November 21, 2019

The Hon. Phil Mendelson, Chairman
Council of the District of Columbia
1350 Pennsylvania Avenue N.W.
Washington, DC 20004

The Hon. David Grosso
Chairman, Committee on Education
Council of the District of Columbia
1350 Pennsylvania Avenue N.W.
Washington, DC 20004

Dear Councilmembers:

I write to share questions that Councilmembers may want to ask during tomorrow's hearing on the academic achievement of the District's public school students.
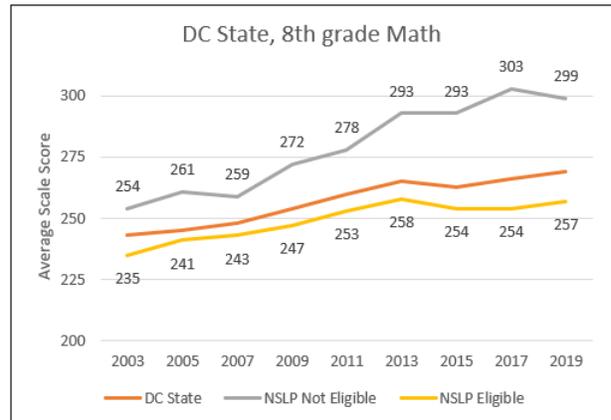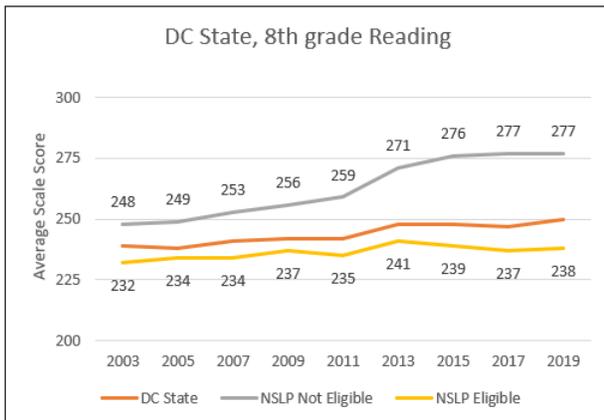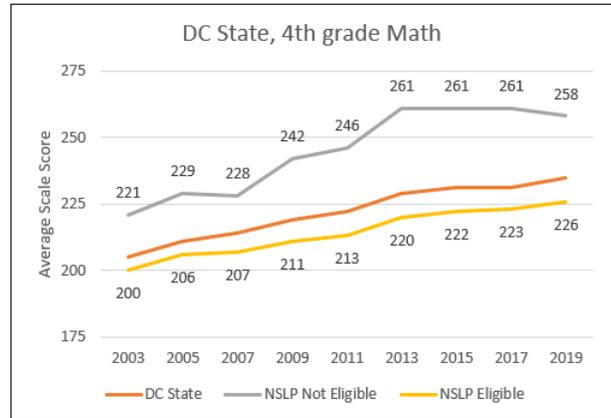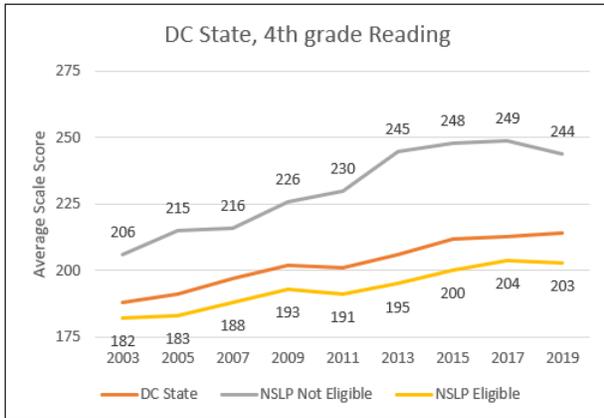
As you know, the Office of the D.C. Auditor (ODCA) has been engaged in comprehensive education research at the request of the Council over the last several years. In September 2018 we published **A Study of Enrollment Projections for D.C.'s Public Schools: Assuring Accuracy and Transparency,** which was funded by the D.C. Council at the initiation of Councilmember Mary Cheh. In late June 2019, ODCA published an audit of the use of supplementary funds for students considered at-risk, entitled, "**D.C. Schools Shortchange At-Risk Students**." We will soon release a follow up study of enrollment and challenges to equitable funding prepared by the Johns Hopkins School of Education Center for Research and Reform in Education.

What follows is based on preliminary results from our ongoing education data audit which was required by the District of Columbia Education Research Practice Partnership Establishment and Audit Act of 2019 and will be completed in early 2020. One aspect of that work aims to replicate aggregate test scores and proficiency rates using student-level data.

We have undertaken this body of education work at a time when the legislative and executive branches of the District's government are collaborating to create an education Research Practice Partnership. We hope the new partnership makes good use of the results of ODCA-supported research and fulfills the vision of its legislative sponsors: to contribute to a cycle of continuously improving public education in the nation's capital.

The experience of other research partnerships tells us that to engage in continuous improvement it is critical to investigate what is working today, for whom, and why. The average achievement across the District is increasing as evidenced by increases in the percentage of students meeting PARCC proficiency cutoffs and NAEP scores and this is clearly good news. But there is also evidence of significant, and -- at times -- growing gaps within racial, ethnic, economic, and disability classifications. These must also be

taken into account. Importantly, the NAEP graphs we share below show both concerning gaps between groups of students and show that increases in DC's NAEP scores are likely driven, in part, by students who do not meet income-based eligibility criteria for free and reduced-price lunch.

DC State, 4th grade Reading

Average Scale Score

	2003	2005	2007	2009	2011	2013	2015	2017	2019
NSLP Not Eligible	206	215	216	226	230	245	248	249	244
NSLP Eligible			188	193	191	195	200	204	203
DC State	182	183							

DC State, 4th grade Math

Average Scale Score

	2003	2005	2007	2009	2011	2013	2015	2017	2019
NSLP Not Eligible	221	229	228	242	246	261	261	261	258
NSLP Eligible	200	206	207	211	213	220	222	223	226

DC State, 8th grade Reading

Average Scale Score

	2003	2005	2007	2009	2011	2013	2015	2017	2019
NSLP Not Eligible	248	249	253	256	259	271	276	277	277
DC State						241	239	237	238
NSLP Eligible	232	234	234	237	235				

DC State, 8th grade Math

Average Scale Score

	2003	2005	2007	2009	2011	2013	2015	2017	2019
NSLP Not Eligible	254	261	259	272	278	293	293	303	299
NSLP Eligible		241	243	247	253	258	254	254	257
DC State	235								

As noted in the Council's deliberations on the Research-Practice Partnership true continuous improvement requires knowing more than we know today. It also requires being more analytical and being careful in that analysis. An example would be to use student-level data linked over time in order to understand how much individual students – not aggregates or averages -- are actually learning from year-to-year. If we want to help students achieve, particularly those most in need of support, we must appreciate and know their trajectories. The preliminary results below do not look at snapshots of proficiency rates or achievement levels but rather look at individual student growth over time. These trajectories show a pattern that is different from overall increases in proficiency rates or NAEP scores. This is not unusual. There is often not a strong correlation between proficiency rates and growth.

Importantly, there is a substantial difference in growth in student scores in math versus in English that warrants further research and discussion. More specifically, we see that from 2014-15 through 2017-18 for students in grades 3 through 7 with adjacent, sequential tests in each subject (about 90% of students), math scores are slightly declining overall and reading scores are noticeably rising. This difference by subject is consistent across years. For instance, on average, 3rd through 7th grade students lose about 0.65 points each year in math scores from the 2014-15 school year to the 2017-18 school year. In contrast, on average, these same students gain about 5 points on reading tests each year from

the 2014-15 school year to the 2017-18 school year. Depending on individual student scores these 5 points each year in reading could mean the difference between moving from a level 3 to a level 4 or moving in the other direction.

In addition, in both subjects and in every grade, average student test score growth was higher in DCPS than in public charter schools (PCS). These same two patterns of lower math and higher reading growth and higher overall growth in DCPS than PCS, also hold for students considered at-risk.

Finally, 8th grade test scores and growth are not included here as they are not truly comparable across all students. Eighth grade students in public charter schools are more often taking a less rigorous math test than DCPS 8th grade students (Grade 8 Math rather than Algebra or Geometry). These results are simply not appropriate to compare. Eighth grade reading scores are close to the same across sectors.

These results use the same data and investigate similar breakdowns and questions as the Office of the State Superintendent of Education (OSSE) in their most recent PARCC [release](). Notably, we also used these student-level data to determine proficiency rates and were able to replicate and therefore confirm the same proficiency rates that OSSE shared publicly.

Based on our preliminary look at student outcomes, particularly for those schools and students most in need, we recommend that Councilmembers seek answers to the following questions during tomorrow's achievement hearing:

With regard to some of the patterns that we see with a high degree of consistency:

- Why is ELA growth mostly positive and fairly large, while Math is negative or flat?
- Why do some grades differ consistently (3rd-4th ELA growth is large and positive, and 5th-6th Math growth is large and negative)?
- Why are PCS test score growth means always lower than DCPS test score growth means for every grade, subject, and year?
- Why do PCS 8th graders not take Algebra I and Geometry tests at the higher rates that DCPS 8th graders do?
- What steps are education leaders taking to address the patterns that have not shown consistent positive growth?

Finally, as we illustrated above, reporting average scale score achievement and growth can reveal important and real differences about student achievement and growth that can be obscured by primarily relying on proficiency rates. In fact, PARCC was designed with this [best practice]() in mind and scale scores are both available and easy to understand as they are both horizontally and vertically aligned. Basically, this means that scores range from 650 to 850 in every grade, subject and test. So, if a student scores 750 in 4th grade ELA and 755 in 5th grade ELA, this reflects a 5-point gain in ELA scores. OSSE should consider leveraging this benefit for accuracy and educational improvement efforts and could be asked if they are planning to do so.

We hope this background information and suggested questions are useful. If you have questions please contact ODCA Research Policy Director Erin Roth at erin.roth@dc.gov or me at kathy.patterson@dc.gov.

Thank you.

Sincerely yours,

Kathleen Patterson
District of Columbia Auditor

cc: Councilmembers & Staff