program monitors state progress. The Forum has provided standards needed to achieve this capacity, and we draw on each in turn. Part 1 of our report covers the standard underlying elements in detail.²⁶ Part 2 discusses the additional SLDS standards and SEA responsibilities that ensure their quality and linking across LEAs and years.²⁷ Part 3 reviews the Forum data use guides to document best practices in the development of these EWS as well as other analytic data models serving practitioners through agency research partnerships similar to the type envisioned for D.C.²⁸

Though OSSE applied for SLDS funding to build an EWS in their awarded FY12 grant, they have not built an EWS. Additionally, they still do not collect the exit data to identify dropouts in student enrollment records. Nor do they collect the course data that Forum guides and research literature establish as essential model components for effective dropout prevention which we cover in detail beginning in Part 1.

Critical data collection functions established by SEAs

In addition to establishing the common data elements, the SEA and LEA data representatives have worked through the Forum and SLDS program communities of practice to identify the critical practices needed to ensure the integrity of these data element collections and the best practices for ensuring that stakeholders find value in their use. In Part 1, we detail the established practices for each group of elements and explain the risks to **data integrity** introduced by OSSE's unusual data collection decisions. These practices cover the determination of the data elements themselves, the **collection mechanisms**, **validation**, storage, and documentation. The **stewardship** and use of these relevant, high-quality data are discussed later in Parts 2 and 3.

Data element determination

Standard practices have been developed by SEAs for appropriate stakeholder engagement to determine which data elements systems should have the capacity to collect and use. Stakeholders are students, parents, teachers, staff, administrators, program offices, policymakers, partner state agencies, federal reporting agencies, local organizations, and taxpayers. Among the stakeholder priorities are the need for secure, informative, timely, and **granular** data that can be used to improve administrative functions, accountability measures, equity measures, and the **continuous improvement** of educational services and outcomes. It is also important to factor in potential burden on data processes for school and LEA staff. Well-designed and -managed data systems can add elements while actually reducing the burden for LEAs by providing them with reliable systems that serve their own reporting and continuous improvement uses, as the Forum SEA and LEA representatives document and demonstrate in the guides we reference.²⁹

26 Forum, [Accounting for Every Student: A Taxonomy for Standard Student Exit Codes](#), February 2006.

27 Forum, [Guide to Early Warning Systems](#), November 2018.

28 In written testimony and transcripts of the hearings on the DC Education Research Practice Partnership bill (D.C. Law 22-268), D.C. practitioners, policymakers, and stakeholders describe the types of research data use valued.

29 See, for example, the [Forum Guide to Reporting Civil Rights Data](#), January 2018.

Data collection

Data collection should follow the exact element determinations agreed to with stakeholders, which means each element should be collected at the same point in time, for the full **universe** of individuals, and using the same definitions. Together, these are the business rules that should be consistent across schools and LEAs, student subgroups, staff categories, and years. The rules may need to be refined as the collections are implemented and refined, but any adjustments should also be consistent and transparent. Beyond accounting for the elements, complete and consistent statewide student, staff and course **identifiers** are also needed in each data collection to link data across program areas each year and across years longitudinally.

Data validation

Recommended standard practices should always be followed in validating the collected data for completeness and consistency. These include best practices for every process used to ensure data are **valid**, including data entry field **parameters**, **error queries**, **quality audits**, trainings, and the timing and stages of data **verification** and **certification**. Data should be validated in terms of the SEA business rules, and **values** should be verified relative to previously validated values for the same students, etc. Finally, the policies for confirming valid entries, and those for revisions or appeals, should be transparent and consistent across years and all schools.

Data storage

As discussed in the SEA guides, the standards for storing data are not just IT issues of capacity, efficiency, and security. Whichever data collection, linking, and storage processes are used, the procedures should ensure that the validated data are the **master data** stored and that they are not altered nor are there opportunities for alteration as that could pose a risk to data integrity. As the guidance notes, the standard is the rule of “collect once, use many times.”³⁰

Data documentation

All the processes at each of these stages should be very clearly and consistently documented in detail. These documents, referred to as metadata, should be kept current, and all relevant participants should be made aware of any alterations that need to be documented and any clarifications that are added.³¹ Like the data, documents of SLDS data processes also need to be linked across years. Given the longitudinal nature of the data, changes in definitions or business rules in any year need to be highlighted in subsequent year guidance documents as well. This practice comes highly recommended by SEAs based on a high turnover rate of IT and data staff at education agencies.³²

30 Forum, [Traveling Through Time: The Forum Guide to Longitudinal Data Systems. Book Three of Four: Effectively Managing LDS Data](#), February 2011, p. 23.

31 See the [Forum Guide to Metadata: The Meaning Behind Education Data](#), July 2009.

32 See the Metadata chapter of Geller, W., Cratty, D., and Knowles, J., [Education Data Done Right: Lessons from the Trenches of Applied Data Science](#). Victoria. Leanpub, 2019.

Summary

Thanks to significant federal and local investments, the field of statewide longitudinal data systems is extraordinarily robust, with collaboratively established best practices, standards, and documentation. Multiple resources are available to state education agencies, localities, interested legislators, and laypeople in the area of state data systems and their governance in public education. These investments have been long-term and continue to provide benefits at all levels of government and at the intersection of education research and state and local governments.

Unfortunately, these investments are not visible in the District. We describe below how each part of this report contributes to our current understanding of the limited education data and system capacity available in the District and the impact this limited capacity has on the provision of high-quality education programming in D.C.

Report structure and methods

Parts 1 through 3 of this report parallel the data stages themselves, from data element determination and collection, to managing and documenting processes that ensure quality and consistency, and ultimately the appropriate use of the data. Part 4 offers a comprehensive improvement plan. Parts 5, 6, and 7, published in a separate volume, apply the knowledge gained in this process with analytic audits of the District's data in terms of its capacity for valued use. More specifics on each part follow.

The **Glossary**, found at the front of this volume, contains definitions for the ***bold, italicized*** terms found throughout the report.

In **Part 1: K–12 Education Data in the District of Columbia Lacks Integrity**, we provide evidence that the District does not have an SLDS. We cover OSSE's specific data system decisions at each stage of its responsibilities, detailing where many of these decisions depart from standard practices and the implications for District students, educators, and stakeholders.

In **Part 2: Lack of Executive Accountability Leaves Public Education in the District at Risk**, we show a pattern of consistent abdication of state education agency duties regarding critical data in interactions with LEAs, PCSB, and the federal Department of Education. This includes declining to exercise authority in order to collect data when needed and continued negotiation with PCSB over basic data collection. The absence of executive accountability places a high burden on LEAs as they are routinely missing the critical and timely regulation, guidance, and administrative data needed to confirm the provision of a high-quality education to District students.

In **Part 3: Valid Research in the District is At Risk**, we review research practice partnership (RPP) resources including the common essential data collection, validation, and documentation practices needed to succeed, as well as the necessary governance structures for working with external research partners. We highlight critical gaps in current practices that need to be closed for the District to begin to benefit from education research. We demonstrate high-valued ***collaborative research*** data use across the country and describe the data resources created by this audit that are essential for a successful RPP.

In each section we describe the materials and information collected for the data audit that pertain to the specific content being discussed, detail the methods and findings of the analyses conducted, and discuss the implications of gaps found between D.C. education data practices and standards established for high quality data practices. The quantitative analyses reported in Part 1 and further presented in the analytic briefs analyze the data files directly. The qualitative reviews in Part 2 analyze patterns and discrepancies across the documentation and interview data regarding data practices in D.C.—specifically regarding OSSE practices relative to state agency responsibilities. Part 3 reviews high-quality data use common to other SEAs and LEAs and discusses each type in terms of our findings from both types of analyses.

In **Part 4: Recommended Comprehensive Improvement Plan**, we provide a blueprint for establishing an SLDS with integrated governance and stakeholder engagement, and tangible examples from states that have engaged in this work. Given the gravity of the capacity gaps outlined in Parts 1-3, this plan is also accompanied by legislative and oversight recommendations to further clarify the legal mandate for this work and put a structure in place to monitor progress.

In **Part 5: Education Data-Analysis Brief 1 on School Enrollment**, we analyze both mid-year and year-to-year school mobility by student, household, school, LEA, and sector characteristics. To do this, we prepare, link, and reconcile the student direct certification data with the multiple student observations per year in the enrollment data. We also characterize student households by the continuous socio-economic status (SES) variable that maps to each student's in-boundary elementary school. We find patterns of disruptive enrollment events more frequently impacting already vulnerable students and highlight the importance of accounting for these patterns in any D.C. education data analysis.

In **Part 6: Education Data-Analysis Brief 2 on Longitudinal Testing Data**, we contrast the current use of test data in the District with the student-level, longitudinal, test score growth data reporting and analysis common in states and other districts. We find that current use of test data in the District is limited and imprecise and produces misleading results for accountability models and equity analyses while failing to contribute to continuous improvement.

In **Part 7: Education Data-Analysis Brief 3 on High School Pathways**, we analyze the longitudinal data necessary to track student pathways into, through, and beyond high school and provide predictions and feedback to practitioners, policymakers, parents, and students. We find that in addition to the enrollment instability patterns of student transfers between regular schools, identified in Brief 1, there are strong high school transfer patterns out of regular schools and into alternative high schools and adult education programs. We illustrate the need to account for all types of school and program initial assignments and subsequent transfers throughout all high school grades. We demonstrate how this can be done, despite important gaps in the current data, to analyze high school pathways leading to on-track graduation, as well as college enrollment and success.

Appendix A: Data Inventories contains our audit's constructed data inventories and related metadata, one of the first steps needed in developing an SLDS.

Appendix B: Methods contains detailed technical notes on the methods used for the data analyses and the other audit processes, as well as additional evidence collected.

PART 1

K–12 Education Data in the District of Columbia Lacks Integrity

In Part 1 we assess the District’s current data system capacities relative to standard SLDS capacities. Then we vet District data elements and collection practices by the specific standards within the best practice guides outlined in the Introduction, and we do this across each of the standard data element groups listed in Figure 1.2. Throughout, we detail the many highly unusual data decisions made by OSSE that depart widely from these critical, standard SEA data practices regarding element determination, collection, validation, and reporting. For each data group, we discuss the implications of these troubling decisions for the potential valid use of education data in the District. More specifically, we find that OSSE does not collect multiple standard and necessary data elements, and that critical accountability elements that are collected, like attendance, are fundamentally flawed which results in invalid and unreliable data on core education issues in the District. Further, OSSE collections did not include all students until the 2016 school year, and enrollment data prior to 2016 is missing thousands of students who were enrolled in public schools in the District. Finally, OSSE does not collect course data or complete and longitudinal teacher data linked to student data.

It is impossible to separate the impact of education data decisions from their impact on education itself. When important data are not collected or not provided, or they are incomplete, imprecise, and even potentially biased, practitioners, policymakers, and stakeholders cannot be certain they are making the right decisions for students. Without the appropriate data, teachers, principals, counselors, and parents cannot make the right choices for the best school, program, curriculum, or instructional supports. Programs for special services cannot implement continuous improvement. Advanced opportunities cannot be assessed for equity of distribution or for the necessary supports to help previously underrepresented students enroll and succeed. Policymakers and administrators cannot make the right funding decisions, and the public cannot trust the accountability data used to evaluate those decisions. Finally, without the data they need to apply for and renew many types of federal grants, LEAs and education programs in the District risk losing access to important sources of funding. Data shortcomings pose risks for the District, both for educational outcomes and possible future grant funding.

In the three analytic briefs we illustrate the problems these decisions cause for valid data analysis, and we discuss in Part 4 the caveats and limitations that need to be made transparent and public in all accountability and research reporting in the District.

The District of Columbia does not have a statewide longitudinal data system

In 2020 the District’s educational data analytic capacity should be predicated on the existence, organization, and utilization of an SLDS. Throughout the agency documentation we reviewed in which OSSE has described the different data collections, linking, storage, and reporting systems, there are conflicting accounts of whether an SLDS exists. Most references to an SLDS system in D.C. refer to OSSE’s

Statewide Longitudinal Education Data (SLED) system.³³ Some of these references explicitly define SLED as an SLDS, some describe it as a **warehouse**, and others simply refer to the SLED as a website. The OSSE senior data staff confirmed with us that the SLED has neither the capacities of a warehouse nor the capacities of an SLDS. Our data audit findings concur.

In this section we summarize the data system capacities that constitute an SLDS, primarily in terms of the technical or IT processes. The remainder of Part 1 reviews each of the essential data element groups from Figure 1.2 that would be included in an SLDS and identifies all missing elements. Part 1 also details the absence of the existing data system's SLDS capacities for reliably collecting, linking, storing, and accessing those elements which are included in D.C.'s data collections.

While we use established national standards to measure OSSE's SLDS capacity, it is important to note that the District of Columbia Public Education Reform Amendment Act of 2007³⁴ (PERAA) called specifically for the implementation of a data warehouse system. D.C. Code § 38-2609 states that the state education agency and the Office of the Chief Technology Officer "shall develop and implement a longitudinal educational warehouse system."³⁵ The National Research Council's 2015 PERAA evaluation referred to the 2007 law, noting it called for "a data warehouse that would support interagency coordination by allowing data sharing across agencies and other functions," and concluded that, "despite progress in data collections efforts, this data infrastructure is not in place."³⁶ The NRC recommended that "The District of Columbia should have a comprehensive data warehouse that makes basic information about the school system available in one place. That information should be readily accessible online to parents, the community, and researchers."

The Forum's *Traveling Through Time* books note a data warehouse is not synonymous with an SLDS: "it is possible to build an LDS that draws data from numerous **interoperable** silos or separate data stores. What matters is not the type of system used to store the data, but the type of data it collects, stores, and makes available."³⁷ For instance, a warehouse that contains aggregate, cross-sectional, or snapshot data—none of which are SLDS data—is not an SLDS. At the same time, "an **operational data store** (ODS), which is very similar in structure to a data warehouse, maintains only **transitional** information from multiple sources."³⁸ Whereas, transactional data, such as attendance data, "are typically transformed for permanent storage in a data warehouse and accessed by the LDS for long-term tracking."³⁹

More essential to an SLDS than having all data permanently stored in a single warehouse are the rules and processes governing what constitutes each piece of data and how they are connected, including which data are determined to be the definitive or master data and how they are used. The same Forum book series explains this essential process:⁴⁰

33 For example, see OSSE, [The Statewide Longitudinal Education Data Warehouse \(SLED\): Demonstration](#), December 14, 2011, accessed June 25, 2020.

34 Law L17-0009, effective from June 12, 2007.

35 D.C. Code [§38-2609](#).

36 ODCA, National Research Council PERAA Report, 2015, p. 195, p.6.

37 Forum, [Traveling Through Time: The Forum Guide to Longitudinal Data Systems. Book One of Four: What is an LDS?](#), July 2010, p. 27.

38 Forum, *Traveling Book One: Defining an LDS*, p. 27.

39 Forum, *Traveling Book One: Defining an LDS*, p. 28.

40 Forum, *Traveling Book Three: Managing an LDS*, p. 23.

Master data management (MDM) refers to the ongoing process of identifying the authoritative source of data and ensuring that this source is consistently used to feed other data systems, or to populate the agency's central data store; as well as for reporting, dissemination, and analysis. In this way, it is the answer to the "collect once, use many times" challenge. When key data elements are collected and used by multiple data systems, MDM is the process that determines which single source is authoritative. When integrating data from multiple sources into a central data warehouse, for example, authoritative (i.e., "master") sources are identified for each element. And when new elements are collected, an authoritative source is assigned for each.

MDM relies on both data governance processes and technological solutions. The data governance side of the process can be fulfilled through the Data Governance Committee, as it facilitates the collaborative designation of authoritative data sources and elimination of redundant collections. Technology solutions can then be used to share data among multiple data systems ("horizontal integration") by updating secondary data in one system with the authoritative data from another. For instance, if the agency uses several operational databases, the student information system (SIS) may hold the authoritative student addresses, while the transportation system holds secondary student address data. The MDM application would feed the SIS data into the central data store and update the transportation system automatically whenever the information was changed in the SIS.

Additional capacities of an SLDS, we discuss in turn are interoperability, **portability**, privacy protections, and quality auditing capabilities.

One of the greatest benefits from an SLDS is the interoperability of data. Interoperability "is the quick and easy transfer of data between systems via a common set of data standards (definitions, codes, and technical specifications)."⁴¹ For example, the student demographic information entered when a student registers for school occurs at the LEA level and then is transferred to OSSE as part of the state record. At its maximum efficiency, the transfer of data from the LEA to OSSE would be seamless and would be automated. Further, interoperability would allow for reporting things like annual student subgroup outcomes for each school without having to resubmit demographic data. However, we find that District data do not automatically flow from LEAs seamlessly to OSSE and require extensive technical support to complete data transfers. Instead, additional annual data collections are necessary for even data as basic and constant as student demographics.

Portability "is the ability to exchange student record and transcript information electronically from system to system, across districts" as well as across sectors.⁴² Where the focus of interoperability is getting data from the LEA to OSSE, portability is designed to be a seamless process to get data that is stored in the SLDS back to the LEA. Yet, we find that data attributes determined by OSSE have no way of easily flowing back to LEAs. For example, given that assessment data are not stored in a warehouse structure, there is no way to send assessment results back to LEAs through an SLDS into each LEA's student management systems. Additionally, there is no way for an LEA to download all the data that they have reported to OSSE

41 Forum, Traveling Book Two: Planning an LDS, p.51.

42 Forum, Traveling Book Two: Planning an LDS, p.55.

for verification. Portability also addresses the ease of sharing data between LEAs as facilitated by the SEA as, for example, when students transfer between LEAs. Ideally, OSSE would be able to turn on access to review data that is stored at OSSE for the school the student is transferring to and turn off access to the school they are leaving.

Data collection privacy protections within OSSE's current data system are unclear. Privacy protections covered under the federal... FERPA apply to much of the data in an SLDS, including staff roles, responsibilities and access with regard to these data.⁴³ Within OSSE, it is not clear which staff have access to what data, how that access is assigned, or how the secure data transfer from an LEA to OSSE is managed. Although there is a Department of Data Governance and Privacy, there does not appear to be a sufficient and coordinated effort to review decisions about data access. Additionally, there is no hierarchical structure to assign different levels of access to various systems and no official and publicly available data privacy policy.⁴⁴

Finally, the District does not have a comprehensive system to conduct data quality audits. Instead, data are submitted by LEAs to OSSE with errors, then OSSE must research these errors and contact each LEA to negotiate and resolve them. There are some automated reports that OSSE has developed to assist with this process but the root cause of the problem—the submission of errors—is systematically unaddressed. Given the lack of data quality auditing processes, it is unclear whether and how OSSE could maintain valid and **reliable** data. In the following sections, we discuss our data quality analyses that show that, for many of the essential data element groups, the data are not valid and reliable.

OSSE does not collect critical data or follow critical processes

In this section, we discuss OSSE's raw data collection mechanisms and highlight their relevance for problems with quality and completeness of the individual data elements themselves. We begin with a brief description of the data collection approach recommended and widely practiced by SEAs, which is to invest in a statewide student information system (SIS) that controls the essential data element definitions, collection requirements, and validation processes, and also provides LEAs with common, useful reporting and analytic capacities. This statewide SIS approach does not necessarily require all LEAs within a state to adopt the same SIS for their local data collection and use needs. Instead, many states take the approach of certifying the SISs developed by individual vendors as having the capabilities to align with the statewide system, allowing LEAs to choose their own preferred SIS. States also support LEAs with the state SIS and all its capacities if LEAs choose not to invest in their own.

Chapter 5 of the Forum guide to crisis data management describes the benefits of a statewide SIS as ensuring high-quality, consistent, secure data collection and access, while reducing burdens on LEAs.⁴⁵ The guide stresses the importance of these reliable data functions residing at the SEA level in the event

43 FERPA is the federal law outlining the requirements for consent for disclosures of student information, defines what constitutes an educational record, and requires notification to parents of their rights to review their child's educational record.

44 Notably, after this audit was complete, OSSE published the agency's first privacy policy on November 2020. This step represents significant progress in data governance.

45 Forum [Guide to Planning for, Collecting, and Managing Data About Students Displaced by a Crisis](#), September 2019.

of a crisis that displaces students and disrupts school data management. Because most of the SIS are vendor-developed systems, there are few specific standards written for them in the federally facilitated Forum and SLDS community guides. More information can be found on individual state websites, where SEAs describe the value assessment processes they undertake with LEAs to determine the features needed and list the certified vendors, essential data elements, collection schedules, and other business rules.⁴⁶ It is also important to note that most states accomplish this work across hundreds of LEAs. While D.C. has fewer than 70 distinct LEAs, the mean number of LEAs per state is over 350, and several states have more than a thousand school districts.⁴⁷

In contrast with this approach, OSSE relies heavily on annual template submissions of student and staff data provided by DCPS and PCSB. We discuss the problems with this approach under each of the relevant main data element groups we cover in the remainder of this section. In addition to the template submissions, in 2016 OSSE implemented a pared-down version of an electronic transfer process used by Rhode Island's SEA in their early federal grants. This is an **automated data transfer (ADT) system** where **data scripts** are written by the SEA to automatically upload a set of data elements daily from each individual LEA student information systems. This is different from the statewide SIS approach where SEAs control the essential data system determinations consistently for all LEAs.

The ADT which Rhode Island implemented was designed to collect the essential data elements from the state's 60-plus LEAs without investing in a statewide SIS or a vetted list of LEA SIS. Even so, the process was designed to achieve the same objectives.⁴⁸ The ADT design and implementation by OSSE, however, was largely determined by the LEAs and was intentionally designed to collect very few essential variables. OSSE effectively permitted the LEAs to define some of the elements and determine whether to submit others. We discuss this process and the implications in more detail below.

OSSE only recently implemented a limited ADT and frequently avoids using it

Implementing an automated mechanism for data collection should not only ensure collection of the full universe of student enrollment records but also ensure accurate submissions and reduce the burden on LEAs. The burden is lowered by removing the extra steps of compiling and submitting data records to the SEA. Instead, the data are transferred directly as an automatic upload from each LEA administrative system used to record student enrollments, attendance, etc. This reduces the risk for error or fraud. Yet, the ability of an ADT to provide consistent, valid data remains dependent on the intent, implementation, and adherence to the following specific SEA requirements:

- Consistent data definitions and entry requirements stipulated for all LEAs.
- Specific upload scripts written for each LEA.
- Clear, consistent business rules for the aggregation of the daily uploaded values.
- A prohibition on the degree to which LEAs or others (such as PCSB) can edit values after they have been uploaded or even after they have been viewed pending aggregate outcomes.

⁴⁶ See for example these state SEA webpages for: [Wisconsin](#), [Illinois](#), [Colorado](#), and [Arkansas](#), accessed July 4, 2020.

⁴⁷ Calculations based on NCES [Common Core of Data \(CCD\)](#) program, accessed July 5, 2020.

⁴⁸ Rhode Island described in their successful [RI 2010 RTT Application](#) (page 38), the ability to invest in these systems provides SLDS capacity of web based automated data submission protocol, real time error catching feedback, and verification reports.

In Part 2, we document decisions OSSE has made to allow the design and implementation of the ADT data collection, aggregating, and editing processes to undermine the integrity of the data elements collected. We clarify which of these decisions were recorded as part of the established data collection and data use documentation and which were recorded elsewhere thus contradicting OSSE's own stated guidance.

What follows details our data analysis findings of OSSE's student data files that show data collected and aggregated annually to be inconsistent with the stated collection requirements. These analyses show strong patterns of data invalidated by structural decisions to allow for non-standard and inefficient data collection, aggregation, or editing rules that in some instances clearly differ by public school sector (i.e., whether traditional or charter). This is a critical undermining of an ADT investment. If the determination of whether a student is recorded in final data as absent, suspended, transferred, engaged (versus dropped out), etc., differ by a reporting unit, such as by sector, the student records will be invalid and data used for accountability, equity analysis, and continuous improvement will not only be imprecise but will be biased. For example, we analyze definitions for absenteeism that differ by sector which have resulted in systematically higher recorded rates of **chronic absenteeism** for students in the traditional public-school sector.

Equally alarming are the number of essential data elements that OSSE collects outside of the ADT system. For reasons that remain unclear, OSSE has opted to create several separate manual collections through year-end **certified lists** of relevant student data. These lists are essentially spreadsheets submitted to OSSE by DCPS and PCSB. They begin as **templates** with predetermined (or predefined) columns for data elements, and, in some cases, rows of students identified. The student values are then populated by DCPS and PCSB, and the lists are submitted to OSSE. There is no rational explanation for collecting essential data through this type of manual submission outside of an existing integrated system. The values are still manual entries even if the lists are submitted online through a secure user-access site. This practice predates more than a decade of IT advances in SEA data collection and violates all best practice standards for maintaining SLDS data integrity.

This questionable collection approach is used by OSSE to identify two highly important school metrics including high school graduates and student discipline data on number, type, and days of suspensions and expulsions annually for students whom the LEA has determined are the relevant population. We discuss each of these collections in more detail below. The process of collecting manual lists of high school exits including diplomas and other certificates has been created by OSSE, in lieu of requiring LEAs to fill in the exit data fields in the ADT systems that were created to collect this data automatically. The external discipline collection was created in lieu of simply bringing in any of the discipline elements directly through the ADT as those systems are designed to do.

There are additional certified lists for student demographics that further illustrate the consequences of the lack of an SLDS and the failure to follow the data integrity rule to "collect once, use many times." Even more troubling, however, are the unnecessary annual certified lists of faculty and staff designed to collect data needed for federal reporting. These certified lists made connecting the same teacher over time, i.e., longitudinal links, difficult and burdensome, and made connecting teachers to students functionally impossible. We discuss below how these unusual staffing collections are designed to allow a vendor and not OSSE to directly collect this data from the LEAs in a manner that does not meet state education agency responsibilities.

OSSE did not explain why it created such data collection mechanisms. The data collection guidance provided by OSSE for this collection of certified lists states only that OSSE recognizes that these data are sensitive and therefore OSSE will not store them in what OSSE refers to as the SLED. As already noted, the SLED is not an SLDS master data repository. It is merely a collection of data tables. Furthermore, OSSE guidance on the attendance data collection also states that OSSE will not store this sensitive attendance data in the SLED, and yet these attendance data are uploaded using the ADT. It remains unclear why discipline, graduation, and teacher data, also described as sensitive, are not uploaded via the ADT. Part 2 reviews these decisions regarding each of these data collections.

We review the implications for data integrity from each of these alternative data collection approaches below. First, we detail disturbing data integrity findings regarding the data elements that are collected through the automated processes including the absenteeism data and the missing enrollment records and values.

OSSE enrollment records have only recently included all students

Prior to the 2016 ADT implementation, OSSE relied on DCPS and PCSB to define and align their own submissions which substantially reduced the integrity of these earlier data.⁴⁹ As we detail in Part 5, what should be the most complete data collection—the student enrollment *records*—only exists for a snapshot of students enrolled in D.C. public schools on *count day* each year. Analyzing the annual enrollment files before and after this change, we find the files prior to 2016 omit thousands of students each year. These are the students who enroll after Count Day, exit prior to Count Day, or are considered D.C. students OSSE and the LEAs are responsible for, but are enrolled in schools outside of D.C. (primarily special education programs). The earlier omission is the explanation for a sudden jump in the enrollment data, from 85,403 students in 2015, to 95,192 students as of 2016. These data files prior to 2016 also do not record the multiple schools thousands of students are observed to attend each year. This results in a jump from a total of 85,403 student enrollment *records* in 2015, to 102,146 total student school enrollment records in 2016 with the higher comparative numbers reflecting the students recorded as attending more than one school.

As 2015 is relatively recent, this issue directly and negatively impacts the *validity* of current student *cohort* data. That is, even before considering the quality of each data element collected, the entire universe of students for whom these elements are defined was not fully represented in D.C.’s student data files prior to 2016. Monitoring enrollment is the most basic data function of an SEA, as complete student enrollment records are essential for all administrative, funding, and reporting requirements. It is surprising to see this shortcoming as recently as five years ago. While we waited for requested data, a process described later in this report, OSSE clarified that although the Data Sharing Agreement with ODCA and Data Ethics spanned the most recent six years, we should only consider data files to be reliable as of 2016. We anticipated finding inconsistent or imprecise values across some of the student data elements prior to 2016 and were taken aback to learn that thousands of student enrollment records simply had not been collected at the SEA level.

49 For a description of the collection process prior to the ADT, see OSSE, SLED Demonstration, 2011, p. 4.

Even if all the data elements had proved to be of high quality, the longitudinal nature of SLDS data in the District would still be severely limited to all students for just a few sequential years and grades at a time. By contrast, many states have been using their SLDS to study student trajectories from preschool through K-12, postsecondary, and into the workforce (as we demonstrate in Part 3), by collecting a minimum of thirteen functioning years of data that include an entire student universe. These **P-20W** longitudinal data are the robust SLDS the grants were designed to support, including the FY12 SLDS federal grant the District received based on an application to build D.C.'s P-20W system capacity.⁵⁰ This application purported to build on the work of OSSE's FY07 grant project that was to have built the initial P-12 SLDS capacity. As noted above, despite the commitments and significant federal and District funding the current SEA-level data system managed by OSSE is actually a collection of data tables with little functionality.

We return to the missing student records prior to 2016 in the analytic briefs looking at validity issues and data analysis limitations. We show the missing student records are not a **random subset** of students. The circumstances for students not meeting the Count Day public school criteria used prior to 2016 are concentrated among otherwise vulnerable student subgroups, such as students considered **at risk**. Therefore, data from 2015 or earlier are compromised. This flawed data collection approach results in student **observations** missing in the data files. The remainder of Part 1 details the flawed data collection approaches in terms of the **variable** (or element) definitions and the actual values recorded for the students represented. In the variable analysis that follows we focus on the full student enrollment universe of data beginning in 2016, with a few necessary exceptions noted in the text.

We begin that analysis with a brief discussion of standard data analytic methods we follow for assessing validity of data collections.

Data audit analysis methods

A data quality audit typically follows the standard methods for analyzing all data files consistently for missing or **duplicate observations**, inconsistently defined variables, **missing values**, **values out of range**, and so on. We do these standard analyses on each of the OSSE data files, and we reference the best practice guides recommending these data quality audit methods. We document this process in more detail throughout the three analytic briefs and in the statistical methodology discussions in Appendix B.

For the specific analysis methods and objectives, we follow the SLDS program and Forum **Traveling Through Time** guides which provide a framework for analyzing SLDS data quality across the following attributes:⁵¹

- **Accuracy:** Are the data correct?
- **Completeness:** Are the data all there?
- **Timeliness:** Are the data available when needed?
- **Validity:** Do the data accurately reflect or measure what they are supposed to reflect or measure?
- **Consistency:** Are the data stable over time and across sources?

⁵⁰ OSSE, SLDS FY12 grant application (on the NCES SLDS program website).

⁵¹ As itemized in Forum, Traveling Book Three: Managing an LDS, pp. 45-46.

These administrative data criteria and the analytic methods for assessing them are also documented by national networks for other sectors besides education, such as health and human services. Similar best practice guides for administrative data quality analysis are written at other levels of government as well. Among these are the Federal Committee on Statistical Methodology best practices for federal agencies and the integrated data systems (IDS) tools for district agencies.⁵² The specific methods adopted range from the straightforward logic checks we describe next, to more sophisticated ***inferential statistical analysis***.⁵³ We explain each specific method we apply for each analysis in this audit, both in the relevant report sections and in more detail in the analytic methods section of Appendix B.

Education administrative data quality audits conducted by SEAs typically run analyses that check for ***logical values***, such as confirming that student grade levels progress logically, that student race does not vary over time, for example, and that student absences are not greater than total days enrolled.⁵⁴ The capacity to conduct quality audits of SLDS data are one of the requirements of the funding in the 2010 America COMPETES Act. The SEA addresses individual identified errors at the reporting source, such as the LEA. The volume of these logical errors is assessed for the potential negative affect on accuracy, and any patterns found are used to develop improvement recommendations for the collection mechanisms, documentation, and trainings. We conduct these logical value tests as well, for instance, in the next section on D.C. attendance data.

However, given the absence of standards followed in the District's data collections, it is important to also analyze the broader stated intent, result, and implication of these non-standard data decisions. Therefore, following the standard data collection best practice guides and using the information from our analysis of OSSE data documents and data staff interviews, we specifically assess the following for each standard element:

- Whether it is collected by OSSE at all, and by what method.
- Whether it is defined as required, optional, or conditional.
- The ***specificity*** of the ***value set options*** and the allowance of "other" or "unknown".
- The ***frequency*** at which it is collected.
- How high frequency collected elements are defined in year-end ***systems of record***.
- The number of years it has been collected and consistently defined.
- Whether it is collected using the SEA ***unique student or staff identifier***.
- Whether it is collected through multiple, separate collections, and which is considered the ***master source*** for that element.
- Whether it is defined consistently with SEA written guidance for its collection and use.

For each data element group, our data audit analysis assesses the full extent to which each of these OSSE data collections is consistent with established standards for element inclusion and quality. We analyze the

52 Federal Committee on Statistical Methodology (FCSM), [Data Quality Assessment Tool for Administrative Data](#), February 2013. Boruch, R., Actionable Intelligence for Social Policy (AISP) at the University of Pennsylvania, [Administrative Record Quality and Integrated Data Systems](#), 2015.

53 See for example: Washington state Office of Financial Management (OFM) Education Research and Data Center (ERDC), [A Data Quality Evaluation of Administrative Data](#), 2018.

54 See examples given for data quality audit checks in Forum, Traveling Book Three, pp. 49-50.

implications of each type of collection, such as the external certified lists, for potentially undermining the underlying data values. We document discrepancies between the data files as they are with their stated intent, and we identify all implications of these discrepancies on the data's intended use. Finally, we analyze the data values themselves, to test for internal validity, along the lines described in the exit data example we give below. We conduct these data value analyses here in Part 1 for the absenteeism data and for the discipline data. Later, in Education Data Analysis Briefs 1-3, we conduct similar tests for the student data on enrollment and mobility patterns, test scores and subjects, and high school pathways and exits.

Accordingly, in the remaining sections of Part 1, we analyze each of these data groups using the following combinations of approaches the different collections call for:

- **Attendance Data:** We test the internal validity of systematically inconsistent recorded values.
- **Exit Dates and Codes:** We analyze the extent and type of missing values and detail the implications.
- **Course Data:** We review the claims regarding the collection of these required data and discuss the implications of their absence.
- **Discipline Data:** We analyze the manual submissions within and across years and across the sector submitting these data, relative to each other and to federal aggregate submissions of what should be the same underlying data.
- **Faculty and Staff Data:** We analyze the annual documented decisions to intentionally avoid collection of required staff and faculty data at the SEA level.
- **College Enrollment Data:** We review the documentation, claims, and unnecessarily sparse use of these data, relative to their longstanding, complete data collections.

Here, we illustrate the need for, and approach to, these broader analyses of OSSE data files, using the example of the standard student exit data elements. For instance, in a typical SEA data audit, we would analyze the student exit data elements for the dates and reasons student left each school each year. We would do this in four steps:

- Analyze the data elements each year for any missing or out of range values.
- Create a longitudinal student data file tracking each student's progress through grades in each year and transfers at the school, LEA, and state levels.
- Compare the exit dates and reasons recorded for each student by each school each year, to the observed progress and transfer of those students throughout the longitudinal dataset.
- Quantify and document any discrepancies, including an analysis of any potential systematic patterns in the errors, such as by year, LEA, grade, exit reason, etc. (e.g., are dropout events incorrectly recorded as transfers, and does this occur more frequently for some LEAs).

However, our analysis of exit fields in OSSE's data files had to be broadened to include scrutinizing the data for patterns and possible reasons why exit data were missing for roughly 80% of students each year. It also extended to studying the data collection documentation for any rationale, as well as analyzing aggregate accountability measures for high school exits (e.g., graduation rates) by school, year, and student subgroup, to quantify and document impacts of these missing data.

In another departure from norms, we would typically compare the SEA data inventory descriptions of the elements and their attributes to the data as they are found in the files. However, as we discuss in Part 3,

among the SLDS components that have not been established by OSSE is a data inventory. We requested a data inventory in our documents request and then in our follow-up meetings with OSSE senior data staff. They explained that they refer to the broad data groupings as “data assets” and that these consist of “data collections” consisting of “data elements.” For our audit they compiled a spreadsheet list of only the variable names for each of these data elements under each asset category. In Appendix A, we align these as closely as possible to the standard data elements in Figure 1.2 above and compare both lists with the elements in the data files our audit received from OSSE. We detail this process in the Part 3 discussion of our analytic dataset construction and documentation.

Detailed SEA data inventories are also typically accompanied by documented business rules for the collection and uses of the data, which we would use to supplement our understanding of the intended definitions and the collection guardrails. We work to derive this necessary information from OSSE’s written guidance for their data collections given that they have not created data inventories. However, some important element groups, such as attendance, do not have data collection guides. Others, such as the enrollment and staff collections, have annual guides with frequently changing and contradicting specifics, including whether an element is required to be reported by LEAs.

We supplement our review of the collection documentation with OSSE’s technical notes in the data use documentation for their own reports, including the DC School Report Card and School Transparency and Reporting (STAR) Framework. Additionally, we asked OSSE senior data staff a series of questions about each of their data assets that would normally be found in the SEA detailed metadata. For instance: what years were elements collected, had the definitions changed over time, were the collections complete in coverage, and were there concerns about data quality that could affect data use? The staff provided some of those answers, in a narrative document entitled Historical Data Caveats, which we discuss in detail in the document review of Part 2 and the document inventory of the qualitative data section of Appendix A.

The findings of these data audit analyses are discussed below and in more detail in the data analytic briefs. The main analysis findings presented in the next section are of the attendance data. Following that, the remainder of Part 1 discusses our findings regarding the absence of essential data elements within the files and our reconciliation of these with OSSE’s data documentation claims, as well as missing and severely restricted element collections. Specifically, we discuss the main element sets that have not been collected in the District and the element sets that have been collected with significant limitations and the conditions under which OSSE has limited its own access for use. In Part 2, we discuss our analysis of the documents in detail, excerpting and citing the source documents for each of the critical findings we describe below, including how the annual guidance documents vary over time for a given data element group and where they contradict other documented data collection and use technical explanations. Here we focus on the critical implications for the data’s integrity starting with attendance data.

Attendance data are fundamentally flawed

We raise these attendance data quality issues here because, while the next sections go on to detail serious concerns about other missing and limited data collections—the attendance data quality analysis finds tens of thousands of invalid student data records. Further, these invalid records are not just statistically implausible values for student absenteeism, but mathematically incorrect. There are two values recorded

for the number of days absent for each student each year, called, “total days absent,” and “total days enrolled minus total days present.” These two values should be identical. In fact, they are identical for DCPS students but vary widely for over 5,000 PCS students on average per year. To be clear, the analysis and findings below use daily student level data compiled by OSSE into year-end summative attendance categories, by student. That these PCS data, compiled by OSSE, are mathematically invalid means they could not have been collected or compiled via a quality assurance process.

We also find that these PCS student records for total absences—by either definition—drop suddenly and substantially in 2016 as the requirement to report school-level chronic absenteeism rates begins.⁵⁵ These findings concerning the accuracy and consistency of the attendance data are similar to other findings of systematically inconsistent data collection and use decisions by OSSE. For instance, further below, we present similar findings from the discipline data collections. Those findings show PCSB student data submissions of suspension records to OSSE are substantially underreported relative to the PCS school totals reported directly by the LEAs to the ED.

Our full analysis of the attendance data includes both logical and inferential analysis. The logical quality checks of these disparate data elements, which should be synonymous and redundant but vary, are illustrated below with simple tables and graphs. Following these, we also run statistical inference tests on the potential systematic bias in these invalid student absenteeism data and find a statistical likelihood of PCS sector underreporting of days absent. We find similar evidence of underreporting of days suspended in the discipline data collection section further below.

Depiction of the fundamental attendance data flaws and discussion of the implications

As we mentioned, OSSE does not produce full data guidance documents for attendance data as it does for some of its other major data assets. In place of these guides are brief memos from OSSE to the LEAs. These provide updates on D.C. legal attendance data reporting requirements, but few details on the specific data collection requirements or business rules. Therefore, we also draw on the technical data decision and analysis in OSSE’s annual attendance reports and those of the D.C. Truancy Taskforce, renamed the Every Day Counts! Taskforce.⁵⁶ We highlight the relevant points from those in the discussion of our findings below. We also excerpt the relevant language in more detail in our Part 2 discussion of the District’s data collection and validation decision making and our Part 4 recommendations for bringing these data collections in line with the attendance data regulations.⁵⁷

55 See D.C. Law L21-140, School Attendance Clarification Amendment Act of 2015, Effective from July 26, 2016; Regulations at 63 DCR 8207.

56 See OSSE annual attendance reports for detailed explanations of the attendance data provisions in the legislation (with citations) and the developments of the attendance taskforce, beginning with the 2016 report: [State of Attendance 2015-16 School Year](#). Implementation of these requirements at the school and LEA levels are explained further by OSSE in [Attendance Reporting Requirements for Schools](#), November 2018. Also, see the D.C. government webpage for the [Every Day Counts! Taskforce](#) meetings and reports, accessed July 4, 2020.

57 D.C. Code §§ 38-201 through 213.

In each year, from 2013 through 2018, the following attendance data elements are recorded for each student, at each of the schools they attend:

- *Total Days Enrolled.*
- *Days Present.*
- *Unexcused Days Absent.*
- *Excused Days Absent.*
- In 2017, for PCS students, additional values for the variable: *Other Days Absent.*

By logic, and confirmed in OSSE documentation, the values for total days enrolled minus days present—effectively, total days not present—should equal total days absent (i.e. unexcused plus excused days absent), as follows:

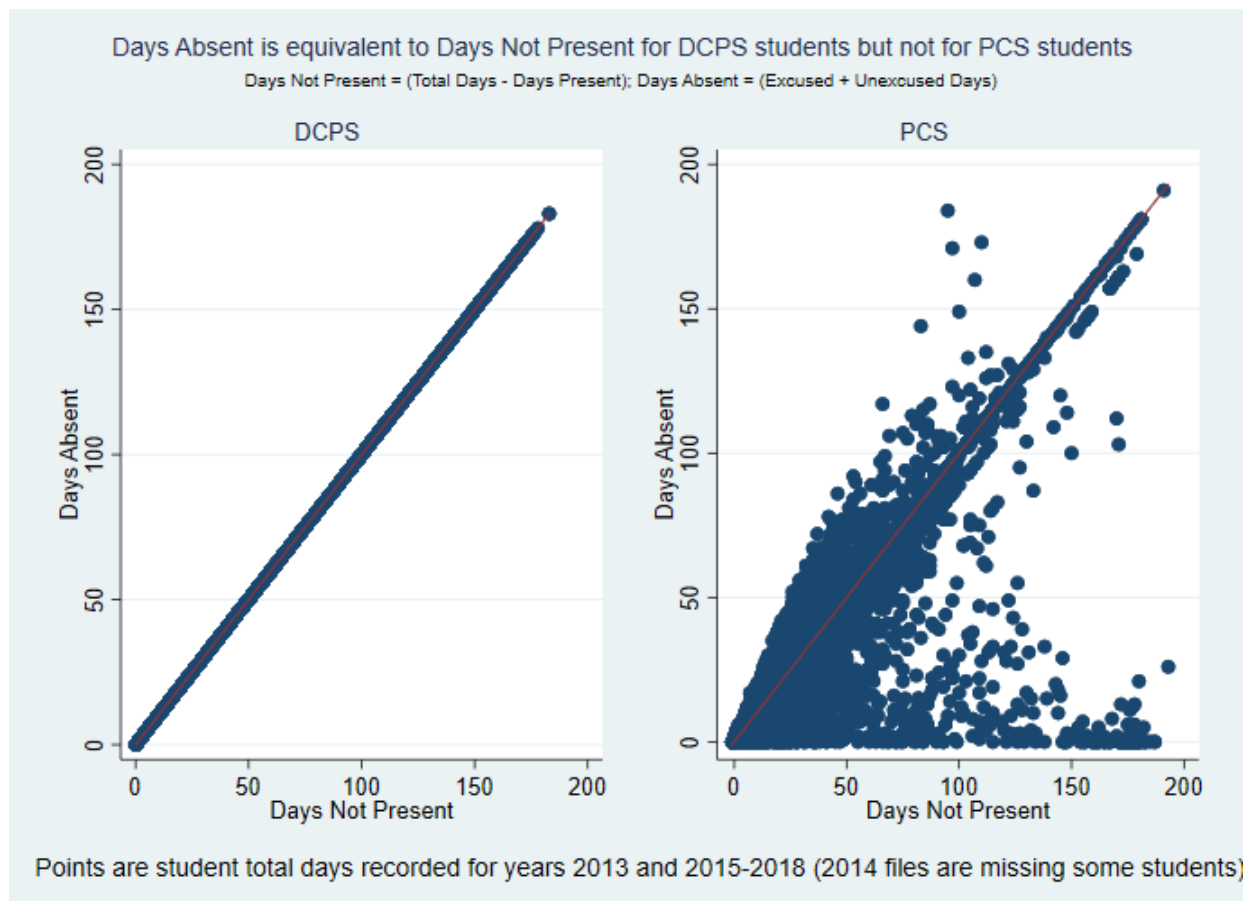
$$\text{Total Days Enrolled} - \text{Days Present} = \text{Unexcused} + \text{Excused Days Absent}$$

$$\text{Days Not Present} = \text{Days Absent}$$

These two sets of potential values are equal for all students enrolled in DCPS schools in each file, each year—as they should be, since “days absent” are equivalent to “days not present.” But almost all charter schools have several values for student total days absent that do not equal the difference between total days enrolled and days present. Figure 1.3 shows the volume and magnitude of these data discrepancies between what should be complementary variables for the same student in the same year. These are shown for all K-12 students in each year 2013 and 2015-2018.⁵⁸ (The 2014 student attendance data file was missing a number of enrolled K-12 students, so we omit that year from our analysis.)

58 The attendance data files do not include grades, so enrollment data files were used to identify grades for all students in the full enrollment files from 2016-2018 and almost all students prior to 2016. Our findings for the full sample prior to 2016, without limiting by grades, were also very similar.

Figure 1.3: 2013-2018 Student Annual Days Absent Over Days Not Present, By Sector



The DCPS student records for all students each year align exactly, as shown by the graph's 45-degree line indicating these are equal values. However, the PCS student records contain tens of thousands of disparate measures of the same student's absenteeism in the same year. The incidents of this discrepancy can be seen in the volume of points off the 45-degree line. The range of the number of days by which a student's record differs (depending on which element is referenced) can be read as the distance along either axis away from the 45-degree line. Finally, the share of those students with higher or lower values by one definition relative to the other can be seen in the relative volume and distance under or over the 45-degree line. For instance, there are many records with higher Days Absent, as seen by the volume above the 45-degree line, but many of the records with higher Days Not Present have Days Absent values much closer to zero.

Importantly, most instances where "days absent" is greater than "days not present" are in either 2013 or 2015. In fact, in those early years these differences were both above and below the 45-degree line. However, in 2016 through 2018, the vast majority of the values are in only one direction, indicating a shift in reporting.

These differences are substantial, and the potential impact is meaningful because the D.C. STAR report cards and the OSSE attendance analysis reports draw on these invalid data to derive their metrics for

accountability and continuous improvement. These data are also being recorded incorrectly in students' academic files. Our data audit analysis can measure the number and size of these values that should not differ but do and by how much. Our analysis cannot, however, confirm which of these values is being used in the students' records. We also cannot confirm what combination of these values are being used to derive the school-level attendance metrics for the mandated annual attendance reports or the DC STAR school report cards. This is because these metrics have additional business rules by OSSE regarding each student's enrollment dates and each school's instructional days each year. Without information on those determinations, we cannot confirm the specific attendance data used in the metrics.⁵⁹

However, we can statistically test for systematic variation in the data records that result in the reported metrics. We explain these methods further below, but we first report on the metric variation by year and sector that correspond with the stated data collection and reporting objectives. As noted in OSSE's Annual Notice of Attendance and Reporting Requirements, accurate and consistent daily attendance recordkeeping, as well as valid annual reporting, is required of the School Attendance Clarification Amendment Act of 2016, effective July 26, 2016.⁶⁰ The requirements include annual reporting by OSSE of *chronic absenteeism* rates for each school as of the 2016 school year.⁶¹ Further this annual reporting requirement must include "the impact of current laws on improving school attendance."⁶²

As we discuss below, an essential part of a data integrity analysis is to measure any differences in reported values by reporting units—especially for those data feeding into changing public reporting requirements or high-stakes metrics. There are two troubling related findings regarding the potential bias of the attendance data. One is that we only found these differences in reporting unit, or school sector. More specifically, we found reporting differences for almost all PCS schools across the years and found none in DCPS schools. The other finding in the documentation is that OSSE created previews of the chronic absenteeism data for LEAs prior to the annual reporting in the STAR report card and other annual reports, with viewing capability for PCSB as well.⁶³ This is an instance of another non-standard data practice by OSSE, which is to allow a third-party, such as PCSB, to collect or manage multiple LEA's data across an entire sector, which is the responsibility of the state and local education agencies.

We met with data staff from PCSB and from a sample of PCS LEAs. Data staff described the extra steps PCSB data staff take to assist PCS LEAs with the data collection and validation challenges inherent in OSSE's non-standard data collection practices such as the lack of student exit data and the lack of an SLDS capacity which we discuss in detail later in this report. It may be that this additional level of data management by PCSB attempts to correct PCS LEA entries or business rules thought to result in data errors being introduced by OSSE. For instance, because OSSE does not collect complete student exit data,

59 These specifics were not included in the data audit's data and information requests, as there had been no reason to anticipate attendance data collections would be significantly flawed.

60 OSSE, [Annual Notice of Attendance and Reporting Requirements](#), July 1, 2019, references the attendance and truancy-related laws in Title 38, Subtitle I, Chapter 2, Subchapter I of the D.C. Official Code, "School Attendance" (D.C. Code §§ 38-201 through 213).

61 The DC STAR report cards report the inverse metric, of 90% Attendance. The Attendance Rate is used to determine the 90/10 cutoff, and it is also used to measure the STAR Attendance Growth (or growth in attendance rates).

62 D.C. Code § 38-203

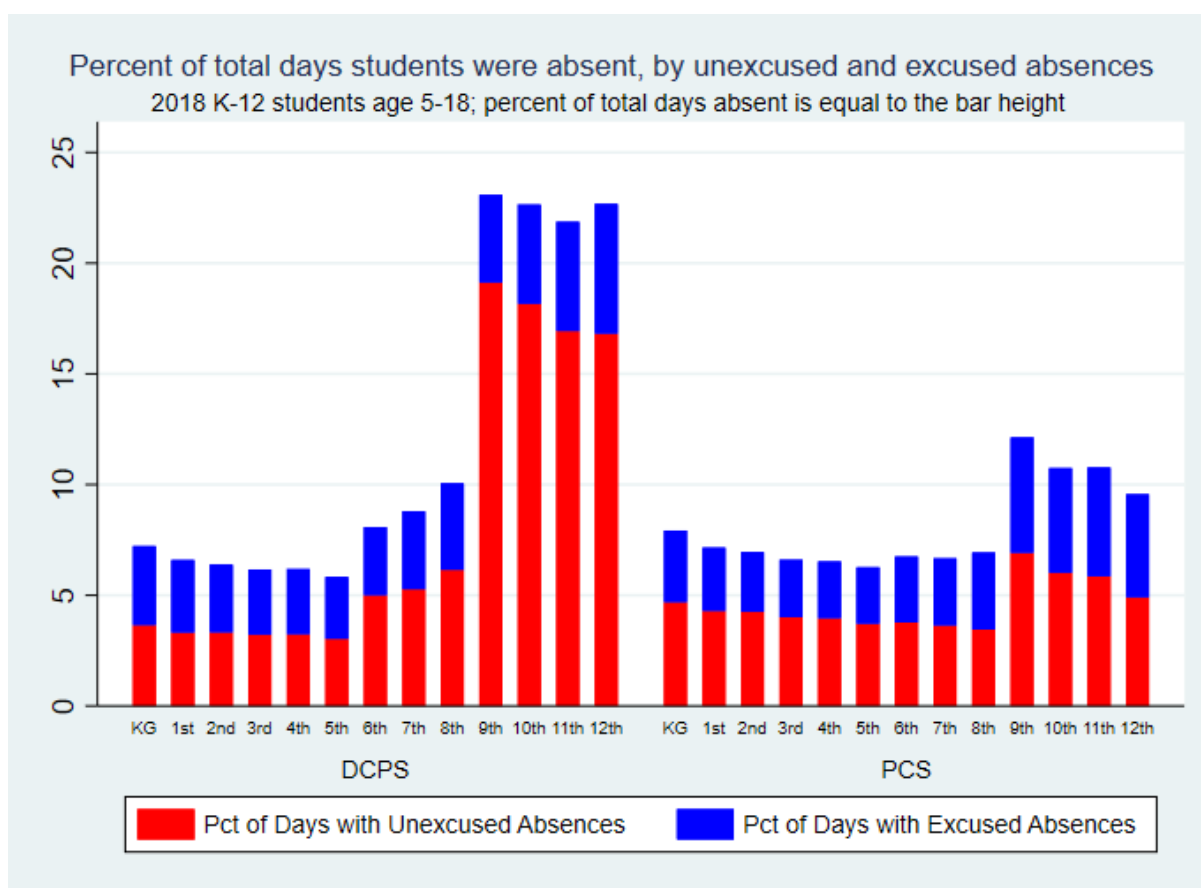
63 OSSE, 2019 Notice of Attendance Reporting discusses these Sector Level Attendance and Chronic Absenteeism applications, p. 4.

There are a number of open data system arrangements such as this that we find throughout the OSSE and PCSB data guides, trainings, and memos, and we detail those in Part 2.

OSSE must determine the total number of school days each year for each school as well as determine when those students exiting prior to the end of a school year actually exited.

What we stress here, however, is that for the purposes of ensuring the integrity of D.C. data, there cannot be a separate, undisclosed process for one sector to record and edit essential data. The result of this current approach on high stakes measures such as chronic absenteeism and truancy can be seen vividly in Figure 1.4 illustrating differences in Excused and Unexcused absences by sector. Unfortunately, these stark differences between DCPS recorded unexcused full-day absences and PCS cannot be broken out and compared along the disparate PCS values to assess their connection. While Days Absent consists of separate elements for Excused and Unexcused Days, Days Not Present has no counterpart for Excused and Unexcused. We can only assess the magnitude of the differences in recorded unexcused absences between sectors.

Figure 1.4: Student Days Absent, By Type, as a Percentage of Total Days, by Grade and Sector



As we mentioned above, a full-day absence is recorded for any student missing 20% or more of a school day. The attendance definition clarifications also determined that each full-day absence be recorded as an unexcused absence unless a valid written excuse is provided within five days. A District-wide common

definition for student truancy was also established to be 10 or more full days absent in a school year.⁶⁴ Figure 1.4 shows the share of days for which all 2018 K-12 students age 5-18 in each grade and sector were absent on average, in total, and broken out by unexcused and excused absences.⁶⁵

For DCPS students the share of days absent increase in the middle grades relative to PCS students and drastically increase in high school. The total bar heights for high school grades indicate DCPS students are absent, on average, more than one day a week for every week of the school year (i.e., more than 20% of their enrolled days). This is more than twice the rate of the PCS high school students. The greatest share of these absences for the DCPS students are unexcused full-day absences. For instance, DCPS 9th graders, on average, were absent 23% of the year. They were recorded as absent without an excuse for a full 20% of the year, compared to 8% for PCS students. On average, DCPS students' unexcused absences were over 70% of their total absences, compared to just over half for PCS students.

This unusually high volume of days recorded as unexcused absences leads to implausibly high rates of truancy—for DCPS students and DCPS schools, in addition to the higher rate of chronic absenteeism relative to PCS. Because of the relatively high rate of unexcused absences for DCPS students, their truancy rate was 29.0%, compared to the PCS student truancy rate of 22.3%. The stark differences in levels of unexcused absences for DCPS students, especially high school students, raises serious questions about OSSE's data processes for ensuring consistent data collection rules across reporting units.

There are several possible reasons the student data collections could result in so many more unexcused full-day absences for DCPS students. The DCPS school block-schedules could cause more students to be recorded as full-day absences, since missing even one class puts them over the 20% cutoff for the 80/20 rule. However, such sharp differences would still be unlikely. It would mean that almost one third of students across all DCPS schools—including the *selective (or application) high schools*—missed 10 or more classes each grade without a written excuse.

Some of this difference could be due to the different data collection systems between the sectors that OSSE does not reconcile in the ADT process or in data quality assurance steps after the ADT collection. OSSE's documentation, excerpted in Part 2, notes that the attendance data collected by OSSE through the ADT will vary with the LEA system field defaults. While OSSE does not produce attendance data collection guidance documentation, OSSE's annual attendance data template lists 11 possible values for each student's daily *Attendance Status*, including either *Present Partial Unexcused* or *Absent Partial Unexcused*.⁶⁶ Without the normal collection guides, however, there is no further explanation of how or why these fields would be allowed to default differently by LEA or sector, how those different defaults would lead to different values, or what steps OSSE takes to ensure the final student attendance data are correct and consistent across the District.

64 See the OSSE annual attendance reports referenced in footnotes above for the changing attendance data legal definitions or see our Part 2 excerpts and references of the source documents.

65 We follow the OSSE attendance reports focus on the sample of K-12 compulsory school-age students.

66 OSSE, 2017-18 School Year LEA Data Collection Template, Excel workbook file accessed July 4, 2020 (by searching "attendance data template 2017-18 on the OSSE website).

Data collection business rules, such as these data field defaults, should be consistent across LEAs, but can occur unintentionally as SEAs work with different LEAs to bring their different local data systems into alignment with the statewide definitions. Yet, comparing the results by sector and year, we see the average percentage of days recorded as unexcused absences going up for DCPS students at the time of the rule changes for definitions and reporting, but down for PCS. From 2013 to 2015, DCPS mean percentage of unexcused days absent as a total of days enrolled went from 5.7% to 8.7% and stayed at roughly 8.5% through 2016-2018. The mean percentage for PCS students went from 5.9% in 2013 (similar to DCPS) to 4.1% in 2015 and stayed at roughly 4.5% through 2016-2018. This trend is similar to our finding above regarding the chronic absenteeism and underlying percentages of total days absent. Data system flaws leading to invalid data are typically corrected by SEAs as they are discovered and resolved over time. High stakes data elements found to be increasingly divergent by reporting unit over time, on the other hand, raise questions about systematic bias in the system design or implementation. This question is particularly relevant when these changes in the recorded data coincide with new public reporting requirements.

In the remainder of this section, we analyze these questionable unexcused and total absences recorded for DCPS schools relative to PCS schools using statistical analysis to estimate the average impact on a student moving between sectors from one school year to the next. We test the likelihood that this reporting impact would be statistically negligible. That is, for each student's own observed pattern of absences, is that student's annual record of absences higher in the years and grades they attend DCPS than PCS schools, or is it not noticeably different? We do this using a *student fixed effects regression*, which we explain briefly here.

Statistical analysis tests of systematic reporting unit patterns in attendance data

In addition to the calculations and graphs for assessing logical values that we described and demonstrated above, SEAs and partner researchers also conduct statistical data quality audits or analyses. These compare the values of numeric variables across data collection structures to ensure the recorded values do not systematically differ from expected values, by collection date, mechanism, or reporting unit. (We discuss these in more detail in the methods and evidence appendices.)

These statistical inference methods test the likelihood that determinations made about data collection requirements result in different values—when they should not. In a consistent, high-quality data collection, the values should not systematically vary by year or reporting unit, such as school, LEA, or sector—independent of educational practices or populations varying across those same categories. For instance, if there were no distinct policy or practice changes from one year to the next, a distinct change in the mean values would likely point to a data collection change. For example, we would expect diverging absenteeism results by sector if the new rules implemented a few years ago (for determining partial day absences as full days and initially as unexcused absences) had been established for one sector only. The student populations may also change over time in ways that lead to changing mean values. An example would be if DCPS high schools were enrolling higher percentages of truant students for some reason. Yet, these population changes would not register suddenly as a distinct new pattern from one year to the next the way a data collection or editing change would.

Our student fixed effects regressions in fact find that the differences in absenteeism between sectors is not simply reflecting different absenteeism rates on average between students served by each sector. Education studies often run simple regressions on student longitudinal data (such as *ordinary least squares* or *school fixed effects regressions*) that use each student's characteristics, such as socioeconomic status and previous test scores, to attempt to account for an individual student's expected levels over time in school experiences such as absenteeism.

Student fixed effects regressions, instead, compare each student's own actual variation in absenteeism over time to their own average levels, versus the average level of students with comparable characteristics. Hence, the interpretation of the regression *coefficient* of the absenteeism variables as the estimated average impact on individual student's own increase or decrease in recorded absenteeism as they transfer between sectors. We also include year and grade effects to control for the observation that each student's own absenteeism levels are expected, on average, to be higher in middle grades than elementary and much higher, generally, in high school. There may also be year effects due to District-wide policy changes.

The analysis was conducted using the same sample, reported above, of students across all grades K-12 for students age 5-18 and for all three years 2016-2018.⁶⁷ We report the full regression tables in the quantitative data analysis methods section of Appendix B, and report the main findings here. The mean recorded days absent per year per student was 15.2 for total absences and 9.3 for unexcused absences. The regressions show that, on average, across students, after controlling for grade and year, students' own average absences were substantially lower when enrolled in the charter sector schools. The coefficient of -3.7 for total absences indicates that, controlling for all else, a student's reported absences are 3.7 days fewer when enrolled in the charter sector. Considering the mean total recorded days absent of 15.2, this is a difference of close to one fourth. An even larger impact of 4.0 days unexcused absences was estimated to be recorded when students were enrolled in the charter sector. This estimated average difference of 4.0 unexcused days absent is close to half of the full sample mean of 9.3.

This is essentially estimating that students, from one grade and year to the next, would on average double their typical number of days absent when transferring from PCS schools to DCPS and represents thereby an extraordinary and improbable result. It would be completely unexpected that a student's own attendance would vary this substantially simply from changing types of public school, traditional versus charter. In fact, evidence shows that student mobility is associated with higher absenteeism, regardless of sector.⁶⁸ Further, this association in the District is positive but substantially smaller when the transfer is within a sector, or from DCPS to PCS than the differences shown here. These differences are, therefore, unlikely to reflect true differences in absenteeism rates by sector. Instead, they appear to reflect separate standards for data collection or validation rules applied by OSSE distinctly to each sector.

67 Following OSSE's guidance, consistent with our own assessment, on when their most reliable data collections began, we focus our analysis on the student data files from school years 2016 through 2018 to ensure the most reliable data is used. As we discussed further above in Part 1, only these years have complete enrollment data files, and these were needed to identify the exact grade for every student each year.

68 Hinz, E., Kapp, L., & Snapp, S. (2003). Student attendance and mobility in Minneapolis Public Schools. *Journal of Negro Education*, 72, 141-149.

While student fixed effects regressions are the most robust statistical model available in this situation, we also conducted a series of **ordinary least squares** regressions both of attendance outcomes by sector and of test score growth outcomes by sector. First, we explain the two additional attendance regressions. Importantly, these regressions analyze all student data and do not just rely on students who switched sectors to produce an estimate, as in the case of the student fixed effects regressions. The first attendance regression controls for student characteristics, such as grade level, race/ethnicity, special education and English language learner status, and **at-risk** status, and finds the same association between PCS schools and lower reported absences. In other words, accounting for student characteristics, being enrolled in a PCS school is associated with lower reported absences. The second ordinary least squares regression still controls for student characteristics and controls for student mobility to help ensure that mobility is not driving the result and the same pattern is again consistently found.

We then conducted a similar series of ordinary least squares regressions estimating any differences in test score growth by sector. One might expect to see a small positive difference if students are attending school more often, controlling for all else. In fact, we find the opposite pattern across the first regression controlling for student characteristics and the second regression additionally controlling for student mobility. In both sets of ordinary least squares regressions, controlling for student characteristics and mobility, public charter schools are associated with less test score growth than DCPS schools. We cover test score growth in detail in a later analytic brief.

As we are unaware of any common attendance interventions across all charter schools this finding is highly unlikely to be attributable to a sector-wide strategy. Again, we find evidence that there is a difference in the data reporting process for PCS schools. Test scores, on the other hand, are not reported by LEAs to OSSE and have a common reporting process across all schools.

In the sections that follow, we focus on additional questions of OSSE data collection design and implementation that also and more broadly undermine the integrity of almost every additional standard data element group beyond attendance data.

Essential Data Collections Are Missing or Incomplete

In the remainder of Part 1 we describe the departures OSSE takes from the normal collection of essential data elements. We evaluate OSSE's data decisions relative to the national standards and guidance documents we described in the Introduction and analyze the implications of these flawed data collection decisions.

For purposes of comparison we describe data standard practices followed by other SEAs. We specifically included state agencies serving similar student populations that received similar levels of SLDS and RTT funding. We consider the size, **urbanicity**, and diversity of the student population, the number of schools, number of LEAs, presence of charters and application high schools, integration of adult education programs, and data use that stakeholders have typically indicated they want to see. Throughout this section we document instances where local District education stakeholders have requested missing exit and course data that are common to other SEAs.

Missing exit data is needed for OSSE and LEA reporting requirements

Most states have had higher quality enrollment records than the District for a decade or more, despite much larger numbers of students, schools, LEAs, and distinct local IT systems.⁶⁹ As we mentioned previously, complete enrollment records exist in D.C. only as of 2016. Even in the recent records, though, only the entry date and school for each student enrollment event throughout the year are included rather than the standard exit dates and codes which provide the reasons for leaving a school. There are serious implications of this missing data for the District's ability to meet its statutory reporting requirements, account for which students should participate in different programs and be subjected to testing and identify students who drop out.

Fields for exit dates and codes are included in the LEA data systems and OSSE's ADT system for the purpose of uploading daily. The OSSE Entry and Exit Guidance documents instruct LEAs on recording, submitting, and validating these data.⁷⁰ But each year, roughly 80% of the student records in OSSE's data files are missing this critical information. In interviews OSSE senior data staff told us incorrectly that they do not have the authority to require LEAs to submit, or record, these exit data. D.C. Code is clear on OSSE's authority to receive whatever education data they request and in the case of exit data the law requires LEAs to report this data every year and upon any changes to enrollment.⁷¹ Our enrollment data analysis finds that the only complete exit dates and codes included in the OSSE student data are for those students who have transferred from one D.C. public school to another during the school year. But there are essentially no values for end-of-year exits for all students or mid-year exits for students leaving the public-school system.

We used the complete enrollment event data to analyze the extent and impacts of the missing exit data, and to create full longitudinal analysis datasets. Each student's subsequent enrollment records (within and between years) are used to backfill their school exit information. For students who are transferred between schools within the school year, we document each of those recorded transfer dates, codes, and the schools they were transferred out of and into. We characterize those below, but we note that in addition to missing exit type entries, there is no process for confirming that the codes that are available are used as intended. In fact, OSSE guidance states that they require LEAs to keep documentation for some exit types but not others, allowing LEAs to use "transfer" codes, for example, in place of "discharged" codes thereby conflating voluntary transfers with involuntary dismissals.⁷²

The dozens of exit codes map to these broad categories (though, as we noted, not all are used in D.C. despite their value in other states and in meeting reporting requirements):

- End of year (promoted or retained, same school or new school).
- Credentials (graduated with diploma, received GED or other certificates).
- Exited state public system (for private school, home school, left state, deceased).

69 The status of operational SLDS basic components of student enrollment can be tracked from the 2010 SFSF APR checklists through to the 2017 SLDS survey results, both of which we discussed and linked in the Introduction.

70 OSSE, [Entry and Exit Guidance](#), September 25, 2018.

71 D.C. Code § 38–205.

72 OSSE, Entry and Exit Guidance, 2018.

- Transfers (to other D.C. public schools or non-D.C.-public school program placements).
- Disengaged (essentially dropped out but referred to as disengaged).
- Discharged (removed from the school due to LEA policies regarding truancy, etc.).

The D.C. Code requires all LEAs to report all exits monthly.⁷³ As we demonstrate, OSSE clearly does not carry out its SEA responsibility for collecting standard exit data to meet its own local reporting policy and guidance of having all LEAs report all exits as they occur. Not collecting end-of-year exit data also means there is no student enrollment record to distinguish high school students dropping out from those leaving the state or moving to private schools. The federal reporting requirements for graduates and dropouts are the reason SEAs and the federal grant programs have established these exit data as essential elements, seen as critical for high school exits.⁷⁴

OSSE describes the purpose and need for exit dates and codes in its current Entry and Exit Guidance document:⁷⁵

The importance of appropriate entry and exit codes should not be understated – they help derive enrollment counts, track student movement to ensure timely service delivery, inform funding to ensure adequate resources, and contribute to the development of education strategy and policy throughout all District of Columbia Public and Public Charter Schools. Additionally, entry and exit codes are used for the following:

- several federal reporting requirements including Indicator 2 of the Individuals with Disabilities Education Act Annual Performance Report (IDEA APR) and Adjusted Cohort Graduation Rate (ACGR);
- interpretation in data systems such as DCPS Attendance, Charter Sector Attendance, Statewide Longitudinal Education Data (SLED) Exit Management, SLED Prior Year Exits, Special Education Data System (SEDS), Data Validation, Report Card and STAR Framework, DC Report Card, and
- the identification and accurate tracking of disengaged students for the OSSE Reengagement Center.

Missing exit data is needed for master enrollment files

As noted, states use complete and accurate exit data that is entered on time for all students during and at the end of each school year in order to meet several collection and reporting needs. Exit data completes the enrollment data file to create annual student master data files that all other student, staff, program, and school data collections and reports depend upon. Annual student-level records for each student's absenteeism, discipline, assessments, program participation, and even demographics, are all compared to the baseline of the master data records. This comparative information allows SEAs to know which school and on which dates students were to be in attendance, to be participating in required testing, and to be confirmed to be receiving special education and English language services.

⁷³ D.C. Code § 38–205.

⁷⁴ Forum, Exit Guide.

⁷⁵ OSSE, [Entry and Exit Guidance, 2020-21](#).

We found throughout OSSE’s data collection and reporting documentation for all of these other required data, additional steps that LEAs must take to help OSSE attempt to map students to their schools for such things as the **Full Academic Year (FAY)** window for attributing a student’s test score to a school’s accountability metrics.⁷⁶ Without year-end exit data, there are otherwise unnecessary steps added into the enrollment collection itself, signifying both more burden and uncertainty. OSSE data staff explained that, at the beginning of each school year, OSSE and LEAs take extra steps to distinguish actual enrollments from duplicate enrollments and from students remaining in the files who have since left the school system.

Without the required, real-time exit data being uploaded as ADT systems are designed to do, OSSE could at least require that all exits be completed and certified by the end of each school year. Leaving to the following year the determination of whether students have left one school’s enrollment roster for another D.C. public school or left the state undermines the integrity of the other data collections and reports and possibly the enrollment counts that are used to determine funding. We explain below an additional way in which this lack of exit data undermines the enrollment counts by conflating high school and adult education program enrollments.

Missing exit data is needed for identifying dropouts

Rather than upload exit data directly from LEA records through the ADT system, OSSE created separate annual data collection templates to meet their federal EDFacts graduation rate reporting requirements for the ACGRs.⁷⁷ LEAs submit separate files to OSSE each year, with a list of students the LEAs certify as graduates, and similar lists are compiled for other non-diploma certificate recipients. With the exception of DCPS, none of the individual LEAs submit the certified lists directly to OSSE. Instead, all charter LEA data are submitted to OSSE by PCSB.⁷⁸ OSSE then compiles a third data file from these lists and the Count Day snapshot enrollment files, to identify the first-time 9th grade cohort students for each year’s graduating class. This separate file contains the student’s 9th grade cohort year, the 4-year graduation status, the school the graduation status is attributed to, and an indicator for those students who have left the cohort (e.g., by moving out of state).

A serious implication of this non-standard approach is that it is not possible to identify with certainty the high school each student enters in 9th grade and each subsequent school they attend. The federally required (ACGR) cohort graduation rates attribute the number of students who did and did not graduate within four years to those students identified as the high school’s first-time 9th grade cohort (the denominator). Because OSSE records these cohort designations as separate snapshot data tables, they do not map the students at their graduation year to the initial 9th grade high school or to any school attended prior to graduation.

76 OSSE, [Business Rules for DC Full Academic Year \(FAY\) and PARCC Participation Rates, School Year 2015-16](#), 2016.

77 The ACGRs are one of several annual school-level metrics collected from all LEAs as part of ED’s EDFacts Initiative to monitor education outcomes.

78 OSSE, [Adjusted Cohort Graduation Rate Policy Guide](#), August 31, 2018.

This practice does not ensure accuracy and likely affects federal reporting requirements. It would be inconceivable in other state education agencies whose standard practice is to require that exit dates and codes be recorded on time as part of the master student enrollment data, with these then used to report the ACRs and provide additional information as OSSE's Entry and Exit Guidance incorrectly states is the case. For example, state and local reports supplement the basic ACR federal measures to include things like each school's annual transfer-in and transfer-out rates.⁷⁹

If OSSE required complete annual exit data and cohort membership identification, each cohort-responsible school would be visible throughout each student's high school enrollment records. The District's high level of high school transfers renders this data even more critical. As we illustrate in the high school pathways data analysis in Part 7, there are consistent patterns of large shares of high school students being transferred out of their original high schools before their graduation year. These analyses show patterns of transfers by sector and into alternative high schools and integrated adult education programs. Furthermore, without confirmed exit codes and dates for student dropout exits, it is unclear in the data and in OSSE's accountability reports which students are still enrolled in diploma-granting programs. Within the same schools, some students are in the standard high school program, while others are in alternative and adult education programs that do not lead to a high school diploma, but data do not make the distinction. We discuss these alternative classifications of students and schools in more detail in the data analysis briefs and the Appendix B.

While OSSE requires LEAs to keep records supporting claims of graduation-cohort exits for purposes of the federal tallies, the data system itself does not identify whether and when students drop out. This is particularly problematic because a comparatively large adult education population is recorded in the same student enrollment data by OSSE. This means the D.C. adult education participants cannot be clearly distinguished from the high school students. The grade designation in the data files is not reliable for determining high school status, as OSSE's own enrollment audit reports concede.⁸⁰ Other SEAs including those responsible for adult education programs, record K-12 student enrollment data separately.

That adult education students are conflated in the data is a problem for tracking and studying both populations. OSSE also does not collect adult education variables that other SEAs collect and link to those separate adult student enrollment records—namely, the specific courses and tests.⁸¹ The only readily apparent potential purpose for this management of enrollment records is to direct funding to LEAs. Grouping K-12 and adult education sectors together with no other benefit appears counterproductive.

OSSE's own audited enrollment reports routinely confuse these distinct populations. For instance, the OSSE website states that roughly 93,000 individuals counted in the enrollment audit are "students attending all K-12 schools" even though only roughly 80% are in K-12 schools.⁸² Our enrollment data analysis finds that more than 70% of the students enrolled in D.C. schools with adult education programs

79 See Maine Department of Education "[graduation-dropout-data](#)" public data files and data collection [documentation](#) regarding cohort transfer reporting, accessed February 5, 2020.

80 See OSSE's [2017-18 School Audit and Verification of Student Enrollment Report and supporting Data Summary](#), accessed July 4, 2020.

81 National Reporting System for Adult Education (NRS), [NRS Guide to State Longitudinal Data Systems](#), August 2012.

82 See the top of the OSSE webpage: [Data and Reports](#), accessed July 4, 2020.

are over age 25, and more than 50% are over age 30. Annual announcements from the Mayor's Office stating that D.C. audited enrollment counts have increased each year are evidence of improved K-12 education in the District but do not track the extent to which the increase is driven by growing numbers of adult program participants.⁸³ These are distinct education programs that deserve appropriate, robust data support.

The final implications of not identifying the student dropout events through exit data in enrollment records is that this important indicator is then not available for analysis that tracks dropouts. As OSSE's own guidance states, these exit data are required to report on dropouts for students in grades 7 through 12.⁸⁴ D.C. Law requires reporting dropout rates.⁸⁵ The federal government requires SEAs to report Event (or Status) Dropout Rates annually. These are in addition to the required ACGRs for four-year graduation rates of first-time 9th grade cohorts. As with the ACGR requirements, other states not only report the Event Dropout Rates to the federal government, but they follow the standard practice of making these available to local stakeholders. It is common practice for states to post *static reports* or maintain *interactive webtools* for public analysis of the number of students dropping out from each grade at each school each year with many going back over more than a decade and broken out by gender, race, and special program status.⁸⁶ By contrast, there are no data on dropouts reported by OSSE other than the few sum totals of "disengaged" students requested annually through the Council's Performance Oversight hearings even though the information on number of dropouts by LEA is required by the D.C. Code provisions on the annual enrollment count.⁸⁷

The lack of exit data also affects D.C.'s ability to create a valid early warning system for identifying students for targeted supports to help them stay on track to graduate. In Part 4, we discuss the implementation of early warning systems by SEAs and LEAs and through research partnerships around the country. In addition, as noted previously EWS functionality has been a goal for Congress in providing SLDS funding. The development of a pilot EWS was also included in the District's Raising the Expectations for Education Outcomes Omnibus Act of 2012.⁸⁸ OSSE committed to building such a system in the FY12 SLDS grant application among other Application Project Objectives but has not done so.⁸⁹ Among other federal data capacity requirements OSSE committed to in federal grant applications was the collection and linking of course records and we turn to this missing data next.

Missing course data

It is essential to track not just each school a student attends each year, but also the courses in which students are enrolled, particularly for high school students, though research shows the importance for middle grades as well. Student-level course data have been standardized and integrated into

83 See OSSE website press releases for [March 8, 2019](#); [November 7, 2018](#); [October 20, 2017](#); accessed July 4, 2020.

84 OSSE, Entry and Exit Guidance, 2018, p. 4.

85 DC Code § 38-1804.02.

86 See the Rhode Island Department of Education [report selection](#) website and detailed annual North Carolina Department of Public Instruction [dropout reports](#), accessed on February 5, 2020.

87 OSSE, [Performance Oversight responses for FY18](#), see Q11 Attachment 2 – Outcomes, accessed July 4, 2020.

88 DC Law L19-0142 "Raising the Expectations for Education Outcomes Omnibus Act of 2012," effective June 19, 2012.

89 OSSE, SLDS FY12 grant application (on the NCES SLDS program website).

SLDS in most states, including those receiving substantial federal SLDS grant funding comparable to D.C.'s funding. In the District's successful FY12 SLDS application, OSSE stated that they would have these records completed in 2012.⁹⁰ The SLDS program surveys of 46 grantees in 2017 found 74% had operational course enrollment links to student data and 67% had course completion data as well.⁹¹ The District had neither.

The Forum published a detailed set of standards that could map LEA course codes across a state and between states as well as a crosswalk to postsecondary course codes. These are the School Courses for the Exchange of Data (SCED) codes and the postsecondary Classification of Instructional Programs (CIP).⁹² SEAs use the course data to transfer electronic transcripts to colleges with student applications, and also to help align their high school college prep prerequisites with college requirements. The course data are also used by K-12 schools as they receive students from other schools and LEAs in a state to help prepare for students making grade-level and other transitions. Such data uses are among the most valued SEA functions that LEAs cite as a benefit of reliable and useful SLDS, and we discuss these further in Part 3.⁹³

Statistical comparisons of the different EWS specifications also find that detailed course data greatly improve the predictive power of these tools.⁹⁴ When these models are extended to middle grades, the findings show the courses students take as early as 6th and 7th grade can have very large effects on student graduation rates and enrollment and persistence in college even when controlling for students' own 5th and 6th grade math and English test scores. These studies also show that high achieving students of color and low-income students are frequently not given access to advanced courses. These studies therefore provide much needed evidence for successful interventions that seek to redesign how students are placed in courses.⁹⁵ This means that the District's only current course data collection mechanism—for students enrolled in Advanced Placement courses—misses many years of opportunities to intervene and more equitably assign access to courses. It is not possible to assess equity of opportunity across student subgroups without course data, and the lack of the data impedes the ability of schools to help all students through challenging transitions and help them prepare for college and careers.

One assessment we can make of course sequence data in the District that we explain in the high school pathways analysis is a disconnect between middle school advanced math course assignments by sector. In the analysis of the PARCC test data, we found that DCPS schools assign advanced math course tests to 8th graders at rates very similar to that found in states and districts across the country (over 30% Algebra I or Geometry). Yet, very few 8th grade advanced course tests were assigned in the charter sector (less than 5%). Without course data, it is not possible to determine whether 8th graders in charter schools were enrolled in Algebra I or Geometry courses but tested at the lower sequence level. This same question applies as these students reach high school grades as well, with very few charter high school students

90 OSSE, SLDS FY12 grant application (on the NCES SLDS program website).

91 NCES, SLDS Survey, 2019.

92 Forum, [Guide to School Courses for the Exchange of Data \(SCED\) Classification System](#), 2014.

93 Forum, [Guide to Decision Support Systems: A Resource for Educators](#), September 2006.

94 Knowles, J., [Of Needles and Haystacks](#): Building an Accurate Statewide Dropout Early Warning System in Wisconsin, *Journal of Educational Data Mining*, 2015.

95 Cratty, D., [Potential for Significant Reductions in Dropout Rates](#): Analysis of an Entire 3rd Grade State Cohort, *Economics of Education Review*, October 2012.

testing at Algebra II, relative to DCPS students. This has obvious implications for citywide accountability measures reported by OSSE, such as the annual PARCC test result reports and the STAR report cards.

OSSE has relinquished control of important data collections

In the discussion of missing exit data, we described the approach OSSE takes to separating the collection of high school diploma and other credentials data outside of the automatic data collection system. In this section, we detail another standard data element that OSSE collects yearly through a separate manual spreadsheet submission. These are the discipline data elements of student discipline incidents and resulting suspensions and expulsions. Also like the certified lists of diplomas and other certificates, OSSE receives this manual spreadsheet submission, not from the individual charter LEAs, but from PCSB.

This represents another highly unusual and problematic failure to meet SEA responsibilities. Yet, it is not the only data group for which OSSE abdicates collection and validation responsibility. There are several additional important data categories for which OSSE has chosen to defer to a vendor who then compiles the data files. In the case of teacher and other staff data, OSSE has removed itself almost completely from the collection process and even the ability to access these data. In the case of college enrollment data linked to K-12 OSSE student data files, OSSE has determined that this data also cannot be accessed for use without explicit permission from the vendor who received payment to compile the linked data files. We find no precedent for a SEA having delegated their primary roles and responsibilities for data to an external board or vendor and maintaining that they can be denied access to the data. This delegation of authority also appears to be a violation of District procurement law, rules, and practices. Below, we discuss each of these worrisome approaches in turn.

Discipline data are incomplete due to manual submissions by sector representative

We analyzed the student-level discipline data alongside the OSSE discipline reports and data guidance documents, as well as the PCSB data guidance documents provided to LEAs, and discuss each below. Similar to the mandated annual attendance reports, the mandated discipline reports detail the timing and specifics of newly added local and federal data collection and reporting requirements.⁹⁶ As of the 2016 school year, OSSE required LEAs to submit all discipline incidents for all students that resulted in in-school suspensions, out-of-school suspensions, or expulsions, in order for OSSE to meet local and federal reporting requirements.⁹⁷ We detail the specific regulations in Part 4. Here, we analyze the student discipline data files submitted to OSSE by DCPS and PCSB on behalf of charter LEAs.

As we detail in Part 2, the OSSE collection guides clarify to the LEAs that the discipline data will not be stored in the SLED or required to be recorded and submitted through the established ADT system. Instead, the discipline data are allowed to be submitted to OSSE as certified annual spreadsheets from DCPS and PCSB. These annual certified lists, or data tables, include only students with recorded incidents

96 See OSSE's first annual discipline report for detailed explanations of the new discipline data requirements, both local and federal, including references to the regulations: [State of Discipline: 2015-2016 School Year](#). We reference and excerpt specific regulations in our Parts 2 and 4.

97 OSSE, [Student Discipline Data Guidance](#), July 13, 2016.

that resulted in a suspension or expulsion. The data include the type of suspension (in-school or out-of-school) and number of days. However, the PCSB data guidance to the LEAs directs them to record only those incidents that result in out-of-school suspensions specifically.⁹⁸

OSSE explains in the discussions of data collections in their annual discipline reports that PCS LEAs may submit their discipline data directly to PCSB or to OSSE.⁹⁹ In their annual discipline data guidance documents, they state that all LEAs are required to submit all suspensions to OSSE, regardless of the submission route chosen.¹⁰⁰

Charter LEAs may elect to have the Public Charter School Board (PCBS) submit out-of-school suspension and expulsion data on their behalf, however, LEAs are responsible for providing OSSE with complete data on in-school-suspensions, modified expulsions, removals to interim alternative educational settings and removals by a hearing officer pursuant to federal and local reporting requirements. If data concerning these and other aforementioned disciplinary actions are not reported to the Public Charter School Board (PCSB), LEAs must submit the required data elements directly to OSSE by completing the Discipline Data Collection Template.

Regardless of the written directions, those same annual reports also include explanations and counts of LEAs for which OSSE has received no suspension records for the year.¹⁰¹ In our analysis of the student discipline data collected by OSSE, we find a large number PCS LEAs missing all in-school suspensions, and that the only PCS LEAs reporting in-school suspensions appear to be those few which report their discipline data directly to OSSE.

Other SEAs have been collecting these detailed discipline data consistently from all LEAs for many years and include these essential elements in their daily uploads from local data systems. We see no reason for discipline data in D.C. to bypass the ADT and be submitted as annual student total incidents and suspensions, in single, final spreadsheets from each sector. It is also important to note that the data are collected monthly throughout the year, but not by OSSE. Further, these data may be edited before being submitted to OSSE. For instance, prior to compiling and submitting final annual totals to OSSE, PCSB conducts quarterly reviews of the PCS LEA discipline data submitted monthly, flagging LEA total out-of-school suspensions that are higher than the sector average.¹⁰²

Unlike other SEAs, OSSE does not attempt to manage the data collections and submissions, and merely documents the obvious omissions. Specifically, as we mention above and detail in Part 2, OSSE notes under the caveats for discipline data as recently as 2018 that they had just begun flagging LEAs that submit zero suspensions—either zero in-school or zero out-of-school suspensions—and that they are not receiving responses from many of the LEAs flagged. Also, unlike other SEAs or the federal government,

98 See PCSB most recent version of their [Data and Document Submission and Verification Policy](#), revised as of September 16, 2019, p. 3.

99 OSSE, *State of Discipline 2015-16*, p. 6.

100 OSSE, [LEA Discipline Data Collection Guidance 2017-18 School Year](#), September 4, 2019, pp. 7-8. The same passage was included in the 2016-17 school year guide we reviewed but is not currently available on a public website. The requirements for all in-school and out-of-school suspensions to be reported to OSSE are also those detailed in the 2015-16 school year discipline data notice (linked above).

101 See detailed discussions and appendices in OSSE, [State of Discipline Report 2017-18 School Year](#), and [State of Discipline Report 2018-19 School Year](#).

102 PCSB, [Data Access](#), November 17, 2017, p. 4, accessed July 14, 2020.

OSSE has no process in place for querying submissions that are systematically low in comparison to LEAs serving similar populations or relative to previous years. As we discussed in the data quality audit analytic methods section above, there are standard practices established for reviewing the data for logical errors to be addressed by the LEAs. For example, NCES CCD data collections from LEAs use **mean deviation tests** of each new year's data submission relative to four previous years to flag potential entry errors that can be corrected during the data collection window.¹⁰³

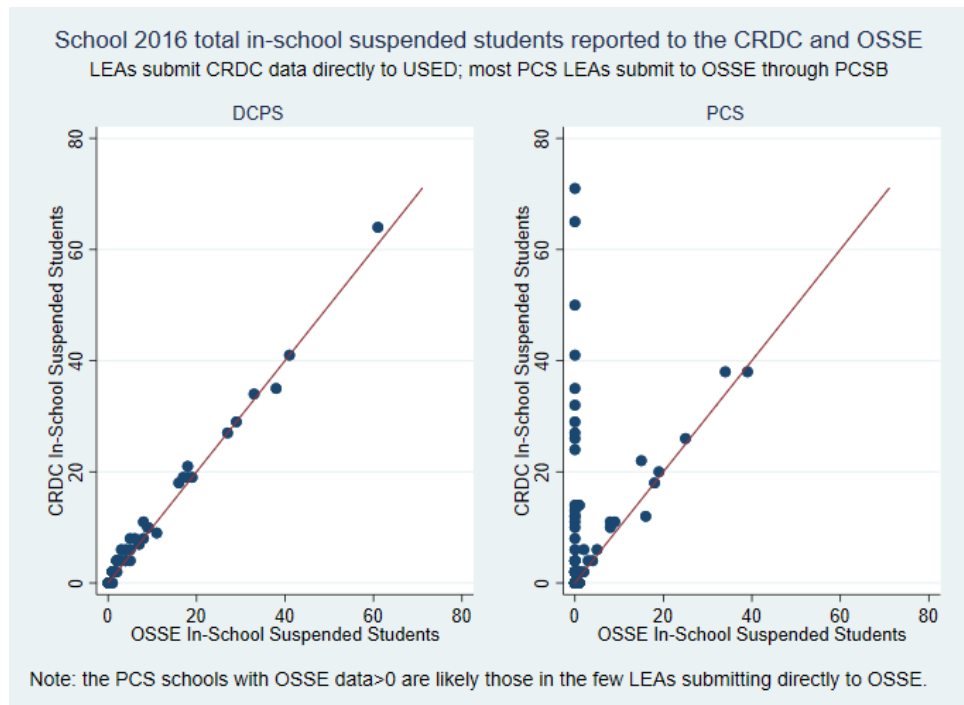
We analyze the scope of the missing suspension records submitted to OSSE due to this unnecessary external sector collection method. The student attendance data analyzed earlier in Part 1, allowed for validity analysis of the underlying patterns of the data recorded through the ADT daily transfers that were summed to questionable annualized student totals. The discipline data do not include similar possibilities for testing internal validity. However, we can compare the OSSE student data sector collections to the discipline data that each LEA submits to ED every other year for the Civil Rights Data Collection (CRDC).

We compared the most recent (2016) CRDC school-level aggregate values submitted to ED by District LEAs to the OSSE student discipline data files for the same year. We found that public charter schools reported more than 1,000 in-school suspended students when reporting directly to the Office for Civil Rights but reported fewer than 300 in-school suspended students to OSSE. In fact, most PCS LEAs reported zero in-school suspended students to OSSE in 2016. However, the DCPS school total in-school suspended students reported to CRDC were also reported to OSSE.

Figure 1.5 shows school-level reporting on in-school suspensions by sector to illustrate these differences. For example, for all DCPS schools, you can see that the total number of in-school suspended students reported to CRDC and OSSE are approximately the same. However, many PCS schools reported a different total number of in-school-suspended students to CRDC than they did to OSSE, via the PCSB reporting process. The majority of these differences are due to reporting zero in-school-suspended students to OSSE while reporting more than zero to the CRDC. For example, one PCS school reported about 41 total in-school-suspended students to CRDC and zero total in-school-suspended students to OSSE in 2016.

103 See NCES online documentation for reviews and edits: "[CCD data quality reviews prior to file release](#)," accessed May 29, 2020.

Figure 1.5: 2016 Total In-School Suspended Students Reported to CRDC and OSSE



This type of comparison is not possible for years other than 2016. The 2018 school year CRDC data have not yet been released, and the 2014 OSSE discipline data file accessed for the data audit were missing many PCS students. However, the PCS student data submitted to OSSE in 2015 and 2017 have very similar total in-school suspensions to those in 2016 (between 200 and 300). These numbers almost double for 2018, presumably as a result of OSSE’s efforts to flag zero suspension submissions—but this is still less than half of the number reported to CRDC in 2016.

The implication is that, despite the OSSE data collection guidance stating the local and federal requirements that all in-school and out-of-school suspensions be reported to OSSE they are not in fact requiring these in practice. By creating external certified list collections, OSSE is essentially guaranteeing they have no process for ensuring these data are reported to them accurately. They are dependent on the data as submitted in spreadsheets by DCPS and PCSB, with no auditable recordkeeping for which incidents are recorded.

Finally, similar to the attendance data analysis, we ran the student fixed effects regressions to assess the degree to which reported discipline values may systematically differ for students when they transfer between sectors. After controlling for each grade and year, the reported days suspended showed the same unlikely pattern of systematic variation by sector. More specifically, students’ own variation in their range of days suspended, after controlling for grade and year, were lower when they were enrolled in charter schools than in DCPS schools. Again, while individual schools may vary in their suspension practices, there is no reason to expect these practices to vary to such a large extent systematically by sector. As with the attendance analysis, we report the full regression tables in Appendix B.

OSSE does not collect, share, and use essential faculty and staff data

OSSE collects and uses an inexplicably small amount of data on teachers and other staff unlike any other SEA we have found and reports even less. OSSE stakeholder engagement surveys for the Every Student Succeeds Act (ESSA) annual accountability reports lists teacher experience, diversity, and retention, among other characteristics, as the most frequently requested items.¹⁰⁴ But the DC STAR report cards that were created through this stakeholder engagement process include only limited teacher data. Below we provide evidence regarding the extent to which OSSE met federal and local requirements for teacher and staff data collection and reporting and the implications for the District of the small amount of staffing data collected, used, and reported.

The ED requires SEAs to submit detailed data on the specifics of teacher experience, positions, credentials, training, turnover, and evaluations. While the District appears to have met these basic data element collection requirements over time, the limited OSSE reporting on teacher data makes it difficult for the public to ascertain if requirements are met. These data have been collected as the ESEA Title II reporting requirements through EDFacts, the CCD school and LEA staff reporting requirements, and the CRDC requirement for school-level data from the LEAs. The federal requirements have changed over time including in the Elementary and Secondary Education Act 2015 rewrite as the Every Student Succeeds Act. The recent legislation has emphasized stakeholder-driven reporting, and other state agencies have publicly reporting the elements they must collect federally as well as the additional elements they provide. The current federal requirements do not include important capacities such as linking teachers over time or linking teacher and student data required in earlier grant programs.

Federal commitments made through the Race to the Top (RTT) and SLDS grant programs, have not been fully met in the District including linking teacher and student data, a commitment made under both grant programs. For RTT specifically, 28 participating LEAs in the District had committed to linking these data by 2013¹⁰⁵ whereas under SLDS, OSSE committed to linking these data for the entire District by 2012. OSSE stated in their FY12 SLDS grant application that they would have these required teacher-student data links completed in 2012 in time to qualify for the funds they received.¹⁰⁶ Our review found no record of OSSE taking steps to link teacher data to students.

With regard to the specific teacher data elements to be collected and linked to students, the SLDS grant monitoring program tracks the status of each for each grantee each year as operational, in progress, planned, or not planned.¹⁰⁷ In 2017, the final year of OSSE's FY12 grant project, the SLDS program published the status as the percentages of the 46 grantees who had responded in each category for each element question. Figure 1.6 lists the percentage of all grantees with operational student links to each of the teacher data elements listed. Note, in a separate question reported in the survey, 76% of the grantees report having complete student links to teacher data for at least some of these teacher elements.¹⁰⁸ To

104 OSSE, [Summary & Responses to Public Engagement Feedback on ESSA Consolidated Plan](#), March 14, 2017.

105 <https://www2.ed.gov/programs/racetothetop/phase2-applications/district-of-columbia.pdf>

106 OSSE, SLDS FY12 grant application (on the NCES SLDS program website).

107 As part of the audit document analysis, we reviewed OSSE's annual and final federal monitoring reports for the SLDS FY12 grant project, including the 2013 IPR survey responses.

108 NCES, [Statewide Longitudinal Data Systems \(SLDS\) Survey Analysis](#), October 29, 2019, p. 7.

date, not one of these elements is collected by OSSE for all teachers, and none is linked to students across the District.

Figure 1.6: Teacher Data Elements Linked to Student Data of 46 Grantees Surveyed in 2017

	% of Grantees Operational in 2017	OSSE capacity in 2019
Certificate Type	57%	Not operational
Certification Path (Traditional vs. Alternative)	48%	Not operational
Postsecondary Program/Major	43%	Not operational
Preparation Program/Institution Name	48%	Not operational
Years of Experience	59%	Not operational
Salary	39%	Not operational
Assessment Results (e.g., Praxis)	37%	Not operational
Course Assignments	63%	Not operational
Teacher/Administrator Evaluation Data	28%	Not operational

Source: NCES SLDS Grant Program IPR survey results of 46 grantees, including D.C., 2017 Statistics in Brief.

In terms of local requirements, D.C. Code required that OSSE establish a unique, statewide, teacher ID for every teacher in the District in 2003.¹⁰⁹ The purpose of establishing this unique, statewide, ID system is twofold—to enable teachers to be linked to their own data, reliably and over time and to better enable the link between student data and teacher data. OSSE did not meet this requirement in full throughout the scope of this audit. This school year (2020-2021) is the first year they will be implementing a permanent, and statewide unique teacher ID system. Prior to this year, OSSE had created temporary, unique teacher IDs every year that do not allow for reliable linking and do not meet the intent of the law.

As mentioned above, one of the most significant commitments made but not met regarding the collection and reporting of teacher data is the absence of teacher data shown on the STAR report cards. In OSSE's Preliminary Report Card Content & Public Engagement Responses report this request is described as the most popular theme throughout the engagement. Stakeholders requested reporting on teacher's race/ethnicity, experience, turnover, effectiveness, and certification, all at the school level. In response, OSSE proposed reporting on only inexperience, emergency credentials, and lack of certification which, they noted, "must be reported on the report card as required by ESSA." However, for two out of the three measures, OSSE only committed to reporting on DCPS teachers rather than all teachers, even though

¹⁰⁹ DC Code §38-2609 (e)(1) states that "OSSE shall ensure that a unique identifier is assigned to every student and teacher" in all traditional and charter public schools.

these data are collected and regularly submitted by OSSE to the ED for all teachers, including those in PCS. With regard to the more robust teacher data sought by parents and other stakeholders, they state:

Respondents mentioned a few teacher measures that OSSE cannot commit to putting on the report card at this time, for example, teacher demographic information. OSSE does not collect all of the data needed to calculate these kind of measures from LEAs currently. OSSE would need to implement a statewide teacher identification system that would be used universally throughout the District of Columbia, so teacher records could be matched to the right teacher. This would be a significant administrative and financial undertaking to pursue prior to December 2018.¹¹⁰

In fact, the burden would be lower if OSSE successfully implemented a statewide teacher ID system as the work required to link teachers to their own data to meet reporting requirements without this tool is extensive and unreliable. Further, as previously mentioned, a statewide teacher ID is already required by D.C. Code.

OSSE is required to annually report on the status of pre-K in the District as per the District's Pre-K Enhancement and Expansion Act of 2008. This reporting shows a failure to meet the two local commitments: first to ensure that the early childcare labor force is well trained and supported, and second to use CLASS data to better understand and improve the quality of early childhood education in the District. Both of these goals require collecting and using teacher data¹¹¹ across all schools and community-based organizations (CBOs) serving pre-k students in the District. While OSSE collects the needed teacher data on credentials and licensure for both DCPS pre-K teachers and CBO teachers it does not collect the same information needed to meet these goals for charter schools serving pre-K students.

OSSE describes the difference in data collection in the Fiscal Year 2017 Pre-K Report: "OSSE collected teacher survey data using teacher interview surveys for CBO and DCPS classrooms. Public charter schools maintain an autonomous governance structure and did not allow this data to be collected in their programs. OSSE did not obtain Public Charter teacher characteristics data."¹¹²

OSSE has asserted that recent strategies to improve early childhood outcomes, "including the increased credentialing requirement for teachers and provision of additional funding to support them as they obtained these degrees, appear to be working." In addition, the 2018 report shares that CBO teachers with a bachelor's or a master's degree in early childhood education had better emotional and instructional support scores than those without a degree. Further, DCPS teachers with a bachelor's degree in early childhood education also had better instructional support scores than those without a degree. What remains missing without the additional data is the ability for OSSE to assess and conduct this type of continuous improvement work in charter schools serving pre-K students in the District.

Until this year, OSSE had essentially contracted out teacher data collection to The Staffing Collaborative, a project managed for several years by The New Teacher Project (Tntp) a non-profit organization the District began working with in 2001, even before its founder, Michelle Rhee, became chancellor in 2007. In

110 OSSE, [Preliminary Report Card Content & Public Engagement Responses](#), December 2017.

111 OSSE, [Fiscal Year 2018 Pre-K Report](#), March 2019.

112 OSSE, [Fiscal Year 2017 Pre-K Report](#), December 2017

its annual faculty and staff data collection and use guidance OSSE encouraged LEAs to submit federally required data elements not to the state agency, but to The Staffing Collaborative.

Other states and cities have significantly increased their use of teacher data expressly for stakeholders. Comparably diverse metropolitan school districts began reporting school-level, annual measures of teacher diversity relative to student diversity more than five years ago, and researching the relationships of teacher retention, diversity, salaries, and other supports and outcomes. Those reports require complete, accessible, and longitudinally linked teacher data.

Other states also go much further and research the relationships of these teacher data to student outcomes and well-being. These types of analysis and reports require teachers to be linked in the student data files, and ideally in the course data as well. Many more states also collect more of these teacher variables, but not always in the systems that link to students. By contrast, OSSE strives to neither link teachers to students, nor collect teacher data elements. One of many adverse results is that the District has no way to measure let alone analyze class sizes as the ESSA evidence rules require states to do for their Title IV funding determinations. We discuss this specific use of linked teacher data in Part 3. Similarly, OSSE has no way to know who teaches which subjects to which students across the District which would be required for any basic labor market analysis of supply and demand or analysis of equitable access to specific teachers.

Further, the District is unable to assess outcomes and work toward improvement at the same level of other states with statewide teacher data collections. Finally, the District also is unable to assess and improve in critical areas of diversity, equity, and inclusion in school staffing.

Student college enrollment data are suppressed

There are two major sources of information that SEAs use to track students for college and career readiness and success data. One source is the National Student Clearinghouse (NSC) college enrollment data for all colleges that participate in the student financial aid system, which is approximately 95% of all post-secondary institutions. The other source is the College Board's testing data for Advanced Placement (AP) courses, International Baccalaureate (IB) programs, and the SAT college admissions tests.

The NSC student data files are provided annually to SEAs and link their high school graduates to current college enrollment data compiled by NSC from the colleges and universities. The main data elements are each student's per semester enrollment status, college name and ID, and other characteristics about their majors, programs, courses, and degrees. These NSC linked data are widely used by SEAs in their school and student subgroup annual reports and webtools that have come to be known as high school feedback reports.

High school feedback reports publicly report the number and percent of each subgroup per school enrolling in college each year, and many of the state reports break these down further into two- and four-year colleges, full- and part-time, enrolling right after high school or later, persisting through each subsequent semester, and finally, graduating. A 50-state comparison in 2017 found that 84% of states

had active high school feedback reports.¹¹³ In the District’s successful application for the FY12 SLDS grant, OSSE also stated that it would use the funds to create high school feedback reports, another SLDS grant-tracked data component.¹¹⁴

To date, OSSE has created reports covering only the University of the District of Columbia (UDC) data that OSSE oversees, and these reports are not posted on OSSE’s public website. Other state education agencies do not limit their college enrollment data use to state institutions of higher education. They use the NSC data to report all college destinations for all their high school students, and many then add to this reporting additional data elements for those attending their state systems, such as enrollment rates for remedial courses.

We requested the NSC-linked data for this audit and OSSE officials told us this would need the approval of NSC. Senior data staff said that OSSE does not consider itself to have the authority to access and use these data which the District has paid NSC to provide, even though—as we conveyed to OSSE no other SEA has taken that position. We asked why OSSE was not reporting either their own findings from the NSC linked data or the school and subgroup aggregate findings reported that NSC reports to OSSE in what is known as the Student Tracker. This is the report from the linked data that NSC provides as part of its standard contract with state education agencies.

The only instances we found of OSSE reporting college enrollment data were single total graduating class initial enrollment percentages per school in OSSE’s LearnDC school reports published between 2012 and 2016.¹¹⁵ These reports were replaced with Equity Reports (from 2012 through 2017) which did not include the college enrollment outcomes. We discuss the transition from the LearnDC to Equity Reports more fully in Parts 2 and 3. College enrollment data were not included in the first year DC STAR report cards for 2018 but have been added to the 2019 release under high school graduation rates.¹¹⁶ These limited snapshots are also included among OSSE’s responses to the Council’s Performance Oversight questions, which are posted publicly by both the Council and OSSE.¹¹⁷

OSSE publishes postsecondary readiness and success reports that have thus far only given a single total annual postsecondary enrollment rate for the District, not by school or student subgroup.¹¹⁸ Unlike reports published by states and large districts across the country, the OSSE reports do not attempt to analyze college enrollment outcomes by year, school, student subgroups, and high school college readiness program participation. There is no reporting or analysis, for example, of how enrollment rates vary by race, at-risk or disability status, test scores, absenteeism, or the AP, IB, or SAT participation and performance data provided by the College Board. We were not able to determine why data which the District has paid NSC to link every year since 2008 has not been reported or used for equity analysis and continuous improvement.

113 Education Commission of the States (ECS), [50-State Comparison: High School Feedback Reports](#), August 28, 2017.

114 OSSE SLDS FY12 grant application (on the NCES SLDS program website).

115 See the screenshots of the discontinued LearnDC school profiles on OSSE’s [LearnDC webpage](#), accessed July 4, 2020.

116 OSSE, DC Report Card, 2020.

117 For OSSE’s annual Performance Oversight responses to the Council questions, see the bottom of the [OSSE Data and Reports webpage](#), accessed July 4, 2020.

118 OSSE [Postsecondary Access and Readiness Series](#) of reports, accessed July 4, 2020.

For this data audit, we were able to analyze the student longitudinal data files determining all of the breakdowns mentioned above. The next section details the outcome of our data requests and we describe the implications for the data audit findings.

Figure 1.7 summarizes the status in the District of each of the standard data element groups we discussed in Part 1 and necessary to an SLDS.

Figure 1.7: Current District SLDS Standard Data Element Collections and System Capacities

SLDS Standard Data Element Groups	Data Collection	Elements Required	Consistent Definition	Complete Coverage	Longitudinal ID	Quality Assurance	Access and Analysis
Student demographics	Y	Y	Y	Y	Y	N	P
Student special programs (IEP, ELL, etc.)	Y	Y	Y	Y	Y	P	P
Student assessments (PARCC, SAT, etc.)	Y	Y	Y	Y	Y	Y	P
Student enrollment: school (entry and exit)	Y	N	Y	P	Y	P	P
Student enrollment: school program type	P	P	N	P	P	P	P
Student attendance	Y	Y	N	Y	Y	N	P
Student discipline	Y	N	N	N	Y	N	P
Student supports (i.e., school climate surveys)	N	N	N	N	N	N	N
Student courses	N	N	N	N	N	N	N
Student-Teacher links	N	N	N	N	N	N	N
Teacher/Staff FTE, role, school	Y	N	N	N	P	N	P
Teacher demographics	Y	N	P	N	N	N	P
Teacher qualifications	Y	N	N	N	N	N	P
Teacher personnel (mobility, salary, etc.)	P	N	P	N	N	N	P
Data beyond enrollment for PreK, CTE, Adult Ed.	P	P	Y	P	P	P	P
Postsecondary data	P	P	Y	N	P	P	P
Workforce data	P	P	Y	N	P	P	P
Other sector data (direct certifications etc.)	Y	Y	Y	Y	Y	Y	P

Source: These standard SLDS components defined in the SLDS grant program funding requirements and funding authorization legislation are referenced in the Introduction.

Figure 1.7 classifies the standard data element groups by the necessary SLDS functionality, indicating with a Yes, No, or Partial response whether a particular data element group has the following capacity:

- A data collection exists for these elements.
- All essential individual elements are required by OSSE.
- They are defined consistently, by business rules, across years, sectors, and school types.
- They cover all individuals (students or staff) versus only a subset.
- The files include IDs (for students or staff) that allow the data to be linked longitudinally.
- We were able to confirm sufficient quality controls and audit checks or a closed data collection and validation system, or our analysis of the data found them to be of high quality.
- The data are made accessible securely to LEAs, through researcher requests, and through aggregate public file and tools, and analytic reports.

As shown in the Figure 1.7, there are no standard data element groups for which the District has full functionality across each data system capacity. Further, as documented in the previous sections on attendance data, exit dates and codes, course data, discipline data, faculty and staff data, and college enrollment data, the District has limited or no capacity in each of these data element groups. This figure provides both an important snapshot in time and a path forward for ensuring the integrity of data elements critical to the provision of high-quality public education in the District.

OSSE and DME refused to provide one full year of requested data - 2019

ODCA requested data from school years 2014 through 2019 in the original Memorandum of Agreement (MOA) between ODCA, Data Ethics, OSSE, DME, DCPS, and DCPCSB signed on June 14, 2019. The memorandum states that the signatories “will provide to ODCA and Data Ethics the PII, or FERPA-related data elements from school years 2013-14 through 2018-19 as described in Appendix A and as requested, which is incorporated into this agreement by reference.”

During the memorandum negotiation process OSSE informed ODCA that as of June 2019 the data from the 2018-19 school year was not available, underscoring the lack of an SLDS from which these data could have been pulled and provided as the school year ended.

OSSE took months to provide five years of data and, as described, never provided full student populations of data for years 2014 and 2015, full teacher data, or complete exit codes, to name a few. In fall 2019, when OSSE certified that transmission of data to ODCA was complete and data from the prior school year were ready as required for federal submission deadlines, ODCA again requested the 2019 school year data.

In a series of emails and memos, OSSE declined to provide data required for the audit and when asked to intervene, the Deputy Mayor for Education similarly declined.

ODCA included the following description of OSSE and the DME’s refusal to provide data in agency performance oversight responses:

34. Please identify any statutory or regulatory impediments to your agency’s operations.

Response: In recent weeks we have experienced a District government agency under audit using its own regulatory status in a manner that has hindered the ongoing audit. The Office of the State Superintendent of Education, with the tacit approval of the Deputy Mayor for Education, has withheld information requested as part of the education data audit mandated by the D.C. Council. In the interest of completing the audit this spring we have chosen to forego use of ODCA's subpoena authority to secure the information and will report the refusal to respond to a legitimate data request as a finding in the audit.

What additionally could have been studied and reported by ODCA had all requested data been provided is described below.

Implication of withholding SY 2018-19 data

As noted above complete student populations were not provided in the data files until the 2016 school year. Therefore, to complete a robust analysis of high school completion would require using the first four consecutive high school years of full enrollment data, 2016-2019, as requested. This would allow for the longitudinal analysis of a full four-year high school cohort (of grades 9 through 12). Assessing the accuracy and validity of high school completion data is arguably one of the most important assessments a public education data audit could undertake. As it stands, the District's high school completion data are unable to be verified without such an assessment.

Access to full enrollment data as opposed to the partial enrollment files prior to 2016, is extremely important for the District data analysis because OSSE does not collect student exit data, even as of 2018. Instead, the designation of a student to a high school cohort, from 9th grade on, and the student's four-year graduation status, are determined by a separate, single cross-year data file, rather than the normal longitudinal exit data. The same is true for other non-diploma high school certificates (as discussed earlier). These unusual data decisions can be assessed relative to normal longitudinal trajectory analysis, and any inaccuracies and implications can be documented. But the most robust method for doing so, would make use of at least four consecutive years of complete enrollment records.

It is important to note also that OSSE does not compile student longitudinal data through a warehouse-capable system that would have ensured the data files they sent us to date could provide this information. Our data audit analysis plan was to use the first four years of full enrollment data from their recent enrollment data system (through their ADT) to create these needed longitudinal data files and assess the data integrity and capacity for studying important high school pathway opportunities and outcomes.

As we describe in detail in the high school pathways analytic brief, we conducted a basic analysis of one full high school cohort's path from first-time 9th grade enrollment through the first full year after they were due to graduate high school. We follow students from their first high school experiences through their first potential year of postsecondary enrollments and analyze the student trajectories through different schools and school types and their graduation and college type (i.e., two- or four-year) enrollment outcomes. The brief analyzes all recorded student transitions, such as 9th grade promotion versus retention, and high school graduation or transfers versus dropping out, and enrollment in college or an adult education program. Without the complete years of requested data files, and with the limited data collections undertaken by OSSE, we accomplished this using several, redundant alternative approaches to

confirm that we are able to identify each student in the cohort at each point in time, as indicated by OSSE aggregate data reporting.

Nevertheless, in addition to the brief's analysis of enrollment transitions, a fuller high school pathways analysis would extend the graduation and postsecondary enrollment outcomes to the high school student data on college and career readiness. These are high school PARCC English test scores and advanced math course test subjects and scores; participation in AP, IB, SAT, opportunities as well as test scores achieved in each; and participation in career technical education (CTE) programs. The most informative of these analyses also begin with the student opportunities and outcomes prior to high school, including 8th grade math courses and test scores, to study high school transition impacts on high school outcomes. This can be accomplished with the four full consecutive years of data from 2016-2019. While far short of normal SEA collections, even four years of longitudinal data can be analyzed as a series of ***synthetic cohorts*** that test each four-year sequence of college and career readiness data as students transition into and through high school and ultimately into postsecondary.

Without a full four years of data we are not able to do this complete transition analysis. However, we are able to follow one cohort of students through high school to their exit—be it to graduate, transfer to an alternative non-degree granting program, dropout, or enroll in postsecondary education. In the final analytic brief of this report we explore patterns in these high school exits for the cohort of students who were first time ninth graders in 2015.

In the next section of the report, we discuss the decisions made by the District's education leaders that continue to prohibit the kind of data analyses that are serving other states and school districts well.

Summary of Part 1 Findings

- The District has not built many of the SLDS or RTT grant program data capacity requirements as other states have done despite being awarded the largest per pupil funding amounts.
- OSSE has not participated in the SLDS cooperative grant program requirements as other states have done.
- OSSE does not participate in the national Forum of SEA and LEA data representatives establishing best practice standards.
- OSSE does not have a data warehouse as D.C. Code requires.
- OSSE has not developed the essential SLDS capacities of interoperability, portability, privacy protection assurances, or data quality auditing.
- Many of the standard data elements established by SEAs and LEAs nationally and required under D.C.'s SLDS grant funding are not collected by OSSE.
- OSSE does not follow best practice data collection methods established by SEAs and LEAs through the Forum and SLDS cooperative grant best practice sharing requirements.
- OSSE only recently implemented an ADT system for consistent and efficient data collections from LEAs and frequently avoids using it, and instead allows sector spreadsheet submissions.
- D.C. student enrollment data files have only included enrollment records for all students since 2016.
- Attendance data are fundamentally flawed, resulting in starkly different levels of unexcused and total absences by sector, with the discrepancies increasing over time.

- Flaws in attendance data pose a risk that the District may not meet local and federal reporting requirements for chronic absenteeism.
- Other essential data collections are missing or incomplete.
- Missing exit data impedes local and federal reporting requirements of in-school suspension data.
- Student course data are not collected, and relevant student discipline data are determined not by OSSE, but independently by DCPS and PCSB.
- OSSE is at risk of being out of compliance with local and federal reporting requirements of in-school suspension data.
- OSSE has delegated control of important data collections to vendors, severely restricting OSSE's ability to access and report District data.
- OSSE declines to collect essential teacher data and only this year began complying with statutory requirements to use unique teacher identifiers.
- Student college enrollment data are suppressed.
- OSSE did not provide one full year of requested data and used its regulatory status to hinder an ongoing audit. Graduation rates and college-going and success cannot be fully validated until these data are provided.

Part 2

Lack of Executive Accountability Leaves Public Education in the District at Risk

In the Introduction we discussed the SLDS grant monitoring and community of practice areas in which education data standards have been developed by and for states and school districts. The two broad categories of these standards that define an SLDS are the *data elements* and *system capacities* while the standards that ensure the success of an SLDS are *governance* and *stakeholder engagement*. Part 1 provided evidence of the lack of SLDS data elements and system capacities in the District. In Part 2, we describe the absence of data governance and stakeholder engagement in OSSE decision making.

Even in the absence of an SLDS the essential processes of data determination, collection, validation, storage, and documentation defined in the Introduction still must occur to some degree, and these steps would be well served by good data governance and stakeholder engagement. We recommend building an SLDS as key to the comprehensive improvement plan discussed in Part 4 yet there are other important data accountability steps D.C. must take immediately, many specifically because there is no current SLDS.

For instance, OSSE should immediately change its data collections to ensure that all standard elements are complete and consistent for all students and that all data uses transparently reflect any changes in reporting that result from improved data collection. For example, as soon as attendance data is improved and validated, the annual attendance reports should describe why reporting is different from years prior. To do this requires standardizing the element definitions and business rules for collection and validation, auditing the quality of the values submitted, and linking these across content areas and years, as well as documenting these changes and monitoring their implementation. We explain that this work is mapped out through standard data governance procedures, while stakeholder engagement provides direction and ensures the work is completed. Finally, as the documents reviewed in Part 2 demonstrate, some of the important rules for ensuring data integrity are part of the current data systems design, yet OSSE staff have not been given the authority to activate the documented rules and to insist that all LEAs adhere to District-wide quality controls.

Organization of Part 2

In this section we describe the materials and information we collected for the data audit that pertain specifically to governance and engagement, detail the methods and findings of the analyses conducted, and discuss the implications of the gaps found between D.C. education data practices and national standards established for responsible data practices. Here, the methods are qualitative analysis versus the quantitative analyses reported in Part 1 and further presented in the three data analysis briefs. The quantitative analyses review the data files, while the qualitative analyses review the documentation and interviews regarding data practices in D.C. specifically regarding OSSE data practices with respect to the SEA data responsibilities.

In the Part 2 sections that follow, we describe stakeholder engagement and governance best practice standards and assessments. Then we discuss the findings of our qualitative analysis of OSSE data decision making. Governance and stakeholder engagement map to data decision making in the following way:

- Governance structures, practices, documentation, and revisions account for:
 - What decisions are made.
 - Who makes these decisions.
 - Who carries them out.
 - How this occurs.
 - How information about the results feeds back into a revision process.
- Stakeholder engagement accounts for:
 - Who is consulted in the decision-making.
 - Who is informed of the decisions.
 - How stakeholders report back information about resulting impacts or gaps.
 - How they participate in the revision process.

OSSE data practices depart widely from the standards of good governance and stakeholder engagement, and we demonstrate sufficiently strong patterns in the decision making to indicate that these departures are consistent and thus are unlikely to be inadvertent or accidental. First, however, we explain the qualitative evidence we collected and analyzed.

Data Audit Qualitative Evidence

In addition to requesting, analyzing, and documenting the data itself, we requested detailed documentation related to data practices, interviewed senior and other relevant data staff at each of the education organizations, and conducted a series of stakeholder meetings with relevant groups in the District. This section describes this process of collecting qualitative evidence.

The documents requested from OSSE consisted of those pertaining to “the data elements in use by the agency, as well as all documentation provided to LEAs about the data inventory that they are required to maintain and for which OSSE is responsible.”¹¹⁹ The requested documents cover each of the last six school years from 2014 through 2019, including all versions of documents across this period that would reflect changes in requirements or guidance.

The following documentation was requested:

- SEA system of record requirements for the LEAs regarding data collection and storage.
- Lists of all student and staff elements required.
- All related metadata, including data dictionaries and technical manuals.
- Elements identified as required for OSSE use, OSSE federal reporting, or both.
- Lists of all elements that are created by OSSE directly versus collected from LEAs.
- Reports that include these elements, both public reports and non-public reports.

¹¹⁹ ODCA Letter to OSSE: Data Audit Information Request OSSE 3 14 19, p. 2.

- Lists of all data-related staff positions and their responsibilities, including FTE and vacancies.
- All audits or investigations of data practices conducted by OSSE or externally.
- Lists of all systems of record.
- Data maps detailing where and how all data are stored.
- Any strategic planning documents affecting required data elements or definitions.
- All memorandums of agreement including those with vendors, other agencies, and researchers.
- The agency's disaster management plan pertaining to data.

The documentation we received consisted of the following main types:

- Data collection and validation guides.
- Policies and practice guides regarding privacy.
- Memos and guidance alerts regarding data rule changes in legislation.
- Documented data requests and decisions, MOAs, and vendor contracts.
- Federal grant program monitoring reports and required reports submitted to ED.
- Public reports of data aggregates and technical methods.
- Public reports of agency data analysis.

We also searched public websites for documents pertaining to the same topics. We made a record of all those we found publicly available that may not have been submitted directly. This generally occurred only for public documents that supplemented the essential documents we received from the entities. For instance, we found additional useful Q&A presentations given to external stakeholder groups and other education information updates and reports written for legislators and others that covered education topics more broadly, but also included descriptions of data collections and use. In the qualitative analysis methods section of Appendix C, we catalog these resources as well as the documents submitted by OSSE whenever our findings draw on them directly.

Examples of these additional documents:

- Entity annual reports and Performance Oversight responses.
- Public OSSE federal grant applications, evaluations, and best practice sharing.
- Trainings, FAQs, presentations, newsletters, and press releases referencing data.
- Historical local news coverage.
- Historical job post descriptions.

We interviewed staff from OSSE, DCPS, DME, PCSB, and SBOE. Given the focus on SLDS we conducted the highest number of interviews with OSSE staff, interviewing about 20 managers across the Data, Assessment, and Research and Systems Technology (formerly Chief Information Officer) divisions, five staff members in these divisions, the Deputy State Superintendent of Education, and two senior advisors. We also submitted written interview questions to the State Superintendent covering the six pillars of SLDS as described throughout this report. That interview is included in Appendix B as are more details about the methods guiding the agency interviews conducted.

We also worked with PCSB to select a representative sample of charter LEA data managers to represent variation in size of LEA and grade span served and conducted a focus group with these data managers.

We did not pursue additional focus groups with other school staff at the request of the Deputy Mayor for Education (DME). Additional school leaders, educators, and data managers were present at various community meetings we attended and are reflected in many documents collected.

Finally, we engaged the relevant education data stakeholder groups we discuss in more detail in the next section. We noted their data questions, indicating what they were informed about the data and inquired about their met and unmet data needs. For the following specific groups, we conducted informal interviews, attended their public meetings, studied testimony they submitted for the D.C. Council education hearings and meeting transcripts from District taskforces, and we submitted written questions to some:

- SBOE members, staff, student representatives, researchers, and meeting participants.
- Parent groups.
- Teacher groups.
- Public education data users.

The specific documents we requested, those we searched for on public websites, and the interviewees and interview questions, were based on the established approaches SEAs have taken to assess their data systems and practices, as well as their stakeholders' data use needs which are discussed in the next section.

Qualitative Assessment of D.C. Data Systems

Tools developed by SEAs for assessing current system processes and capabilities and assessing current and future needs can be found throughout the Forum and SLDS communities of practice resources.

We posed questions to District education data staff based on the following SEA data system assessment question categories from the Forum Traveling book on planning and developing an LDS:¹²⁰

What data do you collect?

- Which of the specific data elements of Figure 1.1 are collected, at what frequency and granularity, for all students, and in each year?

How is data quality ensured?

- What are the specific business rules around data element definitions and validation processes?

What does your data system look like?

- What are the specific collection mechanisms for each data element group, such as the ADT and certified lists? What are the linking methods for students, teachers, courses, and other data across sectors and over years? What are the secure data storage and transfer arrangements?

120 Forum, Traveling Book Two: Planning an LDS, pp. 31-33.

How are your data used?

- How are data used for federal and local reporting requirements? What additional reports are generated? What webtools have been created, and for which combinations of users, including restricted access and public tools? What analysis is done in-house and externally? How are staff trained? How are data used by practitioners, policymakers, and other stakeholders? How is this use further supported with trainings and resources?

What other factors affect your data?

- What specific laws and regulations determine data responsibilities and decisions regarding collection, linking, storage, and use? How does organizational culture determine these as well?

Such assessments are designed to be carried out with stakeholder involvement and were developed as resources for states beginning to determine their SLDS system needs. They are also used by states considering a significant data system rebuild. For the comprehensive improvement plan in Part 4, we discuss the additional resources needed for the next stage of developing specific plans for establishing an SLDS—such as criteria for determining whether to build or buy an SLDS and what important data integrity supports are needed in the meantime.

We answer this next stage of questions by analyzing the qualitative data we collected on current system capabilities (described above) and the current and future needs (described below). Note, in self-assessments, SEA staff, agency partners, vendors, and stakeholders can directly answer these questions. For the purposes of our data audit we were required to gather and analyze *qualitative* evidence to answer these questions, since neither OSSE staff nor documentation provided clear, consistent, direct answers on many of these topics which we attribute to the lack of a governance structure.

As we discuss below, OSSE data collection documentation to LEAs clearly states that exit dates and codes are to be recorded and submitted as students exit. Yet, exit data are largely missing from OSSE records, and OSSE senior data staff did not sufficiently reconcile these facts. Also, OSSE staff and faculty data collection documentation details what must be recorded and submitted and why. Yet, OSSE teacher data are sparse, and the OSSE senior data staff were only able to answer questions about student data and could tell us little about the teacher data collections. In Part 1, covering the data elements, we discussed some of our findings regarding these types of discrepancies between the data and the documentation and mentioned that major data element collections, such as attendance data, lack guidance documents. We cited other documentation indicating that certain elements required by OSSE need not be reported, such as charter sector in-school suspensions or teacher demographics.

We cover these problems in more detail below in discussing OSSE's decision-making processes. First, we identify the standard stakeholders and sample needs assessments questions that are essential in providing context for the impact of OSSE's atypical decisions regarding the data element determinations, collections, validations, storage, documentation, and use.

D.C. Stakeholder Needs Assessment

In most states, stakeholder engagement is a large part of the SEA's data capability determination process. We did not find that to be the case in the District. There are two things to note about the role of stakeholder engagement in state SLDS work. The first is that engagement is a process that begins with seeking input from stakeholders, but it is not complete until that input is acted on and the results are shared back with stakeholders for their continued review and input. Education data decisions in D.C. are made independent of almost all stakeholders even when there has been a formal series of contacts such as the federally mandated ESSA stakeholder engagement process.

The second thing to note is that the determination of specific stakeholders is contextual. Who is defined as a stakeholder is a function of the type of engagement being considered? When developing technical aspects of data collection mechanisms, for example, typically, SEA data staff, IT staff, and the vendors engage the relevant representatives of the LEAs, schools, SEA program offices, and privacy and security offices, and so on. Important stakeholders, such as parents, teachers, legislators, and others would not necessarily be engaged regarding the collection mechanisms but would invariably be included in the determination of the specific data to be collected and its intended uses.

For the data system development engagement overall, this first group and others may be categorized as internal, and the second group as external. Yet, in engagement activities around the use of data, this distinction of internal and external only matters regarding student-level restricted access data versus public access to aggregate data. Despite the broadly developed national knowledge base clarifying exactly how, when, and why stakeholder engagement is a critical pillar of SLDS work, we found little evidence of any D.C. stakeholders beyond LEA leadership or management staff being included in decisions regarding potential data use.

This alphabetized list of stakeholders engaged in defining a state's SLDS comes from the Forum Traveling book on planning and developing an LDS.¹²¹

Internal stakeholder groups (state, district, and school):

- Career technical/adult learning staff.
- Chief information officers.
- Content supervisors.
- Curriculum/instruction staff.
- District superintendents and assistant superintendents.
- District-level data stewards.
- Early learning coordinators.
- Elected officials.
- Governing boards.
- Guidance services directors.
- Human resources staff.

¹²¹ Forum, Traveling Book Two: Planning an LDS, p. 24.

- Information technology staff.
- Legislative and governor’s staff.
- Librarians/media specialists.
- Local accountability officers.
- Program area experts (e.g., special education and ELL directors, Title coordinators).
- Public information officers.
- Registrars.
- School administrators (principals and directors).
- School counselors.
- State education agency program coordinators.
- Teacher certification staff.
- Teachers.

External stakeholder groups:

- Advocacy groups.
- Business and industry.
- Children’s services.
- Community members/the “public”.
- Institutions of higher education.
- Media/press.
- Other state agency representatives (e.g., Department of Labor).
- Parents.
- PTA representatives.
- Researchers.
- School board members.
- Support organizations.
- Teacher retirement board.
- Union representatives.
- Vendors.

Because the design and implementation of an SLDS determines what data are collected, how they are defined, protected, and used, this broad representation of stakeholder needs is appropriate. The following is a sample of needs-assessment questions, also from the LDS planning book, to highlight why broad representation of stakeholder needs is important:¹²²

- What information would help you improve instruction and programs, and better understand and meet students’ needs?
- What common data requests do you receive that cannot be answered with the currently available data?
- What additional data would you need in order to answer your questions? How can you get those data?

¹²² Forum, *Traveling Book Two: Planning an LDS*, p. 43.

- What database linkages would be necessary to answer your questions (both within and outside the institution)?
- What access to data should be provided to various types of users to facilitate easier, more effective use of the data?
- What tools would facilitate access to, and analysis of, the data?
- What kinds of additional reports would be useful to staff and outside researchers?
- What types of professional development would be necessary?
- What user support would be helpful?
- What business operations do you want the LDS to improve?
- How could data collection be improved (e.g., move to web-based system)?
- How could the new system help you better comply with federal and state collections (e.g., collect data elements required by federal or state reports that are currently not collected or able to be submitted on time)?
- What technology would you need to make the system work? What new technical capabilities would be necessary?
- What additional security measures would need to be implemented to protect the new data?
- What capabilities do other systems have that would potentially help your agency better achieve its goals?

During our research several formal and relevant stakeholder engagement initiatives were carried out by the D.C. education agencies. We studied the detailed stakeholder questions and responses regarding data use, needs, and concerns within each of these initiatives and compared those records to the final reports and decisions published and implemented by the education entities. The three main initiatives are:

- Federally required ESSA stakeholder engagement process and documentation co-led by OSSE and SBOE¹²³
- DME sponsored Cross-Sector Collaboration Task Force¹²⁴
- DME chaired Every Day Counts! Taskforce (formerly known as the Truancy Taskforce)¹²⁵

Throughout the materials recorded for each, we found the same prevailing pattern showing that stakeholders articulated very specific and common priorities across different initiatives—essentially, a demand for basic data use and transparency—and that the education agency summaries and decisions do not reflect these stakeholder demands. In some cases, the responses simply do not address the stakeholder requests while in others the response is overly simplistic, and in some cases, the response is an objection—such as the example we gave in Part 1 of OSSE rejecting of ESSA stakeholder requests for teacher diversity data in the D.C. Report Card.

We discuss below the many voluntary initiatives the D.C. education agencies undertake in lieu of the standard approach of the SEA taking direct responsibility for data collections and uses. One objective of the Cross-Sector Collaboration Task Force was to “Develop methods for information-sharing with

123 OSSE [ESSA Plan Development](#) webpage, accessed July 5, 2020.

124 DME [DC Cross-Sector Collaboration Task Force](#) webpage, accessed July 5, 2020.

125 D.C. Government [Every Day Counts Taskforce](#) webpage, accessed July 4, 2020.

the public and across public school sectors.” The stakeholder meeting notes are full of requests for the specific SEA District-wide required data collections and use required in states. But while the report acknowledges “D.C.’s unique challenge with students transitioning frequently across LEAs,” it recommends only supporting more work by the RaiseDC private and voluntary initiative that we discuss in detail further below¹²⁶ and it fails to reflect the stakeholder data priorities.

D.C. Data Governance Assessment

While stakeholder engagement helps states and districts determine what is needed for data system capabilities and use, how these are designed, ensured, documented, and improved occurs through data governance. The specific components of a data governance structure are detailed in resources by the Forum and the SLDS communities of practice, and we draw on these in the comprehensive improvement plan of Part 4. These components include writing a governance charter and manual, as well as the stated policy and process goals and objectives, and determining committee structures, selecting members, defining responsibilities, and setting meeting schedules. In this section, we identify the data capabilities that a good governance structure facilitates.

The following list of policies and processes that are determined in the governance structure is from the SLDS Data Governance Community Toolkit guides for assessing, planning, and implementing good governance.¹²⁷ First, data governance operations define how the program approaches critical data issues, documentation and the data governance manual. Next, policies and procedures are needed for the addition of new participating entities or programs, metadata maintenance and master data management. Additionally, there should be procedures for data matching, collection, retention and destruction, quality, use priorities, access, and requests as well as data release and reporting, privacy and confidentiality, data security, and data incident response. Policies and procedures are also needed for project management, procurement, data scope, data submitter support, and data refresh updates.

What can be gained from a system designed to govern these policies and processes is described in the Forum Traveling book on managing an LDS, in terms of the governance committee, mission, goals, and objectives:¹²⁸

Example of Data Governance Committee Mission:

- The Data Governance Committee supports the [SEA’s] mission of helping teachers teach and children learn by promoting the appropriate use of data to inform decision making; and ensuring data quality, accountability, and timeliness.

Examples of Data Governance Committee Goals:

- Improve data quality.
- Increase accountability for data accuracy.

126 DME [DC Cross-Sector Collaboration Task Force Report](#), November 9, 2018, pp. 31-33.

127 NCES, [SLDS Guide: Developing Effective Data Policies and Processes](#), December 2019, pp. 3-5.

128 Forum, [Traveling Book Three: Managing an LDS](#), p. 99.

- Eliminate redundancy in data collection.
- Improve understanding of data within the department and among districts.
- Increase data use in program and policy decisions.
- Improve capability and timeliness of data reporting.

Examples of Data Governance Committee Objectives:

- Identify the owner of every data element.
- Define all data elements.
- Document all data processes.
- Standardize data processes from year to year.
- Reduce manual manipulation of data.
- Identify the official source of data for all external reporting.
- Eliminate redundant data collections that are not the official source for reporting.
- Allow districts to review their data before they are reported externally.
- Communicate all data decisions/changes to districts.
- Reduce the collection of, and reliance on, aggregate data.
- Increase the use of student-level data for external reporting.

The District lacks a governance structure and process that reflects such standards. In fact, we found no evidence of an actual state education agency data governance structure which has significant implications for stakeholders and for data integrity.

We analyzed the documents and interview responses for the specific SEA data governing decisions OSSE made regarding each main data group (e.g., attendance, discipline, etc.) at each data stage (i.e., element determination, collection, validation, storage, documentation, and use). We found that OSSE was missing a formal governance structure for consistently making, documenting, and reviewing each of these decisions. Further, for multiple data elements OSSE deferred to PCSB for making final decisions. In doing so, OSSE abdicated its SEA responsibility for the education data practices of the District as a whole.

In the next section, we detail OSSE's specific data decisions reflecting a failure to meet SEA responsibilities and discuss the impact on public education in the District.

Failure to Exercise Executive Authority

In Part 1 we confirmed the lack of an SLDS and also illustrated a lack of state executive accountability for the missing system and associated capacity through continued District-wide confusion around the existence of an SLDS. We identified an important pattern of consistently failing to meet state education agency responsibilities in OSSE's interactions with LEAs, PCSB, and ED. This abdication includes declining to exercise authority when needed and continued negotiation with PCSB over basic data collection. This lack of executive accountability places a high burden on LEAs as they routinely miss the critical and timely regulation, guidance, and administrative data needed to provide a high-quality education to District students. Finally, as we demonstrate in Part 3, LEAs are not receiving needed analysis encompassing all District students, schools and LEAs that only OSSE as the state education agency can currently provide. This pattern and practice of declining to exercise authority, provide oversight, or take accountability when needed, leaves progress in public education in the District at risk.

To explain this pattern more fully we will first provide specific instances in which OSSE declined to exercise authority despite clear need. Second, we provide evidence for multiple instances in which OSSE negotiated basic data collection requirements with a third party, the PCSB. Third, we review OSSE's default position of encouraging LEAs and stakeholders to rely on external, privately funded organizations to attempt to meet their data use needs. Finally, we articulate why this abdication of duty matters and how it burdens the District's most critical education providers, LEAs and schools.

Documents and interviews make clear that OSSE leadership is aware of the SEA responsibilities they have regarding data and they know they have the authority to meet those responsibilities. Yet, they do not exercise that authority to meet these responsibilities in the following three ways:

1. There are many important data functions that OSSE simply does not perform, including several that OSSE initially committed to in federal grant applications and in response to D.C. funding and legislation.

Even when OSSE is compelled to implement a specific data collection or use based on federal or District regulations, it frequently employs a combination of the following methods:

2. OSSE cedes critical decision making to PCSB and leaves LEA data requirements voluntary.
3. OSSE allows other parties beyond PCSB and outside the District government to attempt to perform the SEA functions in OSSE's place.

We discuss each below then illustrate the ways in which OSSE leadership's unwillingness to exercise state agency authority creates burdensome and unreliable workarounds for the data staff and for LEAs, schools, and programs, as well as stakeholders.

OSSE does not perform many critical SEA data responsibilities.

In OSSE's 2015-2018 Strategic Plan, the Superintendent wrote that the plan helps answer the questions: "What is OSSE's role? How can it improve education in the District?"¹²⁹ The plan describes four priority areas, including a high-quality and actionable data analysis priority.

It also lists OSSE's SEA responsibilities, as established by PERAA in 2007, including:¹³⁰

- Oversight of federal and state regulations.
- LEA support and monitoring.
- Data reporting and analytics.
- Grants management.
- Assessment administration.
- Early childhood education.
- DC Tuition Assistance Grant (DCTAG).

129 OSSE, [Strategic Plan 2015-18: A Commitment to Equity for DC Students](#), p. 2.

130 Also, see this March 2016 document of the [five strategies for the data priority](#), accessed July 5, 2020.

In 2019 OSSE reported on accomplishments for the data and analysis priority and listed only the federally required ESSA report card metrics and annual reports required by the Council.¹³¹ These include the annual attendance reports required by the Attendance Clarification Act in 2016, the discipline reports required at the same time by the Student Fair Access to School Act, the enrollment audit reports, and the graduation and mobility rates requested for the Council's Performance Oversight hearings.¹³² As we review in Part 3, these are cross-sectional, aggregate reports or spreadsheets with high level metrics on enrollment, attendance, discipline, mobility, and graduation rates. In our document request to OSSE, we asked for all analytic reports beyond these few that can be found on the website, and we confirmed with OSSE staff there were no others. In addition to these reports being few in number and lacking detail, they are also not easy to identify. By contrast, a common best practice shared by other SEAs is to create search engine tools for stakeholders to sort through all the available reports to help them find what they need.¹³³

Unlike other SEAs—and despite the federal funding requirements OSSE agreed to in accepting SLDS grants—OSSE does not attempt to collect important data element groups, such as student course data. Across the data collections OSSE is required to collect, it also does not link important data element groups, such as K-12 student demographics and achievement outcomes to teachers, or to the special education primary disability categories recorded in the agency's Special Education Data System (SEDS). Further, while OSSE directly administers the District-wide programs for early childhood education, CTE, and adult education, student and program instruction and achievement data are analyzed and reported for each program without the benefit of linking these data to the broader longitudinal student data files.¹³⁴ In many states where SEAs do not even directly administer these programs, they link data across agencies to provide practitioners and stakeholders with valuable analyses.¹³⁵

The OSSE annual Pre-K reports required under the Pre-K Enhancement and Expansion Act of 2008 report on capacity and monitor the goals of extending high quality programs to all students through the following instruments measuring preschool program quality:

- Classroom Assessment Scoring System (CLASS) Pre-K classroom observations.
- Teacher survey component of CLASS, survey of degrees, experience, etc.
- Early Development Instrument (EDI) assessing five detailed student domains.
- Capital Quality rating tiers, combining CLASS, the Environmental Rating Scales (ERS) and attendance measures.

131 The 2015-18 data priority area accomplishments were highlighted in OSSE's [Strategic Plan 2019-23](#), pp. 4, 14.

132 See the reports we discussed in Part 1 that each begin with detailed references to the D.C. legislation requiring them. These are the annual OSSE DC Enrollment Report, Attendance Report, State of Discipline report, and Performance Oversight responses, and periodic reports, which can all be found on OSSE's Data and Reports webpage.

133 For example, see the Hawaii Department of Education [report finder](#) tool, and the Rhode Island Department of Education [report selection](#) website, accessed July 5, 2020.

134 See the following OSSE reports for [Early Learning](#), [CTE](#), [Adult Education](#), accessed July 5, 2020.

135 NCES, SLDS Survey Analysis, 2019, pp. 14-17.

OSSE does not require participation in these detailed quality assessments by the charter sector, which is educating more than half of D.C.'s preschoolers.¹³⁶ Regarding the teacher data collected as part of the CLASS assessment, the report states that, "OSSE collected teacher survey data using teacher interview surveys for CBO and DCPS classrooms. Public charter schools maintain an autonomous governance structure and did not allow this data to be collected in their programs. OSSE did not obtain Public Charter teacher characteristics data."¹³⁷ Further, OSSE funded the EDI data collection as a voluntary program run through RaiseDC, with DCPS participation each year, but only 11 out of the 38 PCS LEAs enrolling preschool students have participated.¹³⁸

When K-12 data are linked with other sectors, such as the NSC postsecondary data, OSSE does not use the linked data to assess equity or achievement or support continuous improvement as other SEAs do. For instance, in its 2018 report of the DCTAG performance audit the Government Accountability Office (GAO) concluded the following:

Although [OSSE], which manages DCTAG on behalf of the Mayor of the District of Columbia, issues various annual reports, these do not relate program performance to the program's four goals. One of these goals is to help D.C. students make smarter college choices. OSSE officials stated that they regularly communicate information about DCTAG data and activities internally and externally. However, these efforts do not provide the context necessary for program managers, Congress, or the public to understand the program's goals, nor determine whether DCTAG is making progress toward meeting them.¹³⁹

Student K-12 data are also not linked across years by OSSE. For example, for ODCA's data request OSSE created a tracking document to report on the status of each data by year file they were providing over the course of two months. The slight delay in accessing basic student data files for as recent as three years ago involved communicating with former data staff to locate the correct version of each year file within SLED. These links over time are needed to produce even the most basic longitudinal data for continuous improvement and accountability, such as the student test score growth measures. These student test score growth measures and teacher data elements and links were prioritized by D.C. ESSA stakeholders in the survey OSSE administered regarding preferred STAR report card metrics, but neither was adopted.¹⁴⁰

Additionally, beyond the basic cross-sectional aggregates in the federally required STAR report, there is surprisingly little in the way of public aggregate data webtools and downloadable data files on the OSSE website. In Part 2, we referenced a few of these commonly found on SEA websites, such as the dropout and transfer tracking longitudinal aggregates. In the **data visualizations** section of Part 3, we illustrate a number of these public webtools produced by other SEAs and by districts in other states using the school system data compiled for them by the SEAs. In fact, most SEAs are challenged with having to devote staff to maintain and update the many tools on their websites because the options are so robust.

136 OSSE, [Fiscal Year 2017 Pre-K Report](#), p. 17.

137 OSSE, [Fiscal Year 2017 Pre-K Report](#), December 2017, p. 7.

138 OSSE, [Fiscal Year 2017 Pre-K Report](#), p. 26.

139 GAO-18-527, [Improved Reporting Could Enhance Management of the Tuition Assistance Grant Program](#), September 6, 2018.

140 OSSE, [ESSA Plan Feedback](#), 2017.

Finally, we asked OSSE for details on the apps or business intelligence tools they had created for LEAs, schools, and program offices to analyze SEA collected data as part of their **decision support** work, and they explained these are largely programming tools for LEAs to use to create their own data applications. Each LEA would only be able to create analytics for its own currently enrolled students with the data it currently collects. These business intelligence tools do not give LEAs access to the fuller, portable data files that other SEAs provide back to their LEAs. For example, SEAs would normally use these to provide LEAs with longitudinal data and analytics using the statewide linked data regardless of which other LEAs those students were enrolled in during previous years. In addition, SEAs typically provide analytics representing patterns in outcomes after students leave the LEA. These future-looking feedback reports represent student level data that are not sharable with the LEA after a student leaves and so are shared in aggregate patterns and trends by subgroup, unlike current enrolled students' prior history, which other SEAs typically share in full. We discussed these important interoperability and portability capacities in Part 1, and we illustrate this important SEA data service to LEAs in more detail in Part 3.

OSSE does not conduct research with longitudinal administrative data, either in-house or through external researcher data requests. Despite the RTT funding allotted for these stated purposes and the SLDS grant requirements, OSSE has not:

- Published a research agenda.
- Engaged with District stakeholders about a research agenda.
- Created the data inventories or other metadata.
- Put together the raw data files into research-ready datasets.

When asked about the agency's researcher request criteria and governance for processing requests, we were told by OSSE staff that there is no written governance they could provide to indicate who reviews these requests, how often, by what criteria, and what is communicated to the researchers. They did confirm that the Superintendent and others review requests regularly, and that the criteria for acceptance is whether the requests meet either the program office or the Superintendent's priorities. There is no document, public or internal, however, that they could provide articulating those priorities. Finally, as we detail more in Part 3, we reviewed OSSE's list of data requests and found few research requests compared to other SEAs who have research data processes and all but a few were denied.

An important pattern to note is that valuable data work put into place by OSSE was subsequently discontinued, in many cases before a benefit could be realized by practitioners and stakeholders. Some of the initiatives were required and funded by the D.C. Council and some through federal grant proposals.

For example, OSSE's SLDS FY12 grant project proposed the following outcomes:¹⁴¹

1. Link the existing P-12 SLED to the proposed postsecondary and workforce legacy databases creating P-20W SLED.
2. Implement an Early Warning Indicator System.
3. Enhance the P-12 SLED data quality error reporting for the P-20W SLED to ensure data integrity.

141 OSSE, SLDS FY12 grant application (on the NCES SLDS program website).

4. Have the proposed data system reviewed and analyzed monthly by OSSE and an external evaluator (AIR) to support continuous improvement.
5. Create P-12 feedback reports.
6. Provide consumer information feedback reports.
7. Provide feedback reports to postsecondary and workforce institutions.
8. Address the confidentiality of student data consistent with federal FERPA requirements.
9. Develop a clearly articulated project management and governance structure.

We found little evidence of this work which had a project timeline of 2012-2017. We earlier described the contrast between the single higher institution linked report that OSSE creates for UDC and the robust statewide college feedback reports to high schools which most other SEAs create as public interactive websites. We discussed the lack of an early warning system by OSSE, or even the necessary data element collections for dropout indicators and courses. We note here, that in addition to the federal SLDS funding and commitment, the Council authorized an early warning and support pilot in the Raising the Expectations for Education Outcomes Omnibus Act of 2012.¹⁴²

Increasingly common in states over this same grant period has been the linked workforce data use. Student records from K-12, postsecondary, and adult education are linked to wage records, with linking facilitated by connecting records to driver licenses at departments of motor vehicles. According to OSSE monitoring reports to the federal SLDS grant program, linking workforce records to education data was to be undertaken by the Jacob France Institute in Baltimore, Maryland.¹⁴³ However, that did not come to fruition and was replaced with a plan to work instead with the D.C. Department of Employment Services.¹⁴⁴

We noted earlier that OSSE proposed a data website with interactive functions for parents, policymakers, and others in the RTT application; and instructional improvement data analysis systems and training for teachers of participating LEAs. But as indicated in the ED's RTT annual evaluations, including OSSE's written explanations, work on most of these fronts never progressed. The evaluators cited a lack of a willingness or ability on OSSE's part to require the 29 LEAs receiving portions of the \$75 million-dollar RTT grant to complete the work. The Year 4 review cites as a continuing challenge that OSSE "did not have a systemic method for overseeing the quality of implementation of activities completed by competitive subgrant consortia members."¹⁴⁵

We identified a pattern of reversing course throughout OSSE's annual data collection guidance documents, where new data elements or collection mechanisms are initially planned with standard SEA governance requirements and documentation. Subsequent documentation then walked these specifications back to something voluntary and less defined to the point of relinquishing control of data integrity. In Part 2, we described the shrinkage of LEA teacher data requirements documented through multiple annual faculty and staff collection guides.

142 D.C. Law 19-142. [Raising the Expectations for Education Outcomes Omnibus Act of 2012](#).

143 OSSE, SLDS FY12 Annual Performance Reports, 2013-2016, reviewed for the data audit.

144 OSSE, SLDS FY12 Final Performance Report, 2017, reviewed for the data audit.

145 ED, [Race to the Top District of Columbia Report Year 4: School Year 2013-2014](#), April 2015, p. 4.

The attendance data collection business rules issued by OSSE and DME in 2016 provides another example of starting but stopping valuable data governance.¹⁴⁶ The Collection and Use Guidance document was essentially a memo, yet included an appendix of data collection business rules for the definitions of truancy and chronic absenteeism. An updated memo was announced for release in 2018, now referred to as a governance document (the Student Attendance Data Collection and Governance document), which dropped the business rules at the point of data collection and noted that truancy and chronic absenteeism business rules would now be issued only for the reporting stages.¹⁴⁷ The standard objective of governance is to define data business rules clearly at the collection stage, and follow the maxim of “collecting once, using many times.” This governance standard is specifically intended to avoid having students and schools identified at higher or lower rates of critical measures depending on the specific report used.

The demonstrated pattern of cancelling promising data work and thereby lowering governance standards makes it clear that the limitations on OSSE’s data responsibilities are not due to resource constraints. All SEAs struggle to produce on many data fronts with limited funding for staff, training, and IT system upgrades. SEAs do not typically abandon efforts they previously invested in or lower their own standards, systematically reducing data integrity, coverage, and usefulness.

OSSE cedes its authority to PCSB and leaves LEA data requirements voluntary

We noted earlier OSSE’s disparate treatment by sector including requiring only DCPS schools, and not charter schools, to report certified and in-field teachers on the STAR report card, and also distinguishing in PARCC scores the differences in Algebra I and Geometry tests given to 8th graders by sector. These were two examples of a larger picture in which the PCSB rather than OSSE effectively controls the data collection and validation practices that in other states are managed by the state government agency working directly with LEAs. We share findings on the variation by sector reporting unit as those are pronounced, consistent, and structural.

In Part 1 we noted that the attendance data contained two parallel sets of elements that should have equaled (i.e., absent and not present) and did equal for all DCPS students, but did not equal for PCS students across almost every LEA. While this is clearly a sector reporting unit variation, we also cannot conclude in that analysis whether the data processes that allowed for a second set of values may have been used in order to correct an error-ridden first set. Our finding is that there are distinct, parallel data systems where there should be one District-wide set of business rules. There is no standard governance structure that determines this existing practice, and the practice is not transparent to stakeholders, including students. We see similar patterns of distinct data practices by sector across much of the documentation as well as the data.

There are few data collections from schools and LEAs in the charter sector that are completely independent from PCSB. Even the few data elements that have been written into collection programs that would send the data straight from each LEA to OSSE through the ADT, appear to be governed as much by PCSB as OSSE. In this subsection on OSSE practice of delegating SEA data responsibilities to PCSB, we

146 OSSE, Student Attendance Data Collection and Use Guidance, August 23, 2016, accessed for the data audit.

147 OSSE, LEA Student Attendance Data Collection and Governance, October 24, 2018

first discuss the ADT and then one of the major certified lists PCSB sends directly to OSSE on behalf of the charter LEAs. While there are several of these externally driven data submissions to OSSE, including the important teacher data collections and certified graduates list which we discussed in Part 1 we focus here on another important certified list, the student discipline incidents data.

The ADT was announced by OSSE in 2013 as, “a mutual agreement to facilitate the exchange of data necessary for PCSB to oversee the schools it has authorized within DC.”¹⁴⁸ OSSE said the ADT is consistent with the provisions of FERPA. OSSE provided ADT FAQs for charter LEAs to address questions regarding the plans for attendance and discipline data to be uploaded from LEA SISs to OSSE daily to reduce the added step of maintaining these data in PCSB’s ProActive system, since PCSB would now receive these ADT uploaded data from OSSE rather than collecting these from LEAs and then submitting annual spreadsheets to OSSE.

OSSE posted these FAQs on its website:¹⁴⁹

If we need to submit attendance and discipline data through ProActive, will ADT also update ProActive or will we maintain two data systems for next school year?

- OSSE’s goal is to work collaboratively with the PCSB to send a direct feed and update ProActive rosters directly to minimize duplicative work for all LEAs. However, maintaining discipline data and attendance data in ProActive will require updating that system while updating your SIS. Transferring data to OSSE via the ADT will require only updating your SIS, as OSSE will transfer all data to the PCSB.

What happens if we use ProActive as our SIS?

- We do not recommend using the PCSB’s version of ProActive as a student information system, as your LEA does not control that system and cannot plan for or control any changes made within that system.

The 2014 ADT FAQ document submitted by PCSB to ODCA for this data audit was circulated at a question and answer meeting for OSSE and LEAs that was facilitated by PCSB. Both the PCSB and OSSE logos are in the header of this FAQ document, along with the following title and subtitle: “ADT FAQ for School Leaders—Implementation of ADT: Charter School Data Reporting Processes in SY 2014–15 and Beyond.” The responses to similar questions were quite different:

Is participation in ADT required?

- OSSE plans to collect enrollment and demographic data exclusively through ADT for the 2014-15 school year. OSSE will use this data for the enrollment audit, UPSFF funding, state testing rosters, ESEA accountability, and all other student roster-based OSSE initiatives. PCSB is not mandating participation in ADT. You may continue to submit all data to ProActive, either

148 See OSSE ADT webpage: [About ADT](#), accessed July 5, 2020.

149 See OSSE ADT webpage: [ADT FAQs](#), accessed July 5, 2020.

through manual file uploads or SIF. However, PCSB believes that ADT may greatly reduce schools' current data reporting burden.

How much control will OSSE have over my student information system (SIS)?

- Absolutely none. OSSE will not be able to pull data from your computer or server; they will only receive data that you choose to send to them, when you choose to send it. If you would prefer, you can have ADT link to an Excel spreadsheet or another data source other than your SIS.

What we find subsequently, as the ADT system was brought online, is that data feeds go into systems where PCSB is given user-access controls for all charter LEAs data submissions and data views. It was not made sufficiently clear from OSSE's documentation or data staff interviews, what the exact processes were for LEAs or PCSB to edit values through the validation and appeals processes. We cannot identify the points along the data stages that allowed for the large systematic differences we see, for instance in the sector absenteeism values we analyze in Part 1. Several of OSSE's technical reports discuss the data quality issues of the attendance data continuing under the ADT system as well.

For instance, the first required annual attendance report OSSE produced, in 2016, noted that, "the daily attendance file received from LEAs and PCSB required extensive data cleaning due to non-logical as well as duplicative attendance values provided for a given student-date combination."¹⁵⁰ Further, a 2018 technical guide indicates how the LEA data definition defaults, even with the ADT process in place, appear to lead to different values in the OSSE data. Specifically, that, "If there is no attendance data for a student for an instructional day on which the student was enrolled" the resulting value recorded of absent or present was determined by the LEA defaults of either fully reporting attendance or if they "default to present attendance and only report absences over SIS, missing data are imputed with present values."¹⁵¹

Finally, our earlier finding that the differences in attendance data by sector increased after local reporting requirements started was preceded by an opportunity for LEAs to see early possible ratings. Before the STAR reports were due to begin in 2018, OSSE conducted "an informational dry run" in order to "provide LEAs with preliminary STAR ratings for SY 2016-17 in Fall 2017."¹⁵² From the data analysis in Part 1, we know that the data values underlying the metrics to be used for chronic absenteeism changed systematically between 2017 and 2018—becoming more differentiated by sector.

Different data governance applied to the charter sector in the form of OSSE deference to PCSB is also evident in discipline data. In 2014, OSSE indicated an intent to announce regulations around the appropriate use of exclusionary discipline in the District, regulations that never came to fruition.

150 OSSE, [State of Attendance 2015-16 School Year](#), p. 26.

151 OSSE, [2018 DC School Report Card and STAR Framework Technical Guide](#), December 21, 2018, p. 120.

152 OSSE, [Accountability System Meeting: STAR Framework Overview](#), June 14, 2017, p. 5.

A GAO report in 2017 found significant disproportionality in discipline rates by sector in D.C. public schools, and had these two important governance findings underlying the lack of regulation by OSSE:

- There is a lack of consensus around roles and responsibilities pertaining to student discipline in charter schools.
- OSSE is unclear about its oversight authority over charter schools.¹⁵³

Further, GAO stated that this confusion could continue to slow progress in reducing discipline rates and thereby impact the quality of public education in the District. In agency response to the report, PCSB quoted parts of the School Reform Act of 1995 and asked GAO to alter the report to include reference to the Act arguing that the Congressionally-enacted law provides, “a strong legal bulwark against the District government, including the Public Charter School Board, mandating disciplinary processes.”¹⁵⁴ While this response is specific to disciplinary processes, the unfounded theory that the District government lacks authority to regulate across all public schools is not.

OSSE’s response echoed that of PCSB by focusing on a relationship built around collaboration and coordination with no mention of an authoritative oversight role for the SEA. More specifically, OSSE stated that it “would like to clarify that while previous administrations have stated an interest in creating discipline regulations, OSSE’s current conclusion is that the Code does not provide OSSE clear authority to regulate. Thus OSSE chose a different manner in which to share critical non-regulatory guidance.”¹⁵⁵ The GAO concluded: “OSSE officials told us in 2016 that, in contrast with previous administrations’ interests, the current administration does not interpret the School Reform Act as providing them with clear authority to issue such regulations.” The DME’s office did not respond to the GAO report although the Deputy Mayor at the time, Jenny Niles, was copied on OSSE’s response.

Importantly, these regulations would have both set a statewide standard around the use of exclusionary discipline and likely mandated an associated data collection to monitor adherence to that standard. The following year, the Student Fair Access to Schools Act codified some of these same goals.¹⁵⁶ The published and unrefuted comments in the GAO audit is useful as an acknowledgment of the current administration’s tacit acceptance of OSSE’s continued unwillingness to collect the discipline data from charter LEAs that OSSE documentation states is necessary to report and analyze discipline measures for accountability, disproportionality, and continuous improvement supports.

OSSE documentation from 2016 through 2019 continue to request that charter LEAs submit all the discipline data OSSE is required to collect including memos written to the LEAs in July 2016 and again in 2018, annual discipline data collection guides that are released every fall, discipline data collection templates issued each year, and the legally required annual report of discipline data findings and analysis which include the status of missing data and data discrepancies.¹⁵⁷ In each case the OSSE documents stop short of mandating the direct collection of LEA data.

153 GAO, GAO-17-165, [DC Charter Schools Multi-Agency Plan Needed to Continue Progress Addressing High and Disproportionate Discipline Rates](#), February 2017.

154 GAO, D.C. Charter Schools Discipline Rates report, p. 30.

155 GAO, D.C. Charter Schools Discipline Rates report, Appendix IX.

156 D.C. Law 22-157. [Student Fair Access to School Amendment Act of 2018](#), effective August 25, 2018.

157 D.C. Code § 38-236.09

OSSE memos, collection guidance, and annual reports have included similar language each year regarding permission for the discipline data collection to occur as annually submitted spreadsheets, which PCSB has submitted on behalf charter LEAs (unless they opt out). The 2016 and 2018 OSSE discipline data memos state that, “as in previous years, D.C. PCSB has agreed to share public charter LEA discipline data with OSSE with public charter LEA permission. D.C. PCSB will submit this information to OSSE to meet the requirements of the law...”¹⁵⁸ The reasons given for this arrangement are “to ensure accurate data, reduce the burden of duplicative data submissions, and protect student privacy.”¹⁵⁹ The document also states that the information “will not be stored in SLED,” the District’s main student data repository and access to it will be limited “to OSSE staff who are responsible for local and federal discipline reporting.” Documentation and practices around discipline data illustrate the continuing deference to PCSB by OSSE rather than acting as the state education regulatory agency.

OSSE’s approach of delegating to PCSB rather than collecting critical student data directly increases the potential for the student data to be defined, recorded, and verified by systematically different criteria in one sector relative to another. This raises the risk of not just imprecise data, but biased data. As we demonstrated in the discipline data analysis of Part 1, this appears to be the case. OSSE’s 2017 school year discipline data report notes the need for improvement:¹⁶⁰

Disciplinary action data are based on data provided by LEAs and PCSB. The data files provided by LEAs and PCSB contained different field names and allowable values. OSSE mapped these datasets to one consistent format that allowed for state-level reporting. OSSE will engage LEAs over the next year to help them understand the data collection requirements and definitions to more accurately fulfill federal and local reporting requirements. Receiving consistent data from LEAs that complies with OSSE’s data collection template and definitions would allow for more robust analysis at the disciplinary action level that could inform data-based decision making.

Each year, these reports describe the continued additional data work attempted to address the shortcomings of this approach, and each year the reports clarify and document the lengths to which these efforts continue to fail to reconcile discrepancies and account for missing submissions.

Under data cleaning and limitations, the 2017 report states:¹⁶¹

Some students in the student population from this report had missing or invalid demographic values for one or more desired subgroup breakdowns. These students are included in state, LEA and school level totals but are not included in analyses by subgroup.

Under analysis by disciplinary reason, the 2017 report states:¹⁶²

In the data OSSE received from PCSB and LEAs disciplinary reason values were not used consistently. OSSE reviewed all the unique disciplinary reason values provided by the LEAs and

158 OSSE, [Student Discipline Data Collection Guidance](#), July 13, 2016, p. 1.

159 OSSE, [Student Discipline Data Guidance](#), 2016, p. 1.

160 OSSE, [State of Discipline 2017](#), p. 56.

161 OSSE, [State of Discipline 2017](#), p. 56.

162 OSSE, [State of Discipline 2017](#), p. 57.

mapped these values to the broader disciplinary reason categories included in this report. Some of the disciplinary reasons provided (e.g. “Any other Tier 3 behavior”) could not be mapped to any one category and were therefore mapped to “Unknown.”

Under Appendix E: Attendance and Enrollment Data Validation, the 2019 report states:¹⁶³

The disparity between the attendance data from daily feeds OSSE receives from schools and the yearly discipline data submission were initially investigated and reported in last year’s discipline report. Schools enter attendance data through their LEA’s student information system daily, and the data are transferred to OSSE daily through an automatic feed. Attendance records must match student enrollment information; otherwise, the LEA is notified and must fix the error. Beginning SY 2017-18, attendance data were included in the end-of-year data validation process that required LEAs to review and certify their attendance records.

OSSE’s discipline data is collected yearly through an Excel template that is sent to OSSE by LEAs at the end of the school year. OSSE processes this data to ensure all values match from all LEA submissions and match to OSSE’s Data Validation files. Any discrepant student enrollment data or missing student identifying information was sent back to LEAs and filled in to allow OSSE to match all possible student records to validated demographic information. The process for collecting discipline data is different from the attendance data in that the collection, processing, and checking of the data are much more manual and labor-intensive. Since discipline data collection is less automated in several regards as compared to the attendance data, it is also less comprehensive in terms of checks against other data.

Finally, under Discipline Data Collection, the 2019 report states:¹⁶⁴

Once data is received, OSSE performs data validation checks. See Appendix C for data validation details. OSSE also conducts quality control checks on the data that may reveal non-compliance or data inconsistencies and provides an opportunity for LEAs to address those inconsistencies or instances of non-compliance.

In the 2018-19 school year, there were newly required data elements included in the discipline collection template (see Appendix D for a list of elements). The newly required data elements and reporting requirements went into effect on October 1, 2018, and as a result, LEAs may not have collected all newly required data elements throughout the 2018-19 school year. LEAs were required to submit all data collected in the 2018-19 school year. However, in instances where the LEA did not collect the newly required data or did not collect it in a manner consistent with OSSE’s template, LEAs were asked to submit a written explanation detailing the missing or improperly collected data element(s) and any barrier(s) to data collection for that element. See Appendix E for LEAs that submitted incomplete discipline data.

163 OSSE, [State of Discipline 2018-19 School Year](#), p. 53.

164 OSSE, [State of Discipline 2018-19 School Year](#), p. 7.

Guidance and documentation were released for the 2019-20 school year in September 2019. It is expected that all LEAs collect all data elements in the 2019-20 school year as required by local law.

We provide these excerpts at length in order to note that these missing required data are the same data that were required and missing each of the previous years, and the number of charter LEAs missing these data or reporting data with large discrepancies has increased each year. In 2018, OSSE added a request to the charter LEAs with zero reported in-school or out-of-school suspensions to sign and submit a discipline data collection certification to OSSE even if the LEA had already satisfied PCSB's requirements. This certification was requested, not required.

Importantly, as we reported in Part 1, our data analysis finds that D.C. LEAs reported different values for suspensions, primarily in-school suspensions, in their federal data submissions to the Office of Civil Rights at ED for CRDC from what was reported to OSSE by PCSB. This, again, is the concerning finding of distinct, parallel data submissions. It raises immediate red flags about the validity of either collection and the extent to which the reporting organization could be causing the discrepancy.

This pattern of systematic reporting unit variation that we find across the data collections does not extend to those data provided to OSSE by national vendors. The different assessment data collections for PARCC, MSAA, AP, IB, and SAT, processed by national vendors and transferred to OSSE, appear under similar analysis to have complete and consistent coverage of all relevant students. Correlational analyses do not find their values systematically varying by reporting unit or year in distinct patterns that could not be explained by student enrollment patterns. For instance, students who score at higher levels on average in one type of assessment across years, also score at higher levels in the others and these students may be concentrated in one sector more than another. But we do not expect that their sector enrollment would systematically alter the averages for the same students. This leaves open the question of why the systematic reporting unit variation exists with data submitted through PCSB.

OSSE has given third parties control over SEA data

In the discussion above, we highlight the added burden on LEAs and OSSE, and the data integrity costs of failing to exercise SEA data decision making and reporting responsibilities. Typically, a responsible SEA would be streamlining and correcting the processes that determine their data collections and developing the data use capacities that LEAs all over the country have come to count on from their SEA. By contrast, OSSE has relinquishing responsibility and authority for data collections including teacher data as noted in Part 1. OSSE initiated a sole source contract with The New Teacher Project for the Staffing Collaborative and encouraged LEAs to voluntarily participate.¹⁶⁵ The project released its first large comprehensive public report for the District in 2019.¹⁶⁶

The goal of the Staffing Collaborative was to, "help LEAs develop effective strategies to attract, develop, and retain the teachers they need to serve their students through access to better data."¹⁶⁷ However,

¹⁶⁵ OSSE, [DC Staffing Collaborative](#) webpage, accessed July 5, 2020.

¹⁶⁶ OSSE and TNTP, [DC Teacher Workforce Report](#), October 2019.

¹⁶⁷ <https://osse.dc.gov/publication/dc-staffing-data-collaborative>.

by design, the collaborative was severely limited in its ability to meet this goal. Instead of having one analytic dataset to explore teacher career pathways across the District, the collaborative structurally limited itself to using a different analytic dataset per participating LEA and providing insight primarily about each LEA's own teachers. The Staffing Collaborative therefore was unable to produce a meaningful and comprehensive look at the teacher labor market in the District in its seminal report.

The Staffing Collaborative report notes that the teachers in the report are from the participating LEAs only and defines "teacher" using the federal role collection category and requires that they be 0.8 or more FTE. This definitional decision limits the validity and potential of analyses that attempt to break down total staff and teachers, and types of staff and teachers, across sectors, years, and school types, such as grade level by excluding some teachers and including others without regard for the consequences for reporting. The report notes that the aggregation level is statewide, with some Ward and school type, but no LEA or school analysis. The report shows 60% of included teachers are in DCPS schools and 40% are in charters. Given that these percentages differ from how students are distributed across sectors, these statistics raise questions that are not answered. Do charters have larger class sizes, fewer 0.8+ "teachers" in classrooms, or is this difference simply due to the non-participating LEAs? The report thus fails to provide a complete picture of the District's teacher labor market.

In addition to not being complete, the voluntary vendor data lacks statewide longitudinal teacher IDs, which is an SEA's responsibility to collect and is associated with the relevant authority to generate and maintain these IDs. Instead the report attempts to match teachers year to year based on their characteristics. This missing teacher ID limits the ability to analyze trends and retention and transfers. Because the vendor could only collect LEA teacher IDs, it could not help answer LEA requests to analyze teacher movements across the District and over time. As the report notes, and as is clear from our Part 1 analysis of the limited teacher data elements, there are also big limitations on what can be analyzed about teacher quality, experience, and diversity. Finally, as the vendor does not have the authority to collect statewide student data and create teacher-student links, very little of value can be gleaned about equity in teacher assignments to schools and classrooms or student outcomes over time for continuous improvement.

During the audit we requested teacher certification, credential, salary, and evaluation data and were told by OSSE and DME staff that the District does not believe it owns these data submitted to TNTP on behalf of charter LEAs about publicly-paid staff and faculty. It was suggested that we seek District data from the third-party vendor, a step we declined to take. After these conversations, OSSE did not renew the TNTP contract for the Staffing Collaborative and is now collecting teacher data directly. While there now appear to be plans to create a permanent, unique teacher ID as D.C. law has required since 2007¹⁶⁸, there are still no documented plans to link student and teacher data collected by the District. Further, OSSE's teacher data template submitted to LEAs for SY2020-21 includes a row that identifies at what level (state or federal) they intend to report each element and for what purpose.¹⁶⁹ Typically, SEAs report most teacher

¹⁶⁸ D.C. Code § 38-2609(e)(1).

¹⁶⁹ See the 2020-21 Faculty and Staff Collection Technical Template on OSSE [Faculty and Staff Data Collections](#) webpage, accessed July 5, 2020.

and staff data locally that they are required to report federally, but in the District, this is not the case, as shown by this reporting distinction.

We noted above that OSSE does not independently calculate student academic growth based on PARCC scores over time. Instead, OSSE relies on Pearson’s reporting of Student Growth Percentiles (SGPs) and Median Growth Percentiles (MGPs) for schools received as part of the contract for PARCC assessments.¹⁷⁰ Other SEAs typically use their own student longitudinal test score data to generate statewide SGPs (or other growth measures) to be able to share information with families and to use in their ESSA accountability models and data analysis. The goal of such state investments is to articulate the longitudinal test score growth an individual or a group of students experienced relative to other similar students. OSSE’s reliance solely on Pearson’s calculations means that D.C. stakeholders had access only to test score growth based on whoever was in the PARCC consortium each year resulting in an inappropriate and moving benchmark. In other words, D.C. students or a subgroup of students could appear to be doing better or worse, depending on which other student populations from other jurisdictions are in the consortium. It is limited and ultimately not useful data particularly given the changing and decreasing number of PARCC participants. We explore longitudinal test score growth issues more fully in the Educational Data Analysis Brief on Longitudinal Testing Data in Part 6.

There have been other instances in which OSSE has partnered with other community-based organizations that have collected and reported on District public school data. In 2013, OSSE announced that the “DME, OSSE, DCPS, PCSB and NewSchools Venture Fund have partnered to create the city’s first Equity Reports. Equity Reports are a complement to OSSE’s School Report Cards, DCPS’ School Scorecards and PCSB’s Performance Management Framework.”¹⁷¹ OSSE announced in 2015 that the Equity Reports were replacing LearnDC. The Equity Reports were then officially replaced with the STAR report cards in 2018.

Another such partnership has been RaiseDC, made up of business leaders, social service organizations, and philanthropists, with funding from the Greater Washington Community Foundation.¹⁷² It was designed to do the work other state education agencies do for their LEAs, which is to provide data use tools for student 9th grade transition, early warning systems for on-track graduation, and high school feedback reports of college enrollment. Like the Staffing Collaborative, RaiseDC has accessed LEA and SEA data for a subset of participating LEAs, producing analyses that do not reflect the full range of a public-school system with unusually high rates of student transfers each year between LEAs.

In OSSE’s 2016 annual report on the 2015-18 Strategic Plan, the only data use featured was a new pilot supporting RaiseDC’s 9th Grade Counts Network. It gave partner high schools access to entering freshmen demographics, past year test scores, and past year attendance to help support student transitions. As the report points out, “high schools in DC often have multiple middle schools feeding into them, so tracking down this information in the past has been difficult and time consuming.”¹⁷³ The pilot included 11 LEAs and 31 middle schools and 16 high schools, and the report outlined OSSE’s desire to

170 OSSE, [2019 DC School Report Card and STAR Framework Technical Guide](#), January 2020.

171 OSSE, [Equity Reports](#) webpage, accessed July 5, 2020.

172 See the [RaiseDC](#) website for more information, accessed July 5, 2020.

173 OSSE, [2016 Annual Report](#), p. 9.

expand the program the next year. RaiseDC has continued but does not produce the range of comparative analyses undertaken by other SEA systems mentioned above such as 9th grade transition reports, high school feedback reports, and early warning indicator systems.

It has been an ongoing practice of OSSE to encourage such externally driven voluntary efforts rather than engage in data collection and analysis as undertaken by other SEAs. We see the practice in the Strategic Plan's data priority work, the DME Cross-Sector Collaboration Task Force recommendations, the decision to abandon the commendable LearnDC work, and, finally, in the failed school climate survey initiative.¹⁷⁴

Rather than exercise state authority, OSSE creates burdensome workarounds

As noted, OSSE's failure to require LEAs to record and submit exit data in accordance with its own written guidance leaves both OSSE and the LEAs with less reliable data. It also results in significant additional burdens. During a 2018 LEA data discussion meeting, OSSE reminded LEAs that enrollment errors would have consequences. A slide presentation titled "Enrollment Errors and Duplicative Enrollments"¹⁷⁵ provided a unified data error summary showing tens of thousands of enrollment and attendance data errors including almost 2,000 duplicate enrollments. These were the result of not requiring exit data and needing instead to sort out the final enrollments across each school in the fall of every year. This burden on LEAs is an example of a process that should and could have been avoided altogether if OSSE met its responsibility to require and use up-to-date, accurate enrollment and attendance records data.

Throughout the school year, LEAs are expected to update their enrollment records monthly, as noted in OSSE's July 2019 Annual Notice of Attendance and Reporting Requirements.¹⁷⁶ The memo clarifies that these include a requirement to "Use data feeds to report enrollment, and changes in enrollment, to OSSE."¹⁷⁷

The LEA and school requirements go further, as OSSE notes in its LEA attendance training documents that refer LEAs to section §38-203 of the D.C. Code, on enforcement and penalties, with the directive for LEAs to: "Keep an accurate daily record of attendance, which is open for inspection at any time by OSSE and other relevant parties."¹⁷⁸

174 The Youth Suicide Prevention and School Climate Survey Amendment Act of 2015 ((D.C. Law 21-0120; D.C. Official Code § 38-2602(b) (27)) requires OSSE to submit the Council a plan to survey all grades 6th-12th as of the 2020-21 school year. The pilot survey program OSSE began in 2017 (with grant funding and partnerships) initially included 26 schools but fell to less than half over the next two years. Research and practice elsewhere demonstrate the importance of these surveys and document how comprehensively these are administered and used in states and districts across the country. See, for example, Rhode Island's SurveyWorks webpage. We have yet to benefit from their genuine implementation in DC.

175 OSSE, [LEA Data Discussion](#), September 2018, p. 14.

176 OSSE, [Annual Notice of Attendance and Reporting Requirements](#), July 1, 2019, references the attendance and truancy-related laws in Title 38, Subtitle I, Chapter 2, Subchapter I of the D.C. Official Code, "School Attendance" (D.C. Code §§ 38-201 through 213).

177 OSSE, 2019 Notice of Attendance Reporting, p. 3.

178 OSSE, [Attendance Reporting Requirements for Schools](#), November 2018, p. 26.

Despite these explicit instructions OSSE has maintained that it cannot provide updated enrollment counts throughout the year to allow for additional counts beyond the audited enrollment October Count Day each year. In June of this year in testimony before the Council, Superintendent Hanseul Kang disagreed with a recommendation for another official count day later in the year, citing the significant burden and expense it would mean for both OSSE and LEAs. To explain the significant burden, she said that resolving duplicative enrollments and residency verification are time consuming. Specifically, for duplicative enrollments she said, “it takes significant time to sort through supporting evidence to resolve which LEA that student should be attributed to.”¹⁷⁹ In fact, such duplicative enrollments would be readily resolved by requiring and maintaining accurate exit codes and dates. The D.C. Code is clear that it is within OSSE’s authority and responsibility to require and report current exit data which would make unnecessary the additional burden the superintendent described.

Other unnecessary and unreliable workarounds that OSSE has devised due to not requiring exit code data are the series of additional steps OSSE and LEAs must take to create and verify records tracking 9th grade cohort students through each year of high school to meet the federal ACGR reporting requirements. Instead of requiring the exit codes to identify whether each student’s transfers and exits constitute an exit from the cohort, OSSE engages in separate, additional efforts to track cohort-responsible schools. Further, OSSE then requires an entirely separate certified graduates manual submission from DCPS and PCSB each year. As we illustrated regarding the certified discipline incidents list that PCSB provides to OSSE, there is substantially more risk for additional errors, leading to more work to attempt to reconcile those errors. Not only should this work be occurring with far less effort it should also occur with less risk for error.

OSSE’s mandated reports on attendance, discipline, mobility and the STAR accountability measures include technical methods sections, and each details the multiple steps that must be taken to assign the student data collected from the schools and LEAs to the correct schools and LEAs—all due to missing exit codes. Outcome measures for each student, such as test proficiency and chronic absenteeism, need to be attributed to the correct school using accurate enrollment and attendance windows. Instead, OSSE must make assumptions to impute these missing dates to try to attribute student outcome data to the appropriate schools. Attributing the right students to the right schools could be accomplished by collecting and using exit data.

These examples illustrate what results from OSSE’s failure to mandate and enforce the collection of critical data such as exit data. The result is a complete lack of District-wide, longitudinal data that LEAs could be receiving as historical records for the currently enrolled students and as projected or predictive analyses from previous cohorts to help them serve their student’s best outcomes. In Part 3, we illustrate these valuable data uses that are currently lost to the District.

179 D.C. Council [OSSE FY2021 Budget Oversight Hearing](#), June 4, 2020.

Summary of Part 2 Findings

- Stakeholder-articulated priorities are very specific and common across different initiatives—essentially, a demand for basic data use and transparency. D.C.’s education agency summaries and decisions do not address these stakeholder demands.
- OSSE is missing a formal governance structure for making, documenting, and reviewing data-related decisions and is intentionally removing itself from the specific decision making, abdicating its SEA responsibilities for the District’s education data practices.
- OSSE does not perform some critical state education agency data responsibilities, including actions required by law and promised in grant applications.
- OSSE delegates its state authority to PCSB and leaves LEA data requirements voluntary.
- OSSE allows additional third parties to collect and control SEA data and data functions.
- OSSE’s failure to exercise authority contributes to error and bias.
- In lieu of exercising authority, OSSE creates burdensome and unreliable workarounds.

Part 3

Valid Research in the District is at Risk

This audit was required in legislation to create an education research-practice partnership. The District of Columbia Education Research Practice Partnership Establishment and Audit Act of 2018 was approved by the Council in December 2018.¹⁸⁰ The Committee of the Whole report on the bill explained: “By conducting independent research, educators and education policy experts will have proof of what may or may not be working and needs to be reevaluated. Parents will also have that information and can regain their trust and faith in the District’s public education sector.” A goal of the data audit was to help ensure that when the research-practice partnership (RPP) began its work, “the District and public are aware of what data is actually collected and managed, what gaps exist, where data collection might be duplicative, and what steps should be taken to ensure that the District’s education data is accurate and reliable.”¹⁸¹

This section looks at actual data use in the District of Columbia and described the substantial gap between standard data use practices across the country and current data use in the District consistent with the requirement of the 2018 legislation.

Organization of Part 3

Part 3 describes the materials and information we collected for the data audit that pertain to data use specifically, details the methods and findings of the research conducted, and discusses the implications of gaps found between D.C. education data use practices and the standards established for responsible data use. Our methods are primarily qualitative and involve comparing best practice standards to the current state of data use in the District. Some of these comparisons involve assessing quantitative methods and results. In the Education Data Analysis Briefs in Parts 5-7, we produce new quantitative analysis that implements the many additional steps that are needed to produce valid research as outlined here. We also describe the quantitative datasets and data inventories we created for these analyses.

We begin by describing the aspects of RPPs most relevant to D.C. and the analyses they provide to states and districts that are believed to have the greatest value. These descriptions include the common essential data collection, validation, and documentation practices needed for RPPs to succeed, as well as the necessary governance structures for working with external research partners.¹⁸² We follow that with a summary of the District’s current data capacity challenges and detail our work toward meeting those. Finally, we review the best practice guides for each analytic data function and assess current D.C. capacity

180 D.C. Law L22-268 [District of Columbia Education Research Practice Partnership Establishment and Audit Act of 2018](#), effective March 28, 2019.

181 See Report on Bill 22-776, “District of Columbia Education Research Practice Partnership Establishment and Audit Act of 2018” (formerly known as the “District of Columbia Education Research Advisory Board and Collaborative Establishment Amendment Act of 2018”), filed December 10, 2018. https://lims.dccouncil.us/downloads/LIMS/40025/Committee_Report/B22-0776-CommitteeReport2.pdf

182 The primary sources we draw on are the research data use best practice guides created by and for SEA and LEA data directors through the NCES Forum and SLDS Grant Program.

relative to these. Throughout, we stress the importance of adhering to these best practices for any RPP work with D.C. data and highlight the data documentation we provide in this report that is an essential component of a successful RPP. Importantly, especially given the data deficiencies outlined in Part 1, researchers must carefully follow and document these best practices in their quantitative work in order for the District to benefit from future research.

LDS Data Archive RPP Benefits and Requirements

RPPs have taken different forms to serve local practitioners and stakeholders but follow similar best practices. RPPs refer to research programs or projects that involve practitioners in ways that traditional research has not. Education research practitioners are the local educators, administrators, program offices, data staff, and policymakers. This partnership process includes getting practitioner input on research questions, tailoring research design to the local context, and disseminating accessible briefs of the findings directly to local audiences. Often considered the original research practice partnership, the University of Chicago Consortium on School Research works directly with Chicago Public Schools on topics of interest to school leaders with the expectation that research drives improvements in education outcomes.

In addition to directly involving practitioners, RPPs often disseminate information broadly to local stakeholders through public resources such as *interactive* webtools that allow users to further explore the findings. Also, as the use of RPPs have expanded in the field of education, there has been an increasing awareness of the essential role of *descriptive analysis* (i.e., *conditional correlations* and *predictive analytics*, such as the early warning models we discuss below).¹⁸³ These resources are in addition to the traditional education research studies that attempt to model *causal relationships*, such as policy impacts, by designing *control experiments* or leveraging *natural experiments*, such as lottery assignments which we also discuss below.

Much has been written on general RPP best practices¹⁸⁴ including:

- What mechanisms or agreements need to be decided on and by whom.
- What best practices have emerged around each mechanism (e.g., data access, research agendas, findings dissemination, etc.).
- Which practices apply best to specific local objectives, data, and funding.
- What best characterizes RPP work as distinct from traditional research.

We focus on the data uses and practices of the RPPs that work with longitudinal data system archives since that is the most common form of RPP. An LDS archive stores *analytic datasets* derived from the state or school district raw data files, generally those data representing the common set of elements described in the Introduction. Some RPPs conduct research using existing national survey data and not all RPPs

183 Booker, L., Conaway, C., and Schwartz, N., [Five Ways RPPs Can Fail and How to Avoid Them: Applying Conceptual Frameworks to Improve RPPs](#). William T. Grant Foundation, 2019. IES, [Descriptive Analysis in Education: A guide for Researchers](#), 2017.

184 For more information, see the IES Knowledge Utilization grant funded centers: 2014 [NCRPP](#), and 2015 [CRUE](#), as well as the [WT Grant RPP](#) webpage, accessed July 5, 2020.

use local administrative data sources. Some archives capture longitudinal data files up to the year the RPP was created. Other, ongoing archives continue to append new files annually to maintain a current longitudinal data source. Depending on the relative capacities of the state or district agency and the external research partner, the archived extracts may be very close to the original raw data files or more closely resembling *research-ready datasets*.¹⁸⁵

The functions of these LDS archive centers match the D.C. RPP objectives as described in the legislation as well as local practitioner and stakeholder requests for analysis that are on the public record in District testimony, surveys, and taskforce meeting records. Below we summarize the type of work these centers do and challenges the District will face if it seeks to begin this work without first addressing the critical failings in the current data infrastructure outlined in this report.

Most Highly Valued LDS Data Analytic Use

There are two main types of best practice guides that demonstrate the benefits of LDS RPP investments. The first are topical guides published by SEAs and LEAs to demonstrate the value they derive from work on different topics, such as dropout prevention, teacher workforce development, and college and career readiness. These also cover the different mechanisms for delivering important analytic insights to relevant practitioners and stakeholders, such as LEA practitioner access to interactive tools, cross-LEA predictive analytics, or statewide program impact evaluations. The second type of best practice resources are procedural guides developed by working groups of SEAs and LEAs to describe the specific agency capacities and researcher policies they recommend to get the most reliable, actionable, accessible, and timely research from the data.

For the past decade the NCES has hosted annual conferences for state and school district data teams presenting a total of 150 sessions demonstrating their data systems and use.¹⁸⁶ Additionally, the state and district data representatives on the NCES Forum produce regular content guides that pull together a range of site demonstrations and collaborate on common recommendations. We highlight the examples given by the SEA and LEA collaborators of the data use they provided to practitioners and stakeholders, and we note the data limitations that would need to be addressed for the District to similarly benefit.

Analytic Data Use and Capacity Currently Missing in D.C.

D.C. does not currently benefit from any of these highly valued analytic data uses:

- Reliable, detailed, longitudinal, public achievement and equity metrics.
- Decision support for LEAs, schools, teachers, counselors, parents, or students.
- High school feedback reports, early warning systems, and other models tracking longitudinal outcomes and providing predictive analytics for continuous improvement.
- Rigorous policy and practice evaluations and other findings from external researcher data request fulfillment, including for new ESSA *evidence-based* funding requirements.

¹⁸⁵ See the Descriptive Statistics chapter of *Education Data Done Right* for a discussion of the agency staff and research partner roles related to the three stages of education datasets: raw, prepped, and analytic or research-ready.

¹⁸⁶ See the NCES SLDS [Effective Practices Conferences](#) archives webpage, accessed July 5, 2020.

States and districts around the country benefit from rich **collaborative research** activities, work made possible by high-quality data systems and practices ensuring consistent and valid data, linked across school systems and program areas over many years, and documented with good metadata practices. Most of these jurisdictions also promote data use on several of these different fronts at once which means that an individual analysis does not occur in a vacuum, and all types of analytic data use can serve to compliment and corroborate (or replicate) other types. Such collaboration does not occur in D.C. To address this, we recommend the RPP best practices outlined below and the research infrastructure standards we list in the improvement plan in Part 4 in combination with recommendations regarding data systems and governance changes.

The IES has published a widely cited SLDS program guide on state and district research partnerships which describes the expertise that state and local education agencies leverage to get the most out of this type of collaborative research.¹⁸⁷ It describes the expertise that agency data practitioners need (from Table 1: Relative expertise of SEAs/LEAs and researchers) which include:

- Extensive knowledge of data collection process and research agenda.
- Extensive knowledge of local context and needs.
- Ability to communicate directly with stakeholders.
- Ability to implement and/or verify findings.

In the District the relevant agency partner would be the state education agency, OSSE. For LEAs to get the most robust RPP insights they need to be able to rely on data expertise at the state agency level. This is especially true in D.C., where our analysis of school enrollments illustrates the exceptionally high number of students transferring between LEAs every year. Additionally, individual program staff at OSSE may have extensive content knowledge including relevant practitioner and stakeholder needs that pertain to the research. But useful research is not possible using only one program's data without the necessary links to other important data elements. For example, analysis of CTE or ELL programs requires student outcome data such as test scores and graduation status and not only for students in these programs, but all students, for comparison purposes. Such individual LEA and program area expertise needs to be represented in the systemwide data. Yet, these data also need to be managed with additional systemwide data competencies such as complete student linking and quality auditing. However, as we have demonstrated, OSSE is not serving the needed systemwide data steward role.

The RTT annual evaluations consistently critiqued OSSE for not investing in staff recruitment and training, and we noted OSSE's failure to participate in the federal cooperative grant best practice sharing programs.

187 IES, [SLDS Data Use Issue Brief 2: Forming Research Partnerships with State and Local Education Agencies](#), July 2012. This table is excerpted and discussed in the 2014 study of state centers by researchers as UVA and VCU: [Bridging the Data Divide: Understanding State Agency and University Research Partnerships within SLDS](#), and the IES 2015 [Guide to Using State Longitudinal Data for Applied Research](#).

As documented in this data audit regarding D.C.'s SLDS capacity limitations, OSSE does not:

- Collect the data in a warehouse or through a statewide SIS.
- Collect the data consistently across LEAs and years.
- Collect the data consistent with the agency's own data collection documentation.
- Prep, clean, or link the data across programs and years.
- Use linked longitudinal data for in-house analysis or external decision support.
- Maintain data dictionaries or other appropriate metadata.
- Routinely encourage and fulfill research data requests.
- Produce many of the common SEA public disaggregated data websites.

Each of the research data use guides we review below illustrate the valuable analytic data use SEA and LEA practitioners and stakeholders benefit from, and each map the requirements for success to the best data systems practices we referenced earlier and recommend in Part 4. Established standards for ensuring data quality, for instance, are reinforced in these research guides as essential in the valid use of data. We compare these standards to current D.C. practices to note the critical changes needed. Finally, we emphasize that these best practices will be essential for valid research regardless of how the RPP is structured.

Two Types of LDS Data Archive RPPs

In addition to the agency practitioner expertise described above, researchers would ideally bring these strengths:¹⁸⁸

- Extensive knowledge of field and methodology.
- Extensive experience framing research questions.
- Access to research funding and staff as well as statistical programs.
- Ability to disseminate actionable findings nationally.

There are two main types of RPP data archive structures that combine these relative areas of researcher and practitioner expertise.

The first type are the practitioner based RPPs found in most states and many districts. Legislators and agencies across the country have funded the development of collaborative research capacity connecting education agency analysts and content experts with research partners. These collaborative research groups work together to provide analysis and research insights as requested by advisory councils of local practitioners and stakeholders.¹⁸⁹ In many states and districts, research methodology experts are also included within the data divisions of the agencies, including some of the directors, strengthening both the in-house research capacity and the agency's role in the partnerships with external researchers.¹⁹⁰

At the state level, these LDS archive RPPs generally take the form of a cross-agency P-20W+ SLDS

188 SLDS, Data Use Issue Brief 2: Forming Research Partnerships with State and Local Education Agencies, Table 1.

189 See SLDS 2016 webinar [Increasing Organizational Capacity: Successful Partnerships and Collaboration](#) with Researchers for a discussion of the Rhode Island Data Sharing Project Advisory Council of legislators and others.

190 Many state and district education agency directors and staff are also published researchers and academic research conference and journal participants and reviewers.

research center. P-20W represents data that spans preschool through postsecondary and workforce, while P-20W+ systems incorporate health and human services and other sectors in addition. At the school district level, these are generally referred to as integrated data systems. Both are often but not always based out of one or more local universities. Washington’s Education Research Data Center (ERDC), the Arkansas Research Center (ARC), the Hawaii P-20 Data Exchange Partnership (DXP), and Kentucky Center for Statistics (KYSTATS) are examples of such statewide SLDS research centers.¹⁹¹ These RPPs do much more than generate research papers. They also create rich interactive public data websites, prepare and document research datasets, and maintain active formal research data request processes to facilitate additional external research. Supporting these multiple methods for a broad range of researchers to work with data to produce findings that can be shared locally is a best practice documented in SEA and LEA Forum and SLDS community resources we draw on here.

The second type of education data archive RPPs are the independent university centers, including the University of Chicago Consortium on School Research mentioned earlier and the Research Alliance for NYC Schools. These are generally RPPs for large urban districts.¹⁹² They are independently based in the universities and generally funded by research grants from IES and private foundations. These centers strive to produce actionable research studies that are relevant to local practitioners.¹⁹³ However, related to the independent funding, these archive centers allow the academic researchers to fully determine the research questions, products, and timeframes. Yet, members of these local school districts also benefit from practitioner-driven analytic data use conducted by their state P-20W+ research centers. Therefore, education stakeholders in these jurisdictions often have at least two sources of robust education research to draw from. This is important and underscores the set of common analytic data use programs that many states and districts maintain simultaneously. There is a risk for practitioners in relying on a single source—or single type—of research.

That risk is evident in D.C. where currently none of these common avenues for robust analytic insight exist. The absence of multiple pathways for applied data analysis in D.C. makes it extremely important to have the best data practices in place for ensuring validity of any research findings. For example, in a later analytic brief, we challenge claims made about student achievement growth in the District—both that achievement is increasing in math and ELA and that prior methods were sufficient to conclude that these reported achievement gains were not associated with changing student composition. By analyzing student longitudinal test score data we show that, on average, in grades 3-7, where there are comparable tests to compare, test scores have been slightly growing in ELA, and slightly decreasing in math. Further, these recent, often-cited D.C. studies about achievement have critical methodological flaws that preclude the conclusions drawn from them about the relationship between student demographics and achievement. These flaws are due to a reliance on aggregate data instead of student longitudinal data combined with problematic or weak statistical models.

191 For more information, see the following websites for [ARC](#), [HI DXP](#), [KYSTATS](#), [WA ERDC](#), accessed July 5, 2020.

192 For more information see the websites for the [University of Chicago Consortium on School Research](#), and [Research Alliance for NYC Schools](#), accessed July 5, 2020.

193 There are also university based research centers funded with IES and foundation grants, such as Duke University’s [North Carolina Education Research Center](#) (NCERDC), which are not engaged with local practitioners, but have long-term external researcher data access agreements in place for academic research.

Importantly, as we show in the Part 6's Education Data Analysis Brief on Longitudinal Testing Data, drawing inferences from aggregate proficiency rates or even aggregate score levels across 3rd grade through 12th grade requires the incorrect assumption that the District has a steady distribution of test takers and student composition across grade levels and tests.¹⁹⁴ In fact, we show that in addition to different tests in 8th grade math, the number of high school test takers has been decreasing in the District from 2016 through 2018, while the number of elementary and middle school test takers has been increasing. High school test scores were lower, on average, than in earlier grades, so this decrease over time leads to a false sense of increasing scores across the continuum of 3rd through 12th grade.

More specifically, in 3rd through 7th grade, the number of test takers increases every year, as does the number within each of the three largest racial subgroups (white, Black, and Hispanic). Beginning with math and ELA 8th grade tests, the number of Black test takers stops increasing. For the high school tests, the number of Black test takers drops substantially, while the number of Hispanics and whites increases or stays steady. Breaking these trends down by test, grade, and subgroup is just the beginning of understanding test score trajectories in the District. We further find that the test scores of those who have been in the D.C. public school system consistently are lower than those who are newly entering. Therefore, when you use student longitudinal data you see that these studies do not provide an accurate reflection of test score growth, student demographic change, or differences in testing patterns. It does a disservice to continuous improvement and the provision of high-quality educational programming to rely on inaccurate and inappropriate data use as has been the case given the absence of both an SLDS and informed independent research.

The absence of multiple, independent research sources in D.C. combined with a lack of transparency about potential data biases can lead to misuse and distrust of findings. The multiple data system failures we detail throughout the report make it essential to provide accurate and comprehensive documentation of data limitations and assumptions for all analytic output, whether from the SEA, an LEA, or independent research center. Without detailed documentation of underlying data issues, it is not possible to assure validity and facilitate true continuous improvement. The goal of this audit is to begin that process of documenting these important data caveats.

In Part 1 we documented specific data element group quality issues, and here we provide a roadmap of the necessary steps and potential pitfalls as researchers attempt to use these data to provide D.C. practitioners and stakeholders with robust, actionable data analysis. As we detail each of the guides' common data use types, we highlight the documented best practices for the data collection and validation necessary to fully support valid use for each. We contrast these with our findings of the lack or laxity of these practices by OSSE and document the implications of each on the risks to validity. In Parts 5-7 we illustrate and quantify potential bias the different data groups may introduce to important research questions such as the student achievement growth example just mentioned. Additionally, we create the data inventories and caveat metadata that are essential for RPPs, as emphasized in the best practice guides, we review. These data inventories are included as appendices to this report.

194 For example, see the following local analysis postings by [Urban Institute](#) and [EmpowerK12](#), and an opinion from the Superintendent based on those analyses [here](#), accessed July 5, 2020.

In addition to documenting the relevant data failings, we also needed to create an SLDS archive to assess the raw data and the degree to which it could be cleaned of any confirmed errors or gaps sufficiently enough to produce unbiased analysis. Below we describe the data audit resources we created to correct for existing raw data failings where we can and at least document them where we cannot.

Data Audit Archive and Documentation

It was necessary for the purposes of the data audit to create the equivalent of a District-wide, longitudinal data archive to analyze and inventory the data and limitations. This essentially provides the first needed RPP investments: the research-ready datasets and the detailed data documentation to use them.

Construction of the Data Audit SLDS Data Archive

To conduct this audit's data analyses we requested the equivalent of SLDS raw data files from OSSE, namely, all longitudinal individual-level data files. We received data tables of annual data snapshots of student records for most of the previous six years, with several exceptions (which we noted in Part 1), including the failure to provide the most recent available year of 2019. Also, as we discussed in Part 1, OSSE collects only incomplete and unreliable staff data, requiring our analysis to focus almost exclusively on student data only. The student files OSSE submitted consisted of separate Excel spreadsheet tables for each content area and generally separate for each year as well. For example, there were separate 2018 tables for enrollments, attendance, discipline, test scores, direct certification, and so on. Some common data elements, such as grade, appeared in multiple content area spreadsheets, sometimes varying across these for the same student within the same year. For students with multiple schools per year the schools also varied across spreadsheets in the same year. For some collections, the total number of students varied substantially across the spreadsheets within each year.¹⁹⁵

The SLDS analysis archive we created for this audit brought each of these spreadsheets into a statistical software program and prepped each consistently in terms of element (or variable) formats. As we explain in detail in the analytic methods section of Appendix B, values for each element were vetted within each year and content area before being merged and appended, and then were vetted collectively. For example, initial analysis of each year identified any instance across the different content area files where a student's recorded demographics or program participation varied. Once these annual data files were appended, additional analysis flagged instances where a student's recorded grade level or tested grades jumped around. Further data prep identified each school each student attended at each point in the school year and mapped these data throughout the different content areas longitudinally. The result is a longitudinal data source of each student's vetted and reconciled content, such as program participation, test scores, and other outcomes, for each year the student was enrolled anywhere in the D.C. public school system.

¹⁹⁵ For instance, as we discussed in Part 1, the discipline records were collected as annual spreadsheets from LEAs (as opposed to automatically uploaded through daily feeds along with the attendance data) representing only students with suspensions, and primarily out-of-school suspensions. The student records in these tables average around 7,500 annually, but span from just under 5,000 in one year to just under 10,000 in the next.

The students and the schools were also each classified in these analytic archive datasets into school types. For instance, a high school may be classified as primarily an alternative high school, but each student within it would be classified as being in the high school diploma program or an alternative or adult education program. In the data analysis methods sections of the Appendix B, we list each school by type, explain the classifications, and discuss the OSSE documentation sources used. In addition, new, informative cross-content and longitudinal analytic variables were constructed. For instance, the **direct certification** programs were checked against the at-risk status given in other data files and a new category was created for at-risk status due to direct certification only versus over age for high school. These serve as the student's household socioeconomic (SES) variables and were supplemented with additional SES variables constructed from student address data mapped to U.S. Census income estimates which we describe in detail in Part 5's Education Data Analysis Brief on School Enrollment and also in Appendix B on Methods. Test score data were also supplemented with test score growth variables after appending the annual files of student test records. Finally, dropout status indicators were created for students in the year in which those students were observed to leave high school without graduating or officially exiting the graduation cohort data files. We discuss these further in the analysis of high school pathways data.

The result of this data prep is a set of reconciled longitudinal data files to serve as several **sequential student cohorts** from preschool to postsecondary, that consistently record the following data per student: their school names, types, and transfers; their age, gender, race/ethnicity, IEPs, ELL status, at-risk direct certifications, homelessness, address changes, test score growth, retentions, absences, suspensions; their participation and achievement in AP, IB, SAT, and CTE programs; their graduation status and year; and their college enrollment, type, and persistence. This is documented in detail, as described below.

Data Documentation or Metadata

With any LDS, a rich data archive such as we have described can generate valid analytics only if important limitations of the underlying data are well documented. As this report makes clear this is very much the case for the District's data. In creating the audit analysis archive, we identify the gaps between current D.C. data and the data needed for robust and valid RPP work. This report described the current data collection and quality gaps, including what specific types of analysis current OSSE data can and cannot support and why. Any research program using D.C. data will be strengthened by this data audit documentation. Specifically, the limitations on the prior student cohorts, teacher data, course data, exit data, etc., are necessary caveats to account for and transparently discuss when conducting research and generating public reports.

In testing and documenting the data stress points, we provide some of the essential metadata recommended as an RPP best practice.¹⁹⁶ We provide data documentation in Appendix A in addition to the detailed discussions here. We provide technical details of the data preparation in Appendix B. We also create a data inventory for the student level files based on our extensive analysis of each data element for each year, highlighting concentrations of missing observations or values in the data inventories of Appendix A.

¹⁹⁶ See the Forum Guide to Metadata, and the Metadata chapter of Geller et al., Education Data Done Right.

Several independent, privately funded, university-based state and district RPPs have detailed the large initial and ongoing investments of time, money, and expertise that are needed to fully prepare and document the large LDS data sources for research use.¹⁹⁷ These analyses highlight the risks to valid research that are posed by unprepared and undocumented data sources. All of these documented investments in data cleaning and preparation are in the context of initially high-quality LDS data that had already also been cleaned, prepped, documented, and used for SEA compliance and research activities—circumstances that clearly do not represent the current state of District data.¹⁹⁸ The District is at a fundamentally different starting point for data use.

These specific research validity concerns and the data process and governance decisions by OSSE that depart from best SLDS practices described earlier constitute the various potential sources of bias that may have been introduced in the decision stages of data element determination or data collection and validation procedures. The analytic briefs examine when and how the research capacity constraints resulting from these poor data governance decisions undermine the potential **validity** and **reliability** of the findings. Similar to the absenteeism analysis in Part 1, the briefs illustrate the research implications of these data limitations including, for example, the atypical data practices regarding school transfers, testing course sequences, and high school dropouts.

The findings in the briefs should alert researchers and practitioners to the potential biased results should researchers assume that OSSE followed the standard best practices relied on by other SEAs. These caveats are important to underline, because it could reasonably be assumed that an absence of standard data practices may merely result in lower data quality overall that could lead to less precise research findings. Yet, as our analyses demonstrate, OSSE's non-standard data practices allow for systematic differences in the data creating not just **imprecise** but also **invalid** results—that is, they will be **biased**. For instance, collecting ADT attendance data without robust data validation processes can make analysis of absenteeism trends or **correlates** less precise, because the measure itself may be less precise. However, OSSE not only lacks a reliable data validation process, but it also allows for multiple definitions of “absent” that vary by sector—which means absenteeism analysis will not just be imprecise but will be biased by sector.¹⁹⁹

Together, this documentation can guide RPP participants as they design and qualify their research, and it also serves as a guide for stakeholders as they interpret the findings. The data validity problems documented here should lead to large changes to the current data systems and governance practices that continue to create this flawed data. This next section maps these underlying data concerns for each of the highly valued analytic data uses reviewed.

197 See these technical papers detailing the development of the [Rice University Houston Education Research Consortium](#), the [Stanford-SFUSD Partnership](#), and the [Brown University RI Innovative Policy Lab](#).

198 For instance, the Houston Independent School District also benefits from the work of the [Texas Education Agency](#) as one of the national leaders in education data and research, accessed July 5, 2020.

199 Note, this bias will also apply to analysis of any other student outcomes, such as test scores, discipline, graduation, college enrollment, etc., if attendance data is included among the attempted controls.

RPP Analytic Data Uses and Best Practices

Examples of and recommendations for archive center RPPs, as compiled in national resource guides by the leading SEA and LEA data representatives, are described throughout this section and the next. The resource guides document the content areas, types of analysis, and methods of delivery most frequently requested by local practitioners and stakeholders.²⁰⁰ We highlight the important role of the data practitioners particularly, as we share the best practices developed by these experts around the country for representing detailed knowledge of the local data and data use needs.

The first set of resources are the Forum and SLDS community guides detailing established best practices and lessons learned for developing the most common types of collaborative analytic data use programs and content. In the subsections that follow, we review the collaborative research initiatives that provide SEAs and LEAs across the country with the major types of important analytic data use that LDS archive RPPs were created to produce.

In the rest of Part 3, we present these research initiatives in order of complexity beginning with the most basic *static* aggregate metrics, followed by descriptive correlations increasing in sophisticated research basis, leading to complex predictive models, and finally policy evaluations, using the following content guides:

- Education Indicators.
- Data Visualizations.
- Local Decision Support.
- Teacher-Student Data.
- High School College and Career Readiness Trackers.
- College Feedback Reports.
- Early Warning Systems.
- Program or Policy Impact Evaluations (IES and ESSA guides).

For each category we describe the applied data analysis valued most in states and districts across the country. We also excerpt some of their examples of research and analysis questions asked by different practitioner and stakeholder groups such as teachers, counselors, administrators, school boards, colleges, workforce boards, legislators, parents, and students.

The second set of Forum and SLDS guides we review are those that detail the components states and districts strongly recommended for building a reliable collaborative research capacity infrastructure. The recommended components are:

- A locally determined research agenda.
- A robust research data request portal.
- Request approval criteria, stewards, and schedule.
- Data inventory and other metadata.
- Research-ready datasets.

200 See the Forum [publications](#) webpage, accessed July 5, 2020.

- Agency data trainings for external researchers.
- Published memorandums of agreement.
- Documented policies for data security and privacy practices.
- Written guidance for research review and dissemination.

These research capacity guides provide state and district illustrations of the practices in place and the lessons learned regarding the need for these investments and include sample resources other jurisdictions could consider adopting.

Education Indicators and Data Visualizations

According to the Forum guides, education indicators and data visualizations²⁰¹ are increasingly combined in state and district analytic data use to provide practitioners and stakeholders with informative and interactive data dashboards for things like state accountability school report cards. As these resource guides discuss, state and district agencies have been adding data analytic capacity internally and through research partnerships, to create many additional online reports and to imbue these with nuanced and actionable insights for continuous improvement, moving beyond simple accountability reporting.

In a *Washington Post* article earlier this year Montgomery County Public Schools Superintendent Jack Smith explained the need for expanding this type of sophisticated and transparent data use as the district introduced a new Equity Accountability Model which includes more disaggregated student subgroups by combining race and ethnicity categories with Free and Reduced Meals (FARMS) eligibility status.²⁰²

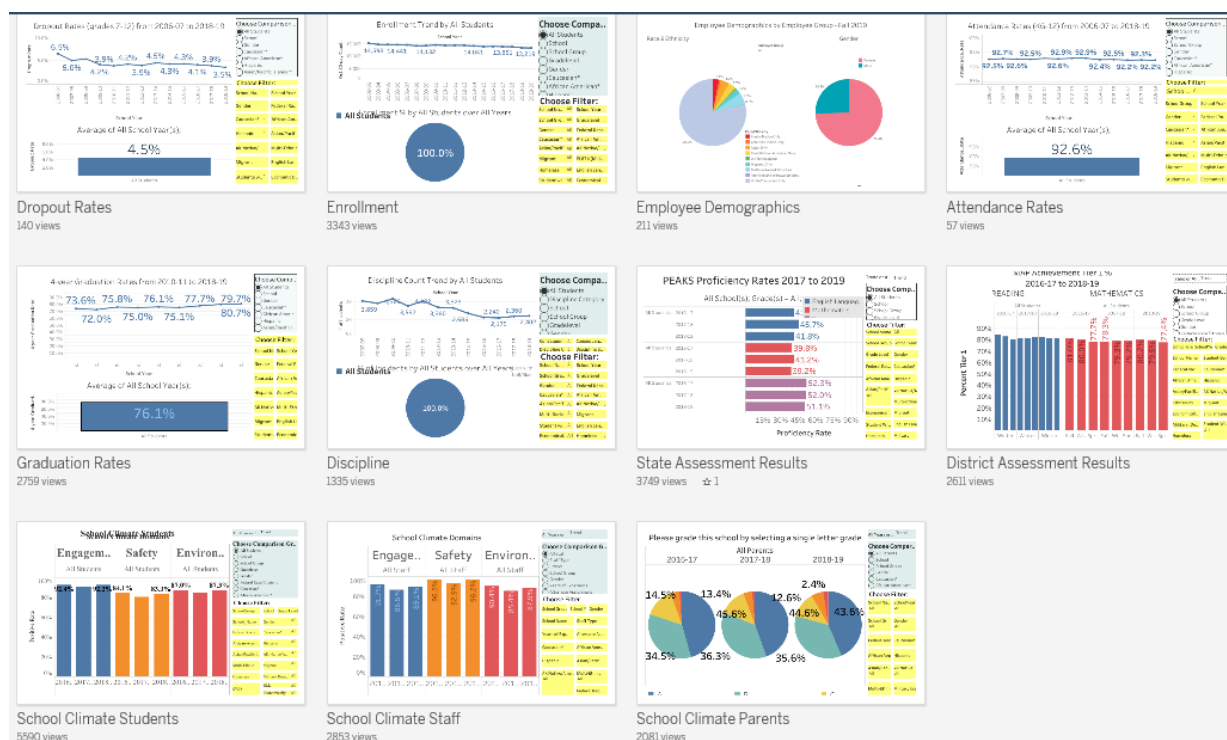
For 50 years, the achievement gap in Montgomery County has grown in the shadows while many of our county's schools and students garnered well-deserved praise and earned awards. Despite efforts by county leaders, the gap continued to grow, overshadowed by aggregated data, which allowed the struggles of some students to be masked behind the outcomes of their peers in one of the nation's largest school districts. This disparity in academic outcomes is a crisis in our community that must be addressed. *If we are committed to ensuring that all students, regardless of background, meet their full potential, we must first shine a bright light into those shadows and disaggregate student outcomes across multiple measures.* Our school system has a long history of high levels of success for many students, but not all. Research shows that the achievement gap disproportionately affects students of color and students affected by poverty. However, it is difficult to act intentionally on behalf of these students when student data is aggregated. For instance, the Maryland Public Schools Report Card is a valuable tool to compare jurisdictions across the state. However, its aggregate approach and single-focused, end-of-year academic measurement tool (the PARCC test) allows school districts neither to understand which subgroups may need additional focus to close the gaps nor act in a timely manner for those students who need immediate intervention and support [emphasis added].

201 Forum, [Guide to Education Indicators](#), May 2005. Forum [Guide to Data Visualization: A Resource for Education Agencies](#), October 2016.

202 *The Washington Post*, Smith, J., [The growing achievement gap in Montgomery County schools must be addressed](#), May 3, 2019. Montgomery County Public Schools [Equity Accountability Model](#), accessed July 5, 2020.

Across the country, there are many examples of this type of actionable data use through interactive public webtools cross-referencing disaggregated data by student experiences and outcomes and across years and schools. Figure 3.1 shows the current eleven data dashboards of the North Star Borough School District in Fairbanks, Alaska.²⁰³ These interactive dashboards cover student enrollment, assessments, attendance, discipline, graduation and dropout rates, employee demographics, and school climate survey results by students, staff, and parents. There is also a real-time class size dashboard tracking the class sizes for each school and course subject relative to the district targets.²⁰⁴

Figure 3.1: Fairbanks North Star Borough School District Data Dashboards



Reporting indicators as interactive visuals is the final stage of the work we are discussing. Vetting and generating the indicators is where we focus here because the disaggregated data tools are only as good as the underlying individual-level data sources. The education indicator guide notes that indicators should be:²⁰⁵

- Useful (i.e., relevant to the issues in question).
- Valid (i.e., measure what they purport to measure).
- Reliable (i.e., produce consistent measures over time).
- Timely (i.e., available in time to inform decision making).

203 Fairbanks North Star Borough School District [data dashboard](#), accessed April 28, 2020.

204 See the Fairbanks North Star Borough School District [data dashboard webpage](#), accessed April 28, 2020.

205 Forum, Education Indicators Guide, 2005, p. 2.

- Cost-effective (i.e., produce information that is valuable enough to justify any collection burden).

The guide stresses that, especially in the case of high-stakes metrics used to judge schools and LEAs, the indicators need to be derived from reliable high-quality underlying data. It describes how data system best practices determine the qualities needed for accurate, actionable education indicators. Specifically, regarding reliability, it states:²⁰⁶

Reliability refers to a measure's consistency, reproducibility, and dependability. In other words, if the same indicator were to be measured multiple times, would the same results be generated? Without consistent measurement methods, results from different organizations or even from within the same organization at different points in time (e.g., longitudinal or time-series data) cannot be compared. Standard or "best practice" collection methods, therefore, are vital to any data/indicator system from which information will be drawn for the purpose of making comparisons (e.g., among groups of students, schools, school districts, states, pedagogical practices, reform strategies, or other entities). Similarly, comparing the progress of an individual or institution against itself over time is pointless without ensuring that the measurement practice itself has not changed (i.e., it is reliable).

As noted in Parts 1 and 2, these best practices to ensure reliable data are not followed by OSSE. Part 1 detailed absenteeism data values that proved invalid. Part 2 described the data systems management and governance processes that add burden and time lags in the LEA data collection and validation stages for what should be straightforward elements. Finally, our analysis and documentation of the steps needed to reconcile conflicting values across the many separate OSSE data tables highlight the risks to reliability that come from the lack of an SLDS warehouse or comparable capacity to maintain a single master data source.

As we mentioned in Part 2, among the capacities OSSE committed it would create with the use of RTT funds for stakeholder data use were public interactive webtools for detailed testing data and a number of typical school-level longitudinal metrics. These included the CAS Explorer, which allowed practitioners to compare by year, sector, LEA, school, and student subgroup, the performance on the CAS math and ELA tests by topic, and in terms of levels and growth. As we illustrate in the analysis of the PARCC test data in the Educational Data Analysis Brief on Longitudinal Testing Data in Part 6, there is no system capacity constraint that precludes OSSE from providing similarly rich tools for PARCC testing data, as stakeholders requested in ESSA planning.²⁰⁷ Beyond test outcomes, OSSE had also created the LearnDC public interactive website from the 2013 school year through 2015, which have since been removed from the OSSE website. Figure 3.2 depicts a screenshot sample from the LearnDC dissemination materials that are still housed on the OSSE website.²⁰⁸ There is also a demonstration of the program by OSSE in the NCES data conferences resources website.²⁰⁹ Currently, OSSE's website only includes the more limited 2013-2017 Equity Reports which replaced LearnDC.

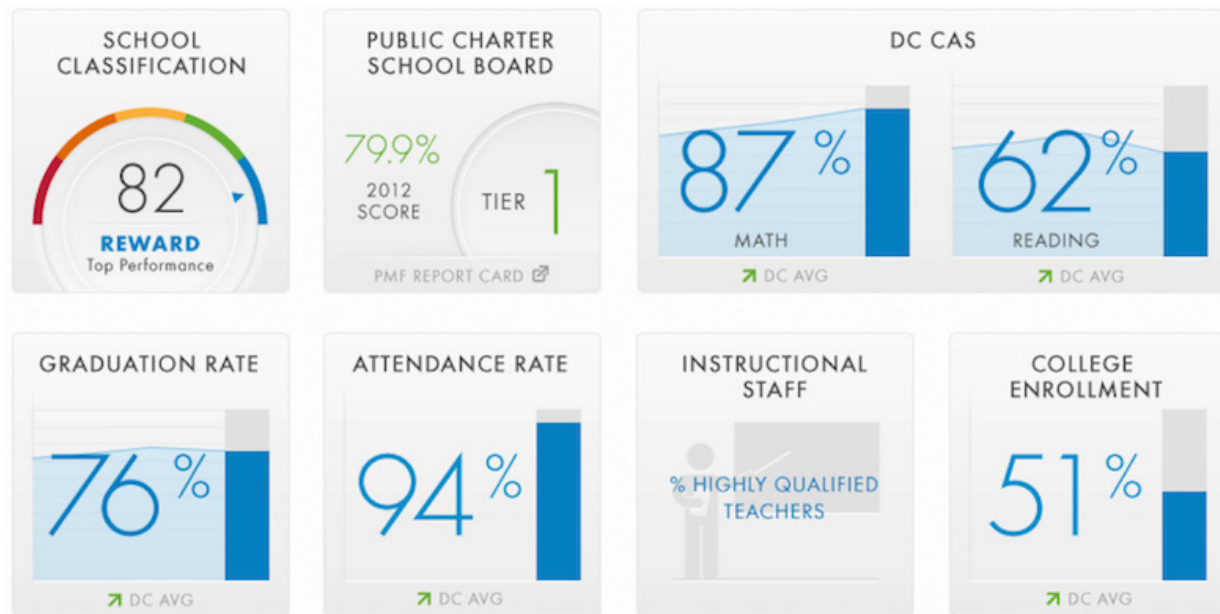
²⁰⁶ Forum, *Education Indicators Guide*, 2005, pp. 7-8.

²⁰⁷ OSSE, *ESSA Plan Feedback*, 2017.

²⁰⁸ See the OSSE [LearnDC School Report Cards and Profiles Screenshots](#) webpage, accessed July 5, 2020.

²⁰⁹ NCES Stats D.C. Data Conference session X-G: [Public Reporting in Action: Making Education Data Accessible and Useful for All](#), Robinson, B., and Given, C., July 2015.

Figure 3.2: OSSE Depiction of the LearnDC Public Interactive Web Tool



We conclude that OSSE had the capacity at the time to stand up dynamic interactive data visualizations of common metrics, including test score growth, highly qualified teachers, and college enrollment. But the agency chose to replace these with static .pdf files of Equity Reports containing fewer metrics. The 2018 STAR report cards did not include college enrollment, and the 2019 report cards did not include D.C.-specific test score growth or report highly qualified teachers for the charter sector schools. These products also are not the interactive webtools that SEAs typically provide. There is currently only a limited “compare” function available on the STAR report card website.

Finally, providing downloadable spreadsheets of the aggregate data in the STAR reports does not allow for others to create similar comparison tools. More typical interactive tools created by state agencies and LEAs are able to use the underlying student data to generate comparison metrics on demand with suppression rules. This capacity allows for more metrics to be compared for more student subgroups than is the case when external organizations attempt to generate similar sites with the aggregates that are already suppressed. This situation does not just provide less information, but biased results, due to the correlations of small student subgroup representation across metrics and schools. For instance, measures of achievement that are found to be higher on average for white students and lower on average for students with disabilities, will not be factored in for schools with small populations of those students. In other jurisdictions, the SEAs partner with the research organizations to create the analytic webtools from the SLDS student and staff data as exemplified by the RI DataHub example below.

Local Decision Support and Teacher-Student Data

The indicators and visualizations described above generally apply to public, aggregate data analytics. Local educators, program offices, counselors, parents, and even students in many states and large districts are also able to access user-defined webtools. These interactive webtools may have individual-

level data or highly disaggregated data that allow users to gain insights from patterns of relationships between characteristics, experiences, assignments, and outcomes, across schools and program areas, and over time. Because these insights require data that span LEAs and years, some of the most valuable user-access tools for decision support serve as a central function of an SEA's SLDS.

The education indicators are also primarily static metrics of things like the percentages of student subgroups enrolled and success rates on various outcomes. But the decision support tools conduct descriptive analyses of the data to help practitioners learn more about the correlations of these values at the individual level, such as each student's own success rate relative to others in their subgroup or program. More specifically, rather than simply reporting the average proficiency rate of 7th grade ELL students, an individual ELL student may be able to see a report comparing their PARCC scores to all ELL students in their district and state and over time.

These tools also add the longitudinal aspect of the individual level data to assess progress, versus simply comparing aggregate subgroup means across years. Examples would be calculating a student's growth in test scores or changes in absenteeism rates across years. The specific set of analyses is also derived from research literature that points to the most important relationships to examine, for instance, guiding teachers and counselors in examining the most relevant elementary or middle grade student outcomes to best prepare them for challenging grade level transitions.

Following are examples from the Forum guide on decision support of common correlational analysis questions asked by research practitioners. The guide also details the standard SLDS elements and practices needed to provide this support, such as the data quality controls, interoperability, and data warehouse functionality:²¹⁰

- Do students who have teachers with degrees in mathematics perform better on math assessments than students whose teachers have degrees in other areas?
- Are all students in the 4th grade progressing at the same rate, or are the students who had a specific 3rd grade teacher doing better than the others?
- Are the students who receive Title I services progressing at the same rate as those who are not receiving those services?
- Are Hispanic students progressing at the same rate as students from other ethnic backgrounds?
- Are students in Supplemental Educational Services (SES) programs showing academic growth on large-scale assessments, improved attendance, or both?
- Does a reduction in staff injuries correlate with a district's staff development activities or other safety measures?
- Are there fewer veteran teachers at lower-performing than at higher-performing schools?
- Do one district's students perform at a higher level than those in other districts with similar demographics and per pupil expenditures?
- Is there a correlation between the amount of school district funds dedicated to early childhood education and student performance?

210 Forum, [Guide to Decision Support Systems: A Resource for Educators](#), December 2006, pp. 3-4.

- Do urban and rural districts have fewer highly qualified teachers than suburban districts?
- Are more minority students passing higher-level algebra courses in middle schools?

Many such questions practitioners ask are designed to help them target and improve instructional supports to the students in their schools or in their LEAs. But questions and answers require a robust SLDS to be maintained by the SEA, with the data quickly shared across schools and LEAs. For instance, educators describe the different instructional supports they would prepare for an incoming student with low reading scores if additional available data also showed the student had been enrolled in several different schools in the preceding years.

These are not data points that a single LEA can provide to its schools; it must rely on the state agency. Yet, unlike other SEAs, OSSE does not adequately track student mobility in a given year, has not recorded each school enrollment record prior to 2016, and does not link all student school enrollment records to testing and other data. Additionally, Part 2 discussed how little student data OSSE shares with the LEAs, and how inconsistent and unreliable those data exchange processes are.

To be clear, data sharing does not mean violating student privacy. SEAs with high quality SLDS are not sharing individual student data with an LEA in which the student is not currently enrolled. The student data LEA and school practitioners access through SEA user-defined sites are current and prior year data for enrolled students. The SEAs do share former student transition outcomes back to the schools as aggregate data in the form of feedback reports. For instance, middle schools receive feedback reports of their former classes' aggregate high school outcome measures, such as subgroup rates for retention, highest math courses, and graduation. The SEAs also share analytic insights with LEA and school practitioners on the progress their formerly enrolled students make as they transition to the next grade levels. These are provided in the form of early warning models that assign probabilities of successful transitions to the current enrolled students based on their test scores, absenteeism, etc., derived from the longitudinal analysis of those students who have transitioned before them. These feedback reports and early warning systems are discussed in the next two sections.

What is also immediately apparent from these examples of decision support analytics for current students is that many of the standard data elements, such as teacher-student links, that OSSE does not compile are in fact essential. Note, also, that these examples were taken from SEAs and LEAs when the guide was written in 2007, just as the SLDS grants began to roll out across the country. Even in 2007 some of these other state systems were already incorporating rich, linked teacher data into their LEA decision support tools. In the first tally of America COMPETES Act data system capabilities conducted by the ED in 2010, 58% of states had created these teacher-student data links, and in the most recent assessment by NCES, as of 2017, 76% of states and territories with SLDS grants had active links.²¹¹ Despite its considerable funding, OSSE had no teacher-student data links.

²¹¹ NCES, SLDS Survey Analysis, 2019, p. 5.

The types of use the guide details, beyond compliance reporting and including research and analysis, are:²¹²

- Educator Access to Student Data to Support Student Learning.
- Targeted Professional Development.
- Educator Preparation Program Feedback and Evaluation.
- Teacher Placement/Allocation Decisions.
- Compliance Reporting.
- Educator Evaluation.
- Teacher Compensation.

Fairfax County Public Schools (FCPS) has recently introduced Premier Workforce metrics under its new Closing the Achievement Gap (CAG) Strategic Plan excerpted below in Figure 3.3.²¹³ The LEA is developing dashboards of these metrics at the classroom, school, division, and board levels, as well as the public community level.

The educator workforce metrics tracked are:

- Percent of FCPS pay scales within 95 to 105 percent compared to market pay.
- Average number of qualified applicants per teaching position.
- Percent of teaching positions filled by July 1.
- FCPS employee retention rates.
- Diversity of qualified teacher applicants compared to the diversity of Fairfax County residents.

212 Forum, [Guide to the Teacher-Student Data Link: A Technical Implementation Resource](#), June 2013, p. 16.

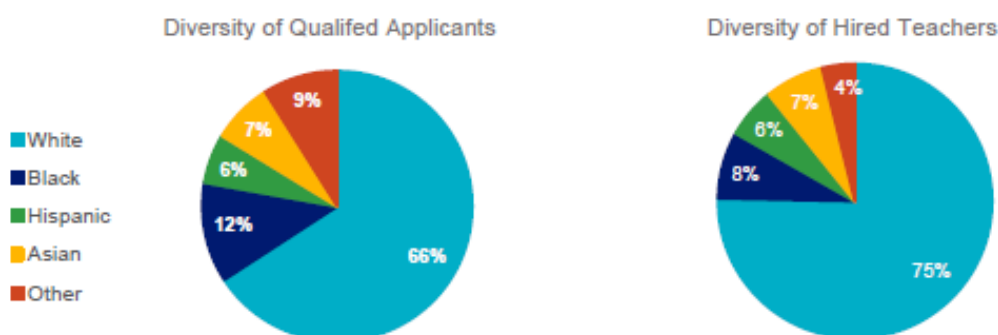
213 Fairfax County Public Schools [Strategic Plan "Success" Metrics, Targets, and Aspirations](#), February 2019, p. 26.

Figure 3.3: Fairfax County Public Schools Teacher Diversity Metrics Tracker

Metric: Diversity of hired teachers compared to the diversity of qualified applicants

	Asian	Black	Hispanic	White	Male	Female
3-Year Baseline	Same as qualified applicants	5 percentage points below qualified applicants	Same as qualified applicants	9 percentage points above qualified applicants	9 percentage points below qualified applicants	10 percentage points above qualified applicants
SYs 18-20 Target	Same as qualified applicants	3 percentage points from SYs 22-24 Aspiration	Same as qualified applicants	6 percentage points from SYs 22-24 Aspiration	6 percentage points from SYs 22-24 Aspiration	7 percentage points from SYs 22-24 Aspiration
SYs 22-24 Aspiration	Same as qualified applicants	Same as qualified applicants	Same as qualified applicants	Same as qualified applicants	Same as qualified applicants	Same as qualified applicants

Data source: Department of Human Resources, Office of Talent and Acquisition Management



The SEA and LEA guides recommend pursuing collaborative research activities on many fronts and connecting these efforts to agency-generated metrics like these. As a case in point, these Fairfax workforce metrics were derived out of a combination of other research and agency efforts including a research study of hiring practices conducted with the FCPS data by George Mason University researchers.²¹⁴ Following these findings, the Minority Student Achievement Oversight Committee (MSAOC) of parents, teachers, and others appointed by the county School Board generated a report and made recommendations that led to the new metrics and a review of hiring practices regarding qualifications and diversity.²¹⁵

By comparison, the District lacks the necessary workforce data to conduct research or track metrics that could similarly inform the public and support practitioners. A recent *Washington Post* analysis of teacher diversity relative to student diversity in each state and D.C. provides a good example of the kind of basic teacher workforce data that is missing in the District.²¹⁶ *The Post* reported on the District of Columbia teacher-to-student diversity measures using race and ethnicity counts of all D.C. students as publicly

214 D'Amico et al., [Where Are All the Black Teachers? Discrimination in the Teacher Labor Market](#). Harvard Educational Review, Spring 2017, pp. 26-49.

215 Fairfax County Public Schools (FCPS) School Board, [Minority Student Achievement Oversight Committee Annual Report](#), June 2019.

216 Meckler, L., and Rabinowitz, K., [America's schools are more diverse than ever. But the teachers are still mostly white](#). Washington Post, December 27, 2019.

reported by OSSE to the federal government, but what was used relied solely on the DCPS teacher race and ethnicity data as a point of comparison since OSSE does not require the charter sector to submit this data. In this case insufficient race and ethnicity data for teachers across LEAs led to an incomplete analysis in the media.

OSSE's current staff and faculty data collections are uniquely and unnecessarily constrained and there appear to be no efforts at the SEA level to create teacher-student links or course links. This precludes not only the workforce decision support that LEAs elsewhere benefit from, but many of the supports they need around student improvement efforts as well. By contrast, SEAs and LEAs across the country collaborate in the development of shared resources and common standards for training educators in the use of the longitudinal student data analytics they make available through user-access sites.²¹⁷

High School College and Career Readiness Trackers and Feedback Reports

For some time, SEAs have been conducting longitudinal student-level data tracking of college preparation course participation and grades; AP and IB participation, testing, and passing scores; SAT scores; dual enrollment; and may include absenteeism and discipline records. These student records are also used for the electronic transcripts that high schools transmit to the colleges to which students apply. Similar to the K-12 decision support described above, many SEAs give user-defined access views to these student tracking data. In this section, we review the Forum college and career readiness tracker best practices guide examples of how these detailed data are used.

The guide lists multiple examples of questions asked and the analyses most typically useful to students, teachers, counselors, school and LEA administrators, SEA administrators, postsecondary administrators, and workforce administrators.²¹⁸

SEAs have been providing online public aggregate data reports and interactive websites, and these also allow users to view breakdowns of the student trajectories through and beyond K-12 by school, subgroup, and years. Figure 3.4 shows the key longitudinal transitions Hawaii reports for students.²¹⁹

217 See the [Forum Guide to Taking Action with Education Data](#), December 2012, and the [SLDS Data Use Standards: Knowledge, Skills, and Professional Behaviors for Effective Data Use](#), July 2015.

218 Forum, [Guide to College and Career Ready Data](#), May 2015, pp. 10-11.

219 Hawaii DXP Dashboards [Transition Metrics and Data Stories](#), accessed April 28, 2020.

Figure 3.4: Hawaii DXP Public Student Longitudinal Transitions

DASHBOARDS

Transition Metrics & Data Stories



The most common of these are the high school feedback reports of the student subgroups in each high school achieving each postsecondary outcome in each year. These are disaggregated data reports of the individual secondary school students linked to their postsecondary data through annual contracts with the NSC and partnerships between SEAs and state postsecondary agencies.²²⁰ The Education Commission of the States (ECS) 2017 50 state comparison of high school feedback reports showed 42 states with current statewide public high school feedback reports of college data.²²¹

As we discussed, and as the ECS report details, these common college outcomes are:

- Initial enrollment, including the time span since high school graduation.
- Persistence (enrollment in subsequent semesters).
- Full- or part-time status.
- 2- or 4-year college.
- Private/public, in-state/out-of-state.
- Remediation, majors, degrees, and graduation (in some cases).

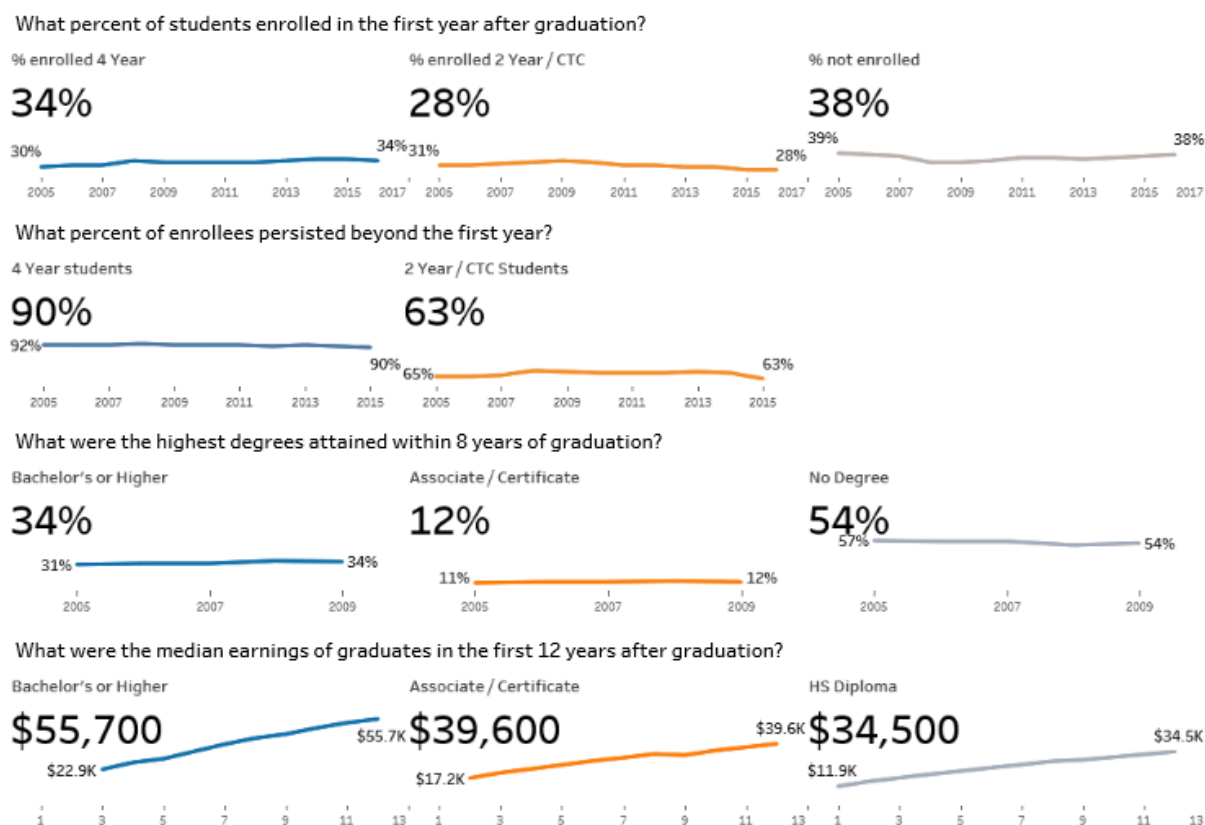
In addition to postsecondary outcomes, many states began adding workforce outcomes to these reports years ago. Fig 3.5 shows the ERDC high school feedback report for Washington state.²²² The data displayed here are for the entire state, but the tool allows users to search by school.

²²⁰ A leading example of these are the [KSTATS feedback reports](#) for Kentucky high school students, mapping data such as mean GPA to college GPA, by high school and student subgroup, accessed April 28, 2020.

²²¹ Education Commission of the States, [50-State Comparison: High School Feedback Reports](#), August 28, 2017

²²² Washington ERDC, [High School Graduate Outcomes](#), accessed April 28, 2020.

Figure 3.5: Washington ERDC High School Feedback Report of College and Workforce Outcomes



As mentioned above, states also go beyond these static public aggregate metrics and provide disaggregate analytics breaking out the results from underlying student-level longitudinal research questions. The Rhode Island (RI) DataHUB (now DataSpark) has been a model for SLDS P-20W+ centers around the country. Researchers and practitioners from multiple sectors collaborate on Data Stories that combine a series of interactive graphs into informative narratives about student longitudinal pathways: from preschool to K-12, and through adult education and postsecondary education, into the workforce.²²³ As we also mentioned, these underlying research studies of the longitudinal student-level trajectories of previous students, using all these same high school experience data and postsecondary and workforce outcome measures, allow states to better inform these high school student tracker tools and the feedback reports with benchmarks for guidance and continuous improvement.

For example, the RI SLDS P-20W+ partnerships generating these RI Data Stories of cross-sector trajectories funded in-depth RPP research studies of student-level trajectories and correlations to college and workforce success. One aspect of the RPP work funded several collaborative studies to address high priority research questions identified by the RI Data Sharing Project's Advisory Council consisting of agency directors, legislators, local foundations, and other stakeholders. These included an analysis of

²²³ See the P-20W+ Data Stories on the [RI DataHub](https://datahub.ri.gov/) website, accessed July 5, 2020.

the factors related to the postsecondary success of all students, especially vulnerable students, including their high school courses, programs, and even school climate. Collaboration on the specific research topics and design included input from high school principals and practitioners in postsecondary, adult education, and workforce programs.²²⁴ The research findings were disseminated within a year directly to the Advisory Council in a public conference and through individual data visualization reports for each high school.²²⁵ The research insights and practitioner input led to feedback reports of college readiness and success measures, including remediation, broken out by FRL status and peer school comparisons of high schools with similar incoming student 8th grade test score means and including school climate measures found to be relevant to post school success.

In another set of examples of statewide, cross-sector applied research on student trajectories, the Virginia Longitudinal Data System (VLDS) funded RPP studies of the impacts of CTE student subsequent postsecondary achievement and workforce outcomes.²²⁶ The studies specifically estimated the impact of advising high school students in CTE programs to enroll in the academic course sequence that led to the state's new "advanced" high school diploma. These courses had been determined from the cross-sector linked data and agency collaborations to correspond to 4-year college enrollment prerequisites. Yet, traditionally, CTE students had not been counseled to take college preparatory classes, such as Algebra II, for example. These studies showed how much these courses contributed to the average CTE student's college and career success measures.

In their federal SLDS grant application for FY12, OSSE proposed to use the funds to build the capacity to answer these types of cross-sector student trajectory research questions:²²⁷

1. What length of time does it take for graduation and completion by program?
2. What percentage of high school graduates end up in developmental classes?
3. What is the transfer rate out of postsecondary to other institutions?
4. What is the transition rate of students who leave postsecondary for the workforce?
5. What is the persistence rate for postsecondary and workforce students?
6. What are the postsecondary and workforce training graduation rates?

Unfortunately, as we discussed in Part 1, even after the end of the FY12 grant in 2017, OSSE had not built this capacity. Further, as we also detailed in Part 1, OSSE still does not:

- Track student longitudinal progress to provide that data for decision support.
- Collect any course data.
- Post high school feedback reports with its NSC data.
- Disaggregate student subgroups with its NSC data.
- Report college outcomes such as persistence or type of enrollment.

224 See the SLDS 2016 Increasing Organizational Capacity webinar slides for a discussion of the Advisory Council, the research agenda, and an illustration of the high school profiles.

225 See the Brookings education research guest blog post: Cratty, D., [When Using Longitudinal Data for Education Research, Three Heads are Better Than One](#), December 7, 2015.

226 Jonas, D., Garland, M., and Yamaguchi, R., [Virginia CTE postsecondary outcomes study](#), and [Virginia CTE workforce outcomes study](#), 2014.

227 OSSE, SLDS FY12 grant application (on the NCES SLDS program website).

- Link any detailed CTE data.
- Link any detailed adult education data.
- Link education data to the District's employment records.

To assess the District's potential to benefit from these types of student trajectory research and data tools, we provide in Part 7 an analysis of the current OSSE data collections to support some of this work. We explain in that analytic brief how we analyze these student trajectories in the context of the data OSSE *does* collect, on retention, PARCC tests, CTE, AP/IB, SAT, graduation year, certificate type, and NSC outcomes. With a thorough understanding of the data limitations, it is still possible to carefully begin some of this work so that District education stakeholders gain a relevant example of the type of data use they should expect, and so that external RPP researchers know any data limitations in advance.

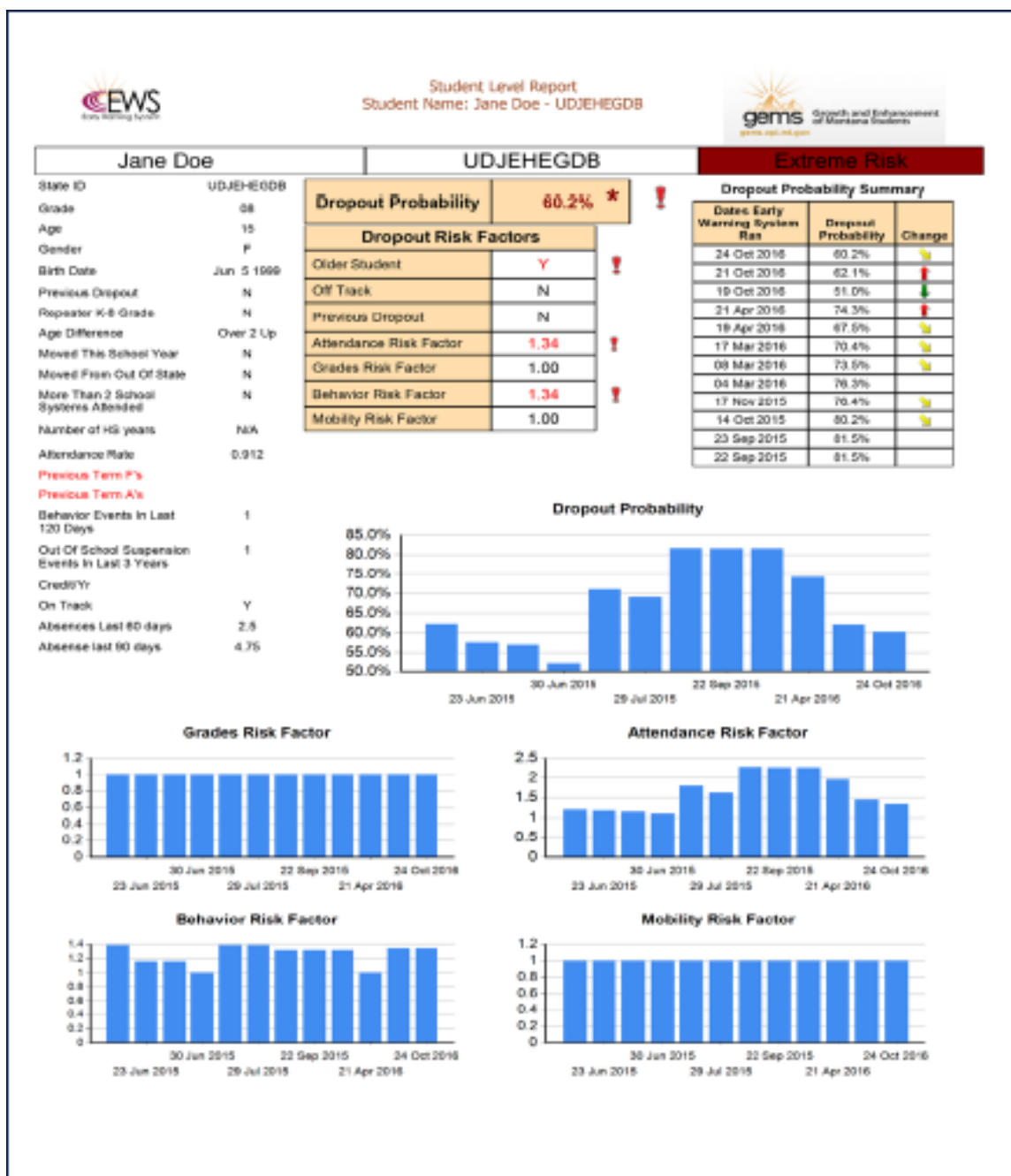
Early Warning Systems

In Part 1 and above, we briefly described the ways states use their complete enrollment and exit data and other complete data of student courses to create early warning systems. These models use previous student cohorts' longitudinal data to estimate relationships between various student experiences and outcomes. These research methods go beyond observed correlations to generate predictions based on all these underlying correlations simultaneously. Then the estimated impact of each experience, course, grade, or behavior, for example, on subsequent outcomes are applied to current student trajectories to generate likelihoods that they will reach specific outcomes. The models are run on current data for these students in time to help redirect them with additional supports.

For instance, how likely is a 9th grade student, on average, to graduate from high school, given their mix of courses, test scores, and absenteeism? These models apply to middle school determinants of successful high school transitions, as well as high school determinants of college and career success. But the most common types of these early warning systems (EWS) are those used for predicting each student's probability of dropping out of high school, or of not being on track to graduate on time. Figure 3.6 illustrates a state EWS dashboard.²²⁸

228 See the 2019 SLDS [At-Risk and Early Intervention Analyses to Inform Instructional Supports](#) webinar slides for the presentation by the Montana SEA and the Bozeman LEA.

Figure 3.6: Montana Detailed Student Risk Factor Report



One of the most widely cited examples of an education RPP's work is the Chicago Consortium's development of these "on track to graduation" predictive models for Chicago Public School (CPS)

students.²²⁹ CPS credits this RPP work with substantially reducing student dropout rates.²³⁰ States and districts have been expanding on these types of models by testing different combinations of potentially contributing factors—both statistically and in practice across the schools and cohorts of students.²³¹

The *Forum Guide to Early Warning Systems* written by many leading SEA and LEA data representatives (including the education agencies for Montana, Bozeman, and Fairbanks, referenced above), details their successes implementing these models in practice and tailoring them to their local contexts. They also provide detailed diagnostics for producing the best statistical models, planning guides for piloting and training local users, and standards for underlying data quality required and the detail recommended to generate robust warning systems. They recommend vetting the data for these systems by considering the following:²³²

- How many years of data will be used?
- Which data are available?
- Are the data recent?
- Are the data timely?
- Are the data collected regularly to support system predictability?
- What is the quality of the data?

As we discussed in Part 1, the data needed for these systems are those standard data elements that most SEAs collect and that we reported in Table 1.1. The Forum EWS guide details those specific data elements under each of these broad categories of student indicators:²³³

- Assessment performance.
- Attendance.
- Behavior.
- Course performance, program performance.
- Mobility.
- Progression.

With this much detailed data recorded every year for each student, these models are able to provide practitioners with actionable information about any given student's propensity to drop out, even early in high school when there is more time to assist. This is illustrated by the SEA and LEA examples in this Forum guide, but we also see them in broader policy research conducted with these state models. For instance, state legislators draw on research for the potential implications of different policies on the propensity to drop out.²³⁴

229 Allensworth, E., and Easton, J., [The On-Track Indicator as a Predictor of High School Graduation](#), 2005.

230 Chicago Public Schools and Mayor announce [New Freshmen-on-Track Data Shows More CPS Students Are Likely to Graduate Than Ever Before](#), August 27, 2017, accessed July 5, 2020.

231 Knowles, J., *Of Needles and Haystacks*, 2015.

232 Forum, [Guide to Early Warning Systems](#), November 2018, p. 10.

233 Forum, [Early Warning Systems](#), November 2018, p. 9.

234 For example, the North Carolina General Assembly drew on relevant findings from Cratty, D., Potential for Significant Reductions in Dropout Rates: Analysis of an Entire 3rd Grade State Cohort, to understand the level of additional instructional supports needed to mitigate the impact, on dropping out, of 3rd grade retention requirements for students testing below reading proficiency.

In addition to these research publications and best practices resources, local practitioners at national conferences, including teachers, counselors, and administrators, describe the benefits their students derive from these models. The examples include using these models to better target state dropout prevention program assignments to students demonstrating high propensities through their test scores, absenteeism, and course grades. Previously, these practitioners explained, they were enrolling Black and Hispanic students disproportionately into remediation programs, based on the aggregate data showing higher average dropout rates for these subgroups. Yet, these models have found that students who are on track to graduate but placed in a less challenging curriculum demonstrate a higher likelihood of dropping out. Just as surveys and qualitative studies confirm, student engagement is a key determinant of high school success. In other examples, practitioners said the models helped them identify females with high statistical likelihoods of dropping out, where previously they focused on male students, since that category reported higher average dropout rates.

These systems have become one of the most widely implemented tools for practitioners across the country. As we noted in Part 1, this was related to the increased federal funding for these models, including the FY12 SLDS grant OSSE was awarded for its application to create an early warning system, as well as college feedback reports and workforce data linkages. Unfortunately, the District has not created such a system in spite of 2012 Council legislation authorizing this precise approach.²³⁵ Also, as we noted in Part 1, OSSE does not collect some of the needed data, such as the student course records, that were also included in the funding requirements and committed to by OSSE. In addition, OSSE has established questionable processes for collecting some of the other elements, for instance, under the attendance and behavior categories. Though, as with the college and career trajectory and feedback analysis, we also outline in Part 7's Educational Data Analysis Brief on High School Pathways, the potential early warning predictive modelling that could be done with current OSSE data factoring in the important data caveats we detail there.

Program or Policy Impact Evaluations

Finally, beyond the simpler correlational analysis facilitated by the SEA and LEA analytic data use activities described above, and often in connection to these, policymakers and practitioners need sophisticated statistical causal analysis to evaluate policies and practices. These are most often done in grant partnerships or as contracts, with external methodological expert research teams. The best practices governing this analytic data use are covered in the Forum and SLDS grantee community resource guides for providing data access to external researchers. These best practices include the work within the agency to ensure high quality, timely, well-documented, secure data. But these also extend to the expectations states and districts can put in place for the use of the data and the dissemination of the findings to ensure they are secure, relevant, timely, accurate, and accessible to practitioners and stakeholders.²³⁶

²³⁵ D.C. Law L19-142. [Raising the Expectations for Education Outcomes Omnibus Act of 2012](#), effective June 19, 2012.

²³⁶ For education agency recommendations on establishing expectations for external researchers, see the following resources: the Descriptive Statistics chapter of *Education Data Done Right*, the 2015 IES Guide to Using State Longitudinal Data for Applied Research, and the 2014 *Bridging the Data Divide* study by UVA and VCU study.

The need for these evaluations has expanded for states with the additional evidence-based requirements in ESSA. Uses of some federal funding, such as Title II class size reduction, must now be supported by an evidence base.²³⁷ At the same time, ESSA has also expanded the types of data analytics that states and districts can use to provide this evidence base. Beyond Randomized Control Trials (RCTs), and quasi-experimental methods that approximate RCTs, such as lotteries, there is now an allowance for correlational evidence under the new Tier 3.²³⁸ These Tier 3 correlational models rely more on the high coverage and quality of observable data, and less on statistical model assumptions about unobservable data.

States and districts with robust RPPs and other reliable sources of data analysis, now have even more control over how they use federal dollars by partnering with external researchers for experimental studies or conducting rigorous correlational studies with rich SLDS data. For instance, having the data and RPP capacity to conduct their own class size studies can help states demonstrate the benefits of smaller classes and thereby continue to allot Title II funds to LEAs for these efforts. Without that capacity, states and LEAs may be severely limited in the use of those funds, given the absence of any national experimental research evidence of class size reduction benefits beyond 3rd and 4th grades. However, as we noted in Part 1, the District does not even measure class size, let alone research its impacts, and it cannot do so as long as OSSE does not link students to teachers or courses.

This additional control over federal funding extends to education programs outside of the Elementary and Secondary Education Act (ESEA) funding for K-12 covered in ESSA. This SLDS data-driven evidence base allowance is also included and encouraged in recent Carl D. Perkins Vocational and Technical Education Act funding of CTE programs, Workforce Innovation and Opportunity Act (WIOA) funding of adult education programs, and others, such as GEAR-UP, TRIO, etc. But these too rely on high quality data, such as detailed participation and outcomes data for adult education and CTE students that OSSE does not currently collect or link to the other relevant student data files.

An example of these P-20W impact evaluations is a Rhode Island RPP study of the impact of adult education programs on workforce outcomes of high school dropouts which used a propensity score matching (PSM) method to compare dropouts who had enrolled in the programs to dropouts who had not enrolled but had similar high school characteristics. The study quantified for state policymakers and federal grant monitors the significant returns to adult education investments, which led to higher wages for students without high school diplomas.²³⁹

The District certainly does not have the necessary SEA in-house research capacity to conduct such robust correlational studies, and OSSE provides very little data access to external researchers to conduct these or experimental evaluations. In their federal SLDS grant application for the most recent round of the FY19 funding, OSSE claimed to have met the grant's Partnerships with Research Community requirements, stating: "Currently, there are more than 100 data sharing agreements in place with external partners, including researchers."²⁴⁰

237 American Youth Policy Forum webinar: [ESSA and Research Evidence: Opportunities and Challenges for States](#), March 7, 2017.

238 REL Midwest, [ESSA Tiers of Evidence: What You Need to Know](#), 2019.

239 Reder, S et al., [The Economic and Social Impact of Adult Education Programs in Rhode Island](#), awarded research grant abstract, 2016.

240 OSSE SLDS FY19 grant application reviewed for the data audit.

Our data audit reviewed the requested documentation from OSSE detailing all data requests, approval criteria, approval decisions, and resulting MOAs. While there are currently 102 MOAs OSSE refers to, fewer than 10 of these are research requests and the vast majority are with other D.C. agencies or LEAs.²⁴¹ The few research MOAs are also primarily for health data, such as child health and Youth Risk Behavior Survey (YRBS) data.²⁴²

This is part of a documented pattern of OSSE not following through on its previous claims to be developing research partnerships. In the District's 2010 Race to the Top application which resulted in a \$75 million award, OSSE committed to creating a research agenda, working on research partnerships, and developing research-ready datasets. As the annual performance reports from the ED and this report make clear, these did not come to fruition.

Research Infrastructure Best Practices

Best practices for achieving high quality RPP results rely on standard best practices for good data governance, transparency, and genuine stakeholder engagement, as well as good data. This last set of RPP best practice resources pertain to the structures states and districts have created to ensure responsible data use by researchers that results in valid, timely, accessible, and applicable research findings. The LEA Forum guide to supporting data access for research lists the following “tangible benefits to education agencies” of actively engaging in these research activities:²⁴³

- Helping to fulfill an LEA's information needs and research priorities as listed in the research agenda.
- Supporting educators and policymakers in data-driven and research-based decision making, including instructional and management choices that directly affect the quality of teaching and learning.
- Providing access to experts who can design programs that include more robust analytical studies (e.g., with pre- and post-tests, pilots, and control and treatment groups).
- Supplementing an agency's research capacity and/or building the research skills of staff who will work alongside members of the research community while reviewing and servicing data access requests.
- Gaining actionable insight that can improve student learning.
- Increasing the knowledge of the education community at large.

What does it mean to actively participate? The SLDS RPP guide describes these four main steps to producing good collaborative applied research:²⁴⁴

- Framing the research agenda.
- Determining the data sharing arrangements.
- Specifying the research and data deliverables.
- Building in sustainability.

241 OSSE documentation of data requests approved and denied, and current MOAs, were reviewed for the data audit.

242 The only District-wide K-12 student administrative data request approved was for the Stanford Center for Research on Education Outcomes (CREDO) analysis of charter sector relative to traditional public schools.

243 Forum, [Guide to Supporting Data Access for Researchers: A Local Education Agency Perspective](#), 2014, p. 3.

244 SLDS, Data Use Issue Brief 2: Forming Research Partnerships with State and Local Education Agencies, Table 1.

There are a number of Forum and SLDS best practice guides for determining researcher data access, including sample research request forms, MOU templates, and FERPA training.²⁴⁵ Several individual states also have shared with the SLDS community their guides for researchers on the types of research deliverables that are best suited for practitioner audiences.²⁴⁶ The SLDS Program guides also share best practices on building sustainable RPP programs that provide direct value to practitioners and stakeholders and help build agency analytic capacity. These best practice guides demonstrate excellent approaches to creating and maintaining a transparent and representative research agenda setting process. There are also many published state research agendas that states draw on to develop and update their own documents.²⁴⁷ It is important to ensure all relevant stakeholders are able to weigh in on local research priorities. It is also very important to get the input from practitioners on education contexts, from agency data staff on potential limitations, and from researchers on the appropriate framing for study methods as discussed above.

For the remainder of this section, we focus on the best practices regarding communicating essential information to researchers about the state of the data itself. In addition to communicating clearly in framing the research agenda, valid research relies on the correct interpretation of each of the underlying data collections. These best practice guides recommend processes for iterative documentation exchanges between those conducting the research and the most knowledgeable agency data staff.²⁴⁸ The guides detail recommendations for the different methods of conveying this information—the metadata, including data inventories and documented caveats, and researcher training—as well as recommend data documentation researchers should be asked to provide back to the agencies.

The LEA Forum research support guide lists reasons for helping researchers understand the data (a Core Practice) as:²⁴⁹

- Researchers may help the LEA advance its own research agenda.
- Researchers may not use the same terms, standards, and formats as the LEA unless they have been trained to do so. Trained researchers are more likely to use data appropriately.
- Transparency reduces errors arising from incorrect understanding of the data (e.g., researchers unaware that subgroup coding changed at some point within a longitudinal dataset).
- Transparency promotes clarity, collaboration, and efficiency by both partners.

Here is how the guide defines metadata and caveats and recommends providing both:²⁵⁰

Metadata

245 See the SLDS technical assistance communities of practice website for the [Research Toolkits](#) for developing researcher request and fulfillment processes and statewide research agendas, accessed July 5, 2020.

246 See for example, ERDC, [Research Writing Guide for Policy and Decision Makers in Washington](#), 2017.

247 See Witt, A., and Brewer, J., [State Longitudinal Data System \(SLDS\) Research Agendas: National Context and Instructive Models](#). Update on Research and Leadership, Fall 2013, pp. 13-16.

248 In addition to the SLDS Data Use Issue Brief #2, see also Brief #3: [Turning Administrative Data into Research-Ready Longitudinal Datasets](#), and Brief #4: [Techniques for Analyzing Longitudinal Administrative Data](#).

249 Forum, LEA Research Support Guide, 2014, p. 12.

250 Forum, LEA Research Support Guide, 2014, pp. 16 and 9.

Metadata, or “data about data,” are a key tool for explaining education data to external researchers. Metadata include definitions of data elements, coding options, and file layouts, as well as other characteristics of the data, such as usage guidance and business rules for accurate collection and reporting. Metadata are invaluable to stakeholders who need to use and apply data. For example, if a data element’s definition was changed in 2008, data users would benefit from knowing the nature of the change before attempting to compare data from 2005–2010. By accessing the metadata in an agency’s data dictionary.

Caveats

When reviewing requests to access existing data, LEAs should also look for discrepancies between available data and the data the researcher needs to answer the research question(s). Similarly, it is important to make sure that researchers are aware of any known limitations of a dataset. Typical considerations include collection dates, definitions, code sets, and business rules. For example, federal race and ethnicity reporting requirements have changed over time. Therefore, best practices suggest that LEA staff explain to researchers the significance of this change in collection practices on the comparability of the data over time (i.e., before and after the change was implemented), and then verify the researcher’s understanding of the limitation. Providing access to metadata can help to ensure that researchers are aware of these types of limitations to data use.

As we detailed in Part 1, OSSE has not generated metadata, such as data inventories or dictionaries. In the federal FY19 SLDS grant application, OSSE’s first proposed outcome was to create a data inventory. As discussed earlier, our data audit has created a basic data inventory that is included in Appendix A. Yet, as we also explained, there was much more data documentation we needed to create for potential researchers to understand the limitations and caveats of OSSE’s atypical SEA data practices. These are detailed throughout the report and in Appendix B as well.

There are three existing types of data documentation by OSSE that would theoretically be used with researchers as these guides recommend. These are OSSE’s annual guides to LEAs describing the collections processes, their technical appendices accompanying reported aggregate metrics (for STAR, etc.), and the historical caveats document they provided for this audit. We have discussed each in detail in previous parts of this report. They are unreliable metadata sources for researchers in that they provide incomplete content, they contradict each other and vary across and within years, and they do not accurately reflect important findings from our analysis of the data itself.

For the improvement plan in Part 4, we list the three types of materials that should be created to supplement any efforts to produce research findings with OSSE data files. For the researchers accessing the data, there should be detailed caveats provided by OSSE to the researchers regarding the underlying data. For public stakeholders, the researchers and OSSE should be required to provide several important details of the assumptions and decisions made about the underlying data when constructing the analytic datasets and determining the methodology. For instance, decisions should be documented regarding which student enrollment records were included and which were not, as well as which of the multiple schools students enroll in through the school year the student data are attributed to. We detail these recommendations further in Part 4.

Conclusion

We have illustrated that robust guidelines for high quality data use exist and are easily accessible via SLDS Forum guides and the communities of practice resources. Further, we showed the many ways that other states and districts have engaged in data use to provide high quality analysis to their many education data stakeholders in ways that are not currently provided in the District. Finally, we articulated the gap between these best practices and the education data use landscape in D.C.

All three sections of this report combine to show the critical role a state education agency must play in responsible data collection, maintenance, and use. These responsibilities are unique to SEAs and should neither be abdicated nor partially fulfilled by outside entities. Notably, producing highly complex research on policy or program impacts is not an essential requirement of an SEA. However, multiple SEAs that have created a solid foundation of data collection, maintenance, and administrative use do contribute significantly to the research landscape and play a valued role in this arena. What is critical is that the District build and sustain a public education data foundation that allows for both researchers and the SEA to engage in complex research or, at minimum, allows multiple outside researchers and stakeholders to conduct such work.

The following quote from the Forum SEA Guide to Supporting Data Access for Researchers articulates the dynamic relationship between the responsibilities of SEAs and the role for research in the state:²⁵¹

The significance of SEA collaboration with the research community has increased dramatically with the advent of statewide longitudinal data systems (SLDS) currently under development in many education agencies. These systems improve the ability of states to efficiently and accurately manage, analyze, share, and use education data, which, in turn, fuels research focused on closing achievement gaps and improving achievement throughout a student's entire education experience. This expansion of education data systems serves as a foundation for research and evidence-based action in an education system that is becoming more broadly defined to include early childhood, K-12, and postsecondary institutions, as well as workforce preparation and performance.

Further, the Guide also explicitly says that data sharing and use is a core responsibility of the SEA:²⁵²

Data are an integral component of our education system. As such, most state education agencies (SEAs) view responding to requests for data as a major responsibility to their stakeholders. People use data to assess student achievement, allocate resources, and evaluate the effectiveness of instruction, curricula, schools, and staff. Much of this analysis is conducted by education researchers, who often have advanced training in research and evaluation, statistics, and related methodologies. Sometimes other stakeholders, such as community members, advocacy organizations, and public interest groups, also engage in education research.

In Part 4, we provide an improvement plan that articulates how the District can move forward and build

²⁵¹ Forum, [Guide to Supporting Data Access for Researchers: A State Education Agency Perspective](#), 2012, p.1.

²⁵² Forum, [SEA Research Support Guide](#), 2012, p.1.

the needed foundation for responsible data use. As described in these Forum guides on data use, states and researchers use data to improve the educational experience. Arguably, a critical understanding across states that have invested in robust data systems and use is that at its core, data cannot be separated from the students and staff they represent and serve. Therefore, the motivation for the following comprehensive plan is to both to address the deficiencies outlined in this audit and, importantly, to connect the value and care of each data point back to actual students, schools, and staff in the District.

Summary of Part 3 Findings

- District practitioners and stakeholders continually seek from OSSE the same highly valued analytic SLDS data use that other SEAs provide.
- Common reliable analytic data capacities are missing in D.C.
- Both types of LDS data archive RPPs that could benefit D.C. and those that align with the D.C. RPP Bill and NOI require a SLDS research data infrastructure that OSSE lacks.
- This audit has created two major pieces of that infrastructure-- a District-wide, longitudinal audit analysis data archive, and a data inventory with detailed data quality caveats.
- OSSE's early LearnDC interactive, District-wide, longitudinal website resources were the type of high-quality education indicators and data visualizations sought by practitioners, parents and others but were replaced with limited and static Equity Report pdfs and still more limited cross-sectional STAR report cards.
- State SEAs provide valuable local decision support to LEA and school practitioners that OSSE is not able or willing to provide today, including not only creating the analytic tools and preparing the student data, but also collecting all of the essential student longitudinal data linking to teachers and courses.
- Valuable high school to college and career readiness trackers and postsecondary feedback reports and analysis are possible for OSSE to provide based on the longitudinal K-12 data it collects and linked postsecondary data it receives from NSC, but OSSE does not provide these.
- Early warning systems used to target supports to students at risk of dropping out of high school were required of OSSE in federal grant applications but not produced, and the current data could support a simple version of those now, but OSSE has no apparent plans to meet the need.
- There are few policy and program impact evaluations conducted by OSSE or supported by OSSE through research data access and preparation, and the necessity of these for federal grants to SEAs and LEAs has been growing as SLDS data and methods have grown to support this work.
- Facilitation of data access and understanding for external researchers is essential to gain research insights from original studies and to replicate studies to avoid the risk of spurious inferences, yet OSSE has not attempted to support this work, despite committing to do so in prior funding commitments.

Part 4

Comprehensive Improvement Plan

As noted in the Introduction, the Educational Technical Assistance Act of 2002²⁵³ authorized a new federal grant program to build State Longitudinal Data Systems (SLDS) in the form of cooperative, competitive multi-year grants of up to \$20 million per grantee. The U.S. Department of Education (ED) explained: “Better decisions require better information” and “This principle lies at the heart of the Statewide Longitudinal Data Systems Grant Program²⁵⁴.” The first round of grants was announced in 2005. The District received its first SLDS grant in the second round of awards, a total of \$5.74 million in June 2007. The District received its second SLDS grant for \$4 million in May 2012.

The abstract for the District’s first grant acknowledged the need for “a unified system that houses comprehensive and accurate data” without which “we risk duplication and gaps in services, non-compliance with federal and local regulations and grant agreements, and a general lack of strategic decision-making.” It listed the short-term goals for a student data system to “effectively track student movement within and across the 56 LEAs in the District of Columbia and to link student achievement outcomes to particular schools, teachers, and programs.”

While seeking the federal grant, the Fenty Administration also proposed District funding to create a longitudinal educational data warehouse. Testifying on the administration’s proposed FY2008 budget City Administrator Dan Tangherlini said the warehouse was to “enhance data-driven decision making and to more effectively direct education resources.” He also said:

Beyond the important but basic issue of tracking student movement, there is an unmet need to collect and analyze data to determine program effectiveness and student achievement....This provision allows us as a city to get beyond the silos of information in our educational institutions – DCPS, public charter schools, the University of the District of Columbia and other publicly funded education providers – by requiring the sharing of data submitted in a suitable format for trend reporting and analysis. This represents a sea change in how these institutions operate in relationship with each other and to the SEO [State Education Office, now OSSE] We envision a much more transparent and accessible system of information on and about our schools, students, and teachers.

The Fiscal Year (FY) 2008 budget included \$3 million in District capital funds and a total of \$19 million over five years for OSSE to create the educational data warehouse. Legislation expressly authorized OSSE to request data directly from public schools and public charter schools and required schools to respond timely and in format as requested by OSSE. The same legislation that mandated that OSSE create an education data warehouse also amended the Congressionally approved School Reform Act section on charter

253 [Pub. L. 107–279, title II](#). Codified at 20 U.S.C. § 9601 *et seq.*

254 https://nces.ed.gov/programs/slids/about_SLDS.asp.

school responsibilities to include “participation in the education data warehouse” by providing data upon request to the state education agency.²⁵⁵

The American Recovery and Reinvestment Act of 2009²⁵⁶ (ARRA) approved in the wake of the Great Recession provided the largest source of funding for SLDS grants and established a set of required data elements and capacities as conditions for continued funding. The ARRA included Race to the Top (RTT) competitive grants, and the District received \$75 million to improve education. While the District’s RTT application explicitly states that the District did not intend to use these funds to build or implement an SLDS, and would instead use SLDS grant funds for that purpose, the application does commit to completing a fully implemented statewide longitudinal data system.

Despite failing to meet deliverables for the first SLDS grant, the U.S. Department of Education (ED) awarded the District a second 2013-2017 grant with the project title, “District of Columbia Postsecondary and Workforce (P-20W) System” which envisioned linking P-12 educational outcomes to postsecondary and workforce institutions.

And in 2016, following publication of the National Research Council report on the District schools, the D.C. Council increased its investment in OSSE’s data capabilities with \$1.1 million in new operating funds and \$11.9 million in new capital funding.²⁵⁷

Major outcomes promised with the first SLDS grant were data policies to ensure use and portability of unique student identifiers; the ability to track mobility, truancy, and improve resource allocation across all LEAs; the ability to conduct longitudinal analysis and to “begin critical linkages to align Pk-12 data postsecondary education.”

None of these capabilities exist today.

From 2007 forward, District leaders have articulated their commitment to the accountability, transparency and data-driven decision making represented by a Student Longitudinal Data System. What is needed today is a clear restatement of that commitment on the part of the District’s elected officials and education leaders, an acceptance of shared responsibility for the failure to deliver on the earlier promises, and an unwavering focus on meeting the commitment now. Embedding that commitment in D.C. Code as a mandate for the Office of the State Superintendent of Education (OSSE) offers at least the hope of securing action where action has been absent to date.

We recommend that the District of Columbia embark on the following critical, simultaneous, and integrated steps.

We recommend that the Mayor direct OSSE to take immediate action to:

1. Review compliance with federal and District law on data collection and reporting with specific attention to data collections on discipline and attendance related to the federal Individuals

255 Title IV, Subtitle D of the Fiscal Year 2008 Budget Support Act of 2007, Law L17-0020, effective from September 18, 2007. Codified at D.C. Code § 38-1802.04(c)(19).

256 Pub.L. 111-5.

257 [FY 2017 Proposed Budget and Financial Plan](#), June 2016, p. 183.

with Disabilities Education Act²⁵⁸, the District’s Student Fair Access to School Act²⁵⁹, the School Attendance Clarification Amendment Act²⁶⁰, and issue a data privacy policy to ensure compliance with the Family Educational Right to Privacy Act.²⁶¹

2. Create and implement a best-practices quality control process to ensure that all data integrity issues identified in this report are quickly addressed.
3. Insert clear explanations of data limitations in current state education reports to provide full transparency until data integrity can be assured.

We recommend that the D.C. Council enact, and the Mayor implement legislation to:

4. Build an SLDS that meets federal requirements and best practices for data elements and system capacities as outlined in this report.
5. Require data governance policies and stakeholder engagement practices to help ensure the SLDS is successful and sustainable.
6. Provide for regular monitoring and reports on each step to ensure success.

We recommend that the D.C. Council move quickly to enact this comprehensive data system and data integrity legislation. Further, we recommend that the Council use its oversight as well as legislative authority through performance and budget hearings to secure adequate monitoring and transparency in this work.

Comply with Federal and District Education Data Reporting Requirements

D.C. Code includes a definition of chronic absenteeism²⁶² and requires that OSSE report on student absenteeism in an annual attendance publication.²⁶³ The two absenteeism metrics that are currently recorded for many PCS schools mean that it is not possible to create an accurate and valid chronic absenteeism metric as required by District law. In addition, D.C. Code requires reporting in-school and out-of-school suspensions to OSSE.²⁶⁴

As discussed earlier in the report, the U.S. Office for Civil Rights also requires all LEAs to report discipline incidents as part of the Civil Rights Data Collection (CRDC) every other year.²⁶⁵ The most recent publicly available discipline data for the District from CRDC, in 2016, differ substantially from the data that the PCSB has reported to OSSE for the same metrics. This discrepancy highlights an area in which the District’s state education agency’s data quality likely affects local or federal reporting requirements, depending on which collection is accurate. Importantly, this raises a broader concern regarding the quality and sufficiency of District discipline reporting.

258 Pub.L. 101-476.

259 Law L22-0157, effective from August 25, 2018.

260 Law L21-0140, effective from July 26, 2016.

261 Notably, after the completion of this audit, OSSE released a data privacy policy in November 2020.

262 D.C. Code § 38-201(1A)

263 D.C. Code § 38-203 (k)

264 D.C. Code § 38-236.09(a)(2).

265 [Forum Guide to Reporting Civil Rights Data](#), January 2018.

In the specific case of in-school suspension, OSSE's collection requirements are insufficient to meet District and federal reporting requirements as OSSE currently does not have a complete in-school suspension data collection and therefore cannot meet the requirements.

In addition, the federal Individuals with Disabilities Education Act²⁶⁶ requires each state to develop a state performance plan every six years and provide a performance report annually, including information on discipline as it affects students with disabilities.²⁶⁷ This reporting again requires a specific collection of in-school suspension data to meet federal requirements.

Finally, a related issue is the ongoing risk that the District will be found to be out of compliance with requirements of the federal Family Educational Rights and Privacy Act²⁶⁸ (FERPA) by publishing protected individual student data or permitting contractors or independent boards to publish such information, based at least in part on the absence of a District data privacy policy.²⁶⁹

Attendance Data Collection

To meet current attendance reporting requirements OSSE should cease permitting the following two values to differ from one another in the attendance collections: "Total Days Absent," and "Days Not Present." This discrepancy impacts the District's ability to accurately and validly report on chronic absenteeism. To resolve this problem, we recommend that OSSE immediately collect through the ADT all the currently required data elements in their Attendance Template.²⁷⁰ OSSE should also require that LEAs record these data elements regularly and commonly by issuing a guidance document on attendance data collections to clarify the common definitions and requirements for all publicly-funded schools. This common guidance should also aid in determining the extent to which the extremely high chronic absenteeism rates for DCPS high schools are valid or are caused by a reporting issue unique to how DCPS determines absenteeism in high school.

Discipline Data Collection

To address the current discrepancies in local and federal discipline reporting and adequately collect all required elements including in school suspensions, we recommend that OSSE actually collect all the discipline data that OSSE publications indicate that they require and do so immediately via the ADT. This would include all in-school and all out-of-school days suspended. Further, if OSSE continues to collect these elements via certified lists rather than through the ADT, we recommend collecting the lists directly from LEAs rather than from a third party to help ensure validity.

²⁶⁶ Pub.L. 101-476.

²⁶⁷ [\(20 U.S.C. 1416 \(a\)\(3\)\(A\)\)](#)

²⁶⁸ Pub.L. 93-380. Codified at 20 U.S.C. § 1232g; 34 CFR Part 99.

²⁶⁹ Notably, after the completion of this audit, OSSE released a data privacy policy in November 2020.

²⁷⁰ OSSE, 2017-18 School Year LEA Data Collection Template, Excel workbook file accessed July 4, 2020 (by searching "attendance data template 2017-18 on the OSSE website).

Develop and Implement a Data Privacy Policy

Throughout this audit ODCA has urged OSSE to develop and provide a privacy policy to guide reporting on education data in the District. Currently, agencies, schools, LEAs, advocacy organizations, and researchers are left without written guidance from their state education agency on how to balance transparency and privacy in all communication. There have been instances in which reporting has led to the inadvertent release of potentially identifiable individual data and very small cell counts of student data, including by OSSE. We include in governance recommendations further below a list of data policies to be developed, including a policy on privacy and confidentiality.

Implement Internal Quality Controls to Remedy All Current Data Integrity Issues

Our review demonstrates that immediate action is needed to fix the critical data integrity issues identified across these four additional collections not covered above:

- Student Enrollment Data.
- Course Data.
- Faculty and Staff Data.
- College Enrollment Data.

For the first of these collections on student enrollment, there are two issues that OSSE should quickly resolve to ensure data integrity in the enrollment collection. First, the data elements of exit dates and codes need to be required in real time from all LEAs throughout the school year, including end of year exit date and codes as already stated in OSSE's existing guidance. As described in Part 1, exit codes are fundamental for an accurate understanding of where students are enrolled at any given point in time, arguably the most foundational of all state agency responsibilities. This collection simply needs enforcement and does not require a committee as we recommend further below for the three remaining problem collections.

In addition, all non-high school diploma granting, adult or alternative education enrollments should be explicitly identified in the enrollment data collection as enrollments in non-diploma granting programs or schools to ensure accurate data collection, use, and reporting.

The third Traveling Through Time book, *Effectively Managing LDS Data*, outlines a quality control process²⁷¹ to follow as soon as any critical data issue is identified. We recommend that OSSE be directed to adopt and use this process as soon as possible for the course, faculty and staff, and college enrollment data collections. While the process below provides a clear roadmap for addressing and fixing immediate data concerns, the Council also may want to include in the legislative package a requirement for OSSE to implement internal controls and document them as soon as errors are noted.

We provide below the steps recommended to address critical data issues as outlined in, *Traveling Through Time: The Forum Guide to Longitudinal Data Systems. Book Three of Four: Effectively Managing LDS*

²⁷¹ Forum, [Traveling Book Three: Managing an LDS](#), p. 99.

Data, produced by the Longitudinal Data Systems Task Force, a volunteer task force of Forum):²⁷²

1. Identify the data steward responsible for the issue and its resolution (one person).
2. Determine whether a small working group of relevant data stewards should be created to address the issue.
 - a. *Does the issue directly affect the data quality or work of more than one program/ subject area in the organization?*
 - b. *Note: Even if a working group is formed, only one data steward should be accountable for the issue.*
3. Plan first meeting of the working group.
 - a. *Clearly define (and document) the source of the problem—not the symptoms. This includes all aspects of the issue: communication (internal and external), definitions, technology, etc. A reporting problem is almost never just a reporting problem: its source is earlier in the data process. (Note: If the issue is complex, additional research and time could be required to fully identify it; this time spent at the beginning of the process is well worth it to fully understand what you are trying to address.)*
 - b. *Determine the goals of addressing the problem; what exactly does the group want to achieve? (These goals should be aligned with the Data Governance Committee's goals).*
4. Create a mini-project plan for addressing each aspect of the problem and for achieving the established goals.
 - a. *Include main steps, including due dates and who must be involved in, or responsible for, each.*
 - b. *Assign action items at the end of each workgroup session, including responsible staff member and due date.*
 - c. *Determine whether any part of the issue is not within the purview of the Data Governance Committee. If so, the responsible data steward should bring the issue to the Data Governance Committee chair.*
 - d. *Provide monthly updates to the Data Governance Committee for inclusion on the critical-data issues log.*
5. Once a preliminary 'business' solution has been developed (i.e., you know what you want to do), coordinate with technology staff to get their input and determine how it can be implemented.
6. Document all decisions made and implemented solutions thoroughly and save to a common online area accessible by all Data Governance Committee members.
7. Communicate these decisions and implemented solutions to the Data Governance Committee, all applicable program areas, LEAs, and any other staff directly affected by the issue. Be especially clear if the solution requires certain staff members to change how they work.
8. Retire the issue from the critical data issues log, celebrate! Then move on to the next issue.

²⁷² Forum, [Traveling Book Three: Managing an LDS](#), p. 99.

Explain Data Limitations in State Education Reports to Provide Transparency Until Data Integrity is Assured

Given that both the long term SLDS efforts outlined below and the short-term internal controls will not immediately solve the identified data integrity issues, we recommend the following caveats be added to state reporting until data integrity is assured. Below we provide language to explain the limitations in state reporting on key measures, including enrollment, attendance, test scores, discipline, and more.

- **Attendance:** Any time an attendance metric is reported including, for example, in seat attendance, 90% attendance rate, chronic absenteeism, or truancy, the following caveat should be added: **This metric is based on incomplete information because, while OSSE receives two different values for attendance for most charter LEAs, only one value is used to determine this metric.**
- **Discipline:** Any time in-school or out-of-school suspension is reported, the following caveat should be added: **OSSE receives certified in-school and out-of-school suspension data directly from only a limited number of charter LEAs.**
- **8th Grade Math Outcomes:** Any time 8th grade math outcomes are reported the following caveat should be added: **Students take one of three math tests (algebra, geometry, or 8th grade math) which have all been combined in this metric.**
- **Educationally disengaged:** Any time the incidence or rate of students who are “educationally disengaged” is reported the following caveat should be added: **This does not include students who attend adult education or alternative programs or others who are educationally engaged but are no longer enrolled in a traditional high school diploma granting program.**
- **Currently enrolled:** Any time OSSE reports on the number or rate of students “currently enrolled,” the following caveat should be added: **This includes students who are currently enrolled in non-high school diploma granting programs such as adult education and alternative education programs.**

Build a Student Longitudinal Data System

We recommend that the D.C. Code provisions on a student data warehouse be clarified to require that the Office of the State Superintendent of Education develop and implement an SLDS that includes the necessary *data elements* and *system capacities*, as articulated in Part 1.

We recommend meeting these element and capacity requirements by purchasing a statewide student information system (statewide SIS) to be managed by OSSE and to provide the technical infrastructure needed to collect and maintain large scale, longitudinal education data representing students and staff. A statewide SIS as well as a data governance structure and stakeholder engagement are necessary building blocks for a robust SLDS.

Since the SLDS grant program was authorized in 2005 technology firms have developed hardware and software products to take advantage of the significant federal funding available. In fact, many SEAs with successful SLDS investments have a statewide SIS procured from a vendor. As referenced in Part 1, Arkansas, Wisconsin, Illinois, and Colorado are just a few states that have purchased statewide SISs

for their highly successful SLDS programs.²⁷³ Using a statewide SIS is the most efficient and effective method for the District to have the data elements and capacities it needs—as outlined below—and “may also offer economies of scale in terms of leveraging design, including scope of data elements and requirements, warehouse structure, data model, data dictionary, submission procedures, etc.; as well as with development, testing, enhancement, support, optimization, documentation, and methodology across many customers.”²⁷⁴

Because an off-the-shelf statewide SIS can be customized, these systems provide the capacity to control the essential data element definitions, collection requirements, and validation processes, and provide LEAs with common, useful reporting and analytic capacities.

Importantly, this statewide SIS approach does not require all LEAs within a state to adopt the same local SIS for their local data collection and use needs. Instead, many states take the approach of certifying the local SISs developed by individual vendors that align with the statewide system, allowing LEAs to choose their own preferred local SIS. States also support LEAs that choose not to invest in their own local SIS by offering the statewide SIS and all of its capacities to those LEAs.

The following capacities, as outlined in Figure 1.7, are most efficiently met with the use of a statewide SIS:

- **Data Collection:** A data collection exists for these elements.
- **Elements Required:** All essential individual elements are required by OSSE.
- **Consistent Definition:** They are defined consistently, by business rules, across years, sectors, and school types.
- **Complete Coverage:** They cover all individuals (students or staff) versus only a subset, i.e. the coverage is statewide.
- **Longitudinal ID:** The files include IDs (for students or staff) that allow the data to be linked longitudinally.
- **Quality Assurance:** We were able to confirm sufficient quality controls and audit checks or a closed data collection and validation system, or our analysis of the data found them to be of high quality.
- **Access and Analysis:** The data are made accessible securely to LEAs, through researcher requests, and through aggregate public files and tools, and analytic reports. Access includes the technical capacities of interoperability and portability and includes needed data privacy and security capacities.

Support SLDS Success Through Data Governance and Stakeholder Engagement

We recommend that comprehensive education data legislation include requirements for both data governance and stakeholder engagement. Further, we recommend that the Deputy Mayor for Education (DME) ensure that OSSE develops and makes publicly accessible a data governance charter and manual that represent policy and associated best practices in concert with the Office of the Chief Technology Officer (OCTO). The manual should outline the critical role for stakeholder engagement as part of data

²⁷³ See SEA webpages for: [Wisconsin](#), [Illinois](#), [Colorado](#), and [Arkansas](#), accessed July 4, 2020.

²⁷⁴ [Traveling Through Time: The Forum Guide to Longitudinal Data Systems. Book Two of Four: Planning and Developing an LDS](#), December 2010, pp. 73.

governance best practices, reflecting what other states have demonstrated is instrumental in assuring the success of state data systems. The definitions below, from the SLDS Data Governance Toolkit, describe the importance of these first two steps set by SEA leadership.²⁷⁵

***A data governance charter** (sometimes referred to as the data governance policy) officially establishes, authorizes, and defines the data governance program. It provides strategic direction by creating a framework for decision-making about and accountability for how data will be managed within and/or across agencies. The charter demonstrates state and agency leadership's acknowledgement that data are a critical resource and that they are committed to managing and using data to support the agency mission and the SLDS program. Without a data governance charter, participating agencies and program areas are more likely to question leaders' commitment to the changes required to implement a data governance process.*

***A data governance manual** describes how the data governance charter/policy will be implemented. It clarifies and documents the intended purpose and scope of data governance to ensure that all data governance members and stakeholders have common expectations for the program. The manual defines the data governance structure—including roles, responsibilities, and relationships among groups—to ensure that data governance members understand their roles within the broader program and that the appropriate representation and decision-making authority exist. It also defines how the data governance groups will make decisions and resolve issues. It contains or references established policies and processes to manage data purposefully and consistently throughout the information lifecycle in support of the data governance program's purpose.*

In 2017 the SLDS grant program published a Data Governance Manual Rubric which allowed practitioners to assess the existence and completeness of data governance and help identify a path forward for developing any missing or incomplete areas.²⁷⁶ The rubric and associated governance tools and resources are divided in to three critical categories: Purpose, Structure, and Policy and Practice. We provide specific action steps under each of these governance areas that should be included in OSSE's data governance documents.

Importantly, stakeholder engagement is built into each component to ensure validity, collaboration, and accountability. Embedding stakeholder engagement within data governance also reflects a shift in data culture from one of compliance to one that encompasses informed decision-making and continuous improvement.²⁷⁷

²⁷⁵ SLDS Grant Program State Support Team, <https://slds.ed.gov/#program/data-governance-charter>, last accessed, October, 2020; SLDS Grant Program State Support Team, <https://slds.ed.gov/#program/data-governance-manual>, last accessed, October, 2020.

²⁷⁶ SLDS Grant Program State Support Team, [Key Components of a Data Governance Program: Guide & Rubric](#), October, 2020.

²⁷⁷ [Traveling Through Time: The Forum Guide to Longitudinal Data Systems. Book Two of Four: Planning and Developing an LDS](#), December 2010.

Develop, Document, and Share the Purpose

The SLDS Data Governance Manual Rubric emphasizes the importance of consensus around a stated purpose: “clarifying and documenting the intended purpose and scope of data governance is important to ensure that all data governance members and stakeholders have common expectations for the program.”²⁷⁸ This purpose of data governance is also written up as part of the governance charter, and therefore, one of the first steps taken in this work. The manual outlines a structure (one example of which is described below) including a Steering Committee and Data Governance Committee and suggests the committees develop the purpose, mission, and goals in the governance charter that also sets the scope of the data being overseen, describes the value of the data to the organization and stakeholders, explains how data governance supports data use by multiple stakeholders, and lists the many data users.

Importantly, the purpose includes clarification around data ownership, sometimes referred to as stewardship—the absence of which continues to pose a risk to data governance in the District. We earlier outlined data ownership problems in the areas of teacher and staff data, discipline data, postsecondary data and, early childhood data. We recommend that the purpose clearly articulate the District government’s stewardship of each of these collections.

To ensure consensus the rubric suggests that the steering and governance committees identify the stakeholders needed to understand and document the value, use, and data user components. These stakeholders may include Title I coordinators, human resources staff, guidance counselors, teacher certification staff, and school registrars, to name a few. In addition, stakeholders representing data users such as advocacy groups, children’s healthcare representatives, local businesses, union representatives, parent groups, media, and researchers, should also be included. These stakeholder lists should be publicly shared and updated as needed as part of the engagement process.

These examples highlight that many people involved in data governance are, in fact, SLDS stakeholders. The SLDS Data Governance Toolkit notes that, “Although there is overlap between data governance groups and the stakeholder groups who need to be engaged in SLDS work, data governance groups have unique responsibilities with regard to the data system.”²⁷⁹ As states frequently had questions about the difference between stakeholder groups and data governance groups, the Toolkit provides a helpful video description to ensure that these roles and responsibilities are sufficiently covered and consensus reached.²⁸⁰

Develop, Document and Share the Structure

We recommend that the Office of the State Superintendent of Education establish a data governance structure with roles and responsibilities that are clearly defined as part of the data governance manual. The governance structure must ensure sufficient authority to make decisions and sufficient knowledge to ensure that decisions are well-informed and reflective of diverse stakeholder input. The committees described in this structure should document needed governance elements such as data stewards and

278 SLDS Grant Program State Support Team, [Key Components of a Data Governance Program: Guide & Rubric](#), October, 2020.

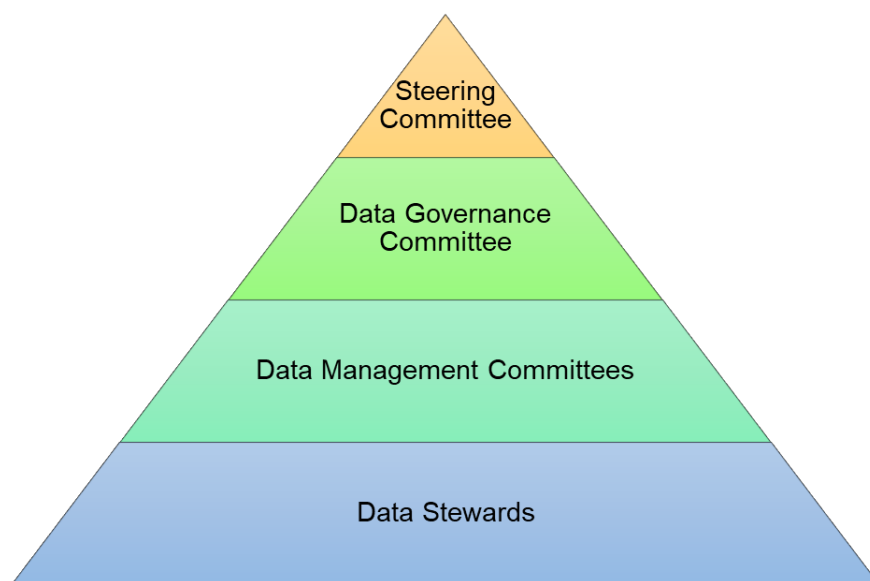
279 <https://slds.ed.gov/#program/data-governance-structure>

280 <https://slds.ed.gov/#program/data-governance-structure>

relevant business rules, as examples. Issues to be addressed, according to the Forum, include establishing a data governance coordinator, documenting the relationships among various internal groups represented and external groups not represented and defining the criteria for membership in a data governance group or committee.

The following figure, adapted from the National Forum on Education Statistics, (Figure 4.1)²⁸¹ provides one example of the kind of multi-tiered formal data governance structure needed to support a SLDS in the District.

Figure 4.1: Formal Data Governance Structure



A governance **Steering Committee** typically guides the work undertaken by the data governance committee. Membership should be designed to represent leadership and key external stakeholders, as described below. States that house their SLDS within the state agency typically create the governance body from among senior officials in the agency. Other states have created agencies to collect and manage all state data which are typically governed by an independent board with individuals outside the government as key participants. Today these preschool through postsecondary and workforce (P-20W) systems include data beyond K-12 education, so most governing boards include representation from the early childhood, higher education, and workforce development communities.

A steering committee in the District of Columbia could include:

- The State Superintendent
- Deputy Superintendents including Deputy Superintendent overseeing the Data, Assessment, and Research and Systems Technology divisions, and the Deputy Superintendents for Early Learning and Postsecondary and Career, or the equivalent

281 SLDS Grant Program State Support Team, <https://slds.ed.gov/#program/data-governance-structure>, last accessed October, 2020.

- The District's Chief Data Officer
- A member of the D.C. Council's Education Committee
- A representative of the State Board of Education
- An early childhood representative from the community
- A postsecondary representative from the community
- A representative from the Workforce Investment Council
- A member of the community designated by the D.C. Council

Based on best practices and state experience, a first task for the Steering Committee could be to engage a **Data Governance Committee** (DGC). This committee would have representation for each stakeholder group affected by the educational data use in the District and will develop and establish the data governance purpose, structure, policies and practices.

We recommend that the DGC oversee and report on the procurement and implementation of a statewide SIS managed by OSSE.

The DGC could include the following members:

- OSSE Assistant Superintendents, including: Data, Assessment, and Research; Systems Technology; and relevant Assistant Superintendents in the fields of early childhood, English language learners, special education, educators, adult education, and postsecondary/workforce.
- OSSE Directors reporting to the Assistant Superintendents of Data, Assessment and Research, and Systems Technology, or the equivalent.
- At least three data managers from DCPS program offices.
- Nine representative Charter LEA data managers across school grade band and size.
- School Leaders (at least five, across grade bands and from both DCPS and Charter LEAs).
- Teachers (at least five, across grade bands and from both DCPS and Charter LEAs).
- Students (at least three, from high schools across both sectors).
- 5 Public School Parents (across both sectors and representing multiple wards).

This proposed structure assumes that the Data Governance Committee would facilitate the creation of **Data Management Committees** (DMCs) within each LEA and OSSE. Their size can be determined collaboratively by the DGC and the organization and is likely dependent on the size of the organization represented. Each LEA should have its own data management committee.

Each DMC would identify or confirm the specific **Data Stewards** that are necessary to ensure data quality. These stewards often have either relevant content knowledge of the topic area covered by their data elements or technical expertise about the collection of those items or both. Importantly, these stewards know who to involve to access either of these sources of information regarding the data elements for which they are responsible. Like the DMCs, the number of data stewards will likely vary by organization size. Data stewards as the education program's designated staff member with frontline responsibility are critical to developing well-informed governance decisions and implementing the policies and processes on the ground.

Develop, Document, and Share the Policies and Processes

According to ED publications—specifically the NCES Rubric and associated Toolkits—the steering, governance and data management committees should each develop, document and share their data policies and processes including critical stakeholder engagement processes. Importantly, these are not policies and practices for establishing data governance, as those are codified in the data governance charter and manual, rather these are actual data policies and practices. The documentation of decisions requires transparent communication with stakeholders regarding decisions made, and the data requests and privacy policies require interaction with stakeholders to develop and implement robust policies and processes.

The “Strategies to Involve Stakeholders for Successful Data Initiatives” SLDS publication emphasizes the importance of outreach, communication, and feedback loops while engaging with stakeholders through three state examples of stakeholder engagement in Illinois, Mississippi, and Hawaii.²⁸² Both Mississippi and Hawaii illustrate how SEAs can provide timelines and feedback loops to ensure that stakeholders feel their input is being heard and addressed and to provide public accountability for continued SEA engagement with stakeholders. “When MDE originally asked for feedback from its stakeholders, it received many requests that it could not act on due to time and capacity. Feedback requests have continued to come in after the website’s release. To communicate that it is listening to its stakeholders, MDE created a roadmap to show plans for the website. By placing requests on a timeline, MDE helps stakeholders feel involved and that their opinions are being heard.”²⁸³

Written policies may be insufficient and earlier audit findings help illustrate this insufficiency. In the District, OSSE’s stated policies assert that exit dates and codes must be recorded and submitted, but the accountability processes for ensuring this requirement is met by LEAs have not been effective. A responsibility for data governance committees is to ensure that stated policies are followed with fidelity.

The Forum’s data governance manual includes 19 distinct “key policy and process components” for inclusion in a comprehensive data governance program and several are excerpted here as examples of issues to be addressed, documented, and included in the District’s own governance manual. One component included here, data privacy and confidentiality, was noted above as an additional area where the District can reduce potential risk by developing a comprehensive privacy policy that is made available and adhered to by researchers as well as the government itself.

Key Policy & Process Components.²⁸⁴

- Knowledge Management: The data governance program decisions and issue resolutions are documented and made available to all data governance members. Master Data Management: For enterprise data elements contributed by more than one source, the data governance program has determined and documented the source of record.
- Data Sharing Agreements: The data governance program oversees the establishment, maintenance, and enforcement of data sharing agreements.

282 SLDS monthly topical webinar participants and SLDS Grant Program State Support Team, [Strategies to Involve Stakeholders for Successful Data Initiatives](#), February 2020.

283 [Strategies to Involve Stakeholders for Successful Data Initiatives](#), February 2020, p.4

284 SLDS Grant Program State Support Team, [Key Components of a Data Governance Program: Guide & Rubric](#), October, 2020, p. 6-8.

- **Data Collection:** The data governance program oversees the creation and implementation (by all agencies involved, if multi-agency data governance) of the process to prepare and submit data to the system, and the process to request and execute changes to data collections, or if multi-agency data governance, the notification process for changes to data collected.
- **Data Use Priorities:** The data governance program has documented and implemented a research or data use agenda that is used to prioritize the creation of data products as part of the data request process.
- **Data Privacy and Confidentiality:** The data governance program has documented and implemented a data privacy and confidentiality policy as well as associated processes and training to ensure that all relevant federal and state privacy and confidentiality laws are followed by participating entities and external data requesters.

The governance structure outlined here assumes robust stakeholder engagement through the Data Governance Committee but should not be limited to participation on the committee. Stakeholder engagement is not complete until the input received in the broader engagement process is acted on and the results are shared back with stakeholders for their continued input and involvement. We recognize that robust and continuous stakeholder engagement can be a challenging process for policymakers to embrace. In the field of data management, however, this engagement is demonstrably beneficial for improving data accuracy and ensuring sustainability over time.

Build Accountability Structures to Ensure Success

We recommend that an SLDS legislative package include required monitoring reports to key stakeholders in District education leadership and the public on a regular basis to chart progress toward a fully implemented SLDS and to help ensure success.

The District of Columbia Public Education Reform Amendment Act of 2007²⁸⁵ (PERAA), which transferred responsibility for District of Columbia public education from a Board of Education to the Mayor, included an accountability mechanism and this could be used as a model for implementation of a student data system. The law required annual evaluations of the progress of schools in a series of benchmarks including academic achievement under Mayoral control and a five-year evaluation, all to have been conducted by an independent evaluator approved by the Council. A subsequent amendment gave the responsibility to the Office of the D.C. Auditor to manage the independent evaluation and directed that the five-year review be conducted by the National Research Council of the National Academy of Sciences;²⁸⁶ which was published in 2015. A similar approach can be taken in response to these findings, and we outline accountability structures below that we recommend the Council include in comprehensive legislation.

First, we recommend that legislation require ODCA to conduct another data audit in three years to assess

²⁸⁵ Law L17-0009, effective from June 12, 2007.

²⁸⁶ Title IV, Subtitle F of the Fiscal Year 2010 Budget Support Act of 2009, Law L18-0111, effective from March 3, 2010. A subsequent amendment changed the due date of the evaluation from September 30, 2014 to June 1, 2015. See Title IV, Subtitle M of the Fiscal Year 2015 Budget Support Act of 2014, Law L20-0155, effective from February 26, 2015.

whether the District has built an SLDS with the needed elements and capacities and developed and implemented data governance policies including engagement with stakeholders. In addition, this audit should include an assessment of data integrity and the use of data for accountability purposes if integrity is lacking.

Second, we recommend requiring monitoring reports to the D.C. Council and the public on a regular basis from OSSE to ensure compliance with local and federal reporting requirements. Further, we recommend monitoring reports from both the Steering Committee and Data Governance Committee as described in the last section and as aligned to their documented policies and processes. Importantly, this monitoring should ensure that appropriate District ownership of critical data collections is codified in the Data Governance Charter, including early childhood data, teacher and staff data, postsecondary data, and discipline data.

Third, we recommend that legislation require a complete Early Warning Indicator System to ensure that schools are receiving the data they need to constructively intervene with students who are seen as likely to disengage based on data collected. This provision builds on 2012 legislation that authorized but did not require a pilot Early Warning System²⁸⁷ and will help ensure that the District fulfills a commitment that was part of the District's 2012 SLDS federal grant application.

Fourth, as our findings have serious implications for the use of education data for accountability systems like the District's STAR report cards, we recommend requiring that the State Board of Education regularly evaluate the metrics included in the District's school report card system for stakeholder responsiveness to help determine when report cards need to be updated.

²⁸⁷ D.C. Law L19-142. <https://code.dccouncil.us/dc/council/laws/19-142.html>, effective from June 19, 2012.

Glossary

accountability:

The use of education data in the form of metrics to monitor and compare, most commonly, **aggregate** student outcomes at the school and student **subgroup** levels.

Example: DC STAR Framework School Report Cards.

aggregate data:

Overall measures generated from underlying student-level or teacher-level data, most commonly, as sums, means, and ratios of the student or teacher values at the level of the school, LEA, year, grade, subject, etc.

Example: D.C. 2019 3rd grade ELA Level 3+ proficiency rate (an aggregate of the total number of proficient 3rd graders divided by the total number of 3rd grade 2019 ELA test-takers).

analytic data use, analytic dataset:

Initial raw data collections are prepped, merged, and appended, often with additional analytic **variables** constructed, to form analytic datasets which are used in statistical models to shed light on underlying patterns and relationships.

Example: PARCC test scores are recorded each year for students in each tested grade and subject, and this raw test score data is merged with other data on student characteristics and appended year-to-year, with an additional variable created for test score growth that is used to study educational progress.

at-risk:

An indicator variable for students considered at risk for academic failure as determined by their participation in **direct certification** programs or high school students one or more years older than expected age for their grade.

automated data transfer (ADT):

The student data collection system used by OSSE to upload a subset of **data elements** (primarily enrollment and attendance) from LEA data systems each school day through tailored computer programming code or scripts.

benchmarking:

A common use of education data in **accountability**, equity, and **continuous improvement** efforts to compare school or student **subgroup** outcomes to a standard (benchmarked) source of outcomes.

Example: DC STAR School Report Card outcomes are shown alongside the same outcome measured at the Districtwide level. In other examples, school outcomes may be viewed relative to the mean of peer schools in the state, with similar student compositions in terms of household resources and incoming test scores, etc.

bias:

Data collection or analyses may be invalid for the reasons discussed under “**valid, validity, invalid**” and

if the data issues or analysis assumptions or other challenges result in systematically higher or lower values, or underrepresented subgroups, for example, then they are also biased and not just **imprecise** or arbitrarily incorrect.

Example: District student enrollment data are invalid prior to 2016, because they represent only those student enrollments on count day each year versus all students enrolled throughout each year, and analysis shows higher percentages of students considered at risk enrolling later in the year—meaning the data collection, and any analysis not accounting for this, are also biased.

business rules:

The definition of a **data element** is determined by local or federal requirements, but the specific parameters of its collection and reporting are determined by business rules, generally set by the SEA.

Example: Full-day absences are defined by local law as attendance less than 80% of the school day, while the local business rules for determining what percentage of the day each student is in attendance, such as full-day recording or course-by-course records, are determined by the LEA.

causal relationships:

Relationships or **correlations** of the **values** across **data elements** may be said to be causal if it can be shown statistically that one set of values, for instance, are higher or lower than their average when affected by another, versus both sets moving independently or both affected by a third set.

Example: Chronic absenteeism may be increasing or decreasing following changes in laws defining attendance data collections and reporting, or as a result of initiatives designed to reduce absences, yet unless the specific causes can be isolated and confirmed, these relationships can at most be said to be correlated, but cannot be confirmed as causal.

certified lists:

Typically, student data are collected by the SEA directly from school and LEA data systems and these collections may include a data certification process, however, OSSE collects a number of data elements through what are essentially annual spreadsheets submitted by DCPS and PCSB which they define as lists of data certified by the LEAs as accurate and complete.

Example: Student discipline incident records are not uploaded directly through the ADT, but submitted by DCPS, PCSB, and a few PCS LEAs annually to OSSE, which then sends additional certification forms requesting LEAs further certify apparently incorrect or incomplete data.

chronic absenteeism:

As of 2016, the District defines chronic absenteeism as missing 10% or more of total days enrolled in a year, and these student indicators are **aggregated** up to the school level to be reported each year as the school-year chronic absenteeism rates.

coefficient:

In a **regression** estimating the relationship of the sets of **values** across two or more **data elements**, the coefficients, roughly speaking, give the mean measure of the relationship—indicating its sign, size, and

combined with other statistics, its **statistical significance**.

Example: In the regressions of student test scores on student neighborhood median household income-poverty ratios, the coefficient is statistically significant and positive—showing a correlation of higher test scores with higher neighborhood income—and the value of the coefficient can be seen in the graph as the slope of the line through the plotted values of each.

cohort:

In student longitudinal data, cohorts of students are followed to track progress over grades and years for the same subset of students defined as being in the same grade in a given year, and this tracking is often repeated for several cohorts.

Example: For the math and ELA test score growth analysis, a cohort of 3rd-7th grade D.C. students is followed from 2015 through 2018 (though technically it is a 2015-2018 cohort of initial 3rd grade students, some of which may leave the school system or be retained prior to 2018).

collaborative research:

While technically any form of collaboration, in the education research field it generally refers to collaboration between researchers and education practitioners, with structured arrangements facilitating collaboration over time generally referred to as researcher-practitioner partnerships (RPPs).

collection mechanisms:

Specific methods for collecting data elements, such as **student information systems**, **automated daily transfer**, and **certified lists**.

conditional correlations:

Statistical models are used to study **correlations** across multiple **variables**, specifically, controlling for—or conditioning on—the variation in some variables, while studying the relationship between two variables of interest.

Example: The attendance data analysis controls for each student's grade each year to assess the variation in student absences that may be systematically correlated with the different sector reporting-unit attendance data recording business rules.

continuous improvement:

There are formal models of educational practices using this term more specifically; in general however, it refers to any study of practices or programs related to different student outcomes and the use of that information to improve, replace, or scale up those practices.

control experiments:

Different types of control experiments are each intended to isolate potential **causal relationships** by comparing outcomes for students enrolled in a new program, for example, with those who were not enrolled—random control trials (RCTs) randomly assign some students to the program, and natural or quasi-experiments may observe students who had and had not been enrolled by virtue of a lottery.

count day:

October 5 each year is the official count day for the audited student enrollment counts in the District.

cross-sectional:

Data is cross-sectional when it is a new snapshot of records each year without relating these records to underlying longitudinal *cohorts*.

Example: OSSE releases annual snapshots of math and ELA test proficiency levels and reports growth in, 5th grade ELA, for example, if the current year total proficiency rate is higher than the previous year, versus longitudinal student proficiency growth measures which compares this year's 5th grade student ELA scores to their previous year 4th grade scores (or proficiency levels) and reports the mean for all 5th graders.

data analytics:

See *analytic data use*.

data cleaning:

At the data collection and *validation* stages, and again at the stages of analysis and reporting, raw data is cleaned as follows: *duplicate observations* are removed, inconsistent records, *out-of-range values*, and *missing values* are reconciled if possible, and all findings and changes are documented.

data elements:

A data element, also referred to as a *variable*, is something that can be defined and measured on a regular basis with a consistent set of *business rules* for a consistent population.

Example: The data element or elements for determining whether a student is chronically absent can range from a single indicator data element for "chronically absent or not" or it could be derived from calculating the values from several data elements for "days absent" and "total days enrolled."

data integrity:

Data integrity requires data to be *valid* and *reliable*, within each collection each year, and for the coverage of the population to be complete and the *business rules* to be consistent and documented.

data inventory:

Also referred to as data catalogs, *metadata*, codebooks, etc., these list the relevant information for each *data element*, including the definition, the format, and the population and years for which it has been collected.

data scripts:

See *automated data transfer (ADT)*.

data steward:

Individuals responsible for stewarding or overseeing the data collections and use are among agency data staff but are also staff within the different program offices where content-specific data are collected and used.

data values:

See *values*.

data visualizations:

This can refer to **static** graphs or graphics of the underlying data or specifically to the **interactive** graphs or graphics on websites that allow the user to visualize not only the patterns and relationships of the data in one graph, but to visualize the impacts on those pattern and relationships from changes in other data, such as the year or subgroup.

decision support:

Often used to describe the data use services that SEAs provide for LEAs and that both provide for practitioners, such as teachers, principals, and counselors—giving them tools and training to securely analyze data for their students for **continuous improvement**.

descriptive analysis:

Analysis is said to be descriptive or correlational when data patterns and relationships are analyzed as **correlations** only, versus the use of statistical models and strategies that attempt to test for **causal relationships**.

direct certification:

Direct certification data indicates for each student whether they are enrolled in the following programs: Temporary Assistance for Needy Families (TANF), Supplemental Nutrition Assistance Program (SNAP), foster care, or programs serving homeless.

duplicate enrollments:

Student records indicating a student is enrolled in more than one school on the same dates.

duplicate observations:

Unlike **duplicate enrollments**, duplicate observations in a dataset are simply redundant, identical records that can be generated in the data collection or analysis process and need to be found and removed as part of the **data cleaning** process.

early warning systems (EWS):

Most often used for high school dropout prevention efforts, these are predictive models that derive statistical likelihoods or probabilities of anticipated student outcomes based on their previous educational experiences which were compared to the outcomes of former students with similar experiences.

Example: High school transition early warning systems compare each middle school student's course-taking patterns, course grades, test scores, absenteeism, and suspensions, to earlier cohorts of middle grade students observed through their transitions into high school to make informed predictions of current middle school student's needs for additional transition supports.

error queries:

These are part of the **validation** process between the data collection and storage/reporting stage which automatically flag potential data errors, such as **out-of-range values**, to be addressed by the reporting unit.

evidence-based:

Education policies and programs are said to be evidence-based when they have been found to be effective in one of three tiers of research study types, as specified by ESSA as random control trials, quasi-experiments, or correlational studies controlling for bias.

exit codes:

Also referred to as exit types, these data elements are used by SEAs to determine the status of each student's exit from each school each year.

Example: There are two year-end exit codes for District students remaining enrolled in the same school for the forthcoming year: one for students promoted to the next grade and another for students retained in their current grade.

frequency:

The frequency of different data element collections in education may be annual, by semester, daily, or even by each class or course each day.

Full Academic Year (FAY):

This is the student enrollment date range that allows for a student's test scores to be reported as part of the school's **aggregate** test outcomes, by considering the student enrolled long enough in a given year for the school to have had an impact on their test.

governance:

The set of processes, structure, rules, roles, documentation, etc., that assure data decisions are made responsibly to ensure secure, **valid**, and **reliable** data collections and use.

granular:

Data is defined at different levels of granularity where usefulness and burden are balanced.

Example: District attendance data is recorded at a highly granular level, including full and partial absences and several reasons for the absences, as well as whether the records were compiled at the course level or full-day level, yet the annual SEA student attendance data files only record total full day absences and total excused and unexcused.

household characteristics:

In addition to student race and other demographics, education research shows the importance of data collected on household characteristics corresponding to at least socioeconomic status (SES).

Example: Direct certification student data record household program participation in safety-net programs as well as homelessness, while geographic data elements can be used to estimate their household's neighborhood mean SES.

identifiers:

Personal identifiers are a student or staff's name, birthdate, etc., and this information is protected by the construction of de-identified individual records linking the same student or teacher only by a uninformative unique ID code (e.g., the unique student identifier).

imprecise:

See *precise*.

inferential statistical analysis:

Specific statistical models and strategies are used to confidently draw statistical correct inferences from the data, and these are most often *causal relationships*.

Example: The analysis showing higher probabilities of select high school enrollments in 9th grade for students who had taken 8th grade Algebra I or Geometry tests—controlling for the test scores—could be used to infer that those course tests helped students be admitted to select schools, but it could also be inferred that students seeking admissions make a point to take these tests.

interactive:

Website or webtools that allow users to securely view different *data visualizations* or analytic output of underlying data by selecting different criteria, such as filters and levels of aggregation.

interoperable:

Data are designed to be interoperable when they can be securely transferred between agencies within a state, such as the SEA and LEAs, and the SEA and sister agencies, and even across states, by using a common set of data definitions and protocols, and by developing the necessary IT infrastructure.

invalid:

See *valid*.

logical values:

Validation processes assess the data for appropriate logical values, such as student grades increasing and repeating each year, but not reversing or jumping ahead by more than one grade.

master data, master source:

The authoritative single source of all linked, validated data, to be used for all reporting and added to with each new data collection round.

matriculation:

Students transferring to a new grade-level span, such as middle school from elementary, are matriculating students versus students experiencing non-matriculation transfers.

mean deviation tests:

Longitudinal data is often validated (during or after the data collection stage) by testing one collection round of data values for the degree to which they deviate from the mean of those values in adjacent years.

median growth percentile (MGP):

See also *student growth percentile (SGP)*. Median growth percentiles are typically calculated at the school level, using one year of SGPs for each school and assigning the median SGP to the school for reporting. Again, SGPs only use test scores to measure growth and contain no adjustments for student or school level contextual variables, instead a student's change in growth over time is compared to other similar-prior scoring students to create the specific percentile.

metadata:

Data about data, including *data dictionaries*, documented *business rules*, and caveats of known issues with data *validity* or *reliability*.

missing values:

For valid data, all values should be accounted for by using codes for fields that are not applicable and zeros only for zero value—blanks or zeros should never be used in place of no value to record, and data *validation* and analysis should account for this issue.

observations:

A data record is an observation, for instance, a student’s annual enrollment record is a student-year observation level of enrollment data element values, such as their school, grade, etc., and students transferring mid-year will have one observation per school.

operational data store (ODS):

Data storage similar to a *data warehouse*, but generally storing *transactional data* versus permanent data.

ordinary least squares (OLS):

A relatively simple regression model used to study potential relationships in sets of values across multiple data elements collectively.

outlier anomalies:

Values that are far out of range of the *logical values* or the normal range for that individual or element.

P-20W:

Individual-level data linked longitudinally from preschool (P) through K-12 and into postsecondary (20) and the workforce (W).

parameters:

Data parameters exist at the collection stage, defining the specific *value set options* and criteria in the *business rules*.

portability:

Data is said to be portable when the data systems are designed to share back or share out the compiled data at the central agency—the SEA or LEA—with the LEAs and schools using secure data access tools.

precise:

Data analysis is valid when the findings can be said to estimate the true measures, and how closely those measures can be estimated is the precision of the estimate.

Example: The analysis of test scores showed a very tight or precise positive relationship of test score levels with school boundary neighborhood income-poverty ratios, but found no precise relationship between those ratios and test score growth, which indicates there is no precise or pronounced pattern in the relationship between growth and the ratios.

predictive analytics:

In education research, outcomes of students in previous years are analyzed as a function of their characteristics and earlier school experiences, and the **correlations** of these over time are used to predict the likelihood of specific outcomes for subsequent **cohorts** of students based on their characteristics and school experiences.

quality audits:

Data quality audits check for inconsistencies in the data as part of the **validation** process that occurs between the data collection and storage stages or as an additional check on the stored data prior to reporting.

random subset:

The term is used in education data research generally to clarify that it is highly unlikely for a partial dataset (due to **missing values**, student attrition, etc.,) to be merely a random subset of students of values, and additional steps are needed to ensure the validity of analysis using partial data.

Example: Students who are not observed in late high school grades when data is recorded on participation in Advanced Placement courses and SAT tests, are not a random subset, but more likely students who have dropped out prior to those grades, which means subgroup analysis of participation is not representative of the entire population in each subgroup.

records:

Individual student or staff data records covering a specific content area and time period are combined through **identifiers** to create full datasets where rows are individuals' records or **observations**, such as the annual math and ELA test scores per student or the days absent per student per school attended in a given year.

reliable, reliability, unreliable:

Data are not reliable if the value resulting may differ as a function of the time or place or method by which it was recorded, linked, stored, or reported, and similarly, analysis is not reliable if different findings result from running the same analysis on slightly different data sources.

Example: Quality analysis of the attendance data show the values for days absent are not reliable, given the unequal values within the same data records when absences are calculated using the number of days present—it is not clear which value is invalid, but the data themselves are shown to be unreliable—which also means that any student outcome analysis that attempts to control for student absenteeism is also not reliable.

research-ready datasets:

Raw data is cleaned, prepped, and compiled by linking records across content areas and years and reconciling inconsistencies.

Example: Student enrollment records include each student's grade each year, and attendance and discipline data do not, so by combining all data files, student grades are matched to their attendance and discipline records, and missing or invalid grades in a given year are reconciled.

research request tool:

Most SEAs and large LEAs have webtools that researchers and others can use to request data, which often include a **data dictionary** or checklist for the elements, years, and populations available and requested, as well as online applications, and in some cases required data ethics training modules.

scatter plots:

Values are plotted on the x- and y-axis of a graph to show the **correlation** of two variables, such as test scores in adjacent years, and often a fitted line for the relationship of points is estimated and overlaid to indicate the sign and strength of the relationship.

school climate:

As measured in student, staff, and parent surveys, school climate is characterized by the levels of safety and supports experienced, and these are found in education research to have a very strong role in student outcomes and staff turnover.

school fixed effects regressions:

Simple or **OLS regressions** in education control for factors found in research to be important, such as student demographics, previous test scores, etc., when studying patterns and other relationships in the data, and student fixed effects regressions study the patterns and relationships for each student across their years of school rather than rely on demographic averages, etc.

select (or application) high schools:

High schools with select admission requirements met through an application process versus in-boundary school rights or lottery selection.

specificity:

See *granular*.

stakeholder engagement:

Stakeholders are the practitioners, policymakers, parents, students, the public, etc., for whom the data are collected and used, and engagement includes involving them in relevant decision making as well as providing them with data use relevant to each.

static:

Reports, graphs, or websites that show snapshots of the underlying data without the ability of the user to interact to choose different views or criteria.

student fixed effects regressions:

These study the patterns and relationships for each student across their own years of school rather than rely on demographic or other averages to account for differences. These regressions compare and find differences between each student's own actual variation over time to their own average levels, rather than comparing and finding differences between the average levels of all students with similar characteristics over time.

student growth percentile (SGP):

Student growth percentiles only use test scores to measure growth and contain no adjustments for student or school level contextual variables. Instead, SGPs measure students' growth compared to academically similar students. More specifically, these scores represent each student's relative growth from previous years to the current year. Then, a student's change in growth over time is compared to other students who scored similarly in prior years to create the specific percentile.

student mobility:

Student school changes are referred to as student mobility, though, the term may be used specifically to refer to students changing schools due to household moves.

subgroup:

Used in student data reporting, these are categories of race/ethnicity, gender, and special program participation, such as students with disabilities, English language learners, and students considered at risk.

synthetic or sequential cohorts:

For data without identifiers for longitudinal record linking, analysis of pathways and trajectories can be done by constructing proxy *cohorts*.

Example: The analysis of high school pathways normally uses a minimum of five longitudinal years of student data to follow the same cohort of students from their middle school transition to high school through to postsecondary enrollment, but analysis can study 8th-11th grades in 2016-2018 and draw on findings from those data to study 10th grade through postsecondary in 2016-2018 as well.

systems of record:

A system of record is the official record system at each point at which data is recorded or compiled, for instance, the school, the LEA, and the SEA, and is the authoritative source of those records at each point.

templates:

Essentially blank spreadsheets indicating each field or data element to be filled in for each student or staff, with specifics on the required fields and permissible *value set options*.

transactional data:

Data that are recorded over as new events occur, such as annual student data files that only record the final school a student is enrolled in versus each school throughout the year.

truancy:

As of 2016, the District identifies a student as truant when they have 10 or more unexcused full-day absences in a school year.

unique student or staff identifier:

See *identifier*.

universe:

The full population relevant to a data collection, such as all enrolled students each year, or all faculty and staff.

urbanicity:

A measure of the population density of an area or corresponding categories, such as urban, suburban, rural, and remote.

valid, validity, invalid:

A data point may be accurate, yet not valid, if it is not the correct measure to use for the intent of the **data element**; a data collection will be invalid if there are inaccurate or invalid data values within it, and finally, the findings of analysis using the underlying data can be invalid if the model or assumptions are incorrect—even if the underlying data collection is valid.

Example: With the high quality PARCC assessments, an 8th grade student's math test score is accurate as recorded through computer testing, and the score is a valid measure of an 8th grade student's ability in math, yet analysis of 8th grade math proficiency across student subgroups is invalid if it does not account for the different difficulty levels of 8th grade math tests taken: standard Math 8th, Algebra I, and Geometry.

validation:

To ensure that data are valid during the collection stage, agencies implement data validation processes that routinely check for inconsistent or incomplete values to be corrected prior to the storage **and reporting stages**.

values, value set, value set options:

Data values are the specific numbers, text, or codes entered in the data systems for each element and **observation**, and when the **data element** is recorded as a subset of possible values, these are the value set options.

Example: The values recorded for the "race" data element for all students each year (i.e., all observations) are numeric codes for the subset of generally 7 race/ethnicity categories (e.g., a value of "3" corresponds to the race category of "Black").

values out of range:

By **data element** definitions and **business rules**, there will often be a specified range of values that are allowed or make sense, and data **validation** processes can control for any recorded values outside of these.

Example: In the case of the subset of the 7 numeric code values for race categories, values out of range include 8, 0, and -1.

variable:

This is the term for a **data element** that is more commonly used by researchers.

verification:

This term may refer to a process in the data system designed to verify the data by a set of rules or the process of having the **data stewards** at the school, LEA, or program office verify that the data received appears is confirmed to be correct.

warehouse:

A data warehouse generally links and stores multiple data collections from different content areas and sources as a single master data source that is updated annually (or more frequently) by appending each subsequent linked collection round.

whole-student supports:

Administrative data records include student program participation and outcomes, but these have been increasingly supplemented with additional data elements, from ***school climate*** surveys and health and human services records, to help practitioners provide whole-student or whole-child supports for their safety, self-esteem, etc., beyond academic inputs and outcomes.

Volume 2

Part 5

Data Analysis Brief on Enrollment

Abstract

This brief identifies bias in the student records collected prior to 2016 and immediate equity concerns regarding which students experience both midyear and year-to-year school moves. More specifically, we find that students missing from enrollment records were more likely to be considered at-risk, students with disabilities, or homeless, raising serious implications for any research conducted using data prior to 2016. In terms of midyear and year-to-year school moves we find that, on average, these disruptive enrollment patterns occur much more frequently for more vulnerable student populations. Finally, we use a new technique to explore the relationship between neighborhood socioeconomic status and school transfers. We find that both midyear and year-to-year school mobility are, on average, to schools with lower neighborhood socioeconomic status than the school at which students were previously enrolled. The fact that more vulnerable students are more likely to experience these disruptions, points to the necessity of data systems that fully track and monitor all student enrollment events. Complete data is necessary for school systems to design policies to reduce these events and adequately and accurately target supports for the most underserved students.

Background

In addition to serious implications for administrative and accountability data use, as described in Parts 1 through 3 of this report, critical equity implications are made clear in an analysis of one of the most basic functions of student-level data—school enrollment. In particular, the student mobility reflected in the data paints a picture of immediate equity concerns as the students experiencing both midyear and year-to-year mobility face, on average, more need than students experiencing more school stability. Student mobility also has large implications for research-based continuous improvement efforts at both the school- and district-level.

In this brief, we analyze student school enrollments and reenrollments by student and household characteristics, as well as sector and school type. For example, we investigate the characteristics of students enrolled in multiple sectors and school types within a school year, as well as frequent school moves between school years which are not due to grade-span matriculation or household moves. To do this, we prepare, link, and reconcile the data indicating student participation in household income means-tested safety-net programs, such as SNAP and TANF (using student direct certification data), with the multiple student observations per year in the enrollment data longitudinally over several consecutive years. We examine the potential relationship between student socioeconomic status (SES) and frequent school moves—especially during the school year and between school types, such as regular high schools and alternative high schools.

Further, in order to analyze more SES variation than is available in OSSE's data alone, we prepare SES data for students at every income level, using U.S. Census Bureau data estimating small neighborhood income-poverty ratios within each student's in-boundary elementary school geocoded zone. Finally, we analyze student school enrollment changes by students' household and school SES measures and find patterns of disruptive enrollment events more frequently impacting already vulnerable students. More specifically, we find that lower SES students move between schools during the year and between years much more frequently than higher SES students. We also find that the schools these students were transferred from were in higher income neighborhoods than the schools they transferred into. Both findings represent large numbers of students and are consistent across years and grades.

Each analytic brief begins with the analysis, primarily in graphs, followed by the implications, and then ends with a brief appendix including summaries of the relevant data sources, issues, and analytic dataset preparation.

Data Analysis and Findings

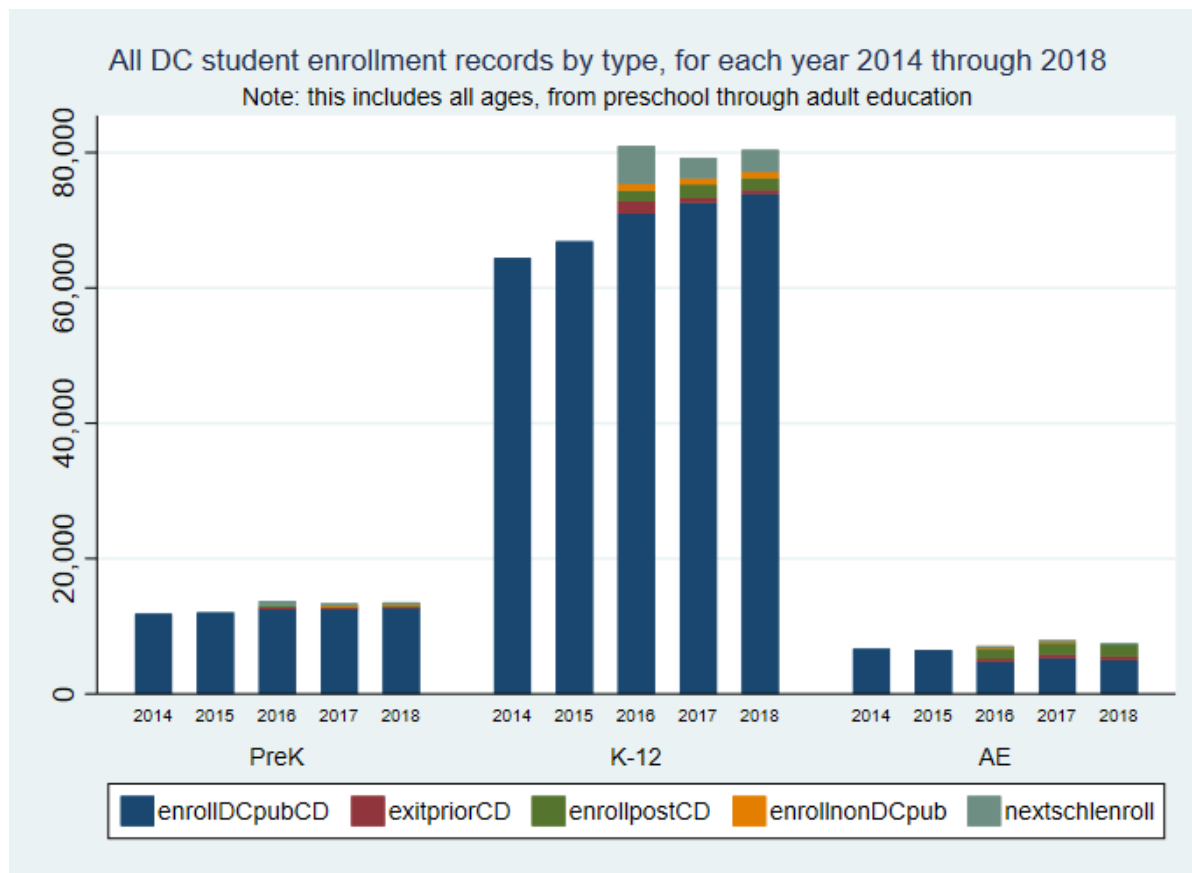
Critical Student Enrollment Data Limitations

Prior to 2016, the total student-school records were just those recorded as enrolled in D.C. public schools on count day. They did not include several thousand students each year who exit schools prior to count day, enroll after count day, or the subsequent schools transferred students are enrolled in. The large drop from 2016 to 2015 of roughly 10,000 students reflects the limitations of the count day enrollment records prior to 2016 and raises several concerns. These are the total number of unique students enrolled per school year:

- 2018: 97,468 (of 103,168 total student-school records)
- 2017: 96,744 (of 102,446 total student-school records)
- 2016: 95,192 (of 102,146 total student-school records)
- 2015: 85,403 (only 85,403 total student-school records collected)
- 2014: 82,949 (only 82,949 total student-school records collected)
- 2013: 80,179 (only 80,179 total student-school records collected)

Figure 5.1 breaks out the different categories of school enrollment that are included after 2016 beyond the count day (CD) enrollment of D.C. public school students and compares these to the previous two years. The main grade sectors are also broken out to assess the degree to which these missing enrollment records impact K-12 student data analysis and accountability metrics. Note, for instance, that students exiting early and enrolling late, as well as those enrolled in programs outside of D.C. and those with multiple school enrollments are not primarily enrolled in preschool or adult education programs. These variable enrollments within a school year—that were not captured in the data prior to 2016—are heavily affecting K-12 students.

Figure 5.1: 2014-2018 Student Enrollment Records by Year and Grade Sector (For All Ages)



The relative height of the additional colored bars stacked on top of count day enrollment records each year beginning in 2016 give the share of students affected each year. We look at each type in turn: missing student enrollments and missing subsequent enrollment records for students with multiple schools. The first three bars stacked above count day enrollments are the early exits, late enrollments, and enrollments outside of D.C. Together, their bar heights reflect the student enrollment counts that are missing in the enrollment data before 2016.

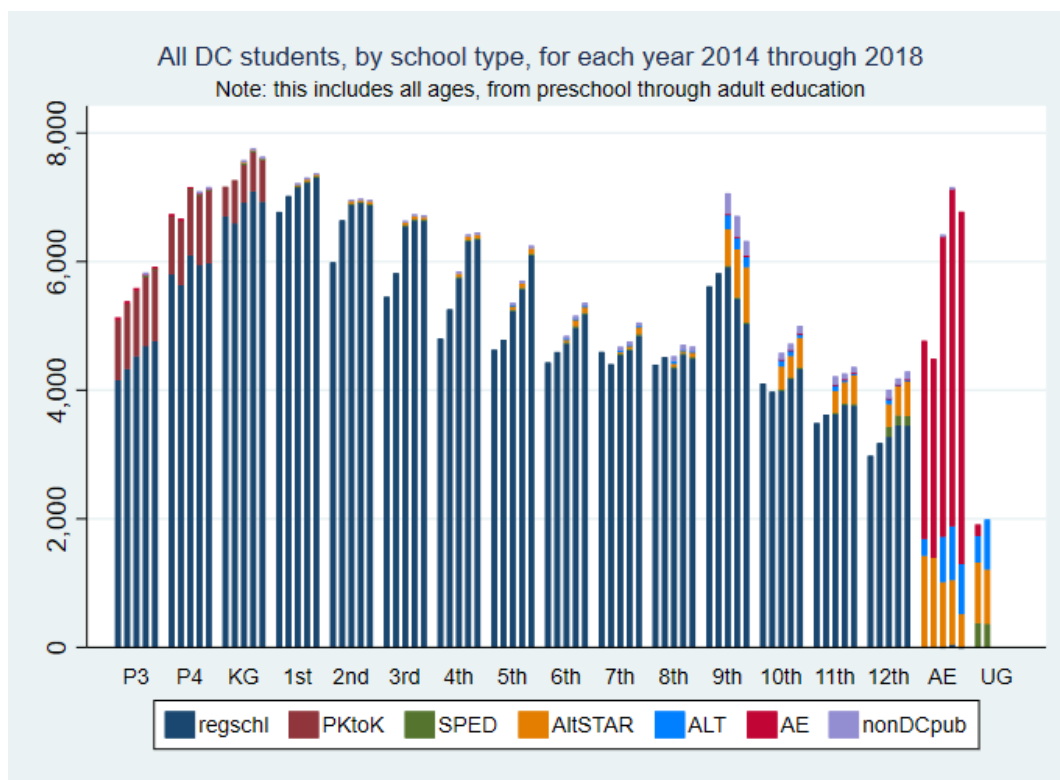
Additionally, starting in 2016, students enrolling in another school after their count day enrollment school are recorded in the data and represented by the “nextschlenroll” gray bars. These bar heights show the additional student enrollment records not previously included in the data files. Note that while thousands of K-12 students have multiple school records per year, more of these multiple records are seen in 2016, which may be the result of duplicate enrollment errors in the data systems that could be seen as the first year enrollments were collected through the ADT. That is, a student may have two records in the student level enrollment data if they left one school at the end of the school year and entered a new school in the fall. As we discussed in Parts 1 and 2, OSSE is not properly collecting end of year exit dates and codes, resulting in the students dually enrolled in the old school and the new school until OSSE reaches out to both LEAs to reconcile the dual enrollment. As of 2017, OSSE records their annual final enrollment data file after resolving identifiable dual enrollment errors.

Considering the total true multiple enrollment records and the enrollments defined as other than count day audit enrollments, we can see that there are a significant number of K-12 students impacted by the missing enrollment data. As we discussed in previous parts of this report, these missing, incomplete, and dual enrollment records impact all data use for administrative purposes, for accountability metrics, and for equity and continuous improvement analyses. Exactly which school each student is enrolled in at each point in the year determines all other data use. For example, these enrollments form the denominators of all the accountability metrics for test scores, absenteeism, discipline, etc., used to determine these outcome metrics for schools each year.

As we illustrate in this analytic brief, these enrollment events that led to missing records and errors are more frequent for more vulnerable student populations, including homeless students and students with disabilities, and the flawed data quality approach to enrollment makes it harder to support these students by tracking and studying their outcomes and needs. Also, because the count day enrollment records determine funding, it is a very serious problem if, as we see in this brief, they do not accurately reflect school-year enrollments for all students and especially students in the at-risk funding category.

Figure 5.2 breaks out just the total student enrollments (not multiple school enrollment records per student), but now by individual grade and for each school type. The school types are taken from the last school that each student attended. This graph shows that the substantial missing student records, for example for students who enrolled later, are not randomly distributed across all grades but are instead more heavily clustered in the early grades, in high school, and in alternative schools. Notice the height differences between the 2015 and 2016 years at each grade level. Conversely, in 8th grade there is not much of a difference in total enrolled students between 2015 and 2016.

Figure 5.2: 2014-2018 student enrollment records by year and grade-sector (for all ages)



Notably, the jump in total enrollments in the high school grades from 2015 to 2016 is quite stark (the difference between the second and third bars for 9th grade). We cannot say with certainty how many more students from each grade are present as of the 2016 data, due to related problems with the missing exit data. Dropouts may not have exited from the data files until sometime during the following year. Also, prior to 2016, the data records many high school age students as ungraded (UG), specifically those in the different alternative and SPED programs. Without exit data, it is not possible to confirm whether those students have dropped out of high school grades and begun adult education programs within those same schools.

For example, the large alternative STAR measure high schools,²⁸⁸ including the DCPS opportunity high schools and several charter high schools, serve students remaining in the high school diploma granting programs as well as those transferred to alternative or adult education programs that do not lead to a high school diploma. However, without the required exit dates and codes, the student enrollment records do not make it clear when each student may have transitioned—or dropped out—from the diploma granting high school program. The implication of these missing enrollment records prior to 2016 confounded by the missing exit data, is that the validity of longitudinal analysis of high school students is critically undermined. As we illustrate in the final analytic brief, at least four years of complete data

²⁸⁸ As described in Appendix C, and OSSE's [2020 DC School Report Card & STAR Framework Technical Guide](#), these are schools using a different accountability system than the traditional STAR system applied to regular, diploma-granting-only high schools.

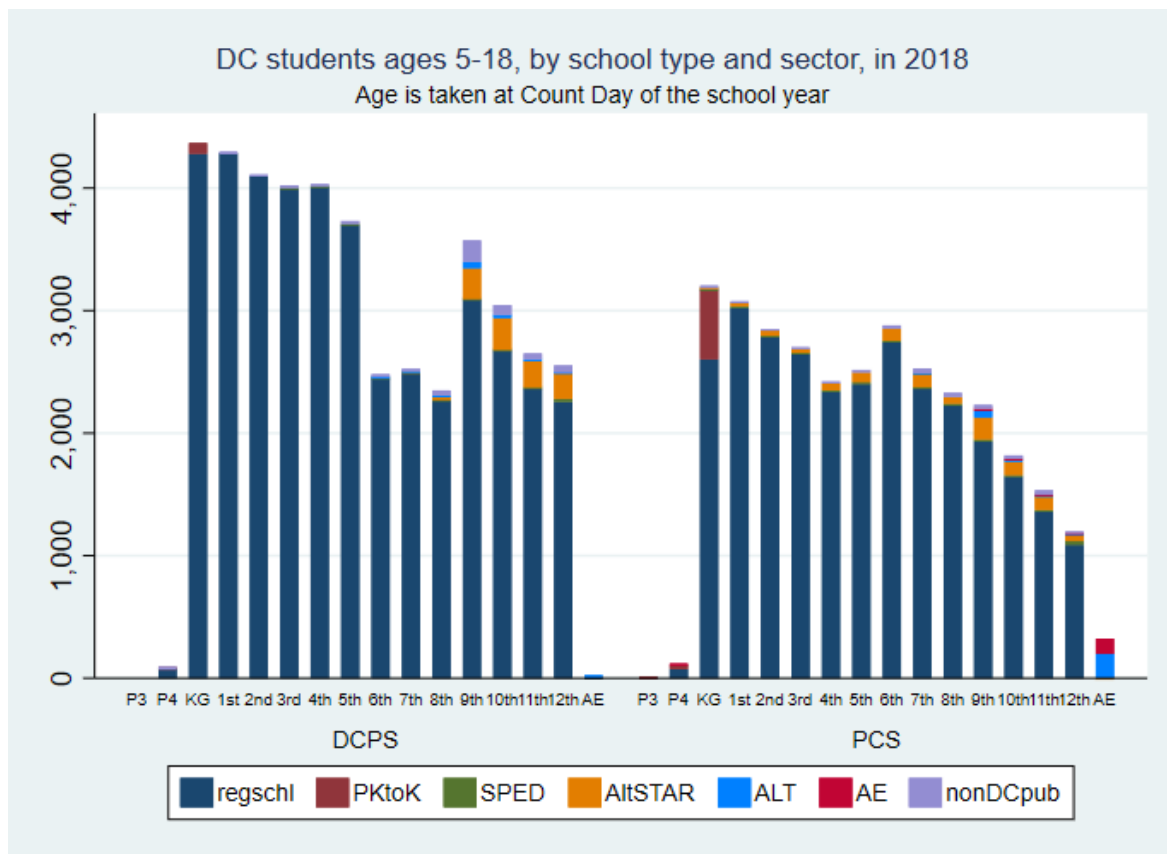
are needed to conduct the full set of longitudinal high school pathways analyses that most SEAs provide to LEAs and stakeholders. We have only three years of complete data as our data request for school year 2019 was not fulfilled. Without this additional year we also cannot confirm a full four-year cohort of graduating high school seniors as reported by OSSE to the federal Department of Education as discussed earlier.

In the Figure 5.3, we view the most recent annual enrollments available by grade, school type, and sector for compulsory school age students (age 5-18) only. This allows for a more accurate assessment of the relevant sample of those students enrolled in D.C. public K-12 schools—but distinguished by whether they are enrolled in regular diploma granting high schools or schools primarily serving students outside of the high school diploma granting program. We look at the school type and now by public school sector (DCPS and PCS). The graph shows the relative size of the sector populations of K-12 students specifically. More specifically there are 43,734 K-12 DCPS students and 31,272 K-12 PCS students in 2018 for a total of 75,006 students.

Note that is far fewer than the 97,468 total 2018 enrollments that OSSE data reports and analysis refer to as D.C. K-12 students, as we discussed earlier. Thousands of students counted every year in the enrollment audit are not K-12 students, as most SEAs would define student enrollment. Given that compulsory education in D.C. is K-12, this more typical student enrollment number is important to report. For example, OSSE's annual discipline analysis reports state that less than 7% of D.C. students receive out-of-school suspensions—but these percentages are of the total enrollment records which include the tens of thousands enrolled in preschool and adult education programs. Suspensions are not issued to adult education participants, as the discipline reports' tables of schools, including AE only schools, confirms.²⁸⁹

289 See the first sections and appendix tables of OSSE's State of Discipline 2017-18 School Year and State of Discipline 2018-19 School Year.

Figure 5.3: 2018 Enrollments by Grade, School Type, and Sector for All Students Ages 5-18



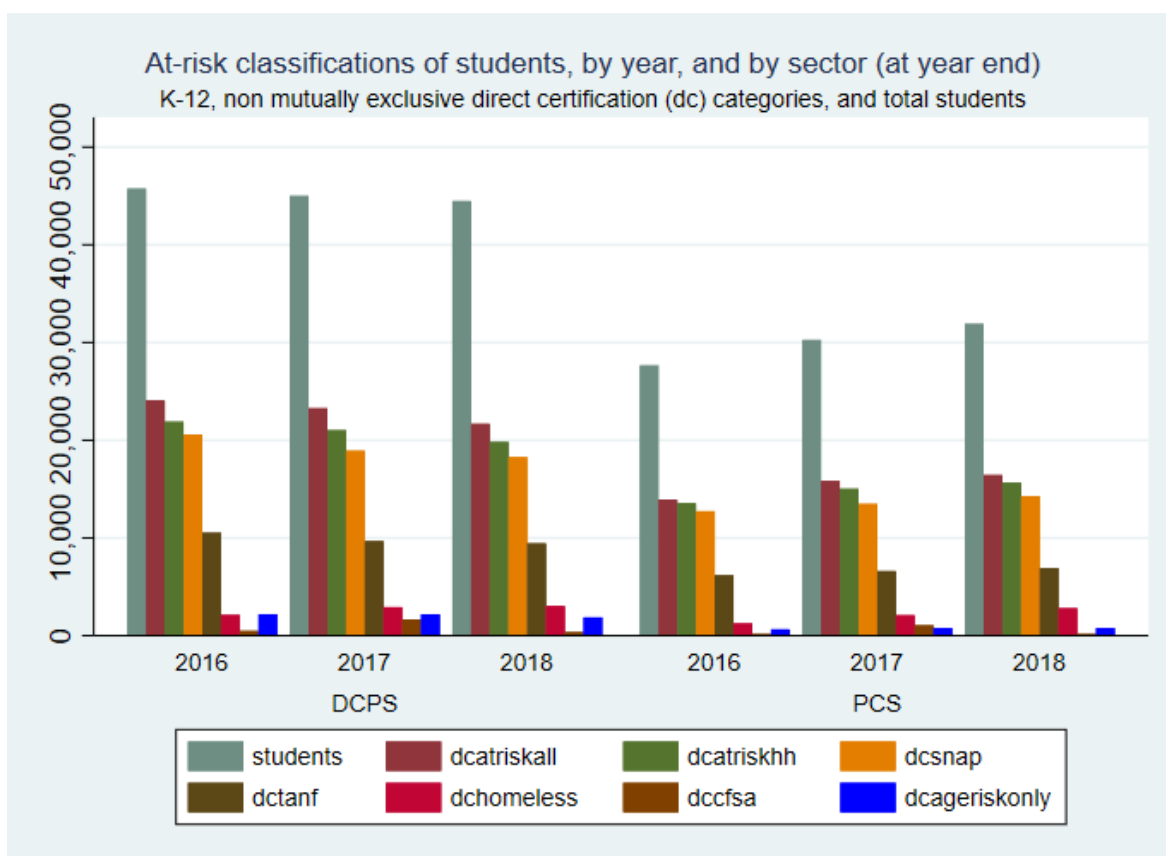
The figure also shows the relative enrollments in the different grade-level spans between the sectors. Most notable is the height of the high school bars within and between sectors and across the different school types. We see a substantial share of high school students enrolled in alternative schools as soon as 9th grade. Higher 9th grade enrollments seen in the graph are expected, as the transition to high school is highly correlated with a spike in retentions. But where you would normally see the subsequent grades decrease steadily in enrollment as retentions end and dropouts begin, we see instead a much steeper decrease in charter high school enrollments after 9th grade. In other words, charter school enrollments decrease substantially throughout high school. Our pathways analysis shows that many of these students were transferred into the DCPS high schools, substantially increasing reported graduation rates for the charter sector.

We see a small number of 18 years old or younger identified as alternative learning or adult education program participants, and a large share of high school students enrolled in STAR alternative-measures schools. As we noted above, these schools serve some students in diploma granting programs, but many more are in alternative programs. In the data analysis of high school pathways, we analyze these grades and school types more closely to better determine which students enrolled in these alternative high schools have been dropped from high school diploma granting programs, essentially having dropped out of high school. Note in the analyses that follow, we rely on the grade indicators to focus our analyses on

K-12 student populations without confirmed adult education or preschool enrollees.

Finally, within this first section of the enrollment data analysis, we graph the student direct certification categories. These are the students' at-risk category designations that we use to analyze patterns of enrollment instability in the next section.

Figure 5.4: 2016-2018 direct certification programs and over age status for at-risk students



As the graphs shows, most K-12 students are enrolled in DCPS schools, where total enrollment has remained steady. Students in K-12 grades are fewer in the charter sector schools and increasing. Roughly half of those enrolled in each sector are at-risk students. We include several of these categories in the student midyear enrollment analysis below, but first we analyze the timing and sector of the enrollments throughout the year.

Tracking Student Enrollment Instability

Tracking student enrollment across schools, both between and within school years, is one of the most basic administrative tasks that state and district data systems have performed for decades. In addition to administrative functions, it is essential for producing valid accountability metrics to know exactly which student is in which school at each point in each year, as well as the reason they exit each school during

the year and at the end of each year. However, as we noted in Part 1 and illustrate in our analysis above, OSSE has only begun collecting enrollment records for every student in each of their schools each year as recently as 2016 and still does not record exits other than midyear transfers.

We focus on these midyear transfers in the detailed analysis below, following a brief assessment of between-year transfers. It is essential for annual accountability models to track midyear transfers, given the date for attributing a student to a school for funding differs from the dates used to generate annual accountability measures. Without accounting for midyear transfers, high-stakes outcome metrics such as test scores and chronic absenteeism, are calculated for schools and LEAs over different student populations than those included in the funding calculation. If these populations differ substantially and systematically, funding and accountability will be biased relative to each other. That is, school funding formulas that account for greater needs of students considered at-risk will not be aligned to the schools responsible for providing for the needs of those students through most of the year, as measured in the accountability attribution window. Further, if funding is determined in part by high-stakes outcome measures, those schools may be given even lower levels of the funding they need to serve these students.

Additionally, complete student annual enrollment records are also essential data to collect and link longitudinally for continuous improvement efforts to support highly mobile students. This is especially important in the District, where a robust choice system facilitates school moves via the unified lottery. Importantly, mobility is already high in the District due to severe homelessness. In 2018, 7.0% of 1st-12th grade students in our enrollment instability analysis below were identified in the direct certification data as homeless, and between school years 2017 and 2018, 9.6% of students were homeless in one or both years.

We first provide some measures for the volume of school changes between years. Then we follow that with an assessment of the degree and type of midyear school changes, or transfers. Finally, we analyze student and school characteristics for both types of school moves.

Between-Year, Non-Matriculation School Changes

Using the most recent two years of the data provided, we calculate the total school changes from 2017 to 2018 for 1st-12th graders (i.e., all students in grades 1-11 in 2017 and 2-12 in 2018). We match 94% of these students to their Master Address Registry (MAR) address data. These are the District's data that allow District agencies to identify residences by consistent codes rather than attempting to match text fields of addresses. With these MAR codes, we can confirm when a student has moved from one school year to the next.²⁹⁰

We find that 9.6% of students have had school changes that were not due to a necessary grade-level transition, also referred to as matriculation. Of these non-matriculation school changes, only 29.7%

²⁹⁰ Note, the MAR data files are only able to link addresses to codes when the address is matched with text in the registry. There were many unmatched student address records each year due to slight variations in the address text fields. Therefore, we first completed the missing MAR codes from adjacent year identical addresses with obvious typographical differences, such as "Ave" versus "Avenue."

corresponded to an address change.²⁹¹ Regardless of the address of record, we also account for those roughly 10% of students who are homeless in either year and find that a total of 38.7% non-matriculation school changes correspond with either a MAR address change or homelessness. Therefore, just over 60% of these between-year non-matriculation school changes are not a result of household changes or homelessness but were school changes only.

Students in states and large urban districts without a choice system have far fewer non-matriculation school changes. For instance, a North Carolina study of 2nd through 12th grade cohorts finds just one-third of students experiencing any of these changes throughout their school years, and finds these changes to be highly predictive of dropping out of high school even after controlling for student characteristics, test scores, absenteeism, etc.²⁹²

In the graphs below, we analyze these frequent between-year school changes for potential patterns of student groups, grades, years, or school types that would need to be accounted for in any longitudinal analyses or metrics, such as the ACGRs. For example, as we illustrate in the high school pathways analysis, the 9th grade cohort graduation rates differ systematically by sector and student subgroups when the cohorts are identified by the schools in which students first began high school versus those they transferred into where their graduation status would be recorded. We first analyze the patterns of the high midyear school changes we see in the data files as well.

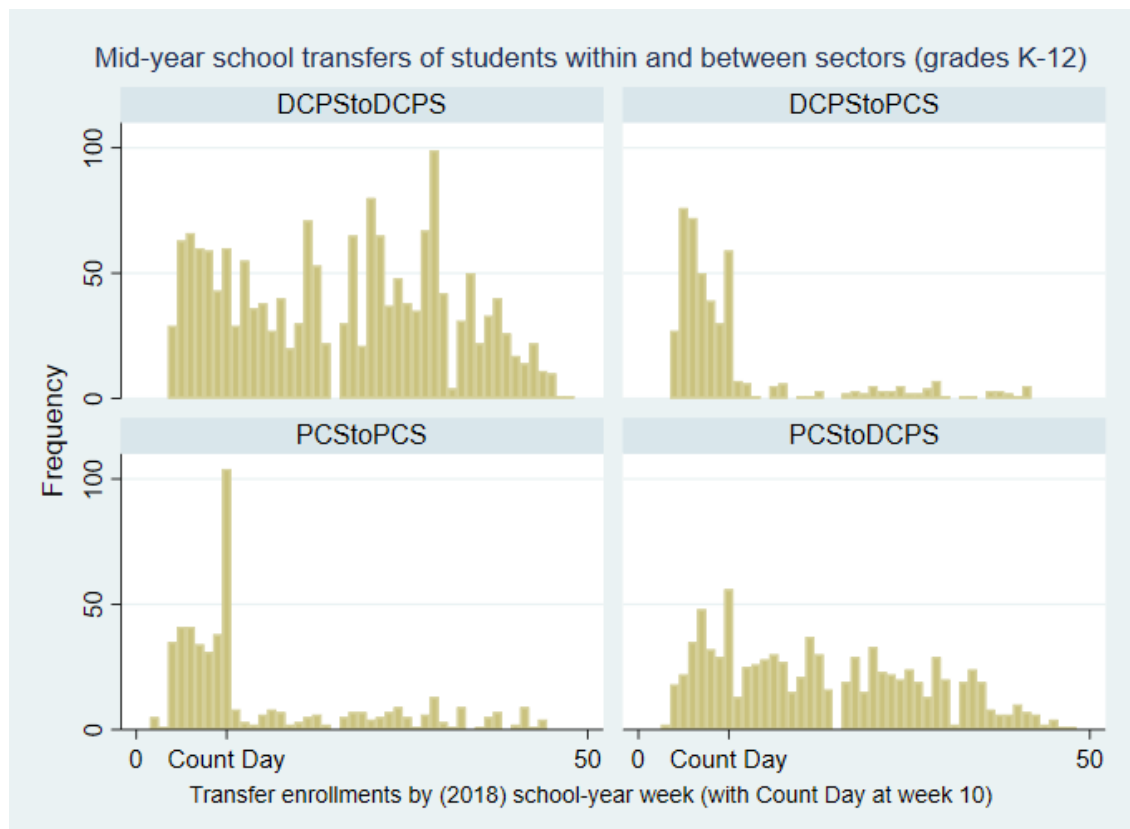
Midyear School Transfers

As we noted in Part 1, even the recent enrollment collections do not include students' final school exit data each year, but we can assess the timing and other patterns of the transfers within each school year that alter the composition of student populations attributed to schools as of count day and other accountability windows. For instance, the DC STAR School Report Cards and other reports define schools by the percentage of students enrolled on count day who are considered at-risk, but then assess other relative outcome metrics, like test scores and absenteeism, using different date ranges that reflect substantively different student compositions within the same year.

291 These values closely align with the similar analysis run on data files previously provided to ODCA by OSSE that cover the same years and student populations but contained somewhat varied records. See the ODCA [Enrollment Projections in DC Public Schools: Controls Needed to Ensure Funding Equity](#). January 9, 2020.

292 Cratty, D., Potential for Significant Reductions in Dropout Rates, Economics of Education Review, October 2012.

Figure 5.5: Midyear Student Transfers by School Week, from and to Each Sector, 2018



The graphs show weekly transfers of individual students throughout the most recent school year (of our analysis data) by the sector transferring the students and the sector receiving the students. The school year is broken out into weeks of enrollment, with enrollment records beginning in August. The 10th week of the school year shows the volume of transfers on either side of count day.²⁹³

There is considerable churn at the beginning of each school year. This is a concern raised by stakeholders in engagement efforts who request more information about these school moves, including their cause and the potential student impacts and, in particular, potential negative impacts on instructional time.

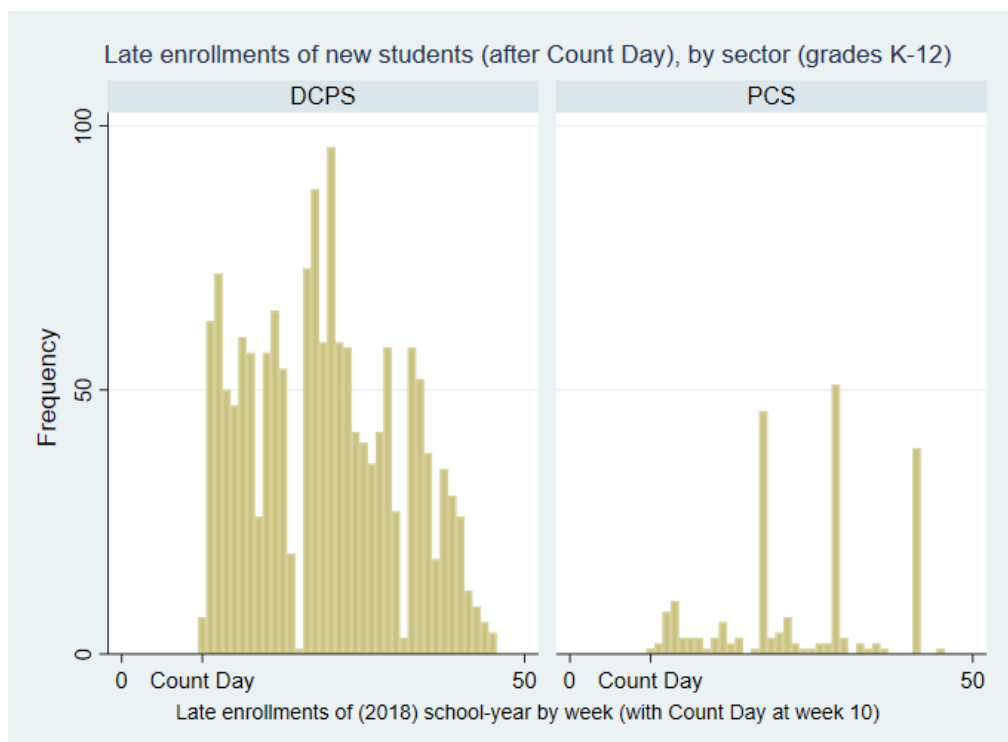
Given the missing data for end-of-year exits we have additional concerns that these may represent the volume of duplicate enrollments still in the data in the first few months of each school year. Along those lines, a little less than 1% of all K-12 students exit the school enrollment data completely before count day, which could be corrections to students still on a school's roster from the previous year due to missing exit data.

²⁹³ Note, the number of students per week is on the y-axis, the total area (weeks*height) within each panel gives the total number of students in that panel, and the total area of all panels combined is the total number of transfers.

In total, student transfers account for about 4% of all K-12 students annually. Of these total transfers, 64.9% occur after count day, and 28.3% of those are transfers from PCS to DCPS schools, while only 4.0% of the post count day transfers are from DCPS to PCS schools. Also, note that these histogram graphs record the total number of student transfers (not percentages) from each sector weekly, and as reported above, almost 60% of K-12 students are enrolled in DCPS schools. The graph's volume of DCPS transfers is not an indication that DCPS is transferring more students than PCS. It is also 60% of the total transfers as well as 60% of the total students. The percentage of students transferring out of schools in each sector is the same (4%). The difference is the volume of students transferring into schools within the different sectors. Prior to count day, 19.5% of transfers are from PCS to DCPS, and 27.9% transfer from DCPS to PCS. After count day, 28.3% transfer from PCS to DCPS, and only 4.0% transfer from DCPS to PCS. These patterns are very similar for 2016 and 2017 data as well.

We also see a similar pattern in the graphs below of the weekly counts of new or returning students enrolling in D.C. public schools after count day. These are students who have moved into D.C. after count day or have transferred into D.C. public schools from private schools after count day. Note these may also be students who dropped out of high school, but were not recorded as dropouts, due to the missing exit data, and then enrolled in an alternative high school program after count day.

Figure 5.6: Student Enrollees Arriving After Count Day by School Week and Sector, 2018

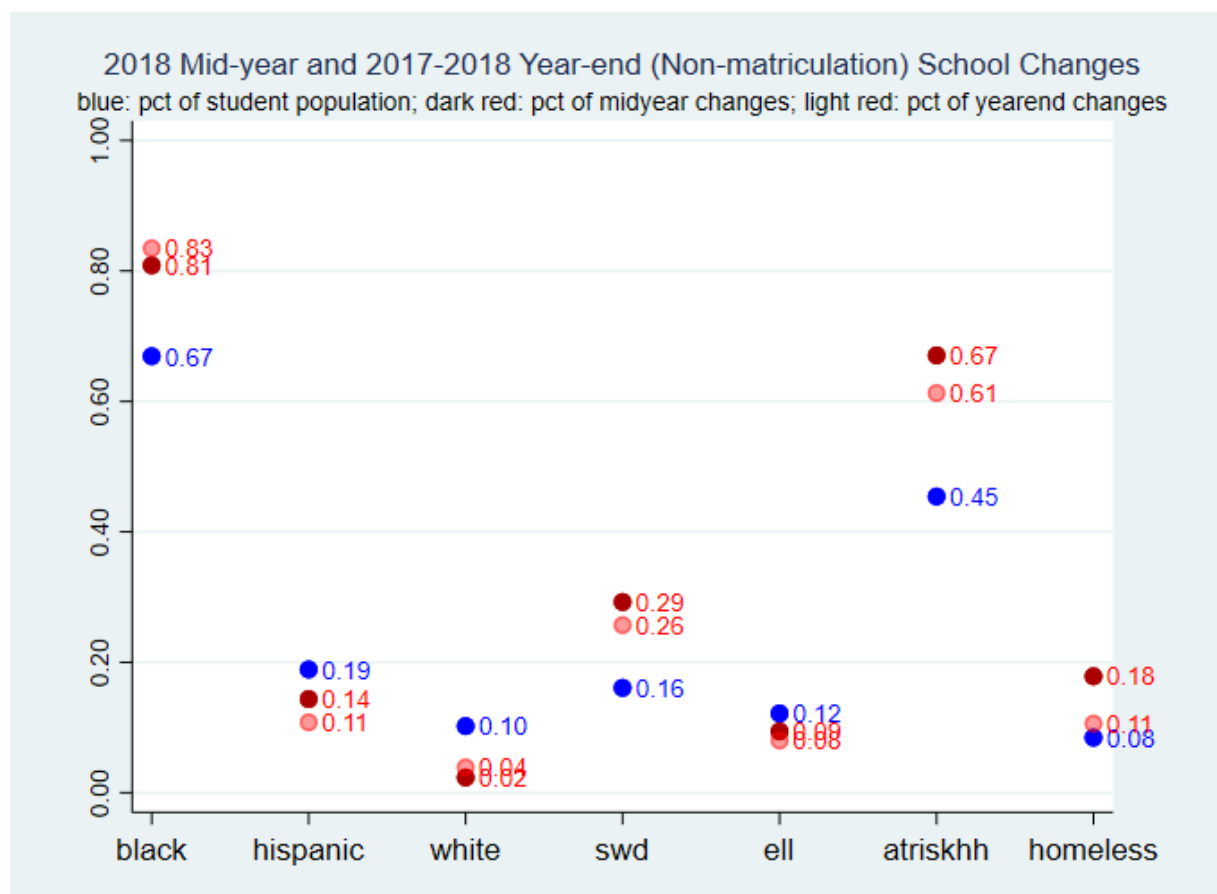


We see a large number of students enrolling after the audit budget counts, but during the accountability metrics windows, and again, very few of these students are admitted to PCS schools.

Each of these enrollment events—midyear transfers, non-matriculation school changes, and late

enrollments—are disruptive to a student’s education. In addition to the timing and sector of these disruptive enrollments, we link the data files for student, household, and school characteristics to analyze potential correlations of these. If otherwise vulnerable students are also more likely to experience these disruptions, that points to the necessity of the data systems to fully track all student enrollment events in the data files. Complete data is necessary for school systems to design policies to reduce these events and target supports reducing their impact on students.

Figure 5.7: Student Subgroups’ Relative Percentages of Enrollment and School Changes



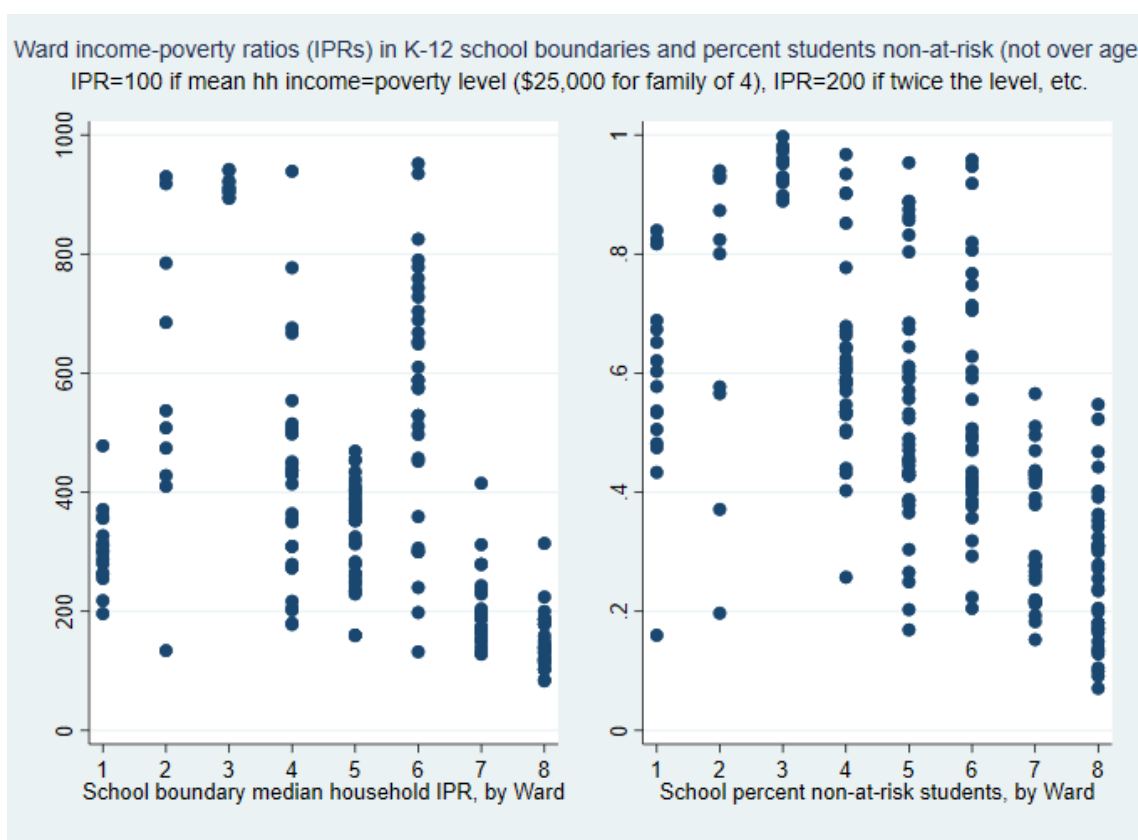
This graph shows that Black students, students with disabilities, students considered at-risk, and homeless students are all over-represented in both midyear and year-to-year school moves relative to their total share of the K-12 student population. For example, Black students are 67% of the K-12 student population in 2018, but more than 80% of those experiencing midyear school transfers and those experiencing between-year, non-matriculation school changes. We see similarly proportional jumps for students with disabilities, homeless students, and students considered at-risk. In contrast, the proportion of white, Hispanic, and ELL students transferring is lower than their percentage of the student population.

Beyond the student direct certification data determining which students are considered at-risk, we also characterize student households by the continuous socioeconomic status variable that maps to

each student's in-boundary elementary school. (Note, all D.C. students have a recorded in-boundary neighborhood elementary school, regardless of their current grade level or enrolled school.) These are the NCES/U.S. Census Bureau school boundary household income-poverty ratios (IPRs) that we describe in detail in the technical documents.²⁹⁴ Because D.C. student data records students' in-boundary schools as well as enrolled schools, we can analyze their household neighborhood SES estimate relative to enrolled school neighborhood SES. Here, we show the range of these IPR estimates and patterns across Wards.

Figure 5.8 shows these school boundary neighborhood median household income-poverty ratios for each K-12 school by Ward in the left-hand panel. The poverty level for a family of four is roughly \$25,000. This means an IPR of 100 corresponds to neighborhood median income at the poverty level of about \$25,000 for families of four. A median IPR of 200 is twice the poverty level, and an IPR of 400 is four times the poverty level, corresponding to median household income of roughly \$100,000. For instance, the graph shows school neighborhoods in Ward 3 clustered at household income levels around \$200,000, with several other wards clustering just above the poverty level.

Figure 5.8: School Boundary Household Income-Poverty Ratios by Ward (with 2017 IPRs)



294 Gevert, D., and Nixon, L., [Sidestepping the box: Designing a supplemental poverty indicator for school neighborhoods](#), NCES, 2018.

Many of the at-risk direct certification programs means test for household income just slightly above the poverty level. But these IPR measures capture the variability of school neighborhood and enrolled student household (neighborhood) income further above the poverty level that is quite large. For example, the median IPR of neighborhoods in Ward 6 range from just above the poverty level of \$25,000 household annual income to ten times that amount. In the panel on the right, the same schools are plotted by their percentage of students who are not identified as at-risk. This is the inverse of the common classification of schools in the District by percentage at-risk, and it closely correlates to the relative IPR values, with some exceptions.

In addition to capturing the income variation further above the poverty line, these SES measures provide a continuous SES variable for students as well as schools. While schools can be analyzed using the continuous variable of the percentage of students at-risk, student households are otherwise identified only as either at-risk or not. Just over half of K-12 students are not identified as at-risk by household characteristics, but the income variation within that subgroup is widely distributed. We demonstrate this variation in Appendix B.

Using these school boundary neighborhood IPRs, we analyze student enrollments by the SES level of the schools they are enrolled in initially relative to the schools they are transferred to, as well as relative to the student's own neighborhood SES measure calculated using their in-boundary elementary school neighborhood. The evidence below shows that these moves are shifting students on average to schools with SES levels lower than the schools than the school they were initially enrolled in as of count day. This pattern contradicts an assumption often made about school moves in D.C., that they are a result of the school choices available to parents, and so on balance, are good for students.

Figure 5.9: IPRs for Schools Students Were Enrolled in vs. Those They Were Transferred to

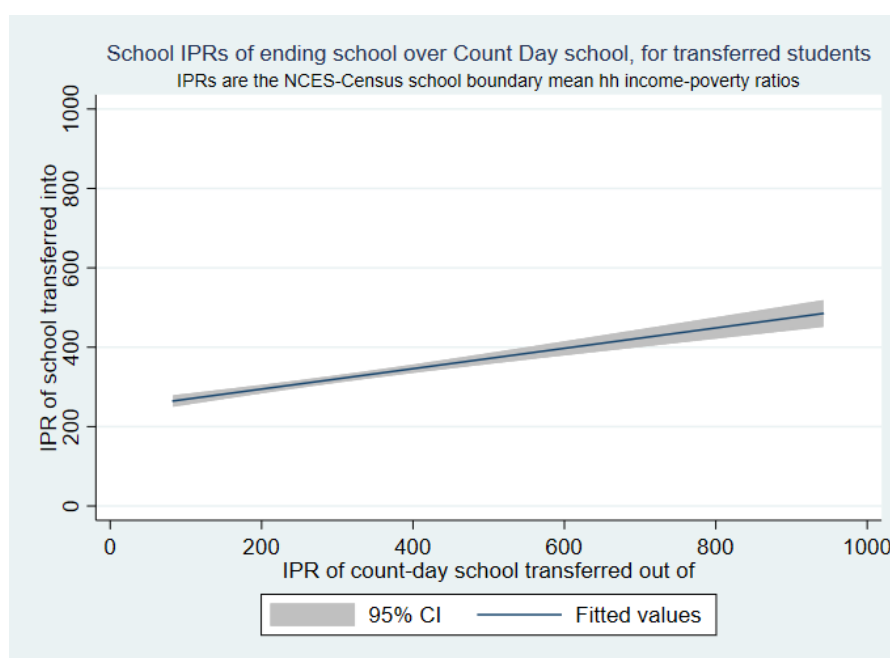
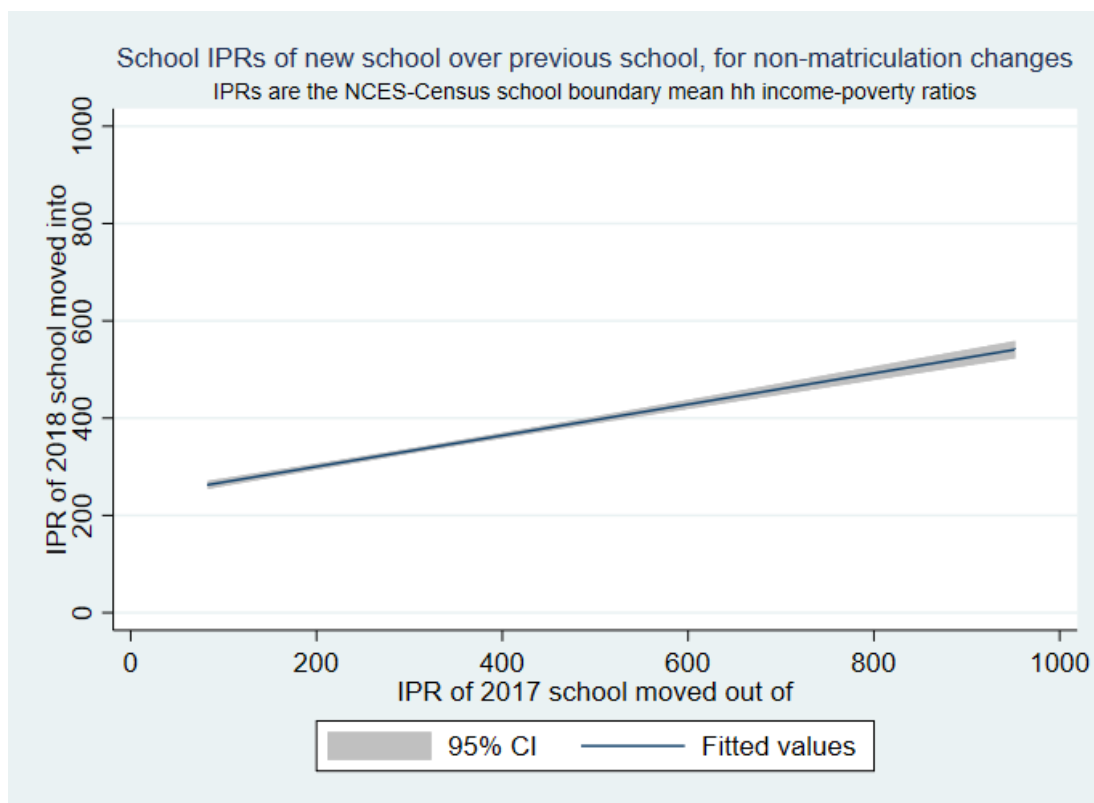


Figure 5.9 shows midyear transfers result in students being transferred to substantially lower school boundary household income levels. These are fitted lines essentially over a scatter plot (that's not shown) from simple regressions of the transfer school IPR on the previous school. The regression and scatter plot are included in Appendix B. Confidence intervals are also graphed, showing the strength of this pattern in the data. Were these schools to be similar on average, we would see this curve closely following the 45-degree line of equal IPRs. But what we see are considerably lower IPRs on average at the school students are transferred to than the one transferring them. For instance, on average, students transferred out of schools with median neighborhood IPRs of 600, are transferred into schools with median neighborhood IPRs of 400—moving from school SES measures of three times the poverty level to just twice the poverty level.

Note, these transfers were most often after count day, as the graph of school weeks showed. This means schools in poorer neighborhoods are serving more students who were disrupted with midyear transfers, and they are serving them after the count day cutoff for student funding. Also, as we know from the Figure 5-7 student subgroup enrollment change percentage graphs, many of these students were considered at-risk to begin with. The sector transfer graphs also show the volume of moves out of the PCS sector after count day into the DCPS schools. Count day is not just when the student at-risk funds would be allotted, but those enrollment audits are also used in much of the reporting that misattributes the higher rates of at-risk students to the sector, by referencing the numbers they had before most of the transfers and late enrolling students. Figure 5.10 shows a similar pattern for between-year, non-matriculation school moves.

Figure 5.10: IPRs for Schools Attended in 2017 vs. 2018 After Non-Matriculation School Moves



Similar to the midyear transfers, we see a downward trend in the SES level of schools as students are moved from one to the next. At the low end of IPR schools, the moves are between similarly low SES schools. But again, as school IPRs increase, more of the moves are clearly to lower SES schools. This is the pattern for both midyear and between-year school moves.

Summary of Findings

- There is considerable churn at the beginning of each school year indicating possible significant negative impacts on instructional time.
- Enrollment files do not record demographic fields consistently each year.
- Black students were 67% of the K-12 student population in 2018, but over 80% of those experiencing midyear school transfers and experiencing between-year, non-matriculation school changes. Also seeing more change than their proportion in the population: students with disabilities, homeless students, and students considered at-risk. In contrast, the proportion of white, Hispanic, and ELL students transferring is lower than their percentage of the student population.
- About 4% of all K-12 students experienced transfers annually. Of these total transfers, 64.9% occur after count day, and 28.3% of those are transfers from PCS to DCPS schools. Only 4% of the post count day transfers are from DCPS to PCS schools.
- On average, midyear transfers result in students being transferred to schools whose boundaries contain substantially lower household income levels.

Data Notes

Data Sources

The data sources prepped and merged for analysis in this brief are the following OSSE annual student-level data files and OSSE and NCES annual school-level data files (see the Appendix B for more details on the data sources and preparation):

- 2016-2018 student universe files of all students enrolled through each year.
- 2013-2015 student enrollment files of only students enrolled on count day each year.
- 2016-2018 student direct certification files of at-risk category components.
- 2013-2018 school-level enrollment files.
- 2013-2018 Common Core of Data (CCD) school-level data submitted by D.C. to NCES.
- 2016 and 2017 NCES/Census school boundary household income-poverty ratio estimates.

Analytic Dataset Preparation

As part of this enrollment data analysis we classify seven school types students are enrolled in each year and grade. The school types are determined by the following OSSE school-level data classifications and OSSE data documentation. The school types and variable names used in the graphs below are the following:

Regular schools (reg).

- Schools serving only students with disabilities (SPED).
- Schools providing adult education programs exclusively (AE).
- Preschool-only schools, or preschool and kindergarten grades only (PK-K).
- Schools providing alternative learning programs exclusively (Alt).
- Alternative-measure STAR metrics schools (AltSTAR) including opportunity schools.
- Non-D.C.-public schools, primarily special education programs, outside of D.C. (nonDCpub).

We create the following variables identifying each student's non-mutually exclusive direct certification categories. More specifically, students can each fall into multiple categories below. We create two additional categories, one for students designated at-risk only due to being over age in high school (dcageriskonly), and another for those with any direct certification status of household characteristics (dcatriskhh). The at-risk variables created from the direct certification ("dc") data files are the following:

- At-Risk any category (dcatriskall).
- SNAP (dcsnap).
- TANF (dctanf).
- CFSa (dccfsa).
- Homeless (dchomeless).
- Over age for high school (dcoveragehs).

The largest of these direct certification categories are shown in graphs throughout the brief, along with these student demographic and special program indicators:

- three largest race/ethnicity categories: Black, Hispanic, white²⁹⁵.
- students with disabilities (swd).
- English language learners (ell).

²⁹⁵ Note, the demographics data elements in the OSSE student data files include one combined race-ethnicity category with the option of one of seven mutually exclusive categories that include "Hispanic" and six race categories.

Part 6

Data Analysis Brief on Longitudinal Testing Data

Abstract

This brief uses individual student longitudinal test score data to investigate trends in student test score growth in the District over time relative to trends in proficiency levels. We find important trends that are worthy of more research including a strong pattern of increasing English Language Arts (ELA) test score growth over time, decreasing math growth, and a substantial and consistent drop in test scores in 6th grade. In addition, we show that the District's reliance on proficiency rates and student growth percentiles alone are statistically problematic and therefore misleading. Further, we find that while test scores are strongly related to school neighborhood poverty levels, test score growth is not related to income, providing a more useful metric for understanding school and student learning. We also find that on average, students' own test score growth is several points lower when they experience a midyear school transfer. This is found for students all along the test score scale and is therefore not simply a correlation of lower scoring students being more likely to be transferred midyear. Finally, we compare 7th grade math score distributions of DCPS students considered to be at-risk, relative to others, and find these students underrepresented in advanced 8th grade math opportunities. The District currently relies heavily on aggregate and point-in-time data and does not use individual student test score data linked longitudinally over time for accountability, equity, or improvement-focused analyses. However, longitudinal data use is necessary to analyze these relationships reliably and accurately in order to best inform continuous improvement.

Background

As described throughout this report, current use of test data in the District of Columbia is limited and imprecise and contributes to misleading results for accountability models and equity analyses, while producing very little of use for continuous improvement. There are significant limitations to the use of cross-sectional, aggregate proficiency rates for assessing District student achievement over time or across student subgroups, schools, or sectors:

- The use of cross-section samples rather than longitudinally linked student data means that each year's sample is representative of the student population that year only, because the student population composition changes over time.
- All states and districts have some in-and-out migration of families with school-age children, and the demographic trends of increasing or decreasing family formation, and this adds variability.
- D.C. has one of the strongest gentrification patterns in the country, so there is not just high variability in the D.C. cross-sectional measures, but the measures may be inherently biased as well, if the demographic shifts correlate with student test scores or proficiency rates versus growth

occurring over time for similar populations.²⁹⁶

There are also limitations inherent in the current use of District student proficiency levels and rates that make it essential to view them alongside student test scores and growth:

- Proficiency rates do not capture even large changes in test growth or decline if that change does not cross a proficiency threshold.
- Proficiency rates do not reliably or accurately identify gaps between groups of students.²⁹⁷
- Research shows that a reliance on proficiency rates can lead systems and teachers to focus help on “bubble” students to increase their scores near important proficiency cutoff levels.²⁹⁸

There are additional limitations inherent in the current approach to calculating test score growth for students and schools. The main growth measure reported on student test records are the **student growth percentiles** (SGPs), which are used to generate school **median growth percentiles** (MGPs) for the STAR school report cards. The limitation is in the use of the PARCC consortium members as the reference base for each District student’s SGP.

More specifically, the PARCC option of generating student test growth measures relative to **academically similar students** in other states has become less useful for PARCC consortium members as many states have replaced PARCC with their own new state assessments. Since D.C. began using the PARCC assessment in 2015, most states have left the consortium completely, and a few have created **hybrid tests** that are no longer comparable. As of 2020, the only jurisdictions remaining in the PARCC-only sample are D.C., the Department of Defense Educational Activity, and the Bureau of Indian Education. As the reference sample has changed dramatically over the years, it is invalid to interpret consortium-based District SGPs and MGPs as District student test score growth. The District students are being compared to a changing sample of students each year. This means that in each year, as some states left the consortium, D.C. students’ SGPs may have increased or decreased on average as a function of the specific states leaving, not solely reflecting local achievement growth.

In this brief we calculate and analyze student growth differently than a relative measure of growth like the SGPs described above. PARCC scores are consistent **interval score scales** that are **horizontally aligned** to the consortium’s college and career readiness standards (or content or constructs) for each grade and subject, and while not technically **vertically aligned** in name they are vertically aligned in function²⁹⁹. The consortium aligned the grade and subject scales along consistent and comparable distributions and the consistent proficiency cut-scores, so that a score of 750 for meeting expectations, for example, is consistent across all tests. Comparisons of student test score levels or proficiency levels across grades or subjects, will vary somewhat due to the inherent learning pace differences related to each grade’s specific content. For instance, as we show below, the proficiency cut-score of 750 is likely to be reached sooner in

296 Institute on Metropolitan Opportunity, [American Neighborhood Change in the 21st Century](#), April 2019.

297 Shafer, L. [When Proficient Isn’t Good](#). January 2016.

298 Neal, D., and Schanzenbach, D., [Left Behind by Design: Proficiency Counts and Test-Based Accountability](#). The Review of Economics and Statistics, April 15, 2010.

299 PARCC strikes an important balance in test characteristics and data functionality. More can be read about PARCC functionality here: Pearson, [PARCC Final Technical Report for 2018 Administration](#), February 2019

the mastery of 5th grade math material than 6th grade. Yet, as our analysis shows, these learning pace differences are additional insights that can be studied with the PARCC longitudinal test scores and can be controlled for in studies of longitudinal growth or comparisons of student or school achievement levels across grades. As we show in analysis in this brief as well, middle schools in the District evaluated on their 6th-8th grade student math proficiency rates are likely receiving students who performed at higher 5th grade math proficiency levels at their elementary schools. These qualities allow student-level PARCC data users to calculate growth by simply taking the difference between student scores in one year and the next. For example, students and caregivers may validly do the same calculation to determine their own test score growth over time as was intended in the development of PARCC. Therefore, whenever growth is discussed in this brief, it is calculated as the raw difference between test scores over time.

More specifically, a flat growth rate indicates approximately one year of gains in achievement to maintain approximately the same score in a subsequent year and test. Alternatively, negative growth means that a student achieved less than a full year's worth of gains on the subsequent test—it does not mean that they lost skills or knowledge. Finally, positive test score growth indicates that a student achieved more than one year's worth of test score growth from one year to the next.

Finally, it is important to note that this brief builds on a wealth of rigorous statistical research exploring the limitations of proficiency levels and rates for accountability, equity, and continuous improvement.³⁰⁰

Data Analysis and Findings

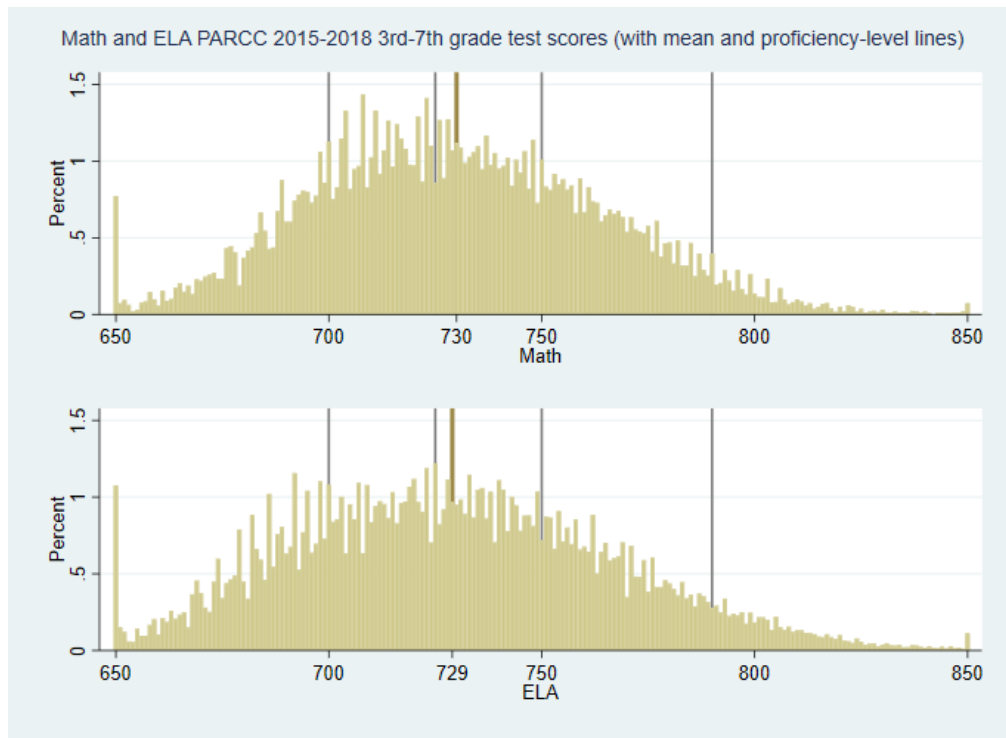
Proficiency rates do not fully reflect variation and change in test scores

In math and ELA in each grade from 3rd through 8th and several high school years, students score along a range of test scores on the PARCC scales from 650 to 850. There is wide variation in the specific scores from student to student in a given year, grade, and subject, and from year to year for the same student. While proficiency levels are important to track for student achievement, there is a lot of actionable data in the underlying test scores themselves that the District does not use. For instance, Part 3 reviewed the valuable role test score data played in practitioner decision support and state and district student achievement analyses.

Figure 6.1 contains two *histograms* of the distribution of the student test score data for all students taking the PARCC assessments in grades 3-7 in years 2015-2018. The top graph is for math, and the bottom graph shows the ELA scores. The scores form a *normal distribution*, as is expected. The bottom scale score of 650 is possible, as shown. The top score of 850 is above the top tail of the distribution to avoid ceiling effects that result when, for example, a 4th grader is scoring at a high 5th grade level—this way, the 4th grade test can still reflect that.

300 See for example: Glazerman, S. & Potamites, L., False Performance Gains: A Critique of Successive Cohort Indicators, Mathematica, December, 2011. Ho, A. The Problem with "Proficiency": Limitations of Statistics and Policy Under No Child Left Behind, Educational Researcher, 2008. Yee, D. S., & Ho, A. D., Discreteness causes bias in percent-above-cutoff comparisons: A case study from educational testing. American Statistician, 69, 174-181, 2015.

Figure 6.1: Distributions of PARCC Math and ELA Scores for Grades 3-7 and Years 2015-2018



Also shown on the graphs are the proficiency level cut-scores of 700, 725, 750, and 790 (generally). The height of the bars are percentages of students out of the total sample of students, which means the area of the bars in each section of the graph measures the total percentage of students above or below a given score. Finally, the sample mean test scores, of 730 in math and 729 in ELA, can also be read (as the gold vertical line) on the graph—showing the mean score to be slightly above the median (of approximately 725), which is to be expected given the longer right-hand-side tail of the distribution.

The best way to understand student test score growth, however, does not rely on these cutoffs but the actual test scores. For example, it is possible for students to see a 25-point test score increase from one year to the next while not crossing a proficiency cutoff, for example, by moving from a 670 to a 695. It is also possible for students to score 5 points higher in a subsequent year and cross a proficiency threshold, such as from a 746 to a 751. Even though students in the first example experienced substantially more test score growth than the latter example, none of that growth is reflected in their proficiency level.

We use all these pieces of information about the distributions of the underlying test scores as we analyze the scores throughout the remainder of this brief. We first limit our analysis to assess the existing analyses of test score achievement metrics currently used in the district. These are the aggregated cross-sectional proficiency rates and consortium-based student growth percentiles.

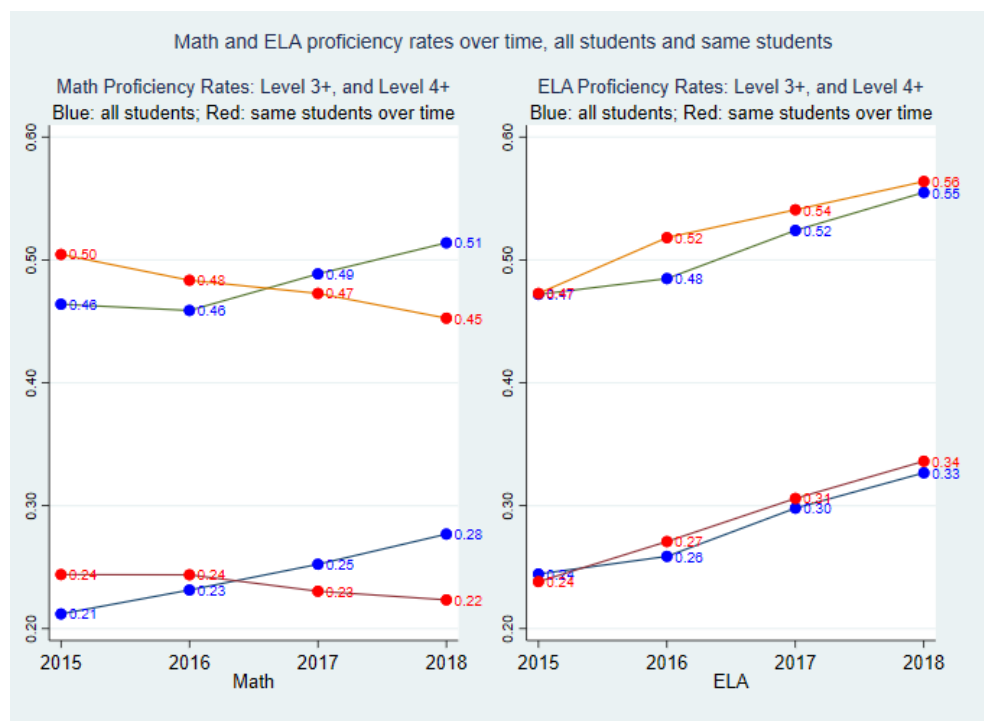
Cross-sectional data does not accurately represent growth

Using the student-level longitudinal test data, annual cross-sectional proficiency rates for D.C. can be plotted over time. These cross-sectional data are what is typically presented in District reporting of yearly

proficiency rates and show the proficiency rates of students in test taking grades at that point in time. However, as we show below, these proficiency rates can also be generated for only those students who were in D.C. schools throughout this entire time period, in this case from 2015 to 2018. Notably, test score trends of “same” students show a different pattern than all enrolled test-taking students, particularly in math.³⁰¹

The mean annual proficiency rates across all grades are shown here in Figure 6.2. These are the blue points, with the Level 3 rates showing above the Level 4+ rates, and for math in the left panel and ELA in the right. For example, in 2015, 46% (0.46) students tested at Level 3 or above in math, while 21% (0.21) tested at Level 4 or above. For ELA, the rates were 47% and 24%. With few exceptions, all four (blue) proficiency rates increase over this time span including both subjects and both levels. We then compare these to the (red) rates for only students who were present in D.C. schools throughout this time period versus the (blue) full cross-sectional totals each year which include new arrivals. Note that math proficiency does not improve for same students in D.C. over this period; improvement is shown only for the annual total samples of all enrolled students (including new arrivals).

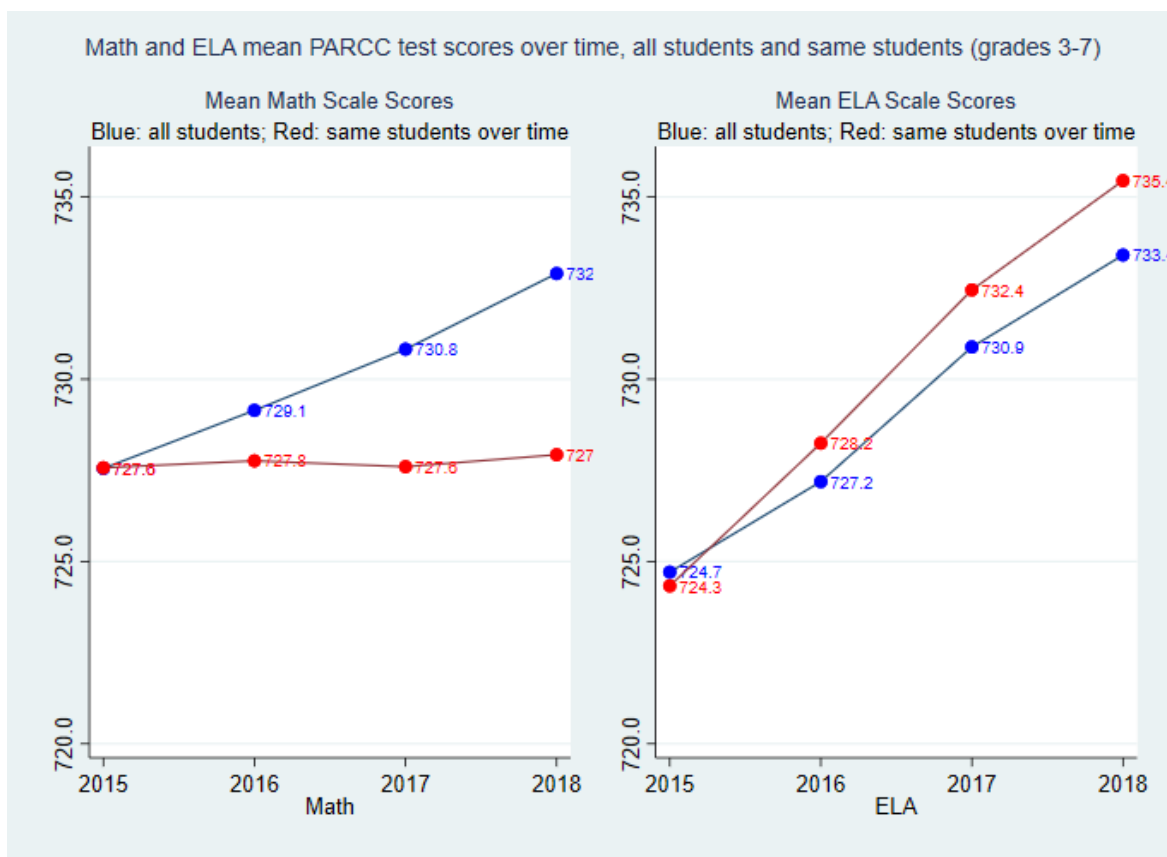
Figure 6.2: Annual Proficiency Rates for All Students Each Year Versus Same Students Only



301 We conducted a number of sensitivity tests for these analyses to ensure the results were independent of differences in distributions of students across grades and the potential learning pace differences by grade and subject that may not be controlled for in PARCC assessments, as we illustrate further below.

In Figure 6.3, below, cross-sectional 3rd–7th grade math test scores, rather than proficiency rates, also appear to have grown between 2015 and 2018: from 727.6 on average to 732.9. But, as with the proficiency rates, this growth trend “result” also disappears when taking the means of the scores annually for only those students who were enrolled in D.C. schools throughout that time span. Mean math scores for the sample of “same students” remain at that similar level each year—ranging only from 727.6 to 727.9. Also similar to the proficiency rate trends, mean ELA test scores increase each year for both the cross-section of all students and the longitudinal cohorts of same students. The growth in ELA scores is slightly steeper for same students than the cross-sections would imply.

Figure 6.3: PARCC 3rd–7th Grade Test Scores for All Students Each Year and Same Students Only



Importantly, cross-sectional aggregates do not accurately measure individual student achievement growth on average, without first controlling for a sample of students consistently enrolled over the relevant period.

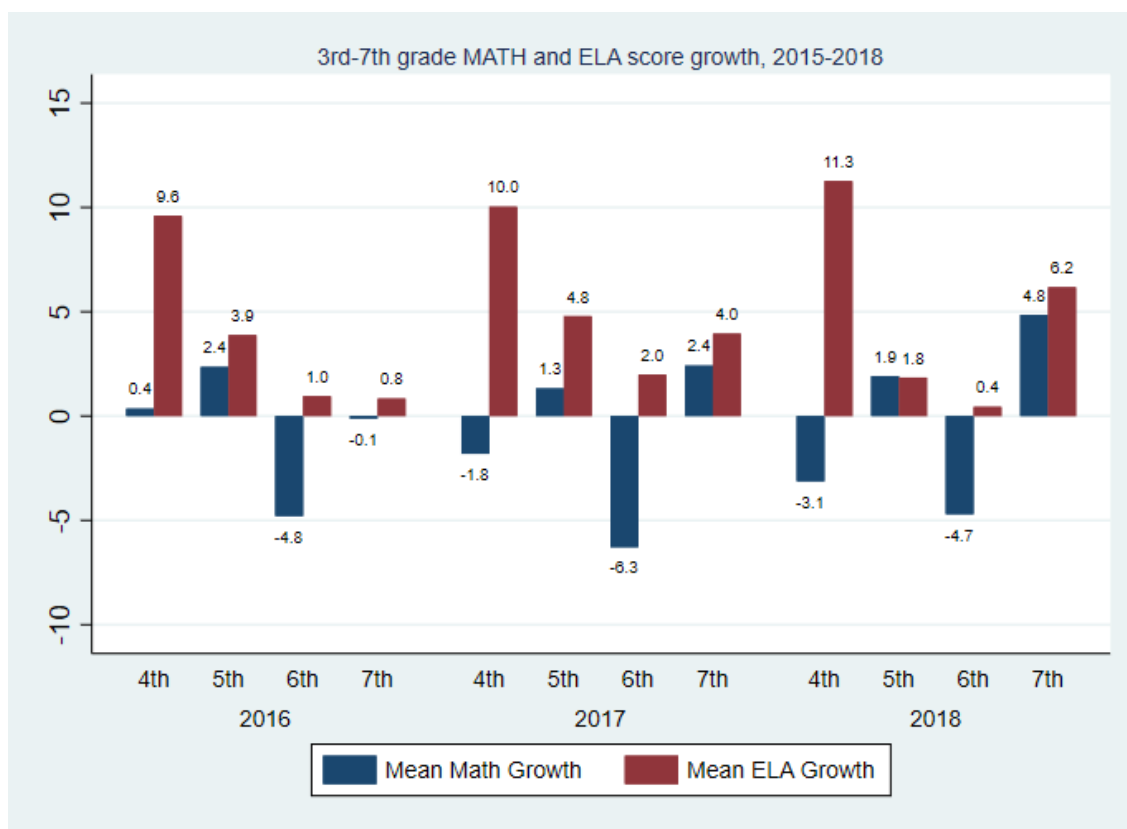
Student longitudinal test growth is more appropriate than aggregate growth

In this brief, we also emphasize the use of student-level longitudinal test score data for continuous improvement purposes, versus the current test data use. There are two important findings in the student longitudinal data that we highlight in the next graph. One is that growth is positive overall in ELA, but flat

in math. The second important finding is a clear pattern of negative growth in 6th grade math, across all years.

This graph shows the distributions of student test score growth, or year-to-year change in test scores. These are the annual growth measures for all students with adjacent year and grade scores. For example, the bar height and value of 4.8 test score growth in ELA for 5th graders in 2017 is the mean difference between their end-of-year 5th grade ELA test and their 2016 4th grade test. What we see in this graph is that test score growth is larger in ELA on average—across students, grades, and years—than in math. We also see a different pattern across the grades as well. The 4th grade ELA growth is over 10 points on average. Remember, the full test scale spans 200 points, from 650 to 850, but as the distributions in Figure 6.1 show, most of the values fall between 650 and 800. This means that a 10-point mean is substantial. The pattern in math is quite different, showing smaller gains on average and a persistent, substantial drop at 6th grade each year. This finding is worthy of more research and reporting to gather context and foster improvement.

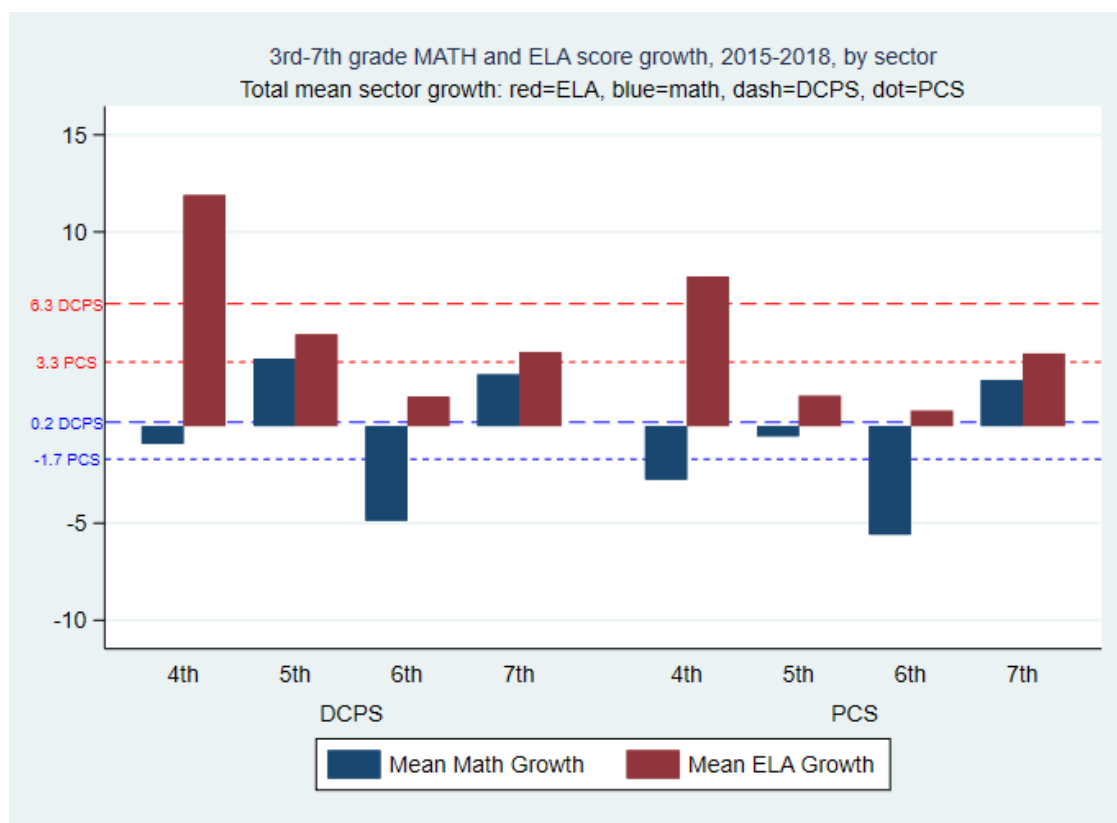
Figure 6.4: PARCC 2015-2018 Annual Test Score Growth All Grades 3-7 for Math and ELA



In Figure 6.4, both sectors show the same subject pattern as the full District sample with ELA test score growth higher on average than math. They also show the same grade patterns of higher than average ELA growth in 4th grade and a drop in test scores (negative growth) in math at 6th grade. However, there is also

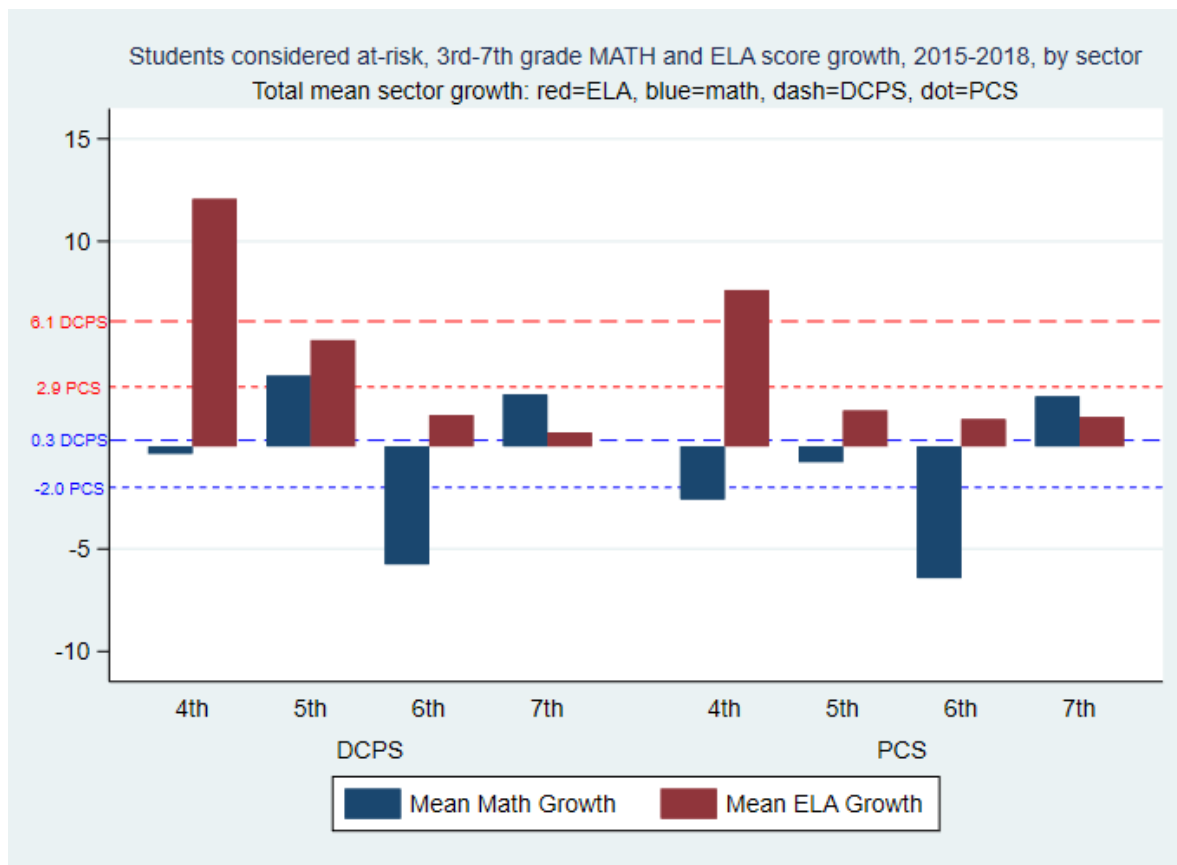
a sector pattern now shown across the subjects and grades (and this was found in each year's test growth, not broken in the graph). Positive growth is higher and negative growth is lower in DCPS schools than in PCS schools across most of the grades and subjects.

Figure 6.5: PARCC 2015-2018 Test Score Growth, Grades 3-7, Math and ELA, by Sector



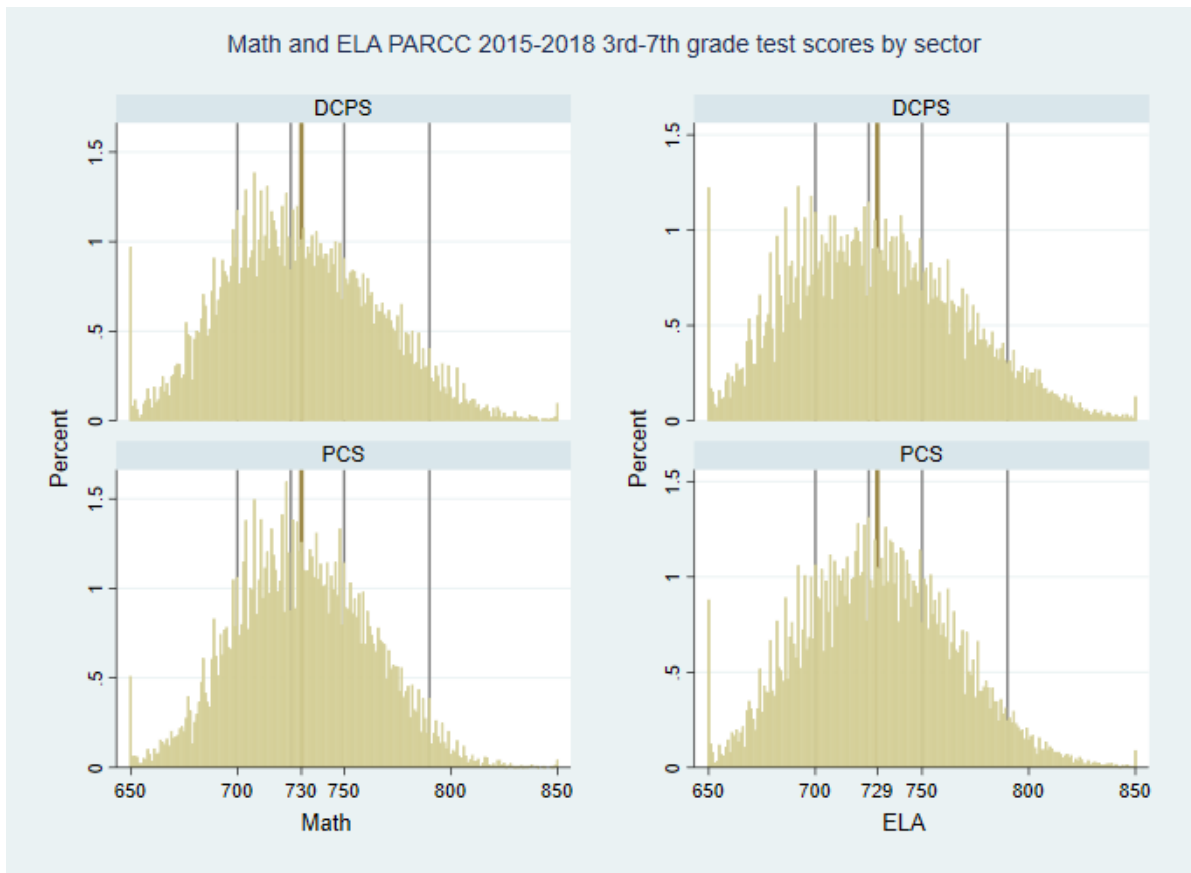
In Figures 6.5 and 6.6, the mean lines and values are shown for each sector and subject. These show whether student growth is positive or negative on average, but also whether the positive or negative mean is higher or lower in one sector than the other, and by how much. Also, by comparing the graphs, the mean differences can be read for all students, relative to students considered at-risk. In Figure 6.5, averaging across grades, DCPS math test score growth is relatively flat (+0.2), while PCS math growth is negative (-1.7). The average growth in ELA is positive in both sectors, but the growth in DCPS schools (+6.3) is almost twice the PCS school average (+3.3).

Figure 6.6: PARCC 2015-2018 Test Score Growth, by Sector, For Students Considered At-Risk



In Figure 6.6, we see similar patterns—across the subjects, grades, and sectors—for students considered at-risk. As before, when averaging across grades, DCPS math test score growth is relatively flat (+0.3), while PCS math growth is negative (-2.0). The average growth in ELA is positive in both sectors, but the growth in DCPS schools (+6.1) is twice the PCS school average (+2.9). The sector gaps are similar, though slightly larger for at-risk students. It is useful to compare the full distributions of the test scores for each of these categories, as we did with the full student sample. As we noted in that discussion, much more can be understood about the underlying student-level test scores by viewing the full distributions than simply their resulting mean values.

Figure 6.7: PARCC Score Sector Distributions by Math and ELA, Grades 3-7, Years 2015-2018



In Figure 6.7, we see the distributions of student test scores in both sectors are centered over the same mean. In both subjects, the sector means are less than a point apart: averaging 730 for math and 729 for ELA. The difference in the distributions between sectors is the dispersion of the test scores. The DCPS distributions are wider in both directions in both subjects. There are more low scoring and high scoring students in the DCPS schools. The sector graphs are also absolute values within each subject panel, so we can see the total share of students is larger in DCPS (at least those in tested grades).

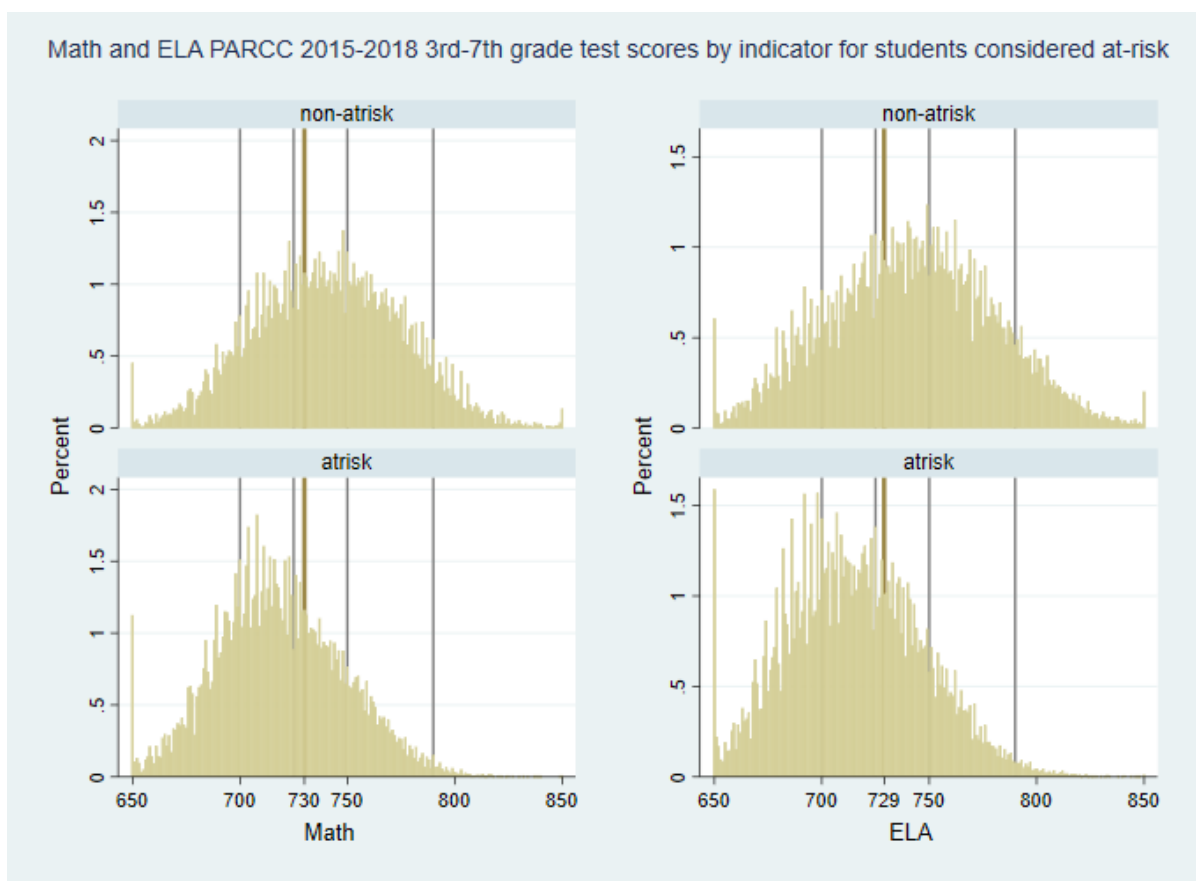
Further, we can see the area of bars in the low scoring region of the DCPS distributions has more volume than those in the high scoring region. This indicates a higher percentage of lower scoring students in DCPS than PCS. We can also see this in the fact that the sector difference in median scores for each subject is three points versus the one-point difference in means. In other words, students scoring in the lower half of the DCPS student sample score three points lower than the lower half of students in PCS schools.

This difference in proficiency levels goes in the opposite direction from test score growth. For instance, the ELA test score median is three points lower in DCPS, but the ELA growth is three points higher. On average, students enrolled in DCPS schools have lower ELA test scores but experience higher test score growth. The fact that we see the highest test score growth in 4th grade ELA is encouraging in that students

are getting the largest boost in achievement early. Finally, unlike math growth, we do not see ELA growth turn negative in the subsequent grade tests, which means the growth is sustained and increased in subsequent grades, even if at a lower rate.

In the next section, we illustrate this lack of correlation between test scores and test score growth, and we explain the implications of that for an accountability system and for achievement and equity analyses that assume proficiency levels necessarily represent growth. First, we look at one more set of distributions. These are for students considered at-risk, relative to students not considered at-risk.

Figure 6.8: PARCC Score Distributions (2015-2018), By Status of Students Considered At-Risk



Recall that the volume of bars represents the relative percentages of students between the two subgroups. More than half of the students in the tested grades sample are considered at-risk. The percentage of students considered at-risk among DCPS PARCC test takers is 57.5%, compared to PCS at 42.5%. The full sample means are again shown for math (730) and ELA (729). Yet now we see much lower scores overall in both subjects for students considered at-risk. In math at-risk status corresponds to a mean score of 718, far lower than the mean of 741 for students not considered at-risk. For ELA, at-risk status corresponds to a mean score of 716, far lower than the mean of 742 for students not considered at-

risk. Again, the lower average test scores among students considered at-risk and the higher percentage of those test takers in DCPS schools does not lead to lower test score growth as we saw above in Figure 6.8.

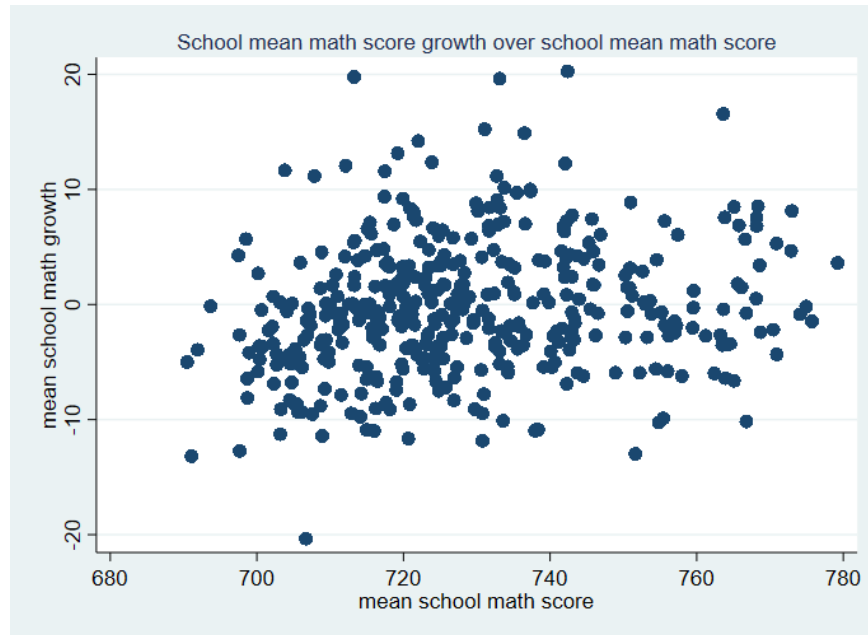
Test score growth is best analyzed directly using student scores over time

That this student subgroup with significantly lower average test scores could have test score growth measures that are almost identical to the full sample may be surprising, but this is to be expected. As we have stressed, student longitudinal test score growth is the best measure for any assessment of student achievement gains over time and across subgroups or schools. However, as we show below, it is difficult to find clear patterns in growth over time at the school or program level, and so these better measures end up less frequently used for identifying higher growth despite their merits. Instead, the more pronounced patterns of proficiency levels are incorrectly assumed to be the result of higher or lower growth. In this section, we explain and illustrate the problem with that assumption.

Test score growth, which matters tremendously at the student level, only reveals patterns in the aggregate at very large sample sizes. These measures often differ substantially from year to year for the same student and in general aren't easy to predict or fully explain even after accounting for other observable differences among students – like socioeconomic status. Taking small samples of student growth measures by school, for instance, is unlikely to reveal patterns even if there are differences. For example, if we looked at school test score growth, we would not find large consistent differences like those of the large sample grade, year, or sector differences in the previous sections as average growth consistently varies from student to student and year to year.

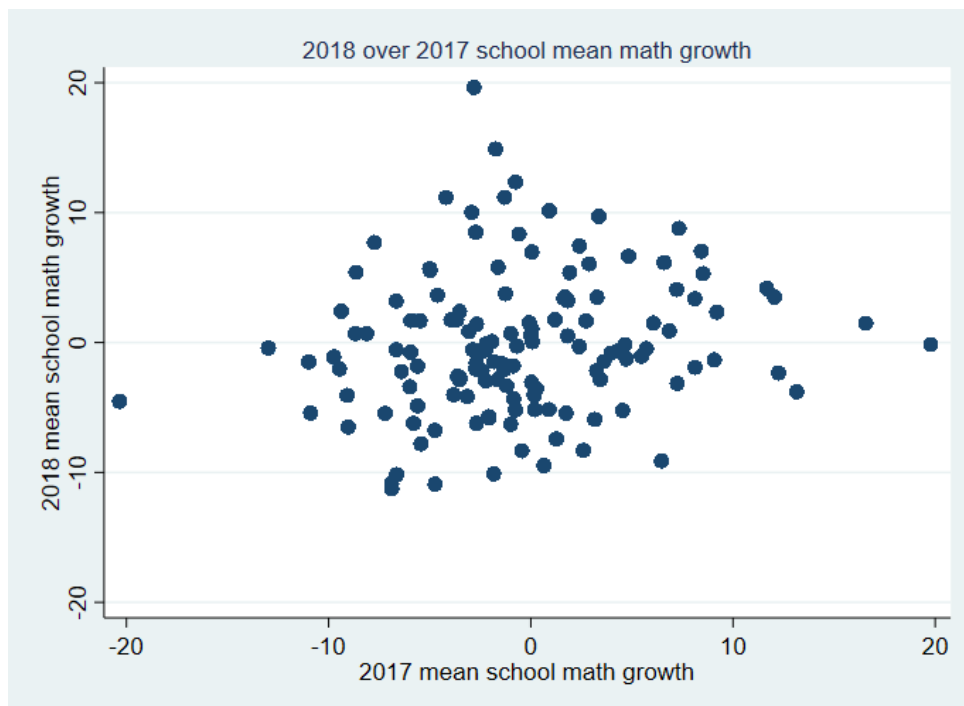
Figure 6.9 shows the absence of correlation between school-level measures of student test score growth and student test scores. It is not safe to assume that schools with higher than average test scores achieve those in large part through persistently higher test score growth, relative to other schools. That is, we do not see in student achievement data a pattern of higher scoring schools on average having higher growth on average.

Figure 6.9: PARCC 2015-2018 School Mean Math Score Growth Compared to Test Scores



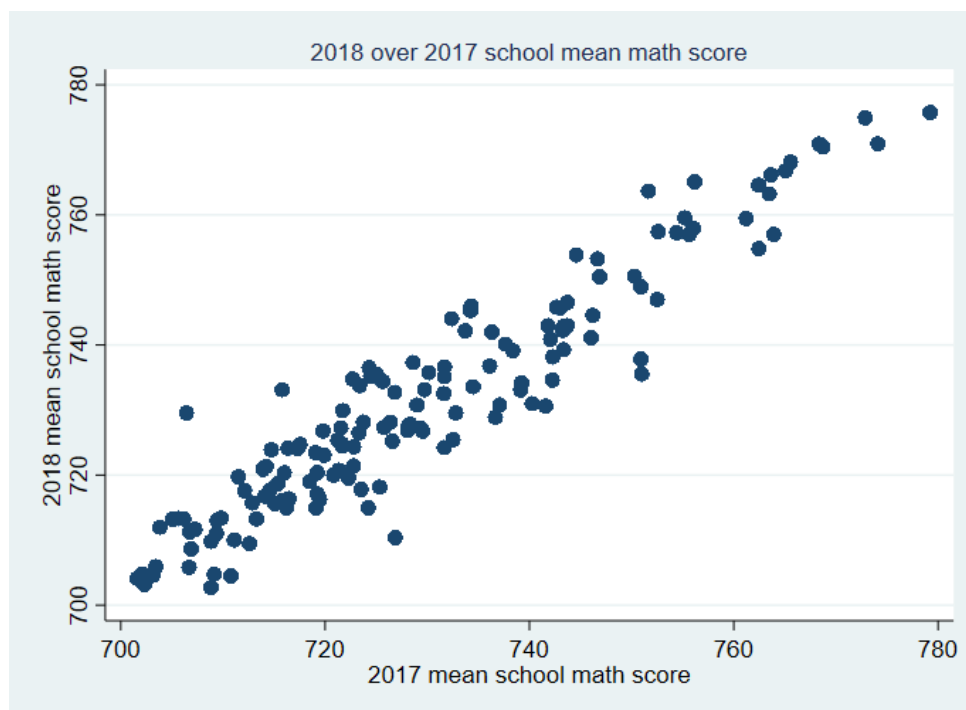
Not only are the school test score growth means not correlated to the school test scores, but they are also not correlated over time for the same schools. In other words, we do not see some schools with persistently higher growth than others. We show this in Figure 6.10 by comparing each school's mean math test score growth in adjacent years.

Figure 6.10: PARCC 2018 School Mean Math Test Score Growth Over 2017 Mean Growth



It is hard to discern a strong pattern in this graph of consistently higher average growth in the same school over time. Additionally, we analyzed the same school growth measures in the next adjacent year (2016) and compared those to these two (2017 and 2018) in a three-dimensional graph not shown here. And there is no school in which growth is positive or negative in all years, and no school where growth means are clustered in any way. We conclude that aggregate analysis should not be used to attribute a recent year of higher than average test score growth for a subset of schools as somehow indicating better long-term educational practices. The nature of test score growth measures makes it unlikely that a given year represents a valid trend, as opposed to an individual (and temporary) observation. However, as we show in the next graph in Figure 6.11, school average test scores, not growth, are very highly correlated from one year to the next.

Figure 6.11: PARCC 2018 School Mean Math Test Scores Over 2017 Mean Scores

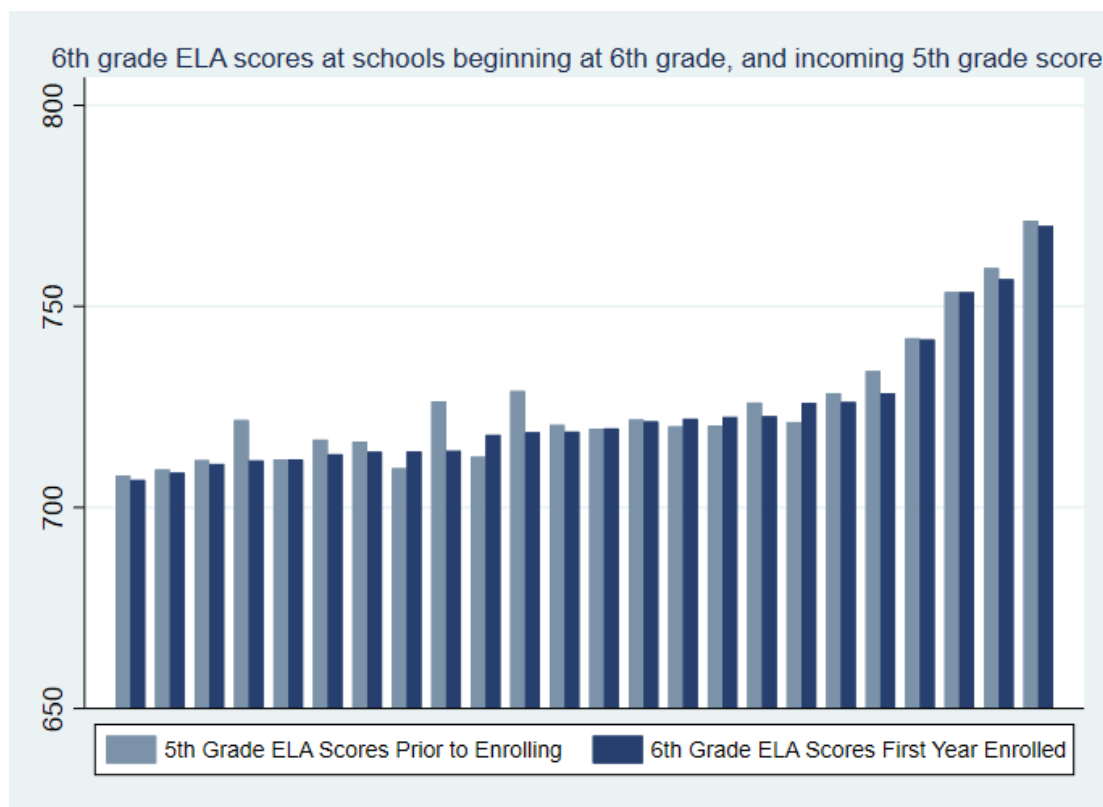


As Figure 6.11 shows, schools with higher scoring students, on average, are persistently higher scoring over time. This finding taken together with the previous finding of no relationship between test scores and growth over time means that aggregate analysis that attributes growth in achievement to schools with higher than average test scores are not valid. Further, these analyses are likely to mistakenly identify high scoring schools as high growth schools, or low scoring schools as low growth schools.³⁰²

Mistakenly identifying a school as contributing to higher or lower student achievement growth, relative to other schools, matters in any school context, but is more significant in a strong school choice jurisdiction. Schools that enroll higher than average scoring students should be correctly identified as such, leaving analysis of the attributes of higher growth to the student-level longitudinal data models, with additional controls and large samples, which we discuss in the final section of this brief. In the final two graphs of this section, we illustrate this concern using findings from a simple student-level, longitudinal analysis. In Figure 6.12, we graph the mean 6th grade ELA test scores for middle schools beginning with grade 6, and we pair with these the mean 5th grade ELA scores from the previous year of their incoming 6th graders.

³⁰² Also, note, that in a weighted accountability measure, like the STAR framework, which includes both school mean test score levels and mean test score growth, the stronger correlations (or signal) in the annual level means will outweigh the weaker correlations (or noise) in the growth means. It is important to be clear about the actual influence of each in the summative accountability metric.

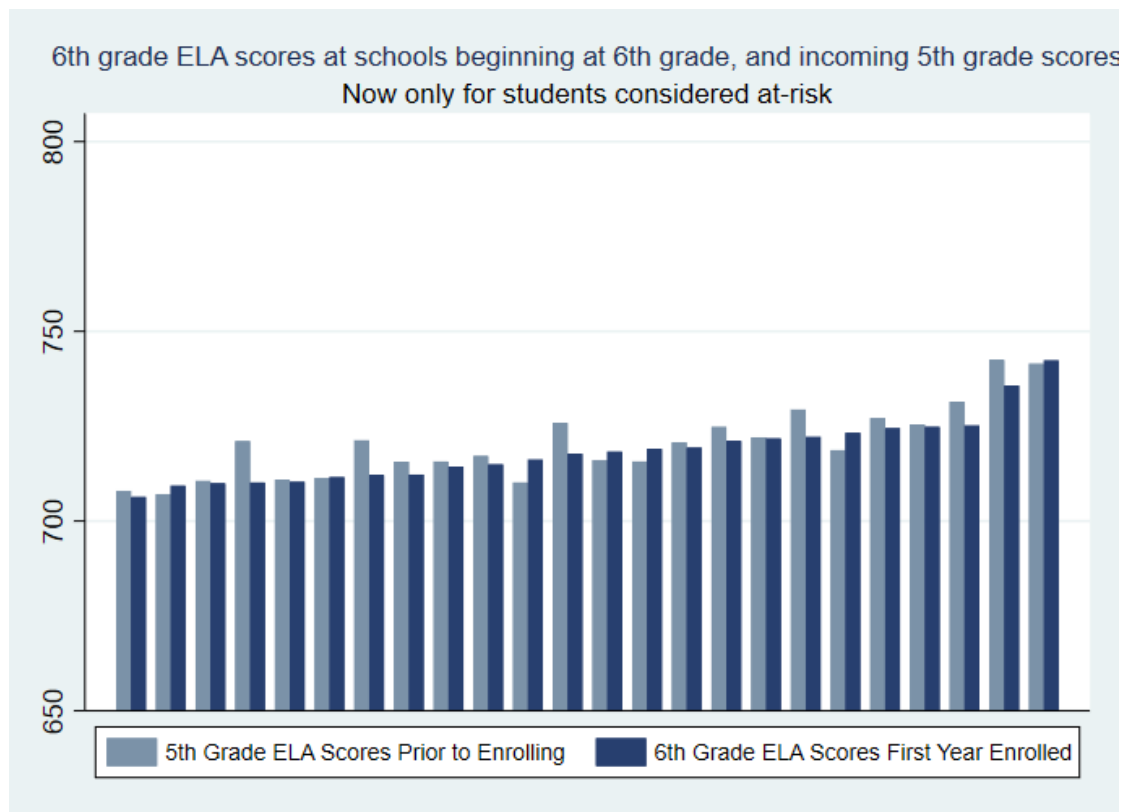
Figure 6.12: Middle School 6th Grade ELA Scores, With Incoming Students' 5th Grade Scores



The data show that students are clustered in schools at different incoming test score levels, which are similar to the scores they achieve at their new schools. This clustering provides further evidence that without using student-level, longitudinal data, aggregate analysis attributing achievement growth to high average scoring schools is invalid. For accountability and continuous improvement purposes, it is necessary to go beneath the cross-sectional aggregates.

Similarly, valid and reliable equity-based analyses must also dig deeper than cross-sectional aggregate data. As we saw in the distributions of test scores for students considered at-risk (Figure 6.8), these scores are lower on average than students not considered at-risk. However, there is a wide range of scores within that student subgroup that are important to track and use. Figure 6.13 also shows mean 6th grade ELA scores for first-year enrollees of middle schools paired with their previous year's 5th grade ELA scores. This time, the graph includes only student considered at-risk.

Figure 6.13: Middle School 6th Grade ELA Scores, With Incoming Students' 5th Grade Scores



These data show that not only are students clustered in schools by student subgroup and higher or lower scoring populations—but also by the higher or lower scoring populations within different subgroups, in this case within the population of students considered at-risk. Just as a higher achievement growth should not be attributed to a school based on mean test score levels—it cannot be assumed that higher mean scores for students considered at-risk are evidence that a school has increased these students' achievement levels more than other schools serving students from the same subgroup, as students entered new schools with strong prior achievement patterns.

Student longitudinal test score data analysis identifies important relationships

The way the student longitudinal data can determine **contributors** to student growth is by comparing the test score levels and other measures for the enrolled students before they enroll. These analyses can also use many years of data to increase the ability to discern correlational patterns in the otherwise noisy annual test score growth measures. Neither of these is possible with the cross-sectional data that is currently used in D.C. accountability and analysis. Student-level analysis of large, longitudinal samples is needed.

In the Figure 6.14 below, we show the relationship between student math scores and a school socioeconomic measure, the Income Poverty Ratio (IPR), and similarly the relationship between student

math score growth and school neighborhood IPR.³⁰³

Figure 6.14: 2016-2018 Grades 3-7 Student Math Scores and Growth by Their School IPR



The **fitted lines** in Figure 6.14 are the calculated predictions of student test scores and growth, and **confidence intervals**, from simple **linear regressions** of scores and of growth on school IPRs. These fitted lines and confidence intervals are showing the tight, confident and **statistically significant** predictive relationship between school neighborhood IPR and student math scores compared to a less well-fitted and less predictive relationship between school neighborhood IPR and math score growth. More specifically, in the left side graph, each one unit increase in the mean household incomes of a school neighborhood corresponds to five more points on math scores on average.

To put five points in context, consider that the school-level math score means range from 700 to 775, with a standard deviation of 19. Recall that the IPR increases by 100 for every additional multiple of the poverty level, which is roughly \$25,000 for a family of four. For instance, the graph shows a ten-point difference

303 These are the school boundary neighborhood Census income-poverty ratios we detail in Part 5 and Appendix B. We report the regression specifications and output in Appendix B as well.

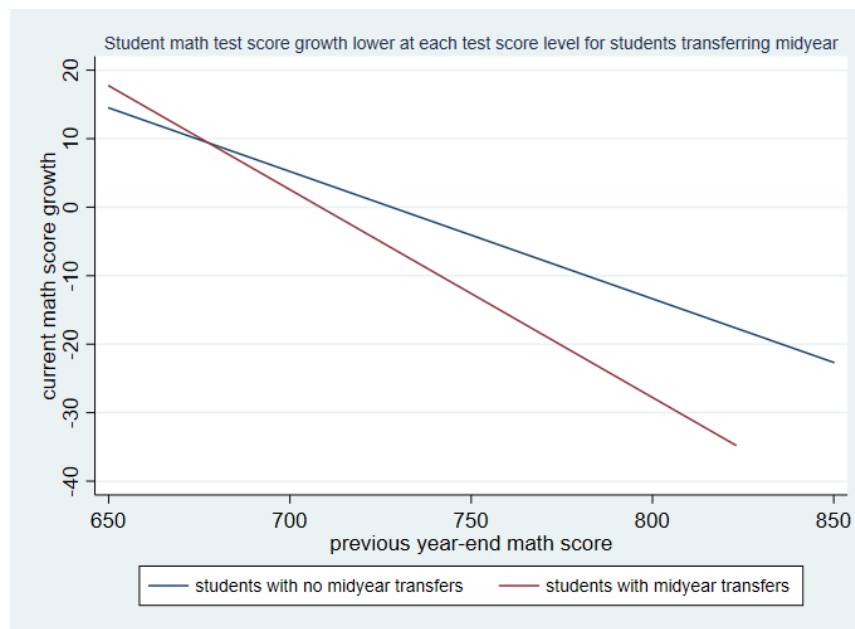
in mean math scores for schools in neighborhoods with mean household income of six times the poverty level, compared to those at four times the poverty level. So, a \$50,000 difference in neighborhood income corresponds roughly to a ten-point difference in scores out of score range of about 75 points.

Yet, the panel on the right shows the absence of any systematic correlation of school socioeconomic context with test score growth. The wide confidence intervals around the fractional span of a growth point correspond to the regression coefficient that is not statistically significant. There is no statistical correlation between the school neighborhood income levels, or, by extension, the test score levels and student test score growth.

The lack of correlation between income and growth is important for statistical modeling. To the extent the predicted outcome (test scores) are correlated with a confounding factor, like income, it will be harder to discern other relationships and work toward continuous improvement. Essentially all the patterns in the data are already accounted for by other factors, like income, and there is little remaining variation needed for digging deeper into patterns. On the other hand, to the extent differences in student test score growth is not correlated with other factors, like income, there is more available valid variation to explore and understand for the purposes of continuous improvement and equity.

This is an example of the precision of the student longitudinal data analysis which can be leveraged to explore student-specific characteristics or experiences that may impact test score growth. In particular, the student fixed effects analysis we conduct throughout this report, reveal educational experiences that have similar impacts on students as an uptick or downtick in students-own growth relative to others. For instance, in this next figure, we leverage the variation in test score growth to investigate the potential impact of midyear school transfers.

Figure 6.15: 2016–2018 Grades 4–7 Student Math Growth Over Previous Scores, by Transfers



Student fixed effects regressions of math test score growth, controlling for the grade and year effects, estimate that on average, students' own test score growth decreases by two and a half points when they experience a midyear school transfer. The graph in Figure 6.15 fits student math test score growth on their previous year test scores, using separate best fitting lines for students with and without midyear transfers. Consistent with the regression coefficient of negative 2.49, the fitted line for the transferred students has a greater negative *slope*. Reading up from the x-axis at that point of roughly average math test scores of 725, students without transfers have slightly positive growth. However, transferred students with the same previous test score of 725 have, on average, negative test score growth of several points.

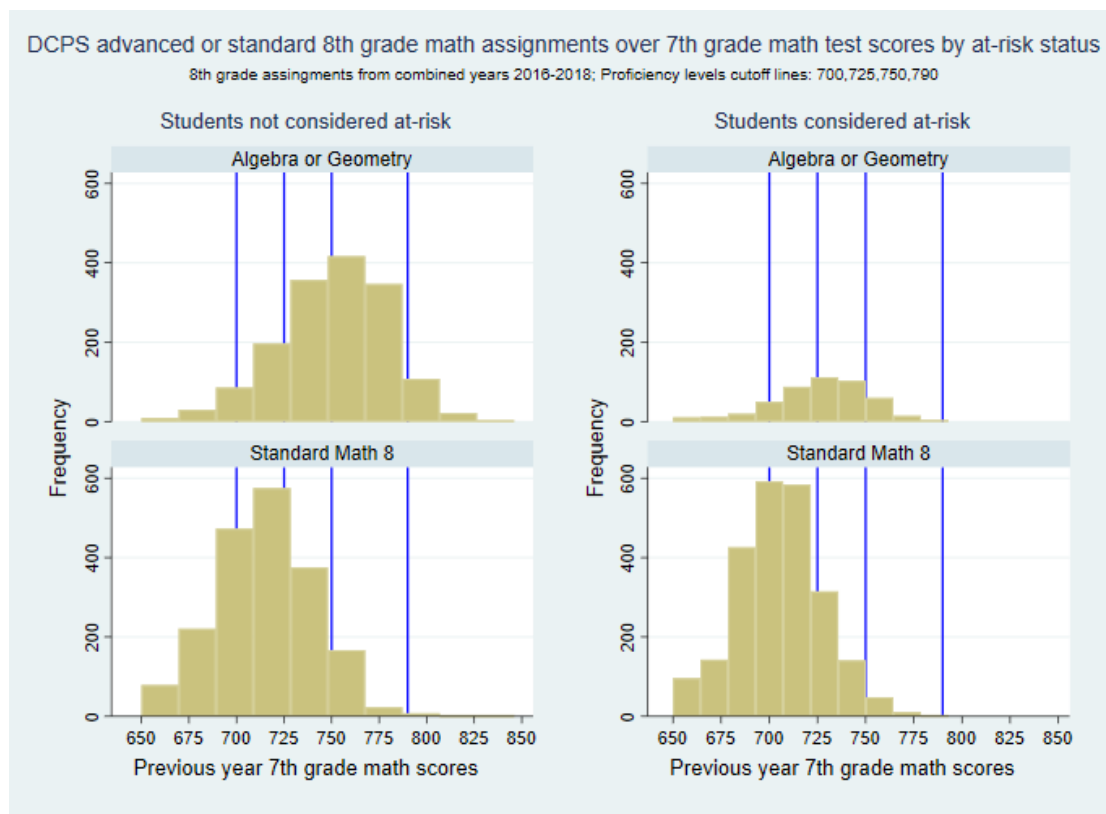
As we illustrated in the student enrollment data brief, midyear transfers disproportionately occur for students considered at-risk. In this brief, we showed that these students also have significantly lower test scores on average. We also find a direct correlation between a student's average test score levels and the likelihood of experiencing midyear transfers. However, among the benefits of the student longitudinal data analysis we demonstrate here is the ability to control for multiple characteristics in order to analyze the *conditional correlation* of others. That is, the regression and the fitted lines are able to show that, on average, students scoring along the entire test score scale experience a loss of points if they are transferred anytime during the academic year.

In addition to serving as an important measure of student achievement outcomes, test scores also factor into student course and program assignments. These assignments then contribute to student achievement outcomes. For instance, research shows that students enrolled in advanced math courses at each grade level are far more likely to be enrolled in advanced courses in subsequent grade levels even if

they score far lower on standardized tests than students enrolled in standard courses.³⁰⁴ For example, for students scoring at similar levels in 7th grade math, those later enrolled in 8th grade Algebra are far more likely to be subsequently enrolled in college preparation courses in high school.

In Figure 6.16, we compare the distributions of the 7th grade math scores for DCPS students enrolled in 8th grade Algebra I or Geometry versus standard 8th grade math, as distinguished in the PARCC 8th grade math test files. As we discuss further in Part 7, the Algebra and Geometry 8th grade tests are almost exclusively used in DCPS schools only. Therefore, this next graph looks at DCPS 8th graders only, over the years 2016-2018, which include the 2015 7th grade math scores as well.

Figure 6.16: DCPS 8th Grade Math Assignments Over Previous Test Scores by At-Risk Status



In the left panel, students not considered at-risk are seen, in the top graph, to be highly represented in the 8th grade advanced math classes, especially at the highest levels of previous 7th grade math scores. Notably, a number of these not at-risk students scoring below the cutoff for proficiency in math (the level 3 cut-score of 725) are also enrolled in advanced 8th grade math. By comparison, a smaller proportion of the students considered at-risk who score near the same cutoff are enrolled in advanced 8th grade math.

304 For a detailed literature review and analysis of these advanced course and program opportunity sequences conditioned on previous test scores from 2nd-12th grade, see Cratty, D., [Do 3rd Grade Math Scores Determine Students' Futures? A Statewide Student-Level Analysis of College Readiness and the Income-Achievement Gap](#). SSRN, August 12, 2014.

These graphs raise the question of equitable access to advanced coursework for students considered at-risk.

These findings are similar to other research, as mentioned above, on distribution of advanced course and program enrollments which, unfortunately, also finds that students from low-income households are underrepresented in advanced course opportunities even when their previous grade test scores show levels of demonstrated proficiency on par with other students.

Taken together, the analyses in this brief illustrate the miscues and limitations resulting from the use of limited aggregate, cross-sectional, test level or proficiency data for purposes of accountability, equity, or continuous improvement.

Summary of Findings

Proficiency rates do not fully reflect important variation in test scores

- Student, school, and District progress is best analyzed via test scores to show both important variation and change over time. Our graphs show that this variation and change is lost or is likely to be misinterpreted when only using proficiency levels.

Cross-sectional data does not accurately represent growth

- Cross-sectional aggregates do not accurately measure individual student achievement growth on average, without first controlling for a sample of students consistently enrolled over the relevant period.

Student longitudinal test growth is more accurate and meaningful than aggregate growth

- On average, ELA growth is positive and math growth is flat. More specifically, ELA growth is substantial and positive in 4th grade, on average, and math growth is substantial and negative in 6th grade, on average.
- DCPS math test score growth is relatively flat (+0.2), while PCS math growth is negative (-1.7). The average growth in ELA is positive in both sectors and the growth in DCPS schools (+6.3) is approximately twice the PCS school average (+3.3).
- More students considered at-risk are in tested grades in DCPS than in tested grades in PCS and DCPS test score growth for these students is slightly higher. More specifically, average DCPS math and ELA growth for students considered at risk is +0.3 and +6.1, respectively, while average PCS math and ELA growth for students considered at-risk is -2.0 and +2.9, respectively.
- The District should conduct further research, using longitudinal student test score data with appropriate links and caveats, as articulated in Part 4 to better understand these trends and to aid LEAs, schools, educators, and students in continuous improvement.

Test Score Growth Should be Analyzed Directly Versus Inferred from Proficiency Levels

- As noted in other national research, we find evidence that attempting to identify higher or lower growth schools using school mean proficiency levels rather than test score growth will lead to invalid conclusions.³⁰⁵
- We also find that higher than average mean growth at a school in any given year is not evidence of a pattern of high growth in adjacent years; in fact, we do not find any consistent patterns of growth over time across schools.
- Student longitudinal data show that average student test scores vary by school, meaning that students are clustered together with other similar scoring students in schools and this clustering follows students across school transitions, for example from 5th to 6th grade.
- This clustering provides further evidence that mean test scores of all students at a school or of any student subgroup is not sufficient evidence of that school increasing the achievement of those students, relative to other schools.

Student longitudinal test score data analysis identifies important relationships

- Student longitudinal data analysis can test multiple correlations in the data that are more accurate and informative than aggregate cross-sectional subgroup or school mean comparisons or annual trends.
- In the District, and as found in national studies, student test scores are highly correlated with school neighborhood income measures. Alternatively student test score growth is uncorrelated with school neighborhood income measures.
- On average, students' own test score growth is several points lower when they experience a midyear school transfer. This is consistent for students all along the test score scale and is therefore not simply a correlation of lower scoring students being more likely to be transferred midyear.
- We show that student longitudinal data is necessary to analyze these types of conditional correlations of multiple characteristics and experiences simultaneously.
- Using student longitudinal test score data, we find evidence of inequitable access to advanced math course opportunities in 8th grade for DCPS students considered at-risk.

305 See for example: Glazerman, S. & Potamites, L., [False Performance Gains: A Critique of Successive Cohort Indicators](#), Mathematica, December, 2011. Ho, A. [The Problem with "Proficiency": Limitations of Statistics and Policy Under No Child Left Behind](#), Educational Researcher, 2008. Yee, D. S., & Ho, A. D., [Discreteness causes bias in percent-above-cutoff comparisons: A case study from educational testing](#). American Statistician, 69, 174-181, 2015.

Data Sources and Analytic Dataset Preparation

The PARCC test data are high quality data that are consistent in score scales and proficiency level cut-scores not only across subjects, grades, and years, but also across the different states in the assessment consortium.³⁰⁶ The consortium, working with psychometric experts, designed the assessments with the following features that are relevant for data use:

- Consistent *interval score scales*.
- Consistent proficiency level cutoffs.
- *Horizontally and vertically aligned* to grade-level standards of study.
- Score scales skewed at the high end to limit *ceiling effects* in growth analyses.

Each member of the consortium links the test records with related data sources, most importantly, the SEA master student enrollment data. These combined data are used to generate additional variables about the tested and untested student populations and the schools to which each student's results are attributed. Our analysis of the District PARCC data files processed for OSSE by Pearson find the following attributes:

- High student participation rates, and some detailed data provided on untested students.
- Detailed identifiers for student special programs, grades, test types, exemptions, etc.
- Indicators for Full Academic Year (FAY) status for the year, school, LEA, and state.
- Consistent annual data file structures from 2015 to 2018, with few testing policy changes.

In this analysis, we focus on the PARCC tests primarily (with one initial analysis of combined PARCC and MSAA Districtwide proficiency rates). Our analysis also focuses on elementary and middle grade tests, that are consistently assigned across students, with the noted exception of 8th grade math. As we discuss in more detail in Part 7 when we analyze high school pathways, separate 8th grade math tests are administered to students as Algebra I and Geometry assessments, distinct from the standard "Math 8" 8th grade math assessment. Therefore, for grade-level comparisons across years and student subgroups and sectors, we focus on math and ELA tests across grades 3-7 only. When analyzing the test data by itself, we use all available years 2015-2018. But when we analyze the test data linked to enrollment and other student-level data, we use the more recent reliable years of OSSE student universe enrollment files linked to PARCC.

³⁰⁶ In this brief's analysis of assessment data, we focus primarily on the Partnership for the Assessment of College and Careers (PARCC) tests, given the Multi-State Alternative Assessment (MSAA) tests are administered to less than 2% of students.

Part 7

Data Analysis Brief on High School Pathways

Abstract

This analysis is the first time District stakeholders will see complete, District-wide, longitudinal pathways for students entering 9th grade linked to high school and post high school outcomes. We find that in addition to the enrollment instability patterns of student transfers between regular schools, identified in Part 5, Data Analysis Brief 1 on Enrollment, there are strong high school transfer patterns out of regular schools and into alternative high schools and adult education programs and these rates are increasing over time. We also find significant attrition from PCS high schools to DCPS high schools. Further, we find that high school students struggling in their first years of high school were transferred out of PCS high schools at disproportionately high rates. Importantly, the graduation rates of students transferred out of PCS high schools is substantially lower than the graduation rate of students remaining in PCS schools. The same pattern holds for college enrollment rates. The graduation rates of high school students remaining in the same sector throughout high school is similar across sectors. These systemic patterns of school-type and sector transfers of high school students raise concern that graduation rates may be distorted by sector. Further, we find that there is significant student attrition from the D.C. public schools in high school grades, including from selective DCPS high schools. Finally, and similar to other national research, we find that student participation in an advanced math course test in 8th grade had a highly significant large positive effect on selective high school enrollment in 9th grade even after controlling for all else, including the student's 8th grade math score.

Background

This brief analyzes the longitudinal data necessary to track student pathways into, through, and beyond high school and provide predictions and feedback to practitioners, policymakers, parents and students. In Part 3, we described these longitudinal data resources that SEAs and LEAs have been providing stakeholders for more than a decade as they have worked with researchers to add capacity and precision and expand their use. The two main tools are the early warning systems that use previous student cohort data to predict the impact of various decisions and opportunities on current middle and early high school students' prospects for on-time graduation and college enrollment. Similarly, working with these linked secondary and postsecondary data, SEAs and LEAs have created detailed high school feedback reports that show college enrollment and persistence information for student subgroups and school programs for every high school in the jurisdiction. The agencies and RPP partners develop these as user-access online tools for teachers and counselors and others and work with practitioners to leverage their expertise and ideas through collaborative use and trainings.

Depending on the data quality and coverage, and the analytic resources, as well as the number of years each have been in place, these pathway tools can link a wide range of student and program data, from middle school or earlier to postsecondary completion and even workforce outcomes. Often, these are built

as separate pieces, which allow for the most detailed data to be used at each stage. Researchers working with SEAs and LEAs in RPPs, and independently, have developed and shared analytic assessments of the predictive power of the different potential data elements. These begin with middle grade math course trajectories, math and ELA test scores, teacher qualifications by subject, such as science, as well as student absenteeism and suspensions. High school data expand these lists to include participation and scores in advanced math courses, Advanced Placement courses, IB programs, SAT tests, and even CTE concentration and completion.

These are analyzed together relative to the student high school outcomes of graduating on time or late versus dropping out, as well as alternative certificate programs. Both secondary school preparation and success are studied for their role in students' subsequent college enrollment, type of institution (such as 2- or 4-year), and persistence. Where the data exist, additional postsecondary measures of remediation and degree completion are also studied and reported back across schools and student subgroups annually. The following are just a few ways states currently use these data:

- Practitioners study the high school proficiencies that allow students enrolling in 2- or 4-year colleges to avoid the need for remedial math and English courses.
- Policymakers study improvements in college outcomes from funding statewide AP test fees for all students enrolled in AP courses, as well as the potential investments needed to increase access to AP courses for previously underrepresented students.
- The role of adult education programs helping high school dropouts earn a GED, attain some postsecondary education, and improve workforce outcomes, can be quantified.

Finally, while this brief focuses on the longitudinal student pathways into and beyond high school, similar longitudinal analyses conducted in states have studied student pathways from early childhood education programs through early elementary school.

Data Analysis and Findings

This analysis provides a description of complete, District-wide, longitudinal pathways for students entering 9th grade linked to high school and post high school outcomes. We assess the data's capacity to track longitudinal student trajectories into and through high school in order to study equity of opportunity and outcomes in the pursuit of continuous improvement. We analyze separate spans along the full pathways by constructing several different analytic datasets of these relatively short cohorts and using only those data for which we can check the validity.

Specifically, the analyses focus on the following:

- High school student transfers across sectors and school types.
- 9th grade high school pathways to 4-year graduation and college enrollment by high school sector, transitions, and college 2-year/4-year type.
- Variation in 8th grade math test type and high school required math test taking by sector, year, and student subgroup.
- Predicted probabilities of selective high school enrollment conditioned on middle school test scores and math course level.

Many students are transferred out of high schools shortly after transitioning in

A key focus in high school pathways studies is how well students are able to manage the challenging transition into high school itself and the resources and supports high schools need to help more students succeed.³⁰⁷ Research shows that all school transitions, at every grade level, take a toll on student outcomes, primarily in the first year in the new school.³⁰⁸ But transitions into high school also involve more rigorous course requirements, larger student bodies, and the expectation that students take more of an independent role in their own education.

The first full year of high school data generally show the adverse effect of the transition on students' outcomes, in terms of test scores, absenteeism, and suspensions. This is true, on average, for all students, but especially those already scoring below proficiency in math or ELA in middle school and those considered at-risk for academic failure by virtue of limited household financial resources.³⁰⁹ One result of this is the jump in the percentage of students retained in 9th grade. In the D.C. student data, the 2017-2018 9th grade retention rate (students enrolled in 9th grade in 2017 who were still enrolled in 9th grade in 2018) is 18.2%. All other K-12 grades combined have an average retention rate of just 2.7%. Unlike other grades, a fraction of the 9th grade retained students are also retained more than one year. In 2017, 11.6% of first-time 9th graders were retained.³¹⁰ This startlingly high level is consistent with prior research in other urban districts. However, evidence shows that more recently, high 9th grade retention rates have been declining, likely as a result of rapidly growing and improving use of early warning systems to target interventions and resources to middle and high schools students at-risk of being off-track in high school.³¹¹

Given the challenges of all school transitions and particularly high school transitions, the rate of students transferred to different high schools in the District after their initial move into high school is notable and concerning.³¹² We find several related and consistent patterns of school transfers through each of the most recent years of available data. In identifying these clear patterns, we sought to understand students' prior history and subsequent moves to test, for example, whether they were seeking more rigorous education contexts to help prepare them for more selective college and career opportunities. Importantly, we did not find evidence that this pattern is occurring and, in fact, find clear patterns of students moving

307 See Cratty, D., Potential for Significant Reductions in Dropout Rates, for a detailed review of the research literature on the challenges of high school transitions.

308 Schwerdt, G.; West, M. [The Impact of Alternative Grade Configurations on Student Outcomes through Middle and High School](#), IZA Discussion Paper, December, 2011.

309 Roderick, M.; Kelley-Kemple, T.; Johnson, D.W. & Beechum, N.O., [Preventable Failure: Improvements in Long-Term Outcomes when High Schools Focused on the Ninth Grade Year](#), University of Chicago Consortium on School Research, April, 2014.; Seeskin, A., Nagaoka, J., & Mahaffie, S., [Hidden risk: Changes in GPA Across the Transition to High School](#), University of Chicago Consortium on School Research, October, 2018.

310 Note, the full 18.2% rate for 2017 9th graders overall, is larger because it includes those who were already retained in 9th grade in the previous year as well.

311 Bruce, M., Bridgeland, J. M., Hornig Fox, J., & Balfanz, R. [On Track for Success: The Use of Early Warning Indicator and Intervention Systems to Build a Grad Nation](#). The Everyone Graduates Center at Johns Hopkins University. November, 2011.; Warren JR, Saliba J. [First through Eighth Grade Retention Rates for All 50 States: A New Method and Initial Results](#). Educational Researcher. 2012;41(8):320-329. Warren, JR, Hoffman, E., Andrew, M., [Patterns and Trends in Grade Retention Rates in the United States, 1995–2010](#). Educational Researcher. 2014;43(9):433-443.

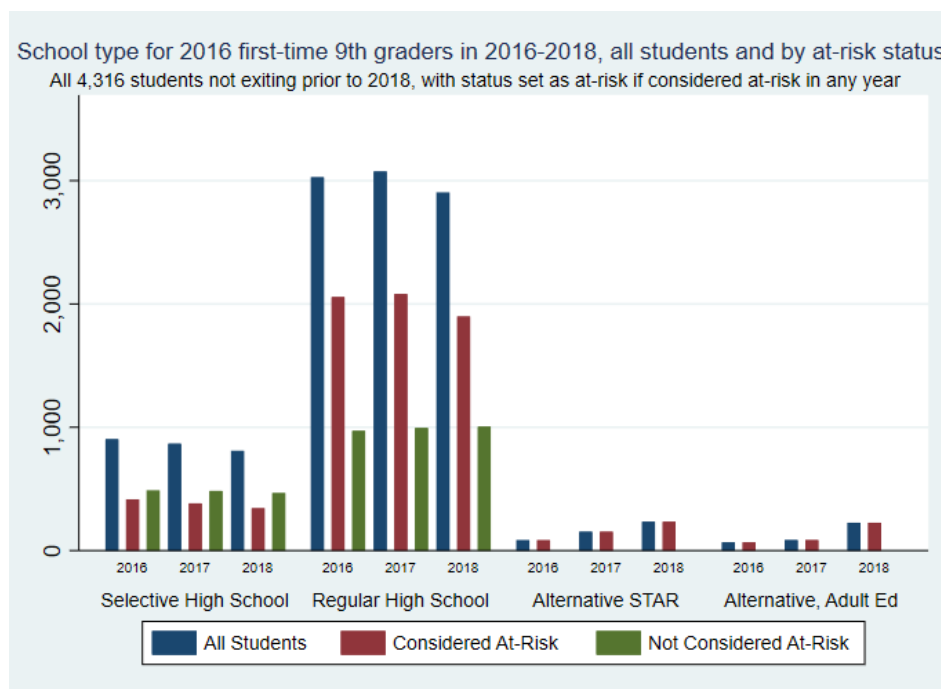
312 Cratty, D., Potential for Significant Reductions in Dropout Rates, finds school transfers at any grade to increase a student's predicted probability of dropping out of high school, even after controlling for test scores, absences, suspensions, retentions, and student, school, and household characteristics.

from selective to regular high schools and from regular high schools to alternative high schools or adult education programs. These patterns are even more pronounced for students considered at-risk.

Similar to the enrollment data analysis, we break out school types classified by OSSE as regular schools, alternative STAR measure schools (including the opportunity schools), and schools providing exclusively alternative learning or adult education programs.³¹³ As the full enrollment analysis (in Figure 5.2) showed, these non-regular school types primarily enroll high school age students. In this graph, we also show selective high schools, as defined by OSSE. We analyze aspects of the 9th grade enrollments into these selective high schools near the end of the brief.

Figure 7.1 shows enrollment in each school type and year between 2016 and 2018 for those students entering the 9th grade year of high school in 2016. Most of the full 2016 9th grade class, 4,763, are still observed in the data through 2017 and 2018 as enrolled in D.C. public schools. We show their total enrollments each year across the four different school types. We then do the same for students considered at-risk (including all students having been included in this category at any point in the data) and compare those to students who have not been considered at-risk. Note that these numbers reflect those students who have stayed enrolled at any one of the school types throughout these three years. Analysis of final exits from all school types either through graduation or dropping out are presented further below.

Figure 7.1: 2016 Entering 9th Grade Students Subsequent School Enrollments by Subgroup



313 In the previous full enrollment analyses, we included special education schools, both those within the D.C. public school system (SPED) and those enrolling D.C. public school students outside of the D.C. public school system (nonDCpub). However, the secondary education age span for students with IEPs differs from the non-IEP student age span, so we omit the relatively small number of students in these all-IEP school categories.

Beginning with the selective high schools, we see net transfers out of these schools each year, for a total 10.4% of the student cohort by 2018. Students considered at-risk represent most of these transfers. In the first year, close to half (46.1%) of the new 9th grade students enrolled in the selective high school are considered at-risk. Of these students, 17.5% transfer out to regular high schools by 2018. Very few students not considered at-risk transfer in either year. Students considered at-risk make up 67.9% of all regular high school enrollments from this cohort. They are essentially the only students transferring out of regular high schools into the alternative STAR measure high schools and the exclusively alternative learning and adult education programs.³¹⁴ By 2018, 7.7% of the 2016 cohort of these students have transferred out of regular high schools.

One more year of data would likely show the largest increase in these non-regular high school transfers, as these transfers occur primarily at the third and fourth year of high school, as students reach the age of 17 and 18 without being on track to graduate.³¹⁵ In fact, we have evidence of this trend using all high school students in all grades and years. More specifically, we see the share of students ages 15-18 enrolled in non-regular schools increasing over time and varying systematically by student subgroup.³¹⁶ The percentage of all students age 15-18 who were enrolled in non-regular high schools was 8.4% in 2015, and increased steadily to 13.4% by 2018. The percentage of Black students in non-regular high schools increases from 9.2% to 14.7%, and Hispanic students increase from 8.4% to 13.9%. White students were enrolled in numbers too small to report. While these assignments begin early in the transition to high school grades, as seen in Figure 7.1 above, they increase substantially for students as of age 17. In 2018, 17.2% of 17-year-old students were enrolled in these non-regular high school programs.

It may be that these alternative programs are helping students who would have dropped out of regular high schools in that time, but more data are needed to reflect these school changes at the student level for two main reasons. First, the District lacks transparency around how these decisions are made—specifically, the role of the parents, students, teachers, counselors, etc., in these determinations. Second, transfers should be studied to understand which students are transferred and why, whether these transfers improved student outcomes, and whether the targeting of these transfers out of regular high schools can be improved. For example, as illustrated earlier, in school districts around the country, practitioners use SEA early warning systems to improve and adjust assignments to various dropout prevention programs and track and report on the extent to which student outcomes have improved following these adjustments.

Alternative high school students may or may not be in diploma-granting programs

While the use of these alternative high school placements is increasing, there is not enough information

314 The number of students not considered at-risk ever enrolled in these programs are too few to report without risk of potential disclosure. For all analyses in these briefs, we suppress any number of observations less than or equal to 25—including any representation in the graphs, even when the values are not labeled.

315 We focus on the 2016 9th grade cohort, despite not having the fourth high school year of 2019, because the full universe enrollment data are not collected prior to 2016.

316 We use student age here specifically, versus grade, to account for all high school age students, since some transfers into alternative learning or adult education programs also change the student grade field from 9th-12th to an indicator of AE for adult education or UG for ungraded.

about these in the student data files to be able to determine each student's exact high school status. Specifically, it is not clear exactly when a student transferred out of a diploma-granting program and therefore is not due to graduate high school. Further, it is also not clear which students are considered to have dropped out of high school because their high school program type isn't included in graduation metrics. Other SEAs show clearly in their longitudinal data the exact program status of every high school student, specifically clarifying which programs are included in the classifications of students dropping out of high school and which are not. These definitions are used for federal reporting, but other SEAs also include this information in the student data files and publicly report these specific enrollments and exits by school, grade, and student subgroup. Similar criteria are described by OSSE, but not identified in the student data file, and OSSE does not publicly release the dropout numbers it reports to ED.³¹⁷

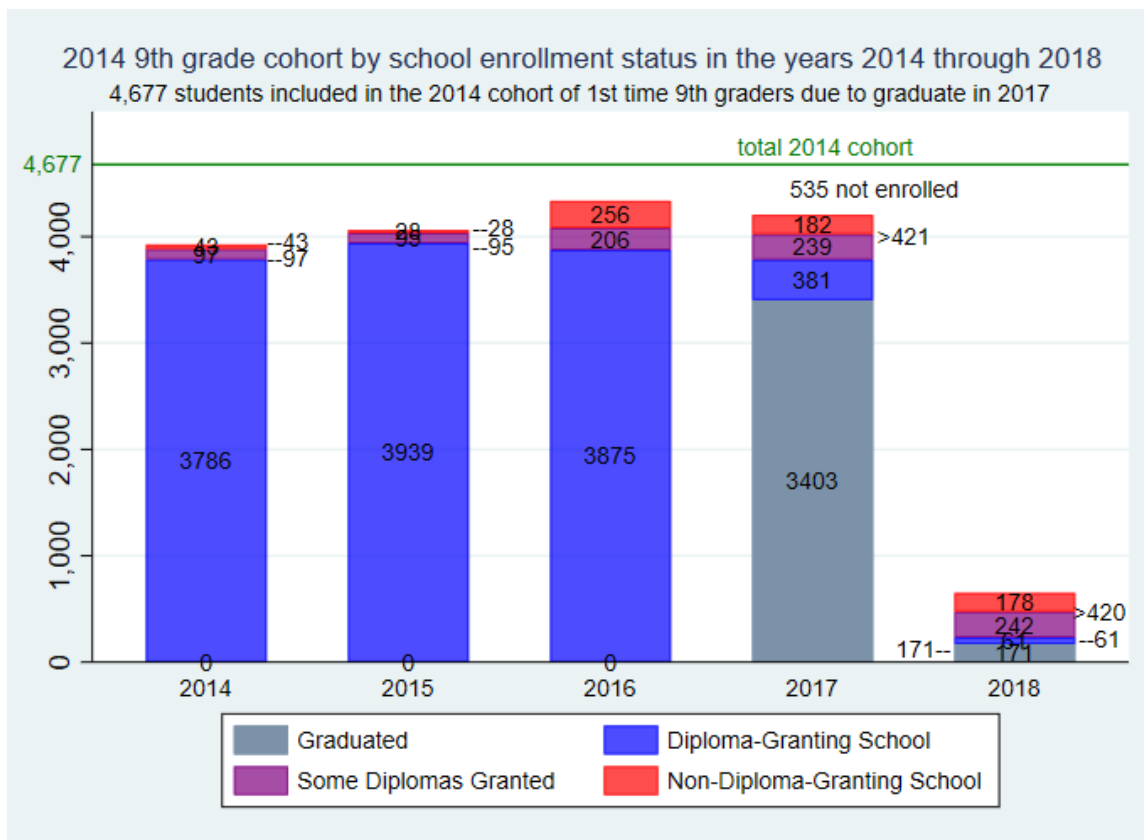
Without these high school program and exit data, we analyze instead the student longitudinal transfers out of the regular high schools and ultimately out of the school system, to determine when students are no longer classified as enrolled in a high school diploma-granting program and when they are no longer enrolled in an SEA-approved high school completion program at a high school (i.e., what ED classifies as dropping out).

The Adjusted Cohort Graduation Rate is the percentage of students who began 9th grade in the same cohort and graduate within four years. Combining the ACGR cohort data with the enrollment data files, we can determine the main categories of high school exits along with the type of school the student is enrolled in and exits from. In Figure 7.1, we viewed annual enrollments by school type for first-time 2016 9th graders. In Figure 7.2, below, we follow the 2014 first-time 9th grade cohort students through 2018, one year after they were due to graduate.³¹⁸ We observe their school transfer types and school system exit types and break out their high school enrollment status at each year.

317 Recall, that OSSE does not require LEAs to fill in the exit dates or codes designated for school exits (only mid-year transfers), including those for student dropping out of high school. Our review of OSSE data, documents, and interviews indicate that they are meeting their federal dropout and ACGR reporting definition and documentation requirements, but that they are doing this outside of the student data system—despite their data documentation stating that LEAs must include these data for these reasons.

318 Note, the full cohort is 4,740, but we omit the 63 students enrolled in the state programs.

Figure 7.2: 2014 9th Grade Cohort by School Enrollment Status Each Year 2014-2018



Schools serving students in the compulsory high school age range (i.e., up through age 18) are classified by OSSE as regular all-diploma-granting high schools, exclusively alternative learning or adult education schools with no diploma-granting programs, and those schools with alternative STAR measures in the DC School Report Card. These alternative-STAR high schools may enroll some but not all students in a diploma-granting program, and OSSE data does not record whether the student is in a diploma-granting program or in an SEA-approved high school completion program. They only record the completion certificates received relative to the number of students enrolled over time and not graduating with a diploma. This lack of data clarity begs the question of what education outcome is anticipated for these students, how their progress is assessed, and what supports their schools need to help them achieve that progress.³¹⁹ Therefore, our high school analysis can provide little insight on the progress students are making while on these pathways. What we can analyze are the student dropouts from these hybrid and regular high schools.

³¹⁹ For example, other SEAs require LEAs to upload additional tracking data for these students to ensure they are continually enrolled each semester in the SEA-approved programs and that they are on track to meet short-term completion plans. Otherwise student enrollment status is reassigned to dropped out of secondary school and enrolled in adult education programs, which have their own tracking of participation and outcomes.

Beyond the federal dropout definitions, many SEAs define any exit from a diploma-granting program as dropping out of high school, while some exclude GED recipients from the definition. It is less clear what definition is used by OSSE, since the events are not recorded as dropouts in any of the student data or public reports. When each cohort is due to graduate, OSSE reports the ACGR totals under each of the following outcome headings: graduating on time with a high school diploma, completing school with an alternative credential (such as a GED), becoming “educationally disengaged,” or currently still “enrolled in D.C. schools.” What OSSE does not make clear is which D.C. school types (and programs within them) qualify a student as “currently enrolled” versus “educationally disengaged.”³²⁰

Using the student data files for our Figure 7.2, we can see the following outcomes for the 4-year graduating class year of 2017. We see that 535 students belonging to the 2014 9th grade cohort were no longer enrolled in any D.C. public school or program. These students can be considered to have dropped out of high school.³²¹ We see 3,403 graduating in 2017 with a high school diploma, matching the OSSE 2017 ACGR report totals. Of the students remaining enrolled, 381 remained in regular high schools, 239 in the hybrid alternative-STAR schools, and 182 in schools exclusively alternative or adult education. The numbers in each year receiving alternative secondary school completion certificates, including GEDs, are too few to report. It appears that OSSE’s 2017 ACGR total of 758 Educationally Disengaged student may be represented by the total of students no longer enrolled and students enrolled in exclusively alternative learning or adult education programs.

This would be a 15.1% dropout rate in 2017, which corresponds closely to OSSE’s rate of students defined as disengaged. The 381 regular school students and 239 students at alternative STAR measure schools would be considered the 13.1% currently enrolled, after the graduation rate of 72.8%. Currently enrolled students in regular high schools graduate the following year (2018) at a rate of over 60%, and less than 20% then graduate from the hybrid schools. Once again, these schools may be providing essential support to students who would otherwise disengage completely and that is all the more reason to clearly identify the goal of these tracks and who is enrolled in them and when to help policymakers and other stakeholders understand more about these alternative contexts.

With the full years of data we requested, we would analyze the different pathways to graduation, completion, and dropping out, including the continuing pathways of those enrolling in adult education programs. We would analyze the student characteristics, school experiences and interim outcomes, and the grades and ages of the events, as well as the variation in any of these relationships over time. However, it is best to conduct that analysis with the complete data files including 2019, in order to study both four- and five-year outcomes. Importantly, this analysis would also benefit from starting with OSSE’s first full student universe enrollment data in 2016.

320 Annual reports of the 2014-2017 ACGR cohort outcomes can be found on the [OSSE ACGR](#) webpage and the [OSSE Performance Oversight](#) webpage, accessed July 31, 2020. The total cohort in almost all versions over time is given as 4,740, with 3,436 graduating in four years. However, the number of Disengaged/Dropped Out is given as 1,180 in the November 7, 2017 ACGR report, with only 41 total currently enrolled students. In the performance oversight document, those numbers are 766 disengaged and 481 still enrolled. The ACGR report notes the enrollment count is, “is based on current enrollment and does not reflect the official Enrollment Audit Count as these data have not yet been verified by LEAs.”

321 Recall that the ACGR cohort is defined each year as those students who have not formally exited the cohort category by moving out of the area, transferring to private school, etc.

A significant number of PCS high school students are transferred to DCPS high schools

In addition to the large numbers of high school students being transferred out of regular high schools, we see a similar pattern of large numbers of high school students transitioning from PCS schools to DCPS schools. These include many regular high school students, and the numbers are much higher than the school type transitions described above. As with the school type transfers, these sector transfers have also increased significantly each year. Finally, similar to the post-count-day midyear transitions we analyzed in the enrollment brief, we see another strong pattern of primarily PCS sector transfers out to DCPS schools, and relatively few transfers in the other direction.

As with the high school type transfers, these raise questions about the decision for these disruptive moves in the middle of high school and the degree to which parents and students are involved in these decisions. As we discussed in the section on student exit data guidance, OSSE specifies that LEAs may transfer or discharge students without being required to provide reasons or documentation, and unlike DCPS schools with boundary rights, PCS schools are not required to enroll students midyear.

These transfers are also an important accountability issue, in that high school graduation and college enrollment rates can be distorted through what these data show are large, systematic patterns of sector transfers of 9th grade cohort students. For the purposes of reporting the federally required ACGRs, student outcomes are attributed to the student's "cohort-credited" (or "cohort-responsible") school. This is the last school the student has attended as the four-year outcomes are due to be reported. These ACGRs are also reported locally by OSSE, at the sector and school levels, and included in the DC School Report Cards.

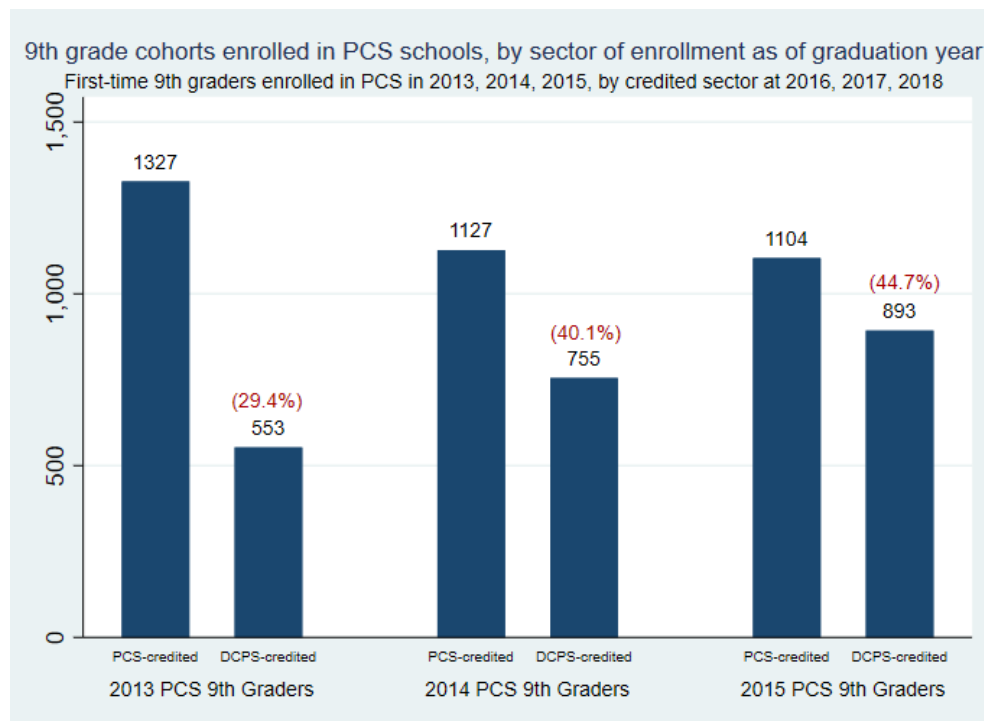
Figure 7.3 looks at the sector transfers for all three 9th grade cohorts in the data we received. This time, the sample analyzed longitudinally is specifically those first-time 9th grade cohort students enrolling at a PCS school in their first year of high school. The analysis then tracks each subsequent school each student attends, until their four-year graduation window is up, or until they exit the school system. We study the sector transfers out of the PCS sector into DCPS schools only, because very few students are transferring in the other direction. Fewer than 5% of DCPS first-time 9th graders transfer to PCS regular or alternative high schools over the course of their high school years.³²²

Figure 7.3 shows the total number of 9th grade cohort students initially enrolled in PCS in 2013, 2014, and 2015 by the cohort-credited sector four years later, in 2016, 2017, and 2018.³²³

322 Note, students may leave either DCPS or PCS high schools and enroll in all-adult-education programs, and many of these are administered in the charter sector. However, for ACGRs, these are not considered official cohort transfers, and instead stay credited to the original school and sector, counting (as a non-graduate) against their four-year graduation rate.

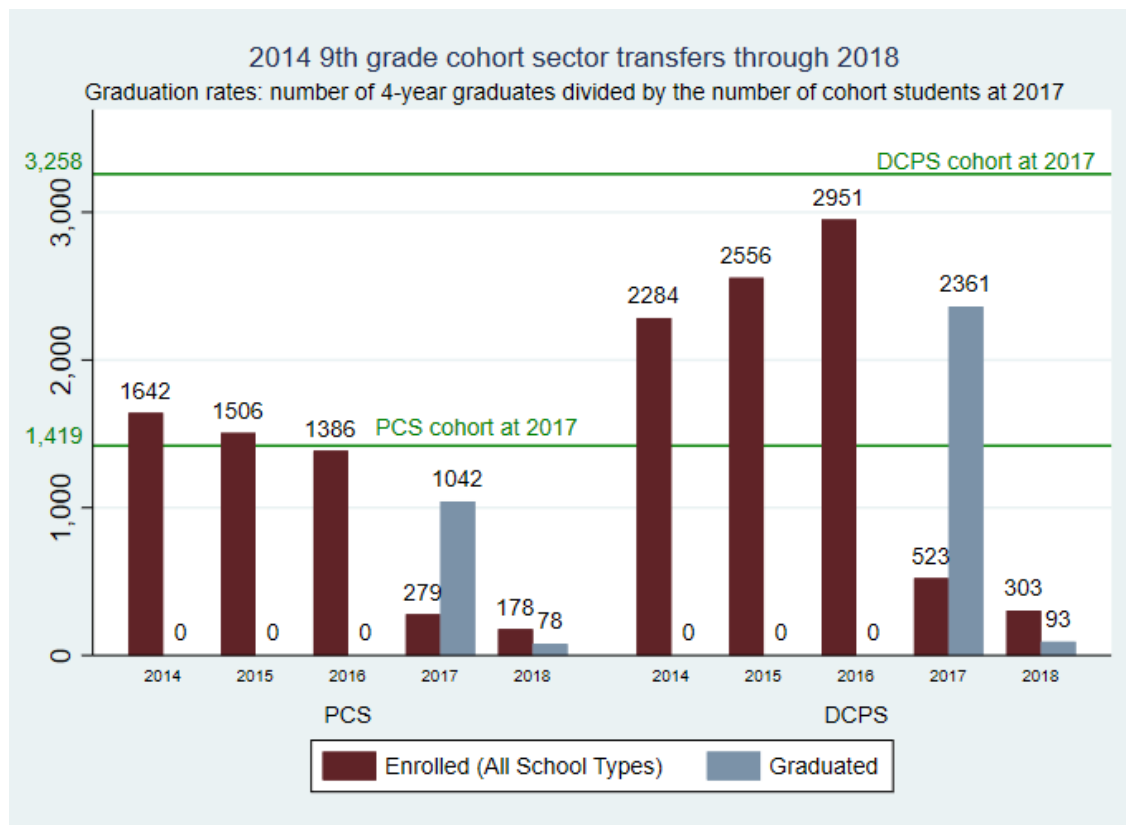
323 Note, we identify first-time 9th grade students as initially enrolled in PCS schools only if they were enrolled in the school for the entire first year. Therefore, any 9th grade students beginning their first year at a PCS school, but then transferring mid-year, would not be included.

Figure 7.3: 9th Grade PCS Cohorts by Responsible Sector as of the Graduation Year



Between 9th grade in 2013 and the four-graduation year of 2016, 29.4% of the PCS high school cohort were transferred to DCPS schools. The share of students transferred increases dramatically over each of these few years in the recent data. As of the 2015 cohort due to graduate in 2018, 44.7% of those enrolling in PCS high schools in 9th grade were transferred to DCPS schools. These percentages are calculated from the bar heights in the graph and noted there as well. For example, a total of 1,882 9th graders entered PCS schools in 2014, and 755 of those were enrolled in DCPS schools by the end of the four-year cohort graduation period. The four-year graduation status of those 40.1% of the original PCS cohort would be attributable to the DCPS school.

Figure 7.4: 2014 9th Grade Cohort by Sector Enrollment Status Each Year 2014-2018



To get a sense of how many years these students spent in each sector, we follow the 2014 cohort through to 2018 and note their enrollment changes between sectors as these students move through their high school years. Figure 7.4 shows the sector enrollment numbers each year for the 2014 cohort, with each year's total PCS enrollments on the left, and DCPS on the right.³²⁴ This sector transfer graph shows the definitive counts for the sector annual enrollment shifts each year for the 2014 cohort and the impact of these on the sector graduation rates. The PCS sector cohort enrollment drops far below those initially enrolled, with DCPS picking up students.³²⁵ So that by the graduation rate calculations at 2017, the share attributed to DCPS is 3,258 with 2,385 graduating, and for PCS it is 1,419 with 1,047 graduating.

The 2017 rates were essentially the same, at 73.2% for DCPS and 73.8% for PCS by the time the transfers were complete and the rates were due to be calculated. As we show in the next section, on graduation and college enrollment rates, there is a much larger difference in graduation rates between those students who were transferred out of PCS and those retained in the sector. These differences affect the school-level graduation rates in both sectors as well.

³²⁴ Note, these sector-credited cohorts of 3,258 and 1,419 make up the total 2014 cohort of 4,677 as shown in the school-type transfers graph of Figure 7.2.

³²⁵ Note, there are additional sources of exits and entries for both sector counts each year, such as some students newly arriving to D.C. public schools and current enrollees leaving the school system for another system or dropping out of high school altogether.

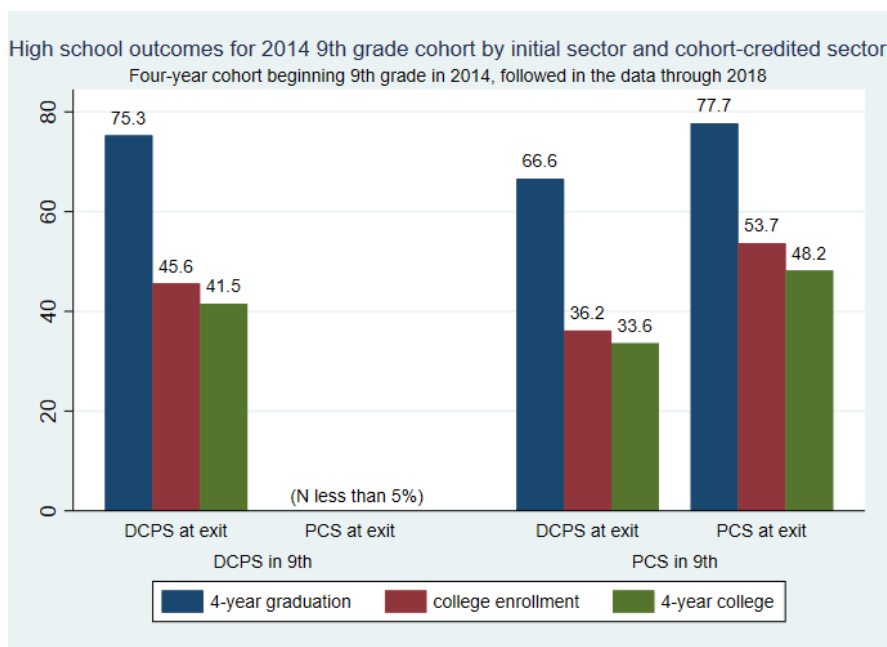
Graduation and college enrollment rates are lower for sector transferred high school students

This 2014 9th grade cohort due to graduate on time in 2017, is the one cohort we can follow from 9th grade through one full year beyond their anticipated four-year graduation date with the current data we have received. We look at the college enrollment rates for this cohort now, in addition to the graduation rate. College enrollment in this data includes all students found to be enrolled in any 2- or 4-year college in the NSC data as of the spring semester in 2018.

The school-level and sector-level college enrollment rates are included in the outcomes report from OSSE, along with the high school graduation rates. For the 2014-2017 cohort, OSSE reports that college enrollment rates as of the fall of 2017 were 41.5% overall, 39.8% for DCPS students, and 44.6 for PCS students. Through to the spring of 2018, we find college enrollment rates of 46.4% total, 44.2% for DCPS students, and 51.5% for PCS students. We also look at the enrollment rates as of the spring of 2018 for four-year college enrollments specifically, and these are 42.2% total, 40.4% for DCPS, and 46.4% for PCS. The total four-year graduation rate for DCPS is calculated as 74.0, and the PCS rate is 74.9.³²⁶

Figure 7.5 shows the rates for the students by initial sector in 2014 and final sector in 2017. Though, as noted, there are too few students transferred from DCPS to PCS to generate reliable rates. These rates are given for the following three groups of students: those enrolling in DCPS schools and exiting DCPS schools, and those enrolling PCS schools and exiting either PCS or DCPS schools. These are the students shown in Figure 7.3, transferring at a rate of 40.1%.

Figure 7.5: Graduation and College Enrollment for 2014 9th Graders, by Initial and Final Sector



³²⁶ Note, the four-year graduation rates in this analysis vary slightly from the analysis further above. Omitting the small number of DCPS transfers affects the total rate and both sector rates, because some of those students were transferred again between sectors.

The rates for DCPS are similar to those already reported, as expected. Graduation rates for students enrolled in 9th grade in PCS schools differs significantly for students transferred to DCPS, relative to students remaining in PCS schools—a difference of 11 percentage points (from 77.7 to 66.6). In line with the differences in graduation rates, we see a college enrollment rate of 53.7% for PCS students remaining in PCS schools and a much lower rate of 36.2% for those transferred. Finally, the pattern is similar for 4-year college enrollment, with the PCS students transferred to DCPS-credited schools enrolling at a rate of 33.6, compared the 48.2% rate for PCS-credited cohort students.

It is important to note that these findings, regarding the number of high school students transferring from PCS schools to DCPS and their relative high school outcomes, do not indicate anything about which students have transferred or why. If there is no detectable pattern in the educational experiences of the transferred students prior to transferring, then there is no accountability impact of the transfers. We also expect them to have lower outcomes on average, because of the documented impact of transfers on educational outcomes. This could explain why their outcomes are so much lower on average, though it would not explain why the transfers primarily go only in one direction. It is not appropriate, therefore, to compare the student graduation rates—occurring after transferring—with students who have not transferred.

Instead, we compare the interim high school outcomes for students who were and were not transferred—and we compare those prior to the transfer occurring. We compare 2016 first-time 9th grade end-of-year school outcomes for PCS students who were and were not subsequently transferred to DCPS schools by 2018. Over 80% of these students were transferred to regular DCPS high schools.³²⁷ The outcomes are the student indicators for chronic absenteeism (i.e., missing 10% or more of the school year), truancy (i.e., missing 10 or more days without an excuse), and whether the student received any out-of-school suspensions.

We detailed in Part 1, the validity issues regarding inconsistencies and incompleteness of absenteeism and discipline data collected from PCS LEAs, and we cautioned against using these in District-wide data analysis. However, in this analysis, we do not need to rely on the incorrect assumption that the data collected does not differ systematically between sectors. We are only comparing these outcomes between two groups of PCS students, and we are using only out-of-school suspensions for the discipline outcome measure, due to the missing in-school suspension data in PCSB's data submissions to OSSE.

We find the following outcomes for the PCS 2016 9th grade students who are not transferred to DCPS schools as of 2018 (the last year in the data we access): 23.0% were chronically absent, 18.6% were truant, and 17.0% received at least one out-of-school suspension. For the PCS 2016 9th grade students who were subsequently transferred to DCPS schools by the end of 2018, we find the following outcomes: 50.7% were chronically absent, 35.6% were truant, and 33.5% received at least one out-of-school suspension. Each of these adverse school outcome rates are double those of the non-transferred students, and all of these were recorded prior to the transfer—so these are not the result of the transfer itself.

³²⁷ Note, we cannot do a similar analysis for transfers from DCPS and PCS regular high schools to the alternative schools we analyzed in Figures 7.1 and 7.2, because these transfer types occur primarily after students have been in regular high schools for three years. We would need the 2019 data to reach that transfer stage for the students with chronic absenteeism and truancy indicators, which are first included in the data in 2016.

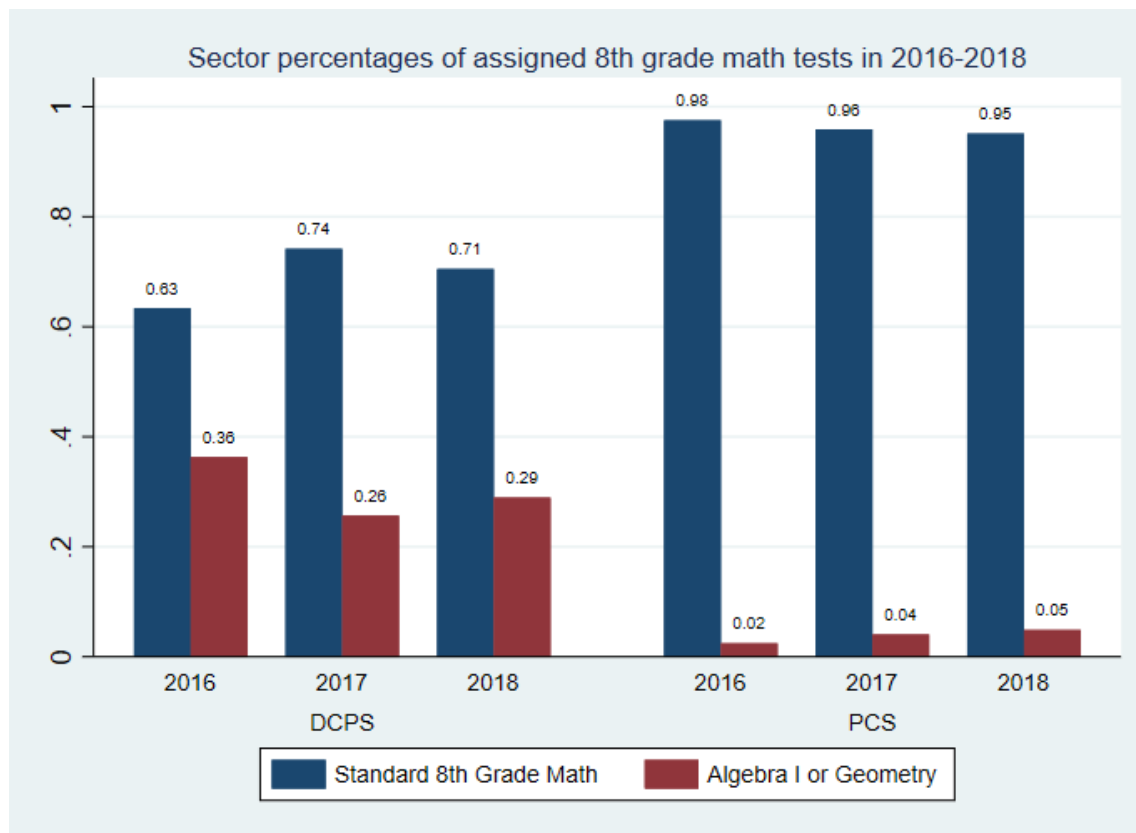
The analysis shows that struggling early high school students were transferred out of the public charter high schools at disproportionately high rates. The limited data collected by OSSE, however, reduces the ability to learn more about the specific supports needed and whether some schools have models for these supports that can be scaled up. Beyond D.C., SEAs have been collecting student course data, detailed teacher data, and school climate survey data, and developing early warning dropout systems, and using these together with practitioners and stakeholders to devise solutions for these students at high risk of dropping out in addition to trying to stabilize their enrollment patterns.

In the following sections, we start our school pathways analyses before the transition to high school and look at the middle and high school advanced math course sequences that research on college and career readiness and success finds extremely important for all students. The first analysis examines enrollments in these courses based on the test records, and the second estimates their impact on selective high school admissions, controlling for a student's test scores, as well as other characteristics and school experiences.

Middle grade pathways matter for advanced high school opportunities

Beyond graduating, high school pathways consist of many different opportunities across and within high schools. These are the standard high school course sequences, the career-technical education course sequences, and the advanced college preparatory course sequences and programs within schools, as well as the separate selective college-prep high schools, specifically. As we track student high school curriculum pathways longitudinally, into and through high school, we begin with each student's 8th grade school experience data. Here, we see another stark sector trend that affects students' high school pathways and should therefore be factored into any analysis of their opportunities and achievements in, and beyond, high school. As we referenced in the test score brief, research shows the important role that advanced middle grade math courses play in high school opportunities and success—from lowering probabilities of dropping out of high school or being retained in 9th grade, to graduating with advanced math course credits and enrolling and persisting in 4-year colleges.

Figure 7.6: 2016-2018 8th Grade Math PARCC Tests Assigned by Sector Each Year



In the testing brief, we also discussed the PARCC subject-grade test structures. In ELA, these are grade-level tests from 3rd grade through 8th grade, and in math they are grade-level tests for all students from 3rd grade through 7th grade. At 8th grade, there are multiple math tests corresponding to the differentiated 8th grade math courses. The schools determine which tests students are registered to take. We see in the student test data files, as depicted here in Figure 7.6, that roughly 70% of DCPS 8th graders take the standard 8th grade math test. Most of the advanced math testing students take Algebra I and a few take Geometry. By comparison, almost all of PCS 8th graders take the standard 8th grade math test. For example, in 2018, the most recent data we access, 29% of DCPS students take the advanced math tests, while only 5% of PCS 8th graders take these.

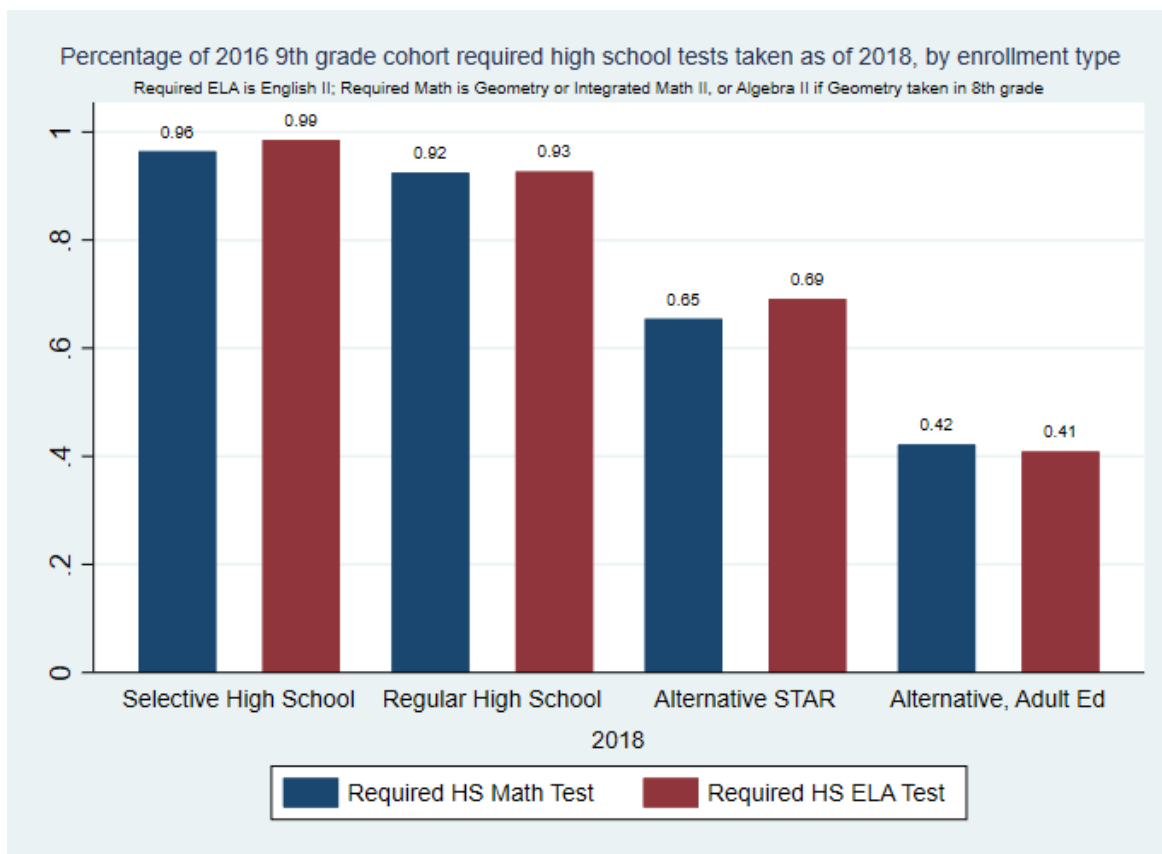
Because OSSE does not collect course data, it is not possible to know whether some students taking standard 8th grade math tests may have been enrolled in an advanced math course. However, the test and the course should typically match, so this disconnect is unlikely. It is also unusual to see so few 8th grade advanced math courses represented.³²⁸

³²⁸ Of note, it is possible to compare the number of 8th grade advanced math testing students in the aggregate PARCC data against the number of students in each school recorded by LEAs as being enrolled in Algebra and Geometry, using the CRDC.

Math course sequences begun at the end of middle school largely determine a student's high school course sequence beginning in the transition to 9th grade. Studies show that improved data systems and intentional policies can align high school course assignments for students, especially low-income students and students of color, that are more often placed into high school courses that may be beneath their ability and put them behind in the college readiness sequence.³²⁹ Additional analysis of the high school math courses by sector (not graphed here) show the pattern continuing, with students from PCS middle schools arriving in high schools in either sector are further behind in the testing sequence, and taking fewer Algebra II tests.

In Figure 7.7, we study the patterns of required high school test-taking rates. The required high school test in ELA is English II. The other English tests (I and III) are optional. In math, high school students are required to test in Geometry or Integrated Math II, unless they took Geometry in 8th grade in which case their required high school math test is Algebra II.

Figure 7.7: Required High School Tests Taken by 2016 9th Grade Cohort as of 2018



329 See Cratty, D., Do 3rd Grade Math Scores Determine Students' Futures? for illustrations of these practice applied successfully by school districts.

Figure 7.7 shows the cumulative percentages of required tests taken as of 2018 for the 2016 first-time 9th grade cohort of students observed in the data for all three years.³³⁰ This is the percentage of students with a valid test score recorded for their required tests in any year between 2016 and 2018.³³¹ The tests are required, not at a set grade level, but when the student's course material aligns. For most students, this occurs in 10th grade, but the tests begin in 9th grade and are taken as late as 12th grade.

Students enrolled in selective and regular high schools as of the third year of high school have over 90% testing rates in each subject. These rates drop to 65% in math and 69% in ELA for students enrolled in the alternative STAR measure high schools as of 2018 and 42% and 41%, respectively, for those enrolled in exclusively alternative learning and adult education programs. As Figure 7.1 shows, most of these 2016 cohort students enrolled in non-regular high schools as of 2018 were transferred in from regular high schools. Note that these testing rates differ from the test participation rates reported by OSSE which are a measure of the rates at which students in courses aligned to these subjects are taking the test.³³² What we observe in this figure (and Figure 7.1) is that a number of students will not be enrolled in these math and English courses in high school.

We also analyze the total number of tests taken each year and grade for all students in the data, not just this single cohort. We find the number of required high school tests taken decreases for math from 2016 to 2018. In 2016, 28% of students in grades 9-12 (combined) took the required math tests that year. As of 2018, that number had dropped steadily to 21%. The English II ELA test rate has varied around 25% and is slightly higher in 2018 than 2016. The total rates across all high school grades also vary by student subgroup. In 2018, 20% of students considered at-risk took required math tests and 25% took English II. Those rates for students not considered at-risk were 24% and 32%.

Finally, in addition to advanced course tracks within high schools, there are advanced opportunities across high schools. As first-time 9th graders transition into public high schools in D.C., we analyze the pathways of students admitted to the District's selective DCPS high schools. Specifically, we analyze the student characteristics and 8th grade school experiences of those admitted into selective high schools in 9th grade.

This next graph shows the impact of the 8th grade math test course on selective high school admission, controlling for math scores and other important predictors. These are the predictive analyses, like the early warning systems for dropouts, which SEAs conduct as decision support to help practitioners learn from longitudinal outcomes of former students. From these analyses, practitioners can better gauge the potential impacts of different education practices and experiences. The opportunity for SEAs working with external researchers to tailor these methodologies to their data and needs is a widely cited benefit of RPP investments.

We demonstrate this type of analysis in Figure 7.8 below. Here, we plot the predicted probabilities of selective high school enrollment in 9th grade over students' previous, 8th grade, math scores. We show

330 Note, this analysis cohort differs slightly from the ACGR 2016 first-time 9th grade cohort used for graduation rate reporting in 2019. The ACGR cohort will include newly arriving high school students up through 2019.

331 Note, a relatively small number of test records exist in the data files without test scores, but with fields indicating the reason. These records are also not considered as valid test records in the calculations of the student test participation rates by OSSE.

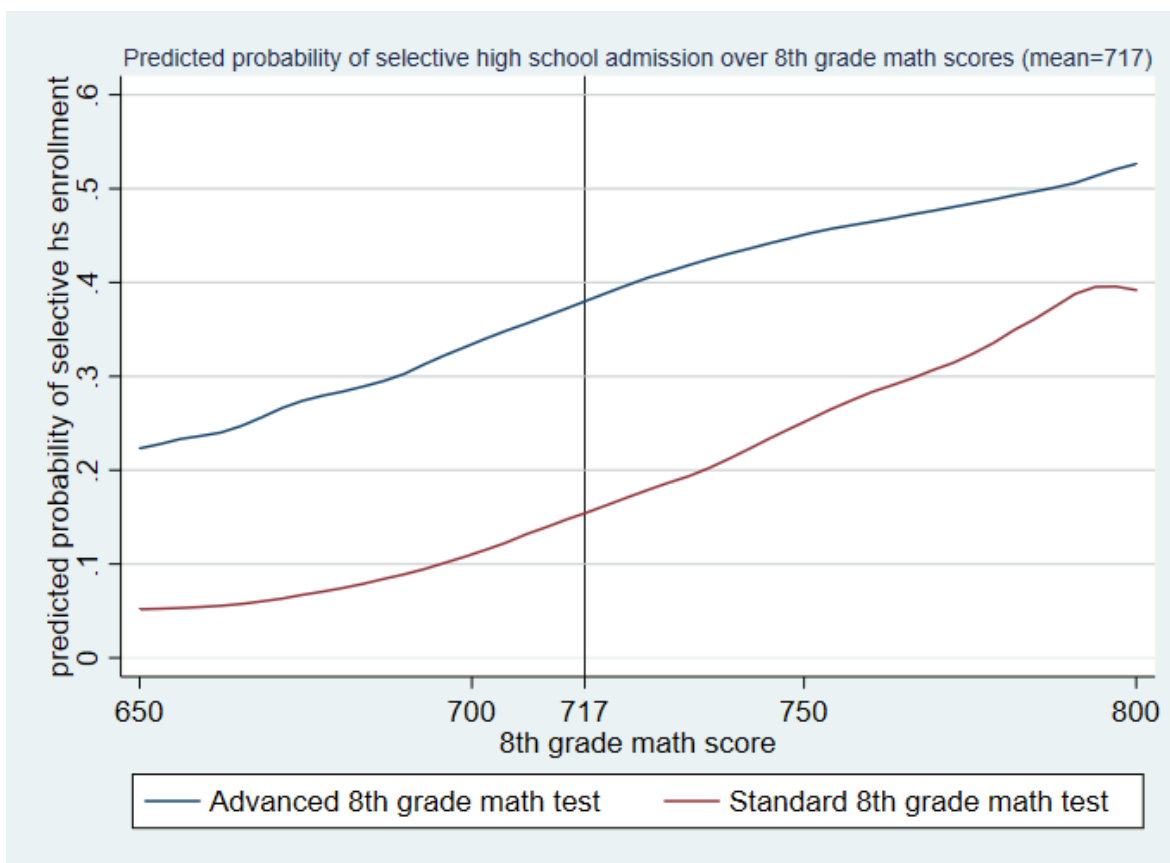
332 <https://osse.dc.gov/page/2018-19-parcc-results-and-resources> last accessed October, 2020.

these broken out for students who were assigned advanced math tests in 8th grade (Algebra I and Geometry) and those assigned standard 8th grade math tests. The probabilities are estimated using a logit regression of the observation of selective high school enrollment in 9th grade on student characteristics and student education experiences in 8th grade. These include student demographics of age, race, and gender; program or subgroup status indicators for at-risk, ELL, and SWD; and previous math and ELA test scores. Normally, these would also include absenteeism and suspensions, but we do not include those due to the validity issues we detail in Part 1.

The predicted probabilities of being observed in a selective high school in 9th grade, as a function of these combined factors, are plotted over 8th grade math scores in the graph below. The graph plots fitted predictions over test scores by each of the 8th grade math course tracks: standard 8th grade math, or advanced 8th math, consisting of Algebra I or Geometry. The indicator variable for advanced 8th grade math course was statistically significant, shifting the probability substantially higher, even after controlling for 8th grade test scores and all else.

What this means is that student participation in an advanced math course test in 8th grade had a highly significant, large positive effect on selective high school enrollment in 9th grade even after controlling for all else in the regression, including the student's own 8th grade math score.

Figure 7.8: Predicted probabilities of selective high school enrollment by 8th grade math test



This is consistent with research showing the substantial role of advanced 8th grade math course enrollment in advanced high school opportunities for students above and beyond their 8th grade math scores and course grades. Controlling for all else, on average an 8th grade student scoring at the mean of the math test in 8th grade of 717, has an almost 40% predicted probability of being enrolled in a selective high school as of 9th grade if they took an advanced 8th grade math course test. For a student with the same mean score who took a standard math test, the probability is predicted to be close to just 15%.

Note that the slope of the lines indicates that this significant difference in probability is related more to the course each student took than to their own prior achievement.

A student taking the standard 8th grade math test and scoring at the proficiency Level-4 (750 cut-score) of meeting college and career readiness expectations would have a 25% probability of enrolling in a selective high school. This is still lower than the probability of a student taking an advanced 8th grade math test and scoring below the proficiency Level-2 (700 cut-score) of not partially meeting or approaching college and career readiness expectations. This is also not surprising given that part of the preparation for applying to selective high schools, nationally, is for students to demonstrate advanced course taking in middle school math.

Summary of Findings

A significant number of high school students are transferred out of regular high schools

- In 2017-2018 fully 18.2% of D.C. 9th graders were held back, compared with an average retention rate of 2.7% for all other grades. This is consistent with earlier research in other urban systems though recently the retention rates elsewhere have declined, possibly due to use of early warning systems.
- Assignments to non-regular high schools begin early in the transition to high school grades and increase substantially for students as of age 17. Of those students age 17 who have not yet graduated or exited the school system, 13.5% are in non-regular schools. By 18, this figure rises to 37.4%.
- The share of students age 17 enrolled in non-regular schools is increasing over time. For students age 17-18, non-regular enrollments increase from 18% in the first two years shown to 22.9% by 2018.
- Because OSSE does not collect and report the data needed to accurately determine and validate dropout rates we cannot conduct any analysis of which student subgroups drop out at higher rates than others or what school experiences dropouts had relative to graduates: in terms of math course sequences, math and English test scores, retention, absenteeism, or suspensions.
- Through the 2014-2017 high school span, the 2014 9th grade cohort increased in DCPS by more than 500 students and decreased in the PCS sector by over 300 students.
- High school cohorts from 9th grade onward are those used to ascribe graduation rates to schools. These rates can be distorted under what these data show are large, systematic patterns of school-type and sector transfers of 9th grade cohort students, primarily from PCS to DCPS high schools.
- Students struggling in early high school grades were transferred out of the public charter high schools at disproportionately high rates. More specifically, students transferred to DCPS schools had higher instances of chronic absenteeism, truancy, and rates of out-of-school suspensions.

Graduation and college enrollment rates are lower for sector transferred high school students

- Between 9th grade in 2013 and the four-graduation year of 2016, 29.4% of the PCS high school cohort were transferred to DCPS schools. The share of students transferred increases dramatically over each of these few years in the data.
- The four-year graduation rate for PCS students who were not transferred out of PCS schools was approximately seven percentage points higher than those who were transferred out, a potentially significant distinction that merits study.
- The DCPS four-year graduation rate for students who were not transferred between sectors is similar to the PCS four-year graduation rate for students remaining in PCS schools, at 75% and 77.7%, respectively.
- Similarly, the college enrollment rate is much higher for students remaining in PCS schools than for those transferred out, furthering the need to study these pathways and differences for equity implications.

Middle grade pathways matter for advanced high school opportunities

- Many more DCPS 8th graders than PCS 8th graders are taking advanced 8th grade math assessments.
- Similarly, the percentage of students taking Geometry and Algebra II in 9th grade are much higher in the DCPS high schools than PCS schools.
- There is significant student attrition from the D.C. public schools in high school grades, including from the selective DCPS high schools. After two full years at the end of 2018 only 80% of the admitted 2016 students who were still enrolled in D.C. schools were also still enrolled in the selective DCPS high schools.
- We find that student participation in an advanced math course test in 8th grade had a highly significant, large positive effect on selective high school enrollment in 9th grade even after controlling for all else, including the student's own 8th grade math score.

A Note on Data

As we discuss in Part 1, there are several significant limitations on these data in the District:

- No student course data collected by OSSE.
- Incomplete student enrollment universe data until 2016.
- Lack of exit data needed for identifying dropouts, etc.
- No teacher-student links and incomplete teacher data.
- Invalid absenteeism measures for days absent, chronic, and truant.
- Missing in-school suspensions and unverifiable out-of-school suspensions data.

Important pathways data that SEAs and LEAs invest in and compile beyond their own student data elements are the National Student Clearinghouse (NSC) and College Board data on college enrollment and success and college preparation through AP, IB, and SATs. These data are also gathered by OSSE, and our analysis prepped and linked these to the other high school elements (of school, school type, grade, PARCC tests graduation, demographics, and special programs). We explain below how our analysis tests and accounts for the limitations in the OSSE secondary data collections, and we assess the impact these limits have on the potential to track full pathways through both secondary and postsecondary.

Analytic Dataset Preparation

For reasons we explained in the Part 1 discussion of the limited data access, we have not conducted this high school pathways analysis with the 2019 student data files we requested. Clearly, the most informative high school pathways analysis would use at least four full years of data, from 9th-12th grade. Since D.C. does not have full enrollment data prior to 2016, the 2019 data completes the first full four-year cohort for the District. We adjust for this in our analysis by studying a series of cohorts to cover the span between transition into high school and post high school outcomes. The NSC data files linking high school graduates to their longitudinal postsecondary records were also not made available for those enrolling in college as of the fall of 2019 (or those persisting in college through the fall of 2019). These too, would need to be accessed for this analysis to reliably cover high school pathways for entering 9th graders through to their potential college persistence outcomes. Here we can report only on their initial enrollments.

Also note we do not include absenteeism or discipline data in the analyses in this brief even though research shows these to be important factors in student pathway opportunities and outcomes. As we detailed in Parts 1 and 2, more work is needed to fully assess the validity issues in those data collections year-over-year at the school level to adequately quantify and account for potential bias introduced by the data collection processes.

Agency Comments

On November 4, 2021, we sent a draft of this report for review and comments to the D.C. Public Charter School Board (DCPCSB), the Deputy Mayor for Education (DME), and the Office of the State Superintendent for Education. DCPCSB responded with comments on December 1, 2020. The DME responded on December 2, 2020. OSSE responded on December 1, 2020. Agency comments are included here in their entirety, followed by ODCA's response.



Rick Cruz
Chair

December 1, 2020

VIA ELECTRONIC MAIL

Kathy Patterson
Auditor of the District of Columbia
717 14th Street NW, Suite 900
Washington, DC 20005

Dear Ms. Patterson:

On behalf of the DC Public Charter School Board (DC PCSB), thank you for the opportunity to comment on the draft report from the Office of the District of Columbia Auditor (ODCA), "Improving Education Requires New Commitment to Data Integrity" (the report).

We have the following concerns about this draft report:

1. The report misrepresents current data practices and key relationships in ways that imply bad faith on the part of DC PCSB, or even the entire public charter sector;
2. The report gives analysis that DC PCSB cannot replicate or verify and thus cannot meaningfully respond to; and
3. The report omits crucial context necessary to provide a nuanced understanding of the agencies, practices, and systems being examined.

The second half of our letter will address, in greater detail, three important areas in which we believe the report's conclusions are decontextualized, inaccurate, or otherwise misleading, often in ways that reflect the overarching concerns stated above. Specifically, these areas are: 1) data collections and access, 2) attendance and graduation data, and 3) discipline data. Throughout our letter, we will also identify areas where we agree with the report.

I. Overarching Concerns

DC PCSB appreciates some of the report's suggestions. In fact, we have been in the process of undertaking a few of them prior to the report's release. For example, DC PCSB agrees with the suggestion that OSSE collect discipline data directly from local education agencies (LEAs); we are already working with OSSE to complete this transition. Unfortunately, the report also reaches many conclusions that misrepresent current practices, analyze data we cannot verify or replicate, or lack vital context.

A. The Report Misrepresents Current Data Practices and Relationships

While it may not be ODCA's intent, we are deeply troubled by the number of factual inaccuracies or mischaracterizations that imply bad faith on the part of DC PCSB and the public charter school sector more broadly. To the extent the report implies, without evidence, that DC PCSB has improperly manipulated data before sharing it with OSSE, or encouraged public charter schools to do so, we resoundingly reject any such baseless implications and strongly object to their inclusion in a report purportedly grounded in fact. Those implications appear to stem, at least in part, from a fundamental misconception on ODCA's part that "[t]here are few data collections from schools and LEAs in the charter sector that do not directly pass through [DC] PCSB before arriving at OSSE." (Report Vol. 1, p. 87). This statement is simply not accurate, and we share more detail later in this letter. We would like to note for the record our grave concern that a comprehensive report on the data practices of the District's education sector reflects such a basic misunderstanding of the relationship between DC PCSB and OSSE with respect to data obtained from charter LEAs.

B. The Report Provides Data Analysis for Data We Do Not Possess

When this audit began, we worked closely and collaboratively with ODCA to provide, as the report notes, nearly 800 documents. Our staff logged more than 100 hours to ensure we responded to ODCA's requests in a thorough and timely manner. Unfortunately, large sections of the report hinge on the analysis of specific data we do not possess and cannot replicate, limiting our ability to meaningfully respond.

For example, the report's analysis of graduation data makes many bold claims and assertions that would be useful to dig into more deeply. However, there is no way for us to verify these claims. It is disappointing that the report editorializes based on a data analysis that we have not seen. We would have appreciated the opportunity to review the data in order to provide meaningful responses to or verify any of the report's conclusions. Further, many of these analysis sections appear to go above and beyond the report on "data management and collection practices" DC Council requested in the District of Columbia Education Research Practice Partnership Establishment Act of 2018.

C. The Report Omits Crucial Context

Before addressing the specific content of the report, it is important to note a critical omission, which is the historical context surrounding OSSE. OSSE was created in 2007 by the District of Columbia Public Education Reform Amendment Act (PERAA). Relative to other state education agencies, such as the New York State Education Department, which was established in 1904, OSSE is a young agency that is still building and improving processes that other state education agencies have had decades to refine. Further, unlike many other state education agencies, OSSE was established within a landscape of other existing education agencies charged with different authorities and responsibilities. OSSE has built their systems and processes to strengthen relationships among these key stakeholders and their data collection practices.

The report is correct in its assertion that DC PCSB has a strong and collaborative relationship with OSSE. Over the years, DC Council, the Mayor's office, LEAs, and families across the District have desired this type of collaboration. As OSSE began improving their data systems, we have

increasingly worked with them to lessen duplicative demands on charter LEAs, shared data in both directions, and gradually shifted many of our collection responsibilities their way.

As the report captures, OSSE still has room to improve their data collection practices in certain areas and has been doing so consistently since they started to build their capacity around the beginning of the timeframe this report considers. OSSE's ability to collect and validate data has only grown stronger over the years. Their approach, which has been rooted in reflection and collaboration, is the right one to drive improvements in the District moving forward. As OSSE builds both capacity and context, DC PCSB remains committed, as always, to supporting and bolstering their growth as the city's state education agency.

II. Specific Examples

The remainder of this letter addresses specific examples of statements from the report that we believe are either decontextualized, misleading, or incorrect. We have chosen to highlight examples in three key areas of data collections and access, attendance and graduation, and discipline. Each example is followed by our response.

A. Data Collections and Access

"There are few data collections from schools and LEAs in the charter sector that do not directly pass through [DC] PCSB before arriving at OSSE." (Report Vol. 1, p. 87)

In fact, the opposite is true: The majority of data collections flow directly from schools to OSSE, never passing through DC PCSB. These include:

- Attendance data (e.g., attendance codes on each day);
- Enrollment data (e.g., entry and exit dates, entry and exit codes, grade level);
- Student demographic data (e.g., English Learner, Student with Disability, Free and Reduced Meals Status, Homelessness, At-Risk);
- State Assessment data (e.g., PARCC, ACCESS, CLASS observation scores); and
- Faculty and Staff data.

As OSSE notes in their response to the interview questions posed by ODCA, included in Appendix B of the report but not reflected in ODCA's statement above, "OSSE collects most of its data through a nightly feed from all LEAs. The two datasets you describe [discipline and graduation data] are two specific exceptions to this approach, each for different reasons." (Report Vol. 2, p. 107). OSSE's response here is accurate.

As an additional note, ProActive, which is frequently referenced in the report with respect to data collections, is no longer in use and has not been since school year 2015-16. Schools do not have the option of selecting whether to send the data elements described above to DC PCSB or to OSSE; schools are required to send them to OSSE and schools comply with this requirement.

The report states that OSSE provides DC PCSB with "viewer and editing" controls for STAR Framework and DC Report Card data that OSSE collects. Other statements in the same pages of the report reference DC PCSB's ability to edit data. (Report Vol. 1, pp. 40-41)

To be clear: DC PCSB staff *do not* have the ability to make edits in OSSE’s data systems on any metrics. Rather, OSSE makes aggregate data available to DC PCSB and school staff in view-only applications such as QLIK and SLED. This is a practice that other state education agencies have with districts for validation purposes. There are a variety of reasons DC PCSB and LEAs have access to this view-only data from OSSE. DC PCSB uses the data made available in SLED and QLIK to ensure schools are submitting data in a timely manner, follow up with schools on critical certification dates, and observe emerging trends in charter sector data that may warrant immediate action.

An example includes:

- During the annual Enrollment Audit and Child Count, DC PCSB staff use an application on the SLED website to track how many students are enrolled leading up to Count Day in order to identify emerging enrollment trends for DC PCSB senior leadership.

B. Attendance and Graduation Data

The report notes several data quality challenges with the attendance data received, namely discrepancies in the values “total days absent” and “total days enrolled minus total days present.” (Report Vol. 1, pp. 37, 142-143)

To reiterate, attendance data flow directly from schools to OSSE; DC PCSB cannot edit the student attendance data held by schools or by OSSE. OSSE shares data back to DC PCSB via QLIK as well as an automated nightly feed. Neither of these systems enables DC PCSB staff to edit OSSE’s authoritative attendance data.

The report draws the conclusion that the attendance data could not have been reported with fidelity, perhaps based on the assumption that the files analyzed mirror the format in which schools submit data to OSSE. However, public charter schools do not submit aggregate data to OSSE. Schools submit the attendance code recorded for each student on each instructional day of the year. Schools are only allowed to use OSSE-specified attendance codes, and these codes are uniform across sectors (public charter schools and DCPS). This has been the submission format since the implementation of the ADT in the 2015-16 school year. Therefore, it is unclear how it is possible for cross-sector discrepancies to exist. However, since DC PCSB does not have access to the files that OSSE provided for this report, OSSE is better suited to address these discrepancies.

“OSSE...requires an entirely separate certified graduates manual submission from DCPS and [DC] PCSB each year. As we illustrated regarding the certified discipline incidents list that [DC] PCSB provides to OSSE, there is substantially more risk for additional errors, leading to more work to attempt to reconcile those errors. Not only should this work be occurring with far less effort it should also occur with less risk for error.” (Report Vol. 1, p. 98)

The assertion that the collection of course-level data by OSSE would involve “less effort” and “less risk” assumes that OSSE, as the state education agency, can seamlessly map all public charter school course offerings to School Courses for the Exchange of Data (SCED) codes. The

public charter school sector offers courses and programs that do not always neatly map to national course catalogs, not to mention the inclusion of transfer and dual enrollment credits on transcripts. This assertion also assumes that OSSE will not make errors in interpreting the unique graduation requirements as defined in schools' charter agreements. DC PCSB staff who review student transcripts are familiar with graduation requirements of different schools and have been supporting this process for years, making them best suited to accomplish this work.

Furthermore, OSSE runs a significant set of quality checks on the certified graduate list submitted by DC PCSB, and our agencies meet regularly to discuss these records. We are confident this close collaboration and dialogue mitigates the “substantially more risk” of errors.

While we do not wholly object to OSSE collecting course-level data, the argument for why this would result in “less effort” and “less risk” is fairly underdeveloped in the report. We would, however, be open to a broader discussion to reevaluate and improve the process.

C. Discipline Data

“...prior to compiling and submitting final annual totals to OSSE, [DC] PCSB conducts quarterly reviews of the [public charter school (PCS)] LEA discipline data submitted monthly, flagging for possible revisions LEA total out-of-school suspensions that are higher than the sector average.” (Report Vol. 1, p. 55)

This is a mischaracterization of DC PCSB's process that omits crucial context. Rather than encouraging schools to “revise” high discipline rates, as the report implies, these reviews are designed to notify schools of concerning trends within the school that may warrant intervention by DC PCSB if not addressed.

To elaborate, DC PCSB School Performance Department staff meet each month to review the most recent data regarding indicators of school climate such as truancy, chronic absenteeism, out-of-school suspensions for all students and for specific student populations (At-Risk, English Learners, Students with Disabilities), lost instructional time due to out-of-school suspensions, and student mobility. DC PCSB staff reach out to schools demonstrating troubling rates to encourage those schools to reflect and potentially implement new school climate practices while there is still time to course correct. In response, schools might choose to partner with a truancy-reduction program, implement staff training, hire additional social workers, change a school policy, or pursue a host of other solutions.

Schools demonstrating troubling rates on multiple fronts may be invited to a meeting where members of the school's board have the opportunity to candidly discuss challenges facing the school with members of the DC PCSB Board. To be clear, these are interventions designed to flag issues as they are occurring in order to improve the student experience. The charter sector has seen a steady decline in rates of exclusionary discipline even prior to the passage and implementation of the Student Fair Access to School Act, which DC PCSB attributes in part to practices such as our outlier emails.

Further, we reject the idea that it is undesirable to ensure LEA data submissions are accurate, or that working with LEAs in real time to troubleshoot issues is somehow problematic.

In fact, DC PCSB conducts routine data quality checks specifically designed to ensure that out-of-school suspension and expulsion data are *not* being under-reported. For instance, DC PCSB maintains a data error report that cross-references discipline, attendance, and enrollment data each night to flag potential indicators of under-reporting such as:

- Students marked “Absent, Out-of-School Suspension” in the attendance data who fail to appear in the discipline data collection; and
- Students who have been exited with code 1966 (Expelled for Disciplinary Reasons) in the enrollment data yet fail to appear in the discipline data.

Data analysts also work closely with DC PCSB’s Community Complaint Team to ensure that suspensions or expulsions mentioned in complaints are reported by the school with fidelity. Schools that trigger any of these flags must submit the identified missing records to DC PCSB within 60 days of notification or face consequences such as Early Warnings, Out-of-Compliance Notices, and/or Data Audits.

The report suggests OSSE directly collect discipline data. (Report Vol. 1, pp. 139-140)

OSSE has already noted their commitment to transition to direct discipline data collection. (Report Vol. 2, p. 107). DC PCSB agrees that OSSE is the authority on discipline collection elements and definitions, and we support transferring this data collection to OSSE.

In fact, DC PCSB has already taken the following steps to increase OSSE’s access to discipline data and prepare OSSE to collect discipline data via the ADT with a high degree of data quality:

- Ensured that DC PCSB’s discipline data collection template is aligned to the columns and definitions in OSSE’s discipline data collection template so that schools are familiar with and prepared for OSSE’s collection template;
- Provided the full set of data quality checks currently implemented by DC PCSB data systems (e.g., checking for under-reporting, ensuring consistency in provided values and data types);
- Participated in bi-weekly meetings with members of OSSE staff overseeing discipline policy and data collection to discuss common questions from schools and ways to improve the discipline collection processes of both agencies; and
- Initiated a procedure to share discipline data on a quarterly (rather than annual) schedule with OSSE.

We remain committed to helping OSSE transition to direct collection of discipline data and stand ready to support in any capacity needed.

The report discusses at length data inconsistencies around in-school suspensions. (Report Vol. 1, pp. 54-55)

DC PCSB’s oversight (e.g., charter goals and monitoring activities) focuses on out-of-school suspension and expulsion data as opposed to in-school-suspension data. Therefore, as the report notes, we do not require schools to submit in-school suspension data to DC PCSB because it is not central to our monitoring practices. (However, in the event a school does submit in-school-suspension data to DC PCSB, it is shared with OSSE along with all other discipline data

collected.) This arrangement, wherein schools have the option to submit in-school suspension data to either DC PCSB on a monthly basis throughout the year or OSSE once at the end of the year, depending on their preference, was intended to streamline and support schools; however, it may have the potential to be confusing for schools. Our recognition of this challenge is one of many reasons we support transitioning direct discipline data collection to OSSE, as noted above.

Thank you again for the opportunity to comment on this report. It is our hope that you will receive our comments in the constructive spirit they were intended and revise the draft report accordingly. If you have any questions regarding this letter, we would be happy to answer them.

Sincerely,

A handwritten signature in black ink, appearing to read "Rick Cruz", with a stylized flourish at the end.

Rick Cruz
Chair
DC Public Charter School Board

Office of the Deputy Mayor for Education
John A. Wilson Building | 1350 Pennsylvania Ave, NW, Suite 307 | Washington, DC 20004

December 2, 2020

Kathleen Patterson
District of Columbia Auditor
717 14th Street NW, Suite 900
Washington, DC 20005

Dear Auditor Patterson,

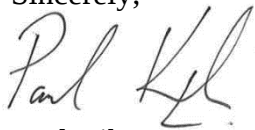
Authorized by the District of Columbia Education Research Practice Partnership Establishment and Audit Act of 2018 (the Act), this audit was intended to support the District's future Research Practice Partnership (RPP) in getting off to a strong start by creating a catalog of data assets the RPP would have immediate access to, along with helpful annotations about what kinds of analyses are possible.

The District's education agencies should be commended for their commitment to transparency and collaboration demonstrated in their work with your office and your consultant since the launch of this audit in March 2019. During that time, the agencies involved have worked in good faith by providing data and information, as well as answering follow up questions. Collectively our agencies provided almost 2,000 documents and hundreds of thousands of data points as well as unaccounted time totaling hundreds of hours.

Despite the effort, time, and collaboration afforded by the District's education agencies, we regret this audit fell short of its charge to develop foundational data assets and insights to strengthen and ground the RPP going forward. While we were not able to comment on the longitudinal datasets intended to assist the future RPP because we did not receive them, and the data inventory provided is incomplete for the RPP's purposes, the Office of the State Superintendent of Education (OSSE) has provided comprehensive feedback on the report. I fully endorse OSSE's feedback as it is presented, in detail, in the agency response section of this report.

Nevertheless, we look forward to continuing our collaboration around the RPP and to the launch of the research consortium in early 2021 after the RPP panel selects the applicant this December.

Sincerely,



Paul Kihn
Deputy Mayor for Education



DISTRICT OF COLUMBIA

OFFICE OF THE STATE SUPERINTENDENT OF

EDUCATION

VIA ELECTRONIC MAIL ONLY

December 1, 2020

Kathy Patterson
Auditor
Office of the District of Columbia Auditor
717 14th St., NW #900
Washington, DC 20005

RE: ODCA Draft Report, Improving Education in the District Requires New Commitment to Data Integrity

Dear Auditor Patterson,

This correspondence serves as the Office of the State Superintendent of Education's (OSSE) response to the Office of the District of Columbia Auditor (ODCA) draft report, "Improving Education in the District Requires New Commitment to Data Integrity." We appreciate the opportunity to respond. In this letter and the accompanying appendix, we correct significant inaccuracies included in the draft report, refute the majority of its findings, and provide important context on our approach to education data in the District that is currently omitted from the report. We hope these responses are helpful and reflected in the final report prior to its publication.

We believe that education decisions should be based on good data, and every day our teachers and school leaders make a number of choices that impact the lives of our students. *Does this student need remediation in reading? Is this academic intervention helping this student make progress in math? What professional development would help this teacher improve their practice?* We do not collect data as an end unto itself, we do it because we know that information is power, and we seek to put that power of information—about who our students are, what their needs are, and how we can best meet those needs—into the hands of the individuals dedicating their lives to ensuring that even our most vulnerable children are learning, growing, and progressing in school and in life. Making the right calls on the infinite number of small, yet impactful, choices in our classrooms has led to continued academic gains in the District. Foundationally, we believe that sharing and using actionable data—a key pillar of our strategic plan—will continue to improve our instructional practices and systems overall, which will help our students make even greater progress.

As the state education agency for the District of Columbia (District), OSSE takes its obligations to accomplish that goal seriously. We strive to report high quality, actionable data to our stakeholders, and we have built considerable analytic capabilities. We collect more than 100 million data points annually. We have access to longitudinal, student-level data from across the education continuum, from birth to adulthood, and can draw linkages across this continuum to analyze the relationship between inputs and outcomes. Much of that progress has been made over the past five years.

Readers of the report likely will not appreciate the monumental amount of progress OSSE has made to increase stakeholder access to high quality, actionable data, much of which ODCA utilizes to conduct analysis in Volume 2 of the report. For years, OSSE had very little capacity or the infrastructure to provide this information, yet over the last five years, OSSE has made significantly more data available to practitioners and the public. Over this time, we began collecting and reporting student data on attendance and discipline. OSSE, with the State Board of Education (SBOE), led a significant public engagement effort to find out what data parents wanted about their schools, or schools they were considering for their children, and we used it to roll out the DC School Report Card in response to those needs. We have made hundreds of data files available to the public on our website and to researchers via data-sharing agreements. We have also developed a wide array of data applications to help local education agencies (LEAs) manage and use their own data to better support students and provide accountability. We've created quality profiles for our early childcare providers to help parents make the difficult choice of whom to entrust with care of their children while they work. In response to public interest, we published our first statewide teacher workforce report in 2019, and just recently, we outlined our efforts to collect and report more information on teachers to the Council of the District of Columbia (Council). In fact, our demonstrated commitment to high quality and actionable data has been recognized both nationally and locally.¹

Generally, audits note agency cooperation, which OSSE provided. OSSE devoted significant resources toward completion of this report, including staff time for completing the technical work of satisfying requests for data and information as well as cooperating with extensive staff interviews. Any suggestion to the contrary is unfounded. It is also deeply troubling that the report states that OSSE failed to share data on the 2019 school year without a more transparent accounting of the facts behind that decision. That said, we are pleased that this report has been drafted and shared with the agency and that we are afforded the opportunity to consider its findings and respond to it.

This letter will both respond to the report's broad findings and recommendations.

OSSE's systems meet the requirements of local statutes.

The draft report's finding that "OSSE does not have a data warehouse as D.C. Code requires" is false. Section 7c of the "State Education Office Establishment Act of 2000," as amended, effective October 21, 2000 (D.C. Law 13-176; D.C. Official Code § 38-2609) authorizes OSSE

¹ Refer to articles from national and local organizations commending the District for its data related work: [Data Quality Campaign](#); [Alliance for Excellent Education](#); [The Council of Chief State School Officers \(CCSSO\)](#):

to develop and implement a “longitudinal educational data warehouse system” that is not defined in this section or anywhere else in the relevant law. This provision describes the functionality of the data system as being used to “compile, analyze, research, and organize student, teacher, and school-level data to: . . . [f]acilitate compliance with District of Columbia and federal reporting requirements; . . . [a]id in local and state-level policymaking and programming; and . . . [i]mprove information exchanges, while maintaining the confidentiality of individual student and staff data, in accordance with District of Columbia and federal confidentiality laws, rules, and regulations.” D.C. Official Code § 38-2609(b). This provision requires that data from this system must be made available to LEAs, policy makers, and researchers, among others. D.C. Official Code § 38-2609(a). The law is not prescriptive, but rather gives OSSE wide latitude to determine the form and format of data collection, storage, and access as long as the system meets the basic functionality set forth in the statute. Like many laws, it creates a floor, not a ceiling—a framework for compliance that contemplates and allows for agency discretion. OSSE’s current data system does meet this basic functionality—specifically, the elements set forth in the law are collected and utilized for local and federal reporting, stakeholder engagement, inter-agency data sharing and third-party research.

The draft report strongly emphasizes that OSSE’s systems do not hew strictly to approaches identified by the National Center for Education Statistics (NCES) for maintaining a statewide longitudinal data system (SLDS). The report’s lengthy description of white papers, policy documents, and reports detailing alternative approaches is interesting but does not carry the force of law. While informative, the approaches identified by NCES are simply not requirements under the D.C. Code. Moreover, differences in longitudinal education data systems between the District and other states are not violations of District law. That said, we always appreciate learning about what your team considers to be promising practices from other jurisdictions. Although OSSE recognizes that there is room for improvement, this draft report fails to acknowledge or recognize the several new initiatives the agency has undertaken to lay the foundation for sustained progress.

The report makes many claims about federal laws and grants that are inaccurate and outside of the Auditor’s expertise.

Most troubling of all are the ODCA’s multiple accusations regarding noncompliance with federal laws and grant programs. In addition to being inaccurate and unsupported, these allegations are both outside the scope of the ODCA’s expertise and the oversight role the Council has entrusted it with respect to the execution of the District’s laws. We strongly encourage the ODCA to remove all such references prior to publication. The draft report provided for OSSE’s review refers to “non-compliance” with federal laws including the Individuals with Disabilities Education Act (IDEA)(20 U.S.C. § 1400, *et seq.*) and the Family Educational Rights and Privacy Act of 1974 (FERPA)(*See* 20 U.S.C. § 1232g and 34 CFR Part 99) in the absence any specific evidence. OSSE continues to be in compliance with IDEA and FERPA, as determined by the appropriate regulator of those federal laws, namely the United States Department of Education (USDE or Department).

Regarding IDEA compliance, the draft report alleges that OSSE is “out of compliance” with the federally mandated reporting requirements. This sweeping and conclusory statement is false and

unfounded. The draft report fails to cite the provisions within IDEA that were allegedly violated. Further, ODCA declined to provide specific citations at OSSE's request. To be clear, OSSE collects and reports LEA discipline data pursuant to the IDEA requirement in the Annual Performance Report under Indicator 4: Suspension and Expulsion². OSSE has historically met and continues to meet federal reporting requirements for Indicator 4.

Moreover, as the administrator of IDEA, only USDE can monitor OSSE for compliance with the law, and all of the Department's recent IDEA monitoring reports have been positive, without any indication of noncompliance. In spite of the lack of a finding of noncompliance by the Department or any other supporting evidence, ODCA has irresponsibly concluded that OSSE is out of compliance with IDEA. This conclusory statement is reckless and potentially harmful to the District.

With respect to FERPA compliance, OSSE has robust data sharing practices that have been approved by the Department's Student Privacy Policy Office (SPPO). In fact, ODCA has first-hand knowledge of these practices. Specifically, OSSE, as required by FERPA, made a formal finding of noncompliance as a result of ODCA's unauthorized re-disclosure of data in the course of a separate audit. OSSE and ODCA met with the leaders in the SPPO, wherein OSSE's understanding of FERPA was confirmed and ODCA was advised it would need to enter into data sharing agreements with OSSE to receive data for audits.

Finally, ODCA's irresponsible assertion that the District has violated the terms of federal grant awards, namely the SLDS and Race to the Top grants, is simply without merit. OSSE's work in furtherance of those programs was carried out in compliance with and approved by the Department; and in making these conclusions ODCA is usurping the authority the federal agency with actual responsibility for oversight of these programs.

OSSE has made great strides in the current Administration to clean up education data in the District of Columbia, yet the report sometimes refers to shortcomings that have already been addressed.

The Bowser Administration is deeply committed to evidence-based policy, which relies on the best data available, to address the significant gaps we observe between students' academic engagement and achievement among different populations in our city. This Administration has made significant progress on improving the collection and reporting of education data and the vision the 2007 statute describes. OSSE has been fully transparent about its progress on this project³ with numerous disclosures to the Council.⁴ To assume that this work is ever truly

² Measured by percent of LEAs that have a significant discrepancy, as defined by the District, in the rate of suspensions and expulsions of greater than 10 days in a school year for children with IEPs, which discrepancy can be computed by either comparing the rates of suspensions and expulsions for children with IEPs to rates for nondisabled children within the LEA or by comparing the rates of suspensions and expulsions for children with IEPs among LEAs within the State. OSSE has complied in all material respects with these metrics as set forth in its annual reports to the Department.

³ Refer to [OSSE Strategic Plan 2015-18](#) and [OSSE Strategic Plan 2019-2023](#).

⁴ Refer to [Performance Oversight Responses submitted from OSSE to the Council of the District of Columbia from FY16-FY19](#).

complete is to fundamentally misunderstand its complexity. The data available, the nature of technology, and the available systems and tools to manage it, mean that data practices will always be evolving. OSSE has made considerable strides in collecting, reporting, and sharing more data than ever before.

Promising data practices from other states may or may not be relevant here.

The report provides significant information on the data collection processes of other state education agencies, and many of these practices have merit. We are always looking to our peers in other states for improvements to our operations, and they look to us for the same. Yet, to assert that our data is inaccurate or non-compliant when procedures and practices are merely different is deeply flawed and inaccurate. We have implemented automated data transfer to collect most of our data and are expanding its use to other collections. Yet, such automated transfers are not as easy as turning on a light switch; it is a process that takes time to do with integrity. We maintain accuracy in our data by publishing clear rules regarding collection and reporting. And we provide LEAs with tools to monitor and correct data against those rules. These efforts provide the mechanisms and procedures to ensure that our data is accurate. While we appreciate and learn from practices in other states or organizations, we strongly disagree that differences in our practices constitute non-compliance or a lack of integrity.

OSSE is exercising its duties as the state education agency.

The report misconstrues the role and legal authority of OSSE as the state education agency in the District and applies expectations of the agency and policy approaches that are inconsistent with existing District law.

The education sector in the District is unique from others around the country with a vibrant system of public charter schools that are afforded certain autonomy (*See D.C. Code § 38-1800, et seq.*), as well as a traditional public system, DCPS, which is under the control of the Mayor (*See D.C. Official Code § 38-171*). OSSE plays a critical role as the District's state education agency with prescribed roles and powers codified in the local statutes (*See D.C. Code § 38-2601, et seq.* and *D.C. Official Code § 38-2609*). OSSE has faithfully executed those obligations and has made appropriate decisions as it pertains to the collection, reporting, and sharing of education-related data.

OSSE has not relinquished control of important data collections as asserted on page 53 of Volume 1 of the report. It's no secret that OSSE works diligently to form constructive relationships with its education partners, including LEAs and the Public Charter School Board (PCSB). We do not believe that it is effective to have an adversarial relationship with our own schools and the people leading them who do the hard work of educating our students. In order to recognize internal capacity constraints and to harness outside expertise, not to shirk responsibility, OSSE sometimes engages with outside entities, such as The New Teacher Project (TNTP) in our Staffing Data Collaborative. In addition, public charter schools make numerous data disclosures to their authorizer, the PCSB, and we streamline those processes by working with the PCSB to reduce administrative burdens. Finally, we are cognizant that existing District law, Section 2204(c)(3) of the District of Columbia School Reform Act of 1995, as amended,

approved April 26, 1996 (110 Stat. 1321; D.C. Official Code § 38-1802.04(c)(3)), explicitly provides charter schools with autonomy. We assert that the PCSB is already successfully using data to promote accountability. We believe our data-rich but still cooperative relationships with PCSB and LEAs have paid off.⁵

Much of the work suggested by the Audit is in the planning stages.

OSSE has been straightforward with the public about its data capacity, particularly its strengths, shortcomings, progress and plan to improve. In public testimony and budget documents, OSSE has repeatedly stated that additional improvements to our data systems must be made. Over the past several years, we have made numerous key personnel investments and organizational improvements to advance our data related work. Additionally, we have outlined our efforts publicly to modernize our data infrastructure over the coming years and shared preliminary plans with ODCA during the course of this audit. We have been transparent that the agency has yet to collect comprehensive course data or student-teacher linkages because we prioritized other missing data collections, such as discipline, attendance, and data on the District's teacher workforce. In recognition of the value of this data, we began planning in 2020 to take on this major task for both the agency and LEAs—a multiyear process.

Research findings are not indicators of deficiencies by OSSE.

Volume 2 uses the data that we shared with you to present analysis conducted by your contractor on various education research topics, most of which we already report. Nevertheless, we are glad to note your additions to the existing body of analysis and research conducted by OSSE and other researchers on topics such as mobility, growth, and proficiency⁶. This is consistent with our own goals to make more data accessible to the public and researchers so others can conduct their own analysis. However, we must note that this use was outside of the negotiated purpose included in our data sharing agreement. Further, we note that research conclusions and policy recommendations are not equivalent to audit findings. As you know, we are working to establish an education research practice partnership in the District. We look forward to collaborating with the partnership to conduct more actionable and impactful research in the future.

Below, we respond to each of the recommendations made to OSSE, the Mayor, and the DC Council. Included as an appendix to this letter, we also respond to each of the audit findings presented in Volume 1 of the report. We do not specifically respond to Volume 2, because as noted above, it does not contain audit findings but rather research findings and are in many cases consistent with national reporting and reports analysis previously published by OSSE.

Recommendations to OSSE

Recommendation 1. *Come into compliance with federal and District law on data collection and reporting with specific attention to data collections on discipline and attendance to meet*

⁵ Refer to [2019 DC Statewide Assessment Results](#) and [District of Columbia: 2019 Results National Assessment for Educational Progress \(NAEP\)](#).

⁶ Refer to OSSE's [Data and Reports website](#) for all published research and reports including OSSE's [Mobility Report](#) and discussions relating to growth and proficiency in various reports on [STAR Framework reports website](#).

*requirements of the federal Individuals with Disabilities Education Act and the District's Student Fair Access to School Act and School Attendance Clarification Amendment Act and issuance of a data privacy policy to improve compliance with the Family Educational Right to Privacy Act [sic]*⁷.

Response: *Already in place*

OSSE is in compliance with the District laws requiring the collection of attendance and discipline data, (see District of Columbia Compulsory School Attendance Amendment Act of 1990, as amended, §38-201, *et seq.*) OSSE continuously improves its data collection policies, procedures, and guidance, including in such areas as attendance and discipline, and makes changes pursuant to new local legislation such as the Student Fair Access to School Act of 2018, effective August 25, 2018 (D.C. Law 22-157). Further, as discussed above, the claims made by the report regarding compliance with federal laws such as IDEA and FERPA are simply inaccurate and unsupported. OSSE is in good standing with USDE. OSSE is also in compliance with District law, D.C. Code §38-2609, authorizing the data warehouse. Finally, OSSE is in the final stages of publishing a new data suppression policy, which will presumably address what the auditor refers to as “privacy policy.” This new policy is based on extensive research of best practices across the country, guidance from the USDE, and engagement with our agency-wide Data Governance Committee; and this policy is expected to be published by the end of calendar year 2020.

Recommendation 2. *Create and implement a best-practices quality control process to ensure that all data integrity issues identified in this report are quickly addressed.*

Response: *Agree in part and disagree in part.*

OSSE agrees that there are further meaningful improvements we can make in our data collections and management practices. However, we disagree that our current data practices adversely impact data quality or compliance with reporting requirements. In fact, while the ODCA notes several times that data prior to 2016 are of lesser quality, it fails to acknowledge that OSSE has taken steps to improve and strengthen data quality. One of the key reasons for the improvements since that time are the data quality measures OSSE has adopted. For example, in 2016 we initiated a certification process, in which every LEA leader must review and certify the accuracy of their data before those data are used in public reporting. Further, we introduced real-time reporting back to LEAs to indicate where the data being sent to OSSE did not conform with expected values. These “unified data errors” are then used by LEAs to update and correct inadvertent or systemic errors. These are not “burdensome workarounds” as the ODCA alleges, but instead are common practices across many state education agencies. The opportunity to comprehensively review and validate data is an example of an important process OSSE put in place to strengthen data quality. Still, we continuously strive to improve our practice, and as the ODCA is aware, we have plans to update our collection infrastructure

⁷The federal law referenced here is the Federal Family Educational Rights and Privacy Act.

and the data quality processes. While it is disappointing that these efforts and plans were not acknowledged, OSSE still intends to pursue them.

Recommendation 3. *Insert clear explanations of data limitations in current state education reports to provide full transparency until data integrity can be assured.*

Response: *Already in place.*

OSSE includes data notes in its published data and attempts to document any limitations, caveats, and additional context in its data releases and reports to support clarity. We work directly with researchers to provide technical assistance and clarity when executing data sharing agreements for external research. We also provide downloadable files of our data, so stakeholders can check our work and conduct analysis on their own. Again, we reject the premise that data integrity is not currently assured.

Recommendations to DC Council and Mayor

Recommendation 4. *Legislate/regulate that OSSE: Build an SLDS that meets federal requirements and best practices for data elements and system capacities as outlined in this report.*

Response: *Disagree.*

Our current systems and practices already meet the requirements for the local law and have been approved by USDE. Since technology changes rapidly, we disagree that system details should be legislated. This should be left up to agency expertise and should continuously evolve outside a rigid statutory framework.

Recommendation 5. *Require data governance policies and stakeholder engagement practices to help ensure the SLDS is successful and sustainable.*

Response: *Already in place.*

OSSE has an Office of Data Governance and Privacy, an agency-wide Data Governance Committee, and a recently formed data stewardship program established with the help of USDE. OSSE also exercises rigorous data access protocols that limit access to student data and subject internal data requests to review and approval through a formalized process. Finally, OSSE also has several methods for stakeholders to engage in our data collection processes. For example, the OSSE undertook an engagement opportunity with the SBOE on the DC School Report Card and consistently engages with LEA leaders and LEA data managers.

Recommendation 6. *Provide for regular monitoring and reports on each step to ensure success.*

Response: *Already in place.*

Actionable education data has been and continues to be a key priority for this administration and as such is already a routine part of the reporting and executive oversight. Further, OSSE produces regular reports, performance and budget oversight documents which speak to the state of our data and investments.

Recommendation 7. *Move quickly to enact this comprehensive data system and data integrity legislation.*

Response: *Disagree.*

It is difficult to respond to legislation that is not drafted. However, codifying data procedures in law would be a significant overstep by the Council and ill-advised given the complex and rapidly changing technology and policy environment. We are demonstrably committed to data transparency and integrity already.

Recommendation 8. *Use Council's oversight as well as legislative authority through performance and budget hearings to secure adequate monitoring and transparency in this work.*

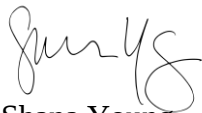
Response: *Already in place.*

The Council does in fact exercise its authority on this matter on a routine basis. OSSE has testified on the subject of data quality many times. The agency also provides routine disclosure on our data efforts in submitted oversight materials. We provide numerous reports to Council based on our data already, with any gaps and limitations flagged.

Thank you for the opportunity to respond to this report. We are pleased that this process has concluded after significant time and effort. Although OSSE strongly disagrees with many of the findings and recommendations, we take very seriously our commitment to continuous improvement and to all feedback that helps us improve our practices on behalf of students.

We also retain our commitment to share and use actionable data, as stated in our strategic plan: "We collect and share reliable and actionable data to inform policy decisions, empower our partners to improve, and build community understanding." As noted earlier in this response, the lives and outcomes of our District's students do not improve by virtue of "data" alone. Now more than ever, we, as adults and leaders, must redouble our commitment to improving the lives and outcomes of each and every student, and model the commitment and collaboration it will take to make that happen.

Sincerely,



Shana Young
Interim State Superintendent
Office of the State Superintendent of Education

Enclosure

CC:

Betsy Cavendish, General Counsel, EOM

Paul Kihn, Deputy Mayor for Education

Appendix I: Finding-level Responses to Volume 1 of ODCA’s Data Audit

Per OSSE’s official response letter, we respond only to the audit findings found in Volume 1 of the ODCA draft report, and not to the research findings in Volume 2.

#	Pt	Finding	OSSE Position	OSSE Response
1	1	The District has not built many of the SLDS or RTT grant program data capacity requirements as other states have done despite being awarded the largest per pupil funding amounts.	Disagree	OSSE disagrees. The U.S. Department of Education approved the work done under the Statewide Longitudinal Data Systems (SLDS) and Race to the Top (RTTP) grants, both of which have now been closed out for several years and has issued no findings of non-compliance. We reject the comparison to other states, and the per pupil amounts, as largely irrelevant.
2	1	OSSE does not have a data warehouse as D.C. Code requires.	Disagree	OSSE disagrees. OSSE's data systems and reporting meet all of the requirements of the law. The ODCA identifies technical specifications and practices for data warehousing that they would recommend from other jurisdictions; however, that is not equivalent to non-compliance with local statute.
3	1	OSSE has not developed the essential SLDS capacities of interoperability, portability, privacy protection assurances, or data quality auditing.	Disagree	OSSE disagrees. The U.S Department of Education highlighted new SLDS requirements in 2019. The updated requirements that are most relevant to this finding are addressed here: Interoperability –OSSE can seamlessly exchange data with LEAs during the school year. Data Quality –OSSE already provides data management modules in SLED to address LEA data quality issues and provides a Qlik application (known as the Unified Data Errors report), to all LEAs that displays data quality errors. That application identifies errors that LEAs need to address in their source systems. Further, in 2017, OSSE also introduced a data liaison program with dedicated FTEs to provide direct technical assistance and data support to LEAs that need it. OSSE also provides in-person training for LEA data managers, requires this training for first-time data managers, and hosts monthly data managers’ meetings to ensure continued alignment between the SEA and LEAs. Privacy Protection and Data Accessibility –OSSE has existing processes and procedures in place to review all data before it is released to external stakeholders, including applications that provide student-, school-, or LEA-level data. For applications, this includes a detailed review of the application’s roles and what data each of those roles has access to within the application. SLED is a role-based system with users’ accounts and roles being reviewed/audited on an annual basis.
4	1	Many of the standard data elements established by SEAs and LEAs	Disagree	OSSE disagrees. OSSE collects most of the standard data elements included in an SLDS. There are some items we do not collect, such as comprehensive course data.

#	Pt	Finding	OSSE Position	OSSE Response
		nationally and required under D.C.'s SLDS grant funding are not collected by OSSE.		We wish to collect these data in the future and have begun internal planning efforts to do so. We have been conscientiously building trust with stakeholders, while also building capacity of technical systems, which takes time, and have improved our ability to collect and manage even sensitive data in that context.
5	1	OSSE does not follow best practice data collection methods established by SEAs and LEAs through the National Forum on Education Statistics and SLDS cooperative grant best practice sharing requirements.	Disagree	OSSE disagrees. OSSE collects nearly all of our data via Automated Data Transfer (ADT), in alignment with collection best practices, and has key validation checkpoints throughout the ingestion process. With regard to data sharing, we have a more robust data sharing process than many other states.
6	1	OSSE only recently implemented an automated data transfer (ADT) system for consistent and efficient data collections from LEAs and frequently avoids using it, and instead allows sector spreadsheet submissions.	Disagree	OSSE disagrees. ADT was initially implemented in 2014, more than six years ago. During the 2014-15 and 2015-16 school years, OSSE worked to support and build LEA capacity, and by the 2016-17 school years, LEAs were no longer allowed to submit data outside of the ADT process.
7	1	D.C. student enrollment data files have only included enrollment records for all students since 2016.	Disagree	OSSE disagrees. All of OSSE's data collection was improved in 2016, when we implemented our current data validation process which required LEA leader sign off on all official data. We note further that ODCA may be confusing enrollment audit counts with ever-enrolled counts in their analysis and discussion.
8	1	Attendance data are fundamentally flawed, resulting in starkly different levels of unexcused and total absences by sector, with the discrepancies increasing over time.	Disagree	OSSE disagrees. The management of Attendance Data follows a robust collection and validation process, which has improved significantly over time. OSSE was unable to recreate the sector-level discrepancy identified by ODCA in their report in the window we were provided to respond to this report, but we are committed to researching further.
9	1	These flawed attendance data result in the District failing to meet local and federal reporting requirements for chronic absenteeism.	Disagree	OSSE disagrees. OSSE meets all absenteeism reporting requirements. See above for discussion of this issue.
10	1	Other essential data collections are missing or incomplete.	N/A	This appears to be is a summary finding of the two findings relating to exit codes and course data. We address those individually below.

#	Pt	Finding	OSSE Position	OSSE Response
11	1	Missing exit data impedes OSSE and LEA federal reporting requirements, limits other data collections based on complete student enrollment files, and preclude robust analysis of confirmed dropout events.	Disagree	OSSE disagrees. OSSE meets all required dropout reporting requirements. The ODCA claims that exit codes must be submitted for every student at the end of a given year, but this is simply incorrect and inconsistent with practice across SEAs. OSSE has provided LEAs systems to update and manage exit codes via the Exit Management and Prior Year Exits modules in SLED, and specific documents are required to substantiate all exits.
12	1	Student course data are not collected, and relevant student discipline data are determined not by OSSE, but independently by DCPS and PCSB.	Partially agree	OSSE partially agrees. OSSE collects limited course data for Dual Enrollment and Career and Technical Education. While broader course data are not collected, plans for doing so are underway. For discipline, OSSE provides a single set of guidance for both sectors on how discipline data must be collected and reported. These data are currently collected annually, but OSSE is in the process of having a more frequent collection of the data in the coming school year.
13	1	OSSE is out of compliance with federal and local reporting requirements of in-school suspension data.	Disagree	OSSE disagrees. This is a troubling yet unsubstantiated assertion by the ODCA, and it is simply incorrect. OSSE reports In-School Suspension (ISS) data in line with federal requirements and based on the data that LEAs provide and monitor (as is their responsibility). OSSE provides policy and guidance in keeping with reporting requirements, and publishes extensive details relating to this data collection in our annual discipline report—including improvements we have made to our validation processes in recent years. ODCA notes that reporting by LEAs directly to the federal government differs. Validating discipline data against the Civil Rights Data Collection (CRDC) is not practical, as CRDC release data well after SEAs need to collect those data. Furthermore, CRDC collects the data from LEAs directly, and they use slightly different guidance for the collections than many SEAs.
14	1	OSSE has delegated control of important data collections to vendors, severely restricting OSSE's ability to access and report District data.	Disagree	OSSE disagrees. The ODCA references three instances where OSSE relies or has relied on vendors for collection of certain datasets. In the first, regarding The New Teacher Project (TNTP), OSSE relied on partnerships with TNTP to collect essential teacher data, but in the 2020-21 school year began collecting these data centrally. With regard to assessment data, OSSE receives assessment data from the vendor as is common practice across all states, but we perform our own internal analyses. The National Student Clearinghouse, (NSC) provides data, via contract agreement, to all SEAs. Re-disclosure of these data is prohibited by the standard terms of the contract.

#	Pt	Finding	OSSE Position	OSSE Response
15	1	OSSE declines to collect essential teacher data and only this year began complying with statutory requirements to use unique teacher identifiers.	Disagree	OSSE disagrees. OSSE collects a great deal of critical teacher data. We have internally assigned unique faculty and staff identifiers for several years, and in the 2020-21 school year we began sharing these back with LEAs for their use, much like we do with USIs.
16	1	Student college enrollment data are suppressed.	Agree in Part	OSSE assumes that the ODCA means that we do not publicly share National Student Clearinghouse data. It is accurate to say that we do not share NSC data with the public, but again doing so would violate the terms of our contract.
17	1	OSSE did not provide one full year of requested data and used its regulatory status to hinder an ongoing audit. Graduation rates and college-going and success cannot be fully validated until these data are provided.	Disagree	OSSE disagrees. This is a false and misleading statement. OSSE provided six years of data (including school years 2012-13 through 2017-18) as available for each requested dataset. ODCA originally requested data for 2013-14 through 2018-19, but OSSE informed ODCA that the 2018-19 data would not be available until after their target deadline. When the audit was significantly delayed, ODCA requested an additional year of data after negotiating the original agreement. OSSE declined to provide a seventh year of data as we were in the process of resolving a serious data incident with the USDE's Student Privacy Policy Office caused by the ODCA in the course of a separate audit.
18	2	Stakeholder-articulated priorities are very specific and common across different initiatives—essentially, a demand for basic data use and transparency. D.C.'s education agency summaries and decisions do not address these stakeholder demands.	Disagree	OSSE disagrees. OSSE regularly engages LEAs, parents, and other stakeholders (as evidenced by Report Card engagement ¹) in evaluating what data and reports would be useful. We provide data to numerous stakeholders both proactively and responsively, through our website, through individualized data requests, and through data sharing agreements. We partner with internal divisions and their evaluators to support research and evaluation projects reliant on OSSE data. We provide significantly more cross-tabbed data on our report card than other states, including in an effort to be responsive to stakeholder requests and needs.
19	2	OSSE is missing a formal governance structure for making, documenting, and reviewing data-related decisions and has intentionally removed itself from the specific decision-making, abdicating its SEA responsibilities for the District's education data practices.	Disagree	OSSE disagrees. This is simply incorrect. OSSE has a formal data governance team staffed by a director and two dedicated staffers, as well as an agency-wide data governance committee, with a charter and a data stewardship framework. ODCA is aware of these structures and this work. OSSE also routinely engages external stakeholders in data-related decisions. We are routinely reviewing and adopting best practices recommended by SLDS support team at USDE and consulting frequently with SEA data governance colleagues in other states to learn from their experiences.

#	Pt	Finding	OSSE Position	OSSE Response
20	2	OSSE does not perform critical state education agency data responsibilities, including actions required by law and promised in grant applications.	Disagree	OSSE disagrees. Critical state education agency data responsibilities include data collection, public reporting, reporting to the US Department of Education (and other required federal reporting), data analysis, data management and data governance. OSSE performs all of these functions. The report identifies several types of data OSSE is not currently collecting (such as course data and teacher-student linkages), but which OSSE has plans in progress for phasing in, because OSSE also recognizes the needs for deeper analysis and understanding of education outcomes in the District. OSSE posts numerous downloadable data sets on its website, appropriately aggregated and suppressed (including Performance Oversight Hearing responses used by the auditors in doing this report). The auditor's report seems most dissatisfied with ease of finding those data. Any further disaggregation requested could result in the unauthorized re-disclosure of child or student PII. As noted in responses above, OSSE has not received any findings of non-compliance from federal oversight or grantmaking agencies referred to by the Auditor in this report.
21	2	OSSE delegates its state authority to PCSB and leaves LEA data requirements voluntary.	Disagree	OSSE disagrees. This is incorrect, as noted in our response above.
22	2	OSSE has allowed third parties to collect and control SEA data and data functions.	Disagree	OSSE disagrees. This is misleading, as noted in our response above.
23	2	OSSE's failure to exercise authority contributes to error and bias.	Disagree	OSSE disagrees. This is opinion, and unsubstantiated. ODCA assumes that any sector-level variation in the data necessarily constitutes error and bias. Sector-level differences where they do exist may result for all manner of variables not discussed in this report.
24	2	In lieu of exercising authority, OSSE creates burdensome and unreliable workaround	Disagree	OSSE disagrees. This is opinion, and unsubstantiated. OSSE collects data through defined annual processes, including several tiers of technical assistance, validation, appeals, and escalations to ensure data are reported accurately and on time. When OSSE initiates new data collections, we often start with a modified collection process before building it into our permanent infrastructure so that both OSSE and LEAs can learn the nuances of the data collection and reporting needs.
25	3	District practitioners and stakeholders continually seek from	Agree	OSSE agrees. Stakeholders do request a great deal of data from OSSE, which we fulfill through our data request portal. In fiscal year 2020 (FY20), OSSE received

#	Pt	Finding	OSSE Position	OSSE Response
		OSSE the same highly valued analytic SLDS data use that other SEAs provide.		228 such requests (i.e., both internal and external) and fulfilled 138 of them (61%). We have also reduced our time to fulfil such requests by 70% this year compared to last year. OSSE has a much more robust practice of creating data sharing agreements and providing data than most other SEAs, as evidenced by sheer volume of agreements executed and the fact that it requires a minimum of one FTE to manage the caseload. Just during the pandemic (since March 2020), OSSE has signed 22 agreements. This count does not include any closeout activities for agreements near completion or extensions executed over email.
26	3	Common reliable analytic data capacities are missing in D.C. through the failure of education agency leaders to commit to and implement an SLDS.	Disagree	OSSE disagrees. OSSE provides more data, more transparently, than many other SEAs. We have a recruited top tier team of education data researchers, data analysts, and data managers who consistently provide high quality information to the public and education stakeholders
27	3	Both types of SLDS data archive RPPs that could benefit D.C. and those that align with the D.C. RPP bill and NOI require an SLDS research data infrastructure that OSSE lacks.	Disagree	OSSE disagrees. OSSE will be able to support the RPP in current state. However, as we have acknowledged previously, there is currently data modernization work underway that will further benefit that partnership.
28	3	This data audit has created two major pieces of that infrastructure—a District-wide, longitudinal archive dataset, and a data inventory with detailed data quality caveats.	N/A	OSSE cannot comment on the longitudinal dataset as we have not been given access to it at the time of our review. We would welcome the opportunity to review and provide them with feedback. As to the data inventory, this is neither new nor complete enough for OSSE to find valuable.
29	3	OSSE’s early LearnDC interactive, District-wide, longitudinal website resources were the type of high-quality education indicators and data visualizations sought by practitioners, parents and others but these were replaced with limited and static Equity Report pdfs and still more limited cross-sectional STAR report cards.	Disagree	Learn DC and the Report Card / STAR Framework site have significantly similar information and functionality. LearnDC was replaced by the Report Card and STAR Framework to provide more comparable data in alignment with our ESSA State Plan and in response to feedback from the community during our extensive engagement efforts.

#	Pt	Finding	OSSE Position	OSSE Response
30	3	State SEAs provide valuable local decision support to LEA and school practitioners that OSSE is not able or willing to provide today, including not only creating the analytic tools and preparing the student data, but also collecting all of the essential student longitudinal data linking to teachers and courses.	Agree in part; disagree in part	OSSE agrees in part and disagrees in part. It is true that OSSE does not collect teacher-student linkages. Beyond that, we disagree. OSSE provides many analytical tools to LEAs, but few SEA systems have decision-making analytic tools robust enough to supplant LEA tools, nor should state systems replace LEA-level tools, knowledge and capacity.
31	3	Valuable high school college and career readiness trackers and postsecondary feedback reports and analysis are possible for OSSE to provide based on the longitudinal K-12 data it collects and linked postsecondary data it receives from the National Student Clearinghouse, but OSSE does not provide these.	Agree in part; disagree in part	OSSE agrees in part and disagrees in part. OSSE agrees that postsecondary analyses are possible, but it is incorrect to say that OSSE does not provide such data to LEAs. In fact, OSSE does provide postsecondary enrollment information to LEAs, and is in the process of creating a new Student Postsecondary Pathways report. DC has and shares more information about students' postsecondary outcomes than many other SEAs. Furthermore, we note again ODCA's misunderstanding of the standard terms of the NSC contract, which prohibits publication of its data.
32	3	Early warning systems used to target supports to students at risk of dropping out of high school were required of OSSE in federal grant applications but not produced, and the current data could support a simple version of those now, but OSSE has no apparent plans to meet the need.	Disagree	OSSE disagrees. OSSE developed an early warning system in 2014, which was released to LEAs in conformance with the terms of the grant. It was later retired due to a lack of LEA usage. It is worth noting that early-warning systems are not typically implemented at the SEA level. Most student information systems have more robust early warning systems (based on more granular data that LEAs have access to that SEAs do not), so this would largely represent a suboptimal use of resources. Further, we are currently working on a substantive analysis regarding students' postsecondary pathways, with a special focus on students who have disengaged or are predicted to disengage based on our analysis.
33	3	There are no policy and program impact evaluations conducted by OSSE or supported by OSSE through research data access and preparation, and the necessity of these for federal grants to SEAs and LEAs has been growing as SLDS data and methods have grown to support this work.	Disagree	OSSE disagrees. OSSE does not conduct numerous internal program evaluations of grant programs; however, we have partnered with a number of external organizations (both public and private sector) to support such programs, including QIN, Capital Quality, universal pre-K, and school climate work. OSSE has provided data to various LEAs, CBOs, and researchers to support program evaluation through data sharing agreements. In FY21, additionally, OSSE began an internal pilot to assess the efficacy of selected grant programs.

#	Pt	Finding	OSSE Position	OSSE Response
34	3	Facilitation of data access and understanding for external researchers is essential to gain research insights from original studies and to replicate studies to avoid the risk of spurious inferences, yet OSSE has not attempted to support this work, despite committing to do so in prior funding commitments.	Disagree	OSSE disagrees. OSSE shares data with dozens of researchers as part of established data sharing agreements, the negotiation of which requires significant consultation before and after projects are established to support understanding and limitations of the data. We have 30+ current research agreements—supporting everything from evaluation of the QIN and Capital Quality programs to evaluating LEA curricula to helping DHS evaluate its two-generation TANF model and its effects on education outcomes for children in TANF families.

ODCA Response to Agency Comments

Having useful, actionable data that contributes to continuing improvement in public education remains a complex and difficult challenge. The Office of the District of Columbia Auditor (ODCA) greatly appreciates the extensive comments we received on the draft report from the Office of the State Superintendent of Education (OSSE) and the D.C. Public Charter School Board (DCPCSB). We also received a one-page letter from the Deputy Mayor for Education (DME) endorsing the OSSE comments.

A standard practice of public sector audits is to hold a closeout meeting with the audited agency or agencies to review findings and recommendations. Because of the length and complexity of this report we scheduled that discussion after and not before sharing the draft report. We looked forward to a discussion with the Bowser Administration education leaders and the data staff and scheduled a separate briefing with the DCPCSB. Rather than meeting with policy and data staff, the administration chose to devote the close-out meeting to a discussion with Executive Office of the Mayor and OSSE attorneys to review their points of concern with language related to federal and District statutory requirements. It was a useful discussion as reflected below. We continue to look forward to a follow-up discussion with OSSE data staff.

Following the November 19, 2020 discussion with legal staff and subsequent conversation with the DC PCSB we made two sets of changes to the draft: we accommodated many of the requests from administration attorneys to adjust language to make clear that our general concern is with the risk of being out of compliance with statutory requirements. Where we have documented inconsistencies between the District's commitments in grant applications and subsequent actions, we clarified those inconsistencies.

Second and as is often the case with audit reports we devoted most of a lengthy text to problems and potential solutions without acknowledging where progress has been made and where progress appears to be underway today. We have sought to address this in the following comments and in other materials developed for the report's release. We regret not noting earlier those areas where OSSE has taken significant and positive steps.

We respond here to OSSE's written comment, followed by response to the DC PCSB's comment, and finally the DME's comment. Despite having findings specific to DCPS we did not receive agency comments from DCPS.

ODCA Response to OSSE Comments

OSSE's comments were divided into three sections, and our responses are as well. The first section addresses the overall audit, the second addresses specific findings, and the final section addresses specific recommendations.

Overall

We appreciate OSSE's commitment to and progress in providing school communities, especially educators, with actionable data they need to best help students. Today, though, the examples OSSE cites about the effectiveness of specific academic interventions and the best professional development given

educator needs are not yet available though they are provided in many other states using their SLDS data. We hope that this report and OSSE's stated commitment to improvement will serve to reach these important, actionable goals.

An SLDS creates the infrastructure needed for the type of data use that OSSE describes: "longitudinal, student-level data from across the education continuum, from birth to adulthood (that)... can draw linkages across this continuum to analyze the relationship between inputs and outcomes." We did not find evidence of this type of data use and note in Volume 1, Part 1, that the infrastructure needed to support this type of data use is not yet available. We acknowledge that OSSE has made strides to improve their data infrastructure. With continued support and effort OSSE can build the infrastructure needed to support the data use they describe, and these types of data uses in other SEAs are detailed in Volume 1, Part III.

During the Bowser Administration OSSE has improved data collection and maintenance systems. The audit notes that prior to 2016 not all enrolled students were represented in OSSE's enrollment files. OSSE has taken steps to ensure that all enrolled students are now present in enrollment files, a foundational part of having a high-quality, state-data system. Ensuring that exit code data are also consistently reported is the next step needed to have more complete enrollment data.

OSSE states that they gathered and used stakeholder information requests in creating the current DC School Report Cards. We detail in Volume 1, though, that many stakeholder requests have gone unmet. This includes the most frequently requested data—detailed teacher data, test score growth, and school climate not being incorporated in the report cards.

Similarly, a recent statewide teacher workforce report OSSE refers to did not include the critical data and links to teachers over time that parents requested and that are needed to provide a basis for action. We do acknowledge in Part II that OSSE has made progress with a new in-house data collection and will assign permanent, unique identifiers to each teacher. This is a standing requirement that will bring D.C. in line with other state education agencies.

One of the more serious areas of disagreement between the audit and OSSE's comments concerns the SLDS and RTT grant program requirements and processes with OSSE comments displaying a fundamental misunderstanding of these federal programs. "While informative, the approaches identified by NCES are simply not requirements under the D.C. Code," OSSE writes adding that "differences in longitudinal education data systems between the District and other states are not violations of District law." The SLDS and RTT grant programs are cooperative grant programs, a type of federal programming that assumes that states commit to creating and implementing specific system capacities and, further, that states receiving grant funds contribute to the wealth of guidance and resources for partner states engaged in the same work. To assess OSSE's capacity and completion of goals the audit uses OSSE's own federal grant applications and commitments and the federal program requirements. OSSE SLDS and RTT grant applications included letters of commitment signed by D.C.'s Mayor and Deputy Mayor for Education. These written commitments, part of the grant record, are the basis for the judgments made in the audit and we document where the District has fallen short.

In addition to using OSSE's own RTT and SLDS grant applications for audit criteria we were also able to use monitoring reports for both grant programs. These reports provide clear evidence of what capacities have been built or implemented throughout the grant lifecycles.

As noted above and distinct from the District's commitments contained in SLDS applications, we amended the draft report language on compliance with federal reporting requirements to note more clearly where the District is at-risk of being out of compliance with specific requirements.

A note on audit scope, touched on in the OSSE comments. As with all ODCA audits, this report's scope is independently determined by our agency and not constrained or influenced by any outside perspectives. We assess compliance with all relevant laws including both federal and District statutes and stand by the report's assessment of federal IDEA reporting requirements.

Assessing disproportionality, as outlined in IDEA, requires that all types of suspensions be recorded for all students including those with categorized disabilities and those without. We show in Volume 1, Part I, that the number of in-school suspensions reported by LEAs directly to the U.S. Department of Education for the Civil Rights Data Collection were not the same number reported to OSSE in 2016. We document that the difference is likely because OSSE did not collect complete in-school suspension data for many public charter schools. OSSE's own documentation acknowledges that many LEAs were not providing these data despite OSSE having made it clear that these data are needed for federal reporting. These gaps in OSSE's current discipline data collection system need to be remedied to address this risk of non-compliance.

We are pleased to note that after the completion of this audit, OSSE improved their method for collecting discipline data which we hope will result in a more accurate collection and reporting mechanism. After the completion of this audit OSSE also released a data privacy policy which goes a long way toward addressing the risks posed to the District compliance with FERPA. These steps represent real progress. We hope that the practices we describe in other states can serve as a guidepost and a source of assistance in tackling the critical data quality issues and missing pieces of data governance and capacity that we cite.

We hope that OSSE seriously considers the recommendation in Volume 1, Part IV to invest in a statewide student information system (statewide SIS). This investment has the greatest potential to efficiently and effectively address a large majority of the issues we identify. Statewide SIS's incorporate many of the quality control steps missing in a piecemeal ADT system in an off-the-shelf package that can then be customized while maintaining quality control. In the meantime, publishing the scripts used to collect data via the ADT, as OSSE had committed to with the ADT initiative itself, would help ensure that common standards to collect data are being applied across all LEAs.

On the issue of OSSE authority and public charter school autonomy it is correct that the Congressionally-enacted School Reform Act—codified as part of the D.C. Code—gave charter schools a measure of autonomy. That autonomy, however, is limited by the plain language of the statutory authority subsequently granted to OSSE to request education data from public charter schools which “shall be submitted ... as requested.” The strong working relationship with the DCPCSB that OSSE cites is obviously commendable and should be sustained. But cooperation is not a replacement for a state education agency's use of legitimate authority when needed to ensure the extent, level, and degree of transparency of data necessary to promote equity and ensure continuous improvement in all D.C. public schools.

We note the progress that OSSE is making in their teacher data collection which will now be collected and maintained by OSSE instead of a third-party vendor. State education agency data ownership of critical data collections, like that of the District's educators, is necessary to improve both data quality and data use. For example, OSSE will now be able to conduct analyses exploring the equitable allocation of teachers across the District, as referenced in the 2017 OSSE plan, "An Excellent Teacher for Every Child: District of Columbia Plan to Ensure Equitable Access to Excellent Educators." In the future, if OSSE creates teacher-to-student linkages as promised in the second SLDS grant application and if they collect student course data, a robust analysis of the equitable access to teachers across the District could be completed. This first step in that pathway is very encouraging.

We are further encouraged by OSSE's claim that many of the gaps identified in the audit are on the way to being addressed, including creating these teacher-to-student linkages and collecting student course data. Again, as described in the audit, these are fundamental pieces of any statewide longitudinal data system and not simply data elements that would be nice but are not necessary. The need was articulated in OSSE's SLDS grant applications and commitments. If these pieces are in the planning stages, as OSSE has indicated, we look forward to seeing them in use and publicly reported.

OSSE claims that the three analytic briefs on student enrollment and mobility, test score growth, and high school pathways, are outside of the scope of our existing data sharing agreement. As mentioned earlier, ODCA alone determines the scope of audits. In addition we discussed plans for the briefs during the audit's introductory meeting with Executive Branch representatives. The briefs were designed to test and show the impact of data deficiencies and specifically serves the DC research practice partnership needs, a reason the Council required this audit. Such work has not been done previously and the briefs contribute significantly to the landscape of what we know about public education in the District. For example, the high school pathways brief is the first time complete, District-wide, longitudinal pathways for students entering 9th grade have been linked to high school and post high school outcomes.

ODCA Response to Specific Findings

OSSE Finding 6

OSSE asserts that as of 2016-17 LEAs were no longer able to submit data outside of the automated data transfer system (ADT). For the limited data elements collected via the ADT this statement is true. However, as detailed in Volume 1, there are multiple data elements collected outside of the ADT system.

OSSE Finding 7

OSSE states that, "ODCA may be confusing enrollment audit counts with ever-enrolled counts in their analysis and discussion." This is not the case. We clearly define and discuss enrollment data throughout the report as actual enrollment throughout the year and we note that this is what OSSE defines as Stage 5 enrollment. The audit distinguishes the instances in which we discuss the more limited definition of the Audited Enrollment snapshot taken at Count Day each year. We did not find their audited enrollment counts to be invalid. We find their real-time, required Stage 5 enrollments invalid. While the ADT as of 2016 requires enrollments to be entered in the system, OSSE does not enforce a similar requirement for

recording student exits. This lack of exit code data invalidates the enrollment data throughout the year at every point except on Count Day.

OSSE Finding 11

OSSE challenges our statement that exit codes are required to be submitted for every student at the end of a given year for both OSSE and other SEAs. Missing exit data is one of the most critical flaws. We document OSSE's own guides, including the year-end exit guidance, that state that this is a requirement. And we document the SEA standards and practices, SLDS grant program requirements, and relevant local law. Importantly, many other data determinations rest on using complete exit codes for assessing accurate real-time enrollment data of all students, such as PARCC participation, chronic absenteeism, and other local and federal accountability measures.

OSSE Finding 14, 16 and 31

The audit provides detail on the limitations of vendor workarounds used instead of direct OSSE collection, ownership, and use. We documented these workarounds and limiting vendor agreements in areas ranging from teacher data to early childhood data to the current iteration of RaiseDC, as examples. We are encouraged that OSSE adjusted the teacher data collection from TNTP to a state education agency collection. We hope that public reporting on these data will now come into alignment with other states and districts for all of these areas mentioned: teacher data, early childhood data, and high school pathway type of data analyzed by RaiseDC. We refer the reader to Volume 1, Part II for more detail on each of these.

Data collections such as PARCC, MSAA, College Board, and NSC (for college enrollments), are commonly collected by a third party and provided back to state education agencies. What is not common is not fully reporting to the public on each of these collections. We hope that OSSE considers additional reporting on test score growth, AP, IB, and SAT data and college enrollment data.

For college enrollment data, OSSE claims that they are not allowed to re-disclose these data to the public, which is true but only as far as it goes. While personally identifiable information should not be disclosed, there is a wealth of reporting at aggregate levels that is allowable. Further, OSSE sought and received funding for high school feedback reports in the FY12 SLDS grant but then did not create them. We explained in discussions with OSSE that all other states use and report quite detailed NSC data. States pay for contracts with NSC with the goals of useful analysis and public reporting. It is insupportable that the NSC would tell a state not to use or report on the state's own data. We detail the typical SEA uses and cite an Education Commission of the States survey showing a large majority of states posting detailed high school feedback reports on their websites using NSC data. We hope that OSSE reconsiders sharing the critical wealth of data the District pays for and maintains, connecting students to postsecondary institutions. During the course of this audit, OSSE did add one element of school level college enrollment rates to school report cards which is a notable good start. A simple next step could be to publish the kind of NSC-based reports OSSE provides to LEAs, and references in Finding 31 in their comments.

OSSE Finding 15

D.C. Code and the SLDS and RTT grant programs have called for unique faculty and staff IDs which are standard in longitudinal systems. Instead of permanent IDs that would provide data over time, OSSE

created temporary one-year teacher IDs which we acknowledge in the draft report. This is one example of the many instances of OSSE guidance not being followed.

OSSE Finding 32

OSSE claims that they developed an early warning system in 2014 but retired it due to lack of LEA use, which is not correct. OSSE also claims that LEAs and not SEAs typically build these systems. This is also incorrect and indicates a misunderstanding of what an early warning system is. While LEAs may create their own early warning system in addition to an SEA version, or may adjust the SEA version, an early warning system requires student longitudinal data beyond that which an LEA would hold. It would be impossible for an LEA in the District to build a functional and meaningful early warning system with only data on their own current students. More specifically, an early warning system uses students' past experiences and outcomes to predict outcomes likely to occur for the next cohort of students, using their current experiences over time. To do this, you need course, test, grade, attendance and discipline records for all of those past and current students from every school they attended each year—and to the extent students move between LEAs, individual LEAs simply do not have the needed data. The SEAs do.

Best practices would have SEAs make these investments because they have the SLDS funding that was awarded for that purpose and they have the statewide longitudinal data. Some large or remote LEAs create their own early warning system models when their students primarily stay in their same LEA which is not the case in D.C. Otherwise, SEAs create the models and roll these out to LEAs with an interface and training so they can tailor the models to local specifics or use as is. In D.C., no LEA besides DCPS has enough high school students to generate a predictive model. Our charter LEAs are left without this capacity, and DCPS is significantly hindered without SEA investment in this work.

OSSE Findings 33 and 34

Regarding Findings 33 and 34 about OSSE-supported research, program evaluation, and data sharing agreements, we recommend that OSSE and other interested stakeholders explore the state websites linked and referenced in Volume 1, Part III of the report. These provide useful comparisons of publicly supported research and evaluation and how these results are shared with stakeholders.

Response to Specific Recommendations

We regret that OSSE disagrees with the bulk of the audit's recommendations but are encouraged that OSSE issued a privacy policy as discussed above to mitigate the risk of being out of compliance with FERPA. We continue to recommend that OSSE review all discipline data collections as soon as possible to mitigate the risk of being out of compliance with IDEA. Further, we are glad that OSSE agrees, in part, with the recommendation to create a best-practices quality control process. We hope the roadmap in Part IV provides OSSE staff with the tools and technical assistance documents needed to fully adopt such a process.

With regard to the final recommendation about using D.C. Council oversight and legislative authority to monitor this work, while we agree that that the Council does already conduct oversight of OSSE via

performance and budget hearings we have articulated a more robust oversight and monitoring plan aligned to the findings of this audit.

ODCA Response to DCPCSB Comments

Data collection and access

The PCSB comment asserts that all data does not “pass through” PCSB as an intermediary between LEAs and OSSE and that they do not have data editing controls, and we concur with these statements. We have updated the language in the report to better describe the relationship as found in both our quantitative and qualitative evidence. That said, editing data directly is not the only way to influence data values at any stage in the collection-through-reporting process. Importantly, the result we found that data differs by sector reflects that OSSE’s internal controls around data collection, validation, maintenance, and reporting should be tightened and revisited. Our recommendation to invest in a statewide SIS directly addresses these concerns since such a system would facilitate tighter controls. Attendance data provides a good example of this issue. To be very clear, we do not fault charter LEAs in recommending tighter controls; this is a function of insufficient data collection, management, validation, and reporting processes on the part of our state education agency.

Attendance and graduation data

PCSB correctly describes the process LEAs follow to submit attendance data, the same data that was used in the quantitative sections of the audit. These data flow directly from LEAs to OSSE via the ADT and there is only one template. However, the options on the template for which fields to use and how to determine them vary by LEA, as described in Volume 1, Part II. For example, there continues to be a sector difference in the collection of full-day versus partial-day attendance. DCPS uses a course-specific attendance field, but this isn’t consistent across PCS LEAs which leads to underlying quality control problems in the attendance collection itself. Again, our recommendation is that OSSE clarify and enforce standard data collection processes.

In terms of graduation data and course data these are separate issues that we do not connect in the audit. The report does not recommend that specific courses be added or used in the state longitudinal data system for the purpose of determining graduation. We recommend that once graduation is determined, the correct exit code be submitted. Further, we recommend that OSSE collect course data for all students to enable robust high school feedback reports and early warning indicator systems. We hope that PCSB will support such data collection and use.

While we did not find data quality issues in the certified graduates list, we do find that this process is not standard and so is subject to unnecessary risk of error. A standard practice would be for schools to submit graduate status to LEAs and LEAs to the SEA via the exit code field. There is a specific exit code for graduation and those details and the requirement to complete this field is articulated in OSSE’s exit code guidance documentation. We recommend that PCSB refer LEAs to this requirement as needed.

For charter LEAs, using exit codes appropriately to determine graduation status would reduce burden, lessen risk of error, and allow for more SEA level reporting to stakeholders and more reporting back to LEAs about student pathways to graduation. Exit codes are standard parts of the graduate data collection

and verification systems in every state. Again, there is substantial and critical data that the District is missing by not enforcing a complete exit code requirement—including data categories of dropout, transfer, promotion, left the state, graduate, etc. We recommend that OSSE data collection mechanisms require that this code be complete.

In terms of a potential new collection of course data, we recommend that these data are collected to both meet grant requirements and to have the data needed for important and meaningful data uses, such as an early warning indicator system, a robust analysis of the equitable distribution of educators across the District, and an equity analysis of student course pathways and offerings across the District. We are familiar with SCED codes and are not concerned about mapping charter school course offerings to SCED codes. SEAs do this mapping rigorously with hundreds of LEAs and thousands of different courses on a regular basis. In fact, these course data are included in both RTT and SLDS grant funding requirements. The recommended best practice resource that states have already created under the SLDS program are the standardized SCED codes crosswalked to the postsecondary CIP codes that SEAs then link to local LEA codes, classifications, and definitions. There is no downside to having both pieces of information for each class and that would increase the potential for valuable data use.

Discipline data and in-school suspensions

It is good news that OSSE has decided to collect discipline data via the ADT and that PCSB supports this shift. To ensure that the District has high quality discipline data collected via the ADT it is critical that OSSE gather stakeholder feedback and then set uniform collection standards across all LEAs. These standards must apply to what fields LEAs fill in and how they fill them in and the technical scripts OSSE uses to collect the data via the ADT. These are the places where variation has led to data quality problems in current attendance data collections and we hope it is proactively avoided in this new process. We strongly encourage OSSE's publication of all scripts to help ensure common standards.

ODCA Response to DME Comments

We also received a one-page letter from Deputy Mayor for Education (DME) Paul Kihn that reflects a misunderstanding of the audit, data inventories, and longitudinal analyses. The audit itself is a data inventory. Typically, SEAs do such data audits and logical checks on data collected and use these findings in their own inventories, guidance, and documentation. Instead, ODCA has done this work, as statutorily mandated. The audit process created the first full OSSE data compilation similar to what an RPP research partner would request and the report inventories all of the data in that compilation.

The audit inventory demonstrates that researchers cannot proceed as usual when analyzing enrollment, attendance, or discipline data, or any variables affected by limitations in these three. For example, many test score data analyses are affected by enrollment and attendance data limitations. For these reasons the audit never claims that a simple data inventory, like the one included in the appendix, can provide all the metadata needed to conduct valid research in the District. Instead, the report needed to go beyond a simple inventory to research and document the most critical data limitations researchers need to understand to conduct valid research. For instance, the analytic brief on test score data provides testing analyses qualifications and caveats, while the enrollment analytic data brief details the enrollment qualifiers that impact testing analyses.

It is true that ODCA did not provide longitudinal datasets back to the DME, but the report describes how this type of analytic work is done. The executive branch has access to all the same underlying raw data files as were prepped and used in our analyses, and the report and the methodology section detail the steps undertaken so that analysts with student level data access can reproduce the same work if they choose to do so in the future.

We did not produce one unique longitudinal dataset. To do this type of analytic work requires a deep understanding of raw data files and their strengths and flaws and how that knowledge intersects with each audit or research question being pursued. Therefore, different statistical code is written for each question based on multiple analytic cohort, observation-level, and variable definitions from the raw files in combination with the best methods and preparation needed to meet the analytic purpose. We conducted each of the different data audit analyses by constructing needed variables, merging and appending data, each time based on different data decisions and analysis specifications. This work can be referred to as a longitudinal audit analysis data archive and follows the same steps an RPP research partner would need to conduct similar analytic datasets and code. We follow best practices in working with administrative data, including documenting all analytic data preparation and analytic decisions and reporting on all aspects of the results. The technical appendices provide additional detail.

The audit serves the legislative purpose by providing the District's new research partner and the advisory committee with data audit inventory resources that spare them from a huge burden of time and money. If used, the resources will allow them to avoid huge and otherwise undetected validity problems. ODCA and our research partner are ready to support the District's RPP initiative by sharing these results and methods in more detail, answering questions, and providing any other insight from this audit that would be useful to the research partner or advisory committee.

Two final points. ODCA representatives met on February 25, 2019, with the Deputy Mayor for Education and the Mayor's Deputy General Counsel. We discussed the audit and asked if there was any analysis that the Deputy Mayor would find particularly useful. He specifically requested insight on the District's secondary students and their transitions to either postsecondary or the workforce. This request motivated the third and final analytic brief and we hope that the Deputy Mayor finds it responsive to his request and useful.

We greatly appreciate executive branch collaboration on this audit. In particular we are grateful for the time provided to ODCA and our consultants by OSSE staff and by charter LEA data managers.

Appendix A

Data Inventories

Appendix A has two sections. Section A1 inventories the student data elements and Section A2 inventories the staff data elements.

Section A1: Student Data Inventory

This section contains the following:

- An inventory of analytic data as prepared and constructed for the data audit.
- Tables of the individual raw data collections received from OSSE for the data audit.

Original raw data elements have been prepared as longitudinal analytic data which are then linked across years and content areas with consistent values and formatting to form the longitudinal analytic data archive. See Appendix B on Methods for details on raw data preparation. These prepped variables and additional variables newly constructed for the data audit analyses are inventoried together in the list below, containing the variable name, type, and details. The details include the full variable name or label and relevant specifics regarding the value sets, observations covered, and any caveats. The variable types are defined as the following:³³³

- **text:** string text variables, such as school name.
- **num:** numeric continuous or discrete variables (e.g., days absent, test scores).
- **cat:** string or numeric categorical variables (e.g., grade, test proficiency levels).
- **ind:** string or numeric binary indicator variables (e.g., SWD, ELL, graduate).
- **code:** string formatted numbers with leading zeros possible (e.g., LEA code, exit code).
- **date:** date formatted variables and derivatives (e.g., enrollment date, week, month).

Notes: All variables are constructed consistently across all years of original data elements received as detailed for each in the original data tables further below. For instance, the PARCC test variables are constructed for years 2015-2018, and the direct certification variables are constructed for years 2016-2018. Categorical and other variables are further broken out to create additional variables for specific analyses but not listed here (e.g., the race variable is used to create indicator variables: white, Black, Hispanic, etc.). All variables listed in the table below are student-level variables, even those recording school characteristics, for instance, the total school enrollment is a student-level variable indicating the size of enrollment at the school the student is attending. Finally, tailored analytic datasets are derived from this archive for the different analyses, for instance, test score growth analysis uses the school each student tested in each year, whereas enrollment analysis compares all schools each student was enrolled in each year.

333 See the Descriptives chapter of Geller, W., Cratty, D., and Knowles, J., [Education Data Done Right](#): Lessons from the Trenches of Applied Data Science. Victoria. Leanpub, 2019.

ODCA Data Audit Analytic Data Archive

Element	Type	Details
usi	code	Unique Student Identifier
year	num	School Year (2018 represents 2017-18, etc.)
schcode	code	School Code (note: multiple schools in a year for some students)
schname	text	School Name
leacode	code	LEA Code (DCPS has been coded consistently as “001” vs. “1”)
leaname	text	LEA Name
sector	cat	Sector (three category variables for: DCPS, PCS, and State/Youth)
grade	cat	Grade (P3, P4, K, 1...12, AE, UG)
birthdate	date	Birthdate
age	num	Age as of count day each school year (derived from birthdate)
countday	date	Count Day data variable for each year’s specific count day date
gender	cat	Gender (male, female)
race	cat	Race categories include Hispanic (wh, bl, hi, as, amal, hipi, mult)
ell	ind	English Language Learner (1/0=Y/N for ELL program enrollment)
swd	ind	Student with Disability (1/0=Y/N for student has active IEP)
frl	cat	Free-Reduced Lunch Eligibility (free, reduced, paid)
econdis	ind	Economically Disadvantaged (1/0=Y/N for free-reduced/paid)
atrisk	ind	Student Considered At-Risk (1/0=Y/N for student at-risk status)
dctanf	ind	Direct Certification (dc) TANF (1/0=Y/N for TANF program)
dcsnap	ind	Direct Certification SNAP (1/0=Y/N for SNAP program)
dccfsa	ind	Direct Certification CFSA (1/0=Y/N for foster care)
dchomeless	ind	Direct Certification homeless (1/0=Y/N)
dcoveragehs	ind	Direct Certification over age for high school (1/0=Y/N)
dcatriskhh	ind	Direct Certification any categories independent of over age for hs
dcageriskonly	ind	Direct Certification over age for hs but no other dc categories
sctype	cat	School Type (reg, PK-Konly, SPED, Alt, AltSTAR, AE, nonDCpub)
selecths	ind	Select or Application High School
lowgrd	cat	Low Grade (lowest grade offered at student’s school)
highgrd	cat	High Grade (highest grade offered at student’s school)
enrolldate	date	Enrollment Date Stage 5 (for each school for each student)
exitdate	date	Exit Date (primarily used for midyear transfers only)
exitcode	code	Exit Code (primarily used for midyear transfers only)
earlyexit	ind	Early Exit (1=Y if student enrolled prior to count day only)
lateenroll	ind	Late Enroll (1=Y if student enrolled after count day that year)
schlbegin	code	School Begin (code for student’s first school each year)
schlcount	code	School Count (code for student’s count-day school each year)

schlend	code	School End (code for student's last school each year)
leabegin	code	LEA Begin (code for student's first LEA each year)
leacount	code	LEA Count (code for student's count-day LEA each year)
leaend	code	LEA End (code for student's last LEA each year)
typebegin	cat	School Type Begin (type of student's first school each year)
typecount	cat	School Type Count (type of student's count-day school each year)
typeend	cat	School Type End (type of student's last school each year)
sectbegin	cat	Sector Begin (student's first sector each year)
sectcount	cat	Sector Count (student's count-day sector each year)
sectend	cat	Sector End (student's last sector each year)
schlsmult	ind	Multiple Schools (1=Y if student has multiple schools that year)
schlstot	num	Total Schools (number of schools a student has that year)
midyeartransf	ind	Midyear Transfer (student experienced at least one)
schlchange	ind	School Change between school years
notgrdchange	ind	Non-Matriculation School Change between years
homemove	ind	Student Home (MAR) Address Changed from the previous year
inboundelem	code	In-Boundary Elementary School assigned to student address
inboundmidd	code	In-Boundary Middle School assigned to student address
inboundhigh	code	In-Boundary High School assigned to student address
studhomeipr	num	Home Neighborhood Income-Poverty Ratio (by inboundelem)
studschlpr	num	School Neighborhood Income-Poverty Ratio (current school)
homeward	cat	Home Ward
schlward	cat	School Ward
totaldays	num	Total Instructional Days enrolled in each school each year
present	num	Days Present in each school each year
absexcused	num	Days Absent Excused from each school each year
absunexcused	num	Days Absent Unexcused from each school each year
absother	num	Days Absent Other from each school each year
absall	num	Days Absent All from each school each year (Exc+Unexc+Other)
notpresent	num	Days Not Present in each school each year (Total-Present)
notequal	ind	Not Equal (Days Absent All does not equal Days Not Present)
chronicabs	ind	Chronic Absenteeism Indicator (Abs>=10% of Total, each school/year)
chronicbyabs	ind	Chronic Absenteeism by Absences calculated using percent Absent All
chronicbypres	ind	Chronic Absenteeism by Present calculated using Days Not Present
truant	ind	Truant Indicator (Days Absent Unexcused>=10, each school/year)
insusincids	num	In-School Suspension Incidents in each school each year
insusdays	num	In-School Suspension Days total for each school each year

outsusincids	num	Out-of-School Suspension Incidents in each school each year
outsusdays	num	Out-of-School Suspension Days total for each school each year
expincids	num	Expulsion Incidents in each school each year
expdays	num	Expulsion Days total for each school each year
allincids	num	All/Total Incidents in each school each year
allsusdays	num	All/Total Days total for each school each year
pmtestgrd	cat	Grade (3-12)
pmellactive	ind	EL During School Year
pmellmonitored	ind	Monitored EL During School Year
pmlevelswd	cat	SWD Level (1-4) During School Year
pmswdmonitored	ind	Monitored SWD (not included as of 2018)
pmnewtous	ind	New to US (ELL) Exempt
pmaccess	ind	ACCESS for ELLs Tested
pmenrollaudit	ind	Enrollment Audit Population (new as of 2016)
pmenrollfay	ind	Full Academic Year Status for scores to be attributed to school
pmenrollcont	ind	Enrolled Throughout Testing Window (2016 on)
pmtesttypem	cat	Math Assessment (PARCC or MSAA)
pmrequiredm	ind	Registered for Required Math Assessment
pmrepeaterm	ind	Math Test Repeater
pmgradesubjm	cat	Math Assessment Grade/Subject (3rd-8th, 11th, Geom, Integ, Alg I, Alg II)
pmvalidm	cat	Math Summative Score Status (valid, not taken, incomplete, invalid)
pmoffgradem	ind	Math Off-Grade Test
pmmathscale	num	Math Overall Scale Score
pmmathlevel	cat	Math Performance Level
pmeligibleem	ind	Math Eligible Participant
pmexemptm	ind	OSSE-Approved Math Medical Exemption
pmparticipantm	ind	Math Participant
pmtesttypee	cat	ELA Assessment (PARCC or MSAA)
pmrequirede	ind	Registered for Required ELA Assessment
pmrepeatere	ind	ELA Test Repeater
pmgradesubje	cat	ELA Assessment Grade/Subject (3rd-8th, 11th, English I, II, III)
pmvalide	cat	ELA Summative Score Status (valid, not taken, incomplete, invalid)
pmoffgradee	ind	ELA Off-Grade Test
pmelascale	num	ELA Overall Scale Score
pmelalevel	cat	ELA Performance Level
pmeligiblee	ind	ELA Eligible Participant
pmexempte	ind	OSSE-Approved ELA Medical Exemption

pmparticipant	ind	ELA Participant
pmmsaaeligible	ind	OSSE-Approved Alternate Assessment Eligibility
pmclaim1m	cat	Math Subclaim 1: Major Content
pmclaim2m	cat	Math Subclaim 2: Additional & Supporting Content
pmclaim3m	cat	Math Subclaim 3: Express Mathematical Reasoning
pmclaim4m	cat	Math Subclaim 4: Modeling & Application
pmclaim1e	cat	ELA Subclaim 1: Literary Text
pmclaim2e	cat	ELA Subclaim 2: Informational Text
pmclaim3e	cat	ELA Subclaim 3: Vocabulary
pmclaim4e	cat	ELA Subclaim 4: Written Expression
pmclaim5e	cat	ELA Subclaim 5: Use of Language
pmsubread	num	Reading Sub-Score
pmsubwrite	num	Writing Sub-Score (new as of 2016)
pmmathlag	num	Student's previous year/grade math score
pmelalag	num	Student's previous year/grade ELA score
pmmathgrowth	num	Math score growth (current year/grade score minus lagged)
pmelagrowth	num	ELA score growth (current year/grade score minus lagged)
accessgrade	cat	ACCESS Tested Grade
accesstest	cat	ACCESS Assessment Type (Alternative or Regular)
accessscale	num	ACCESS Composite Scale Score
accesslevel	num	ACCESS Composite Proficiency Level
sattestyear	num	Year of SAT Test
sattestmonth	num	Month of SAT Test
satoldreadwr	num	Old SAT Math Section Score
satoldmath	num	Old SAT Reading/Writing Section Score
satoldtotal	num	Old SAT Total Score
satnewreadwr	num	New SAT Math Section Score
satnewmath	num	New SAT Reading/Writing Section Score
satnewtotal	num	New SAT Total Score
apgrade	cat	AP Grade
appart2017	ind	AP Participation 2017
appart2018	ind	AP Participation 2018
apenroll2017	ind	Enrolled 2017 (as recorded in the AP file)
apenroll2018	ind	Enrolled 2018 (as recorded in the AP file)
aptestsubject	cat	AP Test Subject
aptestscore	num	AP Test Score
ibgrade	cat	IB Grade
ibpart2017	ind	IB Participation 2017

ibpart2018	ind	IB Participation 2018
ibenroll2017	ind	Enrolled 2017 (as recorded in the IB file)
ibenroll2018	ind	Enrolled 2018 (as recorded in the IB file)
ibtestsubject	cat	IB Test Subject
ibtestscore	num	IB Test Score
cteconcentrator	ind	Concentrator (50% competencies completed)
ctecompleter	ind	Completer (100% competencies completed)
hsdiptype	cat	HS Diploma Credential Type (all Regular Diploma)
hsdipdetail	text	HS Diploma Credential Detail (some school-specific details)
hsdipdate	date	HS Diploma Credential Date
hsdipsector	cat	HS Diploma Credential Issuer (DCPS, PCSB)
gedtype	cat	GED Credential Type (all GED Credential)
geddate	date	GED Credential Date
iepcertprog	cat	IEP Certificate Program of Study
iepcertdate	date	IEP Certificate Issue Date
nedpprog	cat	NEDP Program of Study
nedpdipdate	date	NEDP Diploma Issue Date
nedpgraddate	date	NEDP Graduation Date
coh9thyear	num	First Ninth Grade Year (2013-2015)
coh9thexit	ind	Cohort Exit Indicator
coh9th4yrgrad	ind	Four-Year Graduation Indicator
nscrecord	ind	Record Found Y/N
nscollcode	code	College Code
nscollname	text	College Name
nscollstate	cat	College State
nscolltype	cat	College Type (<2-year, 2-year, 4-year)
nscollpublic	ind	Public/Private Indicator
nscenrollbegin	date	Enrollment Begin Date
nscenrollend	date	Enrollment End Date
nscfulltime	ind	Full Time/Part Time
nscgradmajor	text	Major (for Graduates only)
nscgraduated	ind	Graduated Y/N
nscgraddate	date	Graduation Date
nscdegtitle	text	Degree Title
nscdegcode	code	Degree Code
nscdegdesc	text	Degree Code Description
nscollseq	num	College Sequence

The following data tables have also been prepped, merged, appended, and analyzed. Unlike the analytic longitudinal data archive detailed above and the raw data tables detailed further below, these files combine to create longitudinal datasets that are not student-year-school levels of observations. These data contain long lists of multiple schools each year for each student ranking school choices each year. These student-year-school-choices observations are completed with the data on the school lottery preferences and seats offered, as well as the final student lottery results (i.e., Accepted, Ineligible, Wait Listed, and Not Processed). The raw data files compiled are the following:

- Student Address 2016-2018.
- Student School Choices by Rank 2015-2018.
- Student School Lottery Assignment Status 2015-2018.
- Student In-Boundary Schools and Geocoded Home and School Addresses 2014-2018.
- Application ID – USI Crosswalk 2015-2018.
- School Data: Seats Offered by Grade 2015-2018.
- School Data: Lottery Preferences 2015-2018.

These next tables detail the raw student data files ODCA received for the audit. Some of these are separate school-year data tables with the same set of (listed) elements in each school-year file, others combined multiple years into one table.

Enrollment 2013–2018

School Year (2013-2018)	Exit Type
USI	Audit Indicator (new as of 2017)
School Code	Date of Birth
School Name	Sex
LEA Code	Race/Ethnicity
LEA Name	SWD Status
Grade	English Learner Status
Date Enrolled	FARM Status
Date Exited	At-Risk Status (new as of 2016)

Direct Certification 2016–2018

School Year (2016-2018)	At-Risk Status
USI	TANF Indicator
School Code	SNAP Indicator
School Name	CFSA Indicator
LEA Code	Homeless Indicator
LEA Name	Overage Indicator

Attendance 2013–2018

School Year (2013-2018)	Days Present
USI	Days Absent Excused
School Code	Days Absent Unexcused
School Name	Days Absent Other
LEA Code	Truant Indicator
LEA Name	Chronic Absenteeism Indicator
Instructional Days	

Discipline 2013–2018

School Year (2013-2018)	Expulsion Days
USI	Number Expulsion Incidents
School Code	In-school Suspension Days
School Name	Number ISS Incidents
LEA Code	Out-of-School Suspension Days
LEA Name	Number OSS Incidents

PARCC and MSAA 2015–2018

School Year (2015-2018)	Math Performance Level
USI	Math Eligible Participant
School Code	OSSE-Approved Math Medical Exemption
School Name	Math Participant
LEA Code	ELA Assessment
LEA Name	Registered for Required ELA Assessment
Date of Birth	ELA Test Repeater
Grade Level	ELA Assessment Grade/Subject
Gender	ELA Summative Score Status
Race/Ethnicity	ELA Off-Grade Test
EL During School Year	ELA Overall Scale Score
Monitored EL During School Year	ELA Performance Level
SWD Level (also monitoring SWD before 2018)	ELA Eligible Participant
Homeless Indicator (new as of 2016)	OSSE-Approved ELA Medical Exemption
At-Risk (included as of 2015)	ELA Participant
New to US Exempt	OSSE-Approved Alternate Assessment Eligibility
ACCESS for ELLs Tested	Math Subclaim 1: Major Content

Enrollment Audit Population (new as of 2016)	Math Subclaim 2: Additional & Supporting Content
Full Academic Year Status	Math Subclaim 3: Express Mathematical Reasoning
Enrolled Throughout Testing Window (2016 on)	Math Subclaim 4: Modeling & Application
Math Assessment	ELA Subclaim 1: Literary Text
Registered for Required Math Assessment	ELA Subclaim 2: Informational Text
Math Test Repeater	ELA Subclaim 3: Vocabulary
Math Assessment Grade/Subject	ELA Subclaim 4: Written Expression
Math Summative Score Status	ELA Subclaim 5: Use of Language
Math Off-Grade Test	Reading Sub-Score
Math Overall Scale Score	Writing Sub-Score (new as of 2016)

ACCESS Tests 2013–2018

School Year (2013-2018)	LEA Name
USI	Tested Grade
School Code	Assessment Type
School Name	Composite Scale Score
LEA Code	Composite Proficiency Level

Certified Regular Diploma Recipients 2013–2018

School Year (2013-2018)	LEA Name
USI	Credential Type (all Regular Diploma)
School Code	Credential Detail (some school-specific details)
School Name (same as School Credited)	Credential Date
LEA Code	Credential Issuer (DCPS, PCSB)

General Education Development (GED) Credential Recipients 2014–2018

School Year (2014-2018)	Credential Type (all GED Credential)
USI	Credential Date

Historical IEP Certificate Recipients 2013–2018

School Year (2013-2018)	LEA Name
USI	Grade
School Code	Program of Study
School Name	Certificate Issue Date
LEA Code	

Historical National External Diploma Program (NEDP) Recipients 2014–2018

School Year (2014-2018)	LEA Name
USI	Grade
School Code	Program of Study
School Name	Diploma Issue Date
LEA Code	Graduation Date

ACGR 9th Grade Cohort Year and 4-Year Graduation Year 2013-2015 and 2016–2018

First Ninth Grade Year (2013-2015)	Sex
USI	Race/Ethnicity
School Code	SWD Status
School Name	English Learner Status
LEA Code	Economic Disadvantage
LEA Name	Cohort Exit Indicator
Sector Name	Four-Year Graduation Indicator

Career Technical Enrollment (CTE) 2013–2018

School Year (2013-2018)	LEA Code
USI	LEA Name
School Code	Concentrator (50% competencies completed)
School Name	Completer (100% competencies completed)

College Board SATs 2013–2018

School Year (2013-2018)	Month of Test
USI	Old SAT Math Section Score
School Code	Old SAT Reading/Writing Section Score
School Name	Old SAT Total Score

LEA Code	New SAT Math Section Score
LEA Name	New SAT Reading/Writing Section Score
Test Year	New SAT Total Score

College Board Advanced Placement (AP) Tests 2013–2018

School Year (2013-2018)	LEA Code
USI	LEA Name
School Code	AP Test Subject
School Name	AP Test Score

AP Course Participation 2017–2018

School Year (2017-2018)	Grade
USI	AP Participation 2017
School Code	AP Participation 2018
School Name	Enrolled 2017
LEA Code	Enrolled 2018
LEA Name	

International Baccalaureate (IB) Tests 2013–2018

School Year (2013-2018)	LEA Code
USI	LEA Name
School Code	IB Test Subject
School Name	IB Test Score

IB Program Participation 2017–2018

School Year (2017-2018)	Grade
USI	IB Participation 2017
School Code	IB Participation 2018
School Name	Enrolled 2017
LEA Code	Enrolled 2018
LEA Name	

National Student Clearinghouse (NSC) 2013–2018

USI (2013-2018)	Full Time/Part Time
Record Found Y/N	Major (for Graduates only)
College Code	Graduated Y/N
College Name	Graduation Date
College State	Degree Title
College Type (<2-year, 2-year, 4-year)	Degree Code
Public/Private Indicator	Degree Code Description
Enrollment Begin Date	College Sequence
Enrollment End Date	

Section A2: Teacher Data Inventory

As we detail throughout the report, OSSE made very few staff data elements available to ODCA and maintains that it is not permissible to give access to other staff elements listed across OSSE and TNTF Staffing Collaborative documentation and included in the LEA MOAs. The first table below lists those few staff data element fields included in each annual data file prepared for ODCA from 2013 to 2018. However, as the second table below details, many of the fields listed in these annual files were not populated with data and others contained only partial data.

2013–2018 OSSE staff data element fields in the data files provided to ODCA

2013–2016	2017	2018
School Year	School Year	School Year
School Code	School Code	School Code
School Name	School Name	School Name
LEA Code	LEA Code	LEA Code
LEA Name	LEA Name	LEA Name
Temporary ID	Temporary ID	Temporary ID
Federal Role	Federal Role	Federal Role
Federal Role Description	Federal Role Description	Federal Role Description
Grades Taught	Grades Taught	Grades Taught
FTE	FTE	FTE
Race/Ethnicity	Race/Ethnicity	Race/Ethnicity
Gender	Gender	Gender
LEA-given Title [as of 2016]	LEA-given Title	LEA-given Title
Degree Awarded	Degree Awarded	Degree Awarded
Degree Year		

Degree Institution	Degree Institution	Degree Institution
Degree Field/Major	Degree Field/Major	Degree Field/Major
HQ Indicator		
	Years of Teaching Experience	Years of Teaching Experience
		In-Field
		Certified
EL Staff		EL Staff
EL FTE	EL FTE	
EL Certified	EL Certified	EL Certified
Federal Category Sped Staff	Federal Category Sped Staff	Federal Category Sped Staff
Sped FTE	Sped FTE	Sped FTE
Sped Certified	Sped Certified	Sped Certified
Sped Ages Served		
	PreK Sped FTE	PreK Sped FTE
	Ages 6-21 Sped FTE	Ages 6-21 Sped FTE

Notes regarding limited data across the OSSE staff data files provided to ODCA

All Elements Across Years	Limited Values Contained within the Elements
Temporary ID	NO TEMP ID IN 2018 SPED STAFF FILE
Federal Role	
Federal Role Description	
Grades Taught	2017: 340 STRING TEXT VALUES (VS. THE 6 CATEGORIES)
FTE	
Race/Ethnicity	2016: PCS=59%, DCPS=86%; 2018: PCS=87%, DCPS=93%
Gender	2016: PCS=77%, DCPS=100%; 2018: PCS=94%, DCPS=100%
LEA-given Title	FOR RECORD MATCHING, NEW 2016, DCPS ONLY
Degree Awarded	2015-2016: 0, DCPS ONLY: 2017=50%; 2018=75%
Degree Year	2015-2016: 0, NOT INCLUDED AFTER 2016
Degree Institution	2015-2016: 0, DCPS ONLY: 2017=1%; 2018=54%
Degree Field/Major	2015-2016: 0, DCPS ONLY: 2017=50%; 2018=42%
HQ Indicator	INCLUDED 2013-2016, DCPS ONLY
Years of Teaching Experience	NEW 2017: 0; 2018: APPROXIMATELY 100% OF TEACHERS
In-Field	NEW 2017, DCPS ONLY
Certified	NEW 2017, DCPS ONLY
EL Staff	
EL FTE	

EL Certified	2016: 0 PCS, DCPS=70%; 2018: PCS=100%, DCPS=100%
Federal Category Sped Staff	
Sped FTE	
Sped Certified	2016: 0 PCS, DCPS=26%
Sped Ages Served	2016: 0 PCS, 0 DCPS
PreK Sped FTE	
Ages 6-21 Sped FTE	

Appendix B

Methods

Section B1: Quantitative Data Methods

Introduction

In this section of the appendix, we provide details on the raw administrative data files requested of OSSE and the steps we took to prepare, combine, and analyze those data. We include in that discussion our quality control procedures. That is followed by explanations for why our analytic samples may vary somewhat from the sample definitions used in OSSE reports, as well as across our own analyses. Then we explain where our findings may vary from specific OSSE public reports and why. Finally, we provide the detailed regression tables from our student fixed effects findings reported in Part 1 and a pair of graphs illustrating the benefit of adding the continuous student-level SES variable of median neighborhood income-poverty ratios to our analysis in the briefs.

What raw data did we receive from OSSE and how did we prep the data for analysis?

- We requested the set of student, staff, and school data elements that are common to most SLDS (as detailed in Figure 1.1), and the Forum guides referenced there).
- We referenced any specific variable names we could identify from OSSE data collection documentation.
- We were told that only the latest six years would be possible to pull together for this request, and that only the files as of 2016 should be considered high enough quality for analysis.
- OSSE transferred a number of separately sourced Excel worksheets consisting of separate spreadsheets per year.
- Separate worksheets for the same content area were also compiled separately for most recent years and for fairly recent years.
- The separate worksheets roughly corresponded to what OSSE identified in a separate elements list they compiled for us as their different data assets and collections, but not exactly.
- The data elements within each conformed even less to the data elements list OSSE sent, and in many cases did not conform to the data documentation they sent us, such as the collection templates.
- We converted each individual spreadsheet (from each worksheet) into Stata data files for analysis.

What steps did we take in the raw data prep and throughout the analysis to ensure quality control?

Every data prep and analysis process carried out using two separate methods to confirm all findings. These are the parallel approaches taken at each stage:

- 1st Version: Individual years of data were prepped separately, with each year's content areas merged and then these prepped annual files were appended to create the cross-area longitudinal analysis file.
- 2nd Version: Each annual file per content area were appended and prepped, and then these prepped appended files were merged to create the cross-area longitudinal analysis file.
- 1st Version: Batch program procedures for cleaning and analyzing the data were written as macros or algorithms.
- 2nd Version: Batch program procedures were written out line-by-line, without any macros or loops.
- 1st Version: To generate aggregate statistics for the data analysis (e.g., school mean at-risk student math proficiency rates), the individual data files were used to generate the statistics as aggregate measures.
- 2nd Version: To generate aggregate statistics, the relevant underlying variables were aggregated up from the individual-level data, including student weights, etc., and then combined into composite aggregate measures.

Throughout the analyses, several model specifications were used for each analysis, not to replicate, but to test model assumptions. For instance, the following two approaches to the student longitudinal regressions were used compared to learn more about the potential impacts of sample attrition relative to reliance on characteristics as proxies for individual students and schools.

- 1st Version: Regressions were run with typical independent variables for student and school characteristics.
- 2nd Version: Regressions were run with student and school fixed effects

Other best practices followed throughout the analyses:

- All analyses that generated constructed measures that could be compared to D.C. published aggregate measures were confirmed to match within a very small margin.
- No individual student values are perceptible by cross-referencing any of the analyses.
- Individual schools are also not identified, and the only identifiable LEA is DCPS.
- All D.C. public school students are included in all initial analysis before analyzing more relevant subsets of K-12 students only, D.C. public schools only, or student ages 5-18.

Why do the sample definitions vary across the different analyses?

School years

School-year data files used in these analyses were the most recent years made available to us as of this draft date. Yet the earliest and latest school-year data analyzed varies by analysis, depending on the years with adequate coverage and quality. The individual analytic briefs discuss each decision regarding which years of available data were included and why. For instance, some analysis required the full student enrollment records only available as of 2016, while other analysis relied on 9th grade cohort data provided with a several year lag. Part 1 also explains the ways in which the current analysis is limited until the most recent available data files of school year 2019 can be accessed.

School types

For the data analyses, we classify schools into the following seven school types determined by OSSE school-level data classifications and OSSE data documentation:

- Regular schools.
- Special education.
- Adult education.
- Preschool through kindergarten only.
- Alternative schools.
- Alternatively, measured STAR metrics schools, including opportunity schools.
- Non-DC-public schools, primarily special education programs.

The distinction of those schools we refer to as STAR-alternative schools is explained in the following way in OSSE's *Alternative School STAR Framework At A Glance*:³³⁴

Some schools in DC are designed to provide programs to serve populations with unique educational needs. These schools are defined as alternative schools. Uniquely designed to match the goals and missions of alternative schools, this framework within the STAR Framework uses multiple types of data to measure performance in the [various domains and metrics.]

We examined the individual metrics reported in the STAR report cards for each school as well as any other reference by OSSE or the school itself to the school type. For instance, some of the classifications varied across OSSE's public enrollment and STAR data files relative to the STAR reports, so we cross referenced each of these. We then created indicators for these seven categories, and we checked these against the enrolled student data files.

Some schools identified by OSSE as one of these classifications were serving students across other categories as well. For instance, a high school may be serving some students in a regular high school diploma program, some in an alternative, and others in an adult education program. We compared OSSE's school-level classifications with the student data and find that students within each school are best identified using the grade variable. Yet this also has some limitations which we discuss below. We also cross-reference the 9th grade cohort and graduation student data files to identify which high school students OSSE classifies as currently enrolled in regular high school diploma granting programs independent of the classification of the school they attend.

Grades and Ages

Beginning in 2016, most students are identified as being in one of the following grades: preschool enrollment broken as 3- or 4-years-old, kindergarten, 1st-12th grade, or adult education. Prior to 2016, many students were alternatively identified as "ungraded." The breakdown on these can be seen in the student enrollment graphs in Part 6. It is unclear how the value of ungraded is used, so we limit analysis that requires breaking out school type as well to years beginning in 2016. Some of these were clearly adult education students, by virtue of their age and school type, but others were unclear.

334 OSSE's [Alternative School STAR Framework At A Glance](#), accessed July 31, 2020.

We cross-reference school types and student grades, each year, further by also calculating student age from birthdate to age as of the official enrollment “count day” each school year. This is how we get the distributions of ages in the analyses, such as the fact that the adult education students in the OSSE enrollment audited totals are much older on average than the references made by OSSE to these totals representing the K-12 population, as we discuss in the Part 6 enrollment analyses. Among those students with a grade of “adult education” in the most recent years, more than 50% were over 30 and more than 70% were over 25. We also generate the cross-frequencies of grades and ages, by school types, for the high school pathways analysis in Part 8, showing the number of repeating 9th graders being transferred from regular high schools to alternative schools, STAR-alternative schools, and adult education programs, at ages 16-18.

Why do the analysis sample definitions and some results vary from OSSE reports?

There are three sources of differences between our student sample designs and those in OSSE reports. The first is that we use cross-referencing information on age, grade, school type, and year, to determine the most appropriate sample for each analysis. We match those definitions that provide the most complete and discernable data to those used by OSSE reports as closely as possible. For instance, in the Part 1 analysis of attendance data, we followed OSSE’s approach of focusing the analysis on grades K-12 and compulsory school ages 5-18. As we point out in that section, these are each used for the laws regarding chronic absenteeism or truancy. Yet, we combine them, as OSSE does in some years of reporting, rather than select only one, to avoid including adult education students under age 19. The attendance records collected for adult education students differ from the K-12 grades by recording student attendance in terms of which days the adult education students were scheduled for program sessions.

The second main difference between the samples OSSE uses and those in this report’s analyses, is that we account for all the schools in which each student was enrolled within each year. As we detail in Part 6, these include thousands of students each year that exit prior to Count Day, enroll after Count Day, or transfer during the school year. Many of OSSE’s reports focus on the audit enrolled students only, and the schools they attended on Count Day. Other OSSE reports focus on measures reported for students, such as their PARCC test records, which represent students who were enrolled at the time the tests. As we discussed in Part 1, OSSE also combines these different samples within a single report. For instance, in the STAR reports, the outcome measures are given for the students sufficiently enrolled throughout the school year to be counted in these measures, while the percentage of students by subgroup (such as at-risk and SWD) are taken from the Count Day enrollment snapshot. Yet, as we detailed in the Part 6 analyses, the at-risk students remaining through the PARCC FAY window at many schools are a non-random subset of those enrolled at Count Day.

Conversely, the student data analysis in this report represents all school records for each student within each school year. For each analysis that is also broken out at school levels, we identify which school we used to aggregate the student values and why. We also conduct sensitivity analyses on the degree to which attributing student values to schools by different criteria would alter the results. The different criteria for student attribution in school analyses are:

- The school the student enrolled in first.
- The school the student was attributed to on Count Day.

- The school the student was enrolled in last.
- The school the student was enrolled in longest.

The third source of differences in the precise samples defined for analyses in this report relative to OSSE reports is due to some additional information that OSSE has for classifying students into samples that is not included in their data files. For example, the attendance analysis in Part 1 does not attempt to compare the attendance metrics for each school and year in the OSSE annual analysis reports or the STAR reports against the different measures that result from the alternative definitions in the OSSE data files. Further analysis could approximate which combination of records were most likely used in these reports: the total of days absent (excused and unexcused) or the total days enrolled minus days present. But this would be an approximation only, given that OSSE uses additional information on the exact dates the students are considered accurately enrolled vs. duplicate enrollments and each school's calendar each year. For similar reasons, our calculated PARCC proficiency rates at the school levels would be close approximations to OSSE's STAR metrics. However, we would need the dates of enrollments and attendance that determine each student as qualifying for their school FAY reporting window.

Why do we report statistical significance levels from regressions on administrative data?

There have been many discussions at NCES, FCSM, and other entities and forums that statisticians, especially those working with government agency data, look to for precise guidance on this question. Statistical significance tests and confidence intervals, measures we use in these analyses, are derived from probabilities that the sample analysis is representative of the universe from which the sample was drawn. With administrative data sources, the analysis may be conducted for the entire universe, leading to the question of whether statistical significance has meaning. (Note, NCES reports include confidence intervals for universe data.)

In SLDS data, in theory, each student has all records in each year, and these constitute the universe of student records, and a complete balanced longitudinal panel. However, in practice, students are entering and exiting the school system over that time period and are not observed in every content area when they are enrolled. For instance, they may not have a given subject test score in any one year. When the administrative data is drawn into a longitudinal cross-content analytic dataset it represents a sample of the student-year-record universe of data. Statistical methods used for sample analysis are appropriate for this reason, but there are two important qualifiers.

One is that these sample subsets of student records were not scientifically derived to be representative, as survey sample data are by virtue of sample frames, PSUs, and population weights. Therefore, it is very important to avoid making assumptions about generalizability or even validity, and instead conduct sensitivity tests. We do these in the analyses of this report, through attrition bias tests and by running the same analyses on different subsamples that vary by data availability and other criteria. We report along with our analyses any qualifications that should be noted, regarding those students, years, content areas, or record types that are not fully represented. The other fact to highlight is that even these subsets of the full SLDS data universe are extremely large, resulting in very high degrees of freedom that undergird these statistical tests.

Regression Tables for the Student Fixed Effects Regression Results Provided in Part 1

Table B1: Student Fixed Effects Regressions of Absenteeism Records

	Total Days Absent		Unexcused Days Absent	
pcs	-3.67***	(0.211)	-3.99***	(0.204)
grd1	-5.86***	(0.508)	-6.57***	(0.494)
grd2	-11.21***	(1.007)	-12.92***	(0.981)
grd3	-16.41***	(1.506)	-19.34***	(1.468)
grd4	-21.25***	(2.005)	-25.44***	(1.955)
grd5	-26.29***	(2.503)	-31.66***	(2.441)
grd6	-28.82***	(3.001)	-36.02***	(2.927)
grd7	-32.89***	(3.501)	-41.75***	(3.414)
grd8	-36.72***	(4.001)	-47.43***	(3.902)
grd9	-33.62***	(4.505)	-46.22***	(4.394)
grd10	-33.29***	(4.974)	-47.52***	(4.854)
grd11	-33.15***	(5.445)	-49.36***	(5.316)
grd12	-30.95***	(5.920)	-50.20***	(5.783)
yr2017	5.89***	(0.502)	7.52***	(0.489)
yr2018	10.78***	(0.998)	13.83***	(0.975)
Constant	32.55***	(2.061)	31.88***	(2.013)
Adjusted R2	0.0904		0.0996	
Observations	217067		217067	

Standard errors in parentheses

Models use student fixed effects and cluster VCEs

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B2: Student Fixed Effects Regressions of Discipline Records

	Total Days Suspended	
pcs	-0.35***	(0.057)
grd2	0.71***	(0.105)
grd3	1.37***	(0.208)
grd4	2.06***	(0.311)
grd5	2.78***	(0.415)
grd6	3.96***	(0.521)
grd7	4.83***	(0.626)
grd8	5.54***	(0.733)
grd9	5.98***	(0.837)
grd10	6.59***	(0.934)
grd11	7.13***	(1.033)
grd12	7.55***	(1.132)
yr2017	-0.70***	(0.105)
yr2018	-1.37***	(0.207)
Constant	-2.07***	(0.384)
Adjusted R2	0.0052	
Observations	194249	

Standard errors in parentheses

Models use student fixed effects and cluster VCEs

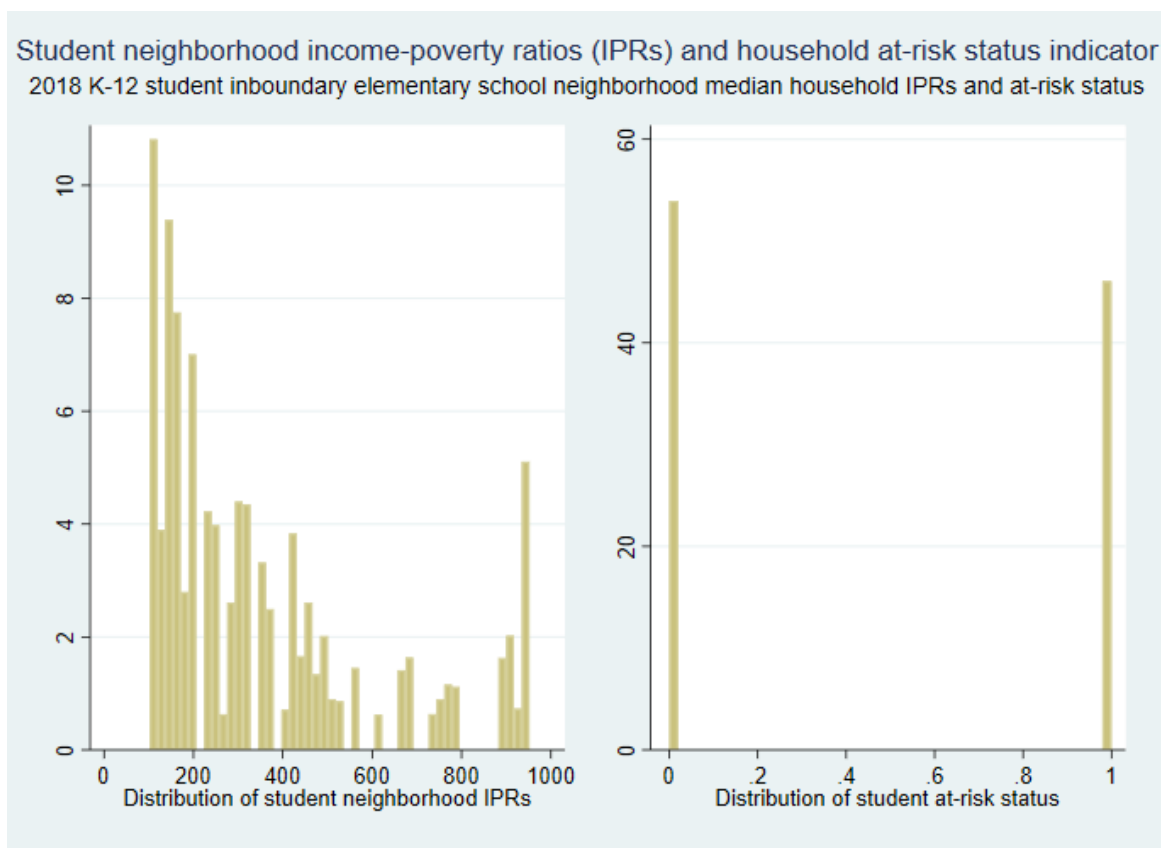
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Continuous IPR Student-Level Variable Allows for Student Analysis Beyond Discrete Indicators

In Part 5, we explain the NCES-Census variables created for school boundary data that estimate median neighborhood income-poverty ratios.³³⁵ These IPRs form a continuous variable for the student data that allows for the variation in income levels beyond the simple direct certification of discrete variables indicating whether a household's income is above or below a poverty line referenced level. Table B1 shows the range of values in the student household IPR variable relative to the student at-risk indicator.

335 Gevert, D., and Nixon, L., [Sidestepping the box: Designing a supplemental poverty indicator for school neighborhoods](#), NCES, 2018.

Table B3: Students' Neighborhood Household Income-Poverty Ratios and At-Risk Status.



Section B2: Qualitative Data Methods

The information and data collection qualitative analysis techniques that follow are organized into the following sections:

- Data Audit Kick-off Meeting
- Information Request #1
- Information Request #2
- Individual Interviews
- OSSE Superintendent Interview
- Background Interviews

Information was collected through the submission of documentation, participation in focus groups and interviews, as well as reviewing information that is public record.

Kick-Off Meeting

Each of the audited entities were invited to and attended an audit kick-off meeting on March 13, 2019, to present the scope of the audit and highlights on the methods of engagement, and to answer questions.

Audited entities were informed that, at that time, there were three information requests planned; two involved document and process reviews, and the third was a data request.

At the conclusion of the kick-off meeting, all audited entities were invited to participate in voluntary office hours to review the contents of the first information request and address any questions.

Information Request #1

Within a day of the kick-off meeting, each audited entity received their first information request which served to:

- Provide the opportunity to submit documentation that outlined the current data elements (as of March 2019) that were in place, describe the means by which those data elements were managed to ensure confidentiality, integrity and accessibility, as well as describe processes that are used to improve quality and promote usage of educational data.
- Serve as the audited entity's official record of information specific to the current (as of March 2019) data inventory under its purview.
- Combine information retrieved from each entity with information received from all other entities to create the current data inventory landscape in the District of Columbia inclusive of any metadata and linking for public education related data elements.
- Act as an immediate baseline to determine the current state of data elements used by each audited entity and the level to which these data elements were clearly defined.

The specific information that was asked of each audited entity is outlined in Tables B4, B5, B6, and B7 below. Much of what was asked was the same for each audited entity, however differed somewhat because of organizational types, e.g. OSSE being an SEA, DCPS being an LEA, DCPCSB speaking for charter LEAs, and the DME as the mayor's designee to supervise educational operations throughout the District.

Table B4: Information Requested of Office of the Deputy Mayor for Education (DME)

Entity	Information Requested
Office of the Deputy Mayor for Education (DME)	1. A list of all the required data elements that the DME is expected to collect and store. These data elements should be organized such that they include all necessary meta data that consists of, but is not limited to: a. A cross-reference to the page of the data dictionary/technical manual that specifies the definition of the data element, the format of the data element (alpha-numeric, character, numeric, string, factor), the business rules that are associated with the use of the data element, the system(s) of record where each data element is expected to be found. b. Whether the data element is used for DCPS purposes and a listing of these reporting efforts for each data element. c. The job title of the data steward within DCPS who oversees the collection, quality, and accountability of the data element. 2. Any documentation that is used internally or has been shared externally detailing the types and elements of data that are required or recommended for collection by schools and how it is to be reported to the DME. 3. Any audit or investigation of data practices that has been conducted specific to how data elements are collected, stored, managed and utilized. 4. A list of all data systems of record in use at DME specific to student item data (e.g. data elements that are student-specific). 5. A data map depicting where each data element collected is stored, whether it is on physical servers of the DME, a third party, or a cloud-based provider. This data map should include all data systems outlined in number 4 above. 6. Any strategic planning documents specific to the maintenance of a data inventory. 7. A list and copies of annual reports specific to student performance provided to the public. 8. A listing and copies of annual reports specific to student performance that are for internal use. 9. An organizational chart showing of DME's organizational structure as it pertains to data collection, management, analysis, reporting, security, and privacy. Please include each applicable position and the FTE position as expressed as a decimal (e.g., 1.0, .5, .25). For each position, please remove names of individuals. Specific to the 2018-2019 chart please include the hours each position works (e.g., one position may have a scheduled shift of 6:30 AM-2:30 PM, whereas another may have 9:00 AM-5:00 PM.) 10. A copy of the DME's disaster management plan. 11. A copy of all internal or external audits that have been conducted on behalf of DME specific to student and staff data and/or how that data has been managed. 12. A copy of your memorandums of agreement used with entities, of any kind (e.g., other SEAs, researchers, universities, contractors, other government agencies), that request access to data, extracts of data with or without personally identified information, and/or aggregate data that is not suppressed for public release.

Table B5: Information Requested of District of Columbia Public Schools (DCPS)

Entity	Information Requested
District of Columbia Public Schools (DCPS)	1. The process, if it exists, for a school to implement its own data system or data application. Details should include how schools communicate with DCPS with regard to how data is being captured and stored. 2. A listing of all the required data elements that DCPS is expected to collect and store. These data elements should be organized such that they include all necessary metadata that consists of, but is not limited to: a. A cross-reference to the page of the data dictionary/technical manual that specifies the definition of the data element, the format of the data element (alpha-numeric, character, numeric, string, factor), the business rules that are associated with the use of the data element, the system(s) of record where each data element is expected to be found. b. Whether the data element is used for DCPS purposes and a listing of these reporting efforts for each data element. c. The job title of the data steward within DCPS who oversees the collection, quality, and accountability of the data element. 3. A listing of all schools that have student and staff data elements that are not reported to DCPS but remain at the school level. 4. Any documentation that is used internally or has been shared externally detailing the types and elements of data that are required or recommended for collection by schools and how it is to be reported to DCPS. 5. Any audit or investigation of data practices that has been conducted specific to how data elements are collected, stored, managed, and utilized. 6. A listing of all data systems of record in use at DCPS specific to student item data (e.g. data elements that are student specific). 7. A data map depicting where each data element collected is stored, whether it is on physical servers of DCPS, a third party, or a cloud-based provider. This data map should include all data systems outlined in number 6 above. 8. Any strategic planning documents specific to the maintenance of a data inventory. 9. A listing and copies of annual reports specific to student performance provided to the public. 10. A listing and copies of annual reports specific to student performance that are for internal use.

- 11.** An organizational chart showing DCPS's organizational structure as it pertains to data collection, management, analysis, reporting, security, and privacy. Please include each applicable position and the FTE position as expressed as a decimal (e.g. 1.0, .5, .25). For each position, please remove names of individuals. Specific to the 2018-2019 chart please include the hours each position works (e.g., one position may have a scheduled shift of 6:30 AM-2:30 PM, whereas another may have 9:00 AM-5:00 PM.)
 - 12.** A copy of DCPS's disaster management plan.
 - 13.** A copy of all internal/external audits that have been conducted by DCPS specific to student and staff data and/or how that data has been managed.
 - 14.** A copy of your memorandums of agreement used with entities, of any kind (e.g., SEAs, LEAs, researchers, universities, contractors, other government agencies), that request access to data, extracts of data with or without personally identified information, and/or aggregate data that is not suppressed for public release.
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Table B6: Information Requested of District of Columbia Public Charter School Board (DCPCSB)

Entity	Information Requested
District of Columbia Public Charter School Board (DCPCSB)	1. A list of all the required data elements that DCPCSB is expected to collect and store. These data elements should be organized such that they include all necessary metadata that consists of, but is not limited to: a. A cross-reference to the page of the data dictionary/technical manual that specifies the definition of the data element, the format of the data element (alpha-numeric, character, numeric, string, factor), the business rules that are associated with the use of the data element, the system(s) of record where each data element is expected to be found. b. Whether the data element is used for DCPCSB purposes and a list of these reporting efforts for each data element. 2. The job title of the data steward within DCPCSB that oversees the collection, quality, and accountability of the data element. 3. Any documentation that is used internally or has been shared externally detailing the types and elements of data that are required or recommended for collection by schools and how it is to be reported to DCPCSB. 4. Any audit or investigation of data practices that has been conducted specific to how data elements are collected, stored, managed, and utilized. 5. A listing and copies of annual reports specific to student performance that are for internal use. 6. A data map depicting where each data element collected is stored, whether that be on physical servers of DCPCSB, a third party, or a cloud-based provider. This data map should include all data systems outlined in number 5 above. 7. Any strategic planning documents specific to the maintenance of a data inventory. 8. A list and copies of annual reports specific to student performance provided to the public. 9. A list and copies of annual reports specific to student performance that are for internal use. 10. An organizational chart reflective of DCPCSB's organizational structure as it pertains to data collection, management, analysis, reporting, security, and privacy. Please include each applicable position and the FTE position as expressed as a decimal (e.g., 1.0, .5, .25). For each position, please remove names of individuals. Specific to the 2018-2019 chart please include the hours each position works (e.g. one position may have a scheduled shift of 6:30 AM-2:30 PM, whereas another may have 9:00 AM-5:00 PM.) 11. A copy of DCPCSB's disaster management plan.

12. A copy of all internal or external audits that have been conducted on behalf of DCPCSB specific to student and staff data and how that data has been managed.

13. A copy of your memorandums of agreement used with entities, of any kind (e.g., other SEAs, researchers, universities, contractors, other government agencies), that request access to data, extracts of data with or without personally identified information, and/or aggregate data that is not suppressed for public release.

Table B7: Information Requested of Office of the State Superintendent for Education (OSSE)

Entity	Information Requested
Office of the State Superintendent for Education	1. Requirements for the delineation of a system of record within a LEA. That is, how do LEAs report to OSSE how data is now captured and stored? 2. A list of all the required data elements a LEA is expected to collect and store. These data elements should be organized such that they identify all necessary metadata that consists of, but is not limited to: a. A cross-reference to the page of the data dictionary/technical manual that specifies the definition of the data element, the format of the data element (alpha-numeric, character, numeric, string, factor), the business rules that are associated with the use of the data element, the system(s) of record where each data element is expected to be found. b. Whether the data element is used for OSSE or federal reporting purposes (or both) and a list of reports that include these data elements. c. The job title of the data steward within OSSE who oversees the collection, quality, and accountability of the data element. d. 3. A list of all student and staff data elements that are not reported by LEAs but are first collected by OSSE. 4. Any documentation that is used internally or has been shared externally detailing the types and elements of data that are required or recommended for collection by LEAs or by OSSE independent of the LEAs. 5. Any audit or investigation of data practices that has been conducted specific to how data elements are collected, stored, managed, and utilized. 6. A list of all data systems of record in use at OSSE specific to student item data (e.g., data elements that are student specific). 7. A data map depicting where each data element collected is stored, whether that is on servers physically located at OSSE, with a third party, or a cloud-based provider. This data map should include all data systems outlined in number 6 above. 8. Any strategic planning documents specific to the maintenance of a data inventory. 9. A list and copies of annual reports specific to student performance provided to the public. 10. A list and copies of annual reports specific to student performance that are for internal use.

- 11.** A chart that shows OSSE's organizational structure as it pertains to data collection, management, analysis, reporting, security, and privacy. Please include each applicable position and the FTE position as expressed as a decimal (e.g., 1.0, .5, .25). For each position, please remove names of individuals. Specific to the 2018-2019 chart please include the hours each position works (e.g., one position may have a scheduled shift of 6:30 AM-2:30 PM, whereas another may have 9:00 AM-5:00 PM.)
- 12.** A copy of OSSE's disaster management plan.
- 13.** A copy of all internal or external audits that have been conducted on behalf of or for OSSE specific to student and staff data and how that data has been managed.
- 14.** A copy of your memorandums of agreement used with entities, of any kind (e.g., other SEAs, researchers, universities, contractors, other government agencies), that request access to data, extracts of data with or without personally identified information, and/or aggregate data that is not suppressed for public release.

A total of 1,901 documents were collected among the four audited entities. The delineation of each entity's document count can be found in Table B.8.

Table B8: Total Number of Documents Collected from Each Entity

Entity	Document Count
Office of the Deputy Mayor for Education (DME)	40
District of Columbia Public Schools (DCPS)	672
District of Columbia Public Charter School Board (DCPCSB)	784
Office of the State Superintendent for Education (OSSE)	403
Total	1,901

Information Request #2

The second information request was made on May 17, 2019, and was facilitated using an interview format. The interviews focused on data systems of record (systems of record) that were in use between 2013 and 2019 (current). A system of record is a database that is the original data source. For example, a student management system could be the system of record for all information related to the registration of a student. Interviews took place in May and June 2019.

The style of the interview utilized a progressive protocol, meaning that if an answer provided to a question ended up meeting the need of a subsequent question, then the question was skipped as it had already been answered. The questions that were used for these interviews are the questions listed below. Each audited entity was asked the same set of questions outlined in Table B.9.

Table B9: Questions Asked of Each Entity During Information Request #2 Interviews

Entity	Questions Asked
All Audited Entities	1. How are new systems pursued and vetted prior to issuing an RFP for such a system or acquiring a system through a sole source solicitation? 2. How are the appropriate access and privacy protections monitored for each system? 3. How is data validated? 4. What is the process for examining the integration of data systems? 5. How is the effective use of data monitored? 6. How often is training around the effective use of each system provided to back-end, front-end, and end-users when system updates occur or when new features are added? 7. How are stakeholders continually engaged to receive feedback on the effectiveness of each system? Please list each stakeholder group and indicate how frequently these groups are engaged to provide feedback for each system. 8. How are returns to investment into the systems measured? 9. At the time of procurement: a. What was the date of original procurement? b. What were the desired outcomes for the system by NOE? c. Which stakeholder groups were consulted to obtain feedback about said system? d. For each stakeholder group what was the purpose of their engagement? e. What was the department within NOE, or the name of the contractor, that organized and facilitated the engagement of stakeholders. f. What evidence exists that memorialize feedback from stakeholders to evaluate the value of finalizing the procurement of the system chosen? g. How was the selection of the system communicated to all applicable stakeholders?

10. At time of system implementation, for each system:
 - a. How were staff identified to implement the system?
 - b. How were staff who were going to be responsible to roll-out the system trained?
 - c. What were the specific data governance processes and corresponding documents that outlined the roles and responsibilities specific to each system?
 - d. When was each stakeholder group that had a direct connection to the operation of the system, whether on the back end, front-end, or as an end-user, trained on the system?
 - e. How were technical difficulties or questions on how to use the system managed?
 11. Maintaining each system, for each system:
 - a. How frequent are data meetings held at the data manager level about the system?
 - b. How are data quality processes developed, implemented, refined, and monitored?
 12. What is the anticipated life span for each system of record? For any system that will be phased out in the next three years, please state a rationale that includes why the purpose is no longer relevant or has changed, how the mission, vision, and goals will change, and what strategies different solutions will provide by sunseting a system currently in operation and implementing a new system.
 13. Please provide a total dollar amount spent on each system and the funding source for each system.
-

Individual Interviews

After studying the information gained in all three formal information/data requests, and also utilizing information that was publicly available, a second set of interviews were requested of one of the audited entities, OSSE. These interviews were coordinated with the Office of the Deputy Superintendent. The interviews were based on the individuals' respective roles within OSSE and covered questions about the documents submitted through ODCA's first information request as well as information on data used in school report cards and federal reporting requirements. The individuals interviewed were members of the Office of the Deputy Superintendent, the Data, Assessment, and Research Department (DAR) and the Office of the Chief Information Officer (CIO). A full listing of the title of each person interviewed is listed in Table B.10. All interviews occurred at OSSE's main offices and were conducted in October and November 2019.

Table B10: Titles of Those Interviewed at OSSE

Entity	Titles of Those Interviewed
Office of the State Superintendent for Education (OSSE)	■ Assistant Superintendent of Data, Assessment, and Research ■ Chief Information Officer ■ Deputy Superintendent ■ Data Analysis Managers ■ Data Architect ■ Data Governance Manager ■ Data Management Manager ■ Database Developer ■ Director of Accountability ■ Director of Applications ■ Director of Assessments ■ Director of Data Governance & Privacy ■ Director of Data & Management Applications ■ Director of Project Management ■ Director of Research, Analysis & Reporting ■ Executive Assistant ■ Senior Advisor ■ Senior Business Analyst ■ Senior Project Manager

Interview of the Superintendent

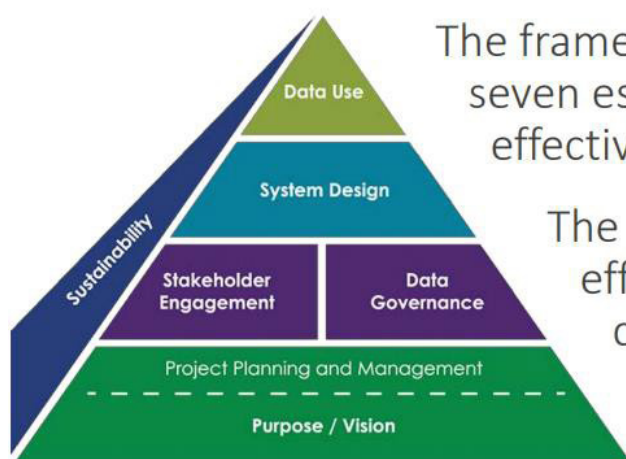
In March 2020, a set of questions were provided to the State Superintendent that could be answered in writing or via a sit-down interview. The questions sent can be found in Table B.11 The superintendent responded in writing to the questions posed. The superintendent's responses are organized in Table B.12.

Table B11: Questions of the Audit Team for the OSSE Superintendent

Question for OSSE Superintendent

1. The State Longitudinal Data Systems Grant Program (SLDS) defines seven essential components of an SLDS under their "Framework for Data Systems." One of these seven essential components is stakeholder engagement, seen in the framework pyramid below from the SLDS Grant Program office. More specifically, "Stakeholders are any individuals, agencies, or groups affected directly or indirectly by the SLDS, including agencies contributing data to the SLDS, students or other individuals whose information is stored in the system, educators, parents, policymakers, researchers, and other data users. Engaging stakeholders appropriately throughout the SLDS development process helps ensure the system is designed to meet their needs and becomes a vital resource in the long term."¹

SLDS Communities of Practice are based on the Framework for Data Systems.



The framework is composed of seven essential components of an effective SLDS.

The SST organizes its TA efforts based on these components.

Source: https://nces.ed.gov/programs/slds/pdf/SLDS_Program_Overview_June2019.pdf

How are three key groups of stakeholders engaged in the management, ongoing development, and vision for Statewide Longitudinal Education Data (SLED)? Specifically, how does OSSE obtain feedback from teachers, parents, and students from both DCPS and Charter LEAs, as per federal SLDS criteria and guidance?

2. How does OSSE use longitudinal, across grade and school, student-level data to promote equity? Specifically, please provide evidence that OSSE currently uses longitudinal, across grade and school, student-level data to help ensure students furthest from opportunity are making progress. Please respond with regard to students participating in SNAP, TANF, students who are homeless, students with disabilities, students of color, and students in the care of the government.

3. Are there any state longitudinal data system capacities that OSSE is trying to build out and would ideally need more funding to accomplish? Please describe those capacities and the funding needed to achieve them.

4. Please explain why OSSE collects discipline and graduation data via certified lists rather than via a closed system which would use real-time, longitudinal data to calculate discipline and graduation rates.

5. In FY 2012, the SLDS Grant Program issued another request for applications (RFA), for which the District applied and was awarded a second federal grant. The RFA states conditions of receiving prior and continued funds via a specific list of elements and capacities that statewide data systems should contain. OSSE's corresponding application itemized these elements and capacities with dates of completion.² More specifically, the RFA states:

As a condition of receiving State Fiscal Stabilization funds, all States committed to developing and implementing statewide data systems contain the following elements specified in the America COMPETES Act.

These elements remain the basic requirements for statewide, longitudinal data systems with respect to preschool through grade 12 education and postsecondary education:

- a.** A unique statewide student identifier that does not permit a student to be individually identified by users of the system (except as allowed by Federal and State law);
- b.** Student-level enrollment, demographic, and program participation information; Student-level information about the points at which students exit, transfer in, transfer out, drop out, or complete P-16 education programs;
- c.** The capacity to communicate with higher education data systems; and
- d.** A State data audit system assessing data quality, validity, and reliability.

With respect to preschool through grade 12 education:

- a.** Yearly test records of individual students with respect to assessments under section 1111(b) of the Elementary and Secondary Education Act of 1965; Information on students not tested, by grade and subject;
- b.** A teacher identifier system with the ability to match teachers to students; Student-level transcript information, including information on courses completed and grades earned; and
- c.** Student-level college readiness test scores.

With respect to postsecondary education:

- a.** Data that provide information regarding the extent to which students transition successfully from secondary school to postsecondary education, including whether students enroll in remedial coursework; and
- b.** Data that provide other information determined necessary to address alignment and adequate preparation for success in postsecondary education.³

As state superintendent how do you monitor and confirm that OSSE's SLED meets those standards the federal government defined as the basic requirements for statewide, longitudinal data systems? For each numbered area, please describe the specific evidence that you or your senior team require in order to confirm each standard, and the process OSSE uses to correct any areas of deficiency.

6. The D.C. Code is clear on OSSE's authority to request data from all LEAs including submission "within a reasonable time, as determined by the OSSE, following a request, and in a standardized format to be established by the OSSE."⁴ Do you believe that OSSE has exercised its authority to collect any data it deems necessary to effectively and equitably conduct state oversight and meet federal requirements?

Table B12: Responses of the OSSE Superintendent

OSSE Response

1. The State Longitudinal Data Systems Grant Program (SLDS) defines seven essential components of an SLDS under their “Framework for Data Systems.” One of these seven essential components is stakeholder engagement, seen in the framework pyramid below from the SLDS Grant Program office. More specifically, “Stakeholders are any individuals, agencies, or groups affected directly or indirectly by the SLDS, including agencies contributing data to the SLDS, students or other individuals whose information is stored in the system, educators, parents, policymakers, researchers, and other data users. Engaging stakeholders appropriately throughout the SLDS development process helps ensure the system is designed to meet their needs and becomes a vital resource in the long term.”

OSSE Response: We believe one of the most important responsibilities we have as DC’s state education agency is to collect and share reliable and actionable data. Because the data we collect are used to inform policy decisions, empower educators to improve and build community understanding, we understand the importance of engaging those who use our data and those from whom we collect it. As such, we regularly engage these stakeholders and seek their feedback. Though this work predated my tenure, OSSE conducted outreach as described in our grant reporting during both rounds of SLDS funding, to ensure our plans for SLED were aligned with stakeholder needs. More recently, through our nationally recognized work on the DC School Report Card, we conducted extensive parent and stakeholder engagement to ensure that they key education data most requested by parents, educators, and policymakers were readily accessible and presented so they could be understood and used by everyone interested in accessing the data. Finally, OSSE has many ongoing and recurring processes through which we gather data and feedback from LEAs – from our monthly data management discussions, during which new policy and processes for data collection are discussed, to our annual Start of School campaign during which major new initiatives are rolled out for feedback. We remain committed to ensuring that we are making data available and accessible to a broad range of stakeholders and are always open to feedback on how to improve and align our resources with stakeholder needs. The sheer volume of requests we receive for our data helps us understand what data the community is most interested in receiving and speaks to the fact that our data are indeed a “vital resource” to the education community

2. How does OSSE use longitudinal, across grade and school, student-level data to promote equity? Specifically, please provide evidence that OSSE currently uses longitudinal, across grade and school, student-level data to help ensure students furthest from opportunity are making progress. Please respond with regard to students participating in SNAP, TANF, students who are homeless, students with disabilities, students of color, and students in the care of the government.

OSSE Response: OSSE’s vision is that DC will close the achievement gap and ensure people of all ages and backgrounds are prepared to succeed in school and in life. Because closing the achievement gap is a top priority for our agency, we use data to help us identify immediate actions and long-term investments needed to close gaps among student groups and build a citywide agenda for accelerating outcomes for students across the District in collaboration with other stakeholders.

LEAs and schools report a wealth of data to OSSE annually, and over time OSSE has been able to examine

trends in that data over time. Using those annual collections, OSSE can examine student outcomes and other measures over time. This strengthens the informative power of OSSE's analysis and data tools. Here are a few examples.

Attendance

By leveraging historic data on attendance, OSSE has repeatedly demonstrated that prior attendance is a powerful indicator of a student's future attendance in its annual reports on attendance and truancy. In the 2018-19 Attendance Report, OSSE provides longitudinal analysis on chronic absenteeism and truancy by grade and risk tier (see Figure 2, page 9). OSSE has examined year-to-year improvements in attendance in its annual attendance report. (See Figure 6, page 13). OSSE has examined attendance rates for cohorts of students, as they move from pre-Kindergarten into Kindergarten and first grade (see Figure 9, page 16). OSSE also examined the attendance records of ninth graders and ninth grade repeaters extensively in the 2018-19 Attendance Report and looked at longitudinal attendance for multiple years leading up to ninth grade, and since ninth grade for different specific cohorts of students (see pages 18-21). The attendance report also examines longitudinal attendance rates among at-risk students (defined in DC through the UPSFF as those students whose families receive SNAP or TANF benefits; are experiencing homelessness; or who are wards of the District; see figure 18, page 25) and disability status (see figure 15, page 22). At the school level, the 2018-19 Attendance Report provides school level trends in chronic absenteeism (see figures 3-5, pages 10-12).

In its report, "Analysis of Attendance and Graduation Outcomes at Public High Schools in the District of Columbia," OSSE conducted exhaustive analysis on historic attendance and graduation trends leveraging longitudinal data. OSSE examined attendance rates of graduates and non-graduates over multiple years (see Figure 1, page 5). OSSE examined graduation rates for profoundly and extremely chronically absent students (see Figure 2, page 6). OSSE examined absenteeism over time by PARCC Math Proficiency level (see Figure 12, page 13) and by PARCC ELA Proficiency level (see Figure 13, page 14).

Discipline

The Pre-K Student Discipline Act of 2015 (D.C. Law 21-12; D.C. Official Code § 38-236 required LEAs and schools to report annually on suspensions and expulsions. Since the implementation of that year, OSSE has collected several years of discipline data and has begun to analyze that data longitudinally. Specifically, OSSE examined the recurrence of disciplinary incidents among students suspended once (see figure 4, page 14) and among students suspended multiple times (see figure 5, page 15) in the 2017-18 Discipline Report.

Special Education

OSSE published "Students with Disabilities in the District of Columbia, Landscape Analysis" in 2019. This publication provides robust longitudinal analysis on students with disabilities in the District of Columbia. For example, OSSE examined changes in primary disability category between 2012 and 2017 (see page 57). Using data from 1998 to 2019, OSSE conducted analysis that revealed that the median age of identification for special education services was age 10 (see page 58). Also leveraging special education

from 1998 to 2019, OSSE conducted analysis on initial identification for special education by primary disability (see page 59).

Youth Risk Behavior Survey (YRBS)

Since 2007, OSSE has administered the Youth Risk Behavior Survey and published a report on findings. OSSE anticipates publishing a 10-year longitudinal report on the YRBS findings later this year. This report will show some of the impacts of our efforts to curb risky behaviors adversely impacting student outcomes.

Post-Secondary Access Series

The Post-Secondary Access Series provides information on DC students' postsecondary access and readiness. This includes citywide student participation on the SAT and ACT exams for the four-year adjusted graduation cohorts of 2012-13, 2013-14, and 2014-15 as well as the percentage of the cohort students who met the "college readiness" benchmark on one or both exams, as defined by College Board and the ACT. In addition, this report provides information about SAT and ACT participation and performance over time for specific groups of students, including student groups by race and ethnicity, economically disadvantaged students, students with disabilities and English learner (EL) students, and differentiated by graduates and non-graduates.

SEEF Competitive Grant

The Special Education Enhancement Fund (SEEF) competitive grant is one way OSSE is working to ensure that students with disabilities improve at the same rates as their non-disabled peers. This year, OSSE will award \$1.7 million in fiscal year 2020 (FY20) competitive funding. The purpose of this funding is to address systemic barriers to academic achievement for students with disabilities, accelerate student achievement by using evidence-based interventions, and share and scale promising practices citywide. The FY20 SEEF grant awardees will collectively serve more than 1,600 students with disabilities across 22 public and public charter schools in the District of Columbia.

We also use the broad range of demographic data that we collect and maintain to ensure we are evaluating progress not just across the system but for specific student groups in particular. The data we provide the public is always broken down by student groups and shared with LEAs in a variety of formats to inform policy and practice at the school level. One of the most comprehensive ways that OSSE uses data to promote equity is through the DC School Report Card and STAR Framework. This robust tool provides detailed insight into student group performance at the school level and allows for comparison of performance across schools based on schools' support for different groups. Another example of our use of data to promote equity is OSSE's landscape analysis on Students with Disabilities in the District. Published in 2019, this analysis is now driving the discussion across the DC education community about major strategic investments needed to close achievement gaps for our students with disabilities.

These examples are a snapshot of the many ways that OSSE leverages longitudinal data to analyze and report powerful findings on some of the District's most complex issues facing the education sector broadly but particularly students of disadvantage. We believe that policymakers and the public benefit

significantly from this analysis and subsequent reporting and hope that they will take action based on these findings.

3. Are there any state longitudinal data system capacities that OSSE is trying to build out and would ideally need more funding to accomplish? Please describe those capacities and the funding needed to achieve them.

OSSE Response. Yes. As you are aware, OSSE submitted a grant application to the U.S. Department of Education in September 2019 for the next round of SLDS funding. In our application we described several new capabilities we believe will advance our data infrastructure to the keep pace with industry best practice; the total funding requested for this grant was \$3.25 million.

4. Please explain why OSSE collects discipline and graduation data via certified lists rather than via a closed system which would use real-time, longitudinal data to calculate discipline and graduation rates.

OSSE Response. OSSE collects most of its data through a nightly feed from all LEAs. The two datasets you describe are two specific exceptions to this approach, each for different reasons. Certified lists allow the LEA to review and certify that all students reflected in the appropriate cohort have in fact met the specific graduation requirements. With regard to discipline data, OSSE's collection practices have evolved over time. Before building the requirements into our system, and because our nightly feeds are primarily intended to collect data that update on a real-time basis, we offer a separate collection template. OSSE is pursuing automated collection system for both datasets.

5. In FY 2012, the SLDS Grant Program issued another request for applications (RFA), for which the District applied and was awarded a second federal grant. The RFA states conditions of receiving prior and continued funds via a specific list of elements and capacities that statewide data systems should contain. OSSE's corresponding application itemized these elements and capacities with dates of completion.² More specifically, the RFA states:

As a condition of receiving State Fiscal Stabilization funds, all States committed to developing and implementing statewide data systems contain the following elements specified in the America COMPETES Act.

These elements remain the basic requirements for statewide, longitudinal data systems:

With respect to preschool through grade 12 education and postsecondary education:

1. A unique statewide student identifier that does not permit a student to be individually identified by users of the system (except as allowed by Federal and State law);
2. Student-level enrollment, demographic, and program participation information; Student-level information about the points at which students exit, transfer in, transfer out, drop out, or complete P-16 education programs;
3. The capacity to communicate with higher education data systems; and
4. A State data audit system assessing data quality, validity, and reliability.

With respect to preschool through grade 12 education:

1. Yearly test records of individual students with respect to assessments under section 1111(b) of the Elementary and Secondary Education Act of 1965; Information on students not tested, by grade and subject;
2. A teacher identifier system with the ability to match teachers to students; Student-level transcript information, including information on courses completed and grades earned; and
3. Student-level college readiness test scores.

With respect to postsecondary education:

1. Data that provide information regarding the extent to which students transition successfully from secondary school to postsecondary education, including whether students enroll in remedial coursework; and
2. Data that provide other information determined necessary to address alignment and adequate preparation for success in postsecondary education.

As state superintendent how do you monitor and confirm that OSSE's SLED meets those standards the federal government defined as the basic requirements for statewide, longitudinal data systems? For each numbered area, please describe the specific evidence that you or your senior team require in order to confirm each standard, and the process OSSE uses to correct any areas of deficiency.

OSSE Response. Though the 2012 funding round preceded my tenure, the US Department of Education (the federal grantor and oversight authority for SLDS funding) certified that the objectives of the grant had been met at the time of closeout. However, it is important to note that in the most recent SLDS RFA in 2019, these requirements were in fact updated to a new list, and as you are aware, OSSE addressed the status of each of these requirements in our 2019 application.

6. The D.C. Code is clear on OSSE's authority to request data from all LEAs including submission "within a reasonable time, as determined by the OSSE, following a request, and in a standardized format to be established by the OSSE." Do you believe that OSSE has exercised its authority to collect any data it deems necessary to effectively and equitably conduct state oversight and meet federal requirements?

OSSE Response. OSSE has certainly exercised the authority to collect data required for state oversight and federal reporting requirements, and we are proud of the progress we have made in this area over the last five years. While there will always be interest from many in the community to collect more data, there are careful trade-offs we make for each new element or collection. In particular, we ensure that we fully understand the effort required of school personnel and LEA staff, as well as of OSSE staff, as well as the marginal value of the additional data and our collective capacity to make use of the data in meaningful ways, and then weigh whether that value is worth the additional administrative burden, while also taking into account appropriate privacy, security and governance. That's why whenever we introduce new requirements we also offer additional technical assistance, to ensure that we're maximizing the time and attention schools and LEAs can spend serving students. We have consistently increased the breadth of data collected, and improved the accessibility and timeliness with which we've been able to share it,

while working with LEAs to improve data quality. We are proud of the balance we have managed to strike in this regard, meeting all federal and local reporting requirements, and continuing to push the envelope on providing actionable data to inform policymakers, educators, researchers, and families, while living up to our core values and remaining focused on students.

Background Interviews

The importance of stakeholder involvement in educational data systems has been a common theme throughout this report. To further strengthen insights gained from triangulating information obtained from the audited entities, it was important to analyze feedback from the audited entities' stakeholders and partner organizations within DC government. These stakeholders included:

- Charter School Leaders
- Community Organizers.
- District of Columbia Public Schools Teachers' Association.
- District of Columbia State Board of Education.
- District of Columbia State Board of Education Student Advisory Council.
- Former OSSE Staff Members.
- Members of the Public.
- Parents.
- Office of the Chief Technology Officer (OCTO).
- Office of the Student Liaison.
- Teachers.

Use of Information Collected

All of the information collected from each audited entity was reviewed to evaluate the maturity, completeness, and validity. The documents requested provided evidentiary records of practices over the six years of the audit scope. Interviews provided an opportunity to ask questions about documents submitted, establish an understanding for processes and practices that were not documented, and to verify what was observed in the data sets made available to the audit team. All of this evidence came directly from the audited entities and provided a firsthand account of evidence to the audit objectives.

Background interviews and focus groups of stakeholders provided an important context about what data was available for use and the utility this data presented. Stakeholder feedback also provided an opportunity to learn where each group perceived gaps existed in using educational data.

All of the qualitative information assembled was further complemented by information that is publicly available. Throughout this report, there are hyperlinks to these public sources. The use of the five qualitative sources of information, documentation, interviews, focus groups, and public documentation provided a rich resource of material utilized and triangulated. The specific triangulation techniques used in this report have been described at great length in Parts 1–3.

About ODCA

The mission of the Office of the District of Columbia Auditor (ODCA) is to support the Council of the District of Columbia by making sound recommendations that improve the effectiveness, efficiency, and accountability of the District government.

To fulfill our mission, we conduct performance audits, non-audit reviews, and revenue certifications. The residents of the District of Columbia are one of our primary customers and we strive to keep the residents of the District of Columbia informed on how their government is operating and how their tax money is being spent.

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