

IN THE COMMONWEALTH COURT OF PENNSYLVANIA

WILLIAM PENN SCHOOL
DISTRICT, *et al.*,

Petitioners,

v.

PENNSYLVANIA DEPARTMENT
OF EDUCATION, *et al.*,

Respondents.

No. 587 MD 2014

**PETITIONERS' PROPOSED FINDINGS OF
FACT AND CONCLUSIONS OF LAW**

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INTRODUCTION

1. The Education Clause of the Pennsylvania Constitution confers upon the General Assembly an unequivocal mandate: the maintenance and support of a thorough and efficient system of public education. In its simplest terms, the General Assembly must provide a contemporary system of high-quality public schools in every corner of the Commonwealth. In the twenty-first century, the end point of such a system is clear: providing all children the resources necessary to graduate as capable, engaged citizens, ready to succeed in college and in family-sustaining careers.

2. The General Assembly has failed its duty, at a profound cost to the children of this Commonwealth, to students from low-wealth school districts, and to the school districts, organizations, and families that initiated this lawsuit seven years ago. And this failure does not only cause a violation of the Education Clause. Education is a fundamental right under the Pennsylvania Constitution. Under Pennsylvania's Equal Protection provisions, the vast inequities that reign from district to district therefore must have a compelling justification. No legitimate justification exists at all.

3. Every material fact has been proven. That starts with the profound importance of education, a fact that was true in 1873: "The section on education is second in importance to no other section to be submitted to this Convention."

Pennsylvania Debates of 1873, Vol. 2:421. And which is true today: “education is key to ensuring a vibrant future not only for our students, but for the Commonwealth as a whole.” PX-1830-18. The reason for that primacy is just as proven. Greater educational attainment results in greater civic participation, greater lifetime earnings, improved long-term health, and decreased rates of unemployment, reliance on public benefits, and crime.

4. The promise of education is not confined to the privileged. It is a fundamental premise that every child can learn at high levels when given access to the right interventions and supports. This premise drives state education policy: “each student regardless of race, economic circumstance, ability, or zip code should be educated to the same high standards of achievement.” PX-1830-20. And it was admitted by witness after witness after witness.

5. Also proven was another foundational tenet of education policy: some children need more assistance to share in those benefits. Specifically, children in poverty, children learning English, and children with disabilities will, on a general level, need additional resources if they are going to succeed at the levels of their classmates.

6. Those additional resources are nothing more than the basics of education: safe buildings, modern equipment, and sufficient numbers of the professionals who help children take advantage of educational opportunity, learn,

and live up to their potential. And through the reports they have commissioned or authored, to the laws they have enacted, to the expert witnesses they have offered at trial, Respondents have admitted that those resources improve student outcomes.

7. Of course, modern buildings and professional staff cost money. That is why there is also near consensus on another foundational point: increased funding for schools increases academic outcomes. It is a fact echoed by Petitioners' and Respondents' experts alike, and it is supported by common sense: there are strategies that improve student success and funding directed towards those strategies improves student outcomes.

8. But the evidence is overwhelming that low-wealth school districts cannot afford those strategies. Instead, children learn in closets and hallways. Seventy-five small children share a single toilet. Libraries are closed. Teachers teach two or even three classes at the same time. And even when school districts can hire any teachers to close learning gaps, school leaders have to decide which children are privileged enough to receive that assistance, and which are not. In other words, rather than providing children what everyone agrees they need, school districts do something else entirely: triage them.

9. The state's own data makes clear this approach has failed. In any given year, 320,000 of the 800,000 students sitting for state English assessments will fail to demonstrate proficiency. For math, that number climbs to 475,000. And

these failures go beyond standardized tests. Year after year, only six out of ten Pennsylvania high school graduates enroll in college, while only four out of ten complete it.

10. The root of this failure stems from the General Assembly's deliberate choices. Respondents readily admit what students should have, prescribe what subjects they should learn, mandate how often and in what manner they should be tested on those subjects, measure the relative need of each school district's student body, and agree on what the end goal of public education should be: producing engaged, college and career ready citizens.

11. Yet year after year, Respondents decline to measure how much funding school districts need to accomplish state goals or whether local school districts can raise that funding in the first instance. The consequence of that decision is a system with insufficient resources, where those school districts who need the most have the least, despite trying the hardest.

12. As a result, the General Assembly's failure is not spread evenly across Pennsylvania communities. Rather, by virtually every measure of success the state uses — from incoming assessments and standardized test scores, to high school graduation, college admission, and college graduation rates — students from low-wealth districts are being left behind. Yawning gaps in student success are evident in every state measure. None of this is in serious dispute.

13. Also proven is that the Commonwealth's failures are particularly borne by those students who most often live in those low-wealth districts, and who often bear the brunt of society's failure: poor children and children of color. By way of example, seventy percent of low-income students will fail to meet proficiency in math, while approximately eighty percent will not graduate college. Students learning English, Black students, and Latino students fare no better.

14. The Pennsylvania Department of Education readily admits that these massive learning gaps are caused by the conditions students experience at their schools. But those substandard learning conditions are so pervasive, and the resulting performance of those students has been so far below that of their white, non-poor peers for so long, that the Pennsylvania Department of Education does not believe it can even set equal end goals for all students. Instead, low-income children, Black children, and Latino children — in a best-case scenario — are expected to have massive achievement gaps long into the foreseeable future. The inequity feeds inequity.

15. Trial also proved that a different way is possible. Educational interventions can have longstanding impacts, and resources matter. Indeed, a low-income student from a high-wealth Pennsylvania district is more likely to be proficient on standardized assessments, to enter college, and even to graduate from

college, as compared to a low-income student from a low-wealth district. The promise of education remains as strong as ever.

16. That is why over the course of fourteen weeks, no superintendent shied away from detailing his or her own successes, even in an environment that is depressing, and debilitating, and caused by a failure they have no fault in. For even amid the dysfunction of the Commonwealth, Petitioners' staff and students remain resilient, making efforts to do more with less, from teachers working through unacceptable conditions or administrators covering multiple jobs, to students persisting, and to real, if too infrequent, success stories.

17. That success is blunted for one reason: Rather than live up to the constitutional mandate of a single high-quality system, the General Assembly has created two systems. One for those who can afford it, and one for those who cannot.

18. As was proven from the first witness to the last, with a raft of evidence that is barely in dispute: the Constitution demands more. The inadequacies and the inequities of state funding, and the deprivations and failures children suffer as a result, violate the Education Clause and Equal Protection provisions of the Pennsylvania Constitution.

PETITIONERS' PROPOSED FINDINGS OF FACT

I. Overview

1. The Pennsylvania Constitution requires the General Assembly to provide all students with a thorough and efficient education. This constitutional mandate guarantees a contemporary, high-quality and effective education that prepares students for college and career, allows them to meet their potential, promotes democracy and citizenship, and provides the Commonwealth with an able, competitive workforce. *See infra* at Sections III, IV.

2. Petitioners — families, school districts, and two statewide organizations representing hundreds of thousands of students — have proven that because of the way the General Assembly funds public education, the children of Pennsylvania, especially students in low-wealth school districts, are not receiving that education. *See infra* at Sections II, V, VI.

3. First, Petitioners have proven that the General Assembly is both failing to provide adequate levels of funding for education, and to ensure funding is distributed equitably. Instead, the system relies heavily on local taxpayers, creating wide disparities between high-wealth and low-wealth school districts. Moreover, low-wealth districts with the neediest students — children living in poverty, English Language Learners, and other students who require additional

educational support — experience enormous funding shortfalls that these districts cannot close through local revenue. *See infra* at Sections VI, VII, VIII.

4. Second, Petitioners have proven that as a result of these funding shortfalls, school districts cannot provide the educational resources necessary to prepare their students for college and careers. *See infra* at Sections VIII, IX, XI.

5. Finally, Petitioners have also proven that these resource inadequacies have resulted in systemic failure across a wide range of student outcomes, including failure to gain proficiency on state academic standards, failure to graduate from high school, and failure to enroll in and complete college. *See infra* at Sections IV, V, X. Petitioners have also proven that this systemic failure is disproportionately impacting low-wealth school districts and the subgroups of children that are concentrated in those districts. *See infra* at Sections X, XI.

6. In the face of this evidence, Respondents have failed to put forth credible evidence that the current Pennsylvania school funding system is adequate or equitable, or that it provides a contemporary, high-quality, and effective education. *See infra* at Section XII.

II. Parties

A. School Districts

7. Greater Johnstown School District, the School District of Lancaster, Panther Valley School District, Shenandoah Valley School District, Wilkes-Barre Area School District, William Penn School District (together, “Petitioner Districts”), and the School District of Philadelphia are all low-wealth districts that serve high concentrations of children in poverty, children with special needs, and/or English Language Learners. *See* PX-4807; PX-4808; PX-4809; PX-4810; PX-4811; PX-4812; PX-4813.¹

1. Greater Johnstown School District

8. The Greater Johnstown School District (“Greater Johnstown”) is located in Cambria County, Pennsylvania, around the City of Johnstown. *See* Legislative Respondents’ Proposed Joint Stipulation of Facts (Nov. 1, 2021) (“Stip.”), ¶ 6.

¹ Throughout the litigation, the Court received testimony from a cross-section of school administrators, staff, and others, from a variety of low-wealth school districts, including each of the Petitioner Districts, the School District of Philadelphia, and the Otto-Eldred School District. These witnesses credibly described the finances, conditions, offerings, experiences, and lack of resources in their school districts, along with the needs of their students. As agreed by Executive Respondents, this testimony was credible and is deserving of weight. Tr. 14388:15-14839:23 (Executive Respondents closing).

9. The City of Johnstown was once a thriving steel and coal center, but when those industries closed, it left the area in dire straits. Tr. 2572:8-17 (Arcurio). Greater Johnstown, a hardworking, blue-collar community, is now the poorest school district in the Commonwealth by median income. *See* PX-4828; Tr. 2572:23-2573:4 (Arcurio). The biggest employers in the district are a medical facility and the school district itself. Tr. 2574:11-2575:3 (Arcurio).

10. There are three schools in Greater Johnstown School District, serving approximately 2,900 students total: an elementary school for grades K-4; a middle school for grades 5-7; and a high school for grades 8-12. PX-4807; Tr. 2580:15-20 (Arcurio); Tr. 2569:14-2750:5 (Arcurio); Tr. 2640:17-23 (Arcurio).

11. Nearly a quarter of Greater Johnstown students will not graduate from high school in four years, ranking the district near the bottom of the state. *See* PX-4855. Dr. Amy Arcurio, Greater Johnstown's superintendent, explained why: "[W]e just don't have enough resources. We don't have enough money to meet the challenges that our students have." Tr. 2568:7-14 (Arcurio). She testified that due to a lack of funds, teachers and administrators are forced to constantly reshuffle priorities in an attempt to "divide the resources adequately among various groups of students. And unfortunately, when we divide those resources, there aren't enough to go around, and so we can't delegate resources to every student every day." Tr. 2568:17-2569:9 (Arcurio).

2. The School District of Lancaster

12. Situated in the “the refugee capital of the world,” the School District of Lancaster (“Lancaster”) encompasses the City of Lancaster, which has approximately 60,000 residents, and Lancaster Township, a small town that could not afford its own school system. Tr. 6000:23-6001:1 (Aikens); Tr. 5045:20-5046:4 (Rau). It is one of the largest school districts in the state, with approximately 10,500 students. Tr. 5046:3-6 (Rau).

13. Lancaster has 19 schools in 20 buildings: 12 elementary schools that house students K-5, one that serves students K-8, four middle schools for students in grades 6-8, one high school for grades 9-12, one cyber school, and an alternative school for students who are over-age and under-credited. Tr. 5047:12-14 (Rau); Tr. 5226:1-5227:16 (Rau); Tr. 5232:1-11 (Rau); Stip. ¶ 7.

14. Less than 20% of students that graduate high school from Lancaster will go on to receive a college degree. *See* PX-4841. Lancaster’s Chief of Finance and Operations explained why: because the district lacks

the resources to be able to deal with the needs that we have that are coming to us day in and day out. Our kids have significant needs, and if we don’t have the resources, they will continue to fall behind their peers, not only their peers in the neighboring districts in the county, but when they get out in the workforce, they will be behind, you know, trying to compete with their peers, whether that’s in college or whether that’s in the workplace, and their future is our future, so we need to invest in them so that the economy, economically speaking, will

continue on and that they can produce as a part of society moving forward.

Tr. 5809:22-5811:15 (Przywara).

3. Panther Valley School District

15. The Panther Valley School District (“Panther Valley”) is comprised of four “very small” towns across Carbon and Schuylkill Counties — Summit Hill, Lansford, Nesquehoning, and Coaldale. Tr. 262:12-20 (McAndrew); Stip. ¶ 8.

16. There are approximately 1,800 students in the Panther Valley School District, an enrollment that has increased in recent years. Tr. 265:21-266:3 (McAndrew). Panther Valley operates three schools: the Panther Valley Elementary School for grades K-3, the Panther Valley Intermediate School for grades 4-6, and the Panther Valley Junior Senior High School for grades 7-12. Tr. 266:7-13 (McAndrew).

17. A former coal mining community, Panther Valley lacks the industries to provide tax revenue and jobs, and is facing the departure of its three biggest businesses. Tr. 263:14-265:20 (McAndrew); Tr. 813:11-814:4 (Yuricheck).

18. Half of Panther Valley high school students fail to meet state standards in biology. PX-4871. That number increases to 70% for math. PX-4871. The reason is straightforward: Panther Valley students come to school every day with many needs, but rather than meet them, Superintendent David McAndrew explained that the district is just doing what it can to keep operating: “We’re on the

verge of bankruptcy. . . . We make . . . decisions knowing that’s not in the best interest of students, but knowing that we have no other options at this point.” Tr. 262:6-11 (McAndrew). That is, “we’re trying our best to accomplish so much with such little resources, understanding that these kids are coming in behind and doing everything we can to catch them up.” Tr. 257:23-258:5 (McAndrew).

4. Shenandoah Valley School District

19. Shenandoah Valley School District (“Shenandoah Valley”) is a small, rural district in the heart of Pennsylvania’s former coal country, in Schuylkill County. Tr. 3376:5-8 (Waite); Stip. ¶ 9. Its only significant industry today is Mrs. T’s Pierogies, a prepared food manufacturer. Tr. 3376:1-21 (Waite).

20. There are approximately 1,100 students in the Shenandoah Valley School District, who all learn in one school building containing both the elementary school (for grades Pre-K-6) and a secondary school (for grades 7-12). Tr. 3377:5-15 (Waite); PX-4812.

21. When asked about Shenandoah Valley’s greatest challenges, Superintendent Brian Waite testified, “[w]e have poverty, which is a big challenge for us in our district. We have a high population of ELL learners, English language learners, in our district. We have a high population of students with special needs. And embedded in the students with special needs, we have a good number of

students that I term as ‘low-incident’ students, which means . . . they are in classes like Autistic Support.” Tr. 3372:24-3373:9 (Waite).

22. Seven out of ten Shenandoah Valley students will leave high school without meeting state standards in math. PX-4874. As Superintendent Waite explained, the reason is clear: Shenandoah does not have enough resources to meet the needs of its children. Tr. 3373:10-12 (Waite).

5. Wilkes-Barre Area School District

23. The Wilkes-Barre Area School District (“Wilkes-Barre”) is an urban district on the banks of the Susquehanna River in Luzerne County, Pennsylvania. Stip. ¶ 10. The district serves “a coal mining community that has a rich tradition.” Tr. 10669:21-10670:2 (Costello). In 1972, the area suffered a devastating flood and the community is still struggling despite efforts to rebuild. Tr. 10670:3-8 (Costello).

24. Wilkes-Barre serves approximately 7,500 students in nine schools: five elementary schools for students in grades K-5, two middle schools for grades 6-8, Wilkes-Barre Area High School for grades 9-12, and a STEM Academy that is located within the high school. Tr. 10648:17-10649:16 (Costello). Wilkes-Barre Area High School, which opened in September of 2021, is the result of a consolidation of three former schools in the district: James M. Coughlin High

School; EL Meyers High School; and GAR High School. Tr. 10649:17-10650:11 (Costello); Stip. ¶ 10.

25. Of the 3,500 Wilkes-Barre students that sit for state assessments each year, an average of 2,000 of them fail to meet state academic standards in English, while at least 2,500 fail to meet standards in math. *See* PX-4852; PX-4853.

Superintendent Brian Costello explained why: “all students can learn. They all have the ability to succeed. But without the necessary funding, without being able to provide them with the necessary resources that they need to thrive and to . . . graduate and be successful is something that we deal with every day.” Tr. 10647:11-21 (Costello).

6. William Penn School District

26. Comprised of six boroughs that were consolidated into one district in 1971, the William Penn School District (“William Penn”) is a majority Black district located in Delaware County, just outside of Philadelphia. Tr. 6863:7-16 (Harbert); Tr. 6865:24-6866:6 (Harbert); Tr. 6528:12-6529:16 (Curry); PX-4811.

27. William Penn educated 4,916 students in 2019-20. Tr. 6865:15-23 (Harbert); PX-4811. The district’s facilities comprise 12 buildings: eight elementary schools, one middle school, two high school buildings, and the central administration building. Tr. 6866:7-16 (Harbert); Stip. ¶ 11.

28. Out of the almost 2,500 William Penn students that took state math assessments in 2019, over 2,100 failed to meet state standards. PX-4853. The district ranks near the bottom of the Commonwealth in high school graduation rates. PX-4855.

29. Dr. Eric Becoats, William Penn's superintendent, has ambitious goals for his students, but knows he needs more to accomplish them:

I have goals, and we've established goals that our students need to meet. And based upon my review and my analysis of what our District has, additional resources are needed.

Some of the data that we highlighted today as far as academic results are deplorable and we can't continue to operate the way that we're operating without additional resources and expect different results.

Tr. 7518:4-15 (Becoats).

7. School District of Philadelphia

30. Home to Individual Petitioner S.A., the School District of Philadelphia ("Philadelphia") is situated in the "poorest big city in the country" and is the Commonwealth's largest school district "by far." Tr. 7707:13-14 (Hite); Tr. 7712:6-9 (Hite).

31. Philadelphia operates 216 schools and a total of 300 buildings, many of which are badly aging. Tr. 7709:16-7710:9 (Hite). In 2019-2020, the district had an enrollment of 130,617 students, and another 70,000 Philadelphia students were enrolled in charter schools. Tr. 7711:19-7712:5 (Hite); PX-4813.

32. Thirty percent of Philadelphia students do not graduate high school, ranking near the bottom of the state. PX-4855. And each year, close to 40,000 Philadelphia students fail to meet state standards in reading, while almost 50,000 fail to meet state standards in math. PX-4852; PX-4853.

33. Philadelphia borders on districts that have radically different student outcomes, and show that a different way is possible. For instance, at Philadelphia's Overbrook High School, only 6% of students test proficient in literature. Tr. 7875:3-11 (Hite); PX-2850. At Lower Merion High School, three miles away, that number is 95%. Tr. 7875:3-11 (Hite); PX-2246.

34. Philadelphia Superintendent Dr. William Hite explained that Philadelphia could see levels of proficiency closer to those at Lower Merion, but to do so,

we would need staff that is well before the high school years to provide young people with the ability to establish a foundation, particularly in reading and in math, and then at ensuring that those young people have support throughout their educational experience, and the support structures that are consistent with a district like Lower Merion — like more counselors, more academic coaches, more reading specialists. Those types of positions do matter, and we would need a lot more of those in the School District of Philadelphia.

Tr. 7878:7-22 (Hite).

B. Individual Petitioners

1. Michael Horvath and Tracey Hughes

35. Petitioner Michael Horvath graduated from Meyers High School in the Wilkes-Barre Area School District in 2019. Stip. ¶ 14; Tr. 10037:13-17 (Horvath). His mom, Petitioner Tracey Hughes, made the decision for them to participate in this case when he was in eighth grade because Wilkes-Barre could not provide him an adequate education that prepared him for college and career. Tr. 10034:10-16 (Horvath).

36. After graduating from Meyers High School, Michael enrolled in Utica College, but felt so unsuccessful that he had to withdraw after the first year because, as he testified, “I didn’t feel like I could do it anymore. I got very down on myself and embarrassed[.]” Tr. 10052:8-22 (Horvath).

37. However, Michael explained, “I knew I still needed a degree for what I wanted to do, and it’s still what I want to do[.]” so he enrolled at King’s College in his hometown of Wilkes-Barre. Tr. 10053:3-11 (Horvath). Ultimately, however, he also withdrew from King’s College because he felt so unprepared. Tr. 10058:4-11 (Horvath); PX-4527. He recalled, “I felt like I couldn’t do it. I wanted to do it. . . but at that point in time I got so down on myself that . . . I had to take a break.” Tr. 10058:7-11 (Horvath).

38. Michael took out loans to pay for Utica College and King's College. Tr. 10071:8-10 (Horvath). He testified that it will be "tough" to afford the monthly payments on his current salary, despite the fact that he works two jobs: full-time as a behavior trainer at a special education school called Graham Academy, and an additional 21 hours a week at a hoagie shop. Tr. 10069:7-10070:4 (Horvath); Tr. 10071:16-18 (Horvath).

39. Michael admitted that this is not where he hoped he would be: "I thought I was going to be . . . the teacher in the classroom, and I didn't think I was going to have to work at a school and work a second job." Tr. 10070:17-23 (Horvath).

40. Without a college degree, Michael has "plateaued" at Graham Academy, and is not eligible for a promotion. Tr. 10070:24-10071:4 (Horvath). He explained that "the next step up for me is . . . behavioral specialist or teacher or admin. So I — I need a degree for any of those." Tr. 10071:4-7 (Horvath).

41. Michael shared that six of his classmates graduated from Wilkes-Barre and went on to college at the same time he did, and now, only one of them is still enrolled, "and the [other] six of us are all back home." Tr. 10071:24-10072:9 (Horvath).

42. Michael remains involved in this case because "my education isn't the only education that's important here. . . . I believe every student . . . they deserve to

have the same education as everybody else,” regardless of their wealth. Tr. 10072:16-10073:3 (Horvath).

2. S.A. and Sheila Armstrong

43. Student petitioner S.A. is a 2020 graduate of Mastbaum High School in the School District of Philadelphia. S.A. Dep. Tr. 8:18-9:11; Stip. ¶ 13.

Petitioner Sheila Armstrong is the mother of S.A. and a resident of the School District of Philadelphia. Stip. ¶ 13.

44. S.A. testified that he did not receive a good education at Mastbaum because the school did not have the necessary resources to educate him. S.A. Dep. Tr. 44:24-45:6.

45. S.A. described being in large classes of 30 students that made it “hard to learn[,]” and not being able to get enough help from his teachers, who often ran out of time to cover the lesson each day. S.A. Dep. Tr. 36:5-37:1; S.A. Dep. Tr. 45:8-46:1; S.A. Dep. Tr. 62:8-13; S.A. Dep. Tr. 68:24-69:10. Because S.A. could not bring his textbooks home, he would resort to Google to try to understand the material. S.A. Dep. Tr. 68:24-69:9.

46. S.A. planned to attend a trade school for culinary arts after graduating from Mastbaum. S.A. Dep. Tr. 15:15-19. However, S.A. testified that he needs good reading, writing and math skills in order to be a chef, which he has not been able to obtain. S.A. Dep. Tr. 72:21-73:12.

47. S.A. registered to attend college, but his mother Sheila Armstrong believes he was not adequately prepared by the School District of Philadelphia for college's reading and math requirements. *See* Armstrong Resp. and Obj. to Sen. Scarnati's First Set of Req. for Admis. (July 7, 2020), Resp. No. 1. As a result, S.A. requires additional support at college, including with math. *Id.*

3. K.M., Bryant Miller, and Jamella Miller

48. K.M. formerly attended William Penn School District schools and is a 2021 graduate of the Pennsylvania Leadership Charter School. Stip. ¶ 12. Petitioners Bryant and Jamella Miller are the parents of Petitioner K.M., and residents of the William Penn School District. Stip. ¶ 12.

C. Organizational Petitioners

1. Pennsylvania Association of Rural and Small Schools (PARSS)

49. The Pennsylvania Association of Rural and Small Schools ("PARSS") is a statewide membership organization composed of approximately 178 public school districts and 18 intermediate units in Pennsylvania, including Petitioner Shenandoah Valley School District. Stip. ¶ 15; PD-9-2–23. Any school district that has a small student count or is considered rural based on a sparsity calculation can become a member of PARSS. Tr. 6138:14-19 (Splain). Overall, PARSS districts serve approximately 300,000 students across the Commonwealth. Tr. 6138:14-19 (Splain).

50. PARSS is dedicated to ensuring that the Commonwealth's rural students have access to a quality education by promoting and supporting the needs of Pennsylvania's rural and small schools. Stip. ¶ 15; Tr. 6113:2-5 (Splain). As part of its mission, PARSS regularly engages in legislative advocacy, provides professional development and one-on-one supports for educators and administrators, posts job boards for schools to advertise needs, and has created a grant program for teachers to obtain supplies for their classrooms. Tr. 6134:21-6135:21 (Splain).

51. PARSS's issue of greatest concern is the adequacy of school funding. Tr. 6152:5-9 (Splain). The vast majority of PARSS member school districts are impacted by inadequate school funding and over 150 PARSS districts have adequacy shortfalls pursuant to the Commonwealth's own measure. PD-9-2–PD-9-23; Tr. 6163:9-18 (Splain); Tr. 6228:3-8 (Splain). Nearly one-third of the Level Up school districts, identified by the Commonwealth as the most underfunded school districts across the Commonwealth, were PARSS districts. Tr. 6159:2-18 (Splain); Tr. 6161:5-14 (Splain); PD-9-29.

2. NAACP-Pennsylvania State Conference

52. Petitioner NAACP-Pennsylvania State Conference ("NAACP-PA") is a non-profit organization operating in Pennsylvania and is a unit of the National Association for the Advancement of Colored People, described as the nation's

oldest and largest nonpartisan civil rights organization. Stip. ¶ 16. A primary purpose and aim of the NAACP-PA is to improve the political, educational, social, and economic status of African-Americans and other racial and ethnic minorities. *Id.*

53. The NAACP-PA includes members whose children and grandchildren attend public schools in Pennsylvania. Tr. 8918:2-8919:2 (Zeff). Members are in 46 chapters across the state, including in Darby and Yeadon, which are part of William Penn, as well as in Lancaster, Philadelphia, Wilkes-Barre, and many other low-income communities throughout the Commonwealth. Tr. 8914:19-8916:17 (Zeff); PX-781.

54. The NAACP-PA receives complaints from its members and branch leaders throughout the state that their children's schools lack resources to meet their needs. Tr. 8924:11-8925:14 (Zeff). NAACP-PA representative Gregg Zeff testified that as the State Conference Legal Redress Chair, he responded to complaints about "the quality of education . . . how old some of the material was . . . about buildings . . . falling apart, leaks; heat... there were complaints about all kinds of issues all over the state." Tr. 8928:14-8930:12 (Zeff). When the COVID-19 pandemic shut down schools, NAACP-PA also received complaints from districts that were not receiving computers and access to remote instruction as quickly as other districts were. Tr. 8930:13-20 (Zeff).

55. Mr. Zeff testified that the NAACP-PA believes “there’s a direct correlation” between school funding and the complaints NAACP-PA receives about education quality. Tr. 8937:19-8938:1 (Zeff). Mr. Zeff explained that these complaints “come from areas where there is poverty. Most of these complaints relating to quality have to do with money.” Tr. 8938:1-4 (Zeff).

56. When the NAACP-PA receives these complaints, it conducts investigations, which include interviews of parents and students, and then refers concerns to the organization’s education specialists. Tr. 8925:15-8926:18 (Zeff); Tr. 8932:11-24 (Zeff). The NAACP-PA then undertakes a wide range of actions, all of which take time and effort, including meeting with teachers, principals, and school districts; advocating on behalf of students and families to legislators and testifying at legislative hearings; and raising issues with the Pennsylvania State Board of Education and the Pennsylvania Department of Education. Tr. 8933:1-8934:9 (Zeff); Tr. 8935:14-8937:18 (Zeff). Mr. Zeff testified that during his time as state legal redress chair, education concerns took up 20-25% of his time and during his time working with the Philadelphia chapter, “never a week would go by where there ... wouldn’t be some kind of education complaint.” Tr. 8935:2-17 (Zeff).

D. Respondents

57. Respondent the Pennsylvania Department of Education (“PDE”) is empowered by statute to “administer all of the laws of this Commonwealth with regard to the establishment, maintenance, and conduct of the public schools[.]” 71 P.S. § 352(a). It oversees all public school districts, intermediate units, charter schools, cyber charter schools, career and technology centers and vocational technical schools, among other components of Pennsylvania’s system of public education. Stip. ¶ 17.

58. Respondent Governor Thomas Wolf is the current Governor of the Commonwealth of Pennsylvania. Governor Wolf is named in this lawsuit in his official capacity. Stip. ¶ 18.

59. Respondent Noe Ortega is the current Secretary of the Pennsylvania Department of Education, the only unelected member of the Governor’s cabinet mandated by the Constitution. Pa. Const. art. IV sec. 1. Secretary Ortega is named in this lawsuit in his official capacity. Stip. ¶ 19.

60. Respondent Speaker Bryan Cutler is the current Speaker of the Pennsylvania House of Representatives. Speaker Cutler is named in this lawsuit in his official capacity. Stip. ¶ 20.

61. Respondent Senator Jake Corman is the current President Pro Tempore of the Pennsylvania Senate. Senator Corman is named in this lawsuit in his official capacity. Stip. ¶ 21.

62. Respondent Pennsylvania State Board of Education (the “State Board”) is the regulatory and policy-making board for basic and higher education in the Commonwealth and is responsible for adopting “broad policies and principles, and establish[ing] standards governing the educational program of the Commonwealth.” 24 P.S. § 26-2603-B(a). As such, the State Board has adopted academic standards and statewide assessments “to facilitate the improvement of student achievement and to provide parents and communities a measure by which school performance can be determined.” 22 Pa. Code § 4.2. The State Board also has a duty to adopt a master plan for basic education every 10 years that considers and makes recommendations about, *inter alia*, “student testing and assessment,” “school finance,” and “the projected long-range needs of the public school system of this Commonwealth.” 24 P.S. § 26-2603-B(i)(3); (i)(6); (i)(10). The State Board also makes reports and recommendations for improvements in education and gives guidance to the Governor and school districts. 24 P.S. § 26-2605-B. The chairmen and minority chairmen of the education committees of both houses of the General Assembly are ex officio members of the State Board with full voting privileges. 24 P.S. § 26-2602-B(a).

III. The Pennsylvania Constitution Requires the General Assembly to Provide All Children with a Contemporary, High-Quality and Effective Education.

A. Since 1874, the Education Clause has guaranteed all children the right to a high-quality education.

1. The fundamental components of today's Education Clause originated from 1873 Constitutional Convention.

63. The Pennsylvania Constitution has included a provision on education since the Commonwealth's inception in 1776. Tr. 930:7-12 (Black).

64. Until 1874, however, the state Constitution only contemplated a discretionary system of public schools for poor children, commonly referred to as "pauper schools." Tr. 931:13-933:7 (Black).

65. As professor and constitutional law scholar Derek Black testified at trial,² in 1872 a constitutional convention "was called for the specific purpose of

² Derek W. Black is a professor of law and the Ernest F. Hollings Chair in Constitutional Law at the University of South Carolina. Tr. 904:14-20 (Black). At trial, Professor Black was qualified as an expert in "the history of education law with a specialty in the history of state constitutional education clauses." Tr. 918:13-919:6 (Black). Professor Black has published at least 30 articles and a textbook about education law, policy and history with a focus on the history of education clauses in state constitutions. Tr. 906:4-907:9 (Black). He has analyzed approximately 20 state education clauses in depth and possesses specialized knowledge about the state constitutional conventions through which education clauses were developed. Tr. 905:24-912:16 (Black). To reach his conclusions, Professor Black researched Pennsylvania's constitutions, analyzed constitutional convention debates about the Education Clause, and reviewed a range of secondary sources including newspapers and history books. Tr. 921:9-922:17 (Black). As a result of the "enormously robust" historical record surrounding the development of Pennsylvania's Education Clause, Professor Black had a "high degree of confidence" in his conclusions. Tr. 983:6-984:19 (Black); *see also* Tr. 928:14-929:20 (Black). His testimony was credible and is deserving of weight.

solving perceived problems in the Commonwealth at the time[,]” including concerns about the provision of public education, and delegates from across the state were elected to represent their local communities’ views about how to best amend the Constitution. Tr. 924:10-928:8 (Black). The convention lasted from November 1872 until December 1873, and the new Constitution was ratified in 1874. Tr. 928:9-13 (Black).

66. The convention (“1873 Convention”) resulted in “quite an incredible number of important changes” to the Constitution related to education, including a substantively revised Education Clause. Tr. 931:13-935:9 (Black).

67. Although some of the Education Clause’s language has subsequently been updated, the fundamental components of the 1874 Clause remain in place today. Tr. 935:10-938:19 (Black); *see also infra* at Section III(A)(4).

68. Accordingly, “one finds the meaning of the current Education Clause in the Constitutional Convention of 1872-1873[.]” Tr. 919:9-18 (Black); *see also* 1056:7-14 (Black).

2. The 1873 Convention delegates treated education as a matter of paramount importance.

69. Throughout the 1873 Convention debates, there is “continual reference” by the delegates to the fact that addressing the provision of education was “one of the most important, if not the most important, thing that they could do

in the Constitution” and that in fact “the Constitution itself might actually ride upon it.” Tr. 919:19-920:15 (Black). As one delegate declared, “[t]he section on education is second in importance to no other section to be submitted to this Convention.” *See* Debates of the Convention to Amend the Constitution of Pennsylvania (1873) (“Pennsylvania Debates of 1873”), Vol. 2:421. This sentiment was repeated “over and over again” by multiple members of the delegation. Tr. 939:11-940:14 (Black); *see, e.g.*, Pennsylvania Debates of 1873, Vol. 2:389 (“The most important interest requiring attention in our State is unquestionably that of education.”); *id.* Vol. 7:691-92 (“If there is any duty more incumbent upon the whole people of this Commonwealth than any other, it is to see that every child of the Commonwealth shall be educated and taken care of.”); *id.* Vol. 7:678 (calling education the “most important of all the interests of the State.”).³

³ Pursuant to its February 22, 2022 Order, the Court may take judicial notice of current and prior versions of the Pennsylvania Constitution and related documents, which include the 1873 Convention debates and historical sources related to the 1968 Constitution. *See* Feb. 22, 2022 Order at 4 (“Regarding Petitioners’ request to admit the Pennsylvania Constitution, current and prior versions, and related documents, the Court takes judicial notice of these documents.”); *see also* Tr. 11321:7-18 (evid. hr’g). For the convenience of the Court, the constitutional documents cited herein are attached as Appendix B. Courts routinely take judicial notice of legislative history, including the historical sources relevant here. *See generally* *Pennsylvania Sch. Boards Ass’n, Inc. v. Commonwealth Ass’n of Sch. Adm’rs, Teamsters Loc. 502*, 805 A.2d 476, 484 (Pa. 2002); *see also, e.g., William Penn Sch. Dist. v. Pennsylvania Dep’t of Educ.*, 170 A.3d 414, 418-19 and n.6 (Pa. 2017) (citing the 1873 Convention debates and related historical facts); *Pennsylvania Association of Rural & Small Schools v. Ridge*, 11 M.D. 1991, slip op. at 86–105

70. Education’s importance is also evident in the extensive amount of time delegates dedicated to the subject: education “was a part of the discussions at the beginning of the convention and continued all the way through.” Tr. 929:21-930:6 (Black).

71. The delegates attached such high importance to education for two reasons. First, they were motivated by the belief that “a republican form of government is not self-sustaining and doesn’t preserve itself if its constituent members are not educated.” Tr. 943:10-17 (Black). The delegates felt strongly that the citizens of the Commonwealth needed to be able to read and think critically in order to “cast intelligible votes” and hold their government accountable. Tr. 940:15-942:2 (Black). The refrain was “evident throughout the debates...the idea being that for the system of republican form of government to work in the Commonwealth, we have to have public education[.]” Tr. 941:19-942:2 (Black); *see, e.g.*, Pennsylvania Debates of 1873, Vol. 6:64 (“the safety of the State and the safety of the government depends upon the education of all the children. . . . if we would preserve our present form of government, it is absolutely necessary that all

(Commw. Ct. July 9, 1998) (same); *Ritenour v. Peirce*, 272 A.2d 900, 901 n.1 (Pa. 1971) (citing Project Constitution reports published in the Pennsylvania Bar Association Quarterly).

the children in the Commonwealth . . . should be educated.”); *id.* Vol. 2:421 (“If we are all agreed upon any one thing it is, that the perpetuity of free institutions rests, in a large degree, upon the intelligence of the people, and that intelligence is to be secured by education.”); *id.*, Vol. 6:45 (“In the uneducated ballot is found the nation’s greatest danger; but the educated ballot is the nation’s main tower of strength.”).

72. The delegates further recognized that education was not only important to “the overall political body of the Commonwealth but also to its individual constituent members,” and repeatedly expressed the view that ensuring that all children could grow up to “participate in . . . a civic way in society, and also . . . be self-sufficient” was a “matter of . . . individual justice.” Tr. 942:3-943:23 (Black); *see, e.g.*, Pennsylvania Debates of 1873, Vol. 2:472 (“it is the duty of the State, as a matter of justice and self-preservation, that every child in the Commonwealth should be properly educated and trained for the high and responsible duties of citizenship.”); *id.* Vol. 7:691-92 (“If there is any duty more incumbent upon the whole people of this Commonwealth than any other, it is to see that every child of the Commonwealth shall be educated and taken care of.”); *id.* Vol. 3:345 (stating that “we stand on the great fundamental principle that our people must be educated” and describing education as a “great fundamental right”); *id.* Vol. 6:44 (“[t]he child himself has a right to such training as will fit him

for usefulness and enjoyment in life”); *id.* Vol. 1:206 (“The permanency of our form of government, *as well as the liberty, prosperity and happiness of our people*, depend upon the education of the youth”) (emphasis added).

73. Ultimately, the debates make clear that the delegates saw education as “central to our existence as a country[,]” and that their extensive efforts to prioritize education in the Constitution was a reflection of their fear that the “General Assembly, on its own . . . [could not] take care of what they saw as one of the most precious replicating aspects of republican form of government.” Tr. 982:15-983:5 (Black).

3. The 1873 Convention delegates sought to impose an absolute mandate on the General Assembly to provide every child in the Commonwealth with a high-quality education.

74. The 1873 Convention occurred in a climate of intense distrust of the legislature. Tr. 923:10-924:9 (Black). As Professor Black explained, throughout the Convention debates, delegates voiced concern “that the General Assembly had not been doing what they had expected them to do” and was instead “pandering too much to corporate interests[.]” Tr. 923:22-924:3 (Black); *see also* Tr. 925:6-14 (Black). The delegates’ efforts to revise the constitutional provisions related to education were thus a vehicle for “trying to . . . ensure that the General Assembly did its job[.]” Tr. 924:4-9 (Black).

a. The 1873 Convention delegates sought to create a single system of education that would be available to all children.

75. One of the primary changes made to the Education Clause was to expand the provision of public education to “all children.” Tr. 920:16-921:5 (Black). In place of a system of pauper schools, the new Clause established a system that served “all children.” Tr. 932:23-933:7 (Black).

76. In “extinguishing the old system, which was reserved to poor children,” the delegates rejected proposals to provide different educational options for different classes of children, such as separate systems for “trade schools, poor schools and common schools.” Tr. 954:24-956:5 (Black).

77. The delegates rejected this arrangement out of concern “[t]hat if you kept kids in different schools or in different classifications of schools . . . when it came down to it, inevitably, the poor kids would get . . . an inferior education, and they weren’t willing to do that.” Tr. 956:5-24 (Black). As Delegate Mann told the delegation:

[y]ou cannot take the favored children of a ward in Philadelphia and put them into one school and the poor and unfortunate into another school and give them the advantages that the system of education is intended to accomplish. . . . Let us have no distinctions, no separate provisions for one class of children over another; provide for them all in the same section and all alike.

Pennsylvania Debates of 1873, Vol. 6:45-46.

78. In short, to “ensure a thorough and efficient system of education . . . [the delegates] believed it was important to bring all those kids under one roof and serve them together in one system[.]” Tr. 957:4-22 (Black).

79. Through this expansion, the delegates also sought to “level up” the education that was available across the state. Tr. 959:5-10 (Black). At the time, access to education varied significantly across the Commonwealth: some areas had “good” schools, while others had schools where “the quality wasn’t there, or the financial burden was enormous for those communities.” Tr. 957:23-958:20 (Black). One delegate described ““the struggle which the people in the newer parts of Pennsylvania make to educate their children,”” which required certain communities to tax themselves “at five times the rate of other communities in the Commonwealth.” Tr. 959:15-960:16 (Black) (quoting Pennsylvania Debates of 1873, Vol. 2:438). And in certain parts of the state, there were no schools at all. Tr. 958:20-959:4 (Black).

80. By requiring the legislature to support one statewide system of education that would serve all children, the delegates sought to elevate those local communities that had been unable to provide a quality education — or in some cases, any education at all — to the same plane as the communities with the “good schools.” Tr. 958:1-961:13 (Black). The core objective was to “bring[] up the bottom end of the system to a baseline.” Tr. 1011:11-12 (Black).

b. The 1873 Convention delegates sought to ensure that the General Assembly would adequately fund the new statewide system.

81. The delegates also revised the Education Clause to impose an absolute mandate on the legislature to maintain and support the new statewide system, changing the language of the Clause from “as soon as conveniently may be” to “shall” provide. Tr. 931:13-932:16 (Black).

82. The delegates did not stop there, however: they took an additional, highly unusual step of writing in a requirement of “at least one million dollars each year” in state funds to education. Tr. 933:8-21 (Black); *see also* Tr. 945:21-948:5 (Black). In other words, as Professor Black explained, the delegates were “so adamant about the ‘shall’ part that they’re actually even specifying in that initial appropriation what . . . the ‘shall provide for’ will come out to in dollar terms.” Tr. 933:17-21 (Black). The dollar amount was substantial, “approximately a 40 percent increase over what had been appropriated in the prior year.” Tr. 946:17-20 (Black).

83. During the Convention, delegates debated at length whether specifying a dollar figure was “unbecoming of the Constitution,” and some expressed concern that it would inevitably become outdated, “[b]ut what held sway was ultimately that [the delegates] didn’t want to leave any ands, ifs or buts as to whether a thorough and efficient education was going to have a baseline of

[funding] in that initial period[.]” Tr. 945:21-946:15 (Black); *see, e.g.*, Pennsylvania Debates of 1873, Vol. 7:680 (arguing that inserting a dollar amount, albeit unusual, was justified by the fact that “a system of public education is the most important interest of the state.”).

84. The million-dollar appropriation was a clear signal that the delegates “didn’t trust the General Assembly” to sufficiently fund the system otherwise. Tr. 946:15-948:5 (Black). As Delegate Beebe explained:

I think I can tell the gentleman from Philadelphia one reason perhaps why this clause was inserted. It is true that we have a Constitution that requires a system of public schools for the benefit of the poor at the expense of the State; but so far as its maintenance at the public expense equally by public appropriations is concerned, it has been a farce.

Pennsylvania Debates of 1873, Vol. 7:679.

85. Distrust of the legislature to adequately fund schools ran so deep that one delegate actually opposed inserting a minimum for fear that the Legislature would interpret it as a limit: Delegate Kaine remarked, “I know it says ‘at least;’ but I know that the Legislature on the subject of appropriations for common schools and educational purposes has been very careful to make the sums very small. The sums heretofore appropriated . . . have been a mere pittance[.]”

Pennsylvania Debates of 1873, Vol. 6:56.

86. Ultimately, however, the prevailing sentiment among the delegates was that they “had to take . . . the floor for the first year budgeting out of the hands

of the legislature and actually put it in the Constitution to ensure that it got done, and so . . . that's what they did." Tr. 947:14-948:5 (Black). As Delegate Beebe emphasized, imposing a minimum appropriation would prevent the legislature from passing off its duty to fund schools onto localities:

we shall not make a farce of our public school system by ordaining in the Constitution that we shall have public schools and then force the poorer counties to assess the maximum of tax authorized by law to support a four months' school, whereas, in the wealthier counties in the State, a tax of two mills would be all that it would be requisite for for them to have for better schools and for a longer term. The failure of the Legislature to make such appropriations as would equalize the burthens [sic] of supporting the system is therefore . . . a reason why this proposition is inserted.

Pennsylvania Debates of 1873, Vol. 7:679.

87. The million-dollar minimum was also part of the delegates' effort to insulate education from politics. Tr. 948:9-949:13 (Black). As Delegate Lear reasoned:

the appropriation from the State is of the highest importance to the efficiency of the public school system of Pennsylvania, and we should have a minimum below which this appropriation shall not go, for the reason given by the Superintendent of Public Schools of Pennsylvania to this committee. He said he annually had to go before the committee of the Legislature and beg and implore, and threaten and argue, and use all the means and the devices in his power to get a respectable appropriation.

Pennsylvania Debates of 1873, Vol. 2:436.

88. The appropriation minimum sought to respond to concerns that "the State Superintendent can't do his or her job if what he's doing is running around

begging for the money of those basic functions of the public school system.” Tr. 949:9-12 (Black).

89. The delegates took two other significant steps to prevent education from having to compete with other interests, in line with their view that education wasn’t political, but rather “the common ground. . . the foundation upon which a democratic or a republican form of government rests.” Tr. 952:7-15 (Black); *see, e.g.*, Pennsylvania Debates of 1873, Vol. 2:387 (“Our common schools constitute a sort of neutral territory. . . where all our people stand on common ground.”).

90. First, the delegates elevated the Superintendent of Public Instruction, today called the Secretary of Education, to the status of a constitutional officer. Tr. 934:22-935:9 (Black). Writing the Superintendent into the constitution had both “significance in terms of what [the Superintendent] can and can’t do; and more importantly who else can tell them what to do or not do.” Tr. 935:6-9 (Black).

91. During the debates, the delegates described their vision for this new office as being “characterized by official purity . . . from all the contaminating influences of political manipulation and management.” Pennsylvania Debates of 1873, Vol. 2:388; *see* Tr. 951:23-952:21 (Black). Their intent was to empower the Superintendent to be someone who “stands outside of politics, that upholds and protects and tries to make the State Constitutional System of Education work” without worrying about “whether they’re making people in the General Assembly

happy or not[.]” Tr. 952:15-953:14 (Black); *see, e.g.*, Pennsylvania Debates of 1873, Vol. 2:385 (explaining that the Committee on Education believed that the Superintendent “should be as far as possible removed from the political arena”); *id.* Vol. 2:441 (“The Governor and Attorney General are not necessarily interested in the subject of education. The Superintendent is supposed to be devoted to nothing else.”).

92. The delegates also elevated schools above politics by including education alongside the three branches of government in the general appropriations bill. Tr. 933:22-934:21 (Black); *see also* Tr. 944:15-945:20 (Black). This protected education by putting it “on the same plane as the other basic functions of government.” Tr. 934:8-10 (Black). Its stature “guarantee[d] it a level of priority” and signified that education was not “a pet project of the legislature[.]” but rather “embodied as a central aspect of the Government of the Commonwealth.” Tr. 945:11-17 (Black). Practically, education’s inclusion in the general appropriations bill also meant “[t]hat nothing else can be done before education and the judicial and legislative and executive functions of government have been dealt with.” Tr. 944:22-945:4 (Black). As Professor Black put it, “bridges might be a good idea; and . . . technology might be a good idea, but until you have appropriated for those branches, you can’t do anything.” Tr. 934:16-20 (Black).

c. The 1873 Convention delegates sought to ensure that the new system would provide a high-quality education.

93. Finally, the 1873 Convention delegates wanted to ensure that the new system would provide “a high quality of education.” Tr. 969:11-973:7 (Black); *see also* Tr. 921:5-8 (Black).

94. To do so, they specifically directed the legislature to support and maintain a “thorough and efficient” system of public schools, choosing the term “thorough and efficient” because it had been used by other state constitutions to signify “a good quality education.” Tr. 969:19-970:6 (Black); *see also* Tr. 1040:22-1041:5 (Black).⁴

95. By inserting this specific qualitative standard into the Clause, the delegates sought to “mandat[e] a floor below which no school can fall.” Tr. 972:14-16 (Black); *see also* Tr. 950:3-11 (Black); Tr. 1045:3-8 (Black); Tr.

⁴ The debate transcripts make clear that the delegates used the term “efficient” to mean “effective,” and that what they sought to ensure was “the effective delivery of education in the schools.” Tr. 949:14-950:11 (Black); *see also* Tr. 1037:8-1039:18 (Black); *see also, e.g.*, Pennsylvania Debates of 1873, Vol. 2:436 (“For these reasons the appropriation from the State is of the highest importance to the efficiency of the public school system of Pennsylvania, and we should have a minimum below which this appropriation shall not go.”); *id.* Vol. 7:685 (“Every man knows the history of the Prussian schools and their efficiency. . . . We know that Prussia has the most perfect system in the world; and its effect was seen in the recent war between that nation and the French.”). As Professor Black explained, “efficiency here is not about . . . getting away with the least amount of money possible, which could be a way that some people might think about it in a modern sense, but here it is really making the schools effective[.]” Tr. 949:14-950:11 (Black).

1080:11-24 (Black). Professor Black explained that under a “thorough and efficient” standard, it was not enough for the legislature to merely establish a statewide system: it was obligated to provide an education that was “thorough and efficient to . . . achieve the end of preparing citizens to fulfill their duties in the Commonwealth as well as . . . lead productive lives.” Tr. 1041:6-1042:1 (Black). In other words, the constitutional threshold was defined by “what the world required . . . for self-sufficiency and citizenship.” Tr. 1042:2-14 (Black).

96. This duty was absolute and nondiscretionary. Tr. 1048:5-1049:9 (Black); *see also* Tr. 1080:11-24 (Black). The expectation was that “what is a thorough and efficient system of public education in today’s society is an answerable question . . . that requires investigation into facts. It requires the legislature to collect facts as to what it is that children need to know to vote, to have a job [but] [u]ltimately there is a discoverable baseline, and [the Education Clause] says that they shall provide that baseline.” Tr. 1081:14-1082:9 (Black).

97. The delegates’ intent to set a high-quality standard is also evident in the depth with which they debated different aspects of education in their effort to “get it right.” Tr. 970:7-971:2 (Black). Professor Black pointed out that “you don’t spend 30 pages talking about textbooks unless you think that’s really important. And so what you see is a series of policy questions in which they continually push

to try to put as much into the Constitution and be as specific as they can to achieve the best form of education that they can in a convention.” Tr. 971:5-11 (Black); *see, e.g.*, Pennsylvania Debates of 1873, Vol. 2:426-62 (debating textbooks); *id.* Vol. 6:42-49 (debating compulsory education). Driving these exhaustive discussions was the belief that the ultimate mandate was to establish “a system in which all the children of the Commonwealth can acquire the highest branches of education[.]” Pennsylvania Debates of 1873, Vol. 2:426.

98. At the same time, the delegates recognized that being too prescriptive “might actually do more harm than good.” Tr. 971:12-14 (Black). For example, they understood that “inserting too many details might create a problem in terms of applying the standards across time.” Tr. 1042:22-1043:15 (Black). As Delegate Cuyler pointed out in objection to a provision prescribing how often textbooks could be changed, “[w]e are not here to make a code, but . . . to make a Constitution. To follow out in this article on education the details of the educational system, seems . . . exceedingly improper. What, in this progressive age of ours, limit our children to human knowledge, as it was ten years ago?” Pennsylvania Debates of 1873, Vol. 2:451; *see also, e.g., id.* Vol. 2:461 (“[w]e are not . . . making a code of laws We want to establish a few principles that are to govern the Legislature and the people, and we are not to descend to the minutae[.]”).

99. To that end, delegates considered but ultimately rejected a proposal to require a “uniform” system of public education. Tr. 976:17-979:19 (Black).

Professor Black explained that some delegates expressed concern that requiring a uniform system might one day be interpreted to require every school in the state to provide education the same way, such as by using identical textbooks or mandating that all schools be coed, and thus ultimately “interfer[e] with the delivery of education.” Tr. 977:13-978:9 (Black); *see, e.g.*, Pennsylvania Debates of 1873, Vol. 2:423 (“if the system is intended to give an opportunity to every child in the Commonwealth to get an equal chance for a good and proper education, the word ‘uniform’ ought not to be put into it.”) *id.* Vol. 2:424 (expressing the view that uniformity would “certainly diminish the usefulness and efficiency of our common schools in Philadelphia.”).

100. Ultimately, the majority of the delegates agreed that obligating the legislature to support and maintain a “thorough and efficient system” was enough to ensure the provision of a single high-quality, statewide system of education, without also requiring that system to be delivered uniformly. Tr. 978:10-979:19 (Black). As Delegate Landis reported on behalf of the Committee on Education:

The word uniform was considered in the committee, and the majority of its members thought the introduction of the word, if not fraught with some danger, would, at least be attended with considerable inconvenience. The word ‘system,’ of itself, suggests sufficient symmetry, and a sufficient measure of uniformity, without annexing it

to so rigid a word as ‘uniform,’ because if the Legislature provides for the State a thorough and efficient system of education they will certainly have accomplished all that a constitutional requirement should ask of them.

Pennsylvania Debates of 1873, Vol. 2:423; *see also id.* Vol. 2:424 (“This whole subject was thoroughly discussed in the committee, and a majority of the committee thought the section, as recommended, would be the best form in which it could be put.”).

4. The 1967 changes to the Education Clause did not alter its substantive meaning.

101. After the 1873 Convention, the Education Clause was not amended again until the 1960s, when it was revised as part of a series of ballot measures intended to modernize the Constitution, and a limited constitutional convention addressing four “highly controversial subjects” that required substantive debate. *See* M. Nelson McGeary, *Pennsylvania’s Constitutional Convention in Perspective*, 41 Pa. B. Ass’n Q. 175, 176 (Jan. 1970); Tr. 937:4-17 (Black); Tr. 964:4-18; (Black); *see generally* Debates of the Pennsylvania Constitutional Convention of 1967-1968 (1969).

102. The Education Clause was subject only to a “language change” to “clean[] up . . . historical outdated aspects” of the Clause. Tr. 935:10-936:24 (Black). As a result, these changes were not discussed or debated at the 1967-1968 Convention, because as a substantive matter, “[e]ducation was not really on the

radar of things that needed to be dealt with.” Tr. 937:4-17 (Black). Instead, the revisions to the Education Clause “just went in as a drafting change.” Tr. 963:1-4 (Black).

103. The modernization effort resulted in the removal of the out-of-date million-dollar appropriation for the school system. Tr. 969:1-2 (Black). As another part of the effort to “update[] the language,” the phrasing of the Clause was changed from “thorough and efficient system of public schools, wherein all children of this Commonwealth above the age of six years may be educated” to “thorough and efficient system of public education to serve the needs of the Commonwealth.” Tr. 936:3-8 (Black); Tr. 937:1-3 (Black).

104. At the time these drafting changes were made, the million-dollar minimum had become so “antiquated” as to be rendered meaningless. Tr. 936:9-14 (Black). It was also no longer necessary to specify that the education system would benefit “all children”: as Professor Black explained, although educating “all children” had been “quite a radical concept in 1868 . . . by the time you get into the 1960s, there’s no serious conversation that somehow or another that when we say that we’re going to have a system of common schools, that not all children are going to get to go.” Tr. 968:3-11 (Black); *see, e.g.*, H.R. Journal, 151st Gen. Assemb., Sess. of 1967, Vol. 1, No. 6 at 80 (Jan. 30, 1967) (“Section 14 updates the constitution by replacing the obsolete requirement that all children of the

Commonwealth above the age of six be educated, and at least \$1 million be spent for that purpose.”).

105. The addition of the phrase “to serve the needs of the Commonwealth” was proposed by Project Constitution, an initiative formed by the Bar Association to recommend revisions to the Constitution. Tr. 962:9-964:18 (Black); *see also* William A. Schnader, “*Project Constitution*” — *A Proposed Task for the Pennsylvania Bar Association*, 33 Pa. B. Ass’n Q. 14 (Oct. 1961).

106. In its reports to the Bar Association, Project Constitution’s Subcommittee on Education explained that it was proposing this revision based on its opinion that “the system of public education should not necessarily be limited to serve the needs of children as the Constitution now provides.” Report of Committee No. 10 on Education, 34 Pa. B. Ass’n Q. 147, 304-305 (Jan. 1963); *see also* Report of Committee No. 10 on Education, 33. Pa. B. Ass’n Q. 365, 466-67 (Jun. 1962) (“[O]ne member of the Committee raised the point that the language ‘wherein all the children of the Commonwealth may be educated,’ . . . might raise a question whether the public schools could be used for adult education. In these days when automation is putting many workers in the ranks of the unemployed, there is a growing need for retraining these workers and there should be no restriction on the Legislature’s right to make provision for such retraining.”). In other words, the Committee’s intent in proposing the addition of the phrase “to

serve the needs of the Commonwealth” was to “make it clear that this system would benefit the overall Commonwealth, in addition to just the children.” Tr. 962:9-24 (Black).

107. Nothing in the historical record suggests that this addition was intended to “subtract[] or detract[] from anything that occurred in the previous version of the Constitution.” Tr. 1079:4-16 (Black). To the contrary, as Professor Black pointed out, the language change recognized the view of the 1873 Convention delegates: that in order for the Commonwealth to function, it needed an education system that could “prepare citizens [] for citizenship and democratic participation in the function of government.” Tr. 1074:21-1075:1 (Black); Tr. 1078:20-1079:7 (Black).

108. Nor does anything in the historical record suggest that the addition of “to serve the needs of the Commonwealth” was intended to “somehow lower[] the . . . baseline obligation that legislature needs to meet” or provide a grant of legislative deference. Tr. 1080:7-1082:9 (Black). Post-revision, the Education Clause “still says the General Assembly has a mandate to provide a thorough and efficient system of public education, and there is no discretion as to the decision to do that[.]” Tr. 1080:11-16 (Black); *see also* Tr. 1048:15-1050:6 (Black). The new phrase “to serve the needs of the Commonwealth” does not “allow[] them to

essentially throw that stuff up into the air and go, well, let's just do whatever we want to." Tr. 1082:4-7 (Black).

109. Moreover, Professor Black pointed out that it would have been "illegitimate" to render such an "enormous change" to the Constitution without debate. Tr. 965:15-968:20 (Black). As Professor Black explained, "you don't hide . . . an elephant in a mouse-hole, to borrow a jurist's words." Tr. 967:21-22 (Black). If the intent of the new phrase had been to lower the constitutional standard, or grant the legislature new and extraordinary deference in defining that standard, "the voters would need to understand that, the delegates would debate that, . . . it would be covered in the media and discussed, just as it had been in the 1870s. And there's none of that happening" in the record of the 1960s amendment. Tr. 968:13-20 (Black).

110. Accordingly, Professor Black concluded that "no substantive change" was made to the Education Clause. Tr. 967:7-14 (Black). The fundamental components of the 1874 Clause — obligating the General Assembly to provide a high-quality statewide system of education that prepares all children for self-sufficiency and citizenship — remain in place today. Tr. 1077:23-1080:24 (Black).

B. There is virtually no dispute about what is needed to fulfill the promise of a high-quality system of education that serves all children.

1. The parties all agree that all children can learn.

111. The educators, public officials, and experts that testified at trial all acknowledge that every child can learn when given access to the right interventions and supports.

112. As Former Deputy Secretary of Elementary and Secondary Education Matthew Stem testified on behalf of PDE, “[t]he notion that every child can learn was a fundamental belief” that “drove [PDE’s] policy development[.]” Tr. 1760:21-23 (Stem).⁵ This principle is also a fundamental premise of Pennsylvania’s Consolidated State Plan under the Every Student Succeeds Act (“ESSA Plan”), which establishes that “each student — regardless of race, economic circumstance, ability, or zip code — should be educated to the same high standards of achievement.” PX-1830-20. PDE has repeatedly affirmed that there is nothing innate about economically disadvantaged children, Black children, or Latino children such that they cannot become fully successful college-and-career-

⁵ As Deputy Secretary, Mr. Stem oversaw the Pennsylvania K-12 education system. Tr. 1589:9-1590:2 (Stem). PDE stipulated that Mr. Stem represents the views of PDE with regards to the K-12 education system. Tr. 8660:5-13 (stipulation of counsel for PDE). His testimony over three days in this matter was credible and is deserving of weight.

ready graduates. Tr. 1761:2-11 (Stem); Tr. 1829:5-1830:2 (Stem); Tr. 1830:23-1832:12 (Stem); Tr. 8880:14-19 (Ortega).

113. The consensus that all children can learn is also implicit in the State Board of Education's recognition that "the purpose of our education system is to create opportunity for all students to succeed, regardless of their demographics." Tr. 4444:10-15 (Molchanow). The State Board has affirmed that it "does not differentiate between the circumstances in which students find themselves." Tr. 4260:7-14 (Molchanow). Accordingly, the State Board's Master Plan for Basic Education commits to ensuring that "every student, regardless of ability or circumstance, is assured the opportunity for a comprehensive education and that our system of education must be of the highest caliber. To do less is to fail in our Constitutional duty and to beggar the future of this Commonwealth." Tr. 4257:2-5 (Molchanow); PX-35-4.

114. Likewise, Legislative Respondents have declared that "every student in the Commonwealth deserves educational opportunity" and that "Respondents very much want them to succeed," "that a child's zip code should not determine the quality of education a student receives," and that "education is the civil rights issue of our day." PX-3215, Resp. Nos. 96, 97; 106 (Speaker's Am. Resp. and Obj. to Pet'rs Supplemental Req. for Admis. ("Speaker's Resp. to RFAs")); Tr.

14881:22-14882:3 (Corman closing).⁶ These declarations would ring hollow if they did not accept the premise that all children can learn.

115. At trial, over a dozen superintendents, educators, and school leaders affirmed that, based on their collective decades of experience educating a broad range of students, all children want to learn and are capable of succeeding in school. Tr. 261:3-5 (McAndrew); Tr. 501:9-11 (McAndrew); Tr. 824:16-22 (Yuricheck); Tr. 2567:20-2568:6 (Arcurio); Tr. 3302:21-23 (Kobal); Tr. 3536:1-7 (Waite); Tr. 5042:13-5043:6 (Rau); Tr. 6373:4-10 (Splain); Tr. 6667:16-6668:15 (Miller); Tr. 6860:9-21 (Harbert); Tr. 7419:14-20 (Becoats); Tr. 7735:13-14 (Hite); Tr. 10424:16-22 (Hacker); Tr. 10646:18-19 (Costello); Tr. 11422:17-20 (Anderson); Tr. 11423:21-23 (Anderson); Tr. 12406:2-16 (Flurie); Tr. 13963:6-8 (Cote).

116. This consensus is buttressed by decades of research demonstrating that, as Petitioners' expert witness Dr. Pedro Noguera⁷ testified, "under the right

⁶ "It is well settled . . . that an admission of an attorney during the course of a trial is binding upon his client." *Piper Aircraft Corp. v. W.C.A.B.*, 485 A.2d 906, 908-09 (Pa. Commw. Ct. 1985); *see also Nasim v. Shamrock Welding Supply Co.*, 563 A.2d 1266, 1267 (Pa. Super. 1989) ("A judicial admission is an express waiver made in court or preparatory to trial by a party or his attorney, conceding for the purposes of trial, the truth of the admission.")

⁷ Dr. Noguera is the Dean of the Rossier School of Education at the University of Southern California and was qualified by the Court as an expert on education policy relating to the impact of poverty on learning, and strategies and interventions to improve educational outcomes for children experiencing poverty. Tr. 8245:15-8246:1 (Noguera). Dr. Noguera's expert opinion is

conditions and with the right supports, we can educate all kinds of children, including children from low income or impoverished households[,]” and that there is “clear evidence that low income children, including minority children, can perform at very high levels.” Tr. 8274:1-5 (Noguera); Tr. 8280:15-23 (Noguera); *see also* Tr. 8283:22-8284:4 (Noguera); Tr. 8285:7-8286:11 (Noguera); Tr. 8305:5-8306:19 (Noguera); Tr. 8380:21-8381:14 (Noguera); Tr. 9538:19-9539:4 (Johnson).

2. The parties all acknowledge that some children require more resources in order to learn.

117. Higher performance does not happen in a vacuum. Rather, it is beyond dispute that there are key strategies, supports and interventions that have been proven to improve students’ academic outcomes. *See, e.g.*, Tr. 1906:16-1907:14 (Stem); Tr. 12934:14-12935:1 (Willis); Tr. 9463:5-8 (Johnson); Tr. 9465:15-9466:13 (Johnson); Tr. 8218:4-8219:4 (Noguera). These educational resources — which include qualified teachers, up-to-date learning materials, modern technology, safe facilities, and a wide range of other evidence-based strategies that help students learn — are discussed in greater detail in Section IX.

based on over 30 years of research at school districts across the country, including in Pennsylvania, and his extensive knowledge of related literature in the field. Tr. 8219:10-24 (Noguera); PX-3038. Dr. Noguera’s testimony was credible and is deserving of weight.

118. It is also well established that some children, including children living in poverty, English language learners, children with disabilities, and children living in rural areas, need more of these kinds of supports and services to access their education. Tr. 1761:12-1765:5 (Stem); Tr. 1786:11-23 (Stem); Tr. 4361:3-7 (Molchanow); Tr. 12876:22-12877:9 (Willis); Tr. 5182:15-5183:11 (Rau); Tr. 13825:14-16 (Koury); Tr. 14151:9-14 (Hanushek); Tr. 11423:4-20 (Anderson); Tr. 12421:3-18 (Flurie); LR-509-5; PX-99-42–44.

119. As a result, “researchers for many years have agreed that some school districts will need additional funding because they have higher costs related to either the characteristics of the district[] itself, or the students they educate.” Tr. 1164:1-6 (Kelly); *see also* Tr. 1771:4-19 (Stem); Tr. 1780:3-1781:1 (Stem); Tr. 1786:11-23 (Stem); Tr. 8375:12-16 (Noguera); Tr. 12933:5-12934:8 (Willis); LR-509-5; PX-99-41–44.

a. Economically disadvantaged students

120. Economically disadvantaged students are designated according to “poverty data sources such as eligibility for Temporary Assistance for Needy Families, Medicaid or free or reduced-price lunch, census data, residence in an institution for the neglected or delinquent or residence in a foster home.” 24 P.S. § 11-1138.1. In state documents, “economically disadvantaged” and “low-income” are used interchangeably. *See, e.g.*, PX-2115, tab “Contact Info & Definitions.”

121. It is undisputed that economically disadvantaged students need additional supports and services to meet academic standards and become college and career ready. The fact that students in poverty need more resources was repeatedly acknowledged by witnesses representing every party in the case. Tr. 1761:12-1765:5 (Stem); Tr. 1786:11-23 (Stem); Tr. 8379:1-5 (Noguera); Tr. 11711:2-8 (Donley); Tr. 10738:1-5 (Costello); 11423:11-20 (Anderson); Tr. 12931:5-12932:17 (Willis).

122. Children that come from low-income households may need more because they have fewer resources at home to support their education. Tr. 8247:2-11 (Noguera); Tr. 8265:9-8266:7 (Noguera). For example, children living in poverty tend to have parents with lower education levels, making it more difficult to get help with homework or navigating educational systems, and rendering those children “more dependent upon their schools for those kinds of academic supports.” Tr. 8247:2-11 (Noguera). There may be fewer books in the home, which has an impact on reading and the development of literacy skills, and makes it critical to have “well-stocked libraries and reading specialists” and “intensive support early on in a child’s education[.]” Tr. 8251:17-22 (Noguera); Tr. 8285:24-8286:5 (Noguera); Tr. 8270:22-8271:12 (Noguera). Similarly, students in poverty may have less exposure to vocabulary in the home and fewer opportunities to

develop fundamental verbal skills, necessitating assistance in school to close the “word gap.” Tr. 1762:14-1763:3 (Stem); Tr. 4605:4-24 (Barnett).

123. Economically disadvantaged students may also need social and emotional support in school as a result of trauma related to living in poverty. Tr. 8246:11-22 (Noguera); Tr. 8251:1-16 (Noguera); Tr. 2583:17-2585:7 (Arcurio). Accordingly, schools need to be able to provide resources such as well-trained counselors, school psychologists, and social workers in order to begin addressing these students’ learning needs. Tr. 8247:17-21 (Noguera); Tr. 8269:24-8270:19 (Noguera); Tr. 7351:12-18 (Harbert); Tr. 10738:6-10740:20 (Costello); Tr. 2029:11-2033:10 (Stem); *see also infra* at Section IX.

124. Educators that serve economically disadvantaged children are acutely aware that some of the challenges their students face are significant. But they also recognize that, as William Penn superintendent Dr. Becoats testified:

[w]e cannot control how children come to us, but what we can control is what happens within our school buildings. . . . And so if a student comes to us and they are behind grade level, we have to address the needs of that student, and we have to have the resources to do that. So regardless of what’s happening externally, we have to address the instructional and educational needs of the student we serve.

Tr. 7607:23-7608:10 (Becoats). Or, as Lancaster instructional coach and former teacher Amanda Aikens testified, regardless of what students are facing outside of

school, “when these students enter our four walls, it is our responsibility to help them access their education.” Tr. 6001:7-21 (Aikens).

125. This is why, when the number of economically disadvantaged students in Springfield Township School District began increasing significantly, superintendent Dr. Nancy Hacker hired increasing numbers of teachers and non-classroom teaching staff, such as psychologists, social workers, English Language Learner teachers, and guidance counselors. Tr. 10438:21-10439:22 (Hacker).

126. As Legislative Respondents’ expert witnesses Mr. Jason Willis and Dr. Eric Hanushek both agreed, the challenges of poverty are not insurmountable. Tr. 12934:14-16 (Willis); Tr. 14151:20-24 (Hanushek). To the contrary, it is well accepted in the field of educational policy that “with the right supports, schools can do a great deal to compensate for the effects of poverty” and in doing so, impact academic outcomes for economically disadvantaged children. Tr. 8219:5-24 (Noguera); *see also* Tr. 8285:7-8286:11 (Noguera); Tr. 8269:24-8270:6 (Noguera); Tr. 8380:21-8381:7 (Noguera); Tr. 4724:3-10 (Barnett); Tr. 4726:5-18 (Barnett); Tr. 12934:17-12935:1 (Willis). In fact, the evidence demonstrates that additional school resources can “dramatically” reduce disparities between low-income children and their affluent peers. Tr. 8633:3-8 (Noguera); *see also* Tr. 8305:5-8306:19 (Noguera); Tr. 9432:14-18 (Johnson) (testifying that the research “really demonstrates that the socioeconomic differences in attainment are not immutable,

that they're very much sensitive to the quality and the intensity of our investments in public schools.”).

127. PDE's ESSA Plan is predicated on the view that schools can mitigate the effects of poverty. As Mr. Stem explained, the Department's goal of “disrupt[ing] the . . . economic disproportionality observed in learning conditions and student outcomes” is based on its fundamental belief that disparities in student achievement can and must be addressed by providing students in poverty with the necessary educational resources. Tr. 1908:11-1911:13 (Stem); Tr. 1912:23-1913:8 (Stem); PX-1830-70.

b. English Language Learners

128. English Language Learners (“ELLs”) are defined as students “whose dominant language is not English.” 22 Pa. Code § 4.26.

129. English Language Learners also require additional supports in order to learn, many of which districts are legally mandated to provide. LR-509-29; Tr. 1764:3-1765:5 (Stem); Tr. 4427:5-22 (Molchanow); Tr. 5054:6-5055:23 (Rau); Tr. 7721:11-7722:20 (Hite).

130. For example, ELLs require testing to determine what kind of services they will need, and language instruction to help them obtain English language proficiency. LR-509-29–32; Tr. 3385:2-10 (Waite); Tr. 5055:1-15 (Rau); Tr.

7721:11-22 (Hite). ELL instructors are required to have a special English language specialist certification. Tr. 3386:13-17 (Waite); Tr. 5055:16-20 (Rau).

131. At the same time, school districts are responsible for ensuring that their ELL students are progressing in their education and becoming proficient in all subject areas, which may require additional instructional time, aides, and paraprofessionals to help ELLs access academic content. Tr. 1764:9-1765:5 (Stem); Tr. 4427:8-22 (Molchanow); Tr. 7722:3-5 (Hite); Tr. 10737:4-12 (Costello).

132. Districts often need additional resources to overcome language barriers that make it difficult to communicate with families about their child. Tr. 10737:13-17 (Costello). Districts are required to provide translation and interpretation services for parents who do not speak English so they can be involved in their child's education. Tr. 1764:9-1765:5 (Stem); Tr. 5055:21-5056:6 (Rau); Tr. 5085:12-18 (Rau); Tr. 7722:9-20 (Hite).

133. ELLs are more likely to live in low-income households or have experienced trauma, and thus often have social and academic needs beyond the challenges of learning a new language. Tr. 8261:24-8262:8 (Noguera); Tr. 5084:1-5086:5 (Rau). For example, recent immigrant families may “lack the social supports that would make it possible for them to support their children adequately in school,” and districts may require additional resources to “teach[] a child to read

and write English who is not literate in their native language.” Tr. 8264:18-8265:5 (Noguera).

134. PDE expects ELLs to attain English proficiency within six years. Tr. 7729:10-15 (Hite). With adequate resources, ELL students can become proficient, exit the English Language Learner program, and achieve academically at high levels. Tr. 5182:4-14 (Rau). Without these supports, however, students stay in the ELL program for longer periods of time, struggle to become proficient in state academic standards, and face barriers to opportunities for advancement. Tr. 5183:1-11 (Rau); Tr. 3387:1-3388:6 (Waite); Tr. 7735:18-23 (Hite).

c. Students with disabilities

135. Students with disabilities are defined as those children having an intellectual disability, hearing impairment, speech or language impairment, visual impairment, serious emotional disturbance, orthopedic impairment, autism, traumatic brain injury, other health impairment, specific learning disability, deaf-blindness, or multiple disabilities, and who therefore need special education and related services. 22 Pa. Code § 14.101 (incorporating 34 C.F.R. § 300.8).

136. Students with disabilities are legally entitled to the additional supports and services they need to access their education. Tr. 5051:4-7 (Rau); *see* 20 U.S.C. § 1401 *et seq.*; 22 Pa. Code Ch. 14.

137. Districts need to be equipped to identify and then serve students with a wide range of needs, depending on the nature and severity of their disability. *See, e.g.*, Tr. 10743:15-10744:1 (Costello); Tr. 6868:16-6869:17 (Harbert); Tr. 5051:8-15 (Rau).

138. For example, students with disabilities may require extra supports in the form of staff, including certified special education teachers, specialists, interventionists, paraeducators, guidance counselors, social workers, nurses, or personal aides. *See, e.g.*, Tr. 278:17-279:15 (McAndrew); Tr. 2587:18-2588:3 (Arcurio); Tr. 2588:19-2590:6 (Arcurio); Tr. 3403:16-3404:8 (Waite); Tr. 6869:10-17 (Harbert); Tr. 7739:16-21 (Hite). They may need modifications, accommodations, assistive devices in the classroom to engage in their learning, or transportation to get to and from school. *See, e.g.*, Tr. 2589:1-8 (Arcurio); Tr. 7739:22-7740:6 (Hite); Tr. 10744:2-6 (Costello). Some students with disabilities may require additional space in school to address their needs or deliver related services. *See, e.g.*, Tr. 2588:4-13 (Arcurio).

139. There are also limitations on the number of students with disabilities that districts can serve in a special education classroom, which increases the costs of educating these students — for example, a class that serves children with autism cannot have more than eight children in a class, with one teacher and four paraprofessionals. Tr. 5051:16-20 (Rau); Tr. 5053:8-17 (Rau); Tr. 6869:3-12

(Harbert); Tr. 3404:9-15 (Waite); Tr. 2587:11-21 (Arcurio); *see* 22 Pa. Code § 14.105(c)(2).

140. Schools have no discretion over whether to provide students with disabilities with the supports and interventions they need to learn. As Dr. Costello explained, “[i]t’s the disability” that determines what a student requires to access his or her education, not the district. Tr. 11053:8-21 (Costello). “The disability provides us with the information of what is needed” to support the student, and then the district is required to provide those accommodations, irrespective of their cost. Tr. 11054:22-11055:1 (Costello). Accordingly, districts need sufficient additional resources to fulfill these mandates. Tr. 11055:13-20 (Costello).

d. Students in rural areas

141. School districts located in rural areas often require additional resources as a result of the challenges of serving students in geographically spread out, sparsely populated areas. LR-509-33; Tr. 6115:13-15 (Splain). These challenges can include higher transportation costs, because of the distance and time needed to travel, and smaller schools that affect districts’ ability to save money through economies of scale. LR-509-34–35; Tr. 6115:13-15 (Splain); Tr. 6199:21-6201:10 (Splain); Tr. 6202:23-6203:12 (Splain).

142. Small and rural districts also have unique staffing challenges because it is more difficult to attract teachers and staff to relocate to a remote area. Tr.

6189:1-17 (Splain); Tr. 6217:7-14 (Splain). Serving students with disabilities is a particular challenge: it costs rural school districts more to staff unique special education programs, and they also pay high tuition and transportation costs for students that they do not have the resources to serve in-district due to the severity of their disabilities. Tr. 6205:21-6207:15 (Splain).

143. Rural districts also have difficulty preparing students “to live and work and survive in a 21st century society” because they cannot meet the growing demands for technology due to insufficient access and antiquated buildings. Tr. 6217:17-6218:4 (Splain); Tr. 6115:15-19 (Splain); Tr. 6212:11-6213:24 (Splain).

144. Rural districts often experience “high levels of poverty, low property values and personal income, and declining enrollments, which impact their ability raise revenue locally[.]” LR-509-33–35; Tr. 6175:8-12 (Splain). Rural districts also often have a greater need for funding because, unlike their urban peers, “they can’t simply rely upon non-profits or anchor institutions, such as hospitals and universities,” to provide financial and other community support. Tr. 8378:17-24 (Noguera). To adequately serve their students, rural districts require additional support from the state. LR-509-33.

e. The Commonwealth's weighted funding formulas recognize that some students need more support to succeed.

145. One of the most foundational acknowledgements that “different needs require[e] different levels of resources” is the education funding distribution formula referred to as the Fair Funding Formula. Tr. 1761:12-1762:9 (Stem).

146. Pursuant to Act 51 of 2014, the General Assembly created the Basic Education Funding Commission (“BEF Commission”), charged with the duty and responsibility to “[r]eview and make findings and recommendations related to basic education funding in this Commonwealth.” LR-509-5.

147. The General Assembly charged the Commission with the responsibility to “[d]evelop a basic education funding formula and identify factors that may be used to determine the distribution of basic education funding among the school districts in this Commonwealth.” LR-509-5.

148. The General Assembly recommended a non-exhaustive list of factors to determine the funding formula that “may include. . .[w]hether a school district has an exceptionally high level of local support. . .[w]hether a school district has a high level of its students in poverty as identified as eligible for free or reduced price meals under the National School Lunch Program” and “[w]hether a school district has students identified as limited English proficient.” LR-509-5.

149. The Commission’s membership was bipartisan, and crossed two gubernatorial administrations. Tr. 1768:11-14 (Stem). After taking testimony from a wide variety of stakeholders, the BEF Commission unanimously issued its report on June 18, 2015. LR-509-1; Tr. 124:4-6 (Cutler opening).

150. The BEF Commission recommended a new formula for state funding of school districts, generally referred to as the Fair Funding Formula. Tr. 1766:18-1767:3 (Stem). The formula sought to determine the relative need of each school district based on student needs and the capacity of communities to raise local revenue for their schools. Tr. 1769:5-18 (Stem).

151. The Commission noted that “[t]he main objective of the new funding formula is to equitably distribute state resources according to various student and school district factors. The new formula will include factors reflecting student and community differences such as poverty, local effort and capacity, and rural and small district conditions.” LR-509-1.

152. In order to determine student need, the formula included a number of student factor weights or multipliers so that school districts with those populations of students would receive additional state funding. Tr. 1768:15-1773:2 (Stem).

153. Acknowledging that student poverty creates significant student need and school district costs, the BEF Commission’s Report proposed adding weights

for poverty, acute poverty, and concentrated poverty. LR-509-66–67; Tr. 1770:23-1772:5 (Stem); Tr. 11711:2-8 (Donley).

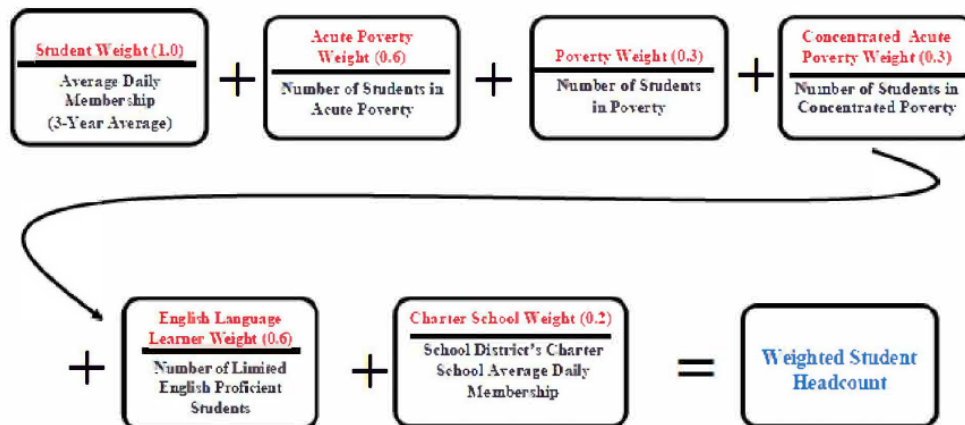
154. Acknowledging that students learning English creates significant student need and school district costs, the BEF Commission’s Report proposed adding weights for children designated as limited English proficiency. Tr. 1772:9-20 (Stem); Tr. 11711:16-22 (Donley).

155. The BEF Commission’s Report also proposed adding weights for children attending charter schools. Tr. 1772:21-1773:2 (Stem). As explained more fully in Section VI(F)(3), *infra*, this weighting recognized that “the mechanism by which [charter schools are] funded is having a disproportionately negative impact on districts” responsible for making charter payments. Tr. 1773:15-1774:8 (Stem).

156. Acknowledging that “rural districts . . . have costs associated with being spread over large geographic areas,” the BEF Commission’s Report proposed adding weights for “sparsity.” Tr. 1776:17-1777:6 (Stem).

157. Mechanically, the Fair Funding Formula starts with a raw count of students a school district is fiscally responsible for, or Average Daily Membership (ADM). Tr. 1775:15-19 (Stem). After adding in all of the student weights from the Fair Funding Formula to its ADM count, a school district receives a “weighted student headcount”:

Weighted Basic Education Student Headcount Equation



LR-509-67. As a general matter, the weighted student headcount, rather than the raw ADM count, is a way to quantify the relative need of a school district. Tr. 1775:15-1776:8 (Stem); Tr. 1165:23-1170:8 (Kelly); *see also* Section VI(B).

158. Similarly, as measured by the “median household income index” and “local effort capacity index,” the Fair Funding Formula also attempts to measure both the local capacity and local effort a school district makes towards its schools. LR-509-66–67; Tr. 1769:13-18 (Stem).

159. Pursuant to Act 35 of 2016 (“Act 35”), and based upon the work of the Commission, the General Assembly adopted the Fair Funding Formula, including the precise calculations the Commission proposed. 24 P.S. § 25-2502.53, Act 35-2016, P.L. 252.

160. There were also significant limitations, however, on the Commission’s charge and the impact of the Fair Funding Formula could have. First, the Fair Funding Formula only applies to funding above the 2013-14 base

year. 24 P.S. § 25-2502.53(b)(1). As a result, the vast majority of Basic Education Funding is not distributed according to the relative needs identified by the Fair Funding Formula. Tr. 11737:13-11738:13 (Donley); *see also* Section VI(F)(1).

161. Second, the authorizing legislation limited the Commission’s work solely to determining the process for distributing school funding and reserved for the General Assembly to “determine the level of state funding for basic education.” Tr. 1778:9-23 (Stem); LR-509-6. “In vernacular, the commission was charged with the how, not the how much.” Tr. 1778:20-23 (Stem); *see also* Tr. 1190:18-1191:4 (Kelly); PX-3215, Resp. Nos. 29, 30 (Speaker’s Resp. to RFAs).

162. Pursuant to that limitation, the enacted Fair Funding Formula is a relative distribution formula only. PX-3215, Resp. Nos. 29, 30 (Speaker’s Resp. to RFAs). That is, the Fair Funding Formula does not identify how big the pie of school funding should be, only how the pie should be divided. Tr. 11736:9-13 (Donley).

163. The Fair Funding Formula is not the only distribution scheme that explicitly recognizes the connection between student need and financial resources: the Commonwealth also allocates its special education funding (SEF) subsidy through a funding formula (“Special Education Fair Funding Formula”). LR-1809-4. This formula attempts to distribute funds based on the relative needs of a

district's special education population, and the differing costs of educating students with different disabilities. Tr. 5696:24-5697:18 (Przywara); PX-4779.

164. In practice, the Special Education Fair Funding Formula counts the number of students with disabilities in a district, and then assigns them into three tiers, from least costly to most costly. Then, like the Fair Funding Formula, it uses those weights to create a weighted student count. 24 P.S. § 2509.5(bbb); Tr. 1255:24-1256:11 (Kelly); Tr. 5696:24-5697:18 (Przywara); PX-4779.

165. Like the Fair Funding Formula, the Special Education Fair Funding Formula is a relative distribution formula only. It does not attempt to determine how much funding is necessary for a district to adequately address the needs of its students with disabilities. PX-3215, Resp. Nos. 74, 75, 77, 78 (Speaker's Resp. to RFAs).

3. It is well accepted that increased funding improves student outcomes.

166. There is substantial consensus that increased school funding has a positive causal impact on student outcomes. Tr. 9380:7-21 (Johnson); Tr. 1142:18-1143:1 (Kelly); Tr. 1224:10-1225:8 (Kelly); Tr. 1219:11-1220:12 (Kelly); Tr. 1822:11-18 (Stem); Tr. 1912:11-22 (Stem); Tr. 8383:13-8384:5 (Noguera); Tr. 12888:4-12899:7 (Willis); Tr. 12931:5-17 (Willis).

167. The relationship between funding and student success has been generally accepted by researchers in the field. Tr. 9554:3-11 (Johnson); Tr. 9604:15-9605:22 (Johnson); Tr. 12888:4-12899:7 (Willis). As Speaker Cutler’s expert Mr. Willis acknowledged, “[a]pproximately 90 percent of studies find a positive and significant impact of total spending on student outcomes. This tells policymakers and school leaders that, on average, money absolutely matters.” Tr. 12898:24-12899:7 (Willis).

168. The reason money matters is straightforward: because it is essential for implementing the strategies, supports, and interventions that improve student outcomes. Tr. 9462:14-9463:17 (Johnson); Tr. 1907:15-19 (Stem). Funding pays for the basic instrumentalities that students need to learn, including curricula, books, learning supplies, technology, and safe facilities. Tr. 1906:16-1907:19 (Stem). And it allows schools to invest in the human capital necessary to close learning gaps and increase proficiency, including high-quality teachers, adequate numbers of support staff, and small class sizes. Tr. 10003:7-10004:21 (Johnson); Tr. 1906:16-1907:19 (Stem); Tr. 1912:11-22 (Stem); Tr. 11450:6:-11451:8 (Anderson); Tr. 13001:9-16 (Willis); *see also infra* at Section IX. In other words, there are strategies that improve students’ success and that funding directed towards those strategies is what improves student outcomes.” Stem Dep. Tr. Vol. 2, 501:10-13.

169. Conversely, because underfunded schools often lack “the essential ingredients that are needed to promote student success, such as access to qualified teachers, the ability to introduce interventions that would address learning needs of students, . . . counselors, . . . early education” and other strategies that facilitate student achievement, inadequate and inequitable school funding can negatively impact nearly every aspect of a student’s ability to succeed in life. Tr. 8307:4-12 (Noguera).

170. At trial, both Petitioners’ expert witness Dr. Rucker Johnson⁸ and Speaker Cutler’s expert Mr. Willis described the growing body of research, including Dr. Johnson’s own seminal work, that demonstrates that increased financial investments improve student success and close gaps across “a whole host of outcomes, including academic achievement . . . improved likelihood of graduating from high school . . . earnings and other later life socioeconomic outcomes.” Tr. 9380:11-21 (Johnson); Tr. 12895:24-12897:14 (Willis).

⁸ Dr. Rucker Johnson is the Chancellor Professor of Public Policy at the University of California at Berkeley, where he has been a teacher and researcher for 17 years. Tr. 9379:3-10 (Johnson); PX-3035. At trial, Dr. Rucker Johnson was qualified as an expert on the econometrics of the relationship between changes in school funding and student achievement and economic outcomes. Tr. 9409:17-9410:1 (Johnson). His expert opinion is based on his extensive scholarship studying the role of investments in education on student outcomes and his analysis of research conducted by colleagues about the impact of school funding on academic achievement. Tr. 9379:13-17 (Johnson); Tr. 9381:21-9382:13 (Johnson). His research and testimony is well-founded, credible, and deserving of weight.

171. Although economists have been studying the relationship between funding and achievement for more than 50 years, over the last decade there has been a “major shift” in this research as a result of increased access to longitudinal data that follows the same students over time, and the development of research methods that are better at identifying causality. Tr. 9402:8-24 (Johnson).

172. As Speaker Cutler’s witness Mr. Willis acknowledged, early studies on the subject, including those authored by Senator Corman’s expert Dr. Hanushek, were based on “calculations between spending and achievement” that “could not clearly rule out the influence of other factors.” Tr. 12889:19-12890:11 (Willis); Tr. 9544:21-9548:11 (Johnson); Tr. 9549:8-9550:2 (Johnson). By contrast, newer studies, like Dr. Johnson’s, use “more rigorous research methods and larger datasets [that] allow researchers and practitioners to make stronger causal inferences.” Tr. 12891:10-12894:3 (Willis); *see also* Tr. 9548:2-9551:3 (Johnson). As a result, Mr. Willis explained, the more recent studies provide an “additional degree of certainty” over the studies conducted “in previous decades in this field.” Tr. 12892:4-10 (Willis); *see also* Tr. 9551:4-9552:3 (Johnson). This new wave of research has consistently and conclusively demonstrated that “[s]chool funding, school resource equity, is an essential investment to advance student achievement.” Tr. 9406:7-9 (Johnson).

173. One of the most influential studies on the topic, and the first study specifically analyzing the long-term impacts of school funding reforms on student outcomes, was published in 2015 by Dr. Johnson and two other researchers, C. Kirabo Jackson and Claudia Persico. Tr. 12893:24-12894:12 (Willis); *see* Tr. 9414:16-9416:19 (Johnson).

174. The Jackson, Johnson and Persico study analyzed cohorts of students born between 1955 and 1985 and how they were impacted by court-ordered state school funding reforms that occurred in 28 states between the 1970s and the 1990s. Tr. 9421:12-9422:14 (Johnson).⁹

175. Dr. Johnson and his co-researchers first created an inventory identifying every court-ordered school funding reform that has occurred in the U.S.

⁹ In order to “pin down and isolate” the effect of school funding increases on students’ lives, Drs. Jackson, Johnson and Persico employed what is known as a “quasi-experimental” design, a methodology that is generally accepted in the field. Tr. 9413:13-9414:9 (Johnson); Tr. 9416:20-9419:22 (Johnson); Tr. 12891:19-12892:2 (Willis). As Dr. Johnson explained, one of the biggest challenges researchers have faced in trying to understand the relationship between school funding and student outcomes is how to “disentangle” the effect of funding from “other confounding influences” such as family background or parental wealth. Tr. 9414:20-9416:2 (Johnson). However, there are significant ethical limitations to creating a “true experiment” that randomizes students, “confining some children to overcrowded schools and overcrowded classrooms, and then . . . compar[ing] them to children that are put in very enriched classrooms with great teachers . . . [to] see what their outcomes are[.]” Tr. 9416:20-9417:9 (Johnson); *see also* Tr. 9417:20-9418:9 (Johnson). Instead, Dr. Johnson and his co-researchers used the “naturally-occurring policy variation” of school reform initiatives that have been implemented around the country to analyze the impact of increased investments in education. Tr. 9417:22-9418:20 (Johnson).

between 1971 and 2000, and the type of funding formula that resulted. Tr. 9410:5-9411:4 (Johnson). They then analyzed how the trajectory of per-pupil spending changed over time as a result of the reform that was put in place. Tr. 9411:5-9411:18 (Johnson). Using the Panel Study of Income Dynamics, a widely used dataset that tracks a nationally representative set of families across generations, Dr. Johnson and his co-researchers compared the life consequences of children who were school-age during the periods when these reforms were put in place. Tr. 9406:19-9407:4 (Johnson); Tr. 9410:5-9413:5 (Johnson). The resulting study was extensive, including more than 15,000 students, two-thirds of which were from low-income backgrounds, across 1,409 school districts in over one thousand counties in every state, and considering 93,000 data points about their lives. Tr. 9422:15-9424:2 (Johnson).

176. Using this methodology, Dr. Johnson and his colleagues were able to separate out demographic variables that might influence student outcomes, and even compare cohorts from the same district — “otherwise similar children that have the same family background, the same out-of-school factors, the same neighborhood” — before and after a funding reform was put in place. Tr. 9413:13-9419:22 (Johnson); Tr. 9425:24-9426:21 (Johnson). This approach also allowed the team to follow individual students chronologically and assess their life

outcomes across a broader variety of measures, rather than relying on a “snapshot . . . at a point in time[.]” Tr. 9416:3-19 (Johnson).

177. Dr. Johnson’s research confirms that increased school funding has a positive causal effect on student outcomes throughout the school trajectory. Tr. 9380:11-21 (Johnson). For example, Dr. Johnson and his co-researchers found that a 10% increase in per-pupil spending throughout 12 years of school, directed at low-income children, increased the years of completed education by about half a year, increased the likelihood of graduating from high school by 6% to 8%, increased earnings by 10%, and reduced the annual likelihood of being poor by 6.1 percentage points. Tr. 9431:5-9432:1 (Johnson). A 25% increase in per-pupil spending “would be large enough to eliminate a large vast of the average achievement gaps between children from low-income versus non-poor families.” Tr. 9432:2-10 (Johnson).

178. Dr. Johnson’s research also undergirds experts’ understanding that, because of the cumulative nature of learning, investments need to be sustained throughout a student’s education. Tr. 9468:4-20 (Johnson); Tr. 9612:14-9613:4 (Johnson); Tr. 4565:12-24 (Barnett); Tr. 8375:2-8377:1 (Noguera); Tr. 12999:14-13000:4 (Willis). As Dr. Johnson explained: “it’s not only the level of the funding change that impact[s] student achievement, but . . . how long . . . [they are] exposed to the increased funding,” sometimes referred to as a “dose response.” Tr.

9413:6-12 (Johnson); Tr. 9434:2-24 (Johnson). So, for example, his findings demonstrate that “spending increases did improve the outcomes for middle school and high school students that experienced the increase. But it was even bigger if it began in . . . their early elementary years.” Tr. 9490:5-18 (Johnson); *see also* Tr. 9425:23-9427:4 (Johnson). By the same token, there is research demonstrating that pairing investments in K-12 education with investments in pre-kindergarten has a multiplier impact on students’ outcomes over time. Tr. 9470:14-9488:7 (Johnson); PD-16-8; PD-16-9.

179. Moreover, Dr. Johnson squarely rejected Senator Corman’s suggestion that his results were not based on “actual amounts of funding.” Tr. 9944:4-13 (Johnson). Dr. Johnson explained that the entire purpose of his method, and that of a raft of economists like him, is to isolate the extra gains that came from court-ordered funding increases, and therefore eliminate other ongoing changes affecting a district in his calculations “attributable to district level characteristics that are particular to that district.” Tr. 9944:19-9947-17 (Johnson); Tr. 9947:13-17 (Johnson); Tr. 9948:5-24 (Johnson).

180. There is little dispute that Dr. Johnson’s work is credible on this point. Senator Corman’s own expert referred to Dr. Johnson’s method as “superrigorous,” Tr. 13844:8-15 (Koury), while Speaker Cutler’s expert admitted

that he relies upon Dr. Johnson’s findings in his own writing, Tr. 12893:6-12895:1 (Willis).

181. And as Dr. Johnson testified, his work is not the only analysis that has yielded these conclusions. Instead, just as Mr. Willis conceded, *see supra*, there are a growing number of studies, using complimentary methodologies and a wide variety of different data, which have established again and again that school funding has an impact on achievement. Tr. 9436:2-9440:3 (Johnson); *see also, e.g.*, Tr. 9493:5-9499:4 (Johnson). These studies confirm that “[w]hether you’re looking at test scores or you’re looking at the longer term outcomes that we study, you basically see the same very definitive conclusion” that school spending matters for student achievement and life outcomes. Tr. 9440:4-20 (Johnson).

182. By the same token, it is well observed that cuts to school funding have had negative effects on student outcomes, “halt[ing] decades-long increases in student achievement” and stalling rates of college enrollment. Tr. 9979:7-9980:15 (Johnson). This is because, as Executive Respondents have explained, educational funding cuts such as the cuts made by the General Assembly in 2011-2012 force districts to “eliminat[e] . . . educational, vocational and enrichment programs; reduc[e] teaching, library, or counseling staff; and reduc[e] budgets for instructional materials, equipment and facilities.” PX-3145 ¶¶ 26-28, 35-36, 44-45, 52-53, 60-64, 70, 72, 169, 173-198, 203-248 (Executive Respondents Answer and

New Matter). As Legislative Respondents’ expert witness Dr. Hanushek stated, reductions in funding are likely to have a negative impact on student achievement “because it disrupts what schools are doing.” Tr. 14150:20-24 (Hanushek).

C. The provision of a high-quality system of education is of paramount importance to both the Commonwealth and its citizens.

183. Every party in this case has repeatedly affirmed that “[e]ducation is extremely important.” Tr. 159:21-23 (Corman opening); Tr. 14889:18-19 (Corman closing); Tr. 113:13-15 (Cutler opening); Tr. 14992:16-18 (Cutler closing); Tr. 61:10-13 (Executive Respondents opening); Tr. 14838:2-8 (Executive Respondents closing).

184. As reflected in the origins of Pennsylvania’s Education Clause, *see supra* at Section III, and as repeatedly acknowledged by Respondents, the Commonwealth has recognized both an individual and a societal interest in providing a system of public education to its citizens, based on the view that “[e]ducation is key to ensuring a vibrant future not only for our students, but for the Commonwealth as a whole.” Tr. 1791:9-14 (Stem); PX-1830-18; *see also* PX-1830-13 (“Since its founding by William Penn in 1681, Pennsylvania has valued the importance of education for securing individual happiness and collective prosperity.”); Tr. 14992:18-20 (Cutler closing). Accordingly, the ESSA Plan describes PDE’s mission as providing the learning conditions “to ensure that

Pennsylvania learners will be prepared for meaningful engagement in postsecondary education, in workforce training, in career pathways, and as responsible, involved citizens.” PX-1830-14.

185. The dual importance of education is also enshrined in state law. The Pennsylvania Code describes the purpose of education as one of “prepar[ing] students for adult life by attending to their intellectual and developmental needs and challenging them to achieve at their highest level possible” while also preparing them “to become self-directed, life-long learners and responsible, involved citizens.” 22 Pa. Code § 4.11(b). The Code recognizes that education “provides opportunities for students” to “[a]cquire knowledge and skills . . . [t]hink critically . . . [and] [w]ork independently” but also “[d]evelop integrity . . . [c]ollaborate with others . . . [and] [a]dapt to change.” 22 Pa. Code § 4.11(c).

186. The personal benefits of education are myriad and well recognized. As Petitioners’ expert witness Dr. Clive Belfield¹⁰ testified, there is “a robust, large, significant . . . positive relationship between education and . . . lifetime

¹⁰ Dr. Belfield is the principal economist at the Center for Cost-Benefit Studies in Education at the University of Pennsylvania. Tr. 9068:20-9069:6 (Belfield). At trial, Dr. Clive Belfield was qualified as an expert in the economics of education. Tr. 8966:17-23 (Belfield). Dr. Belfield’s opinions are based on his expertise in evaluating the economic outcomes of education. Tr. 9069:10-17 (Belfield). Speaker Cutler’s own expert relies on Dr. Belfield’s work in his own writings regarding the impact of education. Tr. 12982:7-13 (Willis). Dr. Belfield’s testimony was credible and is deserving of weight.

outcomes[.]” with the biggest benefit inuring to those that have the lowest initial baselines of schooling. Tr. 8971:18-8972:19 (Belfield); Tr. 8975:19-8976:5 (Belfield). For example, as witnesses for both Executive and Legislative Respondents also acknowledged, there is a positive causal relationship between increased educational attainment and higher earnings. Tr. 8994:5-9000:4; (Belfield); Tr. 8666:15-8667:1 (Ortega); Tr. 12914:19-24 (Willis). The impact on increased education on wages is consistent across gender and race. Tr. 8999:17-24 (Belfield); PD-14-2.

187. There is also a “sizable, robust relationship” between education and individual health outcomes, because people with increased education make behavioral choices that improve health status, such as exercising more and smoking less. Tr. 9009:6-9010:6 (Belfield). As PDE Secretary of Education Noe Ortega remarked during his testimony, the health outcomes and well-being associated with educational attainment have come into sharp relief “as we’ve thought about the pandemic over the past couple of years[.]” Tr. 8667:2-17 (Ortega); *see also* Tr. 6511:2-14 (Splain).

188. It is also well accepted that education has important impacts on society more broadly. Respondents’ witnesses acknowledge that educational attainment leads “to more civically engaged individuals . . . [and] altruistic behaviors like volunteerism, donations . . . [and] voting”; that education is essential

to meeting “the needs of the Commonwealth in supporting workforce and economic competitiveness”; and that indeed, education is “critical to the maintenance of a strong democracy.” Tr. 8667:2-9 (Ortega); Tr. 4206:23-4207:6 (Molchanow); Tr. 4234:12-21 (Molchanow); Tr. 12918:10-24 (Willis). And as Legislative Respondents’ expert Mr. Willis and Petitioners’ expert Dr. Belfield both explained, there is “robust” research showing that education “translate[s] into larger economic output and greater societal benefits.” Tr. 12913:5-12918:7 (Willis); Tr. 8967:3-24 (Belfield).

189. As Dr. Belfield explained, educational attainment has significant economic benefits to Pennsylvania because increased education is the “primary way” that individuals acquire higher levels of knowledge, skills, and experience, also referred to as “human capital.” Tr. 8974:3-8975:18 (Belfield). “[T]he more human capital a worker has, the more productive that worker can be[,]” which in turn increases economic growth. Tr. 8974:20-8975:1 (Belfield). In addition, there are “spill-over productivity gains” that result from having a highly educated workforce. Tr. 9028:18-21 (Belfield). This is partly because “[w]orking with coworkers who are more productive makes one more productive oneself” and partly because high-skill communities attract business investments that spur further economic growth. Tr. 9028:22-9029:12 (Belfield); PD-14-6.

190. A large body of literature demonstrates that as a result, there is also a “strong, robust relationship” between education and tax contributions, including federal, state and local income tax payments, and consumption taxes like sales taxes. Tr. 9000:24-9002:4 (Belfield); Tr. 12914:19-12915:2 (Willis); PD-14-3. Increased tax contributions benefit society in multiple ways. As Dr. Belfield explained, “as individuals earn more. . . they pay more in taxes, so that makes it easier to collect taxes. And they reduce pressure on government services, so that makes it easier to provide government services for a given tax rate.” Tr. 9031:22-9032:3; *see also* Tr. 9003:12-21 (Belfield). Lowering tax rates also decreases the negative impact that taxation can have on individuals’ tendency to behave in economically inefficient ways, known as the “marginal excess tax burden.” Tr. 9030:10-9031:7 (Belfield). Ultimately, increasing educational attainment would “allow[] Pennsylvania to reduce its tax rates to provide the same level of services.” Tr. 9032:6-8 (Belfield).

191. Education also has an impact on government health care spending and social health gains. Tr. 9010:7-9016:23 (Belfield); Tr. 12916:7-12917:2 (Willis). For example, Dr. Belfield’s analysis demonstrates that Pennsylvania spends six times as much on healthcare for high school graduates as it does on individuals with college degrees — and that therefore, increasing education levels would result in significant taxpayer health care savings. Tr. 9011:10-9012:15 (Belfield); PD-14-

4. There is also an economic benefit to the Commonwealth of having a greater number of healthy citizens, known as “social health gains.” Tr. 9012:16-9016:23 (Belfield); PD-14-4.

192. Research has similarly established a “strong, direct, causal relationship between education levels and criminal activity” — that is, that individuals with less education are “more likely to undertake criminal activity, are more likely to be involved in the criminal justice system and more likely to be in . . . the corrections system.” Tr. 9017:10-9018:13 (Belfield); Tr. 12915:7-11 (Willis); *see also* Tr. 9435:1-17 (Johnson). As a result, increased educational attainment would significantly reduce the “fiscal crime burdens” that criminal activity places on Pennsylvania’s criminal justice, policing, and corrections systems. Tr. 9018:14-9021:19 (Belfield); PD-14-5. In addition to decreasing the amount that taxpayers pay for these systems, increased education would reduce “social crime burdens,” or the economic impact of crime on both its direct victims and others who bear additional costs of crime such as lost income, mental suffering, and higher insurance premiums. Tr. 9021:20-9023:23 (Belfield); PD-14-5.

193. Education is also important because it reduces individuals’ reliance on what is commonly referred to as “welfare,” Pennsylvania’s system of income, housing, and food supports to low-income families. Tr. 9032:23-9033:24 (Belfield). Accordingly, increases in educational attainment would reduce the

amount of money Pennsylvania must pay to support and administer those systems.

Tr. 9034:1-24 (Belfield); PD-14-6.

194. Added up over time, Dr. Belfield's analysis demonstrates that education is enormously important to Pennsylvania's ability to achieve its goal of "collective prosperity." PX-1830-13. Dr. Belfield estimated that each additional student that graduates high school and attends some college will yield \$150,660 in social gains through increased productivity in the labor market; each student that obtains a college degree yields significantly more, \$622,990. Tr. 9038:3-9039:18 (Belfield); PD-14-6. The fiscal gains to Pennsylvania taxpayers are also large, at \$88,840 and \$144,170 per student, respectively. Tr. 9037:2-9038:2 (Belfield); PD-14-6. Dr. Belfield testified that these numbers demonstrate that "the Pennsylvania taxpayer has a very significant fiscal interest in the educational attainment levels of its citizens." Tr. 9037:21-9038:2 (Belfield).

195. Dr. Belfield's research also demonstrates that providing education to economically disadvantaged students is especially important to the Commonwealth. Dr. Belfield estimated that if Pennsylvania were to achieve "postsecondary parity" — that is, if economically disadvantaged high school graduates had the same rates of educational attainment as their non-disadvantaged peers — the Commonwealth would gain \$159,520 per student, and an astounding \$18.56 billion per graduating class in increased earnings, productivity gains,

decreased tax burden, and lower crime, healthcare, and welfare spending, among other social benefits. Tr. 9049:15-9050:14 (Belfield); Tr. 9055:18-9058:24 (Belfield); PD-14-9.

196. Moreover, Dr. Belfield testified that the \$159,520 benefit inures for *any* additional high school student who graduates from college. Tr. 9365:6-9 (Belfield). That is, there is an economic benefit to increasing educational attainment even if the Commonwealth does not close the attainment gap. Tr. 9363:10-9365:9 (Belfield). For example, increasing the college attainment rate of economically disadvantaged students in high-poverty districts, last reported at 19%, to the 31% college attainment rate of their economically disadvantaged peers in low-poverty districts, would reap gains of \$159,520 per student. Tr. 9362:7-15 (Belfield); PD-14-7. Similarly, improving the attainment rate of non-poor students graduating from high-poverty schools from 18% towards the 58% rate of their peers in low-poverty districts would also produce these sizeable benefits. Tr. 9362:16-9363:8 (Belfield); PD-14-7. By advancing towards parity between low-wealth/high-poverty districts and high wealth/low-poverty districts, “Pennsylvania would gain a substantial amount.” Tr. 9365:2-9 (Belfield).

197. Given “the current low levels of postsecondary attainment[,]” however, “Pennsylvania is, essentially, foregoing these resources. It’s . . . not

investing in high-yield investments for the Pennsylvania Commonwealth.” Tr.
9059:22-9060:15 (Belfield).

IV. Pennsylvania’s Statewide Academic Standards Provide Uniform, Rigorous, and Achievable Measures of What Students Need to Know and Be Able to Do in the Twenty-First Century.

A. The state academic standards were adopted through a robust process that included input from the public, educators, and the General Assembly.

198. Made up of twenty-one members, including four members of the General Assembly, the Pennsylvania State Board of Education serves in part as “a regulatory arm of the Department of Education.” Tr. 4172:14-21; Tr. 4171:1-3 (Molchanow); 24 P.S. § 26-2602-B(a), 24 P.S. § 26-2603-B.¹¹

199. As part of those foundational duties, the General Assembly requires the State Board to “establish standards governing the educational program of the Commonwealth.” 24 P.S. § 26-2603-B(a).

200. In 1999, the State Board first promulgated statewide academic standards for mathematics, reading, writing, speaking and listening. In the years that followed, the Board went on to promulgate standards in a variety of other areas, including (i) science and technology, (ii) environment and ecology, (iii) social studies (history, geography, civics and government, and economics), (iv) arts and humanities, (v) career, education, and work, (vi) health, safety, and

¹¹ While “there are 21 members that are authorized to serve on the State Board,” as of December 10, 2021, there were 6 vacancies. Tr. 4172:14-4173:1 (Molchanow).

physical education, and (vii) family and consumer science. *See* PX-3144 ¶ 101 (State Board Answer and New Matter); PX-3145 ¶ 101 (Executive Respondents Answer and New Matter).

201. With a process beginning before 2010 and ending in 2014, the State Board went on to adopt a new, more rigorous set of standards in mathematics, English language arts, reading in science and technology (serving as a supplement to the science standards), and reading in history and social studies (serving as a supplement to the history standards). Tr. 4190:8-4191:14 (Molchanow). These more recent standards, referred to as the Pennsylvania Core Standards, are related to the national Common Core, but were tailored to meet the Commonwealth’s specific needs. *See* PX-36; PX-3144 ¶ 105 (State Board Answer and New Matter).

202. All told, the State Board has adopted twelve sets of academic standards, some titled Pennsylvania Core Standards, some not. Tr. 4175:20-4176:10 (Molchanow); PX-36-1; PX-2189–PX-2207. But “despite the naming conventions, they fulfill the same function[:.]” “defin[ing] what students should be able to know and do at each grade level throughout the K to 12 schooling system.” Tr. 1600:17-14 (Stem); Tr. 1599:2-11 (Stem); *see also* 22 Pa. Code § 4.11(d) (“The academic standards describe the knowledge and skills that students will be expected to demonstrate before graduating from a public school.”).

203. Standards are adopted after a rigorous two-year long process, where the State Board and PDE seek and receive feedback from the public, educators, and the General Assembly. Tr. 4189:2-9 (Molchanow); PX-3144 ¶¶ 102-103 (State Board Answer and New Matter); PX-3145 ¶¶ 102-103 (Executive Respondents Answer and New Matter).

204. The process begins with PDE drafting standards with the assistance of “teams of content experts,” which are presented to the State Board for consideration. Tr. 4186:10-4187:1 (Molchanow). Draft standards are then presented to stakeholders throughout the state for their comments. Tr. 4187:2-10 (Molchanow). Once adopted by the Board as proposed rulemaking, the regulations are published for public comment, providing another opportunity for public input. Tr. 4187:22-4188:6 (Molchanow).

205. Following the regulatory review process and development of final proposed regulations, the state academic standards are reviewed by the Independent Regulatory Review Commission (“IRRC”) as well as the House and Senate Education Committees before they are adopted as final regulations and become part of the School Code. Tr. 4188:16-22 (Molchanow).

B. The state academic standards were designed to ensure the Commonwealth's children are college and career ready.

206. It was through this robust process that the State Board adopted more rigorous standards for subjects such as math and reading. Tr. 41978:21 (Molchanow). The Board did so because it learned from, among others, “members of the business community and military leaders in the Commonwealth that we needed to improve the rigor of our standards to better align to Pennsylvania’s workforce needs and the needs of strengthening our military.” Tr. 4314:21-4315:3 (Molchanow).

207. Similarly, during this process the Pennsylvania House of Representatives unanimously “urged” “the Secretary of Education and the State Board of Education . . . to ensure that Pennsylvania’s academic standards are thoroughly rigorous and effective for all Pennsylvania students.” H. Res. 338, PN 2084 (2013); Tr. 4204:18-4205:10 (Molchanow).

208. The original focus of the academic standards was preparing students to complete high school. PX-37 (“Pennsylvania Core Standards represents a real shift in instructional intent from high school completion to college and career readiness for every student.”). But with years of feedback “received from stakeholders about the needs of the changing economy and changing workforce,” Tr. 1612:5-16 (Stem), the standards — and the education system itself —

recognized the responsibility of a more rigorous end-goal for Pennsylvania students: “the demands of a college and career ready graduate.” PX-2201-12; *see also* Tr. 4202:2-4203:1 (Molchanow); PX-37 (“Pennsylvania Core Standards represents a real shift in instructional intent from high school completion to college and career readiness for every student.”).

209. “The Board’s focus” regarding “postsecondary [education] has been on credit-bearing coursework.” Tr. 4201:21-24 (Molchanow). By using the terms college and career ready, the standards are designed to prepared graduates to succeed in “colleges and universities across the Commonwealth, as well as “in “programs that are focused on career and technical education at the postsecondary or adult education level that results in industry certifications.” Tr. 4201:10-20 (Molchanow). Moreover, the standards are “in alignment with” the “identified workforce needs” of Pennsylvania industries. Tr. 4315:4-12 (Molchanow).¹²

¹² Since 2006, Pennsylvania has established standards for career education and work. Tr. 1720:16-18 (Stem). The career standards reflect skills identified by educators and business stakeholders as necessary for successful workforce participation, and require school districts to, among other things, make work plans, attend job fairs, and take on internships. PX-1701-1. These standards, focused on career exposure, entrepreneurship, time management, and other skills, are not substitutes for the college-and-career-ready rigor in the rest of Pennsylvania’s academic standards. Tr. 1730:1-12 (Stem).

210. Deputy Secretary Stem explained that the term “college and career ready” is a single, inseparable goal:

College and career ready go hand in hand, and . . . that’s not only the vision of the Department, but also what we’ve heard . . . for years in stakeholder engagement. . . . [T]hat . . . our students need to be prepared for the various types of opportunities that they’re going to see in a changing economy, changing workforce; that they need to be able to be prepared for postsecondary education and the workforce and be able to nimbly have the skills to be able to transition accordingly.

I think even in our career and technical education programs, we elevated postsecondary pathways even for students that were receiving an industry credential in, you know, welding or a related field. We would still work to create the pathways for postsecondary — further postsecondary education.

Tr. 1611:5-1612:23 (Stem).

211. All told, Pennsylvania’s standards are rigorous, high-quality, and achievable by students across the state. Tr. 1601:8-16 (Stem); Tr. 1602:9-14 (Stem); Tr. 1609:3-20 (Stem); Tr. 1613:3-12 (Stem). They “are robust and relevant to the real world and reflect the knowledge and skills our young people need to succeed in life after high school, in both postsecondary education and a globally competitive workforce.” PX-3145-51 ¶ 18 (Executive Respondents Answer and New Matter); *see also* Tr. 1603:14-1604:1 (Stem); Tr. 1609:22-1610:2 (Stem); Tr. 4198:12-4199:1 (Stem); Tr. 4207:2-6 (Molchanow).

212. And those skills also extend beyond a college or career choice. For example, Mr. Stem explained that the standards reflect what all students need to

participate in democracy, to critically read materials, and to become well-informed voters. Tr. 1610:21-1611:18 (Stem); *see also* Tr. 4221:4-10 (Molchanow). In fact, the importance of democracy is ever-present across multiple standards. *See, e.g.*, PX-2189-3 (requiring, in the standards for Environment and Ecology, that students learn about the “right to clean air, [and] pure water” in the Pennsylvania Constitution in order to “develop a citizenry that is aware of and concerned about the total environment and has the knowledge and skills to work toward solutions to current problems and the prevention of new ones.”).

C. The state academic standards provide students with the broad foundational skills they need to succeed in the twenty-first century.

213. At trial, numerous witnesses described a fundamental reason why the state academic standards have broad relevance: because they are intended to provide graduates with the foundational skills to succeed in an array of fields, rather than merely qualify students for a single, specific job. *See, e.g.*, Tr. 4315:24-4316:5 (Molchanow). For example, Springfield Township Superintendent Dr. Hacker explained that preparing students to become college and career ready is not preparing them to succeed in one “type of career,” but rather “ensur[ing] that if the child has the opportunity or desires to make that choice for themselves, they will

be able to go on to whatever career they want or to attend college.” Tr. 10549:6-21

(Hacker). She further stated:

I can tell you that having learned logic through the processes and the algorithms that are involved in learning algebra has served me well, even though I don’t use mathematics from algebra on a day-to-day basis.

[I]t’s the science of learning, it’s the discipline of learning that is learned, whether it’s algebra or biology or any other content area that helps children later on in life after they graduate to be able to make better choices for themselves, to evaluate the information that they are hearing.

Tr. 10550:4-15 (Hacker).

214. When rejecting Senator Corman’s assertion that children on a “McDonald’s career track” or who will “flip a pizza crust” do not need to learn the skills set out in the state standards, Matthew Splain, Board Chair of PARSS and superintendent of Otto-Eldred School District, explained similarly: “[W]e aren’t setting our benchmarks based on specific careers. We’re setting them based upon opportunities for careers for kids.” Tr. 6375:15-17 (Splain); Tr. 6366:19-21 (Splain); Tr. 6368:19-6369:4 (Splain). And “[w]e know that kids are likely going to change careers. They’ve got to be able to have an understanding, a basic set of knowledge... to be able to succeed and develop whatever they choose to do.” Tr. 6514:11-16 (Splain).

215. In other words, because the needs of the job force are ever-changing, students need to have the strong, comprehensive base of knowledge that the

standards provide. Tr. 6514:6-16 (Splain). And, Superintendent Splain explained, students entering all careers, from carpentry and masonry to the service industry, benefit from an education guided by rigorous standards. Tr. 6366:5-6367:9 (Splain); Tr. 6373:6-10 (Splain).

216. Jane Harbert, William Penn School District’s former superintendent, echoed this view, pointing out that whatever career they enter, all students need the “critical thinking skills, critical reading skills, [the skills] to do math problems” identified in the Pennsylvania standards. Tr. 7025:4-15 (Harbert); Tr. 7026:2-3 (Harbert). Moreover, these are not only career skills, they are life skills: “[I]f students have these critical skills, then they can participate and read a novel and belong to the local book club,” “make good decisions about health benefits,” and “make good decisions about where they want to work.” Tr. 7025:16-23 (Harbert).

217. It is for this reason that PDE has rejected any notion that its standards should be set to a lower bar. Tr. 1613:7-12 (Stem). As Deputy Secretary Stem asserted, “the world is a rigorous place,” and graduates need to have foundational, transferrable skills:

[O]ne of the examples that we gave quite often when — not only that we were sharing but that we heard from industries as well is the way that the workforce changes so rapidly. And so, even our students that are coming out with industry credentials, there’s no guarantee that that industry isn’t going to be replaced by automation or some other systems. And so they need the rigorous background to be able to successfully

transition and not stall out if the — if workforce needs change in the future.

Tr. 1613:3-24 (Stem).

218. Similarly, the State Board has reiterated the importance of maintaining rigorous standards, Tr. 4207:2-6 (Molchanow), and its Master Plan for Basic Education emphasizes the impact of “21st century technology” and “rapid innovation” requiring Pennsylvania graduates to succeed in a “globally competitive environment” and able “to adapt to future changes in the workplace” as well as being “knowledgeable and informed, able to analyze incomplete information and judge differing opinions in order to make the informed decisions necessary in a democracy.” PX-35-3.

219. In fact, witness after witness at trial took the position that helping students master state standards is core to the very mission of a school district: students must be “growing to the point where they’re able to be successful on their grade level standards.” Tr. 3591:1-5 (Waite); *see also, e.g.*, Tr. 5117:15-18 (Rau); Tr. 388:22-24 (McAndrew); Tr. 7531:16-7532:8 (Becoats).

220. Conversely, the Court heard no testimony from any witness that the specific state standards are not realistic measures of what students need to know, or that they do not represent the skills and knowledge that all students need in order to realize their potential, engage fully in democracy and citizenship, meaningfully participate in the economy, and meet the workforce needs of the Commonwealth.

D. State agencies have set achievable goals for students.

221. As part of the Commonwealth’s recognition that it must prepare students to meet college-and-career standards in order to succeed in today’s world, PDE and the State Board have set achievable goals in academic proficiency, high school graduation, and postsecondary attainment.

1. PDE has established concrete, achievable goals under the ESSA Plan.

222. Pursuant to the Every Student Succeeds Act of 2015 (“ESSA”), PDE has published a consolidated state plan known as the ESSA Plan. PX-1830.

223. With outreach that started prior to the passage of ESSA itself, the ESSA Plan was drafted following engagement with thousands of educators, parents, advocates, and leaders across the Commonwealth. PX-1830-18; Tr. 1787:2-11 (Stem); Tr. 1790:12-22 (Stem); Tr. 1788:3-18 (Stem). These individuals represented all sectors of the Commonwealth, including the K-12 education sector, early childhood, postsecondary, business and industry, advocacy groups, and elected officials. Tr. 1788:19-1789:5 (Stem).

224. The ESSA Plan therefore is not only the view of PDE, but PDE’s attempt to capture the values and beliefs of the citizens of Pennsylvania. Tr. 1789:8-14 (Stem); Tr. 1791:21-1792:1 (Stem). In that process, the theme that “[e]ducation is key to ensuring a vibrant future, not only for [Pennsylvania]

students, but for the Commonwealth as a whole,” was repeated consistently. Tr. 1791:11-14 (Stem).

225. The ESSA Plan also expresses the Department’s commitment to equity, “including the understanding, that in providing opportunity and resources to all students, some schools need more resources than others.” PX-1830-18; Tr. 1786:17-23 (Stem).

226. As part of the ESSA Plan, the Commonwealth established a broad array of goals for the percentages of students to achieve proficiency on state academic standards, and graduate high school by the year 2030. Tr. 1813:19-1814:4 (Stem).¹³ “[T]he guiding principle for the development of” the goals was they had to be within reach: “much in the way that smart goals have to be achievable, statewide goals have to be achievable.” Tr. 1816:18-22 (Stem); Tr. 1821:4-6 (Stem); Tr. 1822:11-18 (Stem).

227. PDE’s goal starts with a baseline of performance prior to 2018, for proficiency and high school graduation rates. Tr. 1820:4-7 (Stem); PX-1830-166–169. For example, in 2017, across tests, 61.6% of students were proficient or

¹³ Moreover, as more fully detailed in Section IX(A), the ESSA Plan demonstrates the strategies and resources PDE has identified to help children achieve those goals specifically, and become college and career ready more generally.

advanced on English Language Arts. Conversely, 38% of all students across the Commonwealth were not proficient in English Language Arts:

Student Group	English Language Arts Baseline Data	Measures of Interim Progress - English Language Arts												
		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
All Students	61.6	63.1	64.6	66.1	67.6	69.1	70.6	72.1	73.6	75.1	76.6	78.1	79.6	81.1
White	69.4	70.6	71.8	73	74.2	75.4	76.6	77.8	79	80.2	81.4	82.6	83.8	85
African-American/Black	35.9	38.4	40.9	43.4	45.9	48.4	50.9	53.4	55.9	58.4	60.9	63.4	65.9	68.4
Hispanic	40	42.3	44.6	46.9	49.2	51.5	53.8	56.1	58.4	60.7	63	65.3	67.6	69.9
Asian (not Hispanic)	77.9	78.8	79.7	80.6	81.5	82.4	83.3	84.2	85.1	86	86.9	87.8	88.7	89.6
American Indian or Alaskan Native	55.3	57	58.7	60.4	62.1	63.8	65.5	67.2	68.9	70.6	72.3	74	75.7	77.4
Multi-Racial (not Hispanic)	55	56.7	58.4	60.1	61.8	63.5	65.2	66.9	68.6	70.3	72	73.7	75.4	77.1
Hawaiian Native/Pacific Islander	70	71.2	72.4	73.6	74.8	76	77.2	78.4	79.6	80.8	82	83.2	84.4	85.6
Students with Disabilities	25.3	28.2	31.1	34	36.9	39.8	42.7	45.6	48.5	51.4	54.3	57.2	60.1	63
English Learners	11.7	15.1	18.5	21.9	25.3	28.7	32.1	35.5	38.9	42.3	45.7	49.1	52.5	55.9
Economically Disadvantaged	43.9	46.1	48.3	50.5	52.7	54.9	57.1	59.3	61.5	63.7	65.9	68.1	70.3	72.5

PX-1830-166; Tr. 1820:8-12 (Stem).

228. From that baseline, PDE set 2030 goals to halve the number of students in who are not proficient or who are not graduating high school. Tr. 1816:2-9 (Stem); PX-1830-166–169. The goal for 2030 for all students is 81.1% proficient in English Language Arts and 71.8% proficient in Mathematics. PX-1830-166–167. In practical terms, just in math, meeting the Commonwealth’s goal requires approximately an additional 235,000 students to reach proficiency. Tr. 1824:6-20 (Stem).

229. The Commonwealth also set different ends goal for different subgroups. Tr. 1825:1-4 (Stem); PX-1830-166–169. For example, in baseline state assessment measures, students of color lagged as much as 30 points behind their white peers. While the end goals seek to narrow those gaps, they do not come close

to ending them. PX-1830-166–169. As explained more fully in Section X(B), the differentiated goals between subgroups are themselves a recognition of decades of systemic inequities in Pennsylvania’s school funding system. Tr. 1826:8-1827:6 (Stem); Tr. 1833:17-22 (Stem); Tr. 2538:4-8 (Stem).

230. While the Commonwealth’s goals are concrete and attainable, Tr. 2535:7-10 (Stem), there is an important caveat: they are not likely to be reached without additional funding: “[I]t’s very unlikely that we would meet the 2030 ESSA goals without the additional funding for the resources for the strategies to meet the needs” of Pennsylvania students. Tr. 1913:9-16 (Stem).

2. In concert with PDE, the State Board has adopted a statewide postsecondary attainment goal that meets workforce needs.

231. Recognizing that the demands of the Commonwealth’s economy increasingly require a workforce with postsecondary degrees, Tr. 1838:5-10 (Stem); Tr. 8669:11-8670:6 (Ortega), and recognizing that college degrees lead to better health, economic, and civic outcomes, Tr. 8667:2-17 (Ortega), the State Board, in conjunction with PDE, has adopted another goal for the Commonwealth: that 60% of the population ages 25-64 hold a postsecondary degree or industry recognized credential by 2025. Tr. 8668:24-8669:9 (Ortega).

232. The State Board and PDE adopted this goal recognizing that by 2025, 60% of jobs will require some sort of postsecondary credential — a fact that

Speaker Cutler’s expert witness Mr. Willis has emphasized in other work. Tr. 8669:10-8670:6 (Ortega); Tr. 13006:11-22 (Willis). The State Board also recognized that given current attainment rates, the Commonwealth had a “gap in postsecondary credentials to meet its current workforce needs.” Tr. 4233:23-4234:21 (Molchanow); PX-3339-1–2.

233. The state’s postsecondary attainment goal was later revised to also include a particular focus on closing attainment gaps for historically underrepresented populations. PX-33-10; PX-3338-7; Tr. 4241:19-4242:18 (Molchanow). The goal was revised in response to data regarding significant discrepancies in postsecondary attainment and a recognized need to close these attainment gaps. Tr. 4245:4-10 (Molchanow).

234. Meeting the Commonwealth’s goals without additional funding, however, would be difficult to do. Tr. 8734:17-8735:2 (Ortega).

V. Pennsylvania’s Assessments Provide a Reliable Measure of What Children Know and Can Do.

A. The State Board and PDE have developed assessments that objectively measure students’ knowledge of the state standards.

235. For decades, the General Assembly has required the State Board to “develop or cause to be developed an evaluation procedure designed to measure objectively the adequacy and efficiency of the educational programs offered by the public schools of the Commonwealth. The evaluation procedure to be developed shall include tests measuring the achievements and performance of students pursuing all of the various subjects and courses comprising the curricula.” 24 P.S. § 2-290.1; *see also* PX-1719 (describing the history of Pennsylvania’s state assessments beginning in 1969-70). Today, those objective measurements are carried out through the Pennsylvania System of School Assessment (PSSAs) and the Keystone Exams, Pennsylvania’s two broadly administered state assessments. 22 Pa. Code § 4.51(b).

236. With the advent of uniform state standards, assessments are required to, at minimum, serve the following purposes:

- (1) Provide students, parents, educators and citizens with an understanding of student and school performance consistent with the No Child Left Behind Act of 2001 (Pub. L. No. 107-110, 115 Stat. 1425).

- (2) Determine the degree to which school programs enable students to attain proficiency of academic standards under § 4.12 (relating to academic standards).
- (3) Provide information to State policymakers, including the General Assembly and the Board, on how effective schools are in promoting and demonstrating student proficiency of academic standards.
- (4) Provide information to the general public on school performance.
- (5) Provide results to school entities based upon the aggregate performance of all students, for students with an Individualized Education Program (IEP) and for those without an IEP.
- (6) Assess student proficiency in the Academic Standards for English Language Arts (Appendix A-2), Mathematics (Appendix A-2), Science and Technology and Environment and Ecology (Appendix B) and Civics and Government (Appendix C) for the purpose of determining, in part, a student's eligibility for high school graduation.

22 Pa. Code § 4.51(a).

237. Through the PSSAs, “[e]very Pennsylvania student in grades 3 through 8 is assessed in English Language Arts and Math. Every Pennsylvania student in grades 4 and 8 is assessed in Science.” PX-3144 ¶ 101 (State Board Answer and New Matter); PX-3145 ¶ 101 (Executive Respondents Answer and New Matter); *see also* Tr. 1614:24-1615:3 (Stem); Tr. 4217:2-11 (Molchanow).

238. While not administered in a specific grade, the Keystones are end-of-course exams at the high school level in Algebra I, Biology, and Literature. Tr. 4217:11-13 (Molchanow); Tr. 4219:18-22 (Molchanow). The General Assembly

specifically required the State Board to develop Keystone Exams in those subjects.

24 P.S. § 1-121; *see also* Tr. 4219:4-12 (Molchanow).¹⁴

239. Both the PSSA and Keystone Exams are criterion-referenced tests that are scored relative to performance on the Pennsylvania standards. *See, e.g.*, 22 Pa. Code § 4.51(a) (“All PSSA assessments administered in English Language Arts, Mathematics, and Science and Technology and Environment and Ecology will be standards-based and criterion referenced.”); Tr. 4217:18-4218:3 (Molchanow). As Deputy Secretary Stem explained:

Criterion-referenced tests are those that are scored relative to a set of knowledge or a set of standards or a set of competencies So it’s not a normed test where you would take all of the scores and move them across a curve. It’s a test that is simply measuring whether or not whoever’s taking that test has demonstrated the skills required that the test is testing. So in a criterion-referenced test, you could have — you know, you could have high percentages of students that are below basic or you could have very high percentages that are advanced as well.

Tr. 1654:24-1655:15.

240. That is, the PSSAs and Keystones are “designed so that each and every student has the ability to achieve the highest performance level expected

¹⁴ Deputy Secretary Stem explained that an “end-of-course exam . . . is a different type of exam than the PSSA, which is testing years’ worth of knowledge. So here’s a concrete example. The Algebra 1 exam only tests Algebra 1. The 8th grade math exam tests algebraic concepts, math concepts, I think some statistics and probability – there’s other things that are included in that. So . . . they’re two different types of tests.” Tr. 2180:12-22 (Stem).

because they are aligned to a concrete standard.” Tr. 4371:23-4372:6

(Molchanow). But the purpose is not “just to perform well on exams. It’s to demonstrate whether you have gained the knowledge that is necessary to become a productive citizen.” Molchanow Dep. Tr. 31:6-12.

241. Like the standards they are measuring, the assessments are designed to assess a student’s critical thinking, which is “important in a democracy,” and whether students are prepared to enter the workforce and postsecondary education as productive members of society. Tr. 4221:4-10 (Molchanow); Tr. 4221:11-18 (Molchanow).

B. The PSSA and Keystone Exams are rigorously tested and validated.

242. The broadest goal of the PSSAs and Keystones is to evaluate students’ proficiency. And here, too, the General Assembly has charged the State Board with determining how that is defined. *See, e.g.*, 24 P.S. § 1-102 (defining proficient as the “attainment of performance levels . . . that have been approved by the State Board of Education to reflect satisfactory academic performance”).

243. The State Board is responsible for the assessment system, but delegates responsibilities for test creation and scoring to PDE, subject to final approval of the Board. Tr. 4215:8:16 (Molchanow); Tr. 4221:19-4222:3 (Molchanow); Tr. 4296:12-4297:9 (Molchanow).

244. Pursuant to PDE’s regulatory duties, and given the incredible importance of the assessments to schools, students, and the Commonwealth, PDE puts the assessments through a rigorous review of both validity and reliability. Tr. 1648:2-17 (Stem).

245. As part of that process, PDE has a pool of hundreds of educators, including teachers and administrators from across the state, approved to assist with the review process. Tr. 1625:1-17 (Stem); Tr. 1625:21-23 (Stem); Tr. 1648:23-1649:17 (Stem). Through this “rigorous process,” PDE tests questions for bias and construction flaws, and rotates questions in and out each year. Tr. 1648:2-17 (Stem); Tr. 1649:19-1650:23 (Stem); Tr. 2188:13 (Stem).¹⁵ This process also results in annual validation studies that are hundreds of pages long. *See, e.g.*, PX-1719; PX-1720.

246. As part of the overarching goal of measuring proficiency, and “[i]n consultation with educators, students, parents and citizens,” PDE recommended

¹⁵ During cross-examination of Deputy Secretary Stem, Senator Corman suggested that because certain questions are rotated in and out of the PSSAs in any year, this shows PDE is artificially making it more difficult to reach proficiency. Mr. Stem disagreed with this assertion. Tr. 2185:13-17 (Stem). Senator Corman developed no evidence to support this claim, and the technical manual itself makes clear that Senator Corman is conflating raw scores versus the scaled scores that are actually used to determine student proficiency. *See, e.g.*, PX-1720-188–189. In fact, one of the foundational reasons for converting a raw score to a scaled score is to “remove the effects of test length and item difficulty.” PX-1720-189.

and the State Board approved “specific criteria for” scoring advanced, proficient, basic and below basic levels on the exams. 22 Pa. Code § 4.51(a)(4); PX-3144 ¶ 101 (State Board Answer and New Matter); PX-3145 ¶ 101 (Executive Respondents Answer and New Matter); *see also* Tr. 1614:24-1615:3 (Stem); Tr. 4217:2-11 (Molchanow).

247. Those criteria (also referred to as performance level descriptors) are as follows:

- **Advanced.** The Advanced Level reflects superior academic performance and work at this level demonstrates a thorough command of and ability to apply the knowledge skills and practices represented in the Pennsylvania standards. Consistent performance at this level indicates advanced academic preparation for engaging successfully in further studies in this content area.
- **Proficient.** The Proficient Level reflects satisfactory academic performance and work at this level demonstrates an adequate command of and ability to apply the knowledge skills and practices represented in the Pennsylvania standards. Consistent performance at this level indicates academic preparation for engaging successfully in further studies in this content area.
- **Basic.** The Basic Level reflects marginal academic performance and work at this level demonstrates a partial command of and ability to apply the knowledge skills and practices represented in the Pennsylvania standards. Consistent performance at this level indicates additional academic support may be needed for engaging successfully in further studies in this content area.
- **Below Basic.** The Below Basic Level reflects inadequate academic performance and work at this level demonstrates a minimal command of and ability to apply the knowledge skills and practices represented in the Pennsylvania standards. Consistent performance at this level

indicates extensive additional academic support may be needed for engaging successfully in further studies in this content area.

PX-1720-190; *see also* PX-40; PX-1719-144.

248. To assign a student to one of those performance categories, PDE goes through a “bookmarking process”:

It’s a process — the process that’s used in Pennsylvania is not the only way to do it, but it’s viewed as one of the most reliable ways. It’s called the book-marking process, and there’s a process by which . . . the same educators we’ve been talking about are brought together and facilitated with a technical advisory committee to . . ., in layman’s terms, draw the lines of where below-basic, proficient and advanced cut scores would fall.

Tr. 1654:5-19 (Stem).

249. The bookmarking process is “the most widely-utilized process in establishing cut scores in states across the country. It is the same process that is used in establishing cut scores for the National Assessment of Educational Progress.” Tr. 4326:11-23 (Molchanow). It is shorthand as “bookmarking” because it involves teams of experts placing “bookmarks” at points between different scoring levels. That is, experts make

a ranking of questions from least rigorous to most rigorous. And then as the teams of teachers go through, they put bookmarks in, essentially, the places where the content seems to cross from one — from one level to the next, so as an educator, what I would say “below basic” that inadequate knowledge looks like versus, okay, when you get to this point this looks like the type of basic level of knowledge around this particular eligible content around this standard. It’s done in groups. And then others come together; they compare their bookmarks. They then discuss them because they don’t always line up, until they come to a

place where there's general consensus around where those — where those lines are drawn

Tr. 1666:8-1667:20 (Stem).

250. Cut scores are developed by teams assembled by PDE and presented to the State Board to “review and determine whether or not the process that was used to form those cut scores was appropriate.” Tr. 4215:22-4216:5 (Molchanow).

251. Deputy Secretary Stem explained that “[i]ntegrity of process” is crucial to PDE in the development of the assessments: “we stake our reputations on this type of work.” Stem Dep. Tr. Vol. 1, 224:1-2. Given this, PDE does not simply rely on internal validation. Rather, the process is validated by the

Center for Assessment, who's a nationally recognized assessment organization[,] along with our Technical Advisory Council Committee that oversees these. And these are national assessment leaders that inform and ensure someone outside of Pennsylvania, someone that . . . doesn't have skin in the game can speak to the integrity of process, which is really important for our secretary and for myself and the team.

Stem Dep. Tr. Vol. 1, 223:7-224:1; *see also* Tr. 1669:8-19 (Stem).

252. Ultimately, after an extensive internally and externally validated process, PDE and the State Board are confident that a student scoring proficient on a state assessment has generally demonstrated adequate command of the relevant subject area. *See* Tr. 1669:20-24 (Stem); Tr. 4329:24-4330:14 (Molchanow).

253. Moreover, PDE believes that lowering what counts as proficiency would be immoral and against everything we stand for — but I — I will say that when Pennsylvania implemented its Cut Scores for PSSAs,

those — and that was while we were there — that was in 2015, as we talked about earlier — we made the — the assessments are more rigorous than they used to be, and these percentages that we see are much lower than used to be reported on PSSAs.

But we believe that we are more accurately capturing the knowledge and skills and competencies that students need to be — need to be able to demonstrate to be successful — and not just us; but, again, business industry and others. Everything’s built around a set of standards. And to not measure those would be a disservice to the students we serve.

Q. And when you say, “That would be immoral,” what do you mean?

A. We have a moral responsibility. And the future of the Commonwealth rests on an educated population, and our school systems are the entities that stand in the gap to furnish the opportunities for students to develop those skills, demonstrate those skills and then move on to be successful. And so the system is, yes, built on high standards, but standards that prepare students for — again, not only for a — a global workforce, global economy.

Tr. 1834:15-1835:20 (Stem).

254. In other words, proficiency as it is defined by PDE is meaningful: students scoring well on the PSSAs in their early years are exhibiting early indicators that they will be successful in school. Tr. 1700:22-1701:14 (Stem). On the other end of the spectrum, a student who scores proficient on the Keystones has generally demonstrated they are college and career ready in those subjects, with a better chance at professional success. Tr. 1670:1-5 (Stem); Tr. 1671:4-12 (Stem). Conversely, basic or below basic performance is a true indication that a student is falling behind. Tr. 1659:18-1661:19 (Stem).

C. There is broad consensus that standardized assessments are an important measure of how a school system is functioning.

255. No single outcome is a standalone measure for the performance of an education system. For this reason, the Court heard testimony about a variety of measures for Pennsylvania students, from internal assessments, to high school graduation, college entrance and college graduation rates. *See* Section X(A)(2)-(4), *infra*. However, what trial also revealed was a broad consensus that standardized assessments generally, and Pennsylvania’s assessments specifically, provide a crucial, objective measure of the health of the Commonwealth’s education system.

1. Assessments measure whether the educational system is meeting its goals.

256. At their most foundational, achievement scores provide the “objective” information the General Assembly has directed the State Board to obtain regarding performance, both overall and by student subgroup, and that information is used by PDE to help determine whether the system is meeting its goals of preparing students to succeed. Tr. 1698:10-15 (Stem). PDE believes the state assessments are an important way of measuring the effectiveness of the education system, and that they “shed an important light on equity within the

educational system.” Tr. 1672:17-1673:4 (Stem).¹⁶ In fact, increasing the number of students that are proficient on state exams is the first proposed goal in the state’s ESSA Plan. Tr. 1698:16-22 (Stem); PX-1830-20.

257. Moreover, the differences in scores between students are “an accurate reflection of what students know and are able to do.” Tr. 2163:5-9 (Stem). Those differences, however, are not indicative of anything innate in a student: PDE recognizes that “all students can be successful on those assessments.” Tr. 1673:24-1674:1 (Stem). Rather, “whatever knowledge and skills aren’t demonstrated [on standardized assessments] reflect the systems of support for those students.” Tr. 1673:21-1674:6 (Stem). In other words, when groups of students are not demonstrating proficiency on a wide scale, there is “an urgent need to ensure that our school systems are providing the conditions for students to be successful.” Tr. 1805:19-1806:2 (Stem).

¹⁶ While assessments and other outcomes are objective assessments, school district grades are not. As Deputy Secretary Stem explained, “there is no standardized convention for student grading in the Commonwealth, or in most states, for that matter. So to try and aggregate grades across districts that use everything from competency-based report cards to numerical report cards to letter-based report cards and make any meaningful objective claims would not be possible to do.” Tr. 1857:10-23 (Stem). In fact, PDE does not even have the authority to collect grades. *Id.*

2. Speaker Cutler and Legislative Respondents’ experts agree that assessment scores are “proof” of student learning.

258. Speaker Cutler agrees that standardized assessments measure student learning. As this matter was proceeding, the public was awaiting the results of statewide assessments administered during 2021, a time of great upheaval for the children of the Commonwealth due to the COVID-19 pandemic. Speaker Cutler demanded those results be released, noting the crucial role they play for a variety of purposes:

The release of PSSA test results is important to this legislative body, as the results are used for a variety of public policy purposes, including the relevant budgeting and allocation of resources as well as the determination of revisions to state education laws. The 2022-2023 budget process has begun, but without the test data we are at great disadvantage in formulating an education plan that provides targeted support for those students and schools who may have been greatly impacted by the pandemic.

PX-8320.

259. Speaker Cutler noted that the importance of this data was not limited to its impact on legislative decisionmaking: “Parents in every corner of the Commonwealth have concerns over what months of interrupted learning have truly meant for their children’s future. Part of that answer is in this data.” PX-8320.

260. When those results were released, Speaker Cutler made clear that he understands that drops in assessment scores are meaningful “proof” of “very real” “learning loss”:

After a multi-month delay, our worst concerns have been proven true. Pennsylvania students at all levels are struggling to recover from the many disruptions to their education and the proof is in the scores finally released today.

The department “urges caution in interpreting results given the unique learning conditions over the past few years.”

I could not disagree more. We should be worried because these tests confirm what we have seen with our children over the last two years. No parent should have to wait a year to find out if their student is struggling in school.

The proof is clear. The learning loss our children have experienced, by no fault of their own, is immense and very real. The pressure is now on teachers, administrators, parents and other school leaders to work together with policymakers to solve this crisis and to close the gaps. We owe it to our children.

PX-8318.

261. Speaker Cutler’s expert witness, Mr. Willis, also agreed that an appropriate way to evaluate the success of a school system is to measure the success of students on a state’s end-of-course assessments. Tr. 13008:8-21 (Willis).

262. Senator Corman’s expert witness Dr. Hanushek was in accord, stating that standardized tests provide an “essential source of indispensable information about our education system” without which “our education systems would be

flying blind, uncertain whether schools are following a flight plan and getting close to the intended destination.” Tr. 14254:7-24 (Hanushek).

263. Dr. Hanushek also agreed that standardized test scores are “an important measure because students’ skills . . . as measured in those tests will actually dictate our economic future . . . and test scores say a lot about what our labor force will look like over the coming decades[.]” Tr. 14255:2-15 (Hanushek).

264. Petitioners’ experts shared this view. As Dr. Noguera explained, standardized assessments “diagnose the strengths and weaknesses of students.” Tr. 8605:23-8606:3 (Noguera). Test scores therefore “should be treated as indicators and in the same way we might treat blood pressure as an indicator of health; if we see the blood pressure is too high, too low, then a doctor should be prompted to further diagnosis to understand why. And I would say similarly, if the state is seeing scores low in a district, that should trigger a response from the state to inquire about why and what should be done to address the problem.” Tr. 8548:13-8549:4 (Noguera).

265. Similarly, Dr. Johnson explained that his research uses standardized test scores “because they’re markers of how we measure [students] against the standard that we’re trying to hold up from the standpoint of what it means to be career and college ready” and “what it means to achieve.” Tr. 9537:24-9538:6 (Johnson). Using three years of standardized test results for individual students, Dr.

Johnson derives a “student achievement growth” measure that is a reliable reflection of student achievement improvement based on equitable interventions. Tr. 9523:24-9524:15 (Johnson). When Dr. Johnson assesses achievement growth, it is “in relationship to progress toward a common standard” because it is important “not to have different expectations for some children than other children.” Tr. 9762:14-21 (Johnson).

3. School leaders understand the foundational importance of state assessments.

266. Given that state assessments are aligned to state standards, it is little surprise that superintendents rely on these exams to evaluate students’ knowledge and skills. *See* Tr. 306:24-307:6 (McAndrew); Tr. 2692:14-22 (Arcurio); Tr. 5611:20-5612:2 (Rau); Tr. 7545:18-21 (Becoats); Tr. 7052:9-13 (Harbert); Tr. 8119:1-8 (Hite); Tr. 11149:13-17 (Costello); Tr. 10536:2-13 (Hacker). And when they can, superintendents use PSSA and Keystone data to make programmatic decisions to improve achievement for their students. Tr. 455:3-16 (McAndrew); Tr. 2683:21-2684:5 (Arcurio); Tr. 7725:1-12 (Hite); Tr. 10537:4-22 (Hacker).

267. As Lancaster superintendent Dr. Damaris Rau explained, “I look at the PSSAs and keystones. I think that is the number one indicator of whether my kids are ready college and career-wise.” Tr. 5151:19-22 (Rau). “I am not going to give a break to students because I know they need to pass that test, and I also know

they need to pass that test so that they could be college and career ready. I mean, it's not a test just to take a test. It's an important test that tells me how well prepared my students are." Tr. 5424:2-9 (Rau); Tr. 6887:18-22 (Harbert) (PSSA and Keystone scores are a reliable indicator of whether students "have learned the skills and the standards that they need to be successful"); Tr. 7899:6-9 (Hite) ("Typically, students who are proficient or advanced on Keystones [] also get into college, enroll in college, and persist there").

268. Superintendent Splain similarly testified that success on the Keystones is a step along "a path to success in life." Tr. 6373:11-18 (Splain). He explained:

If you picture a tree, the tree trunk is going to be base of knowledge. We want to set the kids off in the real world. What the Keystones measure is where we want to have our starting point, and then it's going to branch off into different directions that those kids can pursue. So, it serves as a baseline of what we [] expect our kids to be able to understand and do before we send them out into the real world.

Tr. 6509:19-6510:6 (Splain).

269. Dr. Hacker agreed that achieving proficiency on the Keystones is "critically important" for college and career preparedness, and that state assessment results are "critical indicators for how well students are meeting the state standards for their particular subject area or grade level." Tr. 10547:23-10548:13 (Hacker).

D. The Commonwealth uses assessments for a wide array of purposes.

1. State assessment scores are used to designate schools as “low achieving.”

270. Each year, the General Assembly requires PDE to publish a list of “low-achieving schools.” The sole criteria for being designated as a low-achieving school are assessment results: those schools which rank in the lowest 15% of the Commonwealth, based on combined mathematics and reading scores on state assessments, are considered “low-achieving.” 24 P.S. § 20-2002-B; Tr. 1675:21-1676:10 (Stem); PX-2032.

271. Schools designated as a “low-achieving school” do not receive any additional resources as a result of the designation. Tr. 1678:1-6 (Stem). Instead, school districts are required to notify families that their students are eligible to leave the schools with an “opportunity scholarship.” Tr. 1678:22-1679:3 (Stem); Tr. 3533:13-22 (Waite).

2. State assessment scores are considered a “critically important” measure of success in the Future Ready PA Index.

272. PDE uses the PSSAs and Keystones as a “critically important measure” and one of multiple metrics in the Future Ready PA Index¹⁷ to evaluate the success of schools in the Commonwealth. Tr. 1699:6-23 (Stem); Tr. 1701:16-17 (Stem). Within the Future Ready Index, the PSSA and Keystone scores are included in several measures for school success: the percent of students that test proficient or advanced, the percent that test advanced, and performance rates disaggregated by subgroup. PX-1703-5–6, 8–9, 14–15; Tr. 1699:16-1700:3 (Stem).

273. The Future Ready Index also includes a metric that uses assessment scores called “early indicators of success,” which is “attentive to what’s happening at Grade 3 reading and what’s happening at Grade 7 math, because those are two pivotal junctures in a student’s educational career, being able to read on grade level by Grade 3 and being mathematically sound in Grade 7.” Tr. 1700:4-21 (Stem).

274. While school districts can submit a separate peer-reviewed assessment for the purpose of the “early indicators” metric, most default to using PSSA results,

¹⁷ Mr. Stem explained that “[t]he Future Ready PA Index is a tool designed to be an indicator for school communities, including not only educators and students and parents, but also community members, advocates, everyone interested in the performance of schools, to have a holistic snapshot of what is occurring in schools and to be used, quite honestly, as a tool to help inform continuous improvement and increase outcomes for all students.” Tr. 1699:4-15 (Stem).

which PDE considers to be “an appropriate way to see whether a child is exhibiting early indicators of success.” Tr. 1700:22-1701:14 (Stem).

3. State assessment scores are used to identify schools needing improvement.

275. ESSA requires all states, including Pennsylvania, to engage in a process called “meaningful differentiation” to identify schools that are at varying degrees of risk. Tr. 1681:16-21 (Stem); PX-1707-10. As part of this process, PDE designates schools as Comprehensive Support and Improvement (“CSI”), Additional Targeted Support and Improvement (“ATSI”), and Targeted Support Improvement (“TSI”). *See* PX-1806; PX-1803.

276. CSI schools are those schools designated as the lowest 5% of Title I schools. Tr. 1684:10-15 (Stem); PX-1707-10. A-TSI schools are those schools that have one or more student groups within the school that are performing at a level commensurate with CSI schools. Tr. 1684:18-1685:11 (Stem); PX-1707-10. TSI schools are those schools who receive an early warning that one of their student groups is at risk of falling into the A-TSI level. Tr. 1686:11-15 (Stem).

277. Proficiency on the Keystones and PSSAs is a critical part of the determination of whether a school falls in the CSI, A-TSI, or TSI groups. Tr. 1686:16-21 (Stem).

4. State assessment scores are provided to parents and students as an evaluation of a child’s progress in school.

278. Parents receive notice by letter about their child’s score on the PSSA and Keystone assessments every year. Tr. 8142:3-6 (Hite); Tr. 8143:7-8144:3 (Hite); PX-4512; Tr. 5611:20-5612:2 (Rau); PX-313. Parents are told that the performance of students who score below basic represents “[i]nadequate academic performance that indicates little understanding and minimal display of the skills” PX-313. Students who score basic are described as providing a “[m]arginal academic performance, work approaching, but not yet reaching, satisfactory performance. Performance indicates a partial understanding and limited display of the skills” PX-313. Students who score proficient are demonstrating “[s]atisfactory academic performance indicating a solid understanding and adequate display of the skills” in the content, and those who score advanced are displaying “[s]uperior academic performance.” PX-313.

279. Recent Wilkes-Barre graduate and Petitioner Michael Horvath explained that students receive their score reports from the Keystone Exams while in school. Tr. 10065:10-12 (Horvath). Michael found it “embarrassing” to receive a Below Basic score, which the score report explains as requiring a “major need for additional instructional opportunities and/or increased student academic

commitment to achieve the proficient level.” Tr. 10065:10-19 (Horvath); PX-313-2.

5. The Commonwealth’s new graduation requirements rely in large part on Keystone Exam outcomes.

280. Act 158 of 2018, which established new statewide graduation requirements, will introduce additional rigor to the process of acquiring a diploma in the Commonwealth. PX-59; Tr. 1643:16-22 (Stem). Beginning with the graduating class of 2023, meeting local, credit-based graduation requirements will not by themselves be sufficient to acquire a diploma. Tr. 1643:10-15 (Stem).¹⁸

281. Rather than a never implemented regulation that would have made proficiency on three Keystone Exams or a project-based assessment the only routes to graduation, 22 Pa. Code § 4.24(C),¹⁹ Act 158 provides five pathways by which a student can demonstrate they have met Pennsylvania standards. PX-59-3–4. But while Keystone proficiency is not the exclusive pathway to a high school diploma, the Act 158 requirements continue to rely, in large part, on Keystone Exams outcomes as a basis for graduation. Tr. 1630:16-1632:3 (Stem). This is because

¹⁸ As a result, PDE expects state graduation rates will decrease when the requirements go into place. Tr. 1643:23-1644:3; 1647:8-22 (Stem).

¹⁹ During the period that the regulation was enacted but not implemented, PDE required school districts to confirm in school-level plans their agreement to follow the requirement when it would have gone into place. Tr. 7253:8-15 (Harbert); Tr. 10911:5-10912:12 (Costello); *compare*, e.g., LR-1113-16–17 (Wilkes-Barre plan) *with* 22 Pa. Code § 4.24(C).

Keystone proficiency remains a straightforward way to demonstrate college and career readiness. Tr. 1643:3-9 (Stem).

6. State assessment scores are used to evaluate superintendent, teacher, and charter school performance.

282. “Teachers, principals, and administrators are also evaluated, in part, on whether students are meeting state standards.” *See* PX-3144 ¶ 107 (State Board Answer and New Matter). In other words, state assessments are used as part of Pennsylvania’s teacher evaluation process and can be a factor in teacher or principal dismissals for unsatisfactory performances. Tr. 1697:3-18 (Stem).

283. Moreover, at both the state and district level, assessments are used to evaluate charter schools. PDE, for example, uses the assessment system as part of the authorization system for cyber charter schools, while Philadelphia uses state assessments to evaluate the academic performance of charter schools that are requesting authorization or renewal. Tr. 1698:3-4 (Stem); Tr. 7743:7-11 (Hite). And the state’s Charter Appeal Board and this Court agree that these assessments should be used to evaluate student performance. *See, e.g., New Hope Acad. Charter Sch. v. Sch. Dist. of City of York*, 89 A.3d 731, 739–40 (Pa. Commw. Ct. 2014) (“A holding that the Charter School Law requires that charter schools remain open despite student academic performance that is consistently far below state standards would violate the overriding purpose of the Public School Code to

provide ‘a thorough and efficient system of public education,’ and could raise issues of unconstitutionality under Article III, Section 14 of the Pennsylvania Constitution.”).

E. Legislative Respondents’ suggestions that the PSSAs and Keystone are not valid indicators of school quality are baseless.

284. In his opening statement, Senator Corman represented that he would adduce evidence demonstrating why the standardized testing relied upon by the state was an insufficient indicator of school quality, pointing to the anticipated testimony of two expert witnesses, Mark Ornstein and Dr. Christine Rossell. Tr. 186:6-191:4 (Corman opening). However, Senator Corman failed to introduce any evidence at trial to support this assertion.

285. Mr. Ornstein was withdrawn as a witness after it became clear he had plagiarized his expert report. Tr. 12253:14-24 (Ornstein).

286. Dr. Rossell, meanwhile, did not provide credible testimony. Her testimony on the technical aspects of Pennsylvania assessments was stricken. Tr. 12004:14-17 (Rossell). Her remaining testimony was a generalized attack on standardized testing that was not credible or deserving of weight.

287. During her testimony, Dr. Rossell admitted that she is not a psychometrician, has never taken a course on psychometrics, and is not a member of the professional organizations that focus on educational measurement and

assessment, such as the American Education and Research Association and the National Council of Measurement in Education. Tr. 11803:9-11804:5 (Rossell). She has never participated in the design or validity testing of standardized tests, and was unfamiliar with the basic processes involved in creating a criterion-referenced test. Tr. 11803:9-15 (Rossell); Tr. 11976:13 (Rossell). Dr. Rossell was also unfamiliar with terms describing the primary characteristics of and basic theories relating to normal distribution models. Tr. 11924:19-11927:4 (Rossell).

288. Nevertheless, Dr. Rossell repeatedly asserted, without supporting evidence, that the PSSAs were modified with the intent to produce a bell curve. Tr. 11979:10-11984:13 (Rossell).

289. Dr. Rossell admitted that she did not consult with anyone at PDE to validate this hypothesis. Tr. 11909:17-11910:7 (Rossell). Nor did Dr. Rossell consult with the psychometricians involved with the design of the PSSAs or any psychometricians associated with PDE. Tr. 11910:8-14 (Rossell). However, Dr. Rossell asserted that although she was unfamiliar with the details of how the PSSAs were developed, revised, and scored, she was in a better position to know how the PSSAs were constructed than Matt Stem, the former Deputy Secretary of Education, because she was able to see a “rough bell curve” in the test outcomes. Tr. 11980:14-11982:17 (Rossell).

290. Dr. Rossell conceded that for test results she had characterized as forming a “rough bell curve”, the results were not symmetric, asymptotic, or accurately based upon the mean and median scores — all core features of a normal distribution model. Tr. 11929:14-11931:18 (Rossell); LRD-2-1. Rather, Dr. Rossell acknowledged that her evaluation of the data consisted of giving the graphs “an eyeball test” to determine whether even test results that lacked normal distribution looked like “approximate” or “rough” bell curves, contending that “everybody sees them.” Tr. 11931:19-11932:6 (Rossell); Tr. 11938:19-11940:20 (Rossell).

291. However, even using Dr. Rossell’s “eyeball test,” it is apparent that various of the demonstratives used in her testimony and the actual distributions of PDE test results show distributions that are not bell curves. *See, e.g.*, LRD-2; PX-1720-202. And Dr. Rossell’s only explanation for those few results that she did concede were not bell curves was that “something must have gone wrong.” Tr. 11955:6-12 (Rossell). But Mr. Stem explained this is mistaken: some score distributions “look a little bit like a bell curve and others clearly, clearly don’t, but that’s just a byproduct of the score distribution, not through the manner in which it’s scored.” Tr. 1656:1-14 (Stem).

292. Dr. Rossell also repeatedly asserted, without any specific supporting evidence, that the state’s standards-based, criterion-referenced English proficiency test, ACCESS, did not measure proficiency. Tr. 11942:22-11954:13 (Rossell).

Instead, she speculated without evidence that the test must have been surreptitiously normed by the test creators because “no one would respect the test” if it just measured achievement. Tr. 11970:16-11974:11 (Rossell).²⁰

293. Other courts have discounted Dr. Rossell’s expert testimony, finding that her analysis was “flawed,” was based upon “little knowledge about how the reviews [at issue] were actually conducted,” and that she made “sweeping conclusions” without reviewing underlying data or having “an accurate understanding” of the issue at hand. Tr. 12045:15-12051:24 (Rossell). Dr. Rossell’s opinions in this case are similarly flawed, and her testimony is deserving of no weight.

294. All told, Senator Corman adduced no evidence at all challenging the validity of the PSSA or Keystone Exams specifically or criterion-referenced tests generally. His claims about the nature of the state’s assessments run contrary to state regulations, the testimony of PDE and State Board witnesses, thousands of pages of state testing manuals, the testimony of Senator Corman’s other expert witnesses, the repeated actions of the General Assembly, and the public statements of Speaker Cutler. *See supra* at Section V.

²⁰ Dr. Rossell at other times asserted that state officials make improper decisions because to do otherwise would be “shocking, politically.” Tr. 11983:4-10 (Rossell). This, too, lacks credibility.

295. But even mere practical experience with Pennsylvania assessments is enough to demonstrate that his attack lacks any basis in fact. *See e.g.*, LRD-2-4; Tr. 11939:8-16 (Rossell) (admitting that the PSSA results depicted did not form a bell curve).

296. For example, it is beyond dispute that Pennsylvania standards became more rigorous in 2014. Thus, Deputy Secretary Stem explained that achieving proficiency on those standards necessarily would have become more difficult. Tr. 2174:19-2178:5 (Stem). Had the PSSA scores been “curved,” the proficiency levels for Pennsylvania students would not have changed. But that is not what occurred: instead, because students were expected to know more, far fewer students scored proficient from 2013-14 to 2014-15. *See* LR-3173. As Mr. Stem made explicit, this change was not a result of test design, but because the tests were faithfully, reliably, and validly testing a new, more rigorous set of standards. Tr. 2178:11-2197:3 (Stem).

297. Similarly, assessments were administered during the 2021 school year, during a time of great societal stress as a result of the COVID-19 pandemic. PX-8318. Once again, had the tests been designed according to a curve, the results would not have changed. But as explained in Section XI(B), the opposite occurred, with a decline in assessment scores that was, in the words of Speaker Cutler, “immense.” PX-8318 (Cutler); *see also* PX-8314; PX-8315; PX-8316; PX-8317.

298. In other words, twice in the last six years, assessment results for Pennsylvania students have decreased. Those decreases demonstrate those regulations are being faithfully administered.

VI. In Pennsylvania’s School Funding System, Those Who Need the Most Have the Least.

299. As detailed below, much of the reality of the Pennsylvania school funding system is undisputed. First, it is a system heavily reliant on local taxpayers, in a state with wide wealth disparities between school districts. As a consequence, there are wide funding disparities between districts. Second, those districts with the highest needs and lowest wealth are generally making the greatest effort to fund their schools. Third, the state calculates the relative need of school districts through two laws, but then does not use those formulas to distribute most state funding. Fourth, the state consciously has decided not to calculate how much school districts need to meet state standards. But the last time it did so, the Commonwealth calculated schools were more than \$4 billion underfunded.

300. Taking all this together, Dr. Matthew Kelly²¹ concluded that the Pennsylvania school funding system is “not logical,” and is “irrational and anachronistic. It is disconnected from the need of school districts and the students

²¹ To explain the details of the school funding system, the Court qualified Dr. Matthew Kelly as an expert in the field of educational finance. Tr. 1140:11-18. Dr. Kelly, an assistant professor at Penn State University, used Pennsylvania specific measures and Pennsylvania specific data to analyze and make conclusions about the adequacy and equity of Pennsylvania’s school funding system. As more fully described below, Dr. Kelly’s testimony was credible and deserving of weight.

they educate, and it is insufficient to give students in the Commonwealth an opportunity to meet the standards the State has set for them.” Tr. 1292:10-18 (Kelly); Tr. 1294:20-24 (Kelly).

A. Pennsylvania’s educational system, funded by a combination of state and local funds, is highly reliant on local taxpayers.

301. Pennsylvania, like other states, funds its public education system through a partnership of federal, state, and local governments. Tr. 1144:11-1145:2 (Kelly).

302. But as Dr. Kelly explained and Speaker Cutler’s witness Mr. Donley conceded, Pennsylvania’s school funding system is heavily reliant on local property taxes and local wealth. Tr. 1145:3-1146:13 (Kelly); Tr. 11711:23-11712:5 (Donley). In 2018-19, 3% of Pennsylvania school district revenues came from the federal sources, 38% of total revenue came from state sources, and the remaining revenue, 59%, came from local sources. Tr. 1145:3-15 (Kelly); PX-2134.²²

²² In state data there is also a category called “other revenue.” Witnesses explained that “other revenue” includes figures that are “not actual dollars that are going into a district’s budget or out of a district’s budget,” but instead booking the value of things such as refinances, and thus should be excluded from analyses. Tr. 1543:20-1544:5 (Kelly). The Chief Financial Officer of the School District of Philadelphia explained, for example, that in 2015-16, Philadelphia took advantage of low interest rates and refinanced \$999 million in outstanding bonds. As a result of government accounting principles, Philadelphia had to book the \$999 million as both revenue and expenditures. Tr. 10268:6-10271:8. (Monson); PX-2132, Tab “2016 Rev Per ADM,” cell N400. As a consequence, Philadelphia had \$999 million, or approximately \$5,000 per ADM, listed as “other revenue.” PX-2132, Tab “2016 Rev Per ADM,” cell M400. In reality, that did not signify money available to educate students. Tr. 10271:6-8 (Monson); Tr. 10271:24-10272:1

303. In the most recent year total revenues are available, Pennsylvania school districts received approximately \$33 billion in funding. PX-2135, Tab 2019-20 Revenue by Source, cell E752. When subtracting out “other revenue,” Pennsylvania school districts received approximately \$31.5 billion in funding. PX-2135, tab “2019-20 Revenue by Source,” cell H752, J752, L752.

304. A total of \$12.1 billion was raised for school districts from state sources, and \$950 million was raised from federal sources. PX-2135, tab “2019-20 Revenue by Source,” cells J752, L752. The largest source of state revenue is Basic Education Funding, which was approximately \$6.55 billion in 2021-22. PX-4778.²³ Basic Education Funding consistently accounts for more than half of all state funding, *see, e.g.*, PX-1816, tab “2019-20 through 2010-11,” Columns E-F.

305. In 2019-20, \$18.4 billion was raised for school districts from local sources, \$17.4 billion of which was from local taxes. PX-2135, tab “2019-20 Revenue by Source,” cells H752, F752.

(Monson). In their own summary exhibits, Legislative Respondents themselves frequently subtract out these revenues. *See, e.g.*, LR-5052.

²³ In recent years, in order to increase what is technically termed Basic Education Funding, the General Assembly made the decision to make previously allocated social security payments, also termed Basic Education Funding. Tr. 11738:1-7 (Donley). PDE continues to report these numbers separately, and Speaker Cutler’s witnesses effectively admit they are separate lines of appropriation. PX-4778; Tr. 11737:17-11738:7 (Donley); LRD1-20 (Willis).

306. Reliance on local funding to this degree is unusual. In fact, Pennsylvania is more dependent upon local sources to fund its schools than almost any state: based on the most recent data, Pennsylvania ranked 45th out of 50 states in the proportion of its funding that comes from local governments. Tr. 1145:21-1146:16 (Kelly). Put differently, only five states were more reliant on local education funding than Pennsylvania. Tr. 1146:13-16 (Kelly).²⁴

307. As admitted by Speaker Cutler’s witnesses, this balance between state and local revenues comes with important equity implications, because, among other things, these “wide” disparities in local property and income wealth mean that some school districts will be able to raise significantly higher local revenues than other districts despite making a lower level of tax effort. Tr. 12928:6-12929:9 (Willis); Tr. 11713:3-18 (Donley).

308. And as PDE explains, the outcome of such a reliance is inequality: “Pennsylvania also has significant financial inequities in its system of school funding with one of the largest gaps of any state in the country in per child

²⁴ Although Petitioners explained inaccuracies in Census tables concerning per-student revenue, as a result of failing to accurately account for charter students, that issue does not bear upon the overall distribution of state versus local funds on a non-per-student basis. *See* Tr. 1317:1-1319 (Kelly).

spending between the commonwealth's poorest and wealthiest districts." PX-1830-93.

B. The pitfalls of the funding system become clear when sorting school districts by the Commonwealth's own measures of wealth, need, effort, adequacy, and equity.

309. In order to look for patterns and to draw conclusions regarding Pennsylvania school funding, Dr. Kelly used the Commonwealth's own measures of wealth, need, effort, adequacy, and equity. For example, to analyze how districts of different wealth fare in Pennsylvania's school funding system, Dr. Kelly used the Commonwealth's most frequently used measure: the Market Value-Personal Income Aid Ratio ("Aid Ratio"), which "represent[s] the relative wealth of a district." Tr. 1784:3-8 (Stem); *see also* Tr. 1187:1-9; PX-3144 ¶ 267 (State Board Answer and New Matter); PX-3145 ¶ 267 (Executive Respondents Answer and New Matter).

310. The Aid Ratio is a relative measure comprised of the taxable real estate wealth in a district and personal income of residents, on a per pupil basis. Tr. 1148:16-24 (Kelly); Tr. 1187:1-9 (Kelly). The Commonwealth has used the Aid Ratio as a measure of wealth in various laws over many years. *See, e.g.*, 24 P.S. § 25-2502.8 (career and technical education funding); 24 P.S. § 25-2509.5 (special education funding); 24 P.S. § 25-2599.2 (accountability block grant funding); 24

P.S. § 25-2502.52 (2012-13 basic education funding); 24 P.S. § 25-2502.33 (1996-97 basic education funding).

311. Dr. Kelly used the Aid Ratio to order all of the Commonwealth's districts from wealthiest to poorest, and then divided them into five quintiles, with approximately the same numbers of students in each quintile. Tr. 1186:14-1187:13 (Kelly); Tr. 1188:6-1190:1 (Kelly).

312. As a check on his work, Dr. Kelly also ran the same quintile-based analysis using an alternative wealth measure embedded in the Fair Funding Formula: local capacity per weighted student (LCPWS). Dr. Kelly found little to no change in the patterns he observed by using LCPWS instead of the Aid Ratio. Tr. 1192:19-1193:16 (Kelly).

313. Dr. Kelly also used the Commonwealth's own measure of student need. As conceded by all parties, some students need more resources than others to achieve equality of opportunities and outcomes. *See* Section III(B)(2). Keeping in mind that school districts educating those students will therefore require greater funding, Dr. Kelly also examined the funding in relation to the relative need of school districts. Tr. 1163:22-1164:9 (Kelly).

314. Dr. Kelly explained why: in the same manner that it is appropriate to adjust for inflation when comparing the cost of something in two different time periods, it is important to adjust for student and district characteristics when

comparing funding figures. Tr. 1163:22-1165:16 (Kelly). This basic point was conceded by Speaker Cutler's expert. Tr. 12835:2-12 (Willis); Tr. 12836:21-12837:3 (Willis); Tr. 13059:1-13060:24 (Willis).

315. In order to examine relative student need, Dr. Kelly again used the Commonwealth's own figures: the weighted student calculations from the Fair Funding Formula. Tr. 1196:21-1197:9 (Kelly). These need-adjusted pupil counts are reported regularly by the state as "weighted students," including in a figure published each year termed "current expenditures per weighted student." Tr. 1196:21-1197:9 (Kelly); *see also, e.g.*, PX-4778, Tab "Local Effort Capacity Index," Column L; Tab "Student Weighting," Column Y. Moreover, as explained by Petitioners' witnesses and conceded by PDE and Speaker Cutler's expert, this weighted student headcount is how the Fair Funding Formula approximates the relative needs of a school district's student body, and is appropriate to use when determining the suitability of a district's funding. Tr. 5693:4-5995:19 (Przywara); Tr. 10191:20-10192:13 (Monson); Tr. 1776:20-1776:8 (Stem); Tr. 12812:24-12813:1 (Willis); Tr. 14874:1-5 (Executive Respondents closing).²⁵

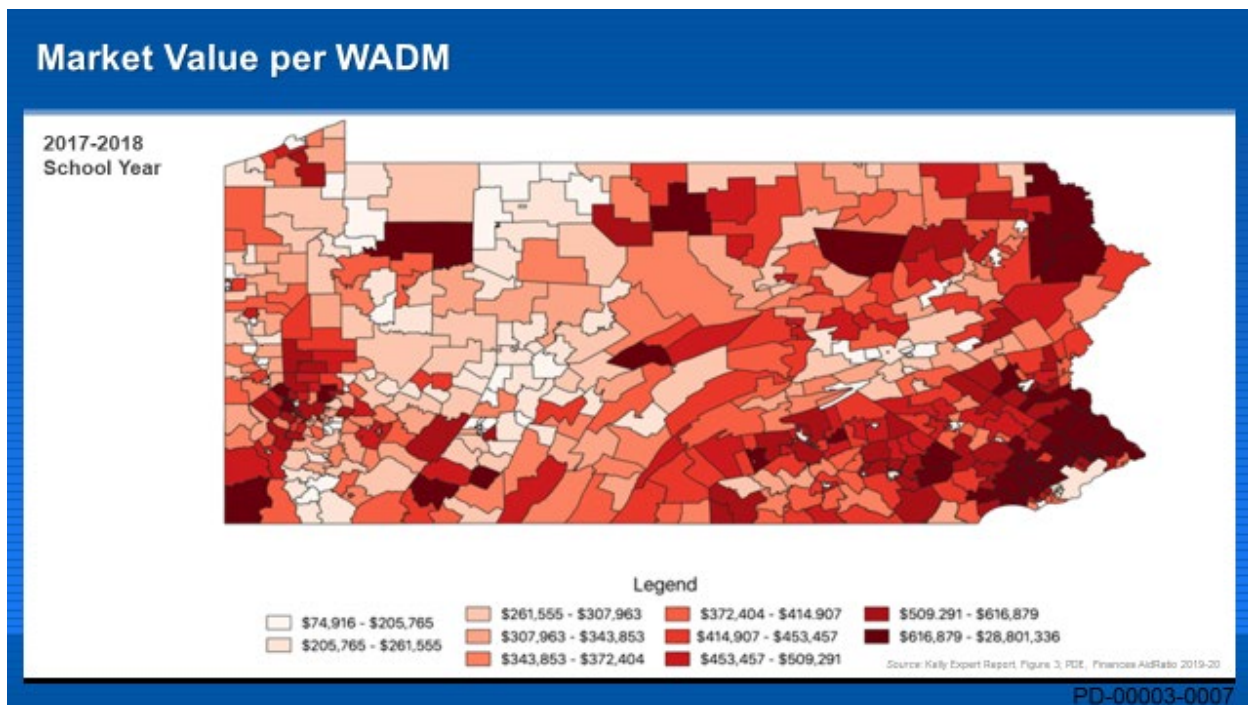
²⁵ Pennsylvania's Costing Out Study used the same methodology. *See* PX-99-48 ("We define relative need as the ratio of weighted students weighted for all student and district characteristics to unweighted students."). As the Costing Out Study noted, "[t]heoretically, spending [by districts] should not vary at all when measured in per weighted student terms if the only objective of the state is to assure that spending matches need." PX-99-50.

316. Finally, in order to take into account variations in assessment practices between counties, the Commonwealth measures a district's tax effort through what is known as an equalized mill, which measures the local taxes paid on \$1,000 of market valuation. Tr. 1158:17-1159:6 (Kelly). Dr. Kelly therefore principally used equalized mills to study the relative tax efforts of school districts.

C. Wealth “varies drastically across the Commonwealth,” as does tax effort.

317. Pennsylvania's heavy reliance on local sources of school funding has special importance given that Respondents admit that wealth “varies drastically across the Commonwealth.” PX-3144 ¶ 272 (State Board Answer and New Matter); PX-3145 ¶ 272 (Executive Respondents Answer and New Matter); *see also* Tr. 1152:5-11 (Kelly).

318. As Dr. Kelly explained, this drastic variation is present in both components of the Aid Ratio: property wealth and income wealth. Taxes derived from the income and real estate values of a school district account for 97% of all local revenue. Tr. 14504:11-14505:24 (Kelly). Dr. Kelly first demonstrated the extreme variance of property wealth:



PD-3-7

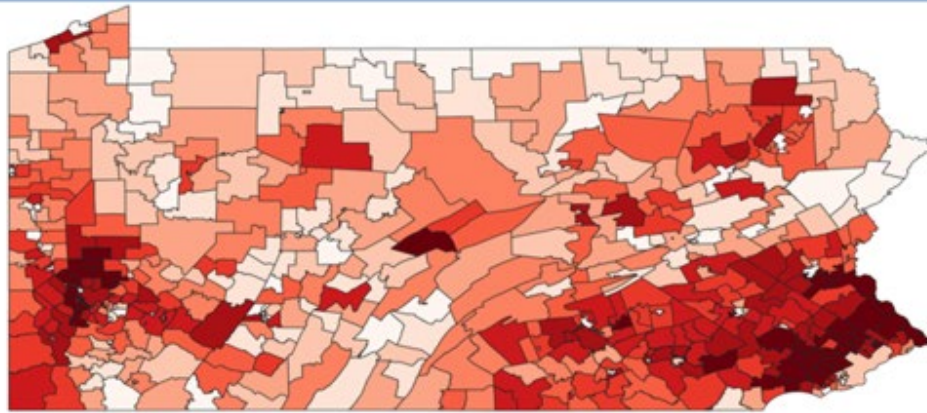
319. For example, Reading School District's market values per weighted average daily member²⁶ are only \$75,000, while New Hope-Solebury School District's values are approximately twenty times higher, at over \$1 million per pupil. Tr. 1153:10-1154:8 (Kelly).

320. Dr. Kelly demonstrated that income wealth also dramatically varies across the Commonwealth:

²⁶ Weighted Average Daily Membership, or WADM, is not based on student need related to characteristics of poverty, special education status or English Learner status. Tr. 1149:14-1150:7 (Kelly). Rather, this value is weighted based on the grade level of the student, with a half-day kindergartener weighted .5, grade 1-7 students weighted 1.0, and grade 7-12 students weighted 1.36. Tr. 1149:14-11:50:18 (Kelly). These weights are distinct from the need-based weights associated with the Fair Funding Formula.

Taxable Income per WADM

2017-2018
School Year



Legend



Source: Kelly Expert Report, Figure 2, PDF, Finances Auditor 2019-20

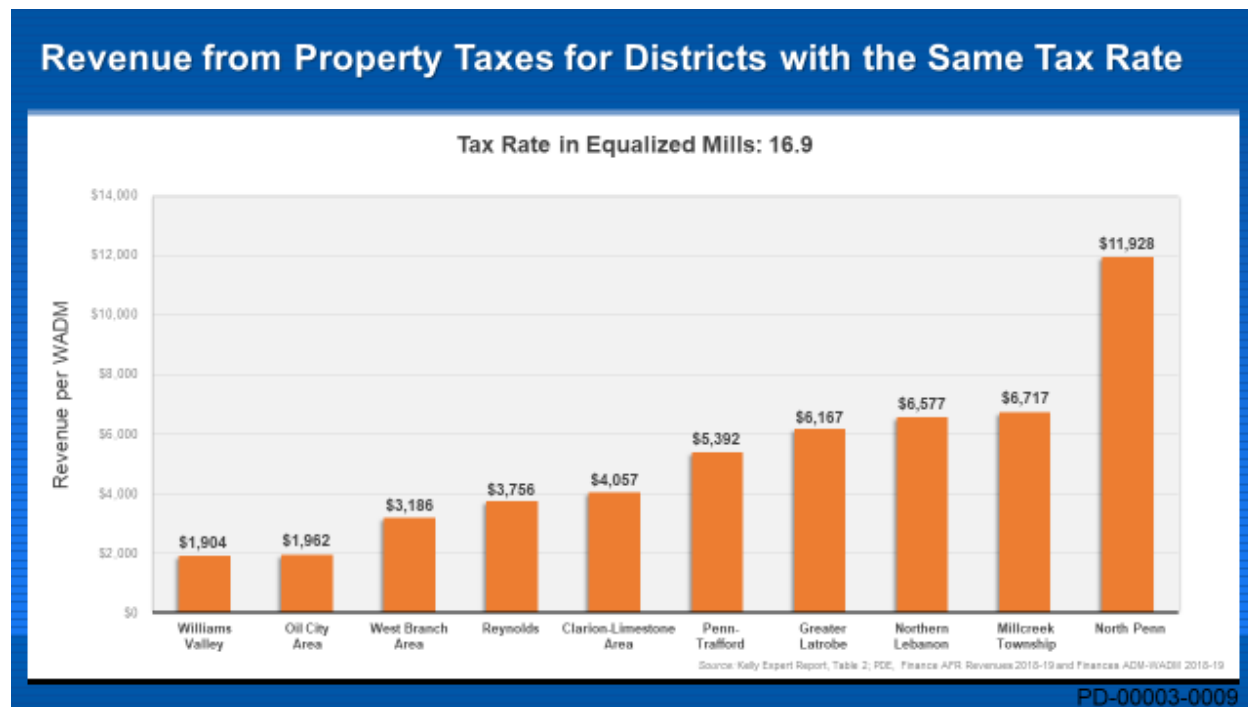
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PD-3-8

321. By way of illustration, Reading School District has less than \$50,000 in personal income per weighted average daily member, while Lower Merion School District has approximately \$760,000 in personal income per weighted average daily member. Tr. 1156:20-1157:8 (Kelly).

322. As a consequence of this disparity, districts across the Commonwealth that tax their residents at the same equalized millage rate can generate significantly different amounts on a per pupil basis. Tr. 1159:10-18 (Kelly). Specifically, as Speaker Cutler's witnesses admit, some school districts are able to raise significantly higher local revenues than other districts using a lower level of tax effort. Tr. 12928:6-12929:9 (Willis); Tr. 11713:3-18 (Donley). Dr. Kelly illustrated this point by calculating the revenue per WADM generated by each school district

taxing itself at 16.9 equalized mills, the most common tax rate in the Commonwealth in the 2018-19 school year:

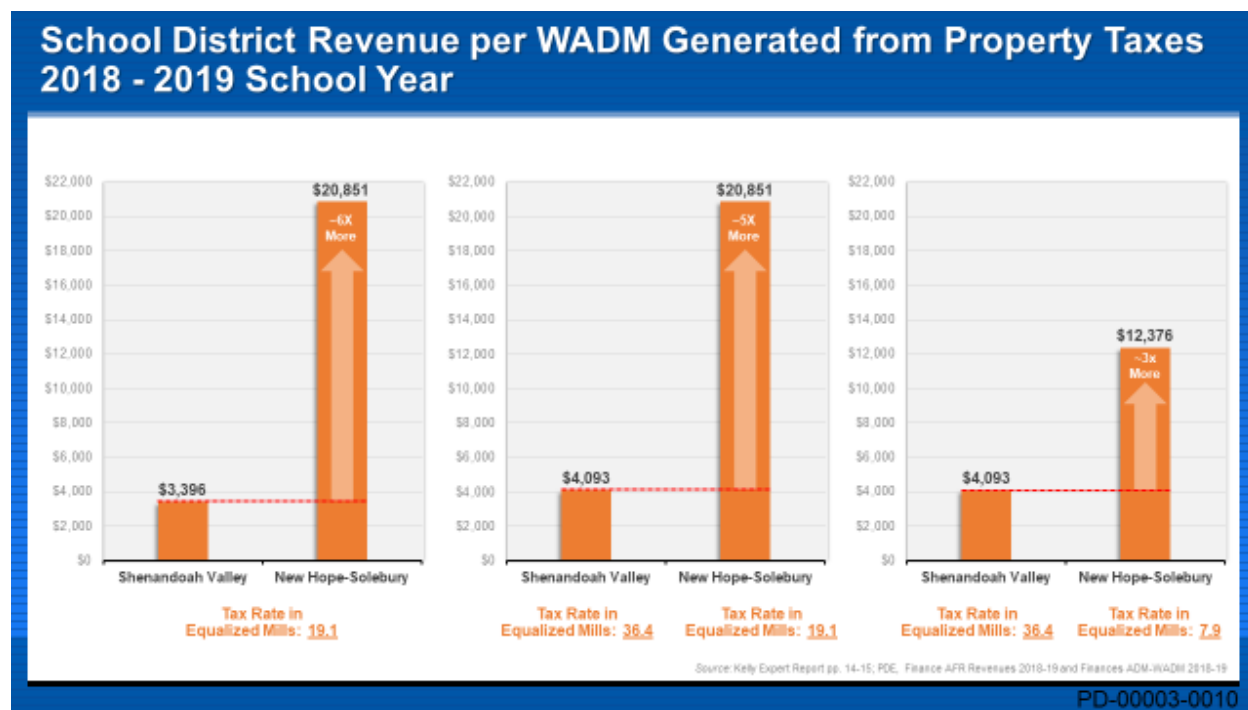


PD-3-9, PD-3-56; Tr. 1158:17-1159:24 (Kelly).

323. For example, North Penn School District and Williams Valley School District have the same equalized millage rate, but North Penn generates approximately \$10,000 more per WADM from that rate. Tr. 1159:19-24 (Kelly).

324. Dr. Kelly provided another apt example, this time, examining different taxing scenarios for Petitioner Shenandoah Valley and the New Hope-Solebury School District, a high-wealth school district. PD-3-10. Dr. Kelly explained that if both districts taxed their residents at 19.1 equalized mills (the state mean for 2018-19), Shenandoah would generate \$3,396 per WADM, while New Hope would generate six times more, at \$20,851 per WADM. In fact, the

disparity in wealth between the districts is so great that even if Shenandoah taxed its residents at the highest millage rate in the state, and New Hope-Solebury School District taxed itself at the lowest, New Hope-Solebury would still generate about three times more revenue per WADM. Tr. 1163:5-14 (Kelly).



PD-3-10

325. Significant disparities are also found in tax rates. As Dr. Kelly found and others admit, low-wealth communities in Pennsylvania generally exert more tax effort to support their schools than high wealth communities. That is, when measured by equalized mills, low-wealth Pennsylvania districts have substantially higher tax rates than high-wealth Pennsylvania school districts. Tr. 11714:5-11 (Donley); PX-3145 ¶ 295 (Executive Respondents Answer and New Matter); Tr. 1249:3-5 (Kelly).

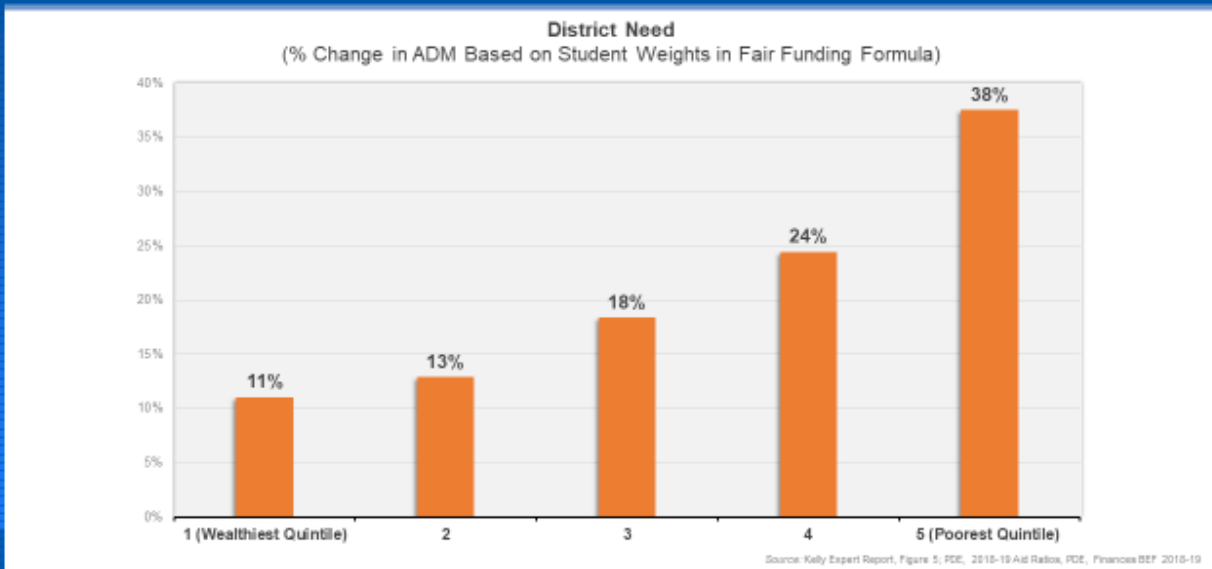
D. Low-wealth districts need the most, try the hardest, and spend the least.

326. Pennsylvania's wealth disparity compounds with another reality: as PDE admits, the very students with the need for additional resources, such as low-income children, are concentrated in low-wealth school districts. Tr. 1780:7-18 (Stem).

327. Dr. Kelly's analysis bears this out: taking the definition of need embedded in the Fair Funding Formula and organizing districts using the Aid Ratio as a measure of wealth, he found that the poorest Pennsylvania school districts also have the greatest percentage of high-need students.²⁷ Tr. 1195:10-1196:18 (Kelly). Specifically, according to the need metrics embedded in the Fair Funding Formula, the student body of the poorest quintile of Pennsylvania districts has a need for 38% additional funding, while the student body of the wealthiest quintile of districts has a need for only 11% additional funding. Tr. 1195:10-1196:18 (Kelly); PD-3-21. This pattern is consistent across wealth quintiles: as a district loses wealth, its student need increases:

²⁷ Because it is based upon the Fair Funding Formula, this calculation takes into account the student-based needs identified by the Fair Funding Formula, but does not take into account the district-specific need of special education students, which are allocated through the Special Education Fair Funding Formula. *See* Section III(B)(2).

The Poorest Districts Have the Greatest Needs



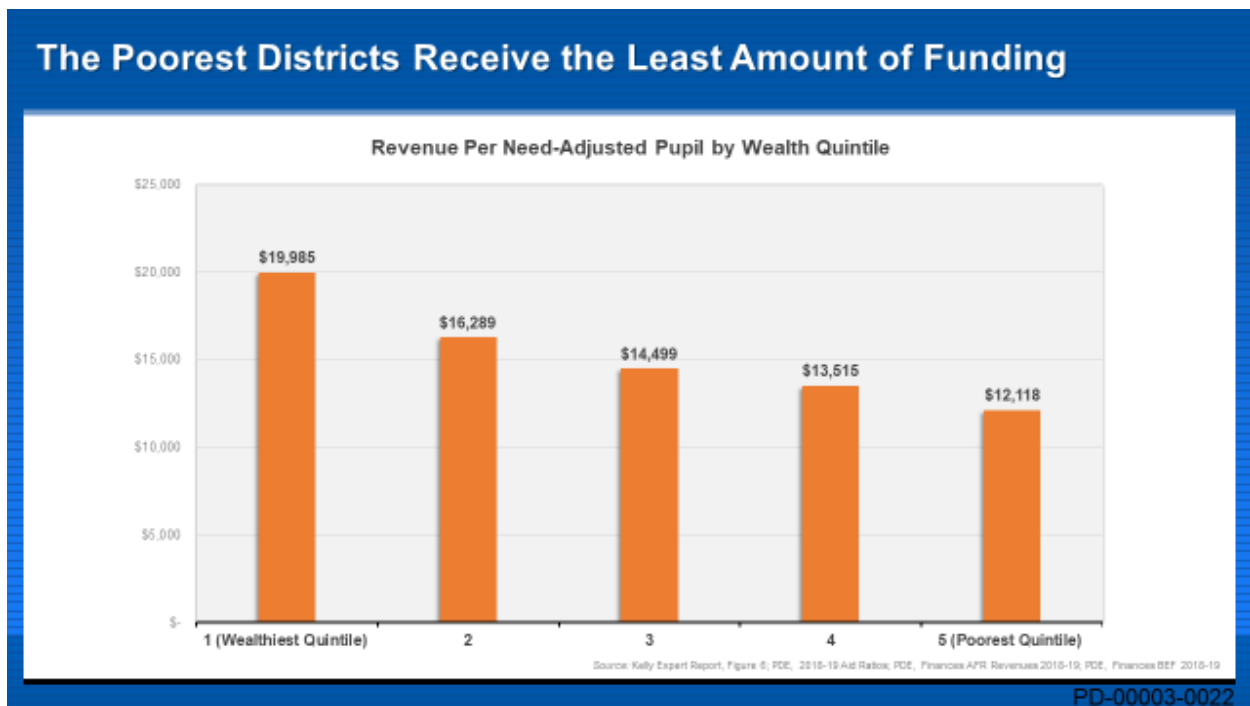
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PD-3-21

328. Speaker Cutler's expert Mr. Willis agreed that a touchstone principle in the evaluation of a school funding system is that there should be little to no relationship between local wealth and the amount of resources available to a school district. Tr. 12930:8-15 (Willis). Yet as discussed above, PDE admits that Pennsylvania has one of the largest gaps of any state in the country in per child spending between the Commonwealth's poorest and wealthiest districts. PX-1830-93; Tr. 1147:18-23 (Kelly). Dr. Kelly's analyses makes those disparities clear: the poorest districts, with the neediest students, also have the least amount of funding. Tr. 1196:21-1198:2 (Kelly).

329. Specifically, using the Fair Funding Formula's need-adjusted pupil count, Dr. Kelly found that the poorest quintile of school districts has

approximately \$7,800 less per need-adjusted student. Tr. 1196:21-1198:2 (Kelly). That is, the poorest quintile of districts has a revenue of \$12,118 per weighted student, while the wealthiest quintile has a revenue of \$19,985 per weighed student. Tr. 1197:22-1198:2 (Kelly). This pattern is consistent across quintiles: the poorer a district is, the needier its student population, and the less it has in funding to support that population. Tr. 1198:3-8 (Kelly).



PD-3-22

330. Unsurprisingly, the poorest Pennsylvania districts also spend the least. Tr. 1198:9-22 (Kelly). The poorest quintile of districts spends \$11,284 per need-adjusted pupil, while the wealthiest quintile spends \$17,921 per need-adjusted pupil. Tr. 1198:18-22 (Kelly); PD-3-23. These disparities are largely unchanged

even when taking into account differences in cost of living for different regions.

Tr. 1199:2-22 (Kelly).

331. Moreover, these disparities are found despite the fact that low-wealth communities tax themselves at higher rates than high-wealth communities. PD-3-27. Dr. Kelly provided an illustrative example, comparing one of Pennsylvania's wealthiest districts, the Lower Merion School District, to one of its poorest, the Reading School District. Tr. 1203:3-24 (Kelly). Reading has \$8,650 in revenue per need-adjusted pupil, while Lower Merion School District has roughly \$32,600. Tr. 1203:3-24 (Kelly). This is despite the fact that Reading makes more effort to fund its schools: Lower Merion's equalized millage rate is 1.8 equalized mills below the Commonwealth average, while Reading's equalized millage rate is 7.4 equalized mills above the Commonwealth average. Tr. 1204:1-18 (Kelly).

332. The same pattern holds true for Petitioner Districts and the School District of Philadelphia. For example, when comparing William Penn School District to Marple Newton School District, a high-wealth district in the same county, approximately 10 miles apart, large disparities are evident:

Comparison of Tax Effort and Funding for Focus Districts and Wealthy Districts

	NEED-ADJUSTED REVENUE PER PUPIL	EQUALIZED MILLAGE RATE
Marple Newtown	\$24,933.27	13.0
Greater Johnstown	\$10,754.02	16.3
Panther Valley	\$10,865.50	31.0
Shenandoah Valley	\$10,020.38	30.2
Lancaster	\$12,528.13	24.7
William Penn	\$14,786.74	34.6
Wilkes-Barre	\$11,206.80	22.7
Philadelphia	\$11,316.10	24.5

Source: Kelly Expert Report, Table 4

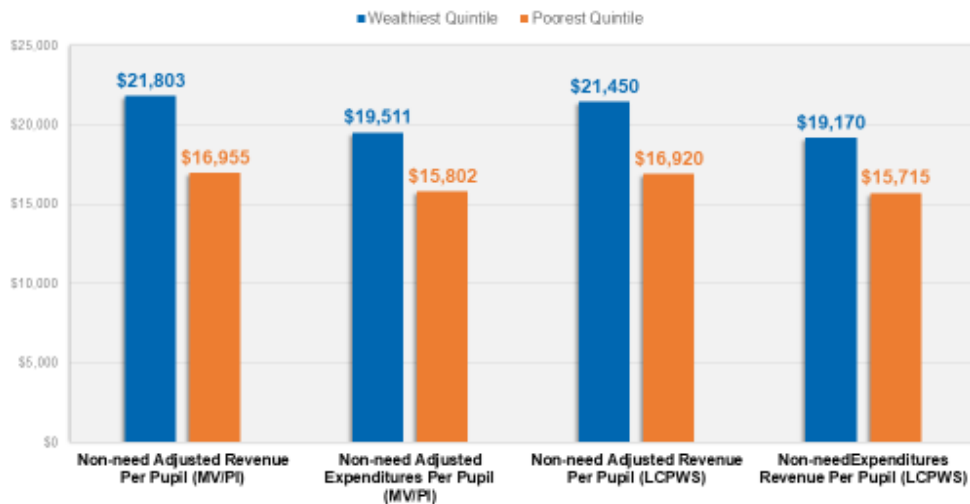
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PD-3-27

333. Marple Newtown is able to generate \$10,000 more revenue per need-adjusted pupil, even though William Penn's equalized millage rate is more than double Marple Newton's. Tr. 1204:21-1206:12 (Kelly).

334. As Dr. Kelly emphasized, failing to take weight-adjusted need into account provides an incomplete picture of school funding. Tr. 1200:15-1201:6 (Kelly). But even when ignoring student need, and instead using a non-need adjusted student count, the same patterns emerge, with the highest wealth districts receiving more revenues and making greater expenditures:

Revenue & Expenditures for Wealthiest and Poorest Quintiles Using Multiple Wealth Measures Per Pupil Without Need Adjustment



Source: Kelly Expert Report, Figure 8, PDE, 2015-16 Aid Ratios, PDE, Frances AFR 2015-16, PDE, Frances AFR Revenues 2015-16, PDE, Frances AFR Expenditures 2015-16, PDE, Frances ADM-6/AD6 2015-16 May 2016

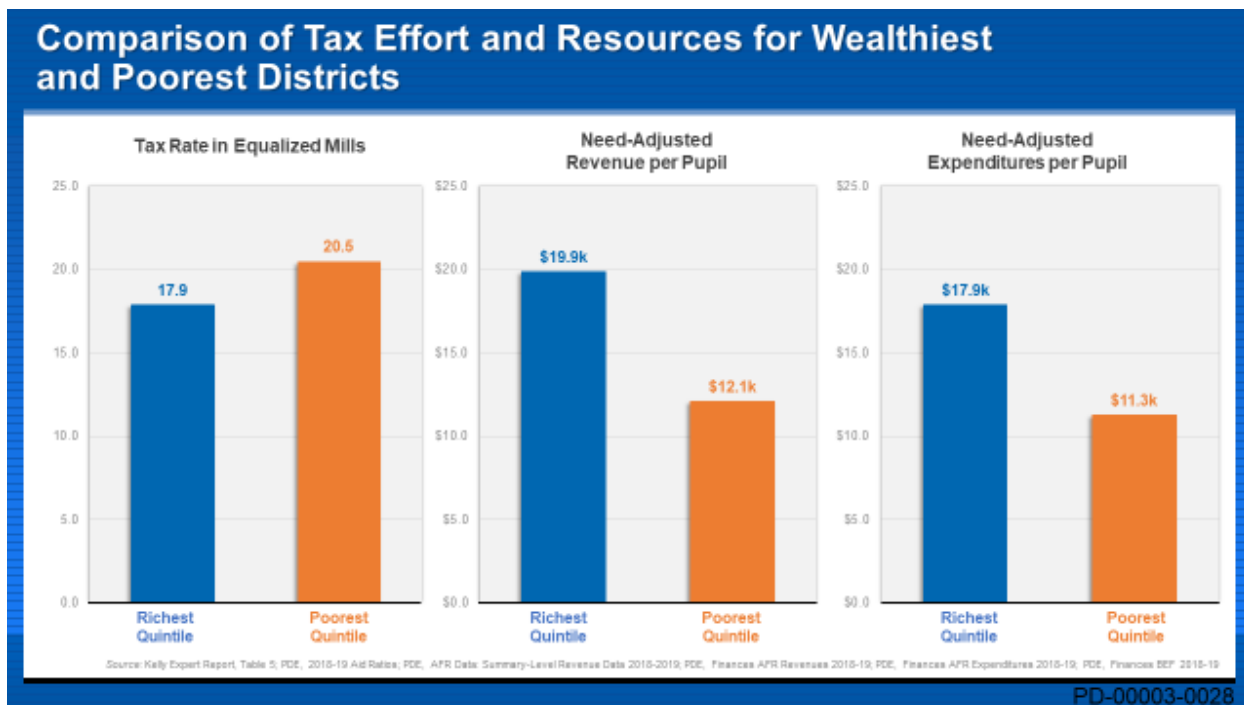
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PD-3-25; Tr. 1200:15-1202:24 (Kelly).

335. In other words, even when failing to account for student need, the wealthiest districts (\$21,803) had approximately \$4,850 more in per-student funding than the poorest districts (\$16,955). PD-3-25. These patterns hold true using either measure of wealth: the Aid Ratio or the Local Capacity per Weighted Student. Tr. 1200:15-1201:6 (Kelly).

336. The gaps of \$7,800 in need-adjusted revenue per pupil and of \$4,850 in non-need adjusted revenue per pupil exist despite state-specific funding generally being greater for poor districts. *See, e.g.*, Tr. 1395:9-20 (Kelly).

337. All told, the lowest wealth districts have the greatest needs, try the hardest, and have by far the least to spend on their students:



PD-3-28

338. Even though the poorest quintile of districts are taxing themselves at a higher rate, they are producing substantially less revenue and they have substantially fewer dollars to spend to help their students meet the standards the Commonwealth has set for them. Tr. 1207:4-1208:8 (Kelly); *see also* Tr. 9609:13-9610:4 (Johnson).

339. This pattern is long-standing. Indeed, Pennsylvania’s Costing Out Study concluded the same thing in 2007: “The inequity of Pennsylvania’s funding system can be summarized by the conclusion that school districts with higher wealth and lower needs spend more than lower wealth districts and do so while making lower tax effort.” PX-99-10.

E. The state’s own study and law establish that Pennsylvania schools are underfunded.

1. In 2007, the Costing Out Study found that schools were underfunded by \$4.38 billion.

340. Speaker Cutler’s expert Mr. Willis acknowledged that “[t]o design a funding system that effectively supports the state’s education goals, states should first establish clear, measurable targets for student achievement and then determine and provide the necessary education funding to achieve these goals.” Tr. 12873:15-12874:24 (Willis).

341. But as detailed in Section (VI)(E)(3), the Commonwealth does not currently attempt to calculate the costs of providing an education of any quality to Pennsylvania students. For three years, however, it did make this calculation.

342. In July 2006, the Commonwealth enacted Act 114, which directed the State Board to conduct a costing out study to determine “the basic cost per pupil to provide an education that will permit a student to meet the State’s academic standards and assessments.” PX-3144 ¶ 120 (State Board Answer and New Matter); PX-3145 ¶ 120 (Executive Respondents Answer and New Matter); 24 Pa. Stat. § 25-2599.3.

343. Act 114 required Pennsylvania’s costing out study to evaluate both the adequacy and equity of the then-existing school funding system. 24 Pa. Stat. § 25-2599.3. Adequacy was defined as “whether sufficient resources, both State and

local, are being committed to meet established performance standards and assure academic success for all.” PX-3144 ¶ 121 (State Board Answer and New Matter); PX-3145 ¶ 121 (Executive Respondents Answer and New Matter).

344. Equity was defined as “whether public resources being committed to education are distributed in such a way that all children, regardless of race, gender, ethnicity, disability, socioeconomic status, and geography, have an equal opportunity to succeed in school.” PX-3144 ¶ 121 (State Board Answer and New Matter); PX-3145 ¶ 121 (Executive Respondents Answer and New Matter).

345. When discussing the costing out study he conducted for the Kansas Legislature, Speaker Cutler’s expert Mr. Willis explained that this is precisely what costing out studies accomplish: examine state standards, and then study “the amounts of resources and how distribution would have to change in order to achieve those standards.” Tr. 12683:17-12684:23 (Willis).

346. In October 2006, the State Board issued a request for proposals to select a contractor to conduct “a comprehensive Statewide costing out study.” PX-3144 ¶ 122 (State Board Answer and New Matter); PX-3145 ¶ 122 (Executive Respondents Answer and New Matter). The State Board ultimately selected Augenblick, Palaich, and Associates, Inc. (“APA”), an experienced firm that prepared similar studies in more than 20 other states. PX-3144 ¶ 120 (State Board Answer and New Matter); PX-3145 ¶ 120 (Executive Respondents Answer and

New Matter). Speaker Cutler’s expert Mr. Willis regularly partners with APA on school funding work. Tr. 13005:17-13006:13 (Willis).

347. The State Board, in conjunction with APA, selected the Pennsylvania Accountability System as the performance target for the study. PX-3144 ¶ 124 (State Board Answer and New Matter); PX-3145 ¶ 124 (Executive Respondents Answer and New Matter). The Pennsylvania Accountability System’s key goals were that all students: (i) meet state standards in 12 academic areas; and (ii) score ‘proficient’ or above on reading and math PSSA exams by the year 2014. PX-3144 ¶ 124 (State Board Answer and New Matter); PX-3145 ¶ 124 (Executive Respondents Answer and New Matter). APA used a variety of nationally recognized research approaches to calculate the costs associated with achieving those goals. PX-3144 ¶ 124 (State Board Answer and New Matter); PX-3145 ¶ 124 (Executive Respondents Answer and New Matter).

348. The final version of the report (the “Costing Out Study”) was completed in December of 2007. PX-99-1. Dr. Kelly found that the methods used in the Costing Out Study were consistent with what one would expect within the education finance field. Tr. 1309:22-1310:13 (Kelly).

349. APA identified three key cost elements for Pennsylvania schools: (i) the ‘base cost’ of educating an average student in the Commonwealth to meet state performance expectations (excluding food service costs, transportation costs, costs

associated with community services, capital costs, or debt service); (ii) the cost ‘weights’ for the additional expense of educating students with special needs (including economically disadvantaged students, special education students, gifted students, and English-language learner (“ELL”) students) to meet performance standards and to effectively educate the Commonwealth’s gifted and talented students; and (iii) additional ‘cost factors’ associated with differences between school districts in terms of their size, enrollment change, urban or rural location, and cost of living differences across the state. PX-99-13. These factors were consistent with the General Assembly’s mandate in Act 114. PX-3144 ¶ 124 (State Board Answer and New Matter).

350. Pursuant to the requirements of the State Board, APA’s stated goal was for all Pennsylvania’s schools to reach 100% proficiency on state standards by 2014. PX-99-16. However, as Dr. Kelly explained, and as Speaker Cutler’s own expert conceded, APA didn’t calculate its base per-pupil cost for providing students with an adequate education based on school districts who were achieving 100% proficiency. Tr. 1315:6-21 (Kelly); Tr. 13257:11-13285:4 (Eden). Rather, APA’s calculations were based on the education spending of districts already meeting 2012 goals for proficiency or on a trajectory to meet those goals: 81% proficiency in reading and 78% proficiency in math. Tr. 1313:6-1313:18 (Kelly); PX-99-14, 16, 40. These performance levels are largely consistent with

Pennsylvania’s targets for student achievement developed in its 2019 ESSA Plan, which PDE believes to be achievable if more resources are provided to schools. Tr. 13527:20-13528:4 (Eden); Tr. 1821:4-6 (Stem); Tr. 1822:8-18 (Stem); PX-1830-166–67.

351. APA drew the following conclusions with respect to the “adequacy” of Pennsylvania’s 2005-06 funding arrangement for each district to meet state standards: (i) the estimated additional spending needed for an adequate education was \$4.38 billion (25.4%) higher than actual spending in 2005-06; (ii) the average total costing-out estimate per student was \$11,926, while Pennsylvania school districts spent on average only \$9,512 per student in 2005-06 (a spending shortfall of \$2,414) with 167 districts having a spending shortfall greater than \$3,000 per student; and (iii) there were 471 out of 500 Commonwealth school districts that spent less than their costing-out estimate. PX-99-8–10, 59–60. APA also concluded that the Commonwealth’s least wealthy districts were the furthest from their costing-out estimates: on average, the poorest 20% of districts would need to raise spending by 37.5%, while the wealthiest 20% would need to raise spending by only 6.6%. PX-3144, ¶ 126 (State Board Answer and New Matter); Tr. 1172:12-1174:4 (Kelly).

352. APA drew the following conclusions with respect to the ‘equity’ of Pennsylvania’s 2005-06 funding arrangement: (i) there is a substantial variation in

wealth between school districts in Pennsylvania; (ii) state aid to each school district is fairly consistent once all cost pressures are taken into account (e.g., number of students with special needs, differences in district size); (iii) local revenue is almost twice as much as state revenue, which overwhelms whatever equity there is from state aid; (iv) to raise local revenue, poorer districts have the highest tax effort, while the wealthiest districts generally have the lowest effort; and (v) state and local taxes for schools are 6–12% lower than those collected in six nearby states. PX-3144 ¶ 127 (State Board Answer and New Matter); PX-99-9–10.

2. Legislative Respondents’ attacks on the Costing Out Study are belied by their own witnesses’ testimony and their own actions.

353. In order to make a broadside attack on the Costing Out Study, Senator Corman offered the testimony of expert witness Dr. Eric Hanushek. Although Dr. Hanushek did not “conduct[] an analysis of spending and achievement” in this case, he is well known in the school finance world for research that allegedly found no connection between funding and outcomes, a point he has made at least 24 times in school funding litigation across the country. Tr. 14142:6-12 (Hanushek).

354. However, Speaker Cutler’s expert Mr. Willis made clear that while Dr. Hanushek’s research is well known, it is also methodologically limited, subject to statistical bias, and has been eclipsed by more rigorous scholarship that directly

contradicts his claims. Tr. 12891:19-12892:2 (Willis); *see also* Tr. 9546:24-9549:5 (Johnson); Tr. 9863:3-9864:3 (Johnson); Tr. 9686:11-9688:9 (Johnson); *supra* at Section III(B)(3). In fact, Dr. Hanushek admitted that other courts have rejected his testimony in school funding cases as not credible or reliable. Tr. 14263:8-11 (Hanushek). And he admitted that courts have concluded that the data underlying his opinions was questionable or problematic. Tr. 14265:22-14266:8 (Hanushek).²⁸

355. Regarding the Costing Out Study specifically, Dr. Hanushek's testimony is also not deserving weight. First, Dr. Hanushek at various times testified that the methodology of the Costing Out Study was unclear. *See, e.g.*, Tr. 14129:12-22 (Hanushek). Yet he admitted he possessed, but only "skimmed through parts of" the deposition testimony of the principal author of the Costing Out Study, who discussed that very methodology. Tr. 14245:15-20 (Hanushek). Nor did he review all the materials relating to the Costing Out Study, including communications between APA and the General Assembly relating to APA's

²⁸ Dr. Hanushek also testified about research studies regarding the impact of school funding which was beyond the scope of his expert report and as to which counsel objected. Tr. 14291:11-14292:7 (Hanushek). Dr. Hanushek also expressed concern that additional school funding, if provided, may not be efficiently spent, but then admitted that this view has been previously rejected. Tr. 14213:10-14 (Hanushek). As one court stated: "Neither does this Court view the possibility that school funds may be inefficiently or unproductively spent, which is raised by the testimony of Dr. Hanushek, as a valid defense to plaintiffs' constitutional claims." Tr. 14213:10-14 (Hanushek); Tr. 14213:22-14215:6 (Hanushek).

methodology. Tr. 14216:1-8 (Hanushek). Furthermore, he once again merely “skimmed” the rebuttal report responding to the report he submitted in this case. Tr. 14168:11-15 (Hanushek).

356. Second, despite his attacks on the general practice of costing out studies as lacking an empirical basis, Dr. Hanushek admitted he himself “once proposed that [he] do a costing-out study, but [he] was not chosen to be the person doing it.” Tr. 14143:13-15 (Hanushek). He also acknowledged that legislatures have requested costing-out studies in “many states” including Pennsylvania. Tr. 14171:10-16 (Hanushek).

357. Third, the most foundational critique Dr. Hanushek made regarding costing out studies was that they seek to give precise measures of sufficient funding, and that he believes such precision cannot be given with scientific certainty. Tr. 14091:18-14091:6 (Hanushek); Tr. 14100:23-14101:1 (Hanushek). Yet Dr. Hanushek admitted that in previous sworn testimony, he had acknowledged this very limitation, and specifically insisted a broader context was necessary, asserting, “I believe it’s entirely appropriate for courts and legislatures to accept the opinions that come from various ways of costing-out studies in arriving at their decisions about what costs should be.” Tr. 14179:11-14182:13 (Hanushek).

358. In fact, Dr. Hanushek’s point is evidenced by the similarities between much of the methodology of the Costing Out Study and the Basic Education Funding Commission itself, which led to the Fair Funding Formula being adopted on a bipartisan basis. *Compare* LR-509-77–78 with PX-99-21–23. For example, the Commission determined student weights based on information collected for it through a non-randomized survey by the Independent Fiscal Office (“IFO”) of 80 responding districts, heavily weighted to “successful” districts, and 14 responding charter schools, wherein respondents provided their “best estimate” of the additional costs incurred serving various at-risk student groups. LR-509-77–78. As noted by one of the districts that responded to the survey, “The questions are very subjective. I made best estimates.” LR-509-94. For its weights, APA utilized the estimates of multiple structured panels of diverse educators about costs of services needed for such student groups and carefully examined the personnel and materials estimated to be needed. PX-99-21–23.

359. In addition, both APA (by intensive interviews) and the IFO (by its survey) sought information about the “best practices” the selected districts used to assist economically disadvantaged or ELL students. *Compare* LR-509-16, 75–98 with PX-99-20–26, 67–69. In other words, as Dr. Hanushek previously testified, the point of such a study is that it is an appropriate measure of cost for a legislature to use to make a reasonable estimate of the amount of funding needed in a state,

not that it must be peer-reviewed in a scientific journal. Tr. 14181:13-14182:13 (Hanushek).

360. Dr. Hanushek was not the only Legislative Respondent witness who conceded the value of a legislature making such estimates. Speaker Cutler's expert Mr. Willis was in fact qualified in part based upon his own work conducting costing out studies. Tr. 12676:15-22 (Willis). During his testimony, Mr. Willis explained that such studies are common place, and ask basic, foundational questions about school funding systems:

They've been used for well over two decades now in the United States.

They ask questions, not just about the amounts of resources that states contribute to their public education systems, but also about how those dollars are distributed and what I might describe as the mechanics, the rules, the regulations that go around the funding that goes to public schools and school districts that allow practitioners to use those resources on behalf of students.

Tr. 12676:15-12677:7 (Willis).

361. In sum, given the testimony of Respondents' own witnesses, Dr. Kelly's testimony, and the adoption of the Costing Out Study into state law, it is clear that the Costing Out Study was reasonable and appropriate for its purpose.

3. The Commonwealth adopted the methodology of the Costing Out Study into law, and admitted that by 2011, schools were \$4.5 billion underfunded.

362. The Commonwealth adopted much of the Costing Out Study into law. In 2008, the Commonwealth enacted Section 2502.48 of the School Code,

including several of the calculations generated by the Costing Out Study, and the methodology for setting adequacy targets for each district. Tr. 1174:3-8 (Kelly); PX-3215, Resp. Nos. 15–17 (Speaker’s Resp. to RFAs); Act 2008-61 (H.B. 1067), P.L. 846, No. 61, § 30.

363. Based upon the methods of the Costing Out Study, Section 2502.48 required PDE to follow a series of calculations to identify an adequacy target for each school district, which is the amount the district would need for its students to reach target proficiency levels. 24 P.S. § 25-2502.48(b). This adequacy target used the Costing Out Study’s \$8,003 base amount, adjusted for inflation using the Act I Index, a Pennsylvania-specific inflation index related to educational costs in the Commonwealth. Tr. 1182:24-1183:10 (Kelly); 24 P.S. § 25-2502.48; *see* Section VI(G)(1). The law also required the Commonwealth to compare that adequacy target with the amount of actual spending in a district to generate a number known as the “adequacy shortfall,” or how much less school districts have than they need. Tr. 1174:13-20 (Kelly); 24 P.S. § 25-2502.48(c)(1)(i); PX-1904, Column O.

364. The Costing Out Study concluded that based upon its equity analysis: “[i]f additional revenues are needed to improve student performance, such funds should be collected at the state level and allocated by the state through a formula that is sensitive to the needs and wealth of school districts. By focusing on state funding in this way Pennsylvania will be better able to reduce the inequities caused

by the current heavy reliance on local revenues.” PX-3144 ¶ 128 (State Board Answer and New Matter); PX-99-10. The General Assembly ignored this recommendation, and instead established state targets equaling approximately 50% of a district’s funding shortfall, without determining whether districts could actually raise the remaining funds. 24 P.S. § 25-2502.48(c)(1); *compare* PX-1904, cell O503 *with* cell N503; Tr. 1178:7-24 (Kelly).

365. However, Section 2502.48 of the School Code provided a goal for the Commonwealth: “In furtherance of the General Assembly's long-standing commitment to providing adequate funding that will ensure equitable State and local investments in public education and in order to enable students to attain applicable Federal and State academic standards, it is the goal of this Commonwealth to review and meet State funding targets by fiscal year 2013-2014.” Act 2008-61 (H.B. 1067), P.L. 846, No. 61, § 30.

366. PDE calculated and published adequacy targets for 2008-09, 2009-10, and 2010-11. Tr. 12126:13-12127:5 (Hanft). But adequacy was never reached, nor were state funding targets. In 2010-11, when PDE calculated this adequacy shortfall for the final time, school districts had a collective adequacy shortfall of \$4.5 billion, with an outstanding state target of \$2.4 billion. Tr. 1176:4-15 (Kelly); PX-1904, cells O503, N503. In that same year, the Commonwealth identified large

adequacy shortfalls for each Petitioner District and for the School District of Philadelphia:

School District	Adequacy Shortfall
Greater Johnstown SD	\$14,578,342.01
Panther Valley SD	\$10,054,053.02
William Penn SD	\$21,836,792.06
Lancaster SD	\$53,331,324.25
Wilkes-Barre Area SD	\$21,870,970.77
Shenandoah Valley SD	\$7,069,556.60
Philadelphia City SD	\$943,541,462.95

PX-1904, cells N132, N142, N217, N288, N326, N416, N400.

367. In 2011, during the same year it cut \$860 million in total classroom funding, the General Assembly amended Section 2502.48, but only to remove the goal of meeting adequacy targets. PX-3145 ¶¶ 3, 137 (Executive Respondents Answer and New Matter); Act 2011-24 (H.B. 1352), P.L. 112, No. 24, § 34. The remainder of the law was never repealed. *See* 24 P.S. § 25-2502.48. While the state’s definitions of adequacy targets, adequacy shortfalls, and state funding targets remain in state law, as does the instruction that PDE calculate these numbers, the state no longer includes the adequacy targets, adequacy shortfalls, or state funding target values mandated in Section 2502.48 of the School Code in the

data files it releases each year. Tr. 1176:1-11 (Kelly); PX-3215, Resp. No. 23 (Speaker's Resp. to RFAs).

4. Pursuant to both current law and the Commonwealth's best current estimate, schools are now underfunded by approximately \$4.6 billion.

368. Because PDE has not published adequacy shortfalls since 2010-11, Dr. Kelly updated Section 2502.48's adequacy calculations with the most currently available data—the 2018-19 school year (when his initial report was authored) and the 2019-20 school year (when his report was updated prior to trial). Tr. 1176:16-22 (Kelly); Tr. 1179:1-3 (Kelly). For 2018-19, those calculations demonstrate that 428 of the Commonwealth's school districts, representing 86% of the Commonwealth's students, have an adequacy shortfall, and this shortfall totals \$4.6 billion. Tr. 1177:17-1178:6 (Kelly); Tr. 1179:1-20 (Kelly).

369. Pursuant to Section 2502.48, PDE used the Act 1 Index to adjust the base cost for inflation when it made adequacy calculations. Tr. 1182:24-1183:10 (Kelly). Dr. Kelly therefore followed the same procedure in his calculations. Tr. 1182:21-1183:10 (Kelly). However, he found that even when using an alternative inflation adjustment favored by Respondents, the Consumer Price Index Urban (CPI-U), the adequacy shortfall remained over \$4 billion, with over 400 school districts not receiving adequate funding. Tr. 1182:14-20 (Kelly).

370. Moreover, Dr. Kelly explained that like Section 2502.48, the Fair Funding Formula has its own weights for poverty and English Language Learner students. Tr. 1166:10-1168:1 (Kelly). Dr. Kelly therefore ran the analysis in a third manner, by replacing Section 2502.48's weights with the weights from the Fair Funding Formula. Tr. 1180:10-24 (Kelly). He found generally consistent results, with the adequacy shortfall increasing to \$4.8 billion, and 413 school districts not receiving adequate funding. PD-3-18. All told, each of his methods found shortfalls exceeding \$4 billion:

Appendix Table 14 Alternative Methods for Assessing Adequacy Shortfalls and State Funding Targets, 2018-19				
	Number of Districts with Shortfall	Adequacy Shortfall	State Funding Target	Notes
Section 2502.48 Estimate.	428	\$4,556,074,345.91	\$2,612,889,136.04	Estimate is based on procedures outlined in Section 2502.48 and described in Table 13. ²⁹
BEF Estimate.	413	\$4,844,034,345.87	\$2,915,162,921.67	Modified estimate using weights from BEF formula. ³⁰
Section 2502.48 Estimate from Alternate Inflation Adjustment.	410	\$4,076,122,176.42	\$2,365,945,494.14	Alternate measure of based cost based on the Consumer Price Index (CPI-U). ³¹

PD-3-18.

371. Yet for three reasons, even this amount likely underestimates what constitutes sufficient funding for schools. Tr. 1183:14-21 (Kelly).

372. First, the School Code's calculation does not take into account increases in mandated costs that school districts have become responsible for

bearing since the Costing Out Study was completed. Tr. 1183:21-1184:23 (Kelly). By way of one example, pension expenses increased from approximately 2% of districts' total expenses in 2008-09 to 14% in 2018-19. Tr. 1184:4-23 (Kelly). In real dollars, this means school districts themselves are responsible for an additional \$1.1 billion in unreimbursed pension costs compared to when the Costing Out Study was conducted. Tr. 1184:4-23 (Kelly).

373. Second, the School Code's calculation does not take into account district needs in areas such as special education, facilities, or transportation. Tr. 1184:24-1185:9 (Kelly); PX-3215, Resp. No. 19 (Speaker's Resp. to RFAs). These limitations are significant. For example, after reimbursements from the state, school districts were responsible for \$3.9 billion in special education costs in 2019-20, PX-4903, cell K26, a number which in five years grew by over \$657 million in inflation-adjusted dollars, PX-4904, cell I11, and \$1 billion in nominal dollars, *compare* PX-4903, cell K26 *with* PX-4903, cell K11.

374. Moreover, the failure to account for capital needs is significant. The School District of Philadelphia alone reported nearly \$5 billion dollars in capital spending needs. Tr. 10236:12-10238:15 (Monson).

375. Third, and as explained in Section IV(B), the School Code's calculation reflects the costs necessary to meet an earlier state standard—high school graduation—whereas the Commonwealth's stated goal is now college and

career readiness, with more rigorous standards and assessments. Tr. 1185:10-1186:3 (Kelly).

376. Dr. Kelly updated his report with 2019-20 data, and the numbers remained consistent: Section 2502.48 of the School Code reveals that school districts are in the aggregate underfunded by \$4.6 billion. PD-3-100. Dr. Kelly also produced district-by-district shortfalls for the entire Commonwealth. PD-3-107-128. No evidence was offered challenging the methodology of Dr. Kelly's calculations.

377. Given the above, including the state's own adoption of adequacy targets and calculations of those targets for three years, Dr. Kelly's estimates of adequacy shortfalls in PD-3-107 through PD-3-128—based exclusively on the Commonwealth's only attempt to measure adequate funding—are a reasonable, if conservative, estimation of the minimum amount of additional general education funds school districts need to allow all their students a meaningful opportunity to meet state standards, become college and career ready, and succeed as productive citizens.

F. Pennsylvania’s system of school funding is unreasonable, irrational, and inequitable.

378. While the heavy reliance on local funding, compounded by inadequate state funding, is at the core of Pennsylvania’s inadequate and inequitable system of funding, it is not the only cause.

1. The practice of “hold harmless” treats identical districts in disparate ways and leads to illogical, inequitable results.

379. Another prominent piece of Pennsylvania’s school funding landscape that leads to irrational results is “hold harmless.” LR-509-68. Hold harmless is the practice by which “no school district will receive less basic education funding than it received in the previous year,” with only a portion of funding being distributed pursuant to a current formula. LR-509-68. Among other things, hold harmless funds certain districts as if they had a larger group of students than they actually have. PX-3215, Resp. No. 47 (Speaker’s Resp. to RFAs).

380. Hold harmless is longstanding in the Commonwealth. LR-509-36–37. In considering the issue, the Basic Education Funding Commission provided a number of options to the General Assembly for addressing the practice, including redistributing “excess” funds, or phasing out hold harmless over ten years. Tr. 11777:9-11779:8 (Donley); Tr. 1555:22-1557:3 (Kelly); LR-509-68.

381. The General Assembly, however, chose the option that resulted in the smallest amount of funding being distributed pursuant to student weights of the

Fair Funding Formula: keeping hold harmless in perpetuity for the “base” of Basic Education Funding allocations. Tr. 1191:5-18 (Kelly). Only the additional money distributed since Act 35’s passage is distributed through the weights of the Fair Funding Formula. Tr. 1191:19-1192:3 (Kelly).

382. Practically speaking, this means that the vast majority of Basic Education Funding is not distributed according to the relative needs identified by the Fair Funding Formula. Tr. 1191:5-18 (Kelly). The base year “old” money constitutes approximately \$5.6 billion as of 2021-22, while only “new” money, totaling \$898 million, is distributed according to the weights of the Fair Funding Formula. Tr. 11737:13-11738:13 (Donley).

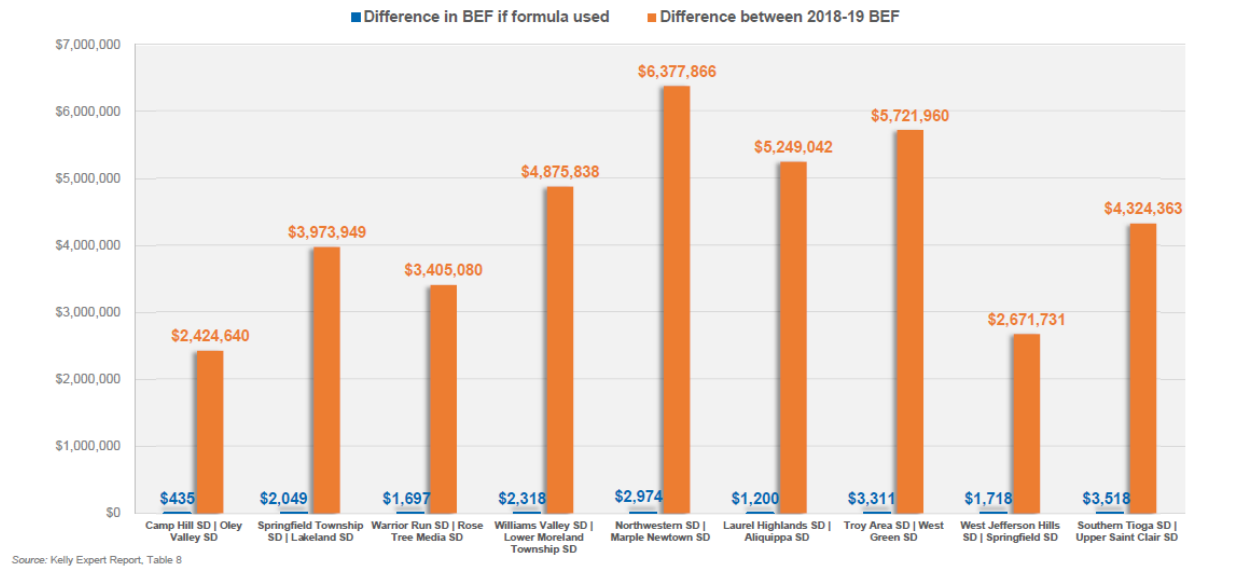
383. Absent a change in law, hold harmless is permanent. While other states may have a phase-in provision for a new funding allocation, the use of a hold harmless that keeps the vast majority of funds from changing hands in perpetuity makes Pennsylvania “quite unusual” and an outlier. Tr. 1252:17-1253:4 (Kelly); Tr. 1539:22-1540:18 (Kelly).

384. As Dr. Kelly and Speaker Cutler’s witness agreed, the principle of hold harmless is not based on any legitimate difference in student need. Tr. 11744:20-24 (Donley); Tr. 1191:19-1192:3 (Kelly). Rather, the ostensible principle of hold harmless is that districts have costs they cannot control as they lose students. Tr. 11736:17-11737:11 (Donley). In practical terms, hold harmless means

that the vast majority of funding distributed by the state is not distributed based on current school district or student factors, but instead on the past demographics of a school district. LR-509-68; Tr. 1191:5-1192:3 (Kelly). As a result, school districts with the same needs receive greatly different amounts of funding.

385. To illustrate the point, Dr. Kelly identified districts that are “extremely similar” and “approximately identical” under the Fair Funding Formula, but whose allocations of Basic Education Funding differed by millions of dollars. Tr. 1251:11-1252:13 (Kelly). For example, Dr. Kelly found that the Laurel Highlands School District and Aliquippa School District should receive funding within approximately \$1,200 of each other. However, as a result of hold harmless, the difference in BEF received between those two districts is more than \$5 million dollars. Tr. 1251:11-1252:13 (Kelly). Those patterns of irrationality repeat across many pairs of districts:

Funding Disparities Between Districts That Should Be Approximately Identical Under Fair Funding Formula



PD-00003-0043

PD-3-43.

386. The Fair Funding Formula is not the only Pennsylvania law with a hold harmless provision. The Special Education Fair Funding Formula is also a relative distribution formula with a permanent hold harmless provision. 24 P.S. § 25-2509.5(bbb)(1), discussed *supra* at Section III(B)(2); PX-3215, Resp. Nos. 74–75, 77 (Speaker’s Resp. to RFAs). This means that the relative needs of a school district’s special education population, as identified by the Special Education Fair Funding Formula, are only used to distribute funding above the 2013-14 base year. PX-3215, Resp. No. 78 (Speaker’s Resp. to RFAs).

387. The practical impact of special education hold harmless is also the same: most of the state’s special education funding is not distributed according to the relative student needs identified by state law. Tr. 1255:19-1256:18 (Kelly). As of 2021-22, the Commonwealth distributed \$1.14 billion in special education funding, but only \$196 million of that funding was distributed according to the needs the Commonwealth identified in law, while \$947 million was distributed pursuant to the “base.” PX-4779, tab “Narrative,” rows 7–10.

388. Whether in the Fair Funding Formula or the Special Education Fair Funding Formula, hold harmless leads to irrational, illogical results. As Speaker Cutler has admitted, hold harmless generally reduces the need to raise taxes for those districts who benefit from the practice. PX-3215, Resp. No. 48 (Speaker’s Resp. to RFAs). And as he also admitted, the school districts that would lose money if hold harmless ends would be negatively impacted, with some districts unable to raise those lost funds through local tax increases, reducing the educational resources available to their students. PX-3215, Resp. Nos. 40–41, 44, 48 (Speaker’s Resp. to RFAs).

389. But those districts with higher student needs today, deprived of funds state laws identifies they need, are surely negatively impacted by keeping hold harmless in place. This is especially true given (i) that low-wealth districts are particularly hurt by hold harmless, PD-3-100; Tr. 1261:17-1262:23 (Kelly); and

(ii) that Speaker Cutler admits that “[w]hen considering their lack of wealth and their current tax rates, many low-wealth school districts do not have the capacity to raise substantially more money locally, even if those school districts believe additional funding was necessary to improve the education they provide their students.” PX-3215, Resp. No. 7 (Speaker’s Resp. to RFAs). In other words, hold harmless as constituted is hurting the communities with the least ability to mitigate that harm.

2. Without adequate funding, changes to hold harmless are “sort of like rearranging the deck chairs on the Titanic.”

390. If hold harmless were ended, and all the money was allocated pursuant to the Fair Funding Formula, about a billion dollars of funding would switch from district to district. Tr. 11738:14-22 (Donley); Tr. 1250:15-1251:10 (Kelly).

391. As Dr. Kelly testified, however, ending hold harmless “harms” districts in this manner only because Pennsylvania inadequately funds its schools in the first instance, forcing them to compete with each other for a finite and insufficient amount of funding: “The issue is that the pie is too small for adequacy. If the funding was adequate, it wouldn’t be this zero sum gain.” Tr. 1538:23-1539:21 (Kelly).

392. Speaker Cutler admits that the Legislature chooses to make school funding a zero sum game, and that there are alternative solutions that harm no children: “If the Legislature so chose, it could, without decreasing state funding to any district target increased funding to Hold Harmless Losers, such that the vast majority of Basic Education Funding would be distributed according to the levels set forth by the Fair Funding Formula.” PX-3215, Resp. No. 72 (Speaker’s Resp. to RFAs); *see also id.* at Resp. No. 85 (acknowledging the same with regards to special education hold harmless); Tr. 11739:4-17 (Donley).

393. In fact, even districts that benefit from hold harmless are struggling as a result of inadequate funding. This was aptly explained by Mr. Splain, the Board President of PARSS and superintendent of Otto-Eldred School District, a PARSS member and a low-wealth, high-need, low-spending school district. Tr. 6112:8-13 (Splain).

394. By the Aid Ratio, Otto-Eldred is the 13th poorest in the Commonwealth. PX-4837. Moreover, its students rank as having the 80th highest needs of 499 districts, and the district ranks 485th in local capacity per weighted student. PX-4837. Said differently, only twelve districts in the Commonwealth have less wealth, and only fourteen districts in the Commonwealth have less of an ability to raise funds for the needs of their district, than Otto-Eldred.

395. Mr. Splain acknowledged that Otto-Eldred is a “winner” under hold harmless. Tr. 6244:4-13 (Splain). But even with the additional funds they receive as a result of that practice, Otto-Eldred had an adequacy shortfall when the Commonwealth last calculated the figure, and they have one today. PX-1904, tab “2010-11 BEF April 2016,” cell N339; PD-3-120.

396. Mr. Splain explained that PARSS does not believe that hold harmless is the answer to the school funding problems rural schools face, and that he would be “ecstatic” if the Commonwealth replaced it with a system that instead ensured adequate funding for all districts based on need. Tr. 6241:1-4 (Splain); Tr. 6241:16-6242:3 (Splain). But merely removing hold harmless without addressing the sufficiency of funding is

sort of like rearranging . . . the deck chairs on the Titanic. We’re all going in the wrong direction. We can change things around; but if we’re not changing the direction with the funding that’s available, we’re headed in the wrong path when it comes to meeting the needs of our students and of our schools to support those students.

Tr. 6241:5-15 (Splain).

3. Charter school funding has “a disproportionately negative impact on districts,” and is in “great need” of reform.

397. A charter school is a public school operated by a private board with public funding pursuant to a statutory process. *See* 24 P.S. § 17-1701-A. Generally speaking, charter schools do not receive direct state or local funding. *See, e.g.*, PX-

4778 (demonstrating BEF distribution to 500 school districts only). Instead, school districts receive funding based upon their average daily membership, which includes all the students a district is fiscally responsible for, regardless of whether they attend a district-run school or a charter school. *See* Tr. 14468:24-14470:9 (Kelly).

398. Charter schools then receive “pass-through revenue” from the districts in which their students reside, most of which is based upon on a statutory funding formula with different tuition rates for general education and special education students. *See* 24 P.S. § 17-1725-A; Tr. 10249:2-12 (Monson); Tr. 10253:13-22 (Monson); Tr. 14472:22-14473:15 (Kelly). School districts have no discretion over that calculation. Tr. 10249:7-12 (Monson).

399. Charter schools are not distributed evenly across the Commonwealth; instead, they are concentrated in higher-need, high-poverty districts. Tr. 14479:2-13 (Kelly); Tr. 14490:8-17 (Kelly). Philadelphia alone has approximately 75,000 students attending charter schools. Tr. 10248:13-16 (Monson).

400. The tuition a school district pays to a charter school for each general education student is calculated by taking a school district’s total expenditures and dividing by the district’s ADM. 24 P.S. § 17-1725-A; Tr. 10253:2-12 (Monson); Tr. 10254:9-10255:13 (Monson).

401. That tuition rate, however, does not include sources of revenue that charter schools are directly eligible for, such as federal funding, in order to avoid double compensating charter schools. Tr. 10253:2-8 (Monson). Nor does it include expenses for services that school districts already provide on behalf of charter schools, such as transportation expenses. Tr. 10255:14-10256:3 (Monson). Moreover, school districts have both a general education rate and a special education rate. Tr. 10253:1-10256:8 (Monson). Accordingly, the per-student spending of a school district and the tuition paid to a charter school is not an apples-to-apples comparison.²⁹ Tr. 10252:2-10254:3 (Monson).

402. As Deputy Secretary Stem explained, “charter schools perform an important function in the educational system,” but “the mechanism by which they’re funded is having a disproportionately negative impact on districts,” and is therefore in “great need” of reform. Tr. 1773:15-1774:8 (Stem); PX-4899-1.

403. That “negative impact” come from two sources: so-called “stranded costs,” and the way charter schools are compensated for special education students.

²⁹ Making matters more perplexing, cyber charter schools can receive drastically different tuition rates for each student, even though they are providing those students with the same virtual program. *Compare, e.g.*, PX-8209 row 483 (Wilkes-Barre) *with* PX-8209 row 234; Tr. 14049:19:16-14054:18 (Cote).

a. Stranded costs

404. As school officials, Dr. Kelly, and PDE each explained, “there’s not a one-for-one tradeoff in costs when a child enrolls in a charter school.” Tr. 1774:9-1775:3 (Stem). This is because not all the expenses associated with educating a student “leave when the student leaves”—instead, there are “stranded costs.” Tr. 10259:10-14 (Monson). Philadelphia’s Chief Financial Officer, Uri Monson, gave an example of a 4th grade classroom in which 2 of 28 students go to a charter school. As he pointed out, “[t]here are still 26 students behind in that classroom, which means they still have a teacher, there’s still a counselor . . . assistant principal . . . building support . . . those expenses don’t go away[.]” Tr. 10259:15-10260:4 (Monson); *see also* Tr. 1268:17-1269:12 (Kelly); Tr. 2801:18-2802:5 (Arcurio); Tr. 6223:15-6224:10 (Splain). Philadelphia, for example, estimates it loses approximately \$4,000 in stranded costs per student. Tr. 10260:14-18 (Monson).

405. Speaker Cutler’s own witness, Mr. Donley, conceded this point when discussing the principle of hold harmless: districts have costs they cannot control as they lose students. Tr. 11736:17-11737:11 (Donley). Donley agreed that this same principle holds whether a student moves to another district, or to a charter school. Tr. 11736:17-11737:11 (Donley).

406. The way money is distributed to charter schools stands in stark contrast to the way it is distributed to districts under the hold harmless provisions in the Fair Funding Formula: when a student leaves a district altogether, that district retains its local funding, and retains most of its state funding, due to hold harmless, effectively covering any stranded costs. But when a student enrolls in a charter school, a district loses both its local funding and its state funding, which follow the student to a charter school.

407. The Commonwealth once allocated \$224 million to school districts to offset these stranded costs. That funding was eliminated in 2011-12, despite the fact that it helped the poorest school districts. PX-3145 ¶ 139 (Executive Respondents Answer and New Matter).

b. Special education charter school tuition costs

408. The second way charter schools disproportionately impact school districts is through the method by which charter school tuition is calculated for special education students, a calculation that does not match the “actual costs of the educational services being provided to students” at charter schools. Tr. 2007:16-2009:3 (Stem). This results in districts overpaying charter schools for special education students. Tr. 10260:19-10261:4 (Monson).

409. This mismatch occurs because the tuition a school district pays to a charter school for each special education student is calculated according to a

formula in the Charter School Law, whereby one takes the school district's expenditures for special education and multiplies by 16% of the school district's ADM. Tr. 10260:19-10261:16 (Monson). For districts with more than 16% special education students, this methodology inflates their tuition rate, rendering it higher than the actual average cost of their special education expenses. Tr. 10265:18-10266:2 (Monson).

410. Unlike the Special Education Funding Formula that determines school districts' special education subsidies, the special education charter tuition calculation does not consider the different levels of student need a charter school actually has, or the varying costs necessary to serve, for example, a student with speech language needs versus a student with multiple severe disabilities. Tr. 10261:20-10262:17 (Monson). In other words, districts must pay charter schools the same special education tuition rate whether a child has low needs or high needs. Tr. 10261:20-10262:17 (Monson). Moreover, charter schools do not need to refund school districts to the extent they receive tuition greater than the special education services they provide. Tr. 10261:20-10266:2 (Monson); Tr. 2007:16-2009:3 (Stem). This is especially problematic, because charter schools overwhelmingly enroll the lowest need and least costly special education students. Tr. 10264:5-11 (Monson).

411. Moreover, because a district's calculations for its own special education costs in the following year includes any special education overpayments made to charter schools, the irrationalities of the charter tuition calculation have a "spiraling... compounding effect over time." Tr. 10264:17-10265:17 (Monson).

412. PDE admits this practice is neither fair nor equitable. PX-4899; Tr. 2007:12-2009:3 (Stem). It has calculated the impact of fixing the problem by "linking special education funding to the same tiers that apply to traditional public schools to better reflect educational need." PX-4791, column D. Such a solution would save Philadelphia \$121 million per year in tuition to brick and mortar charter schools alone. PX-4791, cell D400. The William Penn School District would save \$1.6 million per year. Tr. 2012:12-22 (Stem); PX-4791, cell D217.

413. In total, PDE believes that eliminating the inequities in the way the Commonwealth funds charter schools (including cyber charter schools) would save school districts \$396 million each year, including significant savings for each Petitioner. *See* PX-4791, cells F503, F132, F142, F217, F288, F326, F400, F415.

G. A "silent recession:" State funding increases have failed to keep up with inflation and increases in mandated costs.

414. In the face of claims about significant increases in state funding, Dr. Kelly and school officials explained that after considering inflation and mandated

costs, school districts are in fact generally falling further behind. Tr. 14494:10-19 (Kelly); Tr. 14497:10-14498:15 (Kelly).

415. As Speaker Cutler's expert Mr. Willis explained: many of the financial pressures on school district budgets are largely hidden from public view because they do not take the form of new services or programs and instead are part of what is often referred to as the "cost of doing business." Tr. 13014:14-20 (Willis). In his words, these pressures can therefore create a "silent recession" for school districts, even in periods of overall state increases in funding. Tr. 13015:19-13016:2 (Willis).

416. As detailed below, this is largely what has occurred since the filing of this action and the enactment of the Fair Funding Formula.

1. The Commonwealth's Act 1 base index is an appropriate measure of inflation.

417. As Respondent and Petitioner witnesses agreed, in considering funding trends over time, it is important to use inflation to assess changes in revenues and expenditures. Dr. Kelly explained that the most appropriate measure to use is the state's base index under Act 1. Tr. 14494:10-19 (Kelly); Tr. 14497:10-14498:15 (Kelly). This is with good reason: Unlike a measure like the Consumer Price Index, which measures the rising costs of things such as alcohol and cigarettes, Act 1 looks at the inflation of two specific factors related to the wages

of school district employees. Tr. 14494:10-19 (Kelly); Tr. 14497:10-14498:15 (Kelly); PX-1843. In other words, as Speaker Cutler admits: “The Act 1 index is essentially a measure of inflation specific to education in Pennsylvania.” PX-3215, Resp. No. 11 (Speaker’s Resp. to RFAs).

418. Speaker Cutler’s expert Mr. Willis suggested using the Act 1 index was inappropriate for two reasons. However, this testimony is not credible, and worthy of no weight. First, Mr. Willis testified that in other states, when measures like Act 1 are constructed “they are subject to a lot of influence, folks . . . throw things in there that might help support additional dollars flowing to their communities.” Tr. 12738:23-12739:11 (Willis). Yet he admitted he had no knowledge of the history of Act 1 or how it was constructed, including whether the General Assembly “threw things” in to it. Tr. 13025:3-22 (Willis). Nor did Speaker Cutler otherwise present any evidence that the General Assembly’s own process was subject to undue influence.

419. Second, Mr. Willis argued that rather than being a simple inflation measure, the Act 1 index allows for adjustments for the wealth of a district. Tr. 13023:10-18 (Willis). But as Dr. Kelly explained, as Act 1 itself demonstrates, and as Mr. Willis eventually conceded, the Act 1 base index is merely an average of two wage indices, and does not take into account wealth. Tr. 14493:10-14495:5 (Kelly); Tr. 13028:9-13029:1 (Willis); PX-1843. As Dr. Kelly explained, Mr.

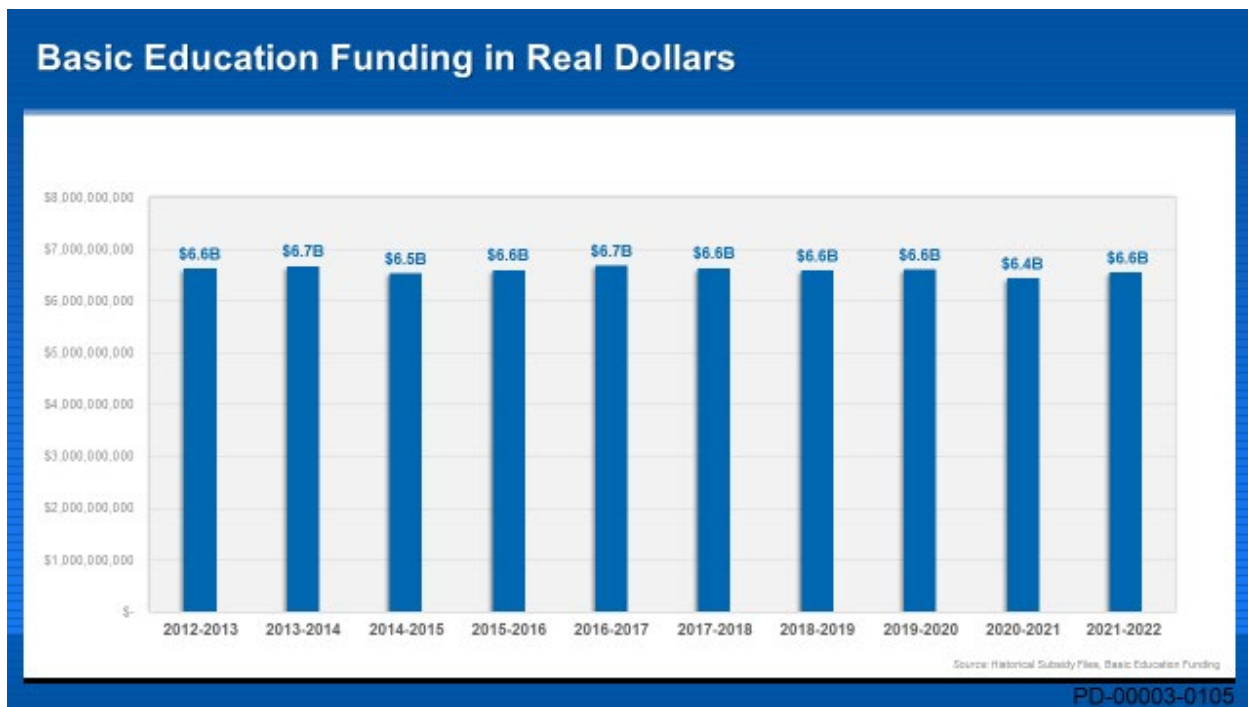
Willis was confused, conflating an additional set of measures from Act 1, which allow poorer districts to raise their taxes higher than the base index. Tr. 14496:11-14494:19 (Kelly).

420. All told, given that the Act 1 index is “essentially a measure of inflation specific to education in Pennsylvania,” PX-3215, Resp. No. 11 (Speaker’s Resp. to RFAs), its use as an inflation index in this matter is entirely appropriate.

2. Statewide Basic Education Funding has remained flat for many years.

421. In the 2011-12 year, the Commonwealth reduced total classroom funding to schools by \$860 million. PX-3145 ¶¶ 3, 137 (Executive Respondents Answer and New Matter). PDE admits that the poorest school districts bore the brunt of those cuts. PX-3145 ¶ 138 (Executive Respondents Answer and New Matter).

422. In the years following those cuts, when accounting for inflation, Basic Education Funding has stayed flat:



PD-3-105; Tr. 1275:23-1276:16 (Kelly).

423. Even when using 2014-15 as a base year—the year prior to the enactment of the Fair Funding Formula—state figures show that on a statewide basis, Basic Education Funding increased by approximately \$15 million dollars, or one-fifth of one percent. PX-4901, M11, O11.

424. Legislative Respondents have made much of the supposed “record” increase in education funding in the 2021-22 school year. *See, e.g.*, Tr. 2483:14-2484:10 (Stem). But in the previous year, education was flat-funded. *See* PX-1789; Tr. 5735:12-17 (Przywara). And when examining 2020-21 and 2021-22 together and adjusting for inflation, Basic Education Funding (including the Level Up Supplement) actually decreased on a statewide basis over the past two years. *Compare* PX-4901, cell L11 *with* M11.

3. School district increases in special education and pension costs have outstripped every dollar in Basic Education Funding increases.

425. Senator Corman himself and Speaker Cutler's witnesses have agreed that to look at the real impact of funding increases to school districts, one must also study school districts' rising mandated costs. Tr. 13010:10-13015:23 (Willis); PX-3210-4; PX-3121-6; Tr. 11727:13-11729:6 (Donley).

426. Speaker Cutler's expert Mr. Willis explained it well, agreeing that even in the face of increases in state and local funding, school districts can face fiscal pressures that threaten to destabilize their budgets and force reductions in services to students. Tr. 13010:10-13011:4 (Willis). Examples of fiscal pressures school districts face include cost of upkeep and renovations for aging school facilities, increasing special education program costs, and increased pension costs. Tr. 13011:12-13013:6 (Willis). And, he agreed those cost increases should be studied in both nominal and inflation-adjusted dollars. Tr. 13013:23-13014:5 (Willis). It is these costs which can effectively create the "silent recession" Mr. Willis identified. Tr. 13015:19-23 (Willis).

427. This point, in fact, has been driven home repeatedly by Senator Corman himself:

For example, and this is not just for the State, this is also for our school districts, the Governor proposed a significant new contribution to our basic education subsidy in this year's budget, which we hope to be able

to accommodate, but all of that money, over \$100 million, will not even cover the local school districts increase in their pension contributions. So that money is not going into the classroom as far as new books or new infrastructure for the classroom, it is not going into hiring any new teachers or anything of that nature, it is going, basically to not even fund the status quo.

PX-3210-4; *see also* PX-3121-6 (Senator Corman stating, “Let me repeat that. The \$150 million will not even cover the increase in the pension obligation that our school districts are facing.”).

428. In other words, as Speaker Cutler’s witness Mr. Donley admitted, when expenses such as pension costs increase, a district can either raise taxes or divert money from other parts of its budget. Tr. 11727:13-23 (Donley).

Accordingly, if the state wants to keep steady the amount of money that is available to districts for non-pension-related education expenses, the state needs to increase the amount of other funding by the same amount. Tr. 11728:11-18 (Donley). Mr. Donley therefore agreed that when evaluating the practical impact of increases in funding, one also needs to look at what the corresponding increase during that period was for things such as pension expenses and special education costs. Tr. 11728:19-11729:6 (Donley).

429. When considering these rising expenses, a different picture of the Commonwealth’s funding scheme emerges. As explained by Dr. Kelly, school leaders, and Speaker Cutler’s witnesses, this silent recession is exactly what has

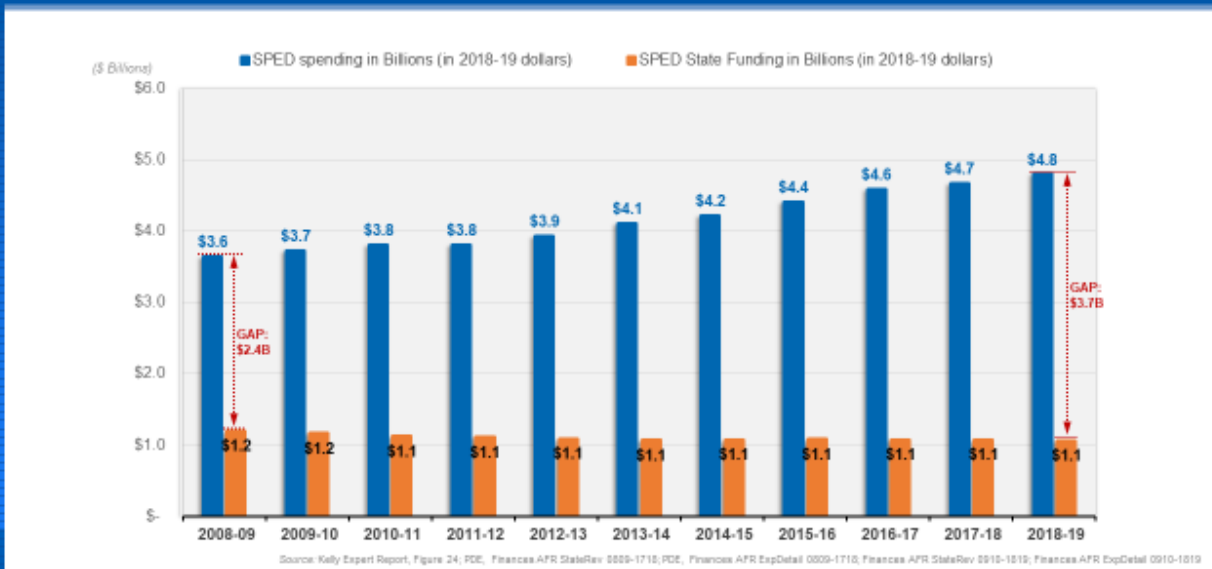
occurred. David Donley agreed, for example, that the pension costs school districts are responsible for have grown “tremendously” in recent years. Tr. 11727:9-11728:10 (Donley). Mr. Willis put it in practical terms: that when adjusted for inflation, school districts’ unreimbursed pension expenses grew by \$1.4 billion dollars from 2010 to 2019. Tr. 13019:6-13021:13 (Willis). Dr. Kelly’s figures were similar. Tr. 1267:7-1268:8 (Kelly).³⁰

430. In fact, on a statewide basis, pension increases greatly outstripped any increases to basic education funding, and nearly equaled every inflation-adjusted dollar appropriated to the state’s education line item (including things such as public libraries) over similar periods of time. *See* PD-3-104–105; Tr. 1267:7-1268:8 (Kelly); Tr. 1275:4-21 (Kelly).

431. Moreover, unreimbursed special education costs have grown dramatically as well, increasing by \$1.3 billion in inflation adjusted dollars since 2008-09:

³⁰ Unreimbursed mandated costs “represent the difference between the cost that the district is encountering and the share of that cost that's covered by the state.” Tr. 1551:8-12 (Kelly).

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PD-3-47.

432. In fact, even since 2014-15, inflation-adjusted unreimbursed pension costs have increased for school districts by \$621 million, PX-4904, cell H11, while inflation-adjusted unreimbursed special education costs have increased for school districts by \$657 million, PX-4904, cell I11. Over the same period, inflation-adjusted Basic Education Funding grew by \$66 million. PX-4904, cell I11. All told, in inflation-adjusted dollars, growth in school districts' share of those two mandated costs alone outstripped growth in Basic Education Funding by \$1.2 billion. PX-4904, cell N11.

H. Under the state’s funding system, Black and Latino children are disproportionately deprived of opportunity.

433. In Pennsylvania, Black and Latino students together make up approximately 470,000 of Pennsylvania’s 1.7 million public school students. PX-2098, tab “statewide,” cells T26, T27. As a result of the way the Commonwealth funds public education, these children are disproportionately deprived of opportunity.

434. For example, as discussed in detail in Section X(B), wide achievement gaps for Black and Latino students are evident everywhere the Commonwealth has disaggregated data. Tr. 2538:10-16 (Stem). PDE agrees that these disparities are causally linked to Pennsylvania’s system of school funding:

Q. And the reason why we have different goals for 2030 for African American students and economically disadvantaged students is because of systemic inequities in Pennsylvania’s education funding system; correct?

[objection overruled]

A. As identified and communicated in the ESSA consolidated plan, the goals that are established here are necessarily reflecting decades of systemic inequities in the Commonwealth.

Q. And everywhere we see disaggregated data from AP exams to SAT results to the PSSAs to the Keystone to college entrance rates and to college graduation rates, are there unacceptable achievement gaps for Pennsylvania's public school students?

A. Yes.

Q. And are those unacceptable gaps caused, in large part, by the conditions that the children experience in our public schools?

A. They are caused, in large part, by those experiences which are also a result from the state resources and conditions in which they are learning.

Tr. 2537:8-2538:23 (Stem).

1. The schools educating Black and Latino children are particularly underfunded.

435. As explained by Dr. Kelly and admitted by PDE, Black and Latino children disproportionately experience inadequate and inequitably funded schools. For example, PDE admits that children of color are concentrated in low-wealth Pennsylvania schools. Tr. 1780:17-1781:1 (Stem). Dr. Kelly's analysis bears this out: almost one in every two Black students are attending school in the poorest quintile of districts, while 14% attend schools in the highest quintile districts. Tr. 1288:14-1289:2 (Kelly). Similarly, 40% of Latino students attend school in the poorest quintile of districts, while only 11% attend schools in the wealthiest quintile. Tr. 1289:3-9 (Kelly).

436. As he did with wealth, Dr. Kelly organized school districts into quintiles to compare districts based on their percentage of Black and Latino students. He found that across each measure of inadequacy or inequity, Black and Latino students were disproportionately impacted. Tr. 1290:16-1291:2 (Kelly).

437. To begin, Dr. Kelly found that Black and Latino students are disproportionately impacted by Basic Education Funding hold harmless: 80% of Black and Latino students are educated in a district that suffers from a Basic

Education Funding equity shortfall. Tr. 1289:22-1291:2 (Kelly). Moreover, the districts educating the highest percentages of Black and Latino students have an aggregate equity shortfall that is \$805 million larger than the districts educating the fewest Black and Latino students. Tr. 1291:3-10 (Kelly).

438. Dr. Kelly also found that Black and Latino students are disproportionately impacted by Special Education Funding hold harmless, with 74% of Black and Latino students attending school in a district that suffers from a Special Education Funding equity shortfall. Tr. 1289:22-1290:15 (Kelly).

Moreover, the special education funding shortfall for districts educating the highest percentages of Black and Latino students is \$106 million higher than the shortfall for the districts educating the fewest black and Latino students. Tr. 1291:11-17 (Kelly).

439. Finally, Dr. Kelly found that the schools educating more Black and Latino students are far more underfunded than other schools. Tr. 1291:18-24 (Kelly). Specifically, the adequacy shortfall for districts in the quintile with the highest percentage of Black and Latino students is \$1.4 billion higher than the shortfall for the quintile with the fewest Black and Latino students. Tr. 1291:18-24 (Kelly).

2. Black and Latino children are inequitably subjected to unacceptable learning conditions.

440. PDE admits that these funding shortfalls have led to deeply troubling disparities in school conditions for Black and Latino children. By way of example, pursuant to ESSA, PDE is required to report data on teacher effectiveness to the federal government every year, rating teachers as either “effective” or “ineffective,” and to do so by the percentage of children of color in a school. Tr. 8722:14-20 (Ortega); Tr. 8727:24-8728:12 (Ortega); *see also* PX-1745.

441. PDE’s data reveals “significant gaps” between the least white and most white schools. PX-61-3. In the quartile of Title I schools with the fewest children of color, approximately 3.5% of teachers were rated as ineffective. PX-61-2. But as Secretary Ortega explained, “[a]s the share of students of color at that school increase and becomes higher, you begin to see, sort of, the percent of effective teachers drop down.” Tr. 8732:11-19 (Ortega). Specifically, in the quartile of Title I schools with the greatest percentages of children of color, 20.6% of teachers are rated as ineffective, or approximately six times higher than the whitest schools:

Educator Effectiveness by Non-White Quartile (School-Level)					
Non-White Quartile	Count: Ineffective	Count: Effective	Total Educator Count	Percent: Ineffective	Percent: Effective
[Low Pct. Non-White] 1	419	11702	12121	3.5%	96.5%
2	399	14735	15134	2.6%	97.4%
3	1175	16498	17673	6.6%	93.4%
[High Pct. Non-White] 4	3235	12451	15686	20.6%	79.4%
Total	5228	55386	60614	8.6%	91.4%

PX-61-2-3.

442. Secretary Ortega characterized the size of the disparities as a “significant dropoff.” Tr. 8732:20-23 (Ortega).

443. These are not the only troubling resource disparities PDE has highlighted. By way of example, in its ESSA Plan PDE identified the importance of Science, Technology, Engineering, and Math (STEM) education in order to meet the needs of the Commonwealth. PX-1830-100-106; Tr. 1869:22-24 (Stem). In the plan, PDE projected that approximately 300,000 jobs would require STEM skills or content knowledge by 2018 and that 71% of new jobs would require computer science skills, on top of the existing 21,000 unfilled computer science and software development jobs. PX-1830-101; Tr. 1870:15-1871:6 (Stem).

444. One proxy for the adequacy of the pipeline of students ready to fulfill those positions shows that insufficiency: In 2015, only 1,559 high school students in Pennsylvania took the AP Computer Science exam. Tr. 1872:16-18 (Stem). But that inadequacy belies significant inequity: In the same year, just 36 of those students were Latino and 58 were African-American. PX-1830-102; Tr. 1872:21-

1873:5 (Stem). In other words, the number of Black or Latino children who sat for the exam in the entire Commonwealth could have fit in the courtroom in which this case was heard. Tr. 1911:14-19 (Stem). By any measure, as admitted by PDE, this a number that is wholly “unacceptable.” Tr. 1873:15-1874:5 (Stem).

445. In STEM education alone, there are other instances of unacceptable disparities. PDE admits, for example, that while 40% of Pennsylvania students display STEM college-career readiness, that number drops to 10% for Black students. Tr. 1874:10-18 (Stem).

446. These patterns of racial inequity are reflected in the complaints Petitioner NAACP-PA receives from members across the state regarding the quality of education provided to children of color, mostly in areas of poverty. Tr. 8929:17-8930:20 (Zeff).

447. No party argues that such disparities are acceptable in a modern society. For example, Speaker Cutler has declared that education is “the civil rights issue of our day.” PX-3215, Resp. No. 106 (Speaker’s Resp. to RFAs). And PDE agrees that there is an urgent need to address the conditions of learning that Black and Latino children experience, conditions that it admits are causing the profound racial achievement gaps discussed in Section X(B). Tr. 1805:19-1806:24 (Stem).

I. Various state laws acknowledge that the system is inadequate and inequitable, but do not fix those concerns.

448. Across a variety of laws, the General Assembly has acknowledged the inadequacy and inequity in the school funding system, but has failed to solve them.

449. For example, as discussed above, through the Fair Funding Formula and Special Education Fair Funding Formula, the Commonwealth created a formula using relative need only, and then created a system that largely ignores that relative need. *See* Section VI(F)(1)-(2).

450. Similarly, the Commonwealth enacted a so-called “Level Up Supplement,” which Respondents admit distributes funding to the “highest need districts,” Tr. 123:4-18 (Cutler opening) — that is, those districts “with the fewest resources relative to their student needs.” Tr. 92:22-93:4 (Executive Respondents opening). But the negligible amount of funding allocated for this supplement does not even begin to allow districts to “level up.”

451. Speaker Cutler’s witness Mr. Donley explained that to identify Level Up districts, the state examined how much each school district was spending relative to its combined needs, as identified through the weights in the Fair Funding Formula and Special Education Fair Funding Formula. Tr. 11731:3-9 (Donley). Mr. Donley agreed that pursuant to the Level Up formula, Petitioner District Shenandoah Valley is the 4th lowest spending district in the entire

Commonwealth, Greater Johnstown is the 9th lowest spending district in the Commonwealth, Panther Valley is the 12th lowest spending district in the Commonwealth, Philadelphia is the 14th lowest spending district in the Commonwealth, Wilkes-Barre is the 15th lowest spending district in the Commonwealth, Lancaster is the 28th lowest spending district in the Commonwealth, and William Penn is the 63rd lowest spending in the Commonwealth. Tr. 11733:21-11735:6 (Donley); PX-4778.

452. Level Up, however, is a relative distribution formula only. And while school districts across the Commonwealth collectively have more than \$31 billion in funding, the total appropriation for Level Up is \$100 million, or approximately one-third of one percent of all school district spending. PX-4778; Tr. 11754:19-11755:1 (Donley); Tr. 11735:7-12 (Donley). And as a matter of math it is 2% of the adequacy shortfall Dr. Kelly calculated. *See* Section VI(E)(4).

453. Finally, as further detailed in Section IX(A), the Commonwealth's Ready-to-Learn Block Grant provides funding for school districts "to increase their focus on student achievement and academic success." Tr. 11753:15-11754:4 (Donley). The law authorizing the grant describes a variety of specific practices a district can undertake in order to "attain or maintain academic performance targets," including many of the academic programs that both Petitioners' and Respondents' witnesses agree make a difference. 25 P.S. § 25-2599.2.

454. Yet the funds distributed through the Ready-to-Learn Block Grant represent less than one percent of all education funding in the Commonwealth. Tr. 11754:19-11755:8 (Donley). And Speaker Cutler's witness Mr. Donley admitted he did not know whether school districts could afford to put in place the very strategies written into the Ready-to-Learn Block Grant law. Tr. 11768:12-11769:5 (Donley).

455. Matthew Stem, however, made clear they cannot:

[O]ne of the primary reasons we see these gaps is that the resources are not there in across all districts, particularly low-socioeconomic districts, for the conditions that I named, you know, including high-quality teachers in every classroom, ongoing professional development, robust curriculum, sufficient teachers to work with smaller groups of students, individuals — you know, all of the above.

Tr. 1907:24-1908:9 (Stem).

J. The General Assembly purposefully avoids calculating what school districts need.

456. Despite the fact that the General Assembly has many options for determining how much funding school districts need, Speaker Cutler's witness Mr. Donley, the Executive Director of the House Appropriations Committee, testified at trial that the General Assembly makes no attempt to measure how much education funding is actually needed for any particular goal. Tr. 11722:4-12 (Donley).

457. For example, Mr. Donley agreed that the House Appropriations Committee makes no effort to determine whether the annual line item appropriations for public education, either individually or in the aggregate, are sufficient for the system of public education to serve the needs of the Commonwealth. Tr. 11722:4-12 (Donley). Moreover, Mr. Donley admitted that the House Appropriations Committee has not conducted any study to determine whether the annual line item appropriations for public education are sufficient to allow students to meet the state's academic standards. Tr. 11722:13-19 (Donley).

458. In fact, Mr. Donley testified that he makes recommendations on the amount of education funding that he thinks "feasible" in a given year, but does so without examining individual districts or the individual needs of districts. Tr. 11718:23-11719:7 (Donley); Tr. 11725:18-22 (Donley). In addition, he doesn't know whether individual districts are underfunded, whether the total amount of basic education funds are reasonably related to the actual cost of educating students in each of Pennsylvania's school districts, or whether disparities have grown in the past 27 years. Tr. 11725:18-11726:16 (Donley).

459. And while Mr. Donley agreed there were significant disparities in funding available to districts, he didn't have any knowledge as to whether those disparities were justified by differences in student need. Tr. 11713:3-18 (Donley); Tr. 11726:17-21 (Donley). Moreover, in the face of large achievement gaps by race

and economic status, Mr. Donley agreed he had not evaluated how the Pennsylvania education system affects specific subgroups of children, such as low-income children or Black children. Tr. 11726:22-11727:4 (Donley).

460. Nor are these failures limited to individual committees. Mr. Donley agreed that the General Assembly has not conducted any study to determine whether the annual line item appropriations for public education, either individually or in the aggregate, are adequate to assure that the system of public education is thorough and efficient, however the General Assembly may define thoroughness and efficiency. Tr. 11724:6-15 (Donley).

461. Similarly, he agreed that the General Assembly has not conducted any study to determine whether the annual appropriations for public education, either individually or in the aggregate, are sufficient for the system of public education to serve the needs of the Commonwealth, however the General Assembly may define that. Tr. 11722:20-11723:21 (Donley).

462. Finally, the General Assembly has not conducted any publicly available study to determine whether the annual appropriations for public education, either individually or in the aggregate, are sufficient to allow students to meet the state's academic standards. Tr. 11724:16-11725:9 (Donley).

463. The failure to measure adequacy even applies to budget negotiations between the Governor and the General Assembly. For example, Speaker Cutler

himself admitted that he was unaware of any non-privileged “metrics that are used in budget negotiations between the legislature and the governor regarding actual costs for preparing students to meet state standards,” or “regarding the actual costs of education on a district by district basis.” PX-3215, Resp. Nos. 87–88 (Speaker’s Resp. to RFAs).

464. The Commonwealth has conducted a costing out study in the past, and it can plainly conduct one now, but it has not — and even the expert witness proffered by Respondents with experience authoring costing out studies testified that his report for the Speaker of the House in this case was limited to avoid answering the fundamental question of whether Pennsylvania’s school funding is sufficient for the needs of its students. Tr. 13002:20-13003:13 (Willis); *see also* Tr. 12676:15-22 (Willis). Despite working for the Speaker of the House, he explained that such an undertaking “requires a level of data and detail that [he] did not have access to here in Pennsylvania.” Tr. 12681:4-12682:3 (Willis).

465. Like the Costing Out Study, the Commonwealth has made adequacy calculations in the past, and it can make them now if it so chooses. Tr. 12126:20-12127:5 (Hanft). In fact, the division chief of PDE’s Division of Subsidy Administration, Ben Hanft — the very official who made adequacy calculations for PDE in the past — testified in this matter. Tr. 12093:20-12095:6 (Hanft). But Mr. Hanft testified that PDE does not believe it needs to make those calculations now,

and in any case, the General Assembly has not asked it to do so since he stopped making those calculations ten years ago. Tr. 12128:8-18 (Hanft).

466. Even Speaker Cutler admitted it is a conscious decision not to calculate what school districts need: he and his witnesses agreed that the Fair Funding Formula “does not tell us how big the pie should be, only how we should divide up the pie.” Tr. 11736:9-13 (Donley); *see also* PX-3215, Resp. Nos. 29–30 (Speaker’s Resp. to RFAs). But Speaker Cutler made clear this was a choice: “If the legislature had authorized the BEF Commission to do so the BEF Commission could have proposed a formula that included adequacy targets for districts.” PX-3215, Resp. No. 27 (Speaker’s Resp. to RFAs).

K. State agencies agree that sufficient funding is lacking, and stand ready to measure adequacy.

467. Both PDE and the State Board have made clear that Pennsylvania’s education funding system suffers from serious deficits.

468. The Department of Education has repeatedly acknowledged in public statements and documents that education funding is insufficient in Pennsylvania, and without it, Pennsylvania will not meet its goals. *See e.g.*, Sections IV(D)(1), X(B), XI(C).

469. Similarly, the General Assembly requires the State Board to submit “recommendations” in its Master Plan for Basic Education “for the guidance of the

Governor, the General Assembly, and all public school entities.” 24 P.S. § 26-2603-B. One topic the General Assembly requires the State Board to address is “school finance.” 24 P.S. § 26-2603-B; Tr. 4260:21-23 (Molchanow).

470. In the Master Plan’s recommendations on school finance, the State Board agreed that “[t]he combination of local, state, and federal funding must provide adequate support for the updated and improved school programs that enable every student to meet our rigorous expectations. State policy cannot disregard the importance of capacity to ensure successful implementation of its goals.” PX-35-9.

471. Accordingly, the Master Plan “encourages a discussion of ‘adequacy’ as it relates to school funding, followed by the provision of adequate resources for efficient management at state and local levels. The Board encourages a periodic review of the costing-out study and an analysis of the suitability of the revised funding formula for possible update as economic conditions and demographic factors change.” PX-35-9; Tr. 4266:4-19 (Molchanow).

472. Ms. Karen Molchanow, the executive director of the State Board, explained that the Board encouraged a discussion of adequacy because it believes that having sufficient resources to meet the needs of all students is imperative to accomplish the goal of creating opportunity for all students to succeed. Tr. 4444:16-23 (Molchanow). As the State Board explained in its Master Plan:

State level decisions must lay out the goals and standards of education, and must provide adequate resources for the local level to achieve them. We cannot lay out a vision of high achievement without providing the means and mechanisms to achieve it.

PX-35-5. Yet as Legislative Respondents have made clear, those discussions do not occur.

473. For example, Ms. Molchanow testified that since the 2007 Costing Out Study, the General Assembly has never asked the State Board to conduct a similar analysis of whether districts have the resources they need to educate students to the current more rigorous academic standards. Tr. 4213:16-23 (Molchanow). And Ms. Molchanow testified the General Assembly has never asked the State Board “to replicate that [Costing Out] study in a more current format with more updated data” even after the State Board made its recommendations to consider such action in its 2018 Master Plan. Tr. 4276:21-4277:2 (Molchanow); PX-35-9. The State Board remains willing to do so, but it would need the General Assembly to appropriate the necessary funds, which the General Assembly has not done. Tr. 4277:8-23 (Molchanow).

VII. Petitioners and the School District of Philadelphia Suffer from Inadequate and Inequitable Funding.

A. Petitioners and the School District of Philadelphia are low-wealth, high-need, high-effort, low-spending districts.

474. As explained in Section VI, Dr. Kelly used a variety of measures to demonstrate that low-wealth school districts need the most, are trying the hardest, and are spending the least. By a variety of PDE's own metrics, these trends are plainly visible in the experiences of Petitioner Districts, the School District of Philadelphia, and many PARSS districts, including Otto-Eldred School District.

475. Speaker Cutler's expert Mr. Willis, for example, conceded that overall, these districts have below average household incomes, are in high poverty communities, serve a higher-needs population than the state as a whole, and make higher than typical tax effort. Tr. 12849:2-10 (Willis); Tr. 12878:8-11 (Willis); Tr. 12875:15-12876:21 (Willis). As Deputy Secretary Stem said about one Petitioner District, after viewing its demographics: "Given the percentage of economically disadvantaged students that are in the school, certainly it would lead me to believe that there would be a need for greater resources." Tr. 1783:2-12 (Stem). And as Otto-Eldred superintendent Mr. Splain described, many PARSS districts, like his own home district, are also low-wealth and high-need. *See* Section VI(F)(2).

476. Accordingly, as PDE acknowledged, the “conditions and experiences” of Petitioners and Philadelphia “are representative of many of the under-resourced schools throughout the Commonwealth.” Tr. 14839:15-18 (PDE Closing).

1. Greater Johnstown School District

477. In 2019-20, the Greater Johnstown had total revenues of \$51.8 million. *See* LR-5009. Across a variety of measures, Greater Johnstown is a low-wealth, high-need, high-effort, low-spending district.

478. Many of the families that attend the Greater Johnstown School District live in “deep, deep poverty.” Tr. 2570:14-2571:8 (Arcurio). Almost 86% of Greater Johnstown students are economically disadvantaged, ranking the district 11th highest in the Commonwealth.

Greater Johnstown SD -- Demographics			
Demographic	2017-18	2018-19	2019-20
Total Students	3054	2984	2940
White	47.0%	44.91%	41.43%
Hispanic	4.1%	4.22%	4.80%
Black	33.0%	34.12%	35.82%
Asian	0.3%	0.23%	0.24%
Special Education	16.4%	17.26%	18.54%
Special Education Rank	251	222	181
ELL	1.1%	1.11%	0.99%
ELL Rank	169	184	212
Econ. Disadvantaged	82.20%	87.57%	85.75%
Econ. Disadvantaged Rank	17	13	11
Homeless	Unavailable	2.25%	2.76%
Homeless Rank	Unavailable	97	40
Foster Care	Unavailable	0.94%	0.95%
Foster Care Rank	Unavailable	112	82
Source: Pennsylvania Department of Education Data, Ex. Nos. PX-01914-01916, PX-02096-02098			

PX-4807.

479. By median household income, Greater Johnstown is the poorest district in the entire Commonwealth. PX-4828.³¹ Greater Johnstown's poverty is so severe that its median household income is approximately \$10,000 less than that of Shenandoah Valley, even though Shenandoah Valley itself ranks 484th out of 499 districts in the Commonwealth. *Compare* PX-4828 *with* PX-4886. Using the Aid Ratio, Greater Johnstown does not fare much better, ranking 22nd poorest in the Commonwealth. PX-4828.

480. Dr. Arcurio, the superintendent of Greater Johnstown, explained that poverty impacts students right away:

[O]ne of the things that we see immediately upon entry to our school system is just, you know, the lack of exposure to a literacy-rich environment. Students come to us and, because of poverty, they just — you know, they aren't surrounded with books.

And, you know, as — as we know, that lap time and that time for children to spend with stories before bed and during the day really just engages and lights the fire and the interest of being a reader. And so when our students come to us in kindergarten, we often have to, you know, start with very basics of the orientation of how to hold a book and how a book moves from the cover through the pages 'til you get to the end of it. You know, students — students will often hold the book backwards or upside-down because they just haven't had that exposure and that experience.

³¹ As discussed in Section VI(B), and as Respondents largely agree, this is an appropriate methodology for determining relative school district needs.

And that's one of the things that I can, you know, share that story that we see immediately that really is an impact of just not having access because of poverty.

Tr. 2581:6-2582:9 (Arcurio).

481. According to the Fair Funding Formula, Greater Johnstown has the 14th highest need student population in the Commonwealth. PX-4828. Putting its need and wealth together, it is therefore little surprise that the district's local capacity per weighted student ranks 481 of 499 districts:³²

Greater Johnstown SD -- Financial Need, Capacity, and Spending for 2019-2020			
Measure	Value	Statewide Rank (out of 499)	Cambria County Rank (out of 12)
% Increase in BEF/ADM After Weighting[1]	53.13%	14	2
% Increase in SEF/ADM After Weighting[2]	47.58%	47	2
Percent of Enrollment from Low Income Families	85.75%	11	1
ACS 5-yr Median Household Income	\$28,485.00	499	12
Local Capacity per Weighted Student	\$2,708.63	481	11
Market Value / Personal Income Aid Ratio	0.7866	22	2
Local Effort Capacity Index	1.29	72	1
Equalized Mills	18	276	3
Current Exp per Weighted Student	\$9,481.40	495	12
Current Exp per ADM	\$14,747.16	382	5
Total Exp per ADM	\$16,345.68	382	8

PX-4828.³³

482. Greater Johnstown's need, combined with its lack of wealth, leads to another unsurprising result: it spends little. PX-4828. In fact, by current expenditures per weighted student, Greater Johnstown ranks 495th in the

³² As the term implies, local capacity per weighed student is "a measure of how much" funding a school district "can contribute from [their] local sources towards a weighted student." Tr. 5708:24-5709:7 (Przywara).

³³ For the convenience of the Court, the summary exhibits admitted into evidence by Petitioners are attached as Appendix A.

Commonwealth, with just four districts spending less relative to their needs. PX-4828.

483. Greater Johnstown's high needs extend to its special education population. PX-4828. According to the Special Education Fair Funding Formula, Greater Johnstown has the 47th highest need special education population in the Commonwealth. PX-4828. In practical terms, this has meant that even while Greater Johnstown has cut other programs, they have, among other things, added an autistic support classroom for each of the last six years. Tr. 2586:10-20 (Arcurio). This presents serious challenges:

Those youngest learners' needs are unique and challenging, to say the least. But what it does require is one teacher and three paraprofessionals in that classroom, and that classroom cannot house more than eight children.

So, you know, just meeting the needs of those children really requires specific resources in the ways of paraprofessionals, paraeducators and one teacher. And so that cohort group continues to move through our school district.

And the unique challenge is — for children who have the diagnosis of autism — is that they require additional spaces in your schools. So they need a sensory room where they can go when they need to, you know, wind down or decompress. And so as those students have gone through our school district, we have had to add those classrooms for — in our elementary, middle school and now in our high school.

Tr. 2587:15-2588:13 (Arcurio).

484. Unsurprisingly, using the Level Up formula, which combines both special education and general education need, Greater Johnstown spends less than

490 of the Commonwealth's districts. PX-4778, Tab "Level Up Supplement," Column F; Tr. 11733:22-11734:9 (Donley).

485. Nor can Greater Johnstown tax its way to sufficient funding. The district taxes at a rate just above the state median, and third highest in Cambria County. PX-4828. But when measured by Local Effort Capacity Index,³⁴ the Fair Funding Formula's measure of local effort, Greater Johnstown's effort becomes clearer, ranking 72nd in the Commonwealth. PX-4828.

486. Greater Johnstown's inability to tax its way to sufficient funding was made evident when, amidst a structural deficit and budget crisis, the district voted to raise its taxes in the 2017-18 school year. Tr. 3995:10-24 (Kocsis); PX-132-8.

487. For a typical Pennsylvanian, the property tax increase in Johnstown might not have been a burden. *See* Tr. 4147:23-4148:8 (Kocsis). But Greater Johnstown's former business manager, Eric Kocsis, noted that his community is poor and blighted, and so as taxes went up, many property owners sought and

³⁴ The Local Effort Capacity Index is a metric that combines a measure of Local Effort (a ratio involving local tax revenue to median household income) and Local Capacity (a ratio involving personal income to the student-weighted average daily membership). *See* 24 P.S. § 25-2502.53(d) ("Local effort capacity index for a school district shall equal the sum of its local effort index and local capacity index"); *see also* PX-1797, tab Narrative (providing formula for Local Effort Capacity Index). Speaker Cutler's expert explained that the Local Effort Capacity Index looks at how much funding effort a community is making towards its schools "relative to the capacity within the community itself." Tr. 12852:7-16 (Willis); *see also* Stem Dep. Tr. Vol. 2, 378:4-7.

received property reassessments lowering the values of their homes. Tr. 4000:17-4002:2 (Kocsis). Accordingly, assessed property values in the district decreased from \$211,519,090 in 2017-18, to \$209,992,000 in 2018-19, and then to \$206,842,000 in 2019-20. Tr. 3998:22-4000:16 (Kocsis); PX-133-8 (2017-18); PX-133-8 (2018-19); PX-4780-8 (2019-20). Moreover, the District also saw a decrease in its tax collection rate. Tr. 4001:21-4002:2 (Kocsis).

488. As a result, Greater Johnstown’s efforts to raise funds had the opposite effect: from 2017-18 to 2018-19, and from 2018-19 to 2019-20, local tax revenue decreased. Tr. 3994:11-18 (Kocsis); PX-150-28 (2017-18); PX-261-26 (2018-19); PX-4513-32 (2019-20).

489. Ultimately, the lesson Mr. Kocsis drew from this experience was that “there was no way by [continuing to] rais[e] taxes [that the district would] get any more resources from the local community” — a district that ranks last in median household income. Tr. 4002:11-13 (Kocsis); Tr. 4004:3-17 (Kocsis).

2. School District of Lancaster

490. In 2019-20, the School District of Lancaster had total revenues of \$229 million. LR-5018. Across a variety of measures, Lancaster is a low-wealth, high-need, high-effort, low-spending district:

Lancaster SD -- Financial Need, Capacity, and Spending for 2019-2020			
Measure	Value	Statewide Rank (out of 499)	Lancaster County Rank (out of 17)
% Increase in BEF/ADM After Weighting[1]	52.27%	15	1
% Increase in SEF/ADM After Weighting[2]	40.80%	148	4
Percent of Enrollment from Low Income Families	90.71%	7	1
ACS 5-yr Median Household Income	\$49,302.00	388	16
Local Capacity per Weighted Student	\$3,783.36	451	16
Market Value / Personal Income Aid Ratio	0.6994	90	2
Local Effort Capacity Index	1.83	10	1
Equalized Mills	24.8	74	2
Current Exp per Weighted Student	\$13,398.06	274	9
Current Exp per ADM	\$20,221.11	57	2
Total Exp per ADM	\$22,322.70	89	8

PX-4831.

491. Lancaster is a district with extraordinary student needs. Almost 91% of its students are in poverty, ranking 7th in the state, while 20% of students are classified as English Learners, ranking 5th. PX-4808. Moreover, 6% of Lancaster students are homeless.

Lancaster SD -- Demographics			
Demographic	2017-18	2018-19	2019-20
Total Students	11210	11080	10880
White	12.8%	12.76%	12.44%
Hispanic	60.8%	60.96%	61.11%
Black	16.8%	16.91%	16.72%
Asian	4.6%	4.24%	4.32%
Special Education	17.1%	17.64%	19.15%
Special Education Rank	202	200	153
ELL	16.7%	18.58%	19.80%
ELL Rank	4	5	5
Econ. Disadvantaged	90.40%	90.86%	90.71%
Econ. Disadvantaged Rank	12	8	7
Homeless	Unavailable	5.63%	5.83%
Homeless Rank	Unavailable	9	5
Foster Care	Unavailable	0.73%	0.70%
Foster Care Rank	Unavailable	165	152
Source: Pennsylvania Department of Education Data, Ex. Nos. PX-01914-01916, PX-02096-02098			

PX-4808.

492. Students in Lancaster speak between 50 and 60 languages other than English. Tr. 5046:20-24 (Rau). Ms. Aikens, instructional coach and former teacher at King Elementary, indicated that in a typical year as a teacher she had children speaking up to five different languages in her classroom alone, including Spanish, Swahili, Arabic, Thai, and Vietnamese. Tr. 5981:9-5982:13 (Aikens).

493. Beyond that, the City of Lancaster is known as “the refugee capital of the world because of the amount of refugees we resettle per capita.” Tr. 6000:18-6001:1 (Aikens); *see also* Tr. 5699:5-16 (Przywara). As a result, Lancaster regularly has over 1,800 English language learners, nearly 500 of whom are refugees from countries like Nepal, Myanmar, and all across the Middle East and Latin America. Tr. 5082:18- 5083:24 (Rau); Tr. 5698:24-5699:4 (Przywara).

494. This influx results in a need for sustained resources for newly arriving students:

So when Hurricane Maria came, so we had students that literally got off and came from the airport the day before that are showing up on our doorstep needing to enroll in school. Students don’t have — they may have lost their clothing. They may have lost their family members. They lost their homes, and they now are in United States and they have to enter school. So there’s a considerable amount of need that needs to take place to get the students ready for school. So they’ll need things like basic needs — school uniforms as Dr. Rau testified to, school supplies, where are they going to go. Meanwhile their family is worried about where they’re going to live and where they might reside.

So just to get them ready for school is going to take resources. So if they don’t speak English they immediately have to go through some of

that — that testing to see where they fit about their English language needs. They also may need social emotional supports because they just experienced extreme traumatic events, you know, from a hurricane.

So just getting the student ready for school so they can even learn has a significant amount of resources on the front end, and then we have to, you know, continually respond to them as we keep going.

Tr. 5699:17-5700:20 (Przywara); *see also* Tr. 5700:21-5702:1 (Przywara).

495. According to the Fair Funding Formula, Lancaster has the 15th highest need student population in the Commonwealth. PX-4831. Putting its need and wealth together, the district's local capacity per weighted student ranks 451 of 499 districts. PX-4831.

496. When spending is divorced from student need, Lancaster spends above the median district on a per student basis. However, as Lancaster school officials explained, this is not an accurate assessment of the district's spending: using the Fair Funding Formula, Lancaster effectively "ha[s] 17,387 students, not 11,418, when you factor in needs of a student." Tr. 5695:10-16 (Przywara). And because other districts "don't have challenges that the School District of Lancaster has," their "money can be used in different ways." Tr. 5558:8-18 (Rau).

497. Thus, by current expenditures per weighted student, Lancaster falls below the median, to 274th in the Commonwealth. PX-4831. Moreover, the student weights in the Fair Funding Formula do not account for homelessness or refugee status, and thus undercounts the true needs of Lancaster, and how much it

is spending relative to those needs. Tr. 5698:7-5699:4 (Przywara); Tr. 5703:3-6 (Przywara).

498. Finally, Lancaster's special education population is above average in need, as well. PX-4831. According to the Special Education Fair Funding Formula, Lancaster has the 148th highest need in the Commonwealth. PX-4828. And by the Level Up formula, which combines both special education and general education need, Lancaster is in fact the 28th lowest spending district in the Commonwealth. PX-4778, Tab Level Up Supplement, Column G; Tr. 11733:21-11735:6 (Donley).

499. Lancaster cannot tax its way to sufficient funding, but it is not for a lack of effort. The district has raised its taxes 14 out of the last 14 years, with an equalized millage which ranks 2nd in Lancaster County and 74th in the Commonwealth. Tr. 5710:3-13 (Przywara); PX-4831. When measured by Local Effort Capacity Index, Lancaster's effort becomes even clearer, ranking 10th in the Commonwealth. PX-4831.

3. Panther Valley School District

500. In 2019-20, the Panther Valley School District had total revenues of \$27.9 million. LR-5031. Across a variety of measures, Panther Valley is a low-wealth, high-need, high-effort, low-spending district:

Panther Valley SD -- Financial Need, Capacity, and Spending for 2019-2020			
Measure	Value	Statewide Rank (out of 499)	Carbon County Rank (out of 5)
% Increase in BEF/ADM After Weighting[1]	27.52%	118	2
% Increase in SEF/ADM After Weighting[2]	58.50%	7	1
Percent of Enrollment from Low Income Families	56.35%	100	2
ACS 5-yr Median Household Income	\$40,825.00	469	5
Local Capacity per Weighted Student	\$3,106.53	472	5
Market Value / Personal Income Aid Ratio	0.7941	17	1
Local Effort Capacity Index	1.66	23	2
Equalized Mills	32.6	10	1
Current Exp per Weighted Student	\$11,942.33	417	5
Current Exp per ADM	\$14,220.00	427	5
Total Exp per ADM	\$18,645.44	231	3

PX-4880.

501. Panther Valley is one of the poorest communities in the Commonwealth. By median household income, it ranks 469th lowest, and by the Aid Ratio, it ranks 17th poorest. PX-4880. Additionally, 56% of its students are classified as economically disadvantaged, although that number is likely an undercount. Tr. 268:22-270:21 (McAndrew).

502. According to the Fair Funding Formula, Panther Valley has the 118th highest need general student population in the Commonwealth. PX-4880. Putting its need and wealth together, the district's local capacity per weighted student ranks 472nd of 499 districts. PX-4880. By current expenditures per weighted student, Panther Valley ranks 417th. PX-4880.

503. Moreover, Panther Valley has a special education population with significant needs, with between 21 and 22.9% of students requiring special education services.

Panther Valley SD -- Demographics			
Demographic	2017-18	2018-19	2019-20
Total Students	1692	1616	1622
White	83.2%	81.06%	79.28%
Hispanic	8.6%	9.22%	10.30%
Black	3.5%	4.15%	4.32%
Asian	0.6%	0.56%	0.43%
Special Education	17.8%	19.80%	21.02%
Special Education Rank	158	105	79
ELL	1.3%	1.49%	1.54%
ELL Rank	147	148	158
Econ. Disadvantaged	94.70%	N/A[1]	56.35%
Econ. Disadvantaged Rank	7	N/A[1]	100
Homeless	Unavailable	0.74%	1.66%
Homeless Rank	Unavailable	331	137
Foster Care	Unavailable	0.62%	0.55%
Foster Care Rank	Unavailable	202	204
Source: Pennsylvania Department of Education Data, Ex. Nos. PX-01914-01916, PX-02096-02098			
[1] Economically Disadvantaged Data is not available for Panther Valley for this year.			

PX-4810; *see* Tr. 277:20-24 (McAndrew); PX-2167-1.

504. Those students also are particularly high need. In fact, according to the Special Education Fair Funding Formula, Panther Valley has the 7th highest need special education student population in the Commonwealth. PX-4880.

505. As Superintendent McAndrew explained, these students have a significant need for increased staff to address their mental health and learning needs, including social workers and guidance counselors:

So those students are students that are often having more issues adjusting into social situations. Those students may be, you know, acting out verbally/physically. They may need extra supports, again, you know, therapy sessions, and things like that that we don't always — we aren't always able to do. You know, again, we could have one student who's having a real bad day that's, you know, an emotionally disturbed students that's having a bad day that our special education teacher would have to spend time dealing with that talking them down; trying to, you know, find out what the cause of that issue is, and then

it's — it rolls into, well, what are the rest of the students doing, how are we keeping them engaged.

Tr. 278:20-279:11 (McAndrew).

506. By the Level Up formula, which combines both special education and general education need, Panther Valley is therefore the 12th lowest spending district in the Commonwealth. PX-4778, Tab Level Up Supplement, Column G; Tr. 11733:21-11734:13 (Donley).

507. Raising taxes one mill only brings Panther Valley \$150,000 in revenue, so Panther Valley cannot tax its way to sufficient funding. Tr. 490:2-4 (McAndrew). But Panther Valley continues to make significant efforts anyway. By equalized mills, the District ranks 10th highest in the Commonwealth. PX-4880. When measured by Local Effort Capacity Index, it ranks 23rd. PX-4880.

508. This tax effort, however, comes with consequences. Panther Valley teacher Tara Yuricheck testified that her own parents lost their home because they were unable to pay the high property tax rate. Tr. 814:5-816:11 (Yuricheck). “We can’t keep going to the poorest people and asking for more money . . . We’re taxing them out of their houses.” Tr. 294:1-9 (McAndrew). And yet, despite this tax effort, as Superintendent McAndrew bluntly put it, “we’re broke.” Tr. 282:15-16 (McAndrew).

4. Shenandoah Valley School District

509. In 2019-20, Shenandoah Valley had total revenues of \$18.8 million.

See LR-5052. Across a variety of measures, Shenandoah Valley is a low-wealth, high-need, high-effort, low-spending district.

510. For example, by median income, Shenandoah Valley ranks 484th in the Commonwealth, while by the Aid Ratio it is 5th poorest.

Shenandoah Valley SD -- Financial Need, Capacity, and Spending for 2019-2020			
Measure	Value	Statewide Rank (out of 499)	Schuykill County Rank (out of 12)
% Increase in BEF/ADM After Weighting[1]	57.57%	11	1
% Increase in SEF/ADM After Weighting[2]	42.71%	110	6
Percent of Enrollment from Low Income Families	75.44%	19	1
ACS 5-yr Median Household Income	\$38,346.00	484	12
Local Capacity per Weighted Student	\$1,842.69	496	11
Market Value / Personal Income Aid Ratio	0.8481	5	1
Local Effort Capacity Index	1.75	14	1
Equalized Mills	29.8	23	1
Current Exp per Weighted Student	\$9,813.99	491	10
Current Exp per ADM	\$14,502.28	405	7
Total Exp per ADM	\$26,018.43	27	1

PX-4886.

511. The district serves one of Pennsylvania's poorest populations: three quarters of its students are classified as low-income, ranking it 19th highest in the state.

Shenandoah Valley SD -- Demographics			
Demographic	2017-18	2018-19	2019-20
Total Students	1109	1097	1079
White	51.8%	47.40%	43.84%
Hispanic	45.0%	47.95%	51.16%
Black	2.0%	3.56%	3.80%
Asian	0.7%	0.55%	0.46%
Special Education	16.4%	15.86%	16.31%
Special Education Rank	251	313	315
ELL	10.1%	10.67%	12.23%
ELL Rank	11	11	11
Econ. Disadvantaged	68.70%	71.01%	75.44%
Econ. Disadvantaged Rank	34	33	19
Homeless	Unavailable	1.77%	1.70%
Homeless Rank	Unavailable	139	131
Foster Care	Unavailable	0.27%	0.74%
Foster Care Rank	Unavailable	374	137
Source: Pennsylvania Department of Education Data, Ex. Nos. PX-01914-01916, PX-02096-02098			

PX-4812.

512. Moreover, since 2008, the number of its English Language Learner students has doubled. Tr. 3382:10-24 (Waite). In fact, just between 2012-13 and 2019-20, the percentage of Shenandoah Valley's students classified as ELLs increased from 8% to 12%, making it 11th highest in the state. PX-4816; PX-4806, column L.

513. As Superintendent Waite underscored, students learning English have a variety of needs the district must meet:

They're coming in, again, based on the assessments with many different varieties of fluencies, needs. They're coming in at different grade levels, so students may come up, and the first time they've entered might be in 10th, grade, 11th grade, or they could be in our 4-K program as alluded to earlier.

So there's a variety of needs and a variety of levels not just within — not just across grade levels, but also within the grade levels.

Tr. 3385:23-3386:12 (Waite).

514. According to the Fair Funding Formula, Shenandoah Valley has the 14th highest need student population in the Commonwealth. PX-4886. Putting its need and wealth together, the district's local capacity per weighted student ranks 496th out of 499 districts. PX-4886. Shenandoah Valley's need, combined with its lack of wealth, leads to an unsurprising result. By current expenditures per weighted student, Shenandoah Valley ranks 491st in the Commonwealth. PX-4886.

515. Moreover, Shenandoah Valley's special education population also has higher than average need. Many of the students who require special education services have "low incidence disabilities," which means they are in the disability category that requires more intense services and higher costs. PX-2163; PX-4812; Tr. 3402:9-3403:4 (Waite). The district has an autistic support classroom, two emotional support classrooms, a deaf and hard-of-hearing classroom, and three life skills classrooms, which require the district to provide certified special education teachers, multiple paraeducators in every classroom, and very small class sizes. Tr. 3403:5-23-Tr. 3404:15 (Waite).

516. All told, Shenandoah Valley's special education population is the 110th highest according to the Special Education Fair Funding Formula. PX-4886.

And by the Level Up formula, Shenandoah Valley spends less than 495 districts. PX-4778, Tab Level Up Supplement, Column G; Tr. 11733:21-11734:3 (Donley).

517. Nor can Shenandoah Valley tax its way to sufficient funding. The Shenandoah Valley community is already “trying very hard in regards to . . . our taxing capacity.” Tr. 3488:1-4 (Waite). In fact, as measured by equalized mills, Shenandoah’s tax rate ranks first in Schuylkill County and 23rd in the Commonwealth. PX-4886. When measured by the Local Effort Capacity Index, the district ranks even higher: 14th in the entire Commonwealth. PX-4886.

518. Put succinctly: “[W]e’re not able to generate a lot of revenue and . . . we’re poor.” Tr. 3487:18-21 (Waite).

5. Wilkes-Barre Area School District

519. In 2019-20, the Wilkes-Barre Area School District had total revenues of \$125.3 million. LR-5079. Across a variety of measures, Wilkes-Barre is a low-wealth, high-need, high-effort, low-spending district:

Wilkes-Barre Area SD -- Financial Need, Capacity, and Spending for 2019-2020			
Measure	Value	Statewide Rank (out of 499)	Luzerne County Rank (out of 11)
% Increase in BEF/ADM After Weighting[1]	47.84%	19	1
% Increase in SEF/ADM After Weighting[2]	43.25%	101	6
Percent of Enrollment from Low Income Families	80.16%	16	1
ACS 5-yr Median Household Income	\$45,218.00	441	11
Local Capacity per Weighted Student	\$4,590.08	413	9
Market Value / Personal Income Aid Ratio	0.6632	131	4
Local Effort Capacity Index	1.72	16	1
Equalized Mills	22.7	109	2
Current Exp per Weighted Student	\$9,968.51	488	11
Current Exp per ADM	\$14,374.79	421	5
Total Exp per ADM	\$15,463.87	449	8

PX-4890.

520. For example, by median household income, Wilkes-Barre ranks 441st out of 499 districts, PX-4890, while 80% of students are classified as low-income, ranking 16th highest in the state:

Wilkes Barre Area SD -- Demographics			
Demographic	2017-18	2018-19	2019-20
Total Students	7070	7204	7310
White	39.1%	36.12%	33.56%
Hispanic	33.5%	36.79%	39.70%
Black	19.0%	18.56%	17.93%
Asian	1.6%	1.46%	1.31%
Special Education	18.9%	18.96%	19.56%
Special Education Rank	102	129	131
ELL	7.7%	8.05%	7.55%
ELL Rank	20	20	25
Econ. Disadvantaged	77.50%	79.72%	80.16%
Econ. Disadvantaged Rank	21	16	16
Homeless	Unavailable	1.50%	1.70%
Homeless Rank	Unavailable	176	131
Foster Care	Unavailable	1.00%	1.09%
Foster Care Rank	Unavailable	101	55
Source: Pennsylvania Department of Education Data, Ex. Nos. PX-01914-01916, PX-02096-02098			

PX-4809.

521. As explained by Wilkes-Barre’s superintendent Dr. Costello, this presents significant challenges:

So economically disadvantaged children, they have — first of all, they can all learn, and they all have the ability to learn; but with that identifier, they have multiple challenges that we need to be able to identify and address.

Some of our children who are classified as “economically disadvantaged” come in a very early age to school without the necessary literacy skills that they may need. They might not be surrounded to vocabulary that other students may have within their household. Some of these students are unable to attend pre-K. These students have a situation where the school supplies that we would

require for schools, their parents are unable to afford. Food is a concern for students with economically disadvantaged, hot [meals]. Sometimes the parents are working multiple jobs, and they're unable to be with their families — or, with their children at night after school, and they're unable to help or assist a student — a child with a project or homework. . . .

Students that are economically disadvantaged sometimes don't have that ability to get the necessary care they need, and it's — it puts everything in perspective

Tr. 10737:23-10739:20 (Costello).

522. According to the Fair Funding Formula, Wilkes-Barre has the 19th highest need student population in the Commonwealth. PX-4890. Putting its need and wealth together, the district's local capacity per weighted student ranks 413 of 499 districts. PX-4890. Wilkes-Barre's need, combined with lack of wealth, leads to the same unsurprising result. By current expenditures per weighted student, Wilkes-Barre ranks 488th in the Commonwealth. PX-4890.

523. According to the Special Education Fair Funding Formula, Wilkes-Barre has the 101st highest need special education population in the Commonwealth. PX-4890. And by the Level Up formula, Wilkes-Barre is the 15th Commonwealth's lowest spending district. PX-4778, Tab Level Up Supplement, Column G; Tr. 11733:21-11734:20 (Donley).

524. Wilkes-Barre has regularly raised its taxes, which are the second highest in Luzerne County, and higher than approximately 80% of the Commonwealth. Tr. 10683:18-10684:15 (Costello); PX-4890. When measured by

Local Effort Capacity Index, Wilkes-Barre ranks 16th highest in the entire

Commonwealth. PX-4890. But as Dr. Costello explained, Wilkes-Barre cannot tax its way to sufficient funding:

We've pleaded to everyone — we've gone to legislators, we've gone to PDE, we've asked for assistance, we've taxed our local community to the point where we've raised taxes to the index — and we still weren't able to provide students — we still were unable to provide for our students.

Tr. 10686:20-10687:2 (Costello).

6. William Penn School District

525. In 2019-20, the William Penn School District had total revenues of \$104.3 million. LR-5082. Across a variety of measures, William Penn is a low-wealth, high-need, high-effort, low-spending district:

William Penn SD -- Financial Need, Capacity, and Spending for 2019-2020			
Measure	Value	Statewide Rank (out of 499)	Delaware County Rank (out of 15)
% Increase in BEF/ADM After Weighting[1]	24.64%	141	3
% Increase in SEF/ADM After Weighting[2]	54.40%	16	1
Percent of Enrollment from Low Income Families	57.85%	88	5
ACS 5-yr Median Household Income	\$55,355.00	294	13
Local Capacity per Weighted Student	\$4,046.99	435	14
Market Value / Personal Income Aid Ratio	0.7254	66	3
Local Effort Capacity Index	1.7	19	3
Equalized Mills	35	2	1
Current Exp per Weighted Student	\$13,999.60	222	12
Current Exp per ADM	\$17,191.22	172	10
Total Exp per ADM	\$17,921.00	276	13

PX-4894.

526. By the Aid Ratio, William Penn is the 66th poorest school district in the Commonwealth. PX-4894. Additionally, 58% of its students are classified as economically disadvantaged. PX-4811. Former superintendent Ms. Harbert

testified that in previous years this number was consistently 78%, and identified why the current number is likely an undercount: after 2016-17, the district was not permitted to collect information about students' economic status because it transitioned to Community Eligibility Provision (CEP), a federal program that provides free breakfast and lunch to students district-wide. Tr. 6874:23-6879:21 (Harbert); PX-4815. Ms. Harbert testified that she believes the student poverty rate has remained consistent at around 78%. Tr. 6875:4-7 (Harbert); Tr. 6879:9-15 (Harbert).

527. According to the Fair Funding Formula, William Penn has the 141st highest need general student population in the Commonwealth. PX-4894. Putting its need and wealth together, the district's local capacity per weighted student ranks 435th of 499 districts. PX-4894.

528. In 2019-20, 18% of William Penn students qualified for special education services:

William Penn SD -- Demographics			
Demographic	2017-18	2018-19	2019-20
Total Students	5010	5069	4916
White	3.5%	3.63%	3.54%
Hispanic	3.2%	3.57%	4.19%
Black	89.2%	88.40%	87.77%
Asian	1.6%	1.46%	1.26%
Special Education	17.2%	17.66%	18.00%
Special Education Rank	193	198	209
ELL	5.0%	4.75%	4.62%
ELL Rank	35	44	53
Econ. Disadvantaged	94.60%	72.93%	57.85%
Econ. Disadvantaged Rank	8	28	88
Homeless	Unavailable	1.50%	1.30%
Homeless Rank	Unavailable	176	192
Foster Care	Unavailable	1.89%	1.51%
Foster Care Rank	Unavailable	20	27
Source: Pennsylvania Department of Education Data, Ex. Nos. PX-01914-01916, PX-02096-02098			

PX-4811.

529. Moreover, William Penn has a special education population with significant numbers of “low incidence” students, also identified as Tier 3 students.

Tr. 6867:23-6868:15 (Harbert); PX-2168. As Ms. Harbert explained:

Tier 3 is your autistic, your students with emotional disturbance and those that have intellectual disabilities. Those students are going to require more support. They also are in classrooms — we have size limits, like the autistic classrooms can only be eight students to one teacher. And so those students required not only smaller classrooms or classroom sizes, not classroom space, and they also required more support through instructional assistance, individual aides.

Tr. 6869:4-17 (Harbert).

530. As a result, according to the Special Education Fair Funding Formula, William Penn has the 16th highest need special education student population in the Commonwealth. PX-4894.

531. By current expenditures per weighted student, William Penn ranks 222nd in the Commonwealth. But by the Level Up formula, which combines both

special education and general education need, William Penn is in fact the 63rd lowest spending district in the Commonwealth. PX-4778, Tab Level Up Supplement, Column G; Tr. 11733:21-11735:6 (Donley).

532. William Penn makes an extraordinary effort to fund its schools: its equalized mills for 2019-20 were 35, ranking highest in Delaware County and second highest in the entire Commonwealth. PX-4894. By the Local Effort Capacity Index, it ranked 19th. PX-4894.

533. William Penn's former superintendent Ms. Harbert testified that she frequently communicated with her community about the need to raise taxes in order to cover growing deficits. Tr. 6978:15-6980:6; PX-4101. Nevertheless, the district could not and cannot generate the funds it needs: "regardless of where we were and what percentage that we would put on our local taxpayers, we would not generate the revenue from our taxes regardless of what percentage we put on it." Tr. 6982:17-21 (Harbert); *see also* Tr. 7498:4-7499:7 (Becoats).

7. School District of Philadelphia

534. The City of Philadelphia is considered "the poorest big city in the country, . . . which means that there are lots of individuals who live in deep poverty, and all of the circumstances associated with individuals who are in circumstances of poverty create multiple barriers that you have to attend to in order to educate young people." Tr. 7707:13-20 (Hite). The School District of

Philadelphia is also the Commonwealth’s “largest district, by far.” Tr. 7712:6-9 (Hite).

535. Philadelphia’s budget is routinely larger than \$3 billion. *See, e.g.*, PX-2135, row 400. Within district-run schools, Philadelphia educates 130,000 students:

Philadelphia City SD -- Demographics			
Demographic	2017-18	2018-19	2019-20
Total Students	131,238	132,520	130,617
White	14.5%	14.02%	14.17%
Hispanic	20.0%	21.28%	22.66%
Black	49.7%	49.24%	48.29%
Asian	8.3%	8.72%	9.05%
Special Education	14.0%	17.23%	17.10%
Special Education Rank	385	225	268
ELL	10.7%	11.70%	12.76%
ELL Rank	10	10	10
Econ. Disadvantaged	Unavailable	69.06%	65.14%
Econ. Disadvantaged Rank	Unavailable	39	47
Homeless	Unavailable	1.75%	1.78%
Homeless Rank	Unavailable	140	116
Foster Care	Unavailable	2.12%	1.86%
Foster Care Rank	Unavailable	12	13
Source: Pennsylvania Department of Education Data, Ex. Nos. PX-01914-01916, PX-02096-02098			

PX-4813.

536. Philadelphia has approximately 20,000 employees, including 9,500 teachers, to support these students. Tr. 7745:14-21 (Hite).

537. Yet the district’s size does not erase its commonalities with Petitioner Districts. Across a variety of measures, Philadelphia is a low-wealth, high-need, high-effort, low-spending district:

Philadelphia City SD -- Financial Need, Capacity, and Spending for 2019-2020		
Measure	Value	Statewide Rank (out of 499)
% Increase in BEF/ADM After Weighting[1]	51.54%	16
% Increase in SEF/ADM After Weighting[2]	37.92%	226
Percent of Enrollment from Low Income Families	65.14%	47
ACS 5-yr Median Household Income	\$45,927.00	433
Local Capacity per Weighted Student	\$3,677.52	457
Market Value / Personal Income Aid Ratio	0.7209	68
Local Effort Capacity Index	1.7	19
Equalized Mills	24.4	83
Current Exp per Weighted Student	\$10,796.44	473
Current Exp per ADM	\$16,441.98	230
Total Exp per ADM	\$19,644.27	171

PX-4877.

538. By the Aid Ratio, Philadelphia is the 68th poorest school district in the Commonwealth. PX-4894. Additionally, 65% of Philadelphia students are classified as economically disadvantaged, ranking it 47th highest in the state. As recently as 2012-13, however, that number was 84%. PX-4815. Like Ms. Harbert and Mr. McAndrew, Dr. Hite attributed this decrease to a change in record-keeping, rather than an increase in student wealth: parents are no longer required to submit forms to have their children qualified for free or reduced-price lunch programs. Tr. 7712:18-7714:13 (Hite). In fact, Dr. Hite estimates poverty in Philadelphia has actually increased since he became superintendent. Tr. 7714:10-17 (Hite). But even using the lower poverty rate, Philadelphia district-run schools would enroll approximately 85,000 low-income students. Tr. 7713:18-21 (Hite).

539. The District has a large number of English Language Learners and enrollment of these students is increasing. Between 2012-13 and 2019-20, the number of ELL students increased from 11,500, or 8% of the Philadelphia student population, to nearly 16,700 students, or 13% of the student body. Tr. 7716:20-7718:12 (Hite); PX-4816. ELLs in Philadelphia speak over a hundred languages, including Spanish and Vietnamese to Khmer, Bengali, and Pashto. Tr. 7718:13-7721:9 (Hite).

540. According to the Fair Funding Formula, Philadelphia has the 16th highest need general student population in the Commonwealth. PX-4877. Putting its need and wealth together, the district's local capacity per weighted student ranks 457th of 499 districts. PX-4877.

541. By current expenditures per weighted student, Philadelphia ranks 473rd. PX-4877. As Philadelphia's Chief Financial Officer Mr. Monson explained, "[w]e spend almost the least in the state despite having almost the highest need in the state." Tr. 10192:19-10193:3 (Monson). And by the Level Up formula, Philadelphia is the 14th lowest spending district in the Commonwealth. PX-4778, Tab Level Up Supplement, Column G; Tr. 11733:21-11735:6 (Donley).

542. Unique in the Commonwealth, Philadelphia has no taxing authority, and is wholly dependent on the revenues allocated to it by local, state, and federal authorities. Tr. 10306:18-10307:4 (Monson). Regardless, residents of the City of

Philadelphia make considerable efforts to attempt to raise funds for their schools. Philadelphia's equalized mills for 2019-20 ranked 83rd highest in the Commonwealth. PX-4877. By the Local Effort Capacity Index, it ranked 19th. PX-4877.

B. Petitioners, Philadelphia, and low-wealth districts across the Commonwealth have wide funding shortfalls.

543. The inadequacy and inequity of Pennsylvania's funding system is not felt evenly; low-wealth districts disproportionately suffer from both adequacy and equity shortfalls. PD-3-100; Tr. 1186:4-12 (Kelly); Tr. 1261:17-1262:23 (Kelly). As Dr. Kelly explained, as of 2019-20, the poorest quintile districts lose \$772 million a year as a result of BEF hold harmless, and \$105 million as a result of SEF hold harmless, shortfalls that are multiple times greater than any other wealth quintile. Tr. 1261:17-1262:23 (Kelly); PD-3-100. Moreover, the adequacy shortfall in the poorest quintile of districts is over \$2.04 billion, or more than 11 times the adequacy shortfall in the wealthiest quintile. Tr. 1261:17-1262:23 (Kelly):

Appendix Table 3 BEF and SEF Equity Shortfalls and State Funding Targets for Most Recently Available Years 1 = wealthiest, 5 = poorest				
	BEF Equity Shortfall for 2019- 20	SEF Equity Shortfall for 2019-20	Adequacy Shortfall, 2019- 20	State Funding Target, 2019-20
1	\$105,770,202.49	\$1,373,750	\$175,566,886	\$37,719,411
2	\$126,495,458.71	\$13,258,733	\$633,073,518	\$245,766,929
3	\$70,562,531.83	\$24,419,523	\$837,424,917	\$400,062,916
4	\$134,796,692.35	\$34,854,840	\$935,959,047	\$513,903,355
5	\$772,124,182.54	\$105,496,238	\$2,042,557,590	\$1,504,358,911
State Total	\$1,209,749,067.93	\$179,403,084	\$4,624,581,958	\$2,701,811,522

PD-3-100.

544. Petitioners and Philadelphia in particular suffer from significant adequacy and equity shortfalls. By way of example, for the 2019-20 school year, Panther Valley's BEF equity shortfall was \$3.1 million, its SEF equity shortfall was \$1.7 million, and its adequacy shortfall was \$15.6 million. PD-3-45. In total, each Petitioner District and Philadelphia had significant shortfalls in each category, including adequacy shortfalls ranging from \$4,214 per student in Wilkes-Barre to \$8,551 per student in Panther Valley. Tr. 1257:15-1260:3 (Kelly):

Adequacy and Equity Shortfalls by Petitioner District, 2019-2020								
District	Adequacy Shortfall, 2019- 20	Adequacy Shortfall Per 2019- 20 Adjusted ADM	BEF Equity Shortfall, 2019-20	SEF Equity Shortfall, 2019-20	BEF Shortfall Per 2019- 20 Adjusted ADM	SEF Shortfall Per 2019- 20 Adjusted ADM	State Funding Target, 2019- 20	State Funding Target Per 2019- 20 Adjusted ADM
Greater Johnstown SD	\$14,940,834.00	\$4,980.00	\$5,954,351.00	\$621,750.00	\$1,985.00	\$207.00	\$9,081,446.00	\$3,027.00
Lancaster SD	\$47,775,097.00	\$4,545.00	\$25,184,500.00	\$1,085,723.00	\$2,396.00	\$103.00	\$33,413,903.00	\$3,179.00
Panther Valley SD	\$15,880,744.00	\$8,551.00	\$3,094,083.00	\$1,679,222.00	\$1,666.00	\$904.00	\$12,610,899.00	\$6,791.00
Shenandoah Valley SD	\$8,207,953.00	\$7,075.00	\$5,112,699.00	\$575,659.00	\$4,407.00	\$496.00	\$6,961,165.00	\$6,000.00
Wilkes-Barre Area SD	\$33,586,603.00	\$4,214.00	\$27,908,987.00	\$2,872,431.00	\$3,502.00	\$360.00	\$22,072,138.00	\$2,770.00
William Penn SD	\$38,840,685.00	\$6,794.00	\$4,695,345.00	\$2,858,589.00	\$821.00	\$500.00	\$28,175,033.00	\$4,928.00
Philadelphia City SD	\$1,142,556,189.00	\$5,587.00	\$401,162,193.00	\$41,763,566.00	\$1,962.00	\$204.00	\$823,668,757.00	\$4,028.00

Sources: Pennsylvania Department of Education Data, Ex. Nos. PX-01889, PX1902, PX1913, PX-01968, PX-02098, PX-02135, PX02188; Expert Analysis of Matt Kelly (Kelly Addendum, Appendix Table 5 (Sept. 1, 2021))

PD-3-45.

545. Similarly, 157 PARSS member districts, including Otto-Eldred, experienced adequacy shortfalls in 2019-20. PD-9-2–23.

546. Moreover, those adequacy shortfalls are consistent over time. For example, as explained in Section VII(B), each Petitioner District and Philadelphia had large adequacy shortfalls the last time PDE published them. And as calculated by Dr. Kelly, those shortfalls continue with remarkable consistency. PX-1904, column N. In nominal dollars, only Lancaster’s shortfall — which remains at \$48 million — has lessened. PX-1904, column N. Greater Johnstown’s shortfall has largely remained constant, while Philadelphia’s and every other Petitioner District’s has grown:

School District	2010-11 Adequacy Shortfall (2502.48 calculated by PDE)³⁵	2019-20 Adequacy Shortfall (2502.48 calculated by Dr. Kelly)³⁶
Greater Johnstown SD	\$14,578,342.01	\$14,940,834.00
Panther Valley SD	\$10,054,053.02	\$15,880,744.00
William Penn SD	\$21,836,792.06	\$38,840,685.00
Lancaster SD	\$53,331,324.25	\$47,775,097.00
Wilkes-Barre Area SD	\$21,870,970.77	\$33,586,603.00
Shenandoah Valley SD	\$7,069,556.60	\$8,207,953.00
Philadelphia City SD	\$943,541,462.95	\$1,142,556,189.00

PX-1904, column N; *see* PD-3-45.

547. Dr. Kelly's calculation of adequacy and equity shortfalls also make clear that merely ending hold harmless will not cure the inability of low-wealth school districts to provide their students with adequate resources, despite making tax efforts greater than their neighbors. By way of example, for the 2019-20 school year, William Penn taxed its residents higher than 497 of Pennsylvania's 499 school districts. PX-4894. Were hold harmless ended, it would receive approximately \$4.7 million in additional Basic Education Funding, and \$2.9 million in additional Special Education Funding. PD-3-45. Yet William Penn's total adequacy shortfall is far greater: \$38.8 million. PD-3-45.

³⁵ PX-1904, column N.

³⁶ PD-3-45.

C. Petitioners' and Philadelphia's growing unreimbursed mandated costs have blunted any increases from the Fair Funding Formula and the Level Up Supplement.

548. As discussed above, when adjusted for inflation, increases in Basic Education Funding since 2014-15 have been modest. However, in real or nominal dollars, Basic Education Funding to Petitioners and Philadelphia has increased somewhat since the enactment of the Fair Funding Formula. PX-4901 (Columns M-O).

549. A wide range of witnesses across Petitioners' districts and the School District of Philadelphia testified about the impact of the Fair Funding Formula on their budgeting: they explained that they started from a place of insufficiency, which recent increases have not been large enough to offset. *See, e.g.*, Tr. 6966:17-6967:6 (Harbert); Tr. 7497:6-21 (Becoats); Tr. 3501:1-3503:10 (Waite). The silent recession, in other words, is ever-present for Petitioner Districts, PARSS districts, and the School District of Philadelphia.

550. It is clear that the recent increases in state funding are especially modest when compared to districts' total budgets. By way of example, the School District of Lancaster's total revenues for the 2019-20 school year were \$188.8 million. LR-5018. And yet, the total increase in real dollars it received in Basic Education Funding in the five years from 2014-15 to 2019-20 was approximately \$3.5 million, or an increase of less than \$700,000 per year, PX-4901, cell L5,

which is less than one-half of one percent of its budget. Moreover, the average increase in real dollars Lancaster received in Basic Education Funding in the seven years from 2014-15 to 2021-22, which includes the Level Up Supplement, was even less: \$3.4 million, or less than \$500,000 per year. PX-4901, cell M5.

Lancaster's adequacy shortfall, meanwhile, is \$47,775,097. PD-3-45.

551. The state funding increases also do not take into account the serious increases in mandated costs that even Speaker Cutler's witnesses agree must be considered when analyzing the practical impact of any increase on the ability of a school district to provide an adequate education to its students. *See* Section VI(G).

552. And that impact is significant. In practice, for both Petitioners and Philadelphia, growth in mandated costs alone have mostly or totally outstripped every dollar in increases from the Fair Funding Formula. This is true when figures are not adjusted for inflation:

Wilkes-Barre Area School District Basic Education Funding vs. Mandated Costs				
	FY 2014-15	FY 2019-20	Avg. Annual Dollar Increase	Avg. Annual Percentage Increase
Basic Education Funding	\$ 23,853,148.74	\$ 30,362,285.07	\$ 1,301,827.27	5.5%
Unreimbursed Special Education Instructional Costs	\$ 11,783,358.68	\$ 17,879,198.34	\$ 1,219,167.93	10.3%
Unreimbursed Retirement Costs	\$ 4,149,211.04	\$ 5,732,504.71	\$ 316,658.73	7.6%
Tuition to Charter Schools	\$ 6,667,549.47	\$ 9,759,759.31	\$ 618,441.97	9.3%
Source: Pennsylvania Department of Education Data, Ex. Nos. PX-01816, PX-01819, PX-01820, PX-01822, PX-01909, PX-01913, PX-02183, PX-02188				

PX-4891; *see also* PX-4887 (Shenandoah Valley), PX-4895 (William Penn), PX-4882 (Panther Valley), PX-4832 (Lancaster), PX-4825 (Greater Johnstown) (showing slight increase), PX-4878 (Philadelphia), PX-4838 (Otto-Eldred).

553. And this is true when revenues and expenditures are adjusted for inflation:

	Real BEF Growth - Real Unreimbursed Pension and Special Education Cost Growth
Greater Johnstown SD	\$868,863.77
Lancaster SD	-\$5,697,801.00
Wilkes-Barre Area SD	-\$2,123,644.85
Panther Valley SD	-\$583,963.34
William Penn SD	-\$5,325,645.91
Shenandoah Valley SD	-\$75,712.42
Philadelphia City SD	-\$41,270,479.53
School District	-\$1,212,709,676.41

PX-4904, column N.

554. It is therefore unsurprising that school leaders repeatedly testified that as a general matter, their lack of resources has not been solved by the Fair Funding Formula. The Fair Funding Formula did not solve PARSS members’ concerns related to school funding, according to Mr. Splain, because “the formula provided the blueprint for distributing it more equitably, but it never dealt with what was adequate for our students to meet the needs they have.” Tr. 6235:1-4 (Splain).

555. Former William Penn superintendent Ms. Harbert similarly testified that even though her district received funds through the Fair Funding Formula, it did not solve their problem: “[w]e knew that what we received in increased funding would be overshadowed by our mandated costs. Our mandated costs were going up faster than our revenue.” Tr. 6966:17-6967:6 (Harbert). Current superintendent Dr. Becoats testified that William Penn has since received an increase in Basic Education Funding of the equivalent of one percent of their operating budget, which is insufficient to meet the district’s needs. Tr. 7497:6-21 (Becoats).

556. Similarly, Shenandoah Valley superintendent Mr. Waite testified that in his district, “[f]rom the period of 2014-’15 through 2019-’20, the Basic Education Funding [] increased by \$295,522 annually.” Tr. 3501:1-6 (Waite). But that increase pales in comparison to the increases in mandatory expenses the district faces, and the increased costs of operating expenses, including the costs of teacher salaries. Tr. 3501:7-3503:10 (Waite).

VIII. Petitioners and Philadelphia Use Creativity and Sound Fiscal Practices to Manage Their Districts, but Eventually, Triage the Needs of Their Students.

557. Across trial, another theme became clear: the professionals who are responsible for guiding school district budgets do so with professionalism, attempting to save funds where possible, creatively using what funds they do have, and where possible, attempting to keep cuts as far away from students as possible. *See, e.g.*, Tr. 5663:10-5667:5 (Przywara). But efficiency only goes so far, leading these same professionals to require concessions from staff members or even lay them off, and eventually, to triage the needs of their students.

A. Petitioners and Philadelphia use a variety of strategies to navigate the uncertainties of Pennsylvania’s annual school budgeting process.

558. There are two principal documents that detail the fiscal information of school districts: General Fund Budgets and Annual Financial Reports, or AFRs. General Fund Budgets are public planning documents for school districts, passed in June each year, explaining at a high level the line items where a district must spend its resources, from instruction to support services, and what it expects to receive in revenue from federal, state and local sources. *See* Tr. 3924:10-20

(Kocsis); Tr. 3954:20-3955:3 (Kocsis); Tr. 3957:24-3958:14 (Kocsis); Tr. 5668:2-5672:4 (Przywara).³⁷

559. School district budgets are projections. Indeed, they must be passed before the state budget itself has been passed. Thus, school districts must enact a budget without knowing how much funding they will receive from the state. Tr. 3955:12-3957:10 (Kocsis). Nor is that state funding amount predictable. While Basic Education Funding has typically increased in past years, this is not always the case: the state flat-funded education in one instance, cut funding in another, and at one point failed to pass a budget for months on end. Tr. 5672:5-15 (Przywara); Tr. 10185:2-21 (Monson); Tr. 3571:7-12 (Waite).

560. Without knowing how much — or even when — state funding will be appropriated, school districts approach the projection of funds in their General Fund Budgets using different strategies. For example, in Greater Johnstown, the district projects state funding based upon the estimates provided by the Pennsylvania Association of School Business Officers. Tr. 3957:1-10 (Kocsis). In Lancaster, the district assumes, first, that reimbursement-based state funds such as

³⁷ Petitioners entered into evidence years' worth of recent district budgets and AFRs. *See, e.g.*, PX-4056, PX-4057, PX-4058, PX-4060, PX-4061, PX-4648, PX-4649, PX-4762 (2014-15 through 2021-21 William Penn General Fund Budgets); PX-326, PX-327, PX-328, PX-329, PX-753, PX-4530 (2014-15 through 2019-20 Lancaster AFRs).

retirement reimbursements will increase, but that the state will otherwise flat-fund schools. Tr. 5670:5-5671:9 (Przywara). Second, Lancaster builds in some elevated spending through use of its fund balance. Tr. 5672:16-5674:21 (Przywara). If the state ultimately increases funding that year, Lancaster uses the increase to fill this deficit, and then builds the state funding into its baseline spending the following year. Tr. 5675:5-5676:18 (Przywara).

561. Because budgets are projections, there will inevitably be differences between what was budgeted and what actually occurred in any given year. By way of example, on the revenue side, in Greater Johnstown, the district benefited unexpectedly when the federal government increased Title I spending during the 2018-19 school year. Tr. 4158:16-4160:23 (Kocsis) (comparing PX-133-7 (2018-19 budget) with PX-261-28 (2018-19 AFR)). Similarly, in Lancaster, after making debt payments for four-and-half years without receiving promised reimbursement from the state, the Commonwealth gave the district \$4 million in a lump sum payment for those reimbursements. Tr. 5757:17-5759:10 (Przywara).

562. And as would be expected in districts with thousands of students and hundreds or even thousands of employees, expenses vary, too. The most obvious example of this are the unplanned expenses that districts needed to incur during the COVID-19 crisis, or the eventual short-term savings they accumulated from spending less on substitute teachers and in class supports, sports, and transportation

during the school closures. *See, e.g.*, Tr. 4008:16-4009:6 (Kocsis); Tr. 7496:10-20 (Becoats)

563. Those variances are accounted for in Annual Financial Reports, backwards-looking documents that detail what a district actually spent in the previous fiscal year. Tr. 3930:6-16 (Kocsis). Annual Financial Reports are published months after a fiscal year ends. Tr. 5739:24-5740:3 (Przywara). For example, the Annual Financial Reports for the 2019-20 school year, which ended June 30, 2020, were not submitted by school districts until late 2020. *See, e.g.*, PX-4530 (Lancaster 2019-20 AFR, dated December 8, 2020).

564. Practically speaking, this timing also injects a measure of uncertainty into the district budgeting process. Annual Financial Reports identify how a district's actual spending related to its projected spending, but school districts actually pass budgets for the year ahead without knowing precisely how much they spent or received in the year prior. *See* Tr. 4085:19-4087:14 (Kocsis), Tr. 5915:21-5916:11 (Przywara).

B. School districts are required to include certain funds in their financial documents, even when they are not actually available.

565. When reporting their finances, school districts have to follow rules set out by the Government Accounting Standards Board (GASB). Tr. 10269:23-10271:8 (Monson). As a result, Annual Financial Reports have to list a variety of

funds and fund balances that are on their balance sheets as a matter of GASB rules, but which are not actually available for the education of school districts. Tr. 10269:23-10271:8 (Monson). By way of example, this includes previous debt payments that stay on balance sheets for years after payments are made, funds held as fiduciaries for student organizations, and booking the value of bond refinances as both revenues and expenditures. Tr. 5764:23-5767:4 (Przywara); Tr. 6987:12-6988:9 (Harbert); Tr. 3948:23-3950:21 (Kocsis); Tr. 10269:23-10271:8 (Monson).

566. In fact, GASB standards technically show each school district in severe deficit, because those standards also requires districts to book the value of outstanding pension liabilities. *See e.g.*, PX-4530-164 (Lancaster 2019-20 AFR) (listing \$505 million in debts, including \$293 million in pension debts); PX-4454-128 (William Penn 2018-19 AFR) (listing \$204 million in debts, including \$123 million in pension debts). Were one to consider the GASB standards for reporting outstanding debts as a real view on the balances of districts, Philadelphia alone would be in a \$4.3 billion deficit. Tr. 10386:3-10387:9 (Monson).

567. GASB standards aside, there is only one line of funds practically available to districts for the education of their students: the “general fund,” which is where the operating expenses of a district are located. Tr. 6989:3-7 (Harbert); Tr. 3931:14-19 (Kocsis).

C. Fund balances are imperative for sound fiscal management.

568. One way school districts must manage their budgets is by maintaining a fund balance, defined as “the difference of district’s assets minus its liabilities.” Tr. 3937:1-3 (Kocsis). The assets in a general fund can include “cash and cash equivalents, investments, [] receivables . . . , inventories, [and] prepaid expenses.” Tr. 3932:20-3933:2 (Kocsis). And the liabilities can include “accounts payable, accrued salaries and benefits at the year end, payroll reductions and withholdings, [and] unearned revenues.” Tr. 3936:14-18 (Kocsis).

569. Speaker Cutler’s witness Mr. Donley agreed that fund balances are a sound fiscal practice for any organization. Tr. 11749:19-22 (Donley). He noted that at the state level, the Commonwealth has a budget reserve “at long last,” after going “a lot of years really without one. It didn’t help in regard to our credit rating. . . .” Tr. 11749:23-11750:5 (Donley). In fact, he testified that the General Assembly effectively has its own fund balance that would allow it to function for approximately four months without additional funding. Tr. 11751:5-15 (Donley).

570. Within a district’s general fund’s balances, there are non-spendable funds (often inventory), *see* Tr. 3937:10-17 (Kocsis); Tr. 5745:14-24 (Przywara); restricted funds (restricted by an outside party or by law), *see* Tr. 3937:18-23 (Kocsis); committed funds (committed by a school board for specific future uses), *see* Tr. 5746:5-21 (Przywara); assigned funds (assigned for use for a specific

purpose, such as roof and boiler repairs), *see* Tr. 5749:19-5750:20 (Przywara); Tr. 3938:6-10 (Kocsis); and unassigned fund balances, which are those available for general use. Tr. 3939:3-7 (Kocsis).

571. Lancaster’s Chief Financial Officer Matt Przywara explained that pursuant to best practices and years of historical trends, school districts should have at least sixty to ninety days’ worth of an unassigned fund balance at all times. Tr. 5760:1-15 (Przywara). The state, however, sets an implicit cap on fund balances that is significantly lower: if an unassigned fund balance is higher than eight percent, a district may not raise its taxes during the next fiscal year. *See* 24 P.S. § 6-688. Mr. Przywara explained that this limitation is divorced from sound fiscal practices, and was instead an arbitrary number picked by the Commonwealth. Tr. 5761:9-5761:21 (Przywara). In fact, Philadelphia’s Chief Financial Officer Mr. Monson testified that rating agencies consider it a risk when a district has a fund balance of less than ten percent. Tr. 10188:5-15 (Monson). No explanation for the state’s limitation was provided during trial, which is considerably lower than the General Assembly’s own reserves.

572. One important use of a fund balance is to allow a district to pay its employees and vendors while awaiting “receivables,” which is “money due to the district, but not received by the district.” Tr. 3933:3-12 (Kocsis). By way of example, Lancaster ended its most recent fiscal year owed \$25.2 million from the

state and federal government, an amount that is not atypical for the district. PX-4530-8 (line 141); Tr. 5740:7-5744:23 (Przywara); *see also* Tr. 3933:13-3934:3 (Kocsis) (discussing PX-149-8). In such a situation, districts must still make payroll and pay bills. That is, even when the district is “still waiting on money we have to find the money from somewhere else. . . And normally what we do is we use our fund balance in order to cover that until we get these reimbursements paid to us.” Tr. 5744:2-23 (Przywara); *see also* Tr. 3934:4-14 (Kocsis).

573. Waiting for the state can be a lengthy affair — as of the date of Mr. Przywara’s testimony, Lancaster was owed \$13.5 million dollars in state reimbursements for payments made pursuant to Elementary and Secondary School Emergency Relief (ESSER) funding that the district used to, among other things, improve ventilation in its schools. Tr. 5753:23-5755:2 (Przywara). Because the district could not wait until it received the reimbursement to make the repairs, the district used its fund balance. Tr. 5753:23-5755:2 (Przywara).

574. Other times, school districts have had to use fund balances to stay afloat when the Commonwealth indefinitely delays in enacting a budget, as happened for nearly a year in the 2015-16 school year. Tr. 5755:3-5757:1 (Przywara); Tr. 3934:22-3925:13 (Kocsis). The impact of such impasses are obvious: “We’ve had a year where it took seven months. I still have to pay staff. If

I don't have funds there to pay them, I can't open the building." Tr. 3571:7-12 (Waite).

575. Once a fund balance runs out in such a situation, the only way for school districts to continue operations is to take out tax anticipation loans, thereby incurring interest costs. Tr. 5756:7-5757:1 (Przywara). Indeed, in Philadelphia, where there was no fund balance to turn to during the budget impasse, the district was forced to "borrow[] several hundred million dollars just to maintain operations." Tr. 10185:2-16 (Monson). Nor was Philadelphia unique. Mr. Donley admitted that the Commonwealth's failure to pass a budget forced school districts to borrow \$1 billion in funds to stay afloat, taking on tens of millions of dollars in interest payments. Tr. 11751:18-11752:10 (Donley).

576. In other instances, districts need to use fund balances to make capital improvements, planned or unplanned, or to handle other unforeseen expenses. In Greater Johnstown, for example, the superintendent expects that nearly half of the District's \$8 million fund balance may have to be used to make repairs to the sewage system of each school. Tr. 3277:12-3278:22 (Arcurio). In Lancaster, fund balances have been used to pay for autistic support classrooms that unexpectedly needed to be opened and to make emergency repairs and purchases after a flood. Tr. 5751:7-5753:7 (Przywara). And in Shenandoah Valley, the district will need to use its fund balance to replace a forty-year-old coal-fired boiler that is already

fifteen years past its expected life cycle, to buy vans for special education students, and to replace the technology that is now required in a post-pandemic society. Tr. 3509:20-3511:2 (Waite); Tr. 3565:12-20 (Waite).

577. Still other times, fund balances allow districts to keep their doors open in the short run. Mr. Monson, for example, testified that during the initial phases of the COVID-19 pandemic, “we used up our fund balance to keep us going.” Tr. 10202:10-12 (Monson).

578. What fund balances and other one-time finds cannot practically be used for is to hire long-term staff. Witness after witness made clear that fund balances specifically or one-off funding generally should not be used for recurring expenses. “[I]f you’re talking about maybe one-time resources we have, we have to be concerned about what comes after that and what’s recurring and sustainable.” Tr. 11749:3-6 (Donley).

579. For example, former business manager Mr. Kocsis — nicknamed the Grim Reaper by Greater Johnstown staff because “everything was cut under my time” — testified that he was repeatedly asked whether the district could afford to hire more staff, and repeatedly was forced to say no. Tr. 4010:11-20 (Kocsis); Tr. 3958:16-3959:2 (Kocsis). Mr. Kocsis also testified, however, that as a result of two “lucky” one-off occurrences related to the single largest taxpayer in Greater Johnstown, the District netted approximately \$3.3 million dollars, or nearly half of

its fund balance. Tr. 4007:24-4008:15 (Kocsis). Moreover, he noted the fund balance also grew because of COVID-induced changes that temporarily lowered spending on athletics, transportation, and substitute teachers. Tr. 4008:16-4009:6 (Kocsis).

580. Mr. Kocsis explained, however, that the influx of one-time funds and one-time savings had not changed his mind about the district's ability to add the recurring staff members it needed:

I don't think we could — a lot of this fund balance is one-time, non-recurring events, so adding more staff and more expenditures to the normal operations of each year that would recur year and year after that, I think that would lead us back to where we were with no fund balance available, because we can't count on one-time things happening to get lucky, basically, and have a fund balance.

Good budgeting is you budget for the expenditures that you have and the resources that you have. That's sound budgeting. And operational deficits are just compounding and get worse year to year.

Tr. 4009:20-4010:10 (Kocsis).

581. Many witnesses, including Senator Corman himself and Speaker Cutler's witnesses, were in accord with this principle. *See, e.g.*, PX-4655 (Corman); Tr. 11749:2-6 (Donley); Tr. 13571:2-13572:2 (Eden); Tr. 5757:2-16 (Przywara); Tr. 10205:10-10206:9 (Monson); Tr. 10187:6-9 (Monson); Tr. 10689:6-10691:9 (Costello); Tr. 3567:17-3568:3 (Waite).

D. Budgets must be balanced, even “at a severe cost.”

582. For multiple Petitioner Districts and Philadelphia, the basic precept that one-time savings should not be used for recurring expenses is not theoretical. Instead, these districts have lived the consequences.

583. District officials testified that at various points, they have been forced to use fund balances toward recurring expenses in an effort to balance the budget. For example, former superintendent Ms. Harbert testified that the fund balance was \$7 million when she started at William Penn. Tr. 6983:19-24 (Harbert). Yet despite routinely raising taxes and adopting budgets she found insufficient, the district’s steady increases in unavoidable costs, such as the need to hire additional special education teachers, “caused our fund balance to deteriorate,” and by the time Ms. Harbert retired, the district’s most recent fund balance was \$435,121, or about two days of operations. Tr. 6985:7-6986:23 (Harbert); Tr. 6969:3-6971:1 (Harbert). Superintendent McAndrew testified that Panther Valley’s fund balance, meanwhile, had dwindled to less than \$50,000 in 2019-20 as a result of having to use savings to cover increases in mandated costs. Tr. 499:10-500:3 (McAndrew). In fact, the fund balance would have been negative in 2020-21 but for COVID relief money, which allowed the district to continue functioning and avoid additional draconian cuts. Tr. 500:4-19 (McAndrew); PX-4601-28; PX-4603-24.

584. District officials also described what happens when using one-time money to plug budget holes is no longer enough. Wilkes-Barre superintendent Dr. Costello described how his district was “living off of a fund balance, and it was depleting at a rapid pace.” Tr. 10673:7-9 (Costello). At the end of the 2015-2016 school year, facing a budget deficit spiral that would leave Wilkes-Barre with a general fund deficit of \$70 million by 2020-21, Wilkes-Barre was forced to make “draconian” cuts to its programming just to keep the doors open. PX-3410-25; Tr. 10681:1-10686:10 (Costello).

585. Wilkes-Barre furloughed 37 teachers and two dozen paraprofessionals. Tr. 10686:4-5 (Costello). It eliminated K-8 art, family consumer science, and industrial arts. Tr. 10685:24-10686:2 (Costello). It eliminated all librarian positions, and eight deans of students. Tr. 10686:2-10 (Costello). As Dr. Costello described, “my job is to provide the resources for students to succeed. And cutting programs that you know are going to affect children is extremely difficult. . . . It’s heartbreaking.” Tr. 10686:14-10687:20 (Costello).

586. On cross-examination, Dr. Costello further explained that balanced budgets alone cannot measure the health of a district:

Q. First, would you agree with me that the district is in substantially better financial position today than it was seven years ago when it filed this lawsuit?

A. So the answer is at what cost? We are financially better where we are not running into a deficit, but to get there, the cost was tremendous. The amount of staff that we had to cut, the programs that we've had to cut, and the consolidation of three schools, which came to be a great path to a new high school, but we were unable to maintain — when we had those consolidation, when that consolidation occurred, we were unable to attain [sic] approximately 30 — almost three dozen staff members just this year. So although our — although our finances on a sheet of paper are absolutely much better than they were when we were facing a \$70 million deficit, there's been a great cost to our district in an already stricken district that was \$33 million underfunded in not being able to provide resources to now cutting our resources even more.

So I would say yes, but at a severe cost.

Tr. 11028:12-11029:13 (Costello).

587. As a result of “drastic budget cuts from the state” in 2011, William Penn was forced to make similar decisions. Tr. 6950:13-15 (Harbert). At the time, the District did not have sufficient staff, with class sizes in elementary schools between 25 to 30 children. Tr. 6951:6-11(Harbert); Tr. 6952:23-6953:1 (Harbert).

But it had no choice:

[W]e first looked at the teachers who were going to move and resign, teachers who were going to retire, but that wasn't enough. . .

I sat with my — the other administrators and my business manager and we said okay, how many students can we put in a classroom at the middle or the high school. And then we started running numbers and saying yes, let's put 30 kids in a math class and let's put 30 students in a social studies or history class and 30 in our ELA classes. . .

And so I and my HR director went from each of those buildings and met personally with those people. When we rang that front buzzer and the secretary looked out and she saw the HR director and the Director

of Schools, she knew it wasn't good. And when we walked in and we asked if we could have a room so that we could meet teachers and then will you please call Mrs. So-and-so or Mr. So-and-so down to this — to the office.

And they'd get the call through the intercom, they'd come downstairs, they'd open the door, see our faces and start crying, because they knew that they were going to be laid off from a district that they loved to work in.

Tr. 6950:12-6952:22 (Harbert).

588. Lancaster, too, has made the same “very material cuts to programs, . . . furloughed staff, . . . laid off staff.” Tr. 5723:16-18 (Przywara).

589. By way of another example, in 2012-13, following significant statewide budget cuts as federal stimulus funding expired, Philadelphia was under “financial distress,” and had a deficit of nearly \$70 million. Tr. 7756:7-16 (Hite). In the previous year, the district had been forced to borrow money and lay off 1,200 individuals just to pay for operating expenditures. Tr. 7756:17-7757:11 (Hite).

590. In 2012-13, the district continued to take drastic actions to make ends meet — the district closed 24 schools, laid off 20% of the workforce (nearly 4,000 positions), and eliminated numerous programs. Tr. 7757:12-7758:2 (Hite). The positions that were eliminated were critical to the administration of schools and the district itself: art and music teachers, assistant principals, facilities workers, custodians, cafeteria workers, secretaries, guidance counselors, and whole

divisions in the central district administration. Tr. 7758:3-7759:15 (Hite). This meant that the following year, schools opened with extremely limited staff — just a principal, core teachers, very few support staff such as school safety officers, and a limited number of nurses that were shared across several schools. Tr. 7758:2-12 (Hite). The district has not been able to return to the levels of staffing they had prior to these cuts, and the needs continue to compound. Tr. 7760:10-15 (Hite).

591. These consequences were so common among districts that Senator Corman used the experience as a lesson to caution school districts not to use one-time emergency COVID funding for recurring costs: “Despite our caution during the economic downturn of the last decade there were unfortunately some school districts who used onetime federal funding to support ongoing programs. Those choices led to difficult and painful decisions once federal stimulus funding ended.” PX-4655-2; *see also* Section XI(C).

E. Petitioners and Philadelphia are good stewards of limited funds.

592. Districts’ testimony about the dire challenges they face in balancing their budgets nonetheless make clear that they use their limited resources responsibly.

593. Lancaster’s Chief Financial Officer, Mr. Przywara, rightfully rejected any suggestion that being well-managed and underfunded are in tension:

[R]egardless of the amount of resources we get as a school district, we still have a responsibility to manage those resources that we are provided. And that's one of my ultimate responsibilities, in concert with the superintendent. So we still make sure, if we only get X amount of dollars, that we use those X amount of dollars responsibly. I think the taxpayers rely on that, as well as our school board. That's what I'm hired to do, as well as the superintendent and the rest of the leadership team.

Tr. 5665:20-5666:8 (Przywara).

594. For example, in Philadelphia, the district's fiscal management led to its bond ratings being upgraded by national credit agencies, saving the district considerable interest payments. Tr. 10187:12-10188:15 (Monson). In Lancaster, the district has been repeatedly recognized for the transparent nature of its finances. Tr. 5662:20-5663:9 (Przywara).

595. Districts' lack of sufficient funding, however, has often meant requiring sacrifices from the public servants that make up the bulk of a school district's budget. By way of example:

- In Lancaster, the school district outsourced custodial staff, outsourced an alternate education program, and extracted concessions from staff that required them to pay additional funds to healthcare. Tr. 5663:10-5664:19 (Przywara).
- In Wilkes-Barre, teachers agreed to have their salaries frozen. Tr. 11156:5-16 (Costello).

- In Greater Johnstown, Pre-K teachers were outsourced, teacher salaries were frozen, and starting teacher salaries were reduced by \$5,000. Tr. 2597:16-24 (Arcurio); Tr. 4162:4-8 (Kocsis); Tr. 2707:7-16 (Arcurio); Tr. 2710:14-18 (Arcurio).
- In Panther Valley, the district outsourced custodial staff at the expense of its local community, and the district pays the lowest teacher salaries in the county, with a starting salary of less than \$38,000. Tr. 435:17-436:4 (McAndrew); Tr. 298:2-17 (McAndrew); Tr. 309:2-10 (McAndrew).
- In Shenandoah Valley, the district's school psychologist is also the elementary school assistant principal, and ten teachers have been teaching two subjects simultaneously. Tr. 3459:21-3460:6 (Waite); Tr. 3425:18-23 (Waite).
- In William Penn, a rotating school principal is split between two elementary schools, while custodian services have been outsourced and reduced. Tr. 6947:1-6948:11 (Harbert); Tr. 6550:14-6552:8 (Curry).
- In Otto-Eldred, teachers teach multiple, often very distinct, subjects, including the Spanish teacher who is also a reading specialist and an elementary teacher who is also the music teacher. Tr. 6189:18-6190:3 (Splain).

- In Philadelphia, teachers worked without a contract or any pay increases for 5 years. Tr. 7790:13-18 (Hite).

596. Within this context it is clear that Respondents' sporadic highlighting of specific spending decisions by Petitioner Districts does not demonstrate that these districts actually have sufficient funding. For example, each district spends a small amount of funds on extracurricular activities. *See, e.g.*, Tr. 5767:18-5769:20 (Przywara) (comparing \$210 million in instructional and support costs to \$1.8 million for sports and extracurricular activities). But regardless of the size, it is plain that such activities cost money: from coaches, to uniforms, to maintenance of the fields and the lights which allow children to play. *See, e.g.*, Tr. 6564:1-6566:14 (Curry).

597. Respondents agree this is money well spent: as described more fully in Section IX(B)(9), Senator Corman has stated that sports and extracurricular activities are important parts of a child's education, and "play an essential role in children's mental health and well-being," while PDE believes they help "develop leadership skills, collaboration skills, persistence skills, and resiliency." PX-3124-1; Tr. 1901:22-1902:1 (Stem). And Respondents produced no evidence suggesting that students in low-wealth school districts should uniquely be deprived of these programs.

598. Moreover, even within their limited extracurricular programs, district witnesses described thoughtful, reasonable approaches to managing funds, from repeatedly re-using uniforms and other equipment, to having stadium lights replaced all at one time in order to realize considerable savings. Tr. 6565:13-6566:14 (Curry); Tr. 3262:23-3265:5 (Arcurio).

599. The same is true for the few spending examples highlighted by Legislative Respondents. For example, Respondents posited that it was inappropriate for Lancaster to spend \$250 in additional funds per student to purchase iPads instead of Chromebooks. *See* Tr. 5949:21-5950:12 (Przywara). Yet school officials explained that they did so because they found that it was in the educational interest of their students. Tr. 5949:21-5951:2 (Przywara). In fact, Dr. Hacker described doing a “significant amount of research” in Springfield Township and reaching the same conclusion. Tr. 10501:13-10502:20 (Hacker). Senator Corman’s witness, Mr. Cote, described making similar decisions at his charter school. Tr. 13891:17-24 (Cote).

600. Legislative Respondents also argued that Lancaster should not have built a rooftop playground above a parking garage at a renovated school. Tr. 5369:21-5370:14 (Rau). Yet children need a place to play, and as Lancaster officials explained, the school at issue was landlocked, making the decision a reasonable one. Tr. 5369:21-5370:14 (Rau).

601. Moreover, Legislative Respondents' small criticisms of spending decisions pale in comparison to the larger financial realities: Lancaster's adequacy shortfall shows that the district was \$48 million underfunded in 2019-20, or approximately \$4,500 per student. PD-3-45. Legislative Respondents' suggestion that the Court should review random invoices for inappropriate spending before it can consider Petitioners' claims of constitutional inadequacy is not only meritless as a matter of law, *see* Conclusions of Law Section IV(B), but as a matter of this record. The issues before this Court are far greater than any individual purchase order.

F. Rather than administer local control, Petitioners and Philadelphia triage the needs of their students.

602. As a matter of law, calls to local control cannot excuse constitutional violations under the Education Clause. *See* Conclusions of Law Section III(C). But as a factual matter, the serious deficiencies at issue in this case are not the result of Petitioners' exercise of local control, but instead their inability to exert that control in the first instance.

603. As conceded by Speaker Cutler, one aspect of local control is the strategies and services a school district chooses to put in place with whatever funds they have, also called local administrative control. PX-3215, Resp. No. 2 (Speaker's Resp. to RFAs); Tr. 11713:22-11714:11 (Donley).

604. While perhaps obvious, increases in state funding do not interfere with local administrative control. PX-3215, Resp. No. 4 (Speaker's Resp. to RFAs); Tr. 11714:8-11 (Donley). In fact, state increases may actually give school districts more control, because as a result of those increases, school districts can put into place the programs and strategies that their students require. Tr. 11714:13-18 (Donley).

605. Another aspect of local control is how much funding a district can attempt to raise in the first instance, most obviously from its property tax rates, or local fiscal control. PX-3215, Resp. No. 2 (Speaker's Resp. to RFAs); Tr. 11714:19-11715:1 (Donley).

606. For low-wealth districts in Pennsylvania, local fiscal control is largely illusion: as discussed in Sections VI(C)-(D), these districts generally have substantially higher tax rates than high-wealth districts. Tr. 11715:3-12 (Donley); PX-3145 ¶ 295 (Executive Respondents Answer and New Matter); Tr. 1249:3-5 (Kelly). In fact, as Speaker Cutler admits: "A number of low-wealth school districts don't have meaningful control over the total amount of funding they can raise because they have so little wealth to tax and their property taxes are already high." PX-3215, Resp. No. 8 (Speaker's Resp. to RFAs); *see also* Tr. 11715:14-20 (Donley).

607. This lack of local fiscal control predictably results in a lack of local administrative control. Or as Speaker Cutler admitted, “[w]hen considering their lack of wealth and their current tax rates many low wealth school districts do not have the capacity to raise substantially more money locally even if those school districts believe additional funding was necessary to improve the education they provide their students.” PX-3215, Resp. No. 7 (Speaker’s Resp. to RFAs).

608. In other words, districts like Petitioners’ start each year without the foundational ability to try to meet the educational needs of their students:

So, you know, as the superintendent, when I review the needs of the students . . . , I have a pretty good sense of programs and what we need to bring into our school district so our students are prepared after they leave us.

And so with a budget like ours, you know, as much as I have this information and this knowledge has been shared with me, I’m not able to, every year, apply it. Our — I look at it like it would be nice to have a budget process that gave us — gave me and my school leaders an opportunity of what we would like to have or what we know our students would benefit from having.

Unfortunately, you know, we don’t have that. We are a district of must haves and we are at the very basic — basics of what we need.

Tr. 2591:21-2592:17 (Arcurio).

609. Lacking that self-determination, Petitioners and Philadelphia do not provide their students with the educational investments those students need.

Rather, they triage. This reality was explained by Wilkes-Barre superintendent Dr. Costello:

We don't have the ability to analyze the situation and say that this is something that we — we need. We need a Title I reading teacher to help provide interventions for our students without taking away from something else. We just don't have that ability.

So every time we try to implement a program, provide additional support service, we have to take away from another program that has always — that had already existed.

Tr. 10669:9-18 (Costello).

610. It was also described by Dr. Hite:

[E]very decision is based on what you may not be able to do for something else. And so if, in fact, I'm a principal at a school and I have discretionary monies in order to spend on staff, I may need four different positions. And so, I may need — I may need — I may need another counselor, guidance counselor. I may need a reading specialist. I may need someone to help manage climate. I may need someone that is — that is making sure that children attend school on a regular basis. I may need someone who helps children with some of the behavior issues simply because they have been experiencing trauma.

And so, unfortunately, when I talk about trade-offs, then individuals may only be able to get one of those positions. And so, to determine, although they see all of those needs, they then have to prioritize and say which one of these will have the greatest impact, and then I'll just choose to do without the others, although I need the others.

Tr. 7708:17-7709:14 (Hite).

611. Former William Penn superintendent Ms. Harbert similarly described her budget process as a series of “very hard decisions” about who would not get what they needed:

[I]t would be discussions among my central administration staff, where could we make cuts. We would bring in the school board directors and start having meetings with them to say hey, we need money and here's

why we need that and here's — here's what our revenue is, here's what our expenses are, or we're going to make cuts. And here are some of the cuts that we are looking at making

[W]e would just have to make decisions, some of those very hard decisions, as to where we would cut within that budget to be able to submit a balanced budget to the state.

Tr. 6970:7-23 (Harbert).

612. As Lancaster Chief Financial Officer Mr. Przywara explained, “we have to make a value decision: Do we value safe environments for kids or do we value more teaching supports, instructional supports for students?” Tr. 5775:16-20 (Przywara).

613. Or as his superintendent Dr. Rau put it: “[I]t’s trying to triage where you put your resources. It’s putting Band-Aids, understanding that, you know, these gaps are getting bigger and bigger.” Tr. 5079:5-8 (Rau).

614. In fact, Shenandoah Valley superintendent Waite described his role as being someone who creates “collateral damage” in “trying to provide opportunities for kids in [his] district” because “he can’t meet those needs.” Tr. 3373:13-20 (Waite). He recounted a story from the past year where, to solve the problem of having only two teachers to cover over 60 pre-kindergarten students, he was forced to move a Title I reading specialist from their current role and into a pre-kindergarten classroom. Tr. 3373:21-3375:21 (Waite). To address the gap that move created, he then had to assign the elementary school principal the

responsibilities of that reading specialist, forcing one of his only administrative staff to take on two separate jobs. Tr. 3373:21-3375:21 (Waite).

615. Mr. Waite also explained that because he lacked sufficient ELL teachers for his students' needs, he was forced to "minimize" the English instruction one student received "so that we could provide additional time for other students that were more intensive." Tr. 3387:1-3388:6 (Waite). In doing so, the district "actually prolonged that student staying in ELL for a longer period of time, and they were not able to be reclassified" as an English speaker as a result of that lack of attention. Tr. 3387:1-3388:6 (Waite).

616. Panther Valley superintendent Mr. McAndrew testified:

Every decision we make, . . . in the backgrounds of our minds, it's how are we going to fund this? Even the decisions we make, it's, okay, this is going to hurt this population, but we're going to make it because we need to help this needier population. But often someone's getting shortchanged.

Tr. 261:9-16 (McAndrew).

617. Greater Johnstown superintendent Dr. Arcurio described a similar dilemma:

[O]ne of the things that we have to look at in our school district, and I spoke to this earlier, is, you know, who's getting the resources this year. And we have these very deep philosophical discussions about, you know, who are the students that are going to have access to the intervention specialists.

And oftentimes, we focus on the students on the bubble because they are very close from being below — or from basic to proficiency levels.

...

The philosophical dilemma in this is that what about the students in red? If we don't — if we don't provide intervention and support to those students, they continue to fall further and further behind.

So, you know, and I can tell you that that is not, by design, the way education should be. We, as superintendents across the Commonwealth, shouldn't have to make those very awful decisions about who are the kids that get the resources this year. And so, you know, when we talk about the bubble kids, it requires less — less intervention, but we know if we focus on those kids, the children in red are left further and further behind.

Tr. 2634:10-2635:23 (Arcurio).

618. For each school district, the consequence of such a process is that students are routinely denied the staff and strategies they need to succeed.

G. By contrast, higher-wealth districts do not need to triage in order to secure needed educational resources.

619. Former superintendent of the Springfield Township School District, Dr. Hacker, testified that Springfield Township, which ranks 22nd in the Commonwealth in current revenue per weighted student, does not typically have to triage student needs because of limited resources. Tr. 10449:1-4 (Hacker); PX-4898.

620. Dr. Hacker explained that during her time as superintendent, Springfield Township was able to provide all the recommended supports and interventions that students needed. Tr. 10456:21-10457:1 (Hacker). For example, when the district identified that it could benefit from having a math interventionist,

“there was no hesitation in hiring someone.” Tr. 10465:20-10466:4 (Hacker). If there was a need for an additional teacher, Springfield Township would always hire for the position, and never had to re-task a staff member, such as a reading specialist, to fill that role. Tr. 10473:3-11 (Hacker). Similarly, when facilities issues arose, such as a leaky roof, or a concern about lead levels in water, Springfield Township had the resources it needed to move quickly to remediate issues. Tr. 10529:15-18 (Hacker).

IX. Petitioners and the School District of Philadelphia Have Insufficient Educational Resources to Provide a Thorough and Efficient Education to their Students.

A. There is broad consensus about the key educational resources that improve student outcomes.

621. As noted in Section III(B)(2), *supra*, it is undisputed that there are key strategies, supports, and interventions that improve students' academic outcomes.

622. For example, through its ESSA Plan and elsewhere, PDE has identified strategies that will help students become college and career ready, best ensure student success, and close achievement gaps. Tr. 1792:20-1793:14 (Stem); Tr. 1874:20-1875:17 (Stem); PX-1830. Those strategies include:

- high quality pre-kindergarten, (PX-1830-14);
- a sufficient number of effective teachers to meet student needs and a stable teaching force (PX-1830-93–94, Tr. 1896:4-8 (Stem); Tr. 1902:6-19 (Stem); Tr. 1907:20-1908:9 (Stem));
- early intensive resources provided from kindergarten to 3rd grade that focus on the concepts of literacy, mathematics, and numeracy (PX-1830-116–117);
- Professionals in math and reading to provide remediation, including reading specialists, and Multi-tiered Systems of Support (MTSS) that work to identify those students who are in need of additional interventions and provide those interventions. (Tr. 1900:6-10 (Stem); Tr. 1878:18-1879:8 (Stem); PX-1830-74–75);
- personalized learning experiences that encourage school systems to focus on individual needs (PX-1830-98–99; Tr. 1889:5-13 (Stem);

- Positive Behavior Interventions and Support and similar programs to address emotional needs (PX-1830-123–125; Tr. 1890:14-20 (Stem));
- a sufficient number of school counselors (PX-1830-108–109; Tr. 1896:22-1897:3 (Stem));
- school libraries and school librarians (PX-1830-127; Tr. 1897:12-15 (Stem));
- Advanced Placement, International Baccalaureate, and college-level courses (PX-1830-100; Tr. 1897:16-22 (Stem));
- programs to increase school attendance (PX-1830-118–119, Tr. 1898:8-19 (Stem));
- after-school programs (PX-1830-148; Tr. 1900:1-5 (Stem));
- access to art and music (Tr. 1901:3-7 (Stem)); and
- Extracurricular activities to develop leadership skills, collaboration skills, persistence skills, and resiliency (Tr. 1901:22-1902:5 (Stem)).

623. State law reflects agreement with these strategies. For example, the Commonwealth’s Ready-to-Learn Block Grant provides funding for school districts “to increase their focus on student achievement and academic success.” Tr. 11753:15-11754:4 (Donley). That law describes a variety of specific practices a school district may implement to “attain or maintain academic performance targets,” including many of the same practices that PDE has identified, from high quality pre-kindergarten to individualized tutoring. 25 P.S. § 25-2599.2.

624. The Costing Out Study reached many of the same conclusions, finding that “high priority strategies” for student improvement included small class sizes, high quality preschool, and tutors to provide “individual one on one instruction for students struggling to reach academic proficiency.” PX-99-68–69.

625. So did the State Board, whose Master Plan identifies the importance of high quality pre-kindergarten programs, of ensuring that students are taught by a sufficient number of highly qualified certified teachers, and of ensuring that schools use quality curricular materials, particularly advanced technology, to improve student outcomes. PX-35-6, 8–9, 11–12.

626. Finally, Petitioners’ and Respondents’ experts were in accord, testifying about a myriad of evidence-based programs that can improve student outcomes. *See, e.g.*, Tr. 8218:4-15 (Noguera); Tr. 9465:15-9466:9 (Johnson); Tr. 12984:1-12985:24 (Willis); Tr. 14303:1-14306:6 (Hanushek).

627. These strategies are not meant to be exhaustive or uniform. Tr. 1793:2-10 (Stem). Specific student need determines what strategies are necessary and will be effective. Tr. 8378:9-16 (Noguera). “And it may look different from school to school, even within the same district.” Tr. 1906:7-1907:2 (Stem). There may be different strategies needed between elementary and secondary schools, or particular strategies needed to serve large populations of immigrants or the unique challenges in rural districts. Tr. 8377:21-8378:24 (Noguera).

628. As explained below, educators in Petitioner Districts, in the School District of Philadelphia, and in other low-wealth districts across the Commonwealth know these same proven interventions are needed for their students. These programs are lacking, however, because they cannot afford to put them in place.

B. Petitioners and the School District of Philadelphia lack these educational resources.

1. Early childhood education

a. Early learning opportunities such as pre-kindergarten have a significant impact on educational attainment and achievement.

629. As the Pennsylvania Department of Education and the State Board of Education have repeatedly acknowledged, early childhood education, including high quality preschool or pre-kindergarten, is an important tool for improving K-12 attainment and achievement. Tr. 1876:1-13 (Stem); Tr. 4740:12-20 (Campanini); PX-35-6.

630. Petitioners' Expert Dr. Steven Barnett³⁸ explained that substantial evidence supports this position: the research demonstrates that access to high

³⁸ Dr. Steven Barnett is the senior codirector of the National Institute for Early Education Research and Board of Governors Professor of Education in the Graduate School of Education at Rutgers University. Tr. 4479:18-24 (Barnett), *see also* PX-4795. Dr. Barnett holds a PhD in economics (Tr. 4490:2-6 (Barnett)) and has been awarded grants and contracts totaling over \$100

quality preschool can have long-term benefits for children, including “very large cognitive gains prior to school entry, substantial achievement advantages . . . sustained throughout their educational career, increased high school graduation,” and higher rates of college attainment, in addition to higher career earnings, decreases in abuse and neglect, and decreased involvement in the criminal and juvenile justice systems. Tr. 4522:20-4527:23 (Barnett); *see also* Tr. 8343:12-19 (Noguera); Tr. 12946:4-12949:18 (Willis); Tr. 13810:17-21 (Koury).

631. High quality early education is critical because “the first five years of life are a time of rapid learning and development where children acquire foundational skills that help them succeed in kindergarten and the early grades but also provide a foundation for lifelong success in school and beyond.” Tr. 4510:11-16 (Barnett); *see also* Tr. 2582:24-2583:7 (Arcurio); Tr. 8271:4-12 (Noguera). These include language skills, cognitive skills, executive functions, emotional self-regulation, social-emotional skills, and physical development, which together

million in his area of educational research. Tr. 4492:6-9 (Barnett). He testified before the Court in order to offer opinions concerning the impact of high-quality prekindergarten education on student achievement as well as college and career readiness, and specifically that Pennsylvania could improve the number of students who are college and career ready by expansion of its prekindergarten programs, particularly disadvantaged children, and that such improvements would be cost-effective for Pennsylvania. Tr. 4498:8-4499:24 (Barnett). His testimony was credible and is deserving of weight.

create the “foundation for future learning and development.” Tr. 4510:17-4511:8 (Barnett).

632. Early childhood education is also important because “it’s much easier to prevent and more cost-effective to prevent the children from falling far behind than it is to remediate the problem later.” Tr. 4514:3-9 (Barnett); *see also* PX-1671-5. In fact, research shows that the benefit-to-cost ratio of providing preschool programming is 10-to-1: meaning that every dollar invested yields \$10 in benefits. Tr. 4527:24-4528:13 (Barnett).

633. PDE recognizes that high-quality early learning is particularly important for children living in poverty. Tr. 4732:18-21 (Campanini).³⁹ Dr. Barnett testified that there are “very strong patterns by social and economic status, particularly for low-income children — but also, for example, children whose home language is not English . . . where there are very large delays” in skills by the time a child reaches kindergarten. Tr. 4511:20-4512:10 (Barnett); *see also* Tr. 4514:10-4515:2 (Barnett). However, “[s]ubstantial research that shows that if we provide rich, early learning opportunities to children who otherwise would not

³⁹ Tracey Campanini is the Deputy Secretary at the Office of Child Development and Early Learning, a joint office of PDE and the Department of Human Services. Tr. 4728:15-22 (Campanini). PDE stipulated that Deputy Secretary Campanini represents the views of PDE with regards to the Commonwealth’s pre-kindergarten system. Tr. 8660:5-13 (stipulation of counsel for PDE). Her testimony over two days in this matter was credible.

have them in those first five years, we can substantially alter that pattern of beginning school far behind and staying behind.” Tr. 4513:13-18 (Barnett). This research demonstrates that “even if we don’t alleviate poverty directly . . . preschool programs and other early interventions can increase achievement [and] decrease the relationship between poverty and achievement.” Tr. 4724:3-6 (Barnett). And these impacts are long-reaching. For example, in New Jersey, a study of the effects of a two-year preschool program in found that it cut the achievement gap on state assessment tests in tenth grade by between 30–40%. Tr. 4534:1-4536:19 (Barnett).

634. PDE has acknowledged that in Pennsylvania, there are barriers to access to high quality pre-school programs, such as lack of availability of high-quality programs, and insufficient slots in Pennsylvania’s program for economically disadvantaged students. Tr. 4766:18-4768:2 (Campanini). Currently, PDE estimates that the program is serving only 40% of eligible students. Tr. 4769:14-4770:1 (Campanini); *see also* PX-35-6 (State Board) (noting importance of increasing access to pre-kindergarten).

635. PDE recognizes that expanding high-quality preschool opportunities in Pennsylvania will help decrease the achievement gap for economically disadvantaged children, and that it is the responsibility of the Commonwealth to

address the unmet need for high quality early education. Tr. 4904:12-4905:4 (Campanini); Tr. 4747:22-4748:7 (Campanini).

b. Petitioners cannot provide their students with the early education they need.

636. Many of the Petitioner Districts, like many low-wealth districts in the Commonwealth, do not have high quality preschool or pre-kindergarten programs available, and those districts that do offer pre-kindergarten lack sufficient funding to provide it to all students. Tr. 3922:1-18 (Kocsis); Tr. 2599:6-2600:1 (Arcurio); Tr. 10769:1-7 (Costello); Tr. 5286:8-15 (Rau); Tr. 410:5-12 (McAndrew); Tr. 6881:24-6882:3 (Harbert).

637. For example, until the 2021-22 school year, Panther Valley was not able to offer a pre-kindergarten program due to lack of funding. Tr. 409:14-410:12 (McAndrew). For the 2021-22 school year, Panther Valley received a grant from PDE to partner with Lehigh Valley Children's Center to offer a pre-kindergarten program for 18 students. Tr. 410:5-12 (McAndrew). However, Panther Valley does not have enough money, teachers, or space in its buildings to provide universal pre-kindergarten for all eligible students. Tr. 410:24-411:18 (McAndrew). Similarly, Lancaster offers pre-kindergarten, but it only has capacity for a limited number of students, and prior to COVID there was always a waitlist. Tr. 5286:8-15 (Rau).

638. Greater Johnstown offers a pre-kindergarten program through a third-party vendor using Pre-K Counts grant funding. Tr. 2596:24-2598:12 (Arcurio). For 2017-18, due to the dire financial status of the district, Greater Johnstown reduced pre-kindergarten enrollment in order to save money, and now there are only slightly more than 100 seats available, which does not meet the demand for pre-kindergarten in the district and results in a waitlist. Tr. 3922:1-18 (Kocsis); Tr. 2599:6-2600:1 (Arcurio).

639. Wilkes-Barre has no district-funded pre-kindergarten program. A private company, “Building Blocks,” utilizes Wilkes-Barre facilities to provide some pre-kindergarten, and students may also attend Head Start. Tr. 10769:1-7 (Costello). But no more than 40% of Wilkes-Barre students enter kindergarten with the benefit of some pre-kindergarten. Tr. 10769:8-13 (Costello).

640. William Penn does not offer pre-kindergarten, and there is only one provider of high-quality preschool in the area. Tr. 6881:24-6882:3 (Harbert). Only around 25–30% of entering kindergarten students have any opportunity to attend a high quality preschool program before starting at William Penn. Tr. 6883:2-11 (Harbert).

641. Former William Penn superintendent Ms. Harbert explained the impact that the lack of high quality pre-kindergarten has on students entering kindergarten:

[A] student who is entering a kindergarten program, that is sometimes their first opportunity in a school setting. It is the first time. And so students who have not had preschool are coming in with gaps in many areas, not only academic gaps, but they have issues with just behavior, how do I — how do I behave in a classroom where there are 29 other students? How do I know how to line up? How do I know when it's okay to go to the bathroom or how do I ask for these things? How do I sit, you know, on a rug? So that was a concern for many of our kindergarten teachers. Instead of being able to start with the academics right on day one, they were really learning and helping their children manage themselves within the classroom.

Tr. 6883:12-6884:13 (Harbert).

642. Insufficient access to high quality preschool or pre-kindergarten is readily evident in assessments of entering students. According to the results of William Penn's 2019-20 Kindergarten Entry Inventory (KEI), an assessment developed by PDE to evaluate whether students are ready for kindergarten, over half of entering William Penn kindergarten students lacked critical expressive language skills, including the oral language and vocabulary necessary to express needs or carry on a conversation. Tr. 6907:21-6908:5 (Harbert); 6910:1-6912:21 (Harbert); PX-4150. Almost half did not have the receptive language skills they needed to understand and respond to directions or requests, and close to 66% did not have the ability to recognize the beginning and ending sounds of words, rhyming words, and other "phonological awareness" skills that are prerequisites to reading. Tr. 6907:21-6908:5 (Harbert); Tr. 6910:1-6912:21 (Harbert); PX-4150. Veteran kindergarten teacher Nicole Miller testified that some of her students

begin kindergarten “literally not . . . able to hold a pencil,” some “don’t recognize all the letters” of the English alphabet, and others “have not learned to recognize numbers to 10 yet.” Tr. 6667:1-5 (Miller); Tr. 6690:15-24 (Miller).

643. Greater Johnstown’s KEI demonstrates that in 2018-19, the majority of its kindergartners began the year below grade level in all the skills assessed. PX-158. For example, approximately 62% of children entered school unable to identify nine or more letters, approximately 76% were unable to relate six or more letters with their sounds, and approximately 63% could not count to 20. *See* PX-158; Tr. 2609:7-16 (Arcurio); Tr. 2611:20-2613:1 (Arcurio).

644. Similarly, in Panther Valley, an assessment called DIBELS Next that measures early literacy skills indicated that at the start of the 2018-19 school year, only 42% of incoming kindergarten students were on level, and of the 57% of students that were below benchmark, 33% were so behind that they needed “intensive” interventions. PX-821; Tr. 412:21-413:4 (McAndrew); Tr. 419:3-420:6 (McAndrew).

2. Teachers

a. To meet student needs and increase academic success, districts need a sufficient number of qualified, effective teachers.

645. PDE has repeatedly emphasized that in order to increase student success in school, districts need to have sufficient numbers of qualified, effective

teachers, and stability in the teaching force. Tr. 1896:4-10 (Stem); Tr. 1902:6-19 (Stem); Tr. 1907:20-1908:9 (Stem); Stem Dep. Tr. Vol. 2, 386:24-25.

646. Mr. Stem testified that, especially for students living in poverty, this means having enough teachers to provide small group and individual instruction to all the students that need it. Tr. 1902:6-19 (Stem). Mr. Stem also acknowledged that hiring sufficient numbers of teachers “cost[s] money,” and that low-wealth districts often do not have enough educators to provide this individualized instruction, which contributes to achievement gaps. Tr. 1907:15-1908:9 (Stem). Low-wealth districts may also have insufficient teachers because they are disproportionately impacted by teaching shortages, due to the fact that low pay and difficult working conditions make those districts less attractive to candidates. *See* Tr. 8339:20-8340:3 (Noguera).

647. In order to be qualified, it is important that teachers be “adequately prepared to teach the subjects or the grades that they’ve been assigned to.” Tr. 8332:8-15 (Noguera); *see also* Tr. 1938:2-11 (Stem). That is, teachers should be certified in the field or the class that they are teaching. Tr. 1937:9-15 (Stem). Teachers instructing English Language Learners or working with special education require specific certifications. *See, e.g.*, Tr. 3386:13-17 (Waite); Tr. 5055:16-20 (Rau); Tr. 7740:11-7741:8 (Hite).

648. As Dr. Noguera explained, having qualified teachers is important “because [a teacher’s] subject matter expertise is correlated with greater student success.” Tr. 8334:3-11 (Noguera). However, low-wealth schools that cannot attract or afford qualified teachers are forced to waive credentialing requirements and provide teachers with emergency certifications just to ensure that there are individuals in the classroom. Tr. 8339:10-8340:3 (Noguera).

649. In order to be effective, teachers also need to “have access to ongoing professional development[.]” Tr. 1907:5-9 (Stem). As Dr. Noguera testified, professional development is important because “what the research shows . . . [is] that when the skills of the teachers match the needs of the students they serve, outcomes increase. And bringing about that kind of alignment, I can say that other studies have shown us that this works; it’s the best way to reduce disparities of student achievement.” Tr. 8336:17-25 (Noguera). For example, teachers working with students living in poverty need to be well trained in how to build strong, positive relationships with students, and need to be equipped with a variety of pedagogical skills to meet the different learning skills of students. Tr. 8335:20-8336:7 (Noguera).

650. To provide students with a quality education, it is also important for districts to retain their teaching staff. *See* Tr. 8337:1-12 (Noguera). PDE has acknowledged that high teacher turnover has adverse consequences on student

learning. Stem Dep. Tr. Vol. 2, 420:6-10. Dr. Noguera explained that turnover negatively impacts students and undermines school performance because when districts invest resources into teachers, and then lose them, those resources become wasted. Tr. 8337:1-12 (Noguera).

b. Petitioners and Philadelphia struggle to hire and retain sufficient numbers of qualified teaching staff to meet the needs of their students.

651. Leaders from the Petitioner Districts, PARSS, and Philadelphia lauded the hard work, effort, and dedication of the teachers in their districts. *See, e.g.*, Tr. 255:2-6 (McAndrew); Tr. 452:3-13 (McAndrew); Tr. 2582:13-14 (Arcurio); Tr. 2698:13-2699:10 (Arcurio); Tr. 5089:5-6 (Rau); Tr. 6907:3 (Harbert); Tr. 7790:2-9 (Hite); Tr. 10847:4-13 (Costello). But they also testified that they have an insufficient number of teachers to meet their students' needs. *See, e.g.*, Tr. 2717:3-12 (Arcurio); Tr. 3424:19-3425:24 (Waite); Tr. 3404:22-24 (Waite); Tr. 10686:4-10 (Costello); Tr. 5079:18-24 (Rau); Tr. 251:12-16 (McAndrew); Tr. 314:7-9 (McAndrew); Tr. 6193:13-6194:1 (Splain); Tr. 6949:11-6953:6 (Harbert); Tr. 7777:14-7778:20 (Hite).

652. Greater Johnstown, Panther Valley, Wilkes-Barre, and William Penn have had to choose not to replace teachers who retire in order to cut costs or “trim the budget.” *See* Tr. 2696:16-23 (Arcurio); Tr. 3969:11-14 (Kocsis); Tr. 3987:8-14

(Kocsis); Tr. 10686:4-10 (Costello); Tr. 308:2-4 (McAndrew); Tr. 6950:2-6951:4 (Harbert).

653. Due to insufficient staffing, many districts also have teachers teaching multiple classes at the same time. For example, in Greater Johnstown, a high school teacher teaches French and Spanish simultaneously in one class period, where half of the classroom is French 3 and 4 students, and the other half is Spanish 3 and 4 students. Tr. 2716:3-2717:2 (Arcurio). In Shenandoah Valley, there are currently more than 10 cases of teachers conducting multiple classes of different subjects to different students at the same time. Tr. 3425:18-23 (Waite). For example, a music teacher instructs seventh graders in introductory music while simultaneously teaching AP music theory. Tr. 3424:19-3425:17 (Waite). An English teacher teaches two different grade levels working in different content areas at the same time. Tr. 3426:15-18 (Waite). Even math teachers have been tasked with teaching multiple courses to different students within a single classroom — one teacher teaches Algebra 2 and geometry, and another has to teach Algebra 1, Algebra 2, and consumer math students in the same class. Tr. 3426:2-14 (Waite).

654. In many districts, there are also not enough special education or English Language teachers to meet the student needs in the district. In Shenandoah Valley, for example, the English Language Learner population more than doubled

between 2008 and 2021, from 60 students to 143 students. Tr. 3382:10-24 (Waite); PD-7-2. However, because Shenandoah Valley does not have the funds to hire additional ELL teachers, the district has the exact same number of ELL teachers as it did in 2008 — a mere four. Tr. 3394:9-13 (Waite); Tr. 3386:18-24 (Waite). This has had a drastic impact on the students in the program — Superintendent Waite testified that “[t]he ability to provide them programming with fidelity is — is severely impeded because the number of students that have increased . . . we have situations where students should be getting two hours of instruction and may not.” Tr. 3387:1-9 (Waite).

655. The ELL instructors Shenandoah Valley does have face “huge workload[s]” of “approximately[] 35 students . . . that they are working with,” which “makes it very difficult for them to make meaningful learning for our ELL students.” Tr. 3388:7-18 (Waite). Because of these constraints, ELL teachers have neither the time nor the ability to collaborate with regular classroom teachers, which is important not only for ELL students’ language development, but also so they can learn in other classes with complex vocabularies, such as Biology. *See* Tr. 3388:24-3392:10 (Waite). Mr. Waite testified that these learning conditions stood in stark contrast with those at his prior district, the better-funded Crestwood School District, which had a 12:1 ELL student-teacher ratio, allowing the district to

achieve a higher rate of success in reclassifying ELL students as English speakers. Tr. 3396:20-3397:10 (Waite).

656. Further, because Shenandoah Valley also has a high level of students with special needs, 17 of the district's 91 teachers are special education teachers. Tr. 3405:1-19 (Waite). This means that special education and ELL teachers combined constitute nearly a full quarter of the district's entire teaching staff, whose mandated costs burden the district's ability to provide resources to its other students. *See* Tr. 3405:11-23 (Waite). Even still, Shenandoah Valley is unable to provide adequate resources to prepare its special needs students to become college and career ready; for example, it lacks sufficient staff to provide community-based vocational training, designed to give special education students the skills that allow them to enter employment after school. *See* Tr. 3407:18-3408:23 (Waite); Tr. 3409:13-3410:20 (Waite).

657. Lancaster also lacks a sufficient number of ELL teachers to support its student needs. Tr. 5079:9-24 (Rau). The average student-teacher ratio is about 29 to 40 students per ELL teacher, which makes it very difficult for the teachers to provide students with the amount of support that the students need. Tr. 5088:3-18 (Rau). As a result, Lancaster is only able to provide ELL students with an education that meets the minimum mandated requirements. Tr. 5079:17-24 (Rau).

658. Similarly, superintendent Dr. Arcurio testified that while Greater Johnstown has “enough special education teachers to meet the bare requirement of what [the district has] to have [as] required by the Pennsylvania Department of Education,” Tr. 2588:19-24 (Arcurio), the number of special education teachers the district has is not sufficient to “allow students to have the additional support, [] differentiation, [] accommodations, [and] modifications to the educational program that could initially, if given, support them in such a way that they could actually exit special education.” Tr. 2589:1-8 (Arcurio). Because of this, “special education becomes a sentence . . . you stay a special education student.” Tr. 2589:9-24 (Arcurio).

659. Panther Valley also has insufficient numbers of special education teachers to address its large and growing numbers of students with disabilities. Tr. 345:18-347:4 (McAndrew); PX-4810. Without sufficient numbers of special education teachers, “we’re not able to meet all the needs” of the students. Tr. 345:18-347:4 (McAndrew).

660. Dr. Hite testified that in Philadelphia, it is often difficult to fill special education teaching positions because of the district’s concentration of high needs students and the challenges involved in supporting these students with too few resources. Tr. 7740:7-7741:8 (Hite).

661. Some districts also struggle to hire teachers certified in particular subjects, which results in emergency certifications. In Lancaster, approximately 30 teachers are emergency certified. Tr. 5314:2-6 (Rau). In Philadelphia, over 700 teachers a year must work under emergency certifications, especially for science, math, foreign languages, and special education. Tr. 10279:17-10280:10 (Monson). Panther Valley has difficulty filling vacant positions with certified teachers and as a result, it has had to hire several teachers that are uncertified to teach the courses for which they are hired. Tr. 310:1-311:10 (McAndrew). For example, Panther Valley had to hire a social studies teacher to teach Algebra I, which is a Keystone-tested subject. Tr. 312:2-4 (McAndrew). As Superintendent McAndrew explained, “I see these teachers, they’re doing everything they can . . . [but] [t]hey’re not teaching the material that they went to college to learn. So these . . . teachers are going home every night to reteach themselves certain areas. They don’t know the pedagogy that goes into it. They’re trying their best But it’s difficult when you spent four years of college learning a certain content and then saying, okay, now let’s go teach this [different] content.” Tr. 311:10-22 (McAndrew).

662. Wilkes-Barre and Shenandoah Valley lack elementary art teachers. Tr. 10688:21-23 (Costello), Tr. 3420:22-24 (Waite). Both districts were forced to furlough those teachers due to funding constraints. Tr. 10685:13-10686:10 (Costello); Tr. 3422:1-9 (Waite). As Dr. Costello testified, the loss of art threatens

to extinguish a primary motivator for students — he said his own daughter “gets up in the morning because she might have an art class” and “it wasn’t because she wanted to become an artist. It was because that was the motivation she needed to go throughout that day. ‘You know, I’m going to do my math, my English, and my science work, but I’m going to also have art.’” Tr. 10686:14-10687:20 (Costello).

663. Panther Valley, Lancaster, and Philadelphia also suffer from teacher turnover. Tr. 308:8-14 (McAndrew); Tr. 6013:4-6014:5 (Aikens); Tr. 7794:2-23 (Hite). Turnover among teachers in Panther Valley is one of the largest issues facing the district; because of the low and non-competitive starting salaries that the district offers, teachers move to neighboring districts for higher salaries, lower class sizes, more professional development, and better technology. Tr. 308:8-309:1 (McAndrew); Tr. 312:14-22 (McAndrew); *see also* Tr. 838:21-839:8 (Yuricheck). Philadelphia has to hire approximately 700-1,000 new teachers every year, as many teachers leave the district for better funded districts in the area. Tr. 7794:12-23 (Hite); Tr. 10278:19-10279:4 (Monson). There are numerous challenges that result from teacher turnover: relationships with students need to be rebuilt, and new teachers need to be trained on district-specific curriculum and coached on strategies for addressing the school’s particular needs and resource inadequacies. Tr. 6013:4-6014:5 (Aikens); *see also* Tr. 312:10-313:8 (McAndrew); Tr. 7794:24-7795:19 (Hite).

664. Rural school districts, like Otto-Eldred, consistently have problems attracting and retaining quality teachers. Tr. 6188:18-6189:11 (Splain). As a result of its inability to hire qualified teachers, Otto-Eldred has had to eliminate entire programs, such as foreign language, and reduce graduation requirements. Tr. 6191:1-6192:7 (Splain); Tr. 6193:9-6194:1 (Splain).

3. Academic support

a. Academic supports and interventions are essential for improving student outcomes.

665. Educators agree that academic support for students, including small group instruction, tutoring programs, and reading and math specialists, improve student achievement and educational outcomes. *See* Tr. 8348:24-8349:11 (Noguera); Tr. 1876:14-1878:11 (Stem); Tr. 1902:6-9 (Stem); *see also* Tr. 1895:23-1896:3 (Eden); Tr. 13455:11-24 (Eden). These supports are especially important in the early formative years from kindergarten to third grade, since those years set the foundation for what students experience in the rest of their careers. Tr. 1876:14-1877:3 (Stem); *see also* Tr. 3316:1-13 (Kobal). For example, research demonstrates that students who are not on grade level by third grade experience higher levels of drop-out, and lower achievement levels and postsecondary success. Tr. 1877:4-13 (Stem). PDE believes that small group and individual instruction are also among the strategies that can have the greatest impact for students in poverty. Tr. 1902:6-19 (Stem).

666. There is a significant body of research that documents the positive impact of one-on-one or small group tutoring at the elementary school level, particularly when done with a highly qualified teacher with subject matter expertise. Tr. 12993:1-12994:10 (Willis). Tutoring and small-group instruction allow educators to “intervene with some of the problems that [students] are experiencing and prevent any future ones” through targeted practice and review. *See, e.g.*, Tr. 6932:12-6933:15 (Harbert).

667. Research also shows that access to well-trained reading specialists improves academic outcomes in students. Tr. 8348:24-8349:11 (Noguera); Tr. 1900:6-1901:2 (Stem). Reading specialists are trained “to assess . . . the problem or the issue, and then . . . to put in the appropriate activities or interventions to help remediate” a student’s reading challenges. They can work in small groups or provide individual instruction for students who are having difficulty with developing reading skills, and track progress to help keep students on grade level, which ultimately prevents future issues and costs. Tr. 336:15-338:4 (McAndrew); Tr. 6192:12-22 (Splain); Tr. 11436:4-12 (Anderson); Tr. 6932:12-6933:15 (Harbert); Tr. 842:6-12 (Yuricheck).

668. Similarly, math specialists can work with small groups to make sure students are mastering foundational concepts as they move through a course, with the goal of “scaffold[ing] their learning, meaning that while you’re learning the

grade-level content, we're also building and supporting you in your gap area." Tr. 7477:2-21 (Becoats); *see also* Tr. 10464:1-10465:1 (Hacker). And math interventionists work with staff to help them develop a better understanding of how best to teach the processes and concepts in mathematics. Tr. 10465:2-19 (Hacker). These interventionists provide essential support that students would not otherwise receive during the course of regular classroom instruction. Tr. 10468:7-13 (Hacker).

669. Small group and individual instruction provided by specialized professionals form the foundation of a strategy known as "multi-tiered systems of support" ("MTSS"), which has been endorsed by both the federal government and many state governments as a proactive way to address student needs. Tr. 8347:22-8348:11 (Noguera); Tr. 1879:2-1881:21 (Stem). MTSS recognizes that some students are going to have greater needs than others and identifies who those students are, so that the school district can remediate accordingly, creating the conditions for students at all levels to be successful. Tr. 1879:2-8 (Stem). PDE testified that MTSS is "a really critically important strategy at all grade levels, but especially for the elementary years" that establish "the foundation for future learning." Tr. 1881:18-21 (Stem).

670. Deputy Secretary Stem explained how MTSS works, using reading as an example: through a universal screening program, school districts assess their

students, and assign them into three tiers. Tr. 1881:22-1882:13 (Stem). Typically, general instruction — the teacher at the front of the classroom — is sufficient for 70–80% of students, who are classified as Tier 1. Tr. 1878:18-1880:21 (Stem); Tr. 1883:1-11 (Stem); Tr. 1885:10-1886:2 (Stem); Tr. 1934:14-1935:5 (Stem). The next group of students, Tier 2, are experiencing some lag in their learning and require additional intervention to master the content, usually in small groups at specified times. Tr. 1880:3-13 (Stem); Tr. 1882:9-24 (Stem). In a normal setting, 10–20% of students require Tier 2 support. Tr. 1883:1-11 (Stem); Tr. 1934:14-1935:5 (Stem). Finally, the children who have fallen furthest behind and need intensive interventions, usually one-on-one tutoring, are classified as Tier 3. Tr. 1881:6-15 (Stem); Tr. 1882:9-24 (Stem). In a normal setting, Tier 3 students should make up no more than 5–10% of the student population. Tr. 1883:1-11 (Stem); Tr. 1934:14-1935:5 (Stem). Together, the tiers should form a triangle, with Tier 1 as the base and Tier 3 as the tip. Tr. 2614:1-2615:8 (Arcurio); Tr. 317:18-318:5 (McAndrew).

b. Petitioners and Philadelphia lack the resources necessary to provide academic support to all their students who need it.

671. Petitioner Districts, PARSS district Otto-Eldred, and Philadelphia all lack the human resources necessary to provide academic support for students that are below grade level and experiencing achievement gaps, such as sufficient

instructional assistants to practice skills and strategies with students in small group settings, specialists and interventionists to correct and prevent problems students may encounter during the learning process, and tutoring programs to supplement classroom learning as needed. Tr. 317:18-319:12 (McAndrew); Tr. 2582:10-2583:12 (Arcurio); Tr. 2616:4-9 (Arcurio); Tr. 10739:23-10740:20 (Costello); Tr. 10760:7-21 (Costello); Tr. 10761:10-19 (Costello); Tr. 3492:11-3943:1 (Waite); Tr. 7868:8-13 (Hite).

672. Greater Johnstown has only two reading specialists, both assigned to the elementary school to serve approximately 1,200 students, which does “not even com[e] close to making the impact that [is] need[ed].” Tr. 2621:3-10 (Arcurio); Tr. 2729:16-19 (Arcurio). As a result, these reading specialists spend the majority of their time providing support to bigger groups of students rather than providing one-on-one intervention. Tr. 2729:20-2730:1 (Arcurio). Greater Johnstown does not have any reading specialists at its middle school or high school. Tr. 2728:12-15 (Arcurio). Greater Johnstown also does not employ any math intervention specialists. Tr. 2625:16-2626:7 (Arcurio). Greater Johnstown does not have the resources to hire additional staff to provide the additional services their students need. Tr. 3963:18-3964:6 (Kocsis); Tr. 2730:2-5 (Arcurio).

673. Wilkes-Barre currently has five reading specialists within the district — one at each elementary school — each with a caseload of approximately 600-

800 students, which is a “completely inadequate” ratio for the level of student need. Tr. 10760:22-10762:1 (Costello). There are no reading specialists at the middle or high school. Tr. 10762:2-9 (Costello). And Wilkes-Barre does not have any math specialists that are being utilized to provide one-on-one instruction or small group interventions. Tr. 10762:10-15 (Costello).

674. Shenandoah Valley has three Title I reading specialists and two Title I math specialists who support students in grades K through 3, but does not have any specialists to help at the higher grade levels. Tr. 3418:12-3419:13 (Waite).

675. Panther Valley currently has three staff serving as reading specialists: two in the elementary school and one in the intermediate school. Tr. 335:15-336:9 (McAndrew). The third position was only recently added as a result of COVID relief funds, and only two of the three instructors are actually certified as reading specialists — the other is a classroom teacher. Tr. 335:15-336:14 (McAndrew). Mr. McAndrew testified that these three staff members are still not enough to cover the needs of the students. Tr. 338:5-20 (McAndrew). As a result, the district provides minimal academic remediation, and the reading specialists cannot follow the MTSS framework or provide small group instruction to all of the students who need support. Tr. 338:21-339:2 (McAndrew); Tr. 339:18-340:8 (McAndrew).

676. William Penn cannot afford to employ any reading or math specialists. Tr. 6938:13-15 (Harbert); Tr. 7462:7-13 (Becoats). Because of this, Dr.

Becoats testified, “[w]e’re not able to address the gap. The model of student learning that we have indicates or calls for the need to work with students in small groups . . . But we’re unable to implement that with the resources that we have.” Tr. 7463:1-21 (Becoats).

677. In Philadelphia, the district provides each principal with discretionary funds for positions such as reading specialists or math coaches. Tr. 7786:1-7788:19 (Hite). However, the district does not have enough funds for all the positions that are ultimately needed at each school, so administrators are forced to make choices based on their needs. Tr. 7788:6-19 (Hite). With the current budget, Philadelphia does not have enough math coaches or reading specialists to assist all those below grade level. Tr. 7868:8-13 (Hite).

678. Otto-Eldred does not have any reading specialists in the district. Tr. 6190:12-16 (Splain).

679. Because of the lack of sufficient specialists, in many districts, students are triaged, and educators have to decide which of the needy students get services. Tr. 339:3-17 (McAndrew); Tr. 5079:5-8 (Rau); Tr. 6192:12-24 (Splain); Tr. 7910:5-16 (Hite); Tr. 10668:22-10669:20 (Costello). As Superintendent McAndrew testified, “we know the students need it, and sometimes it’s a coin flip on who gets it.” Tr. 339:15-17 (McAndrew).

680. The lack of intervention support is especially troubling in districts like Greater Johnstown, Lancaster, and Panther Valley, where the MTSS triangle is flipped — with the majority of students needing Tier 2 and Tier 3 supports. *See* PX-165; PX-168; PX-4824; Tr. 5077:14-5078:4 (Rau); Tr. 317:18-318:9 (McAndrew); Tr. 2615:9-2616:9 (Arcurio). In Greater Johnstown, 70% of students are often in Tiers 2 and 3. PX-165; PX-168; PX-4824. First grade teacher Stephanie Kobal testified that out of 20 students in her reading group, all 20 of them require Tier 2 or 3 support. Tr. 3317:17-22 (Kobal). In Lancaster, 80-90% of students at the elementary school level need additional, more intensive support. Tr. 5077:14-5078:4 (Rau).

681. Petitioner Districts and Philadelphia also cannot provide adequate levels of tutoring as a result of financial constraints. William Penn was forced to cut its after-school tutoring support during a round of budget cuts. Tr. 7027:7-21 (Harbert). Greater Johnstown is only able to offer after-school tutoring to students through a grant, and the program can only serve 300 out of the district's 2,900 students. Tr. 2796:12-2797:15 (Arcurio). Due to budgetary constraints, Panther Valley had to cut tutoring programs beginning in the 2019-20 school year. Tr. 429:17-430:7 (McAndrew); Tr. 855:20-856:6 (Yuricheck). The program has only been restored as a result of one-time COVID funding. Tr. 429:17-430:11 (McAndrew). Wilkes-Barre offers a 30-minute remediation period after school for

middle school students to stay to get help from teachers, but teachers often have 120 students or more in that block, and the district is only able to offer after-school transportation 2-3 times a week. Tr. 10770:1-10771:7 (Costello). Petitioner Michael Horvath testified that when he struggled with math while he was at Wilkes-Barre, the only tutoring option was provided by his peers, not professionals. Tr. 10055:24-10056:14 (Horvath). Philadelphia student S.A. described that after-school tutoring at his high school was limited and they were not offering the courses he needed help with. S.A. Dep. Tr. 24:20-25:10; S.A. Dep. Tr. 37:2-38:2.

4. Social and emotional learning and supports

a. Social and emotional support is a critical tool for accessing education.

682. There is broad consensus among educators, policymakers, and researchers that addressing students' social, emotional, and psychological needs is vital to their success. *See, e.g.*, Tr. 1889:19-1890:20 (Stem); Tr. 12980:21-12981:24 (Willis); Tr. 12992:6-13 (Willis); Tr. 8363:12-8364:12 (Noguera); Tr. 8373:10-8374:2 (Noguera). This is because, as Dr. Rau testified, “[I]f a student’s mental health is in the right place, . . . they can focus and engage in school, . . . [and] their academic outcomes will improve.” Tr. 5103:13-16 (Rau); *see also, e.g.*, Tr. 2585:16-20 (Arcurio) (“until we have children behaviorally settled and feeling safe and secure with a relationship that is built over time by a caring, loving adult,

they're not ready to learn."); Tr. 11517:11-15 (Anderson); Tr. 357:13-24 (McAndrew); Tr. 358:1-5 (McAndrew). Social and emotional skills such as resilience and being able to handle frustration are also increasingly considered "career-ready skills that employers are looking for." Tr. 1891:4-1892:5 (Stem). Conversely, unmet emotional needs create barriers to learning. Tr. 1890:2-13 (Stem).

683. Superintendent Waite testified that "a lot of students with emotional needs . . . they're not necessarily unable to learn academically; but it's the behaviors that are impeding their ability to learn. Their behaviors may be so overt that they cannot concentrate and actually work and do — and learn and gain knowledge they need academically." Tr. 3452:1-14 (Waite). Waite testified that he has seen students "ma[ke] . . . much stride based on the services" they've been able to receive with a behavior interventionist, so much that they are able to reintegrate into regular classrooms. Tr. 3453:4-3455:8 (Waite). Unfortunately, Waite testified that he lacks sufficient behavior interventionists to service all students who need those services. Tr. 3455:9-12 (Waite).

684. Accordingly, PDE has identified social and emotional support as a strategy for increasing student success in school, and has advocated for schools to develop systems for identifying areas where students are "emotionally struggling

with engaging with content and in interacting with peers,” and adapting instruction to address those needs. Tr. 1889:19-1890:20 (Stem); Tr. 1896:11-13 (Stem).

685. Social and emotional learning can be provided through a wide range of evidence-based strategies — Mr. Stem explained that “[t]here’s an infinite number of models.” Tr. 1892:12-23 (Stem). Social and emotional learning can include “programs to teach pro-social behaviors and things like collaboration, things like communicating, things like appropriate ways to handle frustration in a classroom and in other areas” and then “intervening when students are struggling to demonstrate” these behaviors. Tr. 1890:21-1891:10 (Stem). It can also address issues such as trauma and bullying. Tr. 1894:19-1895:5 (Stem). Social and emotional interventions can be provided “with school personnel, like social workers or counselors” or through “community partners that come in and work with . . . students in smaller groups or in an individual setting.” Tr. 1892:12-23 (Stem).

686. As Speaker Cutler’s expert Mr. Willis acknowledged, social and emotional learning helps students develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships and make responsible and caring decisions. Tr. 12981:5-13 (Willis). When implemented with fidelity, those programs result in improved academic performance, better classroom behavior, increased ability to

manage stress and depression, and improved student attitudes about themselves, others, and school. Tr. 12981:14-12981:24 (Willis); Tr. 12992:6-13 (Willis).

687. Social and emotional support plays a particularly important role in improving the academic outcomes of children in poverty. Dr. Noguera testified that “[t]here are several studies that have shown that when school districts are able to provide access to social workers that train professionals who are skilled at meeting the social and emotional needs of kids, that kids are more likely to attend school and their academic performance will improve.” Tr. 8363:7-8364:12 (Noguera); *see also* Tr. 8373:10-8374:2 (Noguera).

688. Addressing the social and emotional needs of students requires additional staffing, such as access to psychologists and social workers. Tr. 8363:17-8365:2 (Noguera). These mental health workers provide counseling, help train staff and teachers on social and emotional health, and work with parents to connect them to outside resources and to understand the supports that are available through the school. *See* Tr. 2744:8-2745:15 (Arcurio); Tr. 2749:18-2750:18 (Arcurio); Tr. 5090:13-5091:16 (Rau); Tr. 3456:2-3457:4 (Waite). Psychologists often also evaluate students to identify if a disability exists or if there is an issue affecting a student’s ability to learn. Tr. 5096:1-6 (Rau). Dr. Arcurio testified that she has “seen [Greater Johnstown’s] school therapists intervene to such an extent that children are alive today because of those individuals[,]” and that these

therapists “provide hope for kids in [the Greater Johnstown] community that sometimes come from hopeless situations.” Tr. 2760:13-2761:20 (Arcurio).

689. School counselors also provide a range of critical services to students at all grade levels. Counselors in lower grades support students emotionally and socially and support teachers dealing with student behavioral issues. Tr. 7780:8-7782:8 (Hite). They also can help students with class enrollment and navigating the district’s high school selection process. Tr. 7780:8-7782:8 (Hite). High school counselors assist students with class enrollment, issues that may arise from social or emotional events in students’ lives, applying to college and/or employment, and applying for college financial aid. Tr. 7780:8-7782:8 (Hite); *see also* Tr. 349:21-350:7 (McAndrew); Tr. 5092:7-21 (Rau); Tr. 10762:16-10763:20 (Costello). Counselors at all levels work with students who are experiencing homelessness, are in the foster care system, or have exited the juvenile system, and provide supports for families in crisis. Tr. 7781:14-23 (Hite). Counselors also track student attendance and work with students who are not attending school regularly to come up with strategies to improve their attendance. Tr. 7781:24-7782:8 (Hite).

690. The recommended student-counselor ratio is 250:1, although many affluent districts have even lower ratios of 100:1. Tr. 8267:22-8268:16 (Noguera); Tr. 12986:2-7 (Willis); Tr. 12987:19-12988:11 (Willis). As PDE has acknowledged, it is particularly important for schools that serve low-income

students to have adequate numbers of counselors, where each student often requires more support. Tr. 1896:11-13; Tr. 1897:4-8 (Stem); Tr. 8266:18-8267:21 (Noguera).

b. Petitioners and Philadelphia do not have adequate social and emotional resources to meet their students' needs.

691. None of the Petitioner Districts or Philadelphia have an adequate number of resources to meet the high social and emotional needs of their students. For example, Shenandoah Valley has a single staff member who serves as a half-time social worker and half-time behavioral interventionist for the district's students with special needs in both the elementary and the high school emotional support class, which is not sufficient to help all the students who need his services. Tr. 3450:20-3451:3 (Waite); Tr. 3455:9-12 (Waite). The district's only psychologist is also the elementary school assistant principal, and thus is only able to carry out psychologist duties half-time. Tr. 3459:21-3460:6 (Waite).

692. Greater Johnstown cannot afford to hire any licensed social workers. Tr. 2750:19-2751:13 (Arcurio). Using grant dollars, Greater Johnstown has brought in six non-licensed staff for its three school buildings instead. Tr. 2750:19-2755:2 (Arcurio). Dr. Arcurio testified that these "social worker types" are not "sufficient to meet the needs of [the district's] students" whose "needs . . . are great." Tr. 2754:11-2755:2 (Arcurio). Dr. Arcurio also testified that although the

school employs behavioral interventionists, including two at the high school paid for through ESSER dollars received as a result of the COVID-19 pandemic,⁴⁰ the need for behavioral support is significantly greater than this number of behavioral interventionists can provide. Tr. 2738:15-2740:21 (Arcurio). Greater Johnstown has only one therapist at its high school, whose position is funded by grant dollars from the Pennsylvania Office of Victim Services; one at its middle school, whose position is funded through ESSER money; and no therapists at the elementary school. Tr. 2760:22-2762:9 (Arcurio). Without additional funding, including ESSER funding, the district will not be able to continue to fund even these few positions. Tr. 2764:13-16 (Arcurio).

693. Wilkes-Barre does not employ any social workers. Instead, it contracts with the local Intermediate Unit, which provides limited social worker services. Tr. 10766:1-4 (Costello).

694. Panther Valley does not have any social workers either; instead, through a grant, it relies on a local hospital to provide social work services once a week to the neediest students in the district. Tr. 351:24-352:14 (McAndrew); Tr. 354:22-355:4 (McAndrew). Panther Valley employs one full time psychologist, but

⁴⁰ The one-time emergency aid school districts received as a result of the COVID-19 pandemic, including ESSER funds, is explained further *infra* at Section XI(C).

has been unable to fill the second psychologist position it has open. Tr. 358:8-10 (McAndrew). To fill the gap, the elementary school principal, who is a former school psychologist, completes some of those duties, but this is not a sufficient substitute for a second psychologist. Tr. 358:6-359:41 (McAndrew). As a result, the district is forced to prioritize evaluations for students with behavioral challenges over evaluations for students struggling academically. Tr. 359:3-24 (McAndrew).

695. William Penn employs two social workers who support students in 11 school buildings, making the ratio of students to social workers 2,500:1. Tr. 6944:15-19 (Harbert); Tr. 7461:18-23 (Becoats). William Penn employs six psychologists, for a ratio of 830:1. Tr. 6944:20-6946:11 (Harbert). As a result, the vast majority of the psychologists' time is limited to evaluating children for special education services. Tr. 6944:20-6946:11 (Harbert). Using one-time ESSER dollars, William Penn entered into a short-term contract with a mental health counseling service to provide support to its students, but those supports will only be accessible for the next two years. Tr. 7427:15-20 (Becoats); Tr. 7493:6-10 (Becoats).

696. There are 20 social workers in Lancaster, each with a caseload of approximate 500-600 students. Tr. 5091:17-5092:2 (Rau). The district's 11 psychologists each carry a caseload of approximately 1000 students. Tr. 5096:7-5098:3 (Rau).

697. A small set of Philadelphia schools benefit from a City-funded STEP program, which provides four additional staff — a social work coordinator, case manager, family peer specialist and school behavioral consultant — to support the school, but as many as one hundred district schools need these resources and Philadelphia cannot afford to provide them. Tr. 7912:23-7915:24 (Hite); PX-3043-13.

698. Similarly lacking in all of the Petitioner districts and Philadelphia is an appropriate number of guidance counselors to meet student need. *See* Tr. 349:9-12 (McAndrew); Tr. 2746:24-2747:8 (Arcurio); Tr. 10762:16-10764:5 (Costello); Tr. 3458:2-3459:17 (Waite); Tr. 7547:12-21 (Becoats); Tr. 5093:23-5094:21 (Rau).

699. The guidance counselors that Greater Johnstown has are “stretched incredibly thin.” Tr. 2746:24-2747:8 (Arcurio). There are two guidance counselors at the elementary school for 1,200 students, requiring each individual counselor to undertake the “monumental task” of “address[ing] the needs of 600 students.” Tr. 2747:9-15 (Arcurio). This lack of counselors in the early years limits the district’s ability to intervene and provide behavioral supports, which in turn can have adverse impacts on students later in their academic careers. Tr. 2747:16-2748:10 (Arcurio). At the middle school, Greater Johnstown was able to increase its counselors from one to two using ESSER dollars, but without ESSER funding, it

would not be able to afford this additional counselor. Tr. 2746:16-8 (Arcurio); Tr. 2749:9-11 (Arcurio). Greater Johnstown has only three counselors at its 900-student high school: one to assist the eighth and ninth graders in the “transition into the high school” and the students involved in the district’s dual enrollment program; a second to address the needs of upperclassmen; and a third (whose position is funded by a Perkins Grant) to support students in the district’s vocational learning pathway. Tr. 2746:9-23 (Arcurio).

700. Wilkes-Barre has one guidance counselor at each school and four at the high school. Tr. 10762:16-10763:7 (Costello). In some of the district’s schools, this translates to a ratio of one guidance counselor for 900 students, which is insufficient to meet the needs of the students. Tr. 10762:16-10763:7 (Costello). Petitioner Michael Horvath, a Wilkes-Barre graduate, explained that because his high school did not have enough counselors, he was not able to meet with a counselor until his senior year. Tr. 10131:16-10132:9 (Horvath).

701. In Panther Valley, there are just four guidance counselors for the entire district: two at the junior-senior high school, and one counselor each in the elementary and intermediate schools. Tr. 349:13-20 (McAndrew). As a consequence, guidance counselors are often forced to be reactive, rather than proactive about addressing students’ needs. Tr. 350:23-351:11 (McAndrew).

702. William Penn also has insufficient numbers of guidance counselors. For example, until the 2021-22 school year, none of the elementary schools had full-time counselors: four counselors split their time between the district's eight elementary schools, for an overall ratio of approximately 650:1. Tr. 6942:21-6943:17 (Harbert). As a result, counselors were always "working in crisis mode" instead of providing "true counseling services". Tr. 6942:21-6944:14 (Harbert). Although the district has since been able to hire a counselor for every elementary school, the high school student-counselor ratio is still too high, at 320-350 students for every counselor, making it "a challenge to effectively provide all of the[] services" with which the high school's guidance department is tasked. Tr. 7547:12-7548:1 (Becoats).

703. Shenandoah Valley has only two full-time counselors, one each for the elementary and high school. Tr. 3458:2-3459:14 (Waite). Because the high school counselor is responsible for single-handedly managing the entire high school's counseling needs, she has "[v]ery, very limited time . . . working with kids." Tr. 3458:2-3459:14 (Waite).

704. Philadelphia cannot afford to budget for more than one or two counselors per school. All schools with student enrollment of up to 799 students are only allocated one school counselor; schools with 800 or more students are allocated two school counselors. Tr. 7778:21-7779:12 (Hite). In prior years, the

district was only able to allocate one school counselor to schools with enrollments of up to 900 students. Tr. 7779:3-19 (Hite) The district was able to fund additional counselors with COVID money, but if that funding is not replaced when it expires in two years, those positions will have to be eliminated. Tr. 7779:13-7780:7 (Hite).

5. Administrators and other staff

a. Adequate administrative and staff support is a critical component of student success.

705. PDE has identified effective building and district administrators as a strategy to increase student success in school. *See* Tr. 1906:7-1907:14 (Stem).

706. Staff support in the form of aides, paraprofessionals and instructional assistants is also critical to student success. Tr. 10740:2-20 (Costello); *see also* Tr. 6931:12-6932:3 (Harbert). These staff can work alongside a child and provide support for a child's learning, making sure students are engaged and practicing a skill or strategy correctly. Tr. 2741:23-2742:7 (Arcurio); Tr. 6931:15-23 (Harbert). Often, paraprofessionals are assigned to support students with mobility issues, academic learning disabilities or differences, or behavioral needs, and they also can help with small group instruction, with giving students extra attention, and generally serving as a second pair of hands for a classroom teacher. Tr. 2742:8-13 (Arcurio); Tr. 2743:20-2744:7 (Arcurio); Tr. 341:24-343:6 (McAndrew); Tr. 841:1-22 (Yuricheck).

707. Librarians are also an important source of learning support. Tr. 1897:12-15 (Stem). School librarians are trained to provide resources and information to both children and educators for research or classroom projects. Tr. 7854:12-24 (Hite). They also help connect students with “the wonderful world of literacy and to develop an innate love of reading,” and help reinforce reading skills. Tr. 2665:14-2666:7 (Arcurio).

708. Another strategy that PDE has identified to increase student success in school is interventions to address absenteeism and attendance problems. Tr. 1898:3-5 (Stem). Research has demonstrated that when districts have professionals that can work with chronically absent students, they are able to increase attendance, especially in schools that serve high concentrations of students in poverty where attendance issues are more common. Tr. 8350:12-8351:2 (Noguera); Tr. 1899:11-24 (Stem).

709. These staff members, sometimes called re-engagement specialists or truancy officers, work to identify and then address the reasons behind students’ absenteeism. *See, e.g.*, Tr. 2755:3-2756:8 (Arcurio) Tr. 2757:14-18 (Arcurio); Tr. 1898:3-19 (Stem). Greater Johnstown superintendent Dr. Arcurio provided an example from her time as a high school principal of a student who was late to school every single day. Tr. 2756:9-2757:18 (Arcurio). Once she was able to build a relationship and rapport with the student, she was able to delve deeper into the

reasons behind his lateness: what she discovered was that he was in a “parentified role,” that is, he was responsible for taking care of his younger siblings and for getting them on the school bus in the morning while his mother was at work. Tr. 2756:9-2757:18 (Arcurio). With this knowledge, the school was able to connect the student’s mother with subsidized, local daycare, which in turn allowed her eldest son to arrive to high school on time. Tr. 2756:9-2757:18 (Arcurio). As Dr. Arcurio testified, “the re-engagement specialists, by design, are there to unpack significant issues and barriers for our students, and we find it to be pretty successful.” Tr. 2757:14-18 (Arcurio).

b. Petitioners and Philadelphia lack sufficient administrators and support staff.

710. Petitioner Districts, PARSS district Otto-Eldred, and Philadelphia lack a sufficient number of both administrators and support staff.

711. For example, Panther Valley only has nine administrators for the entire district, which includes one superintendent and three principals. Tr. 377:2-378:11 (McAndrew). There are no assistant principals. Tr. 252:4-5 (McAndrew). Because of this, the principals are overburdened with issues traditionally handled by assistant principals, such as discipline and emotional support. Tr. 252:4-12 (McAndrew); Tr. 377:2-13 (McAndrew); Tr. 389:20-381:2 (McAndrew). The principals also wear many different hats: the elementary principal is also a school

psychologist and coordinator of all federal grants, and the intermediate school principal also handles all safety and security issues for the District. Tr. 378:12-380:1 (McAndrew).

712. Although administrative staff are critical, they are often eliminated in the face of budget shortfalls in an effort to “try[] to keep the cuts as far away from school as possible.” Tr. 7758:24-7759:11 (Hite). For example, to balance the budget, Wilkes-Barre was forced to eliminate all deans of students and assistant principals at its elementary and middle schools, leaving only one building principal at each elementary school and middle school, and four building administrators at the high school for a total 2,200 students. Tr. 10765:16-22 (Costello).

713. As a result of budget cuts, former William Penn superintendent Ms. Harbert made the decision not to fill a principal vacancy in one of her elementary schools. Tr. 6946:21-6948:11 (Harbert). Since then, two of the district’s elementary schools have been forced to share one principal, who has “two buildings, two staffs to evaluate, two parent nights to run.” Tr. 6946:21-6948:11 (Harbert). None of the elementary schools has an assistant principal. Tr. 6946:16-20 (Harbert).

714. Otto-Eldred lacks any assistant principals, which limits its ability to “focus on improvements” and properly evaluate teachers. Tr. 6195:15-6196:14 (Splain).

715. When Philadelphia had to make drastic layoffs, they laid off assistant principals and whole divisions in the central district administration. Tr. 7756:7-7759:19 (Hite). Philadelphia's current school budget process allocates an assistant principal only when a school has 650 students or more, and these improved ratios for the 2021-22 school year are only possible due to federal COVID funds. PX-3043-5-7.

716. The districts also lack sufficient support staff. Panther Valley only has one paraprofessional for each grade level, including its kindergarten cohort of 172 students. Tr. 341:8-16 (McAndrew). As part of "draconian" cuts Wilkes-Barre had to make in 2015-16, the district furloughed two dozen paraprofessionals. Tr. 10685:13-10686:10 (Costello). William Penn kindergarten teacher Nicole Miller has no support staff to help her teach her classroom of 25 five-year-olds. Tr. 6669:2-9 (Miller). Unsurprisingly, Ms. Miller described her "biggest challenge" as "meeting . . . the diverse needs of my students with just me in the classroom." Tr. 6662:12-20 (Miller).

717. Librarians are also in short supply. William Penn only employs five librarians across its 11 buildings. Tr. 6948:15-19 (Harbert). Greater Johnstown only has one librarian at its elementary school, which serves over 1,200 students, and splits a second librarian between the 650-student middle school and the 900-student high school. Tr. 2666:8-11 (Arcurio); Tr. 2683:12-20 (Arcurio). However,

this librarian is also the middle school's reading interventionist, so the middle school library is used "primarily as a storage area." Tr. 2681:18-23 (Arcurio); Tr. 2683:12-20 (Arcurio); PX-296. Philadelphia has only six certified librarians across its 216 schools. Tr. 7854:7-11 (Hite).

718. There are no librarians at all in Wilkes-Barre, Shenandoah Valley, or Panther Valley. Tr. 3420:13-21 (Waite); Tr. 10688:24-10689:2 (Costello); Tr. 365:1-3 (McAndrew). Mr. Horvath testified that because Wilkes-Barre had no librarian, he "never had the experience of having to go to the library, finding a book, and then taking it out, and then having to break it down and be able to research out of it," which was "very embarrassing and diminishing" when he tried to use the library in college, and forced him to ask his roommate for help with those basic skills. Tr. 10046:3-10047:12 (Horvath).

719. Many of the districts also lack a sufficient number of truancy officers, limiting their ability to effectively reengage students with low attendance rates. Panther Valley does not employ any truancy officers or other staff dedicated to addressing attendance. Tr. 383:7-384:12 (McAndrew). Shenandoah Valley is only able to employ one truancy officer, and due to her caseload, she does not have time to do home visits. Tr. 3460:24-3461:11 (Waite). Wilkes-Barre has three truancy officers, called Home and School Visitors, who are responsible for 7,500 students. Tr. 10767:20-10768:6 (Costello). There is one person in charge of truancy in

William Penn, who is responsible for 5,000 students. Tr. 6948:12-14 (Harbert). Greater Johnstown was only able to hire three re-engagement specialists by using ESSER funds. Tr. 2753:17-2754:4 (Arcurio); Tr. 2757:19-23 (Arcurio). Three re-engagement specialists is still “not enough to meet the needs of the district,” but Greater Johnstown cannot recruit and retain more because it will not be able to fund these positions once the ESSER funds run out in September 2024. Tr. 2757:24-2758:10 (Arcurio); Tr. 2759:15-2760:2 (Arcurio). Philadelphia requires its already over-taxed school counselors to serve as attendance officers and provide truancy intervention. Tr. 7780:8-7782:8 (Hite).

6. Class size

a. Appropriate class size has a significant impact on student achievement.

720. There is broad consensus that having appropriate class sizes is important to student achievement and critical to providing educational opportunity.

721. As Dr. Noguera testified, reducing class size is generally recognized in the education policy field as a strategy to improve academic outcomes. Tr. 8344:23-8345:8-10 (Noguera). Numerous studies show that “particularly in critical subjects like reading and math, . . . high class sizes result in lower achievement, and conversely, lower class sizes can raise student achievement.” Tr. 8345:5-10 (Noguera); 8572:13-21 (Noguera); Tr. 9848:2-10 (Johnson); Tr. 9849:17-19 (Johnson); Tr. 10003:7-14 (Johnson). The individualized support that small classes

make possible is particularly important for younger students adjusting to an academic setting, and for students in poverty who have increased educational needs. Tr. 8345:11-8346:7 (Noguera); Tr. 8627:7-8628:3 (Noguera); Tr. 1902:6-19 (Stem); Tr. 9418:4-9 (Johnson); Tr. 11461:12-11463:5 (Anderson); *see also* Tr. 315:14-316:20 (McAndrew); Tr. 10472:19-10473:2 (Hacker); Tr. 10475:18-10477:8 (Hacker).

722. As a result, what constitutes an appropriate class size is a function of student need, rather than any particular number. For example, as Speaker Cutler's expert Mr. Willis acknowledged, there is a large body of research demonstrating that students in lower grades, such as kindergarten, require smaller class sizes in order to meet their needs for individual teacher attention. Tr. 8628:4-21 (Noguera); Tr. 12950:10-19 (Willis). Similarly, research specifically demonstrates that reducing class sizes can strongly benefit economically disadvantaged and minority students that are more likely to need individualized support. Tr. 8569:17-8570:9 (Noguera); Tr. 8627:7-8628:3 (Noguera); *see also* Tr. 12950:10-19 (Willis); Tr. 13813:14-19 (Koury).

723. One of the most well-known studies on class size demonstrates months of student gain as a result of reducing class sizes from 22 students to 15 students. Tr. 8570:17-8572:21 (Noguera). Respondents' witnesses identified similarly low ideal class sizes, with a student-teacher ratio of either 17:1 or 18:1.

Tr. 11401:21-11402:10 (Anderson); Tr. 12952:4-8 (Willis). As Dr. Hite explained, when the vast number of children are not reading on grade level, this requires teachers to spend more time working with them individually, making it especially hard to navigate a large class of other children at different levels. Tr. 7791:14-20 (Hite); *see also* S.A. Dep. Tr. 67:5-19; S.A. Dep. Tr. 32:12-33:19; S.A. Dep. Tr. 68:1-23.

b. Class sizes in Petitioner Districts and Philadelphia are too large to support learning.

724. Due to an insufficient number of teachers and support staff, limited space, or both, many of the Petitioner Districts and Philadelphia have class sizes that are too large to address their students' needs and support learning.

725. Kindergarten class sizes at Panther Valley Elementary School range from 28 to 30 students. Tr. 426:8-13 (McAndrew). There are approximately 28 to 30 students per class in the elementary school. Tr. 251:12-16 (McAndrew); *see also* Tr. 259:1-2 (McAndrew). In seventh grade, there was a science class with 37 students, which meant that students had fewer opportunities to work on shared equipment like microscopes. Tr. 259:3-20 (McAndrew); Tr. 316:21-317:7 (McAndrew). Tara Yuricheck, a fifth grade teacher, testified that in 2021, her class sizes ranged from 25 to 34 students, and that these large classes have a negative impact on students' ability to learn. Tr. 818:5-819:19 (Yuricheck).

726. Staffing constraints in William Penn have resulted in classroom sizes that are also much too large — most classrooms have close to 30 students and some have over 30 students, without another adult in the classroom to assist the teacher. Tr. 6949:12-6952:22 (Harbert); PX-4099; PX-4647; *see also* Tr. 6902:5-6903:10 (Harbert); Tr. 6906:7-6907:3. When reviewing the class sizes taught by teacher Nicole Miller, Ms. Harbert explained that class sizes of that nature “makes it very difficult for one teacher, one adult in that classroom. She has children that have — may have 28 different needs in various ways, and so for her to be able to address the needs of those students and then make sure that she is meeting them at their level and giving them what they need academically is very difficult.” Tr. 6906:11-6907:3 (Harbert).

727. The average class size of kindergarten classes in Lancaster is 25 students. Tr. 5018:20-24 (Rau). In elementary school, the class sizes go up to 28 or 29 students, and on average between 24 to 27 students. Tr. 5072:1-9 (Rau). In high school, core classes are typically 25 to 30 students. Tr. 5072:10-21 (Rau).

728. In Philadelphia, classrooms have an average of 30 students in kindergarten through grade 3 with no other staff support, and an average of 33 students in grades 4 through 12, though class sizes may be even higher than this average. Tr. 7777:14-7778:8 (Hite). Dr Hite explained that the district always

wants fewer children in classrooms, but that this is all that they can afford. Tr. 7778:9-20 (Hite).

729. Greater Johnstown teacher Stephanie Kobal testified that the class sizes at the elementary school are too big. Tr. 3322:13-15 (Kobal). For example, one third grade class has 26 students and a fourth grade class has 27 students. Tr. 3322:13-20 (Kobal). At the high school, classes that are core and associated with Keystone Exams have “very high” numbers of students. Tr. 2702:23-2703:1 (Arcurio). Shenandoah Valley’s class sizes are also too large, with the largest elementary school class having 27 students, with only one classroom teacher in the room. Tr. 3322:13-3323:11 (Waite).

730. District witnesses testified time and time again about the negative impact that large class sizes have on student learning. Students cannot get the instructional support they need to address existing education deficits. *See* Tr. 314:10-315:6 (McAndrew); Tr. 315:23-316:10 (McAndrew); Tr. 5072:10-5073:7 (Rau). Teachers are unable to provide small group instruction effectively, or at all. Tr. 319:3-12 (McAndrew); Tr. 7791:14-20 (Hite).

731. As Superintendent McAndrew described, “I’m seeing people raise their hand in a first grade classroom and want help and our teachers not being able to go over and give that help . . . these kids want to learn. It’s not they’re choosing

not to learn. They're not getting the opportunity to learn." Tr. 260:21-261:5 (McAndrew).

732. Philadelphia recent graduate Petitioner S.A. explained that classes with 30 students made it "hard to learn" because the teacher had to stop lessons often, it wasn't comfortable to ask questions, and when he did ask, he "had to wait" for help. S.A. Dep. Tr. 33:21-34:11; S.A. Dep. Tr. 36:17-37:1; S.A. Dep. Tr. 69:2-10. In contrast, S.A.'s remedial English and math classes were smaller and more helpful, improving S.A.'s math grade, because instruction didn't feel as "rushed" and the teachers provided more one-on-one time with the material. S.A. Dep. Tr. 67:5-19; S.A. Dep. Tr. 32:12-33:19; S.A. Dep. Tr. 68:1-23.

733. Most troubling are the consistently high kindergarten class sizes across the districts. Superintendent McAndrew explained,

These are five-year-olds. These are kids that just learned to how to use the bathroom; some of them still having issues in the bathroom. And we have one teacher in that room dealing with those students. . . . What does that look like? That looks like one student that may have an issue that day that's crying — again, they're 5 — having a bad day and the teacher goes over to address that, what are the other 28 kids getting right then? They're waiting. They're waiting for their education

Tr. 259:23-260:13 (McAndrew).

734. Former Lancaster teacher Amanda Aikens testified that when she had 28 students in her classroom, teaching effectively was "incredibly difficult":

I had a full classroom, barely had enough desks for all of my students. They had very high needs. I had language learners in there, I had students with learning disabilities, and very high social-emotional needs, and I was one person to 28 students. So the relationships that I was able to build with them were not as strong. I wasn't able to see them all every day in small group, which is best practice; and I just wasn't able to assess their levels and their needs to the same depth that I was able to when I had 20 students.

Tr. 5983:4-16 (Aikens).

7. Curriculum

a. Access to a standards-aligned, robust curriculum is one of the conditions for successful schools.

735. A robust curriculum that is aligned to state standards is one of the conditions for successful schools. *See* Tr. 1907:24-1908:9 (Stem); Tr. 4263:7-16 (Molchanow); *see supra* at Section IV.

736. Pennsylvania educators all agree that students must be “growing to the point where they’re able to be successful on their grade level standards.” Tr. 3591:1-5 (Waite); *see also, e.g.*, Tr. 5117:15-18 (Rau); Tr. 388:22-24 (McAndrew); Tr. 7531:16-7532:8 (Becoats).

737. Aligning the curriculum to the state standards is a “very substantial and laborious practice that involves the investment of significant resources when it’s done correctly.” Tr. 10495:10-13 (Hacker); *see also* Tr. 2725:1-18 (Arcurio); Tr. 5108:16-5109:20 (Rau). As Greater Johnstown superintendent Dr. Arcurio explained:

[C]urriculum is not something that you write and then you put on a shelf or you refer to it from time to time. For a curriculum to be effective, by design, it's what I refer to as a living, breathing document, right? It needs tended to every day and refined by professionals in the practice. Because as new pedagogy becomes available to our teaching professionals, we should redesign our curriculum to address the new science that we have access to, the science of teaching, and effective teaching. So curriculum is something that needs tended to daily. If not, you know, daily would be the ultimate design, but at least periodically throughout the year, once it's established as being complete.

Tr. 2725:1-18 (Arcurio).

738. Aligning curriculum to state standards is also a cumulative, chronological process. *See* Tr. 387:24-389:14 (McAndrew); Tr. 3671:5-3672:6 (Waite). In order to meet a state standard in fourth grade math, for example, there are skills that a student must first learn in the third grade and earlier years. Tr. 389:5-14 (McAndrew).

739. As PDE Deputy Secretary Stem explained, school districts have autonomy to develop their own curriculum and sequence of instruction, and PDE provides districts with resources to help them align their curriculum to the PA standards. Tr. 2058:2-15 (Stem); LR-4208. However, as Lancaster superintendent Dr. Rau explained, the curriculum resources that are on PDE's website are a framework — what Dr. Rau referred to as “the bones.” Tr. 5106:1-4 (Rau). It is then the role of the school districts to “put the meat on the bones” — to write the curriculum that details how to meet the standard, including what resources to use,

and the plan to implement the curriculum. Tr. 5106:1-21 (Rau); Tr. 5108:16-5109:20 (Rau). As Dr. Rau explained, curriculum writing and revising is a cycle that is typically done every seven years: the curriculum is written, then given to teachers to pilot, after which data is gathered from teachers, and then the district has to find the resources to match the curriculum, all of which takes time and money. Tr. 5108:16-5109:20 (Rau).

740. In addition to offering core classes aligned with state standards, PDE has also recognized the importance of providing rigorous courses such as Advanced Placement, International Baccalaureate, and college-level courses. PX-1830-100; Tr. 1897:16-22 (Stem). PDE also acknowledges that students need adequate support to take advantage of these kinds of opportunities. Tr. 1897:23-1898:2 (Stem).

741. Finally, educators agree that elective classes are also a key part of the education that a student receives. Tr. 394:17-24 (McAndrew); Tr. 400:8-401:1 (McAndrew); Tr. 2694:22-2696:5 (Arcurio); Tr. 10843:10-23 (Costello). As Dr. Rau explained, “part of high school is trying to help kids figure out what do you want to be when you grow up, when you graduate from college. And so it’s important to have a variety.” Tr. 5120:20-5121: 23 (Rau); *see also* Tr. 2693:3-2696:5 (Arcurio). In addition, electives help build “the character and kind of [person] students are.” Tr. 2695:1-5 (Arcurio).

b. Petitioners and Philadelphia do not have the resources to provide all their students access to standards-aligned curriculum and rigorous courses.

742. As a result of insufficient resources, in many of the districts, some or all of the curriculum being taught is not aligned to the current state standards. *See* Section IV. For example, while Shenandoah Valley’s curriculum in ELA and math grades K through 12 is aligned, the district is still in the process of aligning the rest of its courses to state standards. Tr. 3671:1-4 (Waite); Tr. 3672:21-3673:10 (Waite).

743. The majority of the curriculum in Lancaster is also not aligned to state standards. When Dr. Rau joined the district as superintendent in 2015, none of the curriculum was aligned to state standards. Tr. 5104:17-5105:8 (Rau). Since then, Lancaster has been working on curriculum revisions for many years, and some portions have been completed, but the staff has not been able to finish the rewriting process. Tr. 5106:18-5111:9 (Rau). This is because the district has had to rely on teachers to rewrite the curriculum — but pulling teachers out of classrooms meant that students were missing class time, and teachers did not have the capacity to do it after school. Tr. 5106:18-5108:15 (Rau).

744. Greater Johnstown, Lancaster, and Panther Valley also lack sufficient personnel to write curriculum. Tr. 2725:19-24 (Arcurio); Tr. 5119:6-9 (Rau); Tr.

252:4-18 (McAndrew); Tr. 391:13-23 (McAndrew). In Greater Johnstown, curriculum development is done in “pieces and parcels,” without a curriculum writer. Tr. 2725:19-24 (Arcurio). Recently, using ESSER funds, Greater Johnstown hired a director of education whose focus is to rewrite the district’s curriculum for the first time since 2013. Tr. 2723:24-2724:14 (Arcurio); Tr. 2726:1-13 (Arcurio). However, Greater Johnstown still does not have a staff of curriculum writers, so it employs teaching staff to work after the school day and over the summer months to support curriculum writing efforts. Tr. 2723:24-2724:14 (Arcurio); Tr. 2726:1-13 (Arcurio).

745. The districts also struggle to provide a robust array of course offerings, including rigorous classes, and to provide adequate access to the opportunities these courses can provide.

746. For example, although district course guidebooks may include a long list of subjects and electives, many of the districts do not actually offer all of the classes listed each year. Tr. 5123:18-5126:16 (Rau); Tr. 10852:22-10854:12 (Costello). Other superintendents testified that their course guide descriptions outline the goals of a course, but that students who take these classes do not necessarily always meet those goals. Tr. 527:22-528:16 (McAndrew). As Panther Valley superintendent McAndrew testified, a course description of the subject matter covered “doesn’t mean that was mastered” — “often we have to lower the

expectations or differentiate that instruction for those students that don't have the basic skills" to meet the course's ultimate objectives. Tr. 528:9-16 (McAndrew).

747. Prior to the 2021-22 school year, Panther Valley offered limited courses at the high school that did not provide a well-rounded education that would prepare students for college and career. Tr. 386:17-23 (McAndrew); Tr. 398:18-399:18 (McAndrew). With ESSER funding, Panther Valley added a significant number of courses in an effort to better prepare students for proficiency on the Keystone Exams and provide students with a more well-rounded education. Tr. 393:20-394:16 (McAndrew); Tr. 402:17-404:3 (McAndrew); PX-6000. However, the district would not have been able to make these additions without ESSER funding. Tr. 401:2-6 (McAndrew). Panther Valley does not anticipate being able to continue providing these courses after ESSER money runs out. Tr. 404:4-16 (McAndrew).

748. In Philadelphia, the availability of Advanced Placement courses vary widely among schools, and the district cannot provide advanced courses for all interested students. Tr. 7887:16-7888:6 (Hite); *see also* S.A. Dep. Tr. 23:20-24:4. Even when schools do offer AP courses, some students cannot take them because they have not had access to prerequisite courses at their elementary or middle schools. Tr. 7888:7-7889:6 (Hite). For example, if a student's middle school did not offer Algebra, which many Philadelphia district middle schools do not, it is

difficult for that student to eventually take AP Calculus in high school, even if it is offered at their particular school. Tr. 7888:7-7889:6 (Hite).

749. Similarly, multiple other superintendents testified that their districts strive to offer rigorous and advanced courses to prepare students for college and career. Tr. 402:14-21 (McAndrew); Tr. 2808:16-2809:6 (Arcurio); Tr. 6258:9-24 (Splain); Tr. 5123:3-5129:9 (Rau); Tr. 10845:18-10848:6 (Costello). But students often cannot access those courses as a result of learning gaps caused by inadequate resources during their early schooling. Tr. 7022:1-7025:4 (Harbert); *see also* Tr. 389:5-14 (McAndrew); Tr. 10840:5-10842:18 (Costello); Tr. 2814:15-2815:13 (Arcurio). As Dr. Becoats explained:

Education is a 13-year process. It doesn't start in high school. So you have to start in the early grades, provide the appropriate resources that are needed, such as making sure that you have smaller class sizes in grades K through 2 so that by the time students get to 3rd grade they're able to read. . . . supports in place for grades 3 through 8 to ensure that as the gaps persist or exist we're able to address those gaps. . . . We know that that will lead students to be college and career ready by the time that they get ready to graduate.

Tr. 7488:24-7489:22 (Becoats).

750. Several other superintendents similarly explained that the low numbers of students enrolled in their more rigorous classes was not because students did not want to succeed, but rather because districts were not able to

provide them support along the way. For example, Wilkes-Barre superintendent

Dr. Costello testified that many of his students

never really had the opportunity to take that class, even though we offered it, the AP calc, because of their track and their sequence. And that's based on the fact that from elementary school on, there was an achievement gap and we didn't have the necessary resources to get those individuals or those children up to speed so that they were able to be set up in a situation where they would be able to succeed in a math sequence that would allow for them to enter AP courses.

So that's kind of how all of our AP courses go. If you don't have the necessary prerequisites to get in — and I just want to be clear; it's sometimes not their choice. That's the track that they're on. And based on that track, it's just not possible for them to enter those courses or enroll.

Tr. 10840:23-10841:18 (Costello).

751. Similarly, former William Penn superintendent Ms. Harbert explained that

our students come in with learning gaps, and so those need to be addressed at a very early age. And you heard what I said, what I think we need to do and what I would have wanted to have done if I had had the funding, put in those preventions and those interventions K to 3.

And I'm not saying to you that that's where their problems stop, and there are going to be students who still need remediation after 3rd grade. But if we don't put all of those things in place, we are not giving the students the opportunity to access those courses because they don't have the skills, the knowledge to do that.

And I believe that if we can correct those problems earlier, more of our students would have been able to participate in those types of courses.

Tr. 7024:8-7025:3 (Harbert).

752. In William Penn, the district was proud to receive recognition that it was increasing exposure for its students to AP courses. Tr. 7022:21-24 (Harbert); Tr. 7091:3-7092:7 (Harbert). But that exposure was significantly limited as a result of the “learning gaps” described by Ms. Harbert: out of the district’s 1,200 students in grades 10-12, approximately 130 students or less took AP classes each year. Tr. 7023:16-24 (Harbert). Moreover, many of those students failed to score well enough to receive college credit, a disparity that is particularly clear when examining the district’s neighbors in Delaware County, who experience far greater numbers of success:

2018-2019 AP Performance and Wealth for Selected Delaware County School Districts						
School District–High School	Grade 12 Population[1]	County	Number of Grade 12 Students with Record of Scoring 3 or Higher on any AP Exam or 4 or Higher on any IB Exam[2]	Percent 3 or Higher on any AP Exam or 4 or Higher on any IB Exam [2]	2017-2018 Current Expenditures Per Weighted Student[3]	Equalized Mills[4]
William Penn SD-Penn Wood HS	331	Delaware	35	23.97%	\$12,971.28	34.6
Radnor Township SD-Radnor SHS	289	Delaware	181	100.00%	\$20,824.71	14.8
Marple Newtown SD-Marple Newtown SHS	285	Delaware	91	80.39%	\$19,727.27	13

PX-7010.

753. In Lancaster School District, out of the 2,400 students at McCaskey High School, only 342 AP exams were taken in 2021.⁴¹ Tr. 5593:1-5596:3 (Rau); PX-4550. Of those exams, only 119 students had passing scores, or under five percent of the total student population. Tr. 5593:1-5596:3 (Rau); PX-4550.

⁴¹ A student could take multiple AP exams, so the taking of 342 exams does not necessarily equate to 342 students taking AP exams. Tr. 5593:1-8 (Rau).

Similarly, there were 256 IB exams taken,⁴² of which only 166 exams had passing grades. Tr. 5596:7-5598:9 (Rau); PX-4551. Offering AP and IB courses where such a small subset of students pass the tests does not indicate that the entire student population of McCaskey, some 2,400 students, are receiving an adequate education. Tr. 5598:14-20 (Rau).

754. Other superintendents described similar limitations and barriers to the advanced educational opportunities in their districts. For example, Greater Johnstown’s dual enrollment program is a point of pride, creating an “opportunity [for students] to earn their associate degree . . . while they [are] earning their high school diploma.” Tr. 2551:1-13 (Arcurio). The program “brings college to students, especially in a community where, oftentimes, [the] students are first generation college students.” Tr. 2551:24-2552:2 (Arcurio). But the program “only is able to impact a very small percentage of [Greater Johnstown] students.” Tr. 2552:3-19 (Arcurio). In a district with classes between 200 and 225 students, only one to two dozen will be able to take advantage of the program. Tr. 2552:3-19 (Arcurio).

⁴² As with AP exams, a student can take multiple IB exams. Tr. 5597:18-23 (Rau).

755. Moreover, participation in dual enrollment is shrinking. In the past, Greater Johnstown used revenue from its international program to cover the cost of credits for students taking dual enrollment courses. Tr. 3275:22-3276:8 (Arcurio). But due to the decrease in participation in the international program, the district has been forced to stop covering the cost for these “credits for [its] students,” so “families [are] responsible for paying the tuition.” Tr. 3276:16-24 (Arcurio). Because families in the district — the poorest by median household income in the Commonwealth — are not able to afford this payment, “the amount of students . . . taking college credits in high school in the dual enrollment . . . format” “has significantly declined.” Tr. 3277:5-11 (Arcurio).

756. In Wilkes-Barre, the district has created three small “academies” for students in STEM, in business, and in the performing arts. Tr. 10653:9-10658:20 (Costello). Dr. Costello explained that the goal of something like the performing arts academy was not to send children to Broadway, but instead to “create a program where students wanted to come to school and that we could motivate them, that we would have a better opportunity to have them achieve our expected goals.” Tr. 10657:14-21 (Costello).

757. Here too, however, there are limitations: when the STEM Academy was housed in a leaking basement, enrollment was limited due to space. *See* PX-3553; PX-3559. Now that Wilkes-Barre has consolidated its high schools into a

new building, space is no longer an issue, but enrollment in the STEM Academy is still restricted by two other factors. First, in a district with classes between 550 and 600 students, the district only has staff to allow approximately 70 students to participate. Tr. 11084:2-6 (Costello); Tr. 10776:3-10 (Costello). Second, prerequisites mean that participating is not feasible for many other students. Tr. 10666:10-24 (Costello).

8. Facilities

a. Safe, clean and modern facilities are integral to creating the conditions for student learning.

758. The quality and cleanliness of school facilities, as well as the ability of the facilities to provide and accommodate educational resources such as libraries and laboratories, are all part of creating the conditions for student learning. Tr. 8374:3-14 (Noguera); Tr. 1905:21-1907:14 (Stem). Higher quality facilities tend to be correlated with better student outcomes. Tr. 8374:3-14 (Noguera).

759. Accordingly, PDE has identified “facilities conducive to learning” as one of the strategies that will help students become college and career ready. Tr. 1905:21-1907:14 (Stem). The State Board believes that “school buildings and facilities will remain the hub of learning in our communities. Therefore, such facilities should be maintained and constructed so as to provide a safe healthy and orderly environment that is conducive to a positive learning experience every day.” PX-35-9.

760. Legislative Respondents agree that in order to learn, students need to have “school buildings that, even if not perfect, provide a safe and healthy learning environment and are remedied if they do not.” Tr. 15081:4-7 (Cutler closing); Tr. 14892:8-18 (Corman closing) (stating that the Constitution requires “safe and appropriate facilities”).

761. However, PDE has repeatedly admitted that because of funding gaps, many districts in Pennsylvania, especially lower-wealth districts, face serious safety concerns related to exposed asbestos and lead in school buildings. Tr. 1954:19-24 (Stem); *see also* PX-7016-14 at lines 9-21; Stem Dep. Tr. Vol. 2, 449:2-451:18; Stem Dep. Tr. Vol. 2, 451:25-452:9; Stem Dep. Tr. Vol. 2, 455:3-15. Moreover, PDE has pointed out that “existing funding sources are not sufficient to remediate those types of issues.” Stem Dep. Tr. Vol. 2, 455:3-15. In 2020, Governor Wolf made a budget proposal designed to address the aging conditions of many of the schools’ buildings in the Commonwealth, including asbestos and lead. Tr. 1952:18-1953:7 (Stem). The Governor’s proposal did not pass. Tr. 1955:6-9 (Stem).

762. PDE has also identified a number of other facilities problems that impact student learning, including poor air quality and ventilation and inadequate classroom space. Tr. 2015:3-19 (Stem); Tr. 8858:19-8860:15 (Ortega); PX-7016-43–44 at lines 43:10-44:15. Secretary Ortega testified that the inadequate

conditions in these school buildings are “connected to inequities that exist because of the way the funds are made available to our schools.” Tr. 8859:13-18 (Ortega); PX-7016-44 at lines 1–3.

763. As Petitioner Michael Horvath testified, learning in terrible building conditions made him feel like he was in “survival mode” and it was hard to learn because he was not in a comfortable environment and had all these distractions. Tr. 10036:21-10037:7 (Horvath). The conditions “made you feel like you were less” and “like you didn’t matter.” Tr. 10074:16-10075:7 (Horvath). It made him wonder, “why are we being treated like this?” Tr. 10075:7-10 (Horvath).

764. Similarly, Dr. Rau testified that “when you are in a building that is falling down around you, it sends a message to students that — and to staff that they are not our priority.” Tr. 5147:20-23 (Rau).

b. Petitioner Districts and Philadelphia face serious, system-wide facilities problems.

i. Greater Johnstown School District

765. Greater Johnstown School District used to operate four buildings: an elementary school, two middle schools, and a senior high school. Tr. 2569:14-21 (Arcurio); Tr. 2639:7-2640:23 (Arcurio). At the start of the 2017-2018 school year, however, the district had to make the decision to close one of its middle schools, Garfield Middle School, due to the building’s “severe decay”, which the district

was told would cost \$27 million to repair. Tr. 2639:7-2640:23 (Arcurio); Tr. 3987:15-3988:4 (Kocsis); Tr. 3992:2-18 (Kocsis); PX-4781-2-3.

766. As Business Manager Eric Kocsis testified, Garfield Middle School had not “been renovated since 1972, so there was a lot of work that needed to be done in that building, [including] cosmetically, plumbing, [and] electric” and he knew that it “would be a major investment that the district could not afford.” Tr. 3973:14-23 (Kocsis).

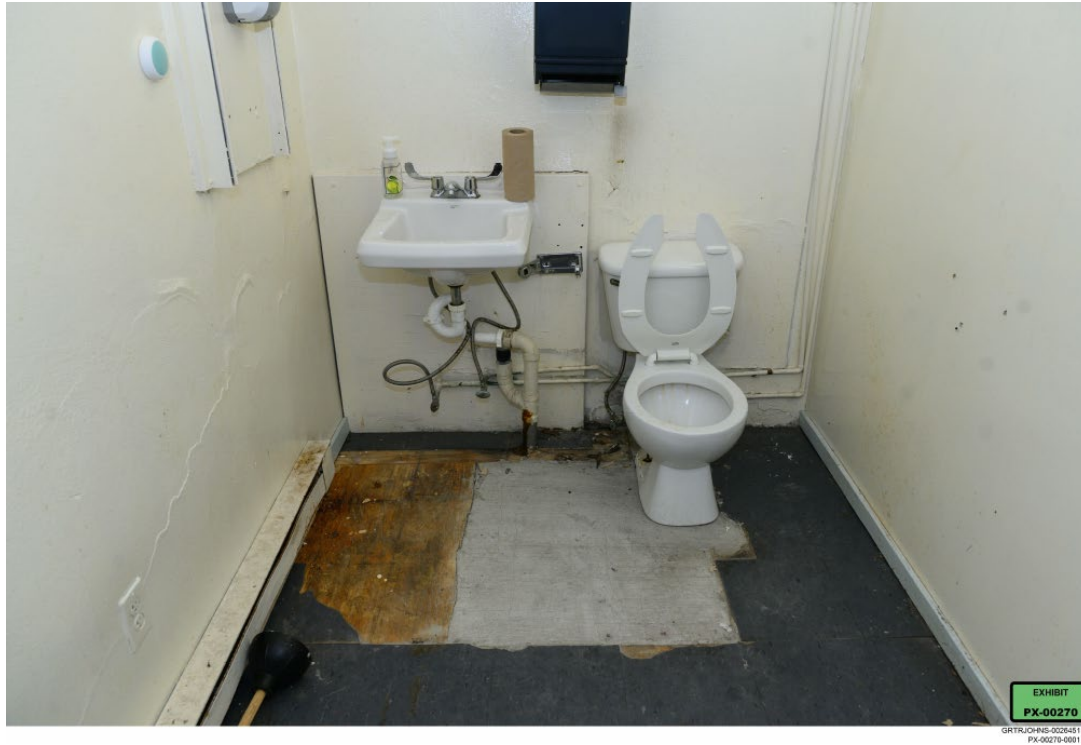
767. Leaking pipes at Garfield saturated ceiling tiles.



PX-276.⁴³

⁴³ For the convenience of the Court, the photographs admitted into evidence by Petitioners are attached as Appendix C.

768. A restroom used by students at Garfield looked like this:



PX-270; Tr. 2672:5-12 (Arcurio); Tr. 2674:9-2675:1 (Arcurio).

769. The closure of Garfield Middle School allowed the district to save on “operations within the district” by “cut[ting] a lot of positions” and “by closing [the] building and redistributing the kids to the other buildings.” Tr. 3968:13-22 (Kocsis). The district eliminated approximately a dozen staff positions, including by furloughing teachers and not replacing teachers who retired. Tr. 3969:4-14 (Kocsis); Tr. 3987:8-14 (Kocsis).

770. The Garfield building was not closed because Greater Johnstown had “too much space,” or because the district had “lost student population.” Tr.

3988:13-24 (Kocsis). In fact, “enrollment in Greater Johnstown increased the year . . . after the Garfield Middle School was closed.” Tr. 4151:9-12 (Kocsis); LR-5007-5. Rather, the “purpose of the redesign was to lower the annual operation deficit” in the short term, with the knowledge that the district “could not afford any improvements [to the Garfield building] . . . because that would also increase [the] operation deficit for each year.” Tr. 3987:15-3988:4 (Kocsis).

771. As a result of the district redesign, Greater Johnstown now has inadequate space to educate its students. For example, all 1,200 students in grades K-4 were moved into a single building. Tr. 2648:20-2649:18 (Arcurio); *see also* Tr. 2653:16-2654:7 (Arcurio); Tr. 2767:9-16 (Arcurio); Tr. 3313:16-3314:7 (Kobal). Consequently, small-group interventions take place in locations such as this cinderblock storage closet, with no windows and no ventilation:



PX-282; Tr. 2649:2-2650:3 (Arcurio); Tr. 2650:23-2651:5 (Arcurio).

772. The wing that houses all of the first grade classrooms has a single bathroom with one toilet for their 125 young students to share:



PX-280; *see also* Tr. 3303:17-3308:4 (Kobal), Tr. 3308:18-3310:22 (Kobal).

773. Greater Johnstown has also had to turn art and music classrooms into general classroom space for kindergarteners and first graders, forcing art teachers to put their “classroom” on a cart. Tr. 2653:16-2654:7 (Arcurio); Tr. 2767:9-16 (Arcurio); Tr. 3311:9-3312:5 (Kobal).

774. As part of the district redesign, Greater Johnstown also moved its eighth grade into the high school building, which necessitated creating an additional lunch period to accommodate the influx of students. Tr. 2688:7-2690:3 (Arcurio). As a result, “students begin eating lunch at [Greater Johnstown High School] at around 10:30 in the morning,” and the cafeteria “space is too small” so

some students simply “forego the option of eating lunch [in] a very cramped space.” Tr. 2688:15-2689:6 (Arcurio).

775. Dr. Arcurio testified that Greater Johnstown also lacks adequate STEM/STEAM and science lab space, which has an adverse impact on students as they progress through their schooling. Tr. 2656:8-2659:4 (Arcurio); Tr. 2681:7-17 (Arcurio). Despite the fact that state standards require in-lab instruction for middle school students, teachers at Greater Johnstown Middle School are forced to “use a back of the classroom table whe[re] they can replicate . . . a science experiment or a science lab-type environment.” Tr. 2680:14-2681:4 (Arcurio). The lab learning spaces in Greater Johnstown High School are overcrowded because so many students need to engage in remediation and/or must repeat credit courses in biology. Tr. 2690:4-2694:21 (Arcurio).

776. Greater Johnstown High School does not have air conditioning, so when the weather is hot, the “building feels like a pizza oven inside and kids just stop engaging and stop learning.” Tr. 2686:15-2688:6 (Arcurio).

ii. School District of Lancaster

777. Until 2007, almost none of Lancaster’s buildings — a good number of which were originally built in the 1920s, 30s, and 40s — had ever been renovated. Tr. 5770:6-15 (Przywara). Only the district’s two high schools had received updates, in the mid-1990s. Tr. 5770:6-15 (Przywara).

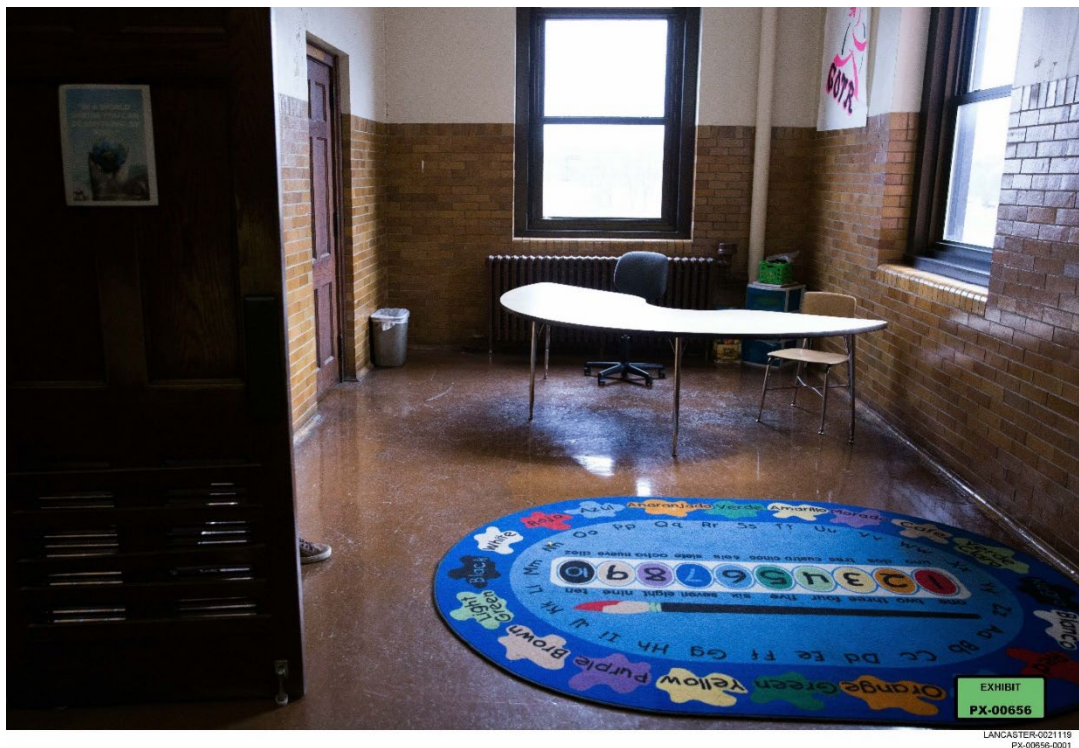
778. In 2007, Lancaster developed a ten-year plan to renovate the 17 buildings in the district that were in greatest need of repair. Tr. 5770:16-5771:5 (Przywara). Fourteen years into its 10-year plan, however, the district has only been able to renovate 12 of the 17 buildings slated for repair. Tr. 5771:6-10 (Przywara).

779. In order to pay for the renovations, the district issued bonds and financed the work in phases. Tr. 5771:11-22 (Przywara). Currently, Lancaster's local tax base has to support a net debt service of \$13 million dollars a year. Tr. 5772:4-13 (Przywara).

780. The decision to renovate despite its steep costs was driven by concerns that "[t]he buildings could be unsafe. . . . We have nonsecure entryways. We have roofs that leak. . . . [The buildings] are crumbling. We have bricks crumbling outside. We have boilers that break. They're in constant need of repair." Tr. 5774:13-5775:6 (Przywara); *see also* Tr. 5145:20-5148:20 (Rau).

781. For example, in 2019, it was discovered that Price Elementary School had traces of lead in its water pipes — forcing the school to provide water bottles for its students and staff until the problem could be addressed. Tr. 5803:20-5804:15 (Przywara). This involved putting in filters that cost \$50,000, and that must be replaced every other year. Tr. 5803:20-5806:4 (Przywara).

782. Wickersham Elementary School is being renovated to address the mold, peeling paint, and moisture damage that proliferated throughout the building. Tr. 5778:4-14 (Przywara); PX-585; Tr. 5778:17-5779:12 (Przywara), PX-589. The school also had deteriorating classroom trailers due to lack of space, and inadequate classroom space for small group instruction, forcing teachers and support staff to create spaces in hallways like this one to provide interventions. Tr. 5781:14-5783:21.

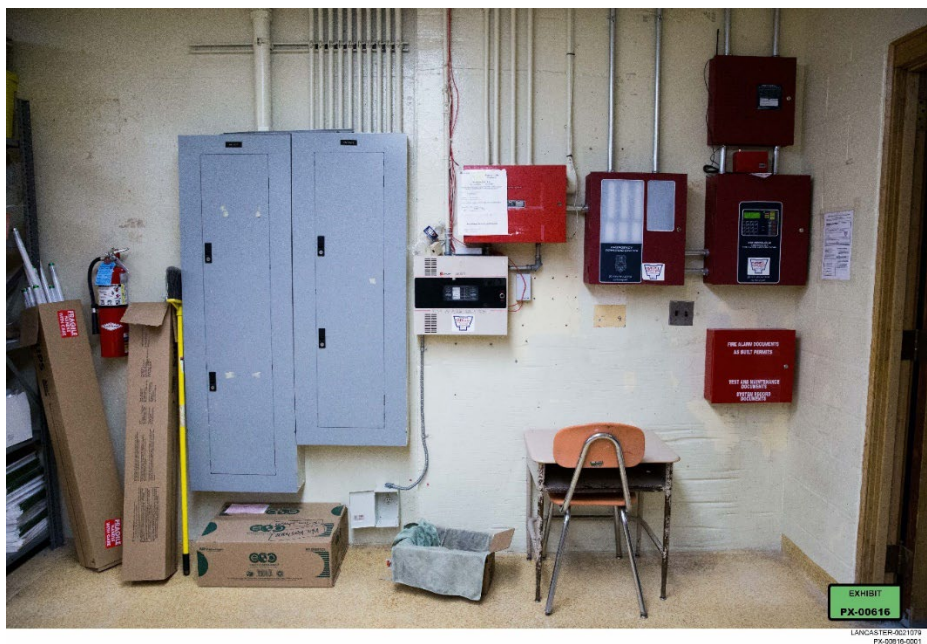


PX-656.

783. Lack of space also forced teachers at Wickersham to create student learning spaces in the basement. Tr. 5783:22-5785:20 (Przywara).



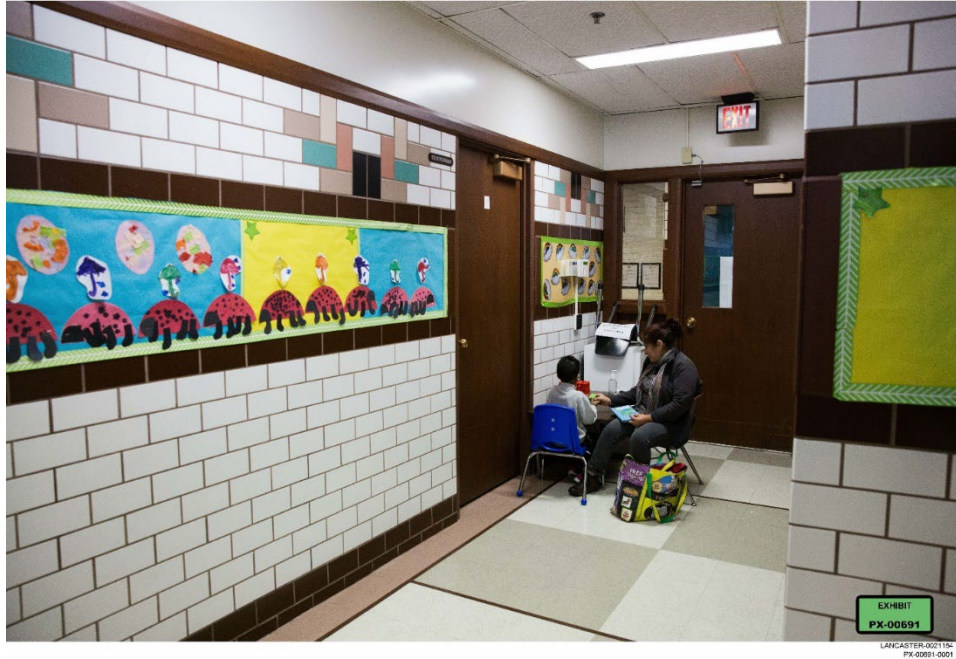
PX-614.



PX-616.

784. Similarly, at Carter MacRae and Hamilton Elementary Schools, hallway space had to be converted into an area for instruction. *See* Tr. 5789:17-

5792:15 (Przywara); PX-427; PX-691; PX-714; PX-730; Tr. 5798:11-5801:2
(Przywara).



PX-691.



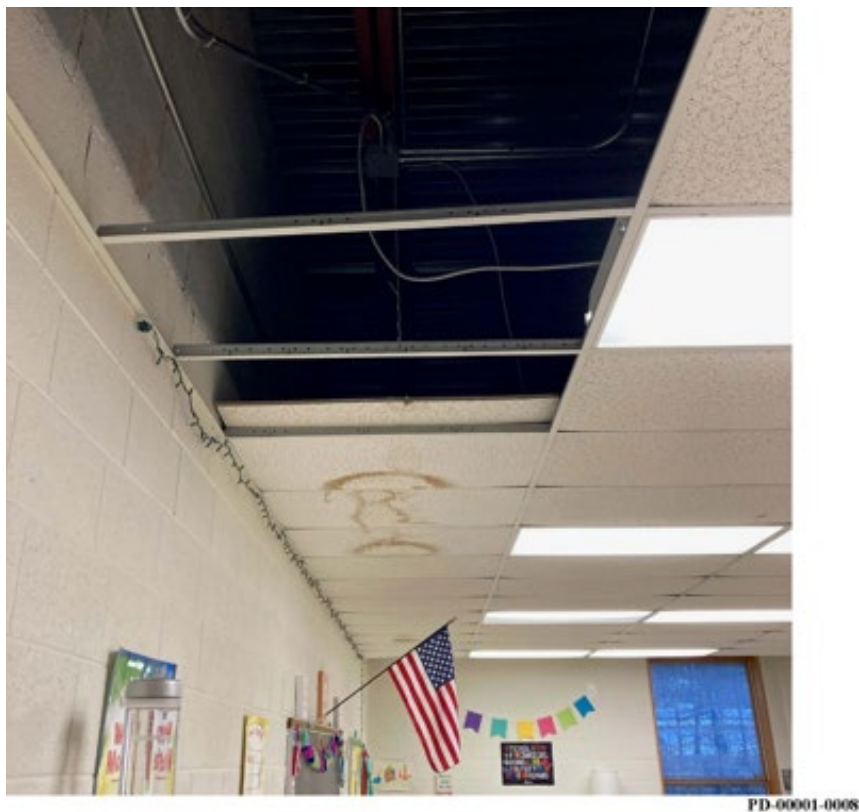
PX-427.

785. Many of Lancaster’s older buildings, including Hamilton, experience recurring roof leaks, requiring staff to station trashcans throughout classrooms to collect the dripping water until repairs can be made. *See* Tr. 5796:5-5798:8 (Przywara); PX-402, PX-405. Due to overcrowding, students can’t be relocated, “[s]o classes are still going on in there while there’s . . . water dripping down.” Tr. 5797:13-5798:8 (Przywara).

786. Some school buildings in the district do not have full, working air-conditioning, so every time the temperature rises above 90 degrees in the classroom, the district has to close the schools because students and staff have fainted from the heat. Tr. 5145:20-5148:20 (Rau).

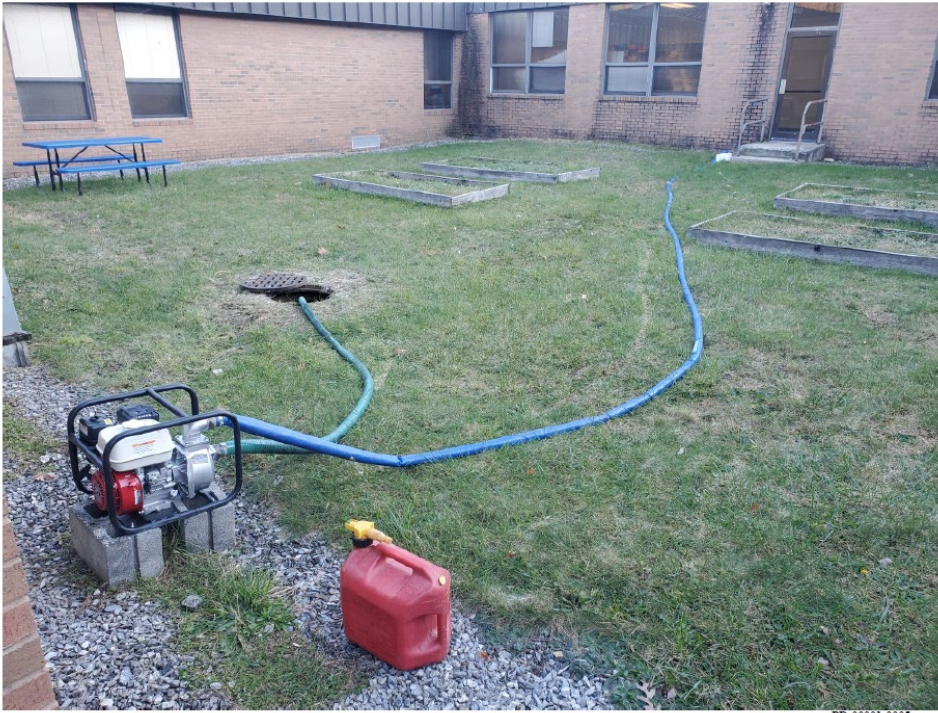
iii. Panther Valley School District

787. At trial, Superintendent McAndrew described Panther Valley’s elementary school as “in rough shape. It’s awful. It’s awful that our kids are in that kind of an environment.” Tr. 448:18-23 (McAndrew). The building is “very old,” with cracks in the cement and an outdated roof that needs to be replaced and constantly leaks, creating water damage. Tr. 445:10-450:8 (McAndrew); Tr. 849:15-22 (Yuricheck).



PD-1-8.

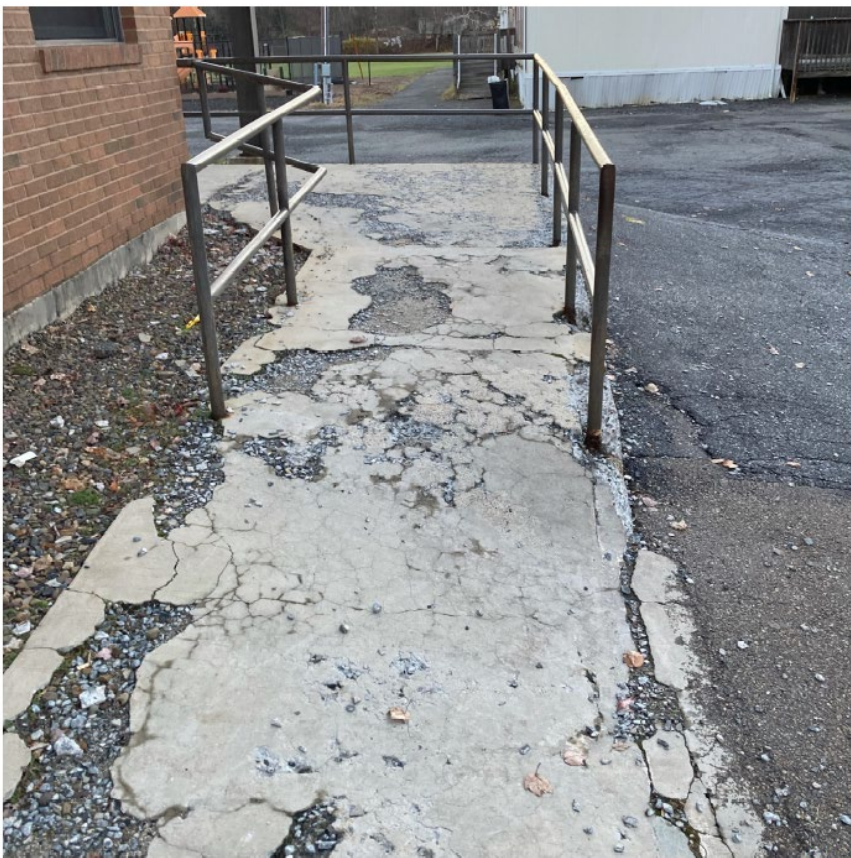
788. In fact, Panther Valley teacher Tara Yuricheck testified that the roof has leaked since she first taught first grade in that building twelve years ago: “in my first grade classroom you could see the sky. There was a hole in the ceiling in my room that you could literally look up and see the sky.” Tr. 849:7-10 (Yuricheck). When it rains significantly, someone at the elementary school has to flip a switch for a pump in the courtyard to prevent flooding of the school. Tr. 248:8-18 (McAndrew); Tr. 448:9-17 (McAndrew).



PD-00001-0005

PD-1-5.

789. The accessible ramp for people with disabilities is not accessible because there are cracks in the cement. Tr. 446:10-16 (McAndrew).



PD-00001-0009

PD-1-9.

790. Dirt, algae, and other unpleasant material has eroded the outside of the elementary school building. Tr. 791:2-17 (McAndrew).



PD-00001-0007

PD1-7.

791. Outside the elementary school, there are four or five trailers that used to house a portion of the intermediate school students. The portable trailers are so dilapidated that they are structurally unsound and falling apart, but Panther Valley does not have the funding to remove them, so they remain on the property. Tr. 445:18-446:3 (McAndrew).



PD-1-10.

792. The elementary school suffers from a wide array of other deficiencies. There is no air conditioning in the building, so it is very hot in the summer and at the beginning of the school year. Tr. 274:21-275:4 (McAndrew); Tr. 447:18-21 (McAndrew). In the winter, there are four or five classrooms that are so cold that Panther Valley decided to end the dress code to allow students to wear hooded sweatshirts. Tr. 447:22-448:8 (McAndrew). Seventy-five kindergarteners have to use one toilet and two urinals. Tr. 248:1-3 (McAndrew).

793. Panther Valley's Junior Senior High School is also in poor condition. The roof leaks in this building too, and the district is repeatedly forced to proactively search for mold. Tr. 248:5-19 (McAndrew); Tr. 788:21-789:3

(McAndrew). There are cracked or missing tiles along the walls. Tr. 449:4-6

(McAndrew). Half of the bleachers in gym had to be removed because they were unsafe, and there are no working showers for student athletes to use. Tr. 449:12-20 (McAndrew).

794. Superintendent McAndrew testified that the district does not have any plans to fix these facility issues, because “[t]here’s just no money to do that.” Tr. 450:9-23 (McAndrew).

iv. Shenandoah Valley School District

795. Shenandoah’s building was built in the 1980s, with an addition that was constructed around 2012. Tr. 3508:8-19 (Waite); Tr. 3721:18-3722:3 (Waite); 3724:21-24 (Waite). The two boilers in the building — the useful life of which are 25 years — are 40 years old and need to be replaced. Tr. 3509:20-3510:16 (Waite). Until the district received COVID funds, the building’s only air conditioning was outdated window units. Tr. 3509:1-13 (Waite).

v. Wilkes-Barre Area School District

796. In 2014, it became clear that the condition of Wilkes-Barre’s three high school buildings, James M. Coughlin, EL Meyers, and GAR, “was not suitable for any student trying to learn.” Tr. 10693:18-10695:9 (Costello).

797. Dr. Costello described the buildings as “functionally obsolete.” Tr. 10670:9-21 (Costello). At both Meyers and Coughlin High School, masonry was

falling from the parapets due to the steel delaminating. Tr. 10671:1-10674:23 (Costello); 10696:17-10697:18 (Costello).

798. At both Coughlin and Meyers High School, fencing was placed around the perimeter of the buildings to protect students and pedestrians from falling masonry. Tr. 10671:1-10674:23 (Costello); Tr. 10696:15-23 (Costello); 10697:1-6 (Costello).



PX-3497.

799. The district also had to install safety netting and blue shed-like structures across all the entrances of Meyers “to protect our students from falling

debris” as they walked through the area. Tr. 10700:3-24; 10708:23-10710:1
(Costello).



PX-3498.



PX-3537.

800. The foundation of Meyers had shifted approximately 12 inches, and stress cracks were starting to appear, threatening the stability of the building. Tr. 10702:1-24 (Costello); Tr. 10716:10-10717:24 (Costello); PX-3360.

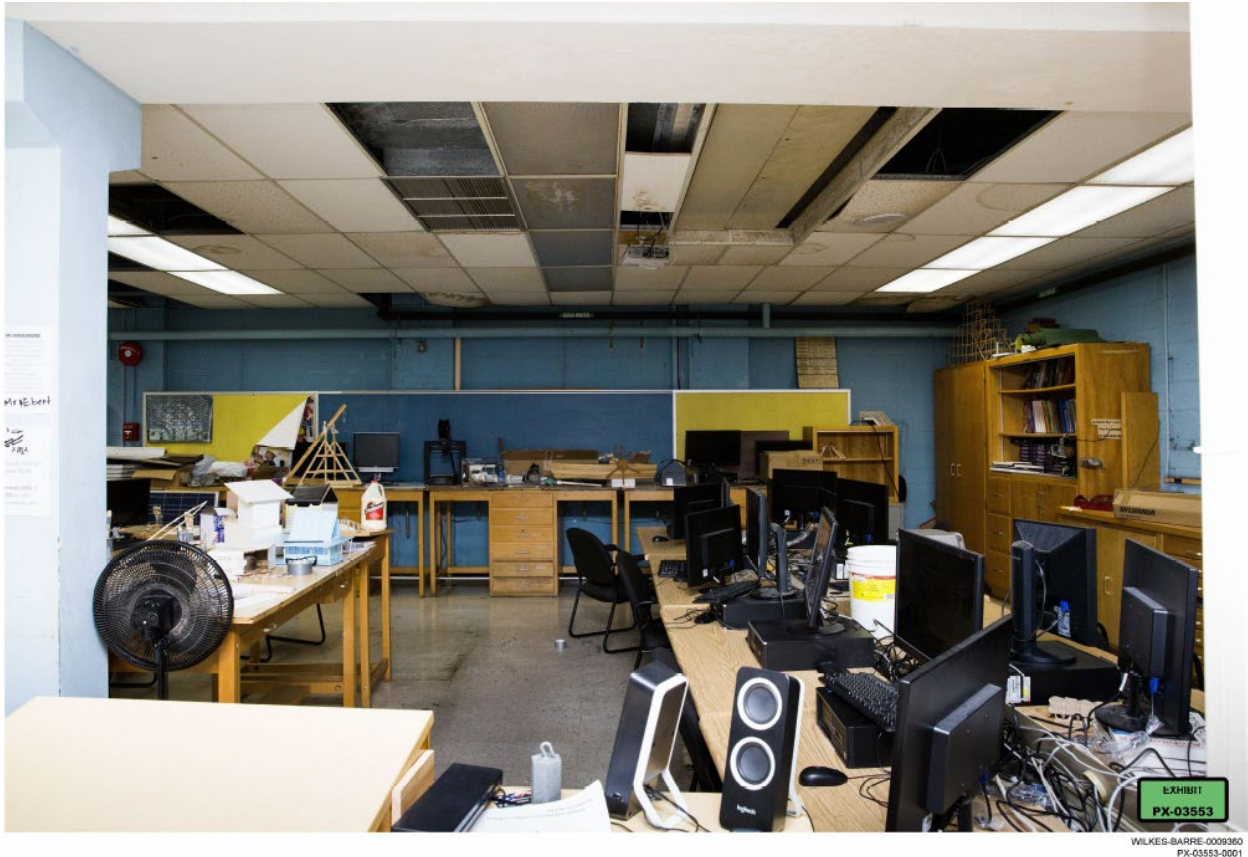


PX-3517.



PX-3562.

801. And although Meyers had a STEM Academy, it was located in the basement, where leaks in the ceiling had caused water damage. Tr. 10713:17-10715:10 (Costello).



PX-3553.

802. Petitioner Michael Horvath testified about his first-hand experience as a student at Meyers. He described the building façade chipping off, the roof open with cracks in the ceilings, rodents and roaches, bathrooms in such disrepair that he avoided using them, no working water fountains, and a cafeteria that felt dirty all the time. Tr. 10034:21-10036:2 (Horvath). He recalled sweat dripping down his hair onto his paper on hot days, because there was no air conditioning in his classroom, and explained that in the winter, the heat was so poorly regulated that some classrooms were 80 degrees. Tr. 10036:3-20 (Horvath).

803. Dr. Costello testified that according to a feasibility study drafted under the supervision of the district, it would have cost Wilkes-Barre over \$240 million to fix its three high schools, and over \$280 million to bring all of its buildings up to code. Tr. 10725:19-10726:24 (Costello); PX-3360-16. By contrast, the district was told that a new high school would cost \$89 million and reduce operating costs moving forward. Tr. 10693:18-10695:9 (Costello).

804. Ultimately, Wilkes-Barre decided to close two of its high school buildings, and then consolidate its high school students into a single new building. Tr. 10693:18-10695:9 (Costello). To pay for the new school, the district had to take out a \$120 million bond, increasing the district's debt service from \$4 million to \$8.5 million and forcing Wilkes-Barre to furlough staff and eliminate positions once teachers retired, all on top of the earlier cuts the district instituted because of its financial difficulties in 2016. Tr. 10729:16-10732:2 (Costello). The bond is for 40 years because the district could not afford a more traditional 30-year bond. Tr. 10729:16-10732:2 (Costello).

805. The new high school does not solve all of Wilkes-Barre's facility issues, because most of its other schools all have serious inadequacies. *See, e.g.,* Tr. 10801:13-10802:24 (Costello)(discussing Flood Elementary); Tr. 10803:23-10806:18 (Costello)(discussing Heights Elementary); PX-3360.

806. For example, GAR, which is still being utilized as a middle school, has extensive water damage due to leaks, with tiles and plaster that need to be replaced. Tr. 10815:21-10819:7 (Costello). In 2014, the cost to renovate GAR was projected to be \$51.5 million. Tr. 10815:21-10819:7 (Costello).

807. GAR also has a deteriorating façade that would cost approximately \$11 million to fix. Tr. 10996:16-10997:17 (Costello). Because the district cannot afford to make these repairs, it has installed another protective fence as a “band-aid” solution to keep the façade from being an active safety hazard. Tr. 10996:16-10998:9 (Costello).



PX-3814.

808. Settlement cracks like the ones that rendered Meyers High School unsuitable for use have begun to appear at Kistler Elementary, which is located across the street from the now shut-down high school. Tr. 10809:1-24 (Costello).



PX-3729.

809. Kistler also suffers from inadequate classroom space, requiring the district to split rooms using makeshift dividers like coat racks and whiteboards, which is “not conducive for an educational setting,” and forcing the district to convert spaces like closets into instructional spaces. Tr. 10810:15-10812:18 (Costello). The proposed estimated cost of renovating Kistler in 2014-15 was \$25 million. 10814:17-22 (Costello); PX-3360-16.



PX-3746.



PX-3756.

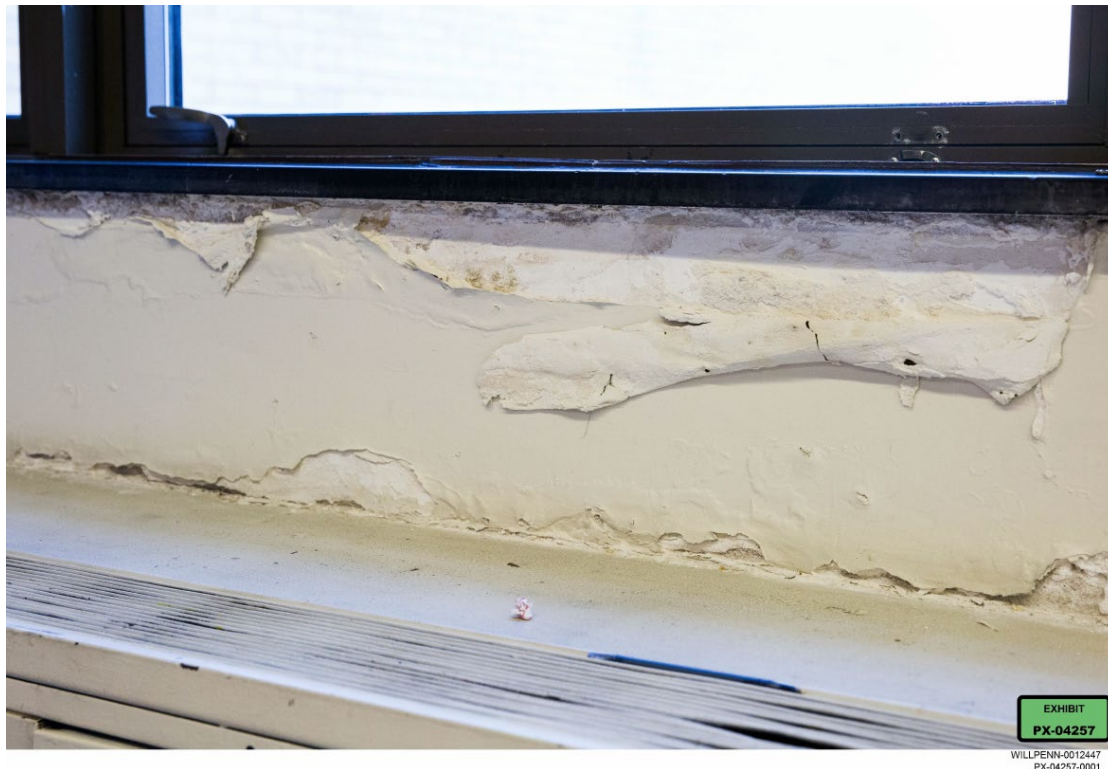
vi. William Penn School District

810. William Penn’s facilities were described by district leaders as being “in terrible shape” and “deplorable.” Tr. 6990:19-24 (Harbert); Tr. 7434:18-22 (Becoats). Many of the district’s buildings are aging — the youngest building was built in the 1970s and the oldest is almost 100 years old — with heating and ventilation systems that frequently malfunction and need repair. Tr. 6991:9-6992:8 (Harbert); Tr. 7013:16-7014:8 (Harbert). Athletic Director Rap Curry, who graduated from William Penn’s Penn Wood High School in 1990, testified that “[n]ot much has changed” at the high school building in the time since he was a student, and that many of the facility conditions probably go back to the 1960s. Tr. 6530:16-23 (Curry).

811. Many of William Penn’s buildings suffer from water damage because of roof leaks, masonry disrepair, and other recurring issues that cause water infiltration. Throughout the district, there is water damage to ceilings, walls, plaster, paint, and light fixtures, some of which has developed into mold. *See* Tr. 6995:20-6956:8 (Harbert); Tr. 6998:2-15 (Harbert); PX-4211; PX-4213; Tr. 7004:24-7007:2 (Harbert); PX-4258; Tr. 7009:23-7010:21 (Harbert); Tr. 7011:17-7012:15 (Harbert); PX-4296.

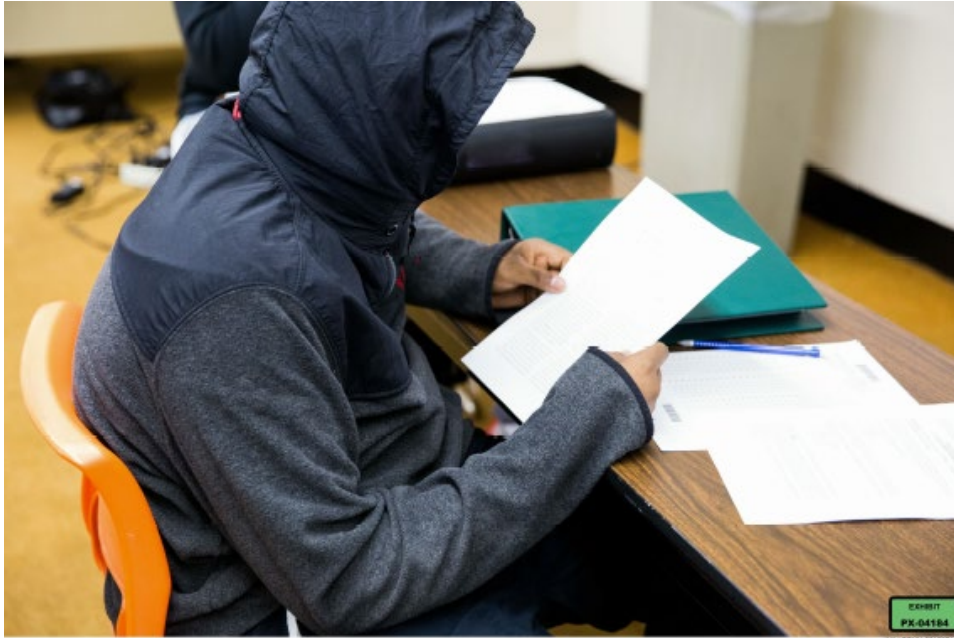


PX-4187.



PX-4257.

812. The heating systems in the district's classrooms are not up to par and do not work appropriately every day. There are times when children and teachers wear jackets or blankets inside of class because it is so cold, making it difficult for students to learn. Tr. 6992:21-24 (Harbert).



PX-4184.

813. The Penn Wood Cypress auditorium does not have functioning heat and as a result, it is very cold. Tr. 6998:16-6999:6; PX-4210; *see also* Tr. 6997:10-23; PX-4212.

814. Multiple buildings do not have consistently functioning air conditioning or ventilation systems, or any air conditioning at all. Tr. 6991:9-16 (Harbert); Tr. 7437:13-7438:9 (Becoats). During August, September, and June, when the weather becomes hot, some rooms get over 100 degrees, making it

impossible for students to stay in those classrooms and learn. Tr. 6992:24-6993:7 (Harbert). Other classrooms have windows, but those windows are broken, making it impossible to open them and get air from the outside. Tr. 7001:9-24 (Harbert). The district's ventilation challenges not only result in difficult learning conditions, but in the wake of the pandemic, create a health hazard as well. Tr. 7001:7-7002:19 (Harbert); PX-4218.

815. The district's facilities also suffer from electrical challenges. In one classroom, for example, a teacher had to run cables and wires across a doorway in order to access the few electrical outlets available to power the technology his students need. Tr. 7000:5-7001:6 (Harbert); PX-4217. In another building, exposed wires for internet and telephone are taped together and hung along a stairwell used by students to connect one part of the building to another. Tr. 7012:19-7013:15 (Harbert); PX-4297.

816. The District's facilities are also too small to support all its students and the administration frequently struggles to find adequate instructional spaces to teach its students. Former superintendent Ms. Harbert testified that she had a kindergarten classroom of 28 kids in a former teacher's lounge. Tr. 6992:9-20 (Harbert). In another elementary school, art and music instruction is held in a basement room that has an opening to a sump pump, a large drainage pipe running

through it, and thick bundles of wires snaking across the walls. Tr. 7015:14-7017:9 (Harbert); PX-4415; PX-4417.



PX-4416.

817. The size of kindergarten teacher Nicole Miller’s classroom, and the large number of students, affects the type of instruction that she can provide: instead of having “full immersion” learning, such as a “literacy center” for reading, Miller “put[s] books in a bin and bring[s] it to a table.” Tr. 6670:13-6671:5 (Miller).

818. William Penn’s athletic facilities are also severely deficient. William Penn doesn’t have a “legitimate track; so [it] cannot [host] any home meets.” Tr. 6581:16-6582:11 (Curry); Tr. 6587:16-20 (Curry); PX-4440. The track they do have does not meet the standards of the Pennsylvania Interscholastic Athletic

Association, the sports association in which public districts and Catholic schools participate, which sets the rules and standards for inter-school sports competitions. Tr. 6602:23-6603:3 (Curry); Tr. 6573:10-24 (Curry). For the indoor track season, they “practice . . . in the hallway”. Tr. 6587:16-23 (Curry).

819. William Penn has worked hard to give their student athletes some of the experiences other, better resourced districts take for granted. For example, the district rented stadium lights to provide their football team with the opportunity to participate in Friday night football. However, even their creative attempts to put their students on par with others can be thwarted by a simple rainstorm, which easily floods out the District’s grass football field, making it unplayable. Tr. 7029:19-7037:15 (Harbert); Tr. 6585:2-14 (Curry); Tr. 6599:17-6601:1 (Curry).

820. William Penn’s bleachers at the football field in Lansdowne are so dilapidated that they have “been condemned.” As a result, they “cannot have fans sit in [the] stands” and “cannot play a varsity game . . . there,” rendering the field unusable for anything except practice. Tr. 6586:23-6587:10 (Curry).



PX-4437.

821. William Penn cannot use the long-jump pit at the Lansdowne high school field because it is not long enough or deep enough, and due to drainage issues at the field there is no safe way to keep it active. Tr. 6592:5-15 (Curry); *see also* PX-4440. Without the jump pit, the district resorts to “[c]reative planning” in order to allow its student athletes to practice. Tr. 6603:7-9 (Curry). This includes “simulat[ing]” the motions without equipment as well as arriving at track meets early so that the student athletes can practice on the equipment that other districts have but William Penn does not — which include those for the high jump, pole vault, and shot put. Tr. 6603:9-6604:12 (Curry).

822. To give students an opportunity to use a full weight room, William Penn placed cast-off weights an Ohio school was planning to throw away — which

William Penn spray-painted to cover up rust — in a defunct shower room with no air circulation. Tr. 6616:11-6619:3 (Curry); *see also* PX-4431. Because of those ventilation issues during COVID, and because of the poor state of the equipment, William Penn was ultimately forced to stop use of that weight room. Tr. 6618:13-6619:6 (Curry).

823. To remedy these inadequate facilities, William Penn consulted with KCBA Architects in 2021 to perform a district-wide facilities study to determine the costs of fixing the facilities in the district. Tr. 7438:10-7439:22 (Becoats); PX-4769. The study found that the estimated cost of improvements for the district would be over \$149.9 million. PX-4789-36. By comparison, the district's total annual expenditures for the 2020 school year were \$101 million. PX-4651-19. Indeed, the expected repairs to air filtration and HVAC alone are expected to cost roughly \$62 million. Tr. 7450:14-22 (Becoats); PX-4789-35.

824. The district intends to use ESSER funds to remedy some of the needs, but that will only cover about \$16 million of the necessary repairs. Tr. 7450:23-7451:3 (Becoats).

vii. School District of Philadelphia

825. The School District of Philadelphia has 216 operating schools and a total of 300 facilities, all of which have an average age of 70 years old. Tr.

7709:16-23 (Hite). Forty-two of the facilities are over 100 years old. Tr. 7797:22-24 (Hite).

826. According to a facilities assessment commissioned by the district, as of January 2017 there were \$4.5 billion in deferred maintenance costs. Tr. 7832:18-7836:13 (Hite). This included 85 facilities that needed major renovations and 21 more facilities — of which 13 were schools — that were in such disrepair that they needed to be closed or replaced. Tr. 7832:18-7836:13 (Hite). Of these 13 schools, only one has since been closed and two others are scheduled to be replaced, but are currently still operating. Tr. 7832:18-7836:13 (Hite). The two oldest schools in this group were built in 1898. PX-3055; Tr. 7832:18-7836:13 (Hite).

827. It is estimated that the cost today of bringing all district buildings up to code and modernizing spaces is close to \$4.9 billion. Tr. 10238:5-15 (Monson). On top of that amount, the district's annual required repair costs are estimated to be approximately \$333 million, but Philadelphia can only afford to spend less than a third of that annual expense. Tr. 10234:9-14 (Monson).

828. This has resulted in difficult decisions to prioritize classroom learning over building repairs:

If I don't do that roof, it means I can afford to keep teachers in the school or certain resources or purchase more computers or whatever the — it — you're constantly making choices and trying to get one more year

out of that roof, trying to get one more year out of whatever. Eventually that deferred maintenance it going to catch up to you, especially across a broad array of systems.

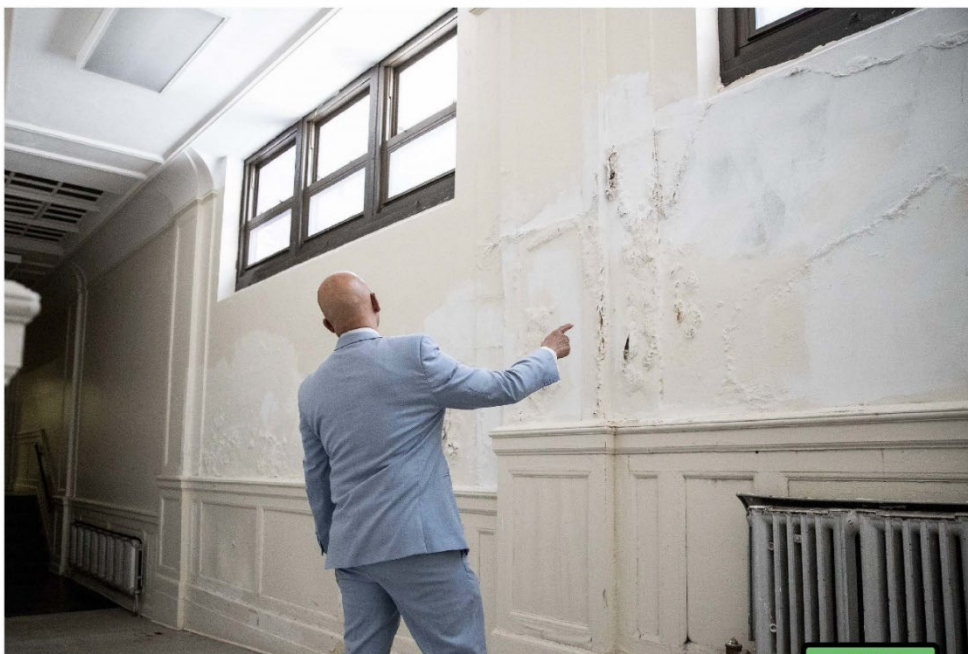
Tr. 10228:24-10229:8 (Monson).

829. Leaks and water intrusion are a common condition among the district's aging buildings. A 2019 site visit to Randolph Technical High School showed that a leak in the roof had caused water to pool on the floor of a student lab space that housed electrical equipment and welding and vending machine repair equipment, rendering the space unusable. Tr. 7808:8-7813:6 (Hite); PX-774; PX-776.



PX-777.

830. The poor conditions in Philadelphia's buildings can also pose serious health risks to students and staff and serious environmental risks to the community at large, but the district does not have sufficient environmental staff to address them. Tr. 10226:8-15 (Monson); Tr. 10226:23-10227:24 (Monson); Tr. 7816:11-14 (Hite). For example, a 2018 site visit to Roosevelt School revealed that water intrusion from the windows had caused lead paint to peel off the walls, plaster to fall, and the floor to rust. Tr. 7800:19-7802:14 (Hite); Tr. 7804:4-13 (Hite); PX-770.



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PX-772.

831. Although the Roosevelt site was remediated, there are many other district schools, approximately 75-80%, or over 100 schools, that require remediation. Tr. 7800:19-7803:24 (Hite).

832. Mold is also a serious issue in a number of Philadelphia schools that has required and continues to require remediation. Tr. 7806:6-7808:5 (Hite).

833. Petitioner S.A., a former student, described the facilities at Mastbaum High School in Philadelphia. He explained that there was mold in the lunchroom, leaks in the roof, and the paint was old and chipping off the walls. S.A. Dep. Tr. 28:11-29:13. The water in the water fountains was “super white” and not drinkable. S.A. Dep. Tr. 30:21-25. In cold months, the heater blew out cold air. S.A. Dep. Tr. 70:8-18. In warmer months, not all classes had air conditioning, triggering S.A.’s asthma, giving him chest pains, and making it hard to breathe. S.A. Dep. Tr. 29:24-25; S.A. Dep. Tr. 69:20-70:7.

834. Given their age, it is likely 70% or more of Philadelphia’s buildings contain asbestos. Tr. 7814:16-7815:16 (Hite). In the last three years alone, the district has had to close 12 schools due to concerns about asbestos. Tr. 7814:24-7815:6 (Hite). Philadelphia also frequently has to close portions of schools when asbestos-containing material is identified, to investigate and determine how to remove, abate, or repair the material. Tr. 7815:7-7815:16 (Hite).

9. Extracurricular activities

a. Extracurriculars are part of a well-rounded education.

835. There is universal consensus that sports and extracurricular activities are important parts of a thorough, well-rounded education; as Respondent Corman has admitted, they “play an essential role in children’s mental health and well-being.” PX-3124. PDE recognizes they help to “develop leadership skills, collaboration skills, persistence skills, and resiliency.” Tr. 1901:12-1902:5 (Stem); *see also* Tr. 6570:9-6571:13 (Curry); Tr. 288:10-289:16 (McAndrew); Tr. 442:3-24 (McAndrew); Tr. 7027:22-7028:10 (Harbert); Tr. 10530:20-10533:4 (Hacker).

836. As Wilkes-Barre superintendent Mr. Costello explained: “I believe soft skills are very important for 21st century learners. They need to be able to collaborate, work as a team. They need to know how to communicate with each other, lead. And I believe sports and many of our extracurricular activities show that.” Tr. 10835:15-22 (Costello). Similarly, Lancaster superintendent Dr. Rau testified that her students who engage in athletics “learn so much more about life and peers and leadership and all of those good skills that kids need when they graduate high school and go to college or have a job.” Tr. 5142:3-12 (Rau).

837. Extracurricular programming fosters a sense of school community and motivates students to get excited about attending school and engaging with their peers. As Superintendent Mr. McAndrew testified: “[Students] have to — they

have to find a purpose in life, and some of those clubs offer them a purpose — why they want to go to school, why they want to be with their friends. You know, there are lifelong friends you want to develop inside of school, and those clubs give them that opportunity.” Tr. 442:14-20 (McAndrew). Similarly, athletics can be a way to get students “excited about being [at school] and wanting to take their education more seriously.” Tr. 6542:23-6543:9 (Curry).

838. Extracurricular activities can have a positive impact on students’ academic performance. Rap Curry testified that student athletes typically have a better GPA during the seasons they played sports and, in his experience, students who play sports have a sense of “accountability” concerning their academics. Tr. 6571:14-6573:9 (Curry); *see also* Tr. 437:4-438:11 (McAndrew); Tr. 854:18-855:2 (Yuricheck). Participating in extracurriculars also gives students access to more school staff, who can become an additional resource and provide “more chances [to help the students] . . . grow and better themselves.” Tr. 6539:14-6540:17 (Curry).

839. Developing a skill or a talent outside of the classroom can also be a path to postsecondary opportunities for students. Indeed, Lancaster intentionally decided to maintain their athletics program despite budget difficulties because it recognizes that athletics are a key opportunity for many students to receive a college scholarship. Tr. 5141:2-5142:2 (Rau). As Rap Curry explained, when the

“median income is . . . less than \$34,000, it’s hard to think about paying for school that’s \$50,000,” and an athletic scholarship can provide that opportunity. Tr. 6569:2-6570:8 (Curry).

840. As Dr. Rau explained, there is also an important fairness component to maintaining extracurricular programming, especially for students living in poverty: because it is not “equitable that the poorest kids who already don’t get enough resources, once again, have something taken away from them.” Tr. 5141:16-18 (Rau).

b. Petitioners and Philadelphia are unable to provide students with adequate extracurricular opportunities.

841. Several of the districts testified that they struggle to provide their students with adequate extracurricular opportunities as a result of inadequate funding.

842. Superintendent Waite testified that Shenandoah Valley’s extracurricular options are “not enough to provide [students] a well-rounded education, to give them the experience and exposure to the many opportunities they could have and the many different types of skills.” Tr. 3481:21-3482:7 (Waite). Only three of the extracurricular activities — drama, student council, and band — are non-athletic. Tr. 3478:18-3482:7 (Waite). The district can only offer a few sports, including six in the fall, one in the winter, and three in the spring. Some

of these activities are run through a cooperation agreement in order to save the costs, which requires students to secure their own transportation to practices. Tr. 3478:18-3480:22 (Waite).

843. Panther Valley had to cut several sports, such as wrestling, swimming, golf, and cross-country in order to preserve its budget. Tr. 283:11-22 (McAndrew). Panther Valley also had to cut its JROTC program due to funding deficiencies. Tr. 287:20-288:7 (McAndrew). Superintendent McAndrew talked about the “trickle down” effect of cutting programs like JROTC; cutting the program not only strangled a potential source of college and career opportunities, but also ended an opportunity for students to “learn[] leadership skills.” Tr. 438:12-439:15 (McAndrew). Panther Valley has also had to cut its engineering club, and it can only offer a Future Business Leaders of America club program because students pay fees to participate. Tr. 441:11-442:24 (McAndrew).

844. William Penn has also struggled to maintain extracurricular activities, and has had to “cut extracurricular opportunities” along with programs to help students with academics because of a lack of resources — including, most fundamentally, resources to simply ensure their children are able to arrive home safely after after-school activities. Tr. 7026:8-7027:21 (Harbert).

845. William Penn does offer a limited athletic program, but it is hindered by a lack of resources, including facilities, equipment, and transportation. As Rap

Curry described, “we’re working from a place that’s already initially broken,” which forces student athletes to create workarounds, “penny-pinch,” and make do with inadequate alternatives in order to train and compete. Tr. 6549:14-6551:15 (Curry); *see also* Section IX(B)(8). A lack of funds also restricts the diversity of sports the district can provide. In the last few years, because of a lack of funds, the district eliminated its entire freshman sports program. Tr. 6567:10-6568:3 (Curry). And although offering rowing would help equalize access to athletic scholarships for female athletes, this is not an option given the district’s financial constraints. Tr. 6578:1-24 (Curry).

10. Technology

a. Technology is integral to providing a twenty-first century education.

846. Technology is an increasingly “integral part of the learning process” for Pennsylvania’s students. Tr. 7430:17 (Becoats). As William Penn superintendent Becoats explained, “it’s not an add-on” — to provide an education in the twenty-first century, “[y]ou have to have technology.” Tr. 7430:17-22 (Becoats); *see also* Tr. 334:3-7 (McAndrew). Technology can be used to reinforce education, personalize learning for students utilizing software, allow students to learn how to conduct research, and play a critical role in ensuring access to learning. Tr. 8351:5-24 (Noguera).

847. As Springfield Township superintendent Dr. Hacker explained, “for years now, having adequate technology for student learning has been a critical need in school districts.” Tr. 10506:16-18 (Hacker). In today’s world, textbooks are being replaced by computers. Tr. 443:22-24 (McAndrew); *see also* Tr. 7432: 2-3 (Becoats). And technology has become even more vital to education in light of the COVID-19 pandemic. *See infra* at Section XI.

848. As stated in its Master Plan for Basic Education, the State Board believes that “modern teaching relies on modern technology.” PX-35-12. Cognizant of “differences in infrastructure and capabilities in school districts across the state” that “will lead to opportunity gaps for some students that will have lasting ramifications for the individuals and their communities,” the State Board has urged PDE to “monitor unequal investments in technology and infrastructure that could widen the college career readiness gap for some students.” PX-35-12.

849. PDE has also taken the position that “meaningful access to cutting-edge technology is a prerequisite for success in today’s classroom and in a 21st century economy.” PX-1830-127. Accordingly, in its ESSA Plan, PDE has committed funding to purchasing “technology equipment and hand-held devices to improve student academic achievement and increase digital literacy and enhance effective use of technology.” PX-1830-149. PDE also recognizes that

“Pennsylvania’s economy will be driven by STEM skills, including computer science, coding and software development. These skills require technology and tools to make instruction meaningful.” PX-1830-127.

850. “Effective technology” for students includes not just access to devices such as Chromebooks or iPads for every student — known as “one-to-one” technology — but also computers, WiFi, software and digital learning resources, classroom technology such as smartboards, and training for teachers and students on how to use the technology. Tr. 443:3-445:2 (McAndrew); Tr. 8357:10-22 (Noguera). It also includes enough funding to maintain and update this technology. Tr. 7431:2-5; 8-7433:15 (Becoats); Tr. 369:11-22 (McAndrew); Tr. 7859:14-7860:9 (Hite).

b. Petitioners and Philadelphia do not have the resources to provide their students with ongoing, adequate access to technology.

851. All of the Petitioner Districts, PARSS district Otto-Eldred, and Philadelphia testified that prior to the COVID-19 pandemic, they lacked the technology necessary to teach their students critical twenty-first century skills. *See, e.g.*, Tr. 286:10-20 (McAndrew); Tr. 5197:1-21 (Rau); Tr. 10790:6-8 (Costello); Tr. 3466:5-20 (Waite); Tr. 2768:14-23 (Arcurio). Petitioners’ expert Dr. Noguera described significant gaps in internet access in rural and urban high poverty

communities across Pennsylvania, which is a “major barrier” to student learning.

Tr. 8362:13-8363:6 (Noguera); Tr. 8356:1-3 (Noguera).

852. Superintendent Waite testified that prior to the COVID-19 pandemic, Shenandoah Valley had only approximately 300 Chromebooks for a district of 1100 students. Tr. 3466:5-20 (Waite). Greater Johnstown was also “far from a one-to-one district,” meaning it could not provide a Chromebook or other device to every student. Tr. 2769:22-23 (Arcurio). At the time, Greater Johnstown had a set of Chromebook carts, which were shared between classrooms. Tr. 2768:17-2769:20 (Arcurio). Because Greater Johnstown did not have enough Chromebooks for students to use throughout the day, maintenance staff would load the Chromebook carts onto box trucks in order to transport them between the middle and high school building. Tr. 2768:10-21 (Arcurio).

853. Until very recently, Panther Valley did not have enough computers for all students to use. Superintendent McAndrew explained, “our students only have [one-to-one] because of the pandemic.” Tr. 329:9-10 (McAndrew). Panther Valley also does not have resources to replace devices, so “down the road it’s just going to be one more hurdle” to replace 2,000 computers that were bought with COVID funds. Tr. 369:11-19 (McAndrew). Meanwhile, Panther Valley’s internet connection in the buildings is very unreliable and often does not work, which affects teachers’ abilities to teach their lessons. Tr. 443:3-444:3 (McAndrew).

Although Panther Valley received a grant to update its Wi-Fi, it has not been able to complete the update due to lack of maintenance staff. Tr. 443:8-12 (McAndrew).

854. Prior to the pandemic, William Penn was not able to provide the majority of its students with access to computers — it was typical to have only 30 Chromebooks per elementary school, sometimes 60 in bigger buildings. Tr. 7038:3-18 (Harbert). The middle school and high school had computer labs, but the computers did not always work and were only accessible to a limited number of students. Tr. 7038:19-7039:3 (Harbert).

855. Wilkes-Barre was also not a one-to-one district until it received ESSER funding as a result of the pandemic. Tr. 10794:19-10795:4 (Costello). Petitioner Michael Horvath described some of the consequences of having limited access to technology, explaining that when he arrived in college, he did not have basic computer skills. Tr. 10043:21-10046:24 (Horvath).

856. Prior to COVID, Lancaster had started to slowly roll out an initiative to provide a device to every student, starting with sixth grade in 2017, then seventh in 2018, and eighth in 2019 — but the district was not one-to-one in grades 10 through 12 prior to March of 2020. Tr. 5197:1-21 (Rau). Lancaster also only had about 15 devices per class in its elementary schools. Tr. 5197:16-19 (Rau).

857. Petitioner S.A. testified in his deposition that pre-pandemic at his Philadelphia high school, there were only a few carts of computers to share

between classes. S.A. Dep. Tr. 19:2-11; S.A. Dep. Tr. 70:23-71:19. There was no computer lab, no class for typing skills, and S.A. never learned how to use Excel. S.A. Dep. Tr. 19:16-17; S.A. Dep. Tr. 70:19-22; S.A. Dep. Tr. 71:23-25. There also were not SMART boards in every classroom. S.A. Dep. Tr. 19:21-22.

858. For rural school districts, including Otto-Eldred, technology is a consistent concern due to the constant cycle of turnover on devices and lack of infrastructure for technology. Tr. 6211:17-6212:13 (Splain). Rural districts have challenges maintaining and attracting appropriate technology staff that are competent enough to “design the network, manage the network, [and] fix devices” to maintain functionality. Tr. 6212:24-6213:5 (Splain). In years past, even something like a squirrel on a wire would disrupt Otto-Eldred’s connectivity for the entire building. Tr. 6213:10-21 (Splain).

C. By contrast, high-wealth school districts are able to provide these educational resources and meet students’ needs.

859. Springfield Township Superintendent Dr. Hacker testified that because they had sufficient funds, Springfield Township was able to provide the tools necessary to adequately educate its students — from providing appropriate supports for academic remediation; to addressing mental health issues, social and emotional needs, and behavioral problems; to having a sufficient number of administrators to support classroom instructors; to repairing and renovating its

facilities as needed — all of which put Springfield Township students on a path towards future success. Tr. 10555:17-10556:3 (Hacker).

860. Unlike the districts described above, Springfield Township had about 1 reading specialist for every 200 students and a math specialist at the elementary school level. Tr. 10462:9-19 (Hacker); Tr. 10452:12-10453:3 (Hacker).

861. While many of the Petitioner Districts, PARSS district Otto-Eldred, and Philadelphia lack administrators such as assistant principals, Springfield Township had an assistant principal in every building and two assistant principals in the high school. Tr. 10431:4-11 (Hacker). Springfield Township also had an assistant superintendent for curriculum and instruction, whose primary responsibility was to oversee the curriculum review and curriculum development process. Tr. 10492:22-10493:9 (Hacker).

862. And where students in Petitioner Districts and Philadelphia are left to learn in crumbling buildings, often without adequate heat and cooling, or appropriate learning spaces, Springfield Township was able to make repairs, renovations or updates to its facilities as needed. *See, e.g.*, Tr. 10525:13-19 (Hacker). When the levels of lead in the water at the Springfield Township Middle School were higher than they should have been, Springfield Township began remediating immediately and the problem was permanently fixed in 2 weeks. Tr. 10525:20-10527:12 (Hacker). When a parent identified the lip on the wheelchair

ramp as slightly higher than legally allowed, Springfield Township was able to immediately remediate the issue. Tr. 10534:8-10535:17 (Hacker).

X. The Commonwealth’s Own Data Makes it Clear the System is Failing.

A. As a result of inadequate levels of funding, student outcomes in Pennsylvania are unacceptable across every measure.

863. Without the resources outlined in Section IX, above, students in Petitioner Districts, PARSS district Otto-Eldred, and Philadelphia are not able to meet the standards they need to become college and career ready. And so it is no surprise that with this pervasive lack of resources comes pervasive failure across a host of student outcomes, including not only the state’s own assessment measures, but also other standardized tests, high school graduation rates, and college enrollment and completion rates.

1. A vast number of students fail state standardized assessments.

864. As set forth in Section V, Pennsylvania’s PSSA and Keystone tests are valid, reliable measures, used by the Commonwealth “to measure objectively the adequacy and efficiency of the educational programs offered by the public schools of the Commonwealth.” 24 P.S. § 2-290.1.

865. And by the Commonwealth’s own measures of achievement, a vast numbers of the students in its system are failing. For example, for each year from 2015-2019, over 300,000 Pennsylvanian children fail to reach proficiency in ELA/Literature:

Number of All Students Not Proficient or Advanced in ELA/Literature, Combined Grades 3-8 PSSA & Keystone Scores					
District	2015	2016	2017	2018	2019
Greater Johnstown SD	874 (of 1,324)	872 (of 1,299)	863 (of 1,324)	894 (of 1,333)	878 (of 1,267)
Lancaster SD	3,139 (of 4,952)	3,094 (of 5,019)	3,023 (of 5,002)	3,068 (of 5,073)	2,938 (of 4,825)
Panther Valley SD	462 (of 869)	350 (of 801)	429 (of 880)	441 (of 896)	418 (of 839)
Shenandoah Valley SD	255 (of 490)	248 (of 470)	246 (of 488)	276 (of 505)	270 (of 481)
Wilkes-Barre Area SD	2,026 (of 3,370)	1,962 (of 3,313)	2,014 (of 3,372)	1,965 (of 3,479)	2,003 (of 3,483)
William Penn SD	1,593 (of 2,495)	1,557 (of 2,412)	1,524 (of 2,434)	1,566 (of 2,485)	1,566 (of 2,434)
Philadelphia City SD	40,829 (of 61,568)	40,318 (of 61,482)	40,786 (of 61,606)	40,010 (of 62,367)	39,218 (of 61,753)
Statewide[1]	336,946 (of 879,663)	323,722 (of 868,540)	323,505 (of 869,570)	322,616 (of 871,363)	326,555 (of 867,232)
Source: Pennsylvania Department of Education Data, Ex. Nos. PX-00074, PX-01743, PX-02019 through PX-02023, PX-02056 through PX-02060					
[1] Statewide raw numbers based upon percentage data released by PDE					

PX-4852.

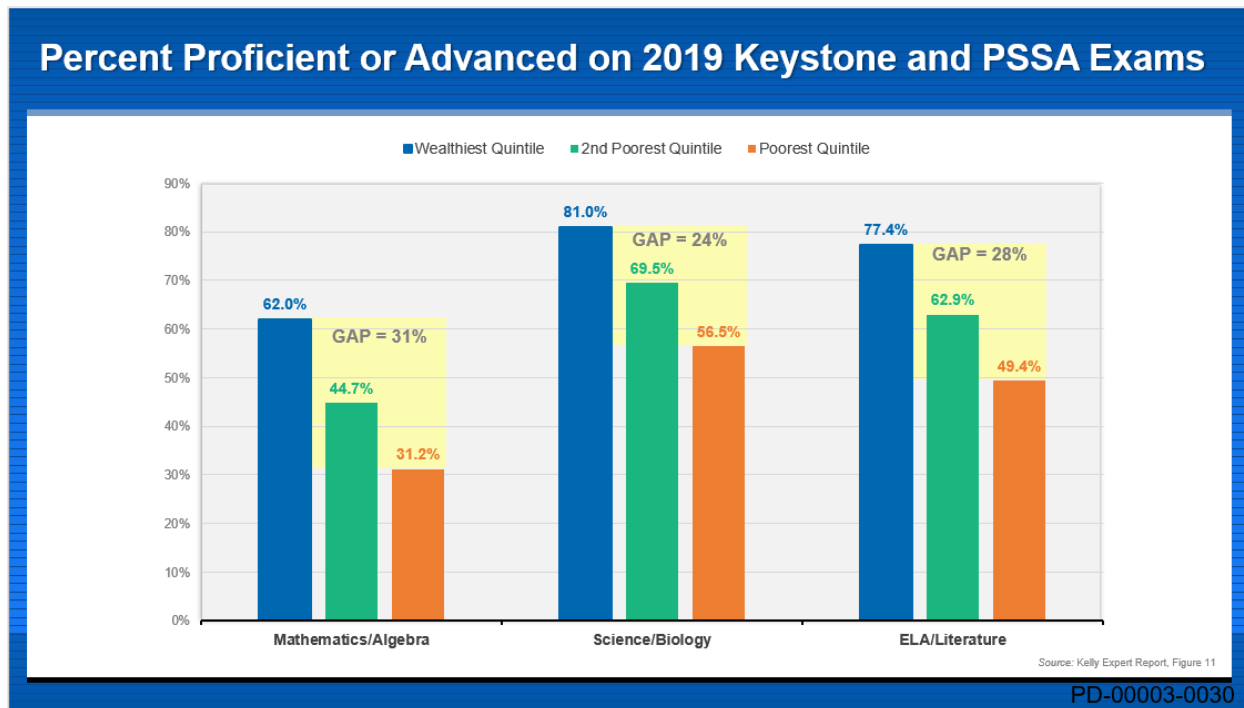
866. For math, the numbers are even higher: almost 500,000 students failed to meet minimum state math proficiency standards each year from 2015-2019:

Number of All Students Not Proficient or Advanced in Mathematics/Algebra I, Combined Grades 3-8 PSSA & Keystone Scores					
District	2015	2016	2017	2018	2019
Greater Johnstown SD	1,108 (of 1,333)	1,026 (of 1,289)	1,082 (of 1,328)	1,120 (of 1,338)	1,065 (of 1,246)
Lancaster SD	3,797 (of 4,965)	3,757 (of 5,031)	3,773 (of 5,004)	3,886 (of 5,078)	3,721 (of 4,832)
Panther Valley SD	692 (of 873)	574 (of 815)	653 (of 884)	698 (of 897)	658 (of 841)
Shenandoah Valley SD	375 (of 494)	337 (of 471)	338 (of 489)	359 (of 510)	341 (of 481)
Wilkes-Barre Area SD	2,677 (of 3,363)	2,578 (of 3,291)	2,559 (of 3,362)	2,686 (of 3,462)	2,720 (of 3,451)
William Penn SD	2,079 (of 2,509)	1,936 (of 2,422)	2,035 (of 2,436)	2,101 (of 2,493)	2,116 (of 2,465)
Philadelphia City SD	50,501 (of 62,193)	49,214 (of 61,958)	50,134 (of 62,427)	49,862 (of 63,097)	48,557 (of 62,491)
Statewide[1]	500,654 (of 880,855)	468,851 (of 869,307)	471,513 (of 870,800)	477,722 (of 872,562)	475,033 (of 867,714)
Source: Pennsylvania Department of Education Data, Ex. Nos. PX-00074, PX-01743, PX-02019 through PX-02023, PX-02056 through PX-02060					
[1] Statewide raw numbers based upon percentage data released by PDE					

PX-4853.

867. These failures are especially glaring in the state's poorest districts. As Petitioners' expert Dr. Kelly testified, the students in the poorest quintile districts are meeting state standards at a lower rate across a range of different measures than higher wealth districts able to spend more. Tr. 1249:3-13 (Kelly). For example, students in the lowest wealth districts score on average 31 percentage points lower on the mathematics and algebra portion of the state's PSSAs and Keystones than

students in the highest wealth districts, 24 percentage points lower in science and biology, and 28 percentage points lower in English language/literature.

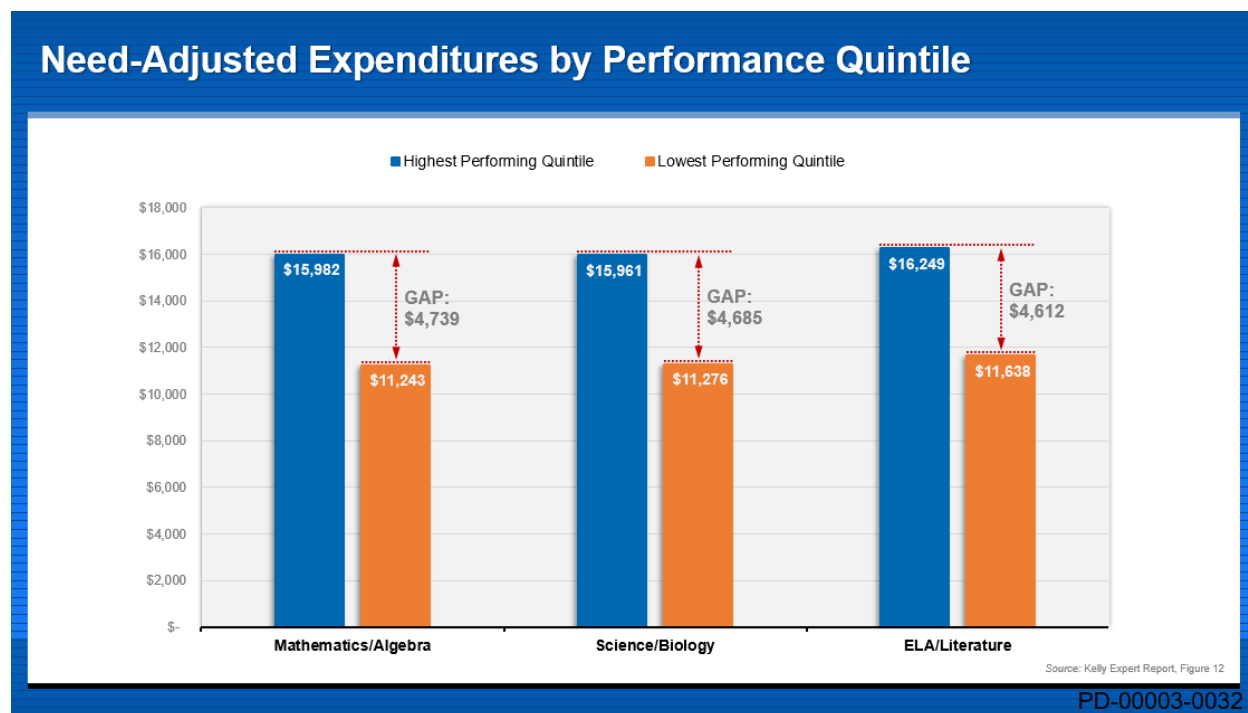


PD-3-30; *see also* PD3-69 (all five quintiles).

868. Dr. Johnson found similarly: students in Pennsylvania's most affluent districts are performing two to three grade levels above students in lower income, more disadvantaged districts. Tr. 9559:2-6 (Johnson); PD-16-11; PD-16-12.

869. A similar pattern emerges when comparing districts by performance. The quintile of districts meeting state standards at the highest average rates, in all three subject areas, are spending more in expenditures per need-adjusted pupil than those districts that are in the lowest performing quintile. For mathematics and algebra, that gap was \$4,739 in need-adjusted expenditures per pupil; in science

and biology, that gap was \$4,685; and in ELA/literature, that gap was \$4,612. Tr. 1224:4-1225:8 (Kelly).



PD-3-32.

870. These patterns — overall inadequacy, compounded by low wealth — bear out in the PSSA and Keystone results of Petitioner Districts and Philadelphia. Across all five years, across all subjects, across all seven districts, students in Petitioner Districts and Philadelphia are failing in droves, and trailing far behind even the state average, often by thirty percentage points or more. For example, from 2015-2019, Greater Johnstown’s students never achieved higher than 32% proficient or advanced on the ELA PSSA test across grades 3-8. PX-4866. They never broke 16% proficiency on the math PSSA. PX-4867. The other districts fare

just as bad or worse; in 2019 William Penn’s students in grades 3-8 scored only 11.01% proficient or advanced on the math PSSA exams:

Percentage of All Students Proficient or Advanced in ELA, Combined Grades 3-8 PSSA Scores					
District	2015	2016	2017	2018	2019
Greater Johnstown SD	30.31%	27.58%	31.98%	29.34%	27.15%
Lancaster SD	36.21%	37.12%	37.99%	38.88%	38.03%
Panther Valley SD	44.77%	53.29%	50.77%	51.07%	48.96%
Shenandoah Valley SD	45.72%	46.63%	50.61%	43.82%	43.28%
Wilkes-Barre Area SD	38.11%	38.18%	38.94%	42.07%	41.70%
William Penn SD	34.65%	33.24%	36.07%	35.22%	34.79%
Philadelphia City SD	31.69%	31.59%	32.50%	34.10%	35.03%
Statewide	60.00%	60.40%	61.17%	61.40%	60.89%
Source: Pennsylvania Department of Education Data, Ex. Nos. PX-00074, PX-01743, PX-02056 through PX02060					

PX-4866.

Percentage of All Students Proficient or Advanced in Mathematics, Combined Grades 3-8 PSSA Scores					
District	2015	2016	2017	2018	2019
Greater Johnstown SD	13.47%	15.82%	15.93%	12.46%	12.20%
Lancaster SD	22.03%	23.39%	22.75%	21.67%	20.77%
Panther Valley SD	17.37%	26.66%	23.81%	22.45%	20.99%
Shenandoah Valley SD	21.43%	26.12%	28.02%	28.60%	29.10%
Wilkes-Barre Area SD	19.80%	19.37%	21.71%	20.19%	20.07%
William Penn SD	15.58%	16.41%	13.81%	12.53%	11.01%
Philadelphia City SD	16.10%	17.47%	17.67%	18.50%	20.31%
Statewide	39.60%	42.40%	42.58%	42.00%	42.37%
Source: Pennsylvania Department of Education Data, Ex. Nos. PX-00074, PX-01743, PX-02056 through PX02060					

PX-4867.

871. Despite the fact that students can take the Keystone Exams multiple times if they fail, performance across all three tests — Literature, Biology, and Algebra I — was also extremely poor every year between 2015 and 2019:

Percentage of All Students Proficient or Advanced on the Biology Keystone by Year

District	2015	2016	2017	2018	2019
Greater Johnstown SD	24.1%	35.9%	22.2%	29.4%	24.6%
Lancaster SD	27.9%	39.0%	33.9%	33.8%	37.2%
Panther Valley SD	53.3%	58.6%	43.7%	25.3%	48.7%
Shenandoah Valley SD	45.6%	42.0%	45.4%	40.1%	33.8%
Wilkes-Barre Area SD	30.5%	34.9%	38.2%	37.9%	34.2%
William Penn SD	24.9%	30.8%	28.5%	30.8%	27.2%
Philadelphia City SD	29.3%	35.9%	31.8%	36.0%	34.8%
Statewide	59.0%	65.8%	63.4%	64.4%	63.2%

Source: Pennsylvania Department of Education Data, Ex. Nos. PX-00074, PX-01743, PX-02019 through PX-02023

PX-4869.

Percentage of All Students Proficient or Advanced on the Literature Keystone by Year

District	2015	2016	2017	2018	2019
Greater Johnstown SD	58.0%	64.5%	51.8%	56.9%	53.2%
Lancaster SD	39.9%	47.6%	52.2%	44.6%	49.3%
Panther Valley SD	65.8%	81.4%	54.9%	48.6%	63.0%
Shenandoah Valley SD	69.5%	50.7%	44.0%	53.9%	47.2%
Wilkes-Barre Area SD	50.4%	56.2%	49.2%	52.8%	48.0%
William Penn SD	46.3%	53.2%	46.7%	50.9%	43.9%
Philadelphia City SD	48.8%	55.2%	43.6%	49.0%	47.6%
Statewide	72.8%	76.8%	72.7%	72.7%	71.5%

Source: Pennsylvania Department of Education Data, Ex. Nos. PX-00074, PX-01743, PX-02019 through PX-02023

PX-4868.

Percentage of All Students Proficient or Advanced on the Algebra I Keystone by Year					
District	2015	2016	2017	2018	2019
Greater Johnstown SD	39.4%	47.0%	33.9%	42.0%	29.9%
Lancaster SD	35.7%	39.6%	39.4%	37.6%	43.5%
Panther Valley SD	50.0%	52.8%	43.0%	20.2%	29.8%
Shenandoah Valley SD	50.0%	42.0%	46.6%	35.0%	29.2%
Wilkes-Barre Area SD	24.1%	35.9%	38.7%	37.2%	29.5%
William Penn SD	27.6%	48.3%	34.3%	39.9%	41.1%
Philadelphia City SD	38.2%	42.7%	33.7%	38.5%	36.3%
Statewide	64.5%	68.2%	65.6%	65.2%	63.3%
Source: Pennsylvania Department of Education Data, Ex. Nos. PX-00074, PX-01743, PX-02019 through PX-02023					

PX-4865.

872. The gap between these test scores and the average performance of the two wealthiest quintile districts is immense.

Gap in Average Performance between Focus Districts and Districts in the Wealthiest Quintiles						
	MATHEMATICS / ALGEBRA		SCIENCE / BIOLOGY		ELA / LITERATURE	
	Gap With Wealthiest Quintile	Gap With 2 nd Wealthiest Quintile	Gap With Wealthiest Quintile	Gap With 2 nd Wealthiest Quintile	Gap With Wealthiest Quintile	Gap With 2 nd Wealthiest Quintile
William Penn SD	48%	41%	44%	39%	41%	36%
Panther Valley SD	40%	33%	22%	17%	27%	22%
Shenandoah Valley SD	33%	26%	39%	34%	33%	28%
Lancaster SD	39%	32%	36%	31%	38%	33%
Wilkes-Barre SD	41%	34%	34%	29%	35%	30%
Greater Johnstown SD	47%	40%	47%	42%	46%	41%
Philadelphia SD	40%	33%	43%	38%	41%	36%
Source: Kelly Expert Report, Table 6						

PD-00003-0031

PD-3-31.

873. Results are also unacceptably low in the Otto-Eldred School District, where large numbers of children fail to reach proficiency across grades. PX-4857.

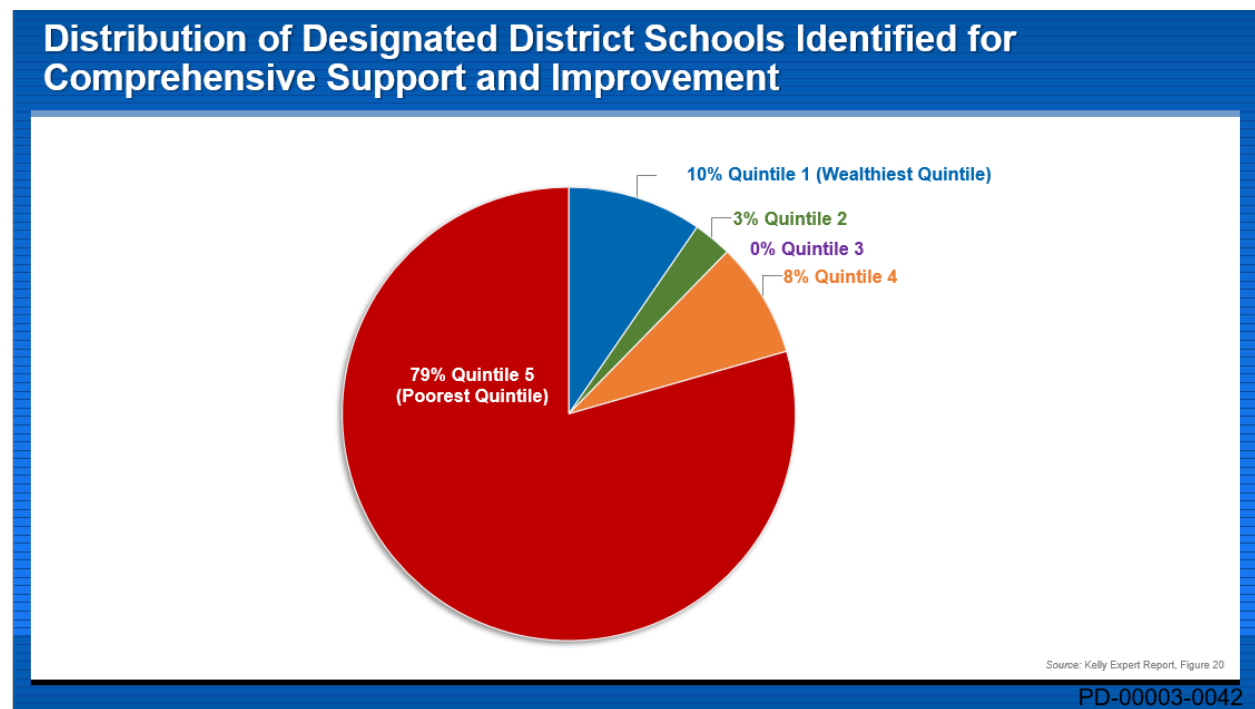
874. As a result of these significant failures, every year an overwhelming number of schools in the Petitioner Districts and Philadelphia are designated by the Commonwealth as “low achieving,” which, as discussed *supra* at Section V(D)(1), is based on their combined mathematics and reading scores on state assessments. 24 P.S. § 20-2002-B; Tr. 1675:21-1676:10 (Stem); PX-2032 (identifying “low-achieving” schools).

875. For 2020-21 and 2021-22, for example:

- Each of Greater Johnstown’s schools was labeled as low-achieving. PX-2032, column 13, rows 115-118.
- Two of Panther Valley’s three schools were labeled as low-achieving. PX-2032, column 13, rows 121-122.
- One of Shenandoah Valley’s two schools were labeled as low-achieving. PX-2032, column 13, row 506.
- Nine of William Penn’s ten schools were labeled as low-achieving. PX-2032, column 13, rows 167-175.
- Twelve of Lancaster’s 19 schools were labeled as low-achieving. PX-2032, column 13, rows 235-248.
- Six of Wilkes-Barre’s 11 schools were labeled as low-achieving. PX-2032, column 13, rows 286-291; and
- 148 of Philadelphia’s 216 schools were labeled as low-achieving. PX-2032, column 13, rows 325-484.

876. Proficiency on the Keystones and PSSAs is also a critical part of the determination of whether a school falls in the CSI, A-TSI, or TSI groups, and as a result, schools in Lancaster, Philadelphia, and William Penn are designated as CSI, and schools in each Petitioner District and Philadelphia are designated as A-TSI. Tr. 1686:16-21 (Stem); Tr. 1688:8-16 (Stem); *see* PX-1806 (CSI); PX-1806 (A-TSI).

877. These districts are not outliers among their low-wealth peers. CSI schools are disproportionately — 79% — in the poorest quintile districts. Tr. 1246:12-1248:4 (Kelly).



PD-3-42.

2. Failure is pervasive across a number of other assessments.

878. The PSSAs and Keystones are valid measures of student achievement, and their implications are undeniable. But they are not the only test students take, and fail, in unacceptable numbers. The Petitioner Districts' own internal assessments show the same deficiencies as the PSSAs and Keystones.

879. For example, Greater Johnstown conducts internal assessments of reading/literacy and math/numeracy skills using a tool called AIMSWEB. Tr. 2616:23-2617:10 (Arcurio). The district uses this tool to assess which children require enhanced interventions through the Tier 2 and Tier 3 supports discussed *supra* at IX(B)(3). Tr. 2626:12-2627:4 (Arcurio). From 2017 to 2019, these AIMSWEB diagnostics determined that Greater Johnstown's students required enhanced interventions at extreme levels; classes entered the year with significant majorities of students, often 75% or higher, requiring Tier 2 or 3 supports. PX-4824; Tr. 2628:8-2629:3 (Arcurio).

880. Dr. Arcurio testified that subsequent testing indicated that the district was unable to close these gaps. Tr. 2629:4-13 (Arcurio). For example, according to the results of the AIMSWEB diagnostic tool, in 2018-19, 102 kindergarten students (or 50% of the class) started the year requiring Tier 3 interventions in numeracy. PX-191. By the spring, when the diagnostic test was administered

again, 78 students still remained in the Tier 3 category, with half the class requiring either Tier 2 or 3 supports. PX-191; *see also* Tr. 3281:8-3282:5 (Arcurio).

Aimswest Diagnostic: Percentage of GJSD Students Beginning the Year in Tier 2 or Tier 3										
	Grade and Subject									
	K Literacy	K Numeracy	1st Literacy	1st Numeracy	2nd Literacy	2nd Math	3rd Reading	3rd Math	4th Literacy	4th Math
Fall 2017	76%	78%	77%	90%	75%	77%	60%	69%	67%	71%
Fall 2018	74%	81%	73%	82%	79%	79%	65%	73%	61%	65%
Fall 2019	74%	74%	68%	80%	74%	77%	69%	79%	66%	67%
Source: PX-00163-PX-00192										

PX-4824.

881. Greater Johnstown also conducts internal assessments of middle and high school students using the Classroom Diagnostic Tools (CDT) provided by PDE. *See* Tr. 2630:6-19 (Arcurio). Like the AIMSWEB assessment, the CDT also demonstrates that the vast majority of GJSD students are not at grade level and require intensive Tier 2 or 3 academic supports. *See* PX-204; PX-210; Tr. 2631:1-2638:13 (Arcurio).

882. According to a William Penn internal reading assessment called Success For All, in 2018-19, only 68% of kindergartners were reading or had mastered the skills that were being taught for reading by the end of their Kindergarten year. Tr. 6919:6-9 (Harbert); *see also* PX-4644. Overall, 50% of the District's elementary age students were below grade level in reading. Tr. 6919:12-6920:8 (Harbert); PX-4644-2. And on PDE's Classroom Diagnostic Tools, an

overwhelming number of students in grades 3-6 are also not proficient in math concepts. Tr. 6920:21-6926:17 (Harbert); *see also* PX-4166.

883. The School District of Lancaster also administers Classroom Diagnostic Tools several times a year, in order to determine how students are performing compared to the state standards in math, reading, algebra, biology, and communication arts, and the district then uses that data to plan supports for students for the PSSAs and Keystones. Tr. 5064:15-5065:6 (Rau). These results illustrate that as students progress through grade levels, the number of students who are performing at grade level decreases. Seventy percent of Lancaster students in fifth grade in 2018-19 performed below level in reading on the CDT. PX-389.

884. Philadelphia uses internal assessments to measure whether eight-year-olds are reading on grade level. Tr. 7883:23-7884:3 (Hite). And for the last six years on record, more than half were not. PX-3086.

885. According to the ACCESS exam, which PDE requires all districts to administer to English Language Learners to measure their English language proficiency, less than half of Philadelphia's ELL students in grades 1-5 met their annual growth target, and only 15% of students in grades 6-12 met their growth target for English language development. Tr. 7723:1-17 (Hite); Tr. 7729:10-7731:18 (Hite); PX-3082-4; PX-3083-4.

886. National assessments also reveal a lack of proficiency. For example, on the SAT exams, not a single Petitioner school has an average score of 1,000. PX-2141, (sorted alphabetical by district), cells F225-F226, F291-F292, F411, F560, F671-F673, F674.

887. Results on Advanced Placement and International Baccalaureate exams demonstrate the same story. Each year, PDE publishes a list of the total number of twelfth grade students that scored 3 or higher on any AP exam or 4 or higher on any IB exam. *See, e.g.,* LR-641; *see also* Tr. 1744:1-1747:3 (Stem).

888. These results demonstrate that in the 2018-19 school year, the vast majority of Petitioner District students did not score well enough on advanced courses to receive college credit:

- At William Penn's Penn Wood High School, 23.97% received credit, *see* LR-641, cell F121765;
- Among Wilkes-Barre's three high schools, 25.55%, 9.87%, and 20.33% respectively, received credit, *see* LR-641, cells F121106, F121150, F121238;
- At Greater Johnstown Senior High School, 2.66% received credit, *see* LR-641, cell F39759;
- At Lancaster's McCaskey High School, 24.73% received credit, *see* LR-641, cell F51329; and

- At Panther Valley Junior Senior High School, 15% received credit, *see* LR-641, cell F72581.⁴⁴

3. Many students are unable to finish high school, putting their futures in jeopardy.

889. The Commonwealth's failure to fund its schools in a manner that prepares students for college and career is evidenced by the failure of those students to even finish high school in the first instance.

890. Graduation rates in the Petitioner Districts and Philadelphia systematically fall below the statewide average, and are consistently among the 50 worst-performing districts in the state. For the 2019-20 school year, three of the Petitioner Districts — Greater Johnstown, Lancaster, and William Penn — along with Philadelphia had 4-year cohort graduation rates lower than 80%, placing them all in the bottom 25 of 499 districts. The remaining Petitioner Districts fared little better, and none of them met the statewide average of 87.36%.

⁴⁴ Shenandoah Valley did not have sufficient numbers of students to receive a score. LR-641, cell F100165; Tr. 1744:10-12 (Stem).

4-Year Cohort Graduation Rate and Rank Over Time for All Districts						
School District	AUN	County	2015-16 Graduation Rate	2015-16 Graduation Rate Rank	2019-20 Graduation Rate	2019-20 Graduation Rate Rank
Greater Johnstown SD	108112502	Cambria	83.73%	436	77.27%	481
Lancaster SD	113364002	Lancaster	82.34%	450	78.64%	476
Panther Valley SD	121136603	Carbon	78.90%	468	81.52%	466
Shenandoah Valley SD	129547203	Schuylkill	84.29%	432	87.18%	424
Wilkes-Barre Area SD	118408852	Luzerne	87.68%	387	83.27%	457
William Penn SD	125239652	Delaware	76.07%	479	77.92%	478
Philadelphia City SD	126515001	Philadelphia	68.58%	487	70.12%	491
Bermudian Springs SD	112011103	Adams	96.82%	56	94.63%	156

PX-4855 (excerpt).

891. This performance is consistent with the experience of other low-wealth districts. As Dr. Kelly testified, students in the poorest quintile of districts are graduating at a rate almost 10 points lower than students in the wealthiest quintile of districts, a pattern that also holds for five-year graduation rates. Tr. 1240:2-15 (Kelly); *see also* PD-3-40. And, on the other side of the coin, students that drop out of school are disproportionately concentrated in the lowest wealth districts. Tr. 1245:5-11 (Kelly).

892. The failure to earn a high school diploma can have pervasive and lifelong consequences. As Mr. Stem testified, “any students that are — that are not graduating are going to be individuals at high risk of not only — you know, not being productive citizens, but not living — not living their lives to their fullest potential. They’re set up for high-risk situations without having a high school degree.” Tr. 1809:2-9 (Stem).

4. The Commonwealth's college enrollment and completion rates also indicate that the public school system is deficient.

893. Also largely undisputed is that another measure of the health of a public school system is the number of children going to college. As Secretary Ortega explained, the pre-K-12 system of education plays an important role in preparing students for success in higher education, and insufficient investments in the pre-K-12 system lead to disparities in college attendance and attainment. Tr. 8734:12-21 (Ortega). It is for this reason that Speaker Cutler's expert Mr. Willis agrees that one should measure postsecondary enrollment and postsecondary graduation rates when evaluating the performance of a public school system. Tr. 13009:5-13010:8 (Willis).

894. Given Pennsylvania's poor achievement and graduation rates, however, large numbers of students across the Commonwealth are failing to enter and graduate from college.⁴⁵

⁴⁵ Besides assessment results, high school graduation results, and postsecondary outcomes, the Future Ready Index has other measures, such as "the rate at which students who are designated English language learners are making progress." Tr. 1233:18-1235:16 (Kelly). Dr. Kelly again found "large and substantial gaps" in the rate of success on these measures between high-wealth and low-wealth districts. Tr. 1235:7-15 (Kelly); *see* PD-3-38.

895. As detailed in Section IV(D)(2), the State Board’s Council of Higher Education has formally adopted a goal that 60% of Pennsylvanians aged 25-65 will attain a postsecondary degree or credential by 2025. PX-3336; PX-3339-2; Tr. 4233:23-4235:18 (Molchanow); Tr. 1838:11-22 (Stem).

896. As of 2021, the Commonwealth is still far from meeting this postsecondary attainment goal: the rate is only 50.7%.⁴⁶ PX-7008-6; Tr. 4439:11-17 (Molchanow). In this statistic, Pennsylvania trails behind neighbor states with attainment rates of 54.3% (New York), 55.9% (Maryland) and 56.6% (New Jersey). PX-7008-6; Tr. 4439:18-22 (Molchanow). And compared to other states nationally, the District of Columbia, Puerto Rico and 28 other states have postsecondary attainment rates that are higher than Pennsylvania’s. PX-7008-6. To reach 60%, the Commonwealth would need to add hundreds of thousands of additional degree earners to its ranks. Tr. 8671:19-8672:12 (Ortega).

897. The State Board has acknowledged that these deficiencies in postsecondary attainment reflect a lack of preparation for college and career: “The standards that have been adopted by the Board are designed to ensure that students are college and career ready, so their foundational preparation may be reflected in

⁴⁶ Twice in recent years, the attainment rate increased significantly, not because of actual increases in attainment, but because of the addition of previously excluded workforce-relevant certificates and certifications. Tr. 8879:10-8880:4 (Ortega).

their postsecondary attainment.” Tr. 4248:1-8 (Molchanow); *see also* Tr. 4234:13-21 (Molchanow). Similarly, one of PDE’s strategies to reach the attainment goal is to improve the K-12 education system. Tr. 8735:3-7 (Ortega). PDE believes that additional funding will allow for greater increases in college achievement than what is currently achievable. Tr. 8880:20-24 (Ortega).

898. The problem starts with enrollment rates. Many students fail to even enroll in college within one year of graduating high school: for the graduating class of 2013, the statewide average for college enrollment among the class is only 61.99%. PX-4840.

899. The number is even lower for Petitioner Districts and Philadelphia. For that same 2013 class, only 39.34% of Greater Johnstown graduates enrolled in college, only 43.69% of Panther Valley students, and only 53.80% of Wilkes-Barre’s students. None of the Petitioner Districts, nor Philadelphia, met the statewide average enrollment:

Percentage of Students Graduating in 2013 Who Enrolled in College Within a Year					
District	All	Black	Hispanic	White	Economically Disadvantaged
Greater Johnstown SD	39.34%	37.70%	Data Unavailable	40.15%	31.25%
Lancaster SD	45.49%	55.77%	36.54%	47.83%	45.99%
Panther Valley SD	43.69%	Data Unavailable	Data Unavailable	43.48%	38.24%
Shenandoah Valley SD	55.81%	Data Unavailable	Data Unavailable	57.75%	52.73%
Wilkes-Barre Area SD	53.80%	43.59%	45.92%	58.25%	44.84%
William Penn SD	61.21%	62.50%	Data Unavailable	Data Unavailable	62.22%
Philadelphia City SD	52.31%	49.28%	40.00%	60.26%	48.17%
Statewide	61.99%	53.48%	45.09%	64.36%	45.63%
Source: National Student Clearinghouse Data Produced by the Pennsylvania Department of Education, Ex. No. PX-00104					

PX-4840.

900. And these percentages apply only to that subset of students that graduate from high school, which hovers around 80% or lower among the Petitioner Districts' four-year cohorts. PX-4855. In other words, if only 80% of a district's students graduate high school, and only 40% of those students enroll in college, that means that only 32% of the district's total student population goes on to enroll in college.

901. Nor is the class of 2013 a fluke. For the class of 2017, numbers are similarly poor. The statewide enrollment numbers remain stagnant, at 61.98%, and once again, the enrollment numbers for the Petitioner Districts and Philadelphia fall far short of even that number. Only 42.08% of Greater Johnstown graduates enrolled within a year, only 43.59% of Panther Valley graduates, and only 57.87% of Wilkes-Barre graduates. No Petitioner District, nor Philadelphia, met the statewide average:

Percentage of Students Graduating in 2017 Who Enrolled in College Within a Year					
District	All	Black	Hispanic	White	Economically Disadvantaged
Greater Johnstown SD	42.08%	43.28%	Data Unavailable	43.59%	44.44%
Lancaster SD	42.44%	44.51%	40.66%	46.43%	40.19%
Panther Valley SD	43.59%	Data Unavailable	Data Unavailable	42.25%	28.57%
Shenandoah Valley SD	46.38%	Data Unavailable	Data Unavailable	48.98%	43.48%
Wilkes-Barre Area SD	57.87%	57.95%	50.00%	60.14%	52.09%
William Penn SD	56.31%	57.49%	Data Unavailable	Data Unavailable	Data Unavailable
Philadelphia City SD	53.89%	49.48%	42.66%	63.58%	54.76%
Statewide	61.98%	53.58%	47.75%	64.40%	48.00%
Source: Pennsylvania Department of Education Data, Ex. No. PX-00104					

PX-4842.

902. But the numbers become especially stark when examining the percentage of graduates who obtain their college degree in six years. On a statewide basis, 42% of students go on to receive a two or four-year degree, well below what the state needs to meet its long-term goals for postsecondary attainment. Tr. 8709:1-8712:16 (Ortega).

903. Moreover, several superintendents testified that a diploma in their district did not signify that a student was college or career ready and that significant numbers of their students are not in fact graduating college or career ready. Dr. Hite explained, for example, that for those Philadelphia graduates who enroll at the Community College of Philadelphia, about 60% are required to take remedial coursework in writing, literature, English language arts, or math. Tr. 7896:3-24 (Hite); *see also* Tr. 461:9-15 (McAndrew); 2837:18-2838:14 (Arcurio); 3524:8-3526:1 (Waite); 5184:15-5185:5 (Rau); 6889:6-13 (Harbert); 10865:13-

10866:7 (Costello). Otto-Eldred superintendent Mr. Splain observed that even when students are going to college, they are leaving early due to failure and then not securing full-time jobs. Tr. 6256:14-6257:9 (Splain).

904. It is therefore little surprise that for these districts, college graduation rates are even worse than the statewide rates, with no Petitioner District having more than one-third of its students acquire a degree. For example, while William Penn sent 61.21% of its 2013 graduates to college, just shy of the state average, PX-4840, only 20.69% of those students actually went on to obtain their college degree in six years, less than half the state average. PX-4841. And while Wilkes-Barre sent 53.8% of its graduates to college, PX-4840, only 33.4% graduated college in six years. PX-4841. The other Petitioner Districts and Philadelphia see similar drops, in many cases showing that fully half of the district's college enrollees drop out.

Percentage of Students Graduating in 2013 Who Obtained a College Degree Within 6 Years					
District	All	Black	Hispanic	White	Economically Disadvantaged
Greater Johnstown SD	24.17%	21.31%	Data Unavailable	27.27%	13.19%
Lancaster SD	18.45%	21.79%	12.36%	30.43%	16.22%
Panther Valley SD	Data Unavailable	Data Unavailable	Data Unavailable	15.22%	Data Unavailable
Shenandoah Valley SD	30.23%	Data Unavailable	Data Unavailable	33.80%	21.82%
Wilkes-Barre Area SD	33.40%	15.38%	17.35%	41.75%	17.79%
William Penn SD	20.69%	20.73%	Data Unavailable	Data Unavailable	20.00%
Philadelphia City SD	24.08%	18.96%	15.55%	35.59%	20.02%
Statewide	42.04%	20.61%	20.23%	47.31%	21.40%
Source: National Student Clearinghouse Data Produced by the Pennsylvania Department of Education, Ex. No. PX-00104					

PX-4841.

905. And again, far from every student in these districts graduate high school to begin with. *See* PX-4855. If a district graduates 80% of its students, and only 20% of those graduates obtain a college degree in six years, only 16% of the district's students are graduating college within six years of leaving high school. That leaves 84% of the district's students without even a two-year college degree.

906. Behind these numbers are the stories of students that leave their districts unprepared for life after school, because they did not receive an education that left them college and career ready. Mr. Horvath, a recent graduate of Wilkes-Barre, and S.A., a recent graduate of Philadelphia, are two of those students. Mr. Horvath credibly testified that his education did not give him the skills to succeed in college, and his experience underscores how the deficiencies in Wilkes-Barre's funding led to his poor outcome. For example, Mr. Horvath did not know how to research or structure a term paper, because his high school lacked a library and he had never been given a substantial writing assignment. Tr. 10046:3-13 (Horvath); Tr. 10047:13-10048:8 (Horvath). He did not have the basic skills necessary to use Word, PowerPoint, and online platforms, because Wilkes-Barre's single computer skills class and shared computers had provided Mr. Horvath with little opportunity to develop digital literacy. Tr. 10043:24-10045:18 (Horvath). All of these deficiencies culminated in Horvath's decision to withdraw from college twice. Tr.

10052:8-22 (Horvath); Tr. 10058:4-11 (Horvath). Similarly, S.A. planned to attend a trade school to be a chef after graduation, but he was not adequately prepared for the reading and math requirements at college. S.A. Dep. Tr. 15:15-19; S.A. Dep. Tr. 72:21-73:12; Armstrong Resp. and Obj. to Sen. Scarnati’s First Set of Req. for Admis. (July 7, 2020), Resp. No. 3.

B. As a result of inadequate and inequitable funding, the system is failing entire subgroups of students.

907. On their own, the widespread and significant deficits in student outcomes demonstrate that Pennsylvania’s school funding system is insufficient to enable students to succeed. Disaggregating student outcomes by subgroup underscores the fact that these poor outcomes are the result of a total system failure.

908. As discussed *supra* at Section VI(H), PDE admits there is “racial, ethnic and economic disproportionality observed in learning conditions.” PX-1830-70, Tr. 1908:14-1909:08 (Stem). In practical terms, that means Black, Latino, and low-income children attend schools with the least access to the very educational strategies that PDE has identified children need. Tr. 1909:24-1910:3 (Stem); *see also* Tr. 9563:18-9564:5 (Johnson).

909. But as PDE also admits, that same disproportionality pervades outcomes. *See, e.g.*, PX-1830-70. As a consequence, Pennsylvania consistently has

some of the largest achievement gaps in the nation: “[E]ach year we would receive reports . . . And the gaps hold fairly steady over time with Pennsylvania having among the largest gaps in the nation” Tr. 1861:5-22 (Stem) (discussing NAEP achievement gaps); *see also* Stem Dep. Tr. Vol. 2, 368:18-20 (“There are gaps and disproportionate outcomes that have existed for many, many years in the Commonwealth.”).

910. These disparities are so ingrained that it has led PDE to set different achievement goals for different students. In the state’s ESSA Plan, PDE had to make a decision: whether to set uniform goals for all students, or instead, to set separate, lower goals for traditionally underserved groups. PX-1830-21; Tr. 1830:8-22 (Stem). It went with the latter choice. PX-1830-21; Tr. 1830:8-22 (Stem). As a result, even were Pennsylvania to achieve all of its goals by 2030 — which PDE admits will not happen without additional funding — significant achievement gaps will remain throughout the system. *See, e.g.*, PX-1830-166–169.

911. The decision to have lower goals for certain children was not without controversy. Dr. Rau, for example, described being “shocked when [she] saw that the state had lowered its standards for children of color in this state.” Tr. 5175:10-12 (Rau). And Deputy Secretary Stem called it one the “greatest struggles [PDE] had.” Tr. 1826:8-20 (Stem).

912. Deputy Secretary Stem explained the ultimate decision to have those different goals was not because of any belief about the innate ability of certain students, but rather a recognition of the depth of existing inequities within Pennsylvania’s school funding system itself. Tr. 1833:16-1834:11 (Stem); PX-1830-21. In other words, Pennsylvania’s systemic underfunding has dug the Commonwealth a hole: “The very starting point is a reflection of the historic inequities in our system that have created the conditions where this is where — this is where we’re starting.” Tr. 1837:3-10 (Stem). And that hole is so deep that it cannot be climbed out of even after thirteen years. From the start, to the interim targets, to the final goals: the “measures basically take into account or continue to project that the inequalities in our educational system will continue.” Tr. 7490:3-14 (Becoats); *see also* Tr. 1836:6-1837:10 (Stem).

913. PDE also acknowledges that funding inequities are one of the “fundamental root causes” of these gaps, and that increased funding is necessary to address them. Tr. 1828:22-1829:4 (Stem); Tr. 1822:11-18 (Stem); Tr. 2538:17-23 (Stem). These gaps demonstrate that the way the system is funded is categorically failing its most vulnerable, traditionally underserved children: students of color, economically disadvantaged students, and historically underperforming students including ELLs and special education students. And as PDE recognizes, and Dr.

Kelly demonstrated in his analysis, the common denominator of these disparities in student outcomes is funding inequities.

1. Students of color suffer unacceptable achievement gaps as a result of being disproportionately educated in low-wealth districts.

914. As discussed *supra* in Section VI(H), Black and Latino students make up approximately 470,000 of Pennsylvania’s 1.7 million public school students, and they disproportionately fall into the poorest quintile districts. PX-2098, tab “statewide,” cells T26, T27.

915. As a result, Black and Latino students consistently underperform state averages for standardized test scores. Only 37.1% of Black students scored proficient or advanced on ELA standardized test (compared to an average of 62.98% for all students); only 18.35% scored proficient/advanced on math (compared to 45.52% for all students); and only 34.6% scored proficient/advanced in science (compared to 64.28% for all students). Latino students similarly underperformed state averages, with only 42.39% scoring proficient/advanced in ELA, 24.54% in math, and 42.36% in science.

2018-2019 Statewide Assessment Measures by Demographic															
Student Group	Below Basic			Basic			Proficient			Advanced			Advanced & Proficient		
	ELA	Math	Science	ELA	Math	Science	ELA	Math	Science	ELA	Math	Science	ELA	Math	Science
All Students	7.82%	28.61%	14.06%	29.20%	25.86%	21.66%	44.69%	27.83%	37.02%	18.29%	17.69%	27.26%	62.98%	45.52%	64.28%
Black	17.40%	55.21%	31.33%	45.49%	26.43%	33.41%	31.42%	14.30%	27.84%	5.68%	4.05%	6.76%	37.10%	18.35%	34.60%
Hispanic	15.49%	47.69%	27.04%	42.12%	27.77%	30.59%	34.60%	18.01%	31.30%	7.79%	6.53%	11.06%	42.39%	24.54%	42.36%
White	4.54%	20.13%	8.70%	23.98%	25.87%	18.11%	49.52%	32.59%	40.09%	21.96%	21.42%	33.10%	71.48%	54.01%	73.19%
Historically Underperforming	13.28%	43.22%	22.89%	40.90%	28.11%	29.14%	36.75%	20.36%	34.01%	9.06%	8.31%	13.97%	45.81%	28.67%	47.98%
Students with Disabilities	24.06%	57.75%	33.80%	47.25%	22.22%	31.63%	21.39%	13.00%	24.86%	6.30%	6.17%	7.43%	27.69%	19.17%	32.29%
English Language Learners	26.57%	57.37%	40.16%	47.65%	23.91%	30.89%	21.74%	13.20%	22.51%	4.04%	5.52%	6.44%	25.78%	18.72%	28.95%
Economically Disadvantaged	12.81%	42.80%	22.28%	40.16%	28.28%	28.89%	37.83%	20.69%	34.68%	9.20%	8.22%	14.15%	47.03%	28.91%	48.83%

Source: Pennsylvania Department of Education Data, ESSA_Dashboard_2020, taken from https://public.tableau.com/app/profile/padeptofed/viz/ESSA_Dashboard_2020/2018AnnualMeaningfulDifferentiationCSIA-TSI, last accessed Oct. 11, 2021

PX-4843; *see also* Tr. 9568:11-14 (Johnson) (discussing PD-16-13–14).

916. The gaps on Pennsylvania’s own assessments are matched by national ones. As discussed above, Pennsylvania’s achievement gaps on the NAEP are some of the largest in the nation, both for Latino and Black children. *See* PX-4933-4940.⁴⁷

917. Those gaps are similarly evident in the number of students who take AP exams, and the results they receive. Black and Latino students, making up more than one-quarter of Pennsylvania’s student body, represent just under 11% of test takers. PX-7000. And those Black and Latino students that do take the tests fare far worse than their white counterparts: Approximately 70% of white students received a score of 3 or higher on AP exams. PX-7000. For Latino students, that number fell to approximately 53%. PX-7000. For Black students, it fell even

⁴⁷ Unlike the PSSAs and Keystones, which are administered every year to all students in the Commonwealth, the NAEP is a “representative sample” administered every other year to a randomly selected group of schools across the country in grades 4 and 8 in English/Language Arts, Math, and Science. Tr. 14259:14-23 (Hanushek). While the PSSA and Keystone Exams are a Pennsylvania-specific test examining Pennsylvania-specific standards, Tr. 1624:12-22 (Stem), the NAEP is not a Pennsylvania-specific test and was not designed to evaluate the performance of individual schools. Tr. 14258:19-14259:12 (Hanushek). Moreover, state regulations prohibit the NAEP from being used as part of the state assessment system “unless, upon consultation with teachers, counselors and parents . . . the Board determines the assessment is an appropriate means of assessing the academic progress of students identified under Chapter 14, or unless the General Assembly authorizes the use of a National assessment.” 22 Pa. Code § 4.51.

further, to approximately 33%. PX-7000. While just 9% of white students receive a score of a 1, 43% of Black children do:

AP Performance and Participation Summary, Public PA Students 2019									
District	All Students	White	Hispanic/Latino	Black	Asian	American Indian/Alaska Native	Native Hawaiian/Other Pacific Islander	Two or More Races	No Response
Percent of Demographic Scoring 5	17.56%	16.95%	12.31%	5.07%	27.26%	8.81%	18.97%	17.22%	20.18%
Percent of Demographic Scoring 4	23.52%	24.51%	17.78%	9.59%	25.74%	16.98%	20.69%	25.09%	19.95%
Percent of Demographic Scoring 3	27.33%	29.01%	23.03%	17.83%	24.10%	27.04%	22.41%	26.78%	25.72%
Percent of Demographic Scoring 2	20.11%	20.57%	24.06%	24.14%	14.70%	25.79%	13.79%	19.42%	19.15%
Percent of Demographic Scoring 1	11.48%	8.95%	22.81%	43.37%	8.20%	21.38%	24.14%	11.48%	14.99%
Percentage of Overall Test Takers	N/A	70.19%	6.57%	4.39%	13.45%	0.14%	0.05%	3.74%	1.48%
Source: LR-01912									

PX-7000.

918. The same disparities are demonstrated in SAT results. Black and Latino Students take those tests at lower rates, and their scores (913 and 978 average scores, respectively) lag far behind white students (1114 average score). LR-1986-4; Tr. 2526:16-2527:4 (Stem).

919. There are also wide racial disparities in Pennsylvania's high school graduation rates. While 91.40% of white students graduated with their four-year cohort in 2019-20 — exceeding the statewide average — only 76.53% of Black students did the same. Latino students had similar results, with only 77.21% graduating with their four-year cohort in 2019-20. These are abysmal numbers; to put this in perspective, a district with a 76.53% graduation rate would be in the bottom 20 school districts statewide.

2019-2020 4-Year Cohort Graduation Rate by Demographic							
Geography	All	Black	Hispanic	White	Economically Disadvantaged	English Language Learners	Special Education
Pennsylvania - Statewide	87.36%	76.53%	77.21%	91.40%	79.60%	68.99%	72.82%
Source: Pennsylvania Department of Education Data, Ex. No. PX-01992							

PX-4851.

920. Rates of college enrollment are even lower. Of 2013 high school graduates, only 53.48% of Black graduates and 45.09% of Latino graduates enrolled in college statewide, compared to 61.99% statewide. PX-4840. The numbers look similar for 2017 high school graduates: only 53.58% of Black graduates, 47.75% of Latino graduates enrolled in college compared to 61.98% statewide. PX-4842. The State Board, looking at similar data, found the trends “concerning,” particularly given that the population of high school students is becoming more diverse. Tr. 4442:7-22 (Molchanow).

921. Those gaps only widen for college graduation. Black and Latino high school graduates both complete college within six years at half the rate of students overall. Of 2013 graduates, 20.61% of Black students and 20.23% Latino students obtained a college degree in six years, well less than half the rate of white students (47.31%). PX-4841.

922. As a result, racial and ethnic gaps between individuals who hold degrees are similarly significant, in what Secretary Ortega termed as “huge difference[s].” Ortega Dep. Tr. 130:3-14. In 2019, 47% of white 25–64-year-olds

had a postsecondary credential, compared to only 30% Black 25–64-year-olds and 24% of Latinos. PX-7008-7; Tr. 4443:5-24 (Molchanow).

923. As PDE testified, these achievement gaps are caused, in large part, by the lack of resources in the low-wealth districts where students of color are disproportionately educated. Tr. 2538:17-23 (Stem); Tr. 1805:19-1806:7 (Stem). There is no mystery as to the cause of these outcomes: “the achievement gaps that we see, we can trace them back to educational opportunity gaps.” Tr. 9556:9-24 (Johnson). To that end, these gaps cannot be mitigated without more funding. Tr. 1822:11-18 (Stem); *see also* Tr. 9453:5-12 (Johnson); Tr. 9432:11-18 (Johnson). A system that categorically deprives students of that funding is a system that is failing.

2. As a result of underfunding, economically disadvantaged and historically underperforming children are being left behind.

924. The Commonwealth’s funding system is also failing to provide support to students who need it the most, including economically disadvantaged students, English Language Learners, and students with disabilities.

925. The same achievement gaps that are present on the NAEP for Black and Latino children are present between low-income and non low-income students. PX-4929-4932. In 4th grade math, for example, that gap leads the nation. PX-4929.

926. State assessments show the same phenomenon. In 2018-19, fewer than half of all economically disadvantaged students scored advanced or proficient in ELA and science, and less than a third scored advanced or proficient in math, trailing at least 15 percentage points behind the statewide average in every subject area. PX-4843. Only 79.6% of economically disadvantaged students graduated from high school in 2019-20, compared to 87.36% of all students statewide. PX-4851. Moreover, because the “all students” subgroup includes the same underperforming economically disadvantaged students, the true achievement gaps for state assessments and graduation rates are even larger than they appear in state data. Tr. 1804:17-1805:4 (Stem); Tr. 1808:11-23 (Stem).

927. The postsecondary outcomes for economically disadvantaged students reflect the same wide gaps. Only 48% of economically disadvantaged students in the 2017 graduating class enrolled in college within one year, compared to 70.8% of non-economically disadvantaged students. PX-104, tab “StatewideEconomicallyDisadvanta,” cells J4, J8.

928. That gap grows when examining college graduation. Of 2013 graduates, 21.4% of economically disadvantaged students obtained a degree. PX-104, tab “StatewideEconomicallyDisadvanta,” cell F6. For non-economically disadvantaged students, that number was 52.3%. PX-104, tab “StatewideEconomicallyDisadvanta,” cell F10. Results were similar for 2010,

2011, and 2012. PX-104, tab “StatewideEconomicallyDisadvanta,” rows C6-E6, C10-E10.

929. Disaggregated outcome data also demonstrates that the funding system is failing other vulnerable subgroups, including English Language Learners and students with disabilities. For example, less than a third of ELLs or students with disabilities scored proficient or advanced in any subject area in 2018-19. *See* PX-4843.

930. When looking at these groups in the aggregate, the results are the same. Specifically, the Commonwealth includes ELL students, students with disabilities, and economically disadvantaged students in a category as “historically underperforming” students. Tr. 1226:7-1227:4 (Kelly). Historically underperforming students struggle in the state, in the Petitioner Districts, and in Philadelphia, failing the PSSAs in large numbers:

**Percentage of Historically Underperforming Students
Proficient or Advanced in ELA,
Combined Grades 3-8 PSSA Scores**

District	2015	2016	2017	2018	2019
Greater Johnstown SD	30.32%	27.04%	30.96%	28.66%	26.89%
Lancaster SD	32.91%	34.03%	34.90%	36.30%	35.86%
Panther Valley SD	36.56%	41.67%	37.80%	50.66%	40.73%
Shenandoah Valley SD	35.76%	37.41%	40.66%	35.38%	36.76%
Wilkes-Barre Area SD	30.59%	30.73%	34.16%	37.26%	37.24%
William Penn SD	31.73%	29.93%	32.68%	35.05%	31.10%
Philadelphia City SD	27.66%	27.64%	32.52%	33.68%	28.75%
Statewide	40.70%	41.40%	43.00%	43.90%	43.16%

Source: Pennsylvania Department of Education Data, Ex. Nos. PX-00074, PX-01743, PX-02019 through PX-02023

PX-4862.

**Percentage of Historically Underperforming Students
Proficient or Advanced in Mathematics,
Combined Grades 3-8 PSSA Scores**

District	2015	2016	2017	2018	2019
Greater Johnstown SD	13.41%	15.54%	15.88%	12.31%	11.97%
Lancaster SD	18.84%	20.42%	20.06%	19.27%	18.73%
Panther Valley SD	12.04%	18.08%	15.45%	22.18%	15.05%
Shenandoah Valley SD	14.97%	19.86%	22.88%	24.27%	23.36%
Wilkes-Barre Area SD	15.28%	14.79%	17.57%	15.78%	15.96%
William Penn SD	13.65%	13.87%	11.29%	12.52%	8.72%
Philadelphia City SD	12.87%	14.31%	17.70%	18.23%	15.06%
Statewide	22.20%	24.70%	25.37%	25.20%	25.10%

Source: Pennsylvania Department of Education Data, Ex. Nos. PX-00074, PX-01743, PX-02019 through PX-02023

PX-4864.

931. Historically underperforming students also fail the Keystone Exams in large numbers:

Percentage of Historically Underperforming Students Proficient or Advanced on the Algebra I Keystone by Year					
District	2015	2016	2017	2018	2019
Greater Johnstown SD	39.6%	48.4%	34.1%	41.7%	30.8%
Lancaster SD	32.8%	34.1%	35.8%	32.9%	39.0%
Panther Valley SD	40.8%	39.6%	36.9%	18.2%	14.3%
Shenandoah Valley SD	31.0%	36.5%	20.5%	20.3%	12.5%
Wilkes-Barre Area SD	17.3%	27.2%	28.8%	30.5%	22.5%
William Penn SD	25.3%	44.7%	27.7%	39.8%	34.1%
Philadelphia City SD	32.2%	37.0%	34.2%	39.1%	29.1%
Statewide	43.5%	47.5%	44.7%	44.8%	42.2%
Source: Pennsylvania Department of Education Data, Ex. Nos. PX-00074, PX-01743, PX-02019 through PX-02023					

PX-4860.

Percentage of Historically Underperforming Students Proficient or Advanced on the Biology Keystone by Year					
District	2015	2016	2017	2018	2019
Greater Johnstown SD	24.2%	37.0%	22.2%	27.3%	24.7%
Lancaster SD	25.3%	33.6%	30.6%	30.6%	32.5%
Panther Valley SD	38.4%	48.9%	39.4%	24.5%	37.2%
Shenandoah Valley SD	31.0%	34.1%	25.6%	23.7%	18.0%
Wilkes-Barre Area SD	22.5%	24.3%	29.6%	31.2%	28.7%
William Penn SD	20.6%	25.4%	22.6%	30.7%	18.8%
Philadelphia City SD	22.7%	29.3%	32.2%	36.6%	27.3%
Statewide	37.1%	44.4%	42.5%	44.1%	42.6%
Source: Pennsylvania Department of Education Data, Ex. Nos. PX-00074, PX-01743, PX-02019 through PX-02023					

PX-4861.

**Percentage of Historically Underperforming Students
Proficient or Advanced on the Literature Keystone
by Year**

District	2015	2016	2017	2018	2019
Greater Johnstown SD	58.3%	65.3%	52.0%	55.8%	53.3%
Lancaster SD	37.7%	42.3%	49.2%	40.9%	45.2%
Panther Valley SD	49.0%	66.6%	49.1%	49.5%	52.9%
Shenandoah Valley SD	58.6%	46.3%	25.6%	40.0%	30.6%
Wilkes-Barre Area SD	39.8%	45.1%	41.4%	46.8%	39.5%
William Penn SD	42.6%	49.0%	39.6%	50.9%	38.1%
Philadelphia City SD	42.5%	49.4%	44.0%	49.5%	39.9%
Statewide	53.7%	58.8%	54.1%	54.7%	52.4%

Source: Pennsylvania Department of Education Data, Ex. Nos. PX-00074, PX-01743, PX-02019 through PX-02023

PX-4863.

932. In every year between 2015 and 2019, historically underperforming students in the Petitioner Districts and Philadelphia have had, with limited exceptions, even lower proficiency rates than the statewide PSSA and Keystone averages for historically underperforming students, often by as much as 10%. *See* PX-4860, PX-4861, PX-4862, PX-4863, PX-4864.

933. The results of all of these achievement gaps are plain to see:

Q. And everywhere we see disaggregated data from AP exams to SAT results to the PSSAs to the Keystones to college entrance rates and to college graduation rates, are there unacceptable achievement gaps for Pennsylvania's public school students?

A. Yes.

Tr. 2538:10-16 (Stem).

934. As are their causes:

Q. And is part of the reason why disparities like that exist because of

the gaps in the in-school resources that black children experience?

A. The department believes that for black children, for poor children, for Hispanic children, for English learners, yes.

...

Q. And are those unacceptable gaps caused, in large part, by the conditions that the children experience in our public schools?

A. They are caused, in large part, by those experiences which are also a result from the state resources and conditions in which they are learning.

Tr. 1912:4-10 (Stem); Tr. 2538:17-23 (Stem).

935. The solution is also clear:

Q. So you're a Ph.D in a room with a bunch of lawyers. Does the Department believe that any particular type of student, by race or by economic status, is better suited to be a welder or an electrician than a lawyer or a Ph.D?

A. Absolutely not.

Q. And does the Department believe that additional funding, if used appropriately, will allow greater increases in college attainment that is currently achievable?

A. That's correct.

Q. And will that be particularly true for economically disadvantaged students and students of color?

A. Especially true.

Tr. 8880:14-8881:4 (Ortega).

Q. And do you agree that funding is a very important factor for improving outcomes?

A. Funding is a very important factor for improving outcomes.

Q. Is that because funding would allow the school districts educating large numbers of children in poverty to engage in the strategies that the department has identified to increase educational outcomes?

A. Funding would best — increased funding would best position districts and schools to create the conditions for student success.

Q. And you sort of touched on this before; but without additional funding, do you believe we will, in fact, close the achievement gaps that we see in Pennsylvania?

A. I think it's very, very unlikely that the department — that Pennsylvania will be able to close the achievement gaps that we've seen for decades without additional funding for — particularly for schools with high percentages of students in poverty.

Q. And without additional funding will we meet the ESSA goals that you've laid out for 2030?

A. I believe it's very unlikely that we would meet the 2030 ESSA goals without the additional funding for the resources for the strategies to meet the needs that — some of the needs that we've discussed.

Tr. 1912:11-1913:16 (Stem).

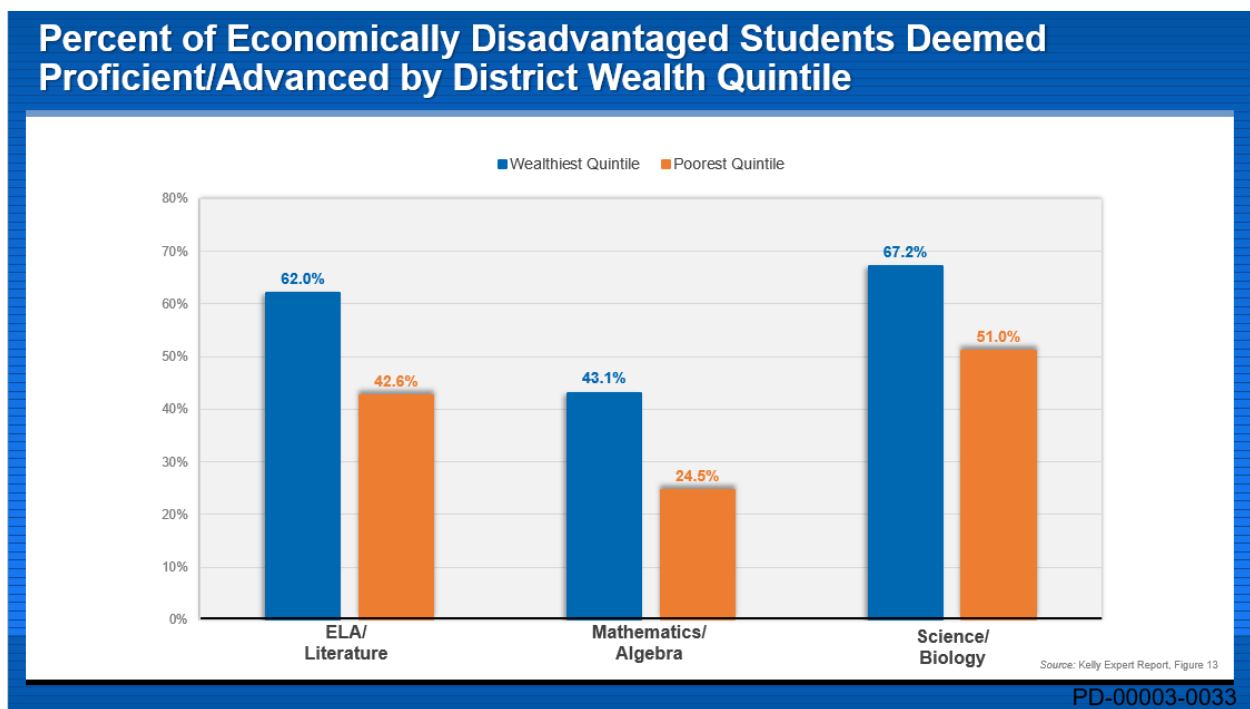
936. A system that identifies why certain groups of students are failing and then categorically deprives them of the resources necessary to alleviate that failure is a system that is itself failing.

3. When economically disadvantaged and historically underperforming children are provided more funding they perform better.

937. As witnesses for every party concedes, poverty is not destiny.

Tellingly, economically disadvantaged students in the highest wealth quintile districts perform better than economically disadvantaged students in the lowest

wealth quintile. In other words, a student from a low-income family in Pennsylvania that attends school in one of the wealthiest districts is, on average, able to reach state standards at a higher rate than similarly low-income students attending school in one of the poorest quintile districts, those with the greatest need and least amount of funding. The differences are significant; 62% of economically disadvantaged students meet state ELA/literature standards in the wealthiest quintile compared to only 42.6% in the poorest, 43.1% meet math/algebra standards in the wealthiest quintile compared to only 24.5% in the poorest, and 67.2% meet science/biology standards in the wealthiest compared to only 51% in the poorest. Tr. 1227:7-16 (Kelly):



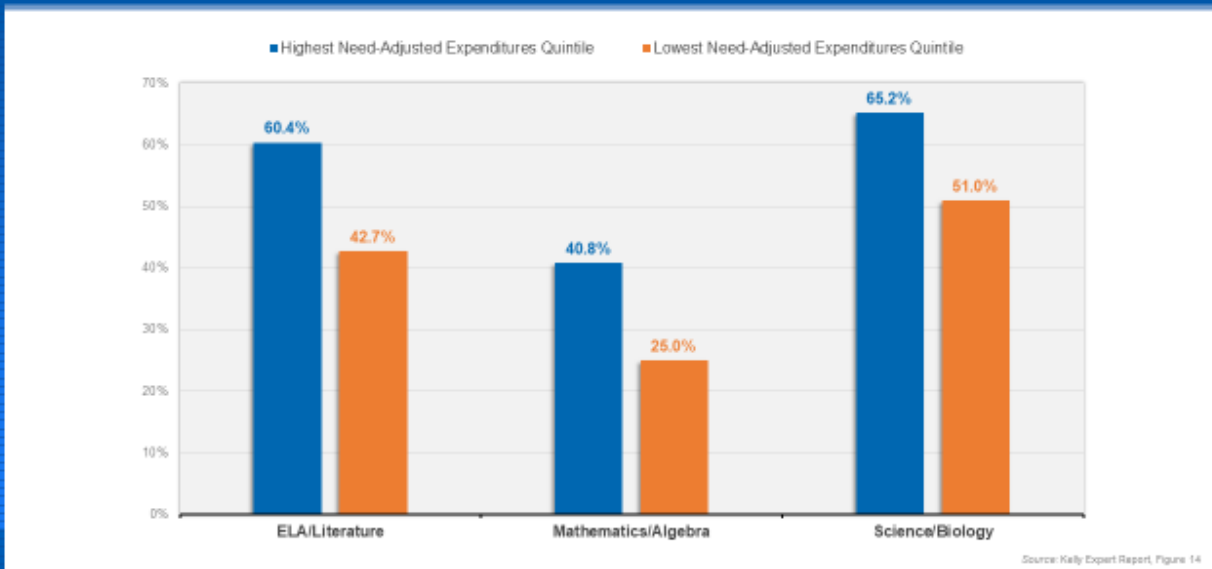
PD-3-33.

938. This holds true across quintiles, with economically disadvantaged students performing better on state standardized tests in schools that fall into wealthier quintiles — performance of economically disadvantaged students improves at every wealth quintile. Tr. 1228:6-13 (Kelly); *see* PD-3-70.

939. These patterns for economically disadvantaged student performance hold when comparing districts by need-adjusted expenditures; in other words, districts that spend more relative to their needs are better able to help their students achieve. In Springfield Township, for example, economically disadvantaged students performed better on Keystone Literature and Algebra exams than the statewide average *for all students*. Tr. 10544:6-10545:14 (Hacker); PD-6-13–14. The same is true at Lower Merion High School. *See* PX-2246-1–2; Tr. 7875:17-7877:14 (Hite).

940. These examples are indicative of a pattern. Economically disadvantaged students in districts in the highest need-adjusted expenditure quintile (i.e., those spending the most relative to their needs) perform substantially better on Commonwealth standardized tests than economically disadvantaged students in the lowest need-adjusted expenditures. Tr. 1230:8-1231:3 (Kelly).

Percentage of Economically Disadvantaged Students Deemed Proficient/Advanced by Need-Adjusted Expenditures Quintile



PD-00003-0035

PD-3-35.

941. The same pattern holds true for the Petitioner Districts. Based on 2018-19 data, when compared to economically disadvantaged students in the wealthiest quintile districts, economically disadvantaged students in Petitioner Districts have between 21-32% worse performance rates in mathematics and algebra, 16-34% worse in science and biology, and 18-31% worse in ELA/literature. Tr. 1228:17-1230:3 (Kelly):

Performance of Economically Disadvantaged Students in Focus Districts and Wealthy Districts

	Gap with the Wealthiest Quintile		
	MATHEMATICS / ALGEBRA	SCIENCE / BIOLOGY	ELA / LITERATURE
William Penn SD	32%	33%	29%
Panther Valley SD	27%	16%	18%
Shenandoah Valley SD	21%	20%	25%
Lancaster SD	22%	24%	25%
Wilkes-Barre SD	26%	24%	24%
Greater Johnstown SD	28%	33%	30%
Philadelphia SD	26%	34%	31%

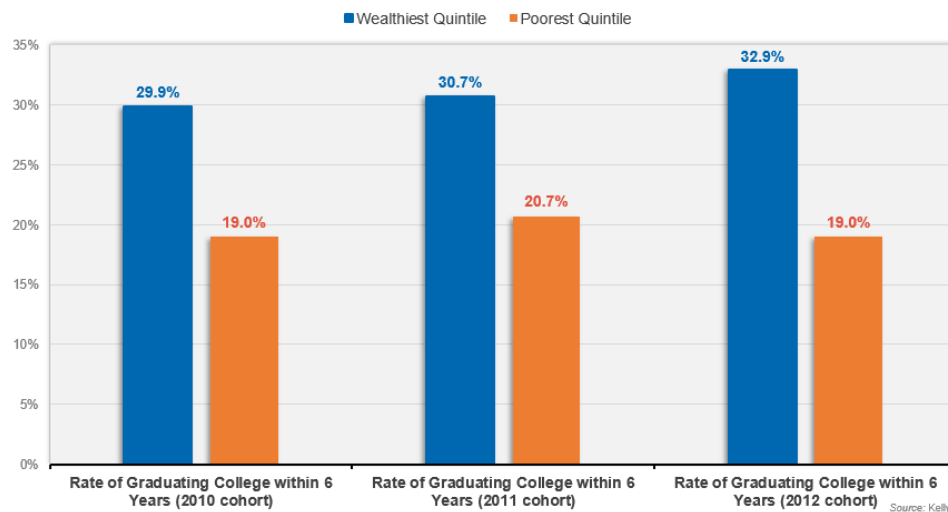
Source: Kelly Expert Report, Table 7

PD-00003-0034

PD-3-34.

942. The impact of school funding does not stop in high school. In fact, economically disadvantaged students that graduate school in a wealthier quintile district go on to graduate college within six years at substantially higher rates than low-income students that attend the poorest quintile districts. Tr. 1243:6-1244:20 (Kelly).

Post-Secondary Graduation for Low-Income Students in Wealthiest and Poorest Quintile



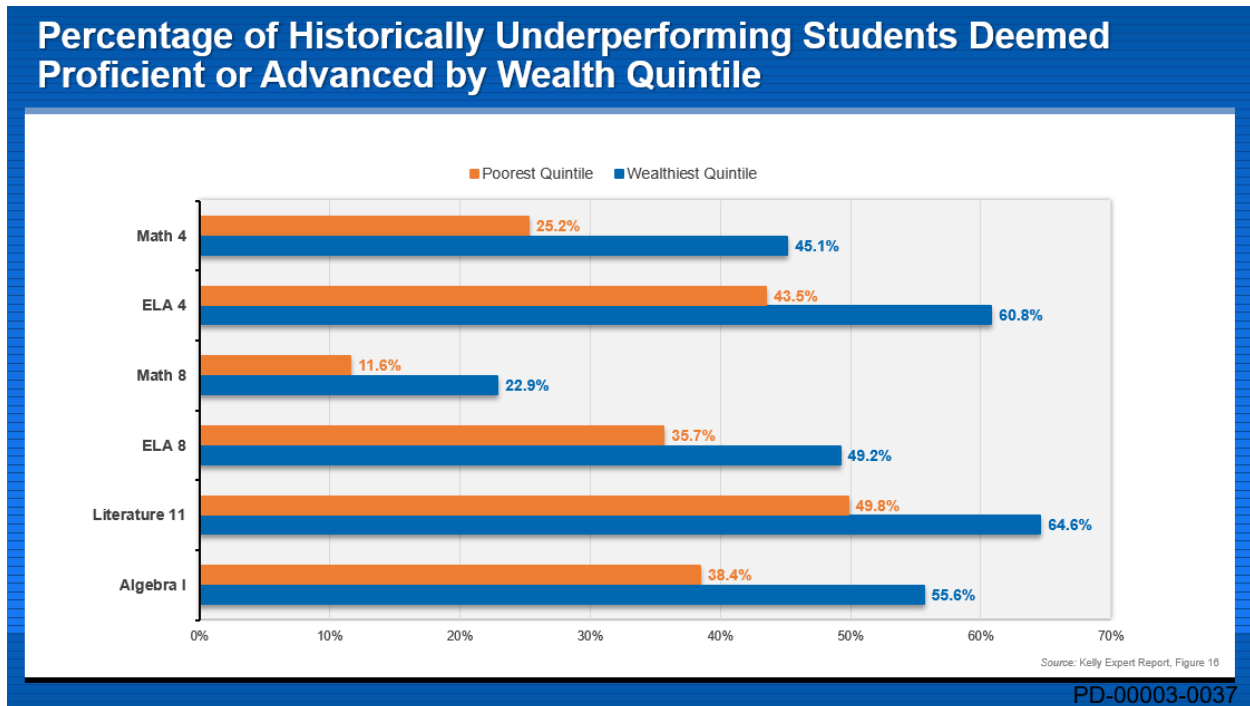
PD-00003-0041

PD-3-41.

943. Once more, the pattern is consistent across wealth quintiles. The wealthier quintile a district is in, the more likely it is that economically disadvantaged students will go on to graduate college. *See* PD-3-74. Grouping districts by another measure — the percentage of students classified as economically disadvantaged — Dr. Belfield found the same patterns, with economically disadvantaged students graduating college at far higher rates when they are in a school district with greater advantage. PD-14-7.

944. Like economically disadvantaged students, historically underperforming students in low-wealth districts meet state standards at a substantially lower rate than historically underperforming students in wealthier districts that are able to spend more. Tr. 1231:24-1233:10 (Kelly). Historically

underperforming students in high-wealth districts, for example, score 45.1% proficient or advanced on the Math Grade 4 PSSA, whereas their counterparts in the poorest quintile districts score only 25.2%. Similar gaps appear at each grade:



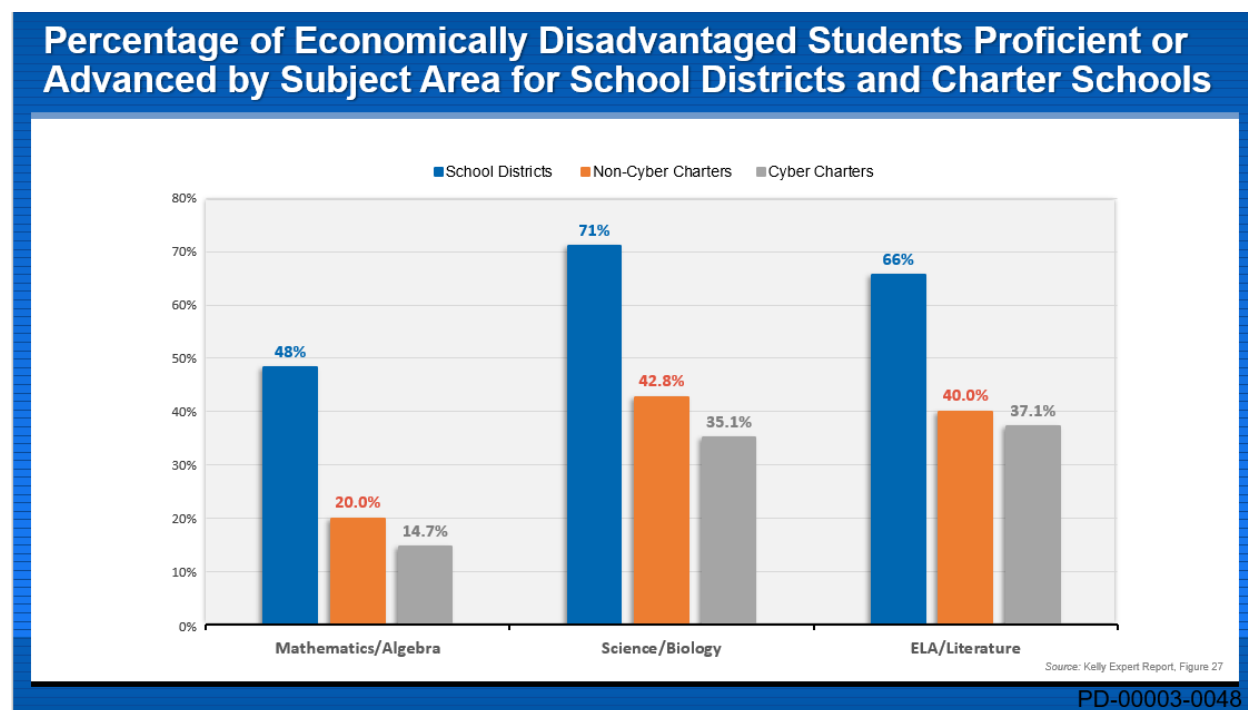
PD-3-37.

945. Respondents introduced no evidence to suggest that the higher performance levels of economically disadvantaged or historically underperforming students attending high-wealth or high-spending districts compared to those attending low-wealth or low-spending districts was related to anything other than the resources in those districts.

C. Charter schools suffer from the same funding system and underperform traditional school districts.

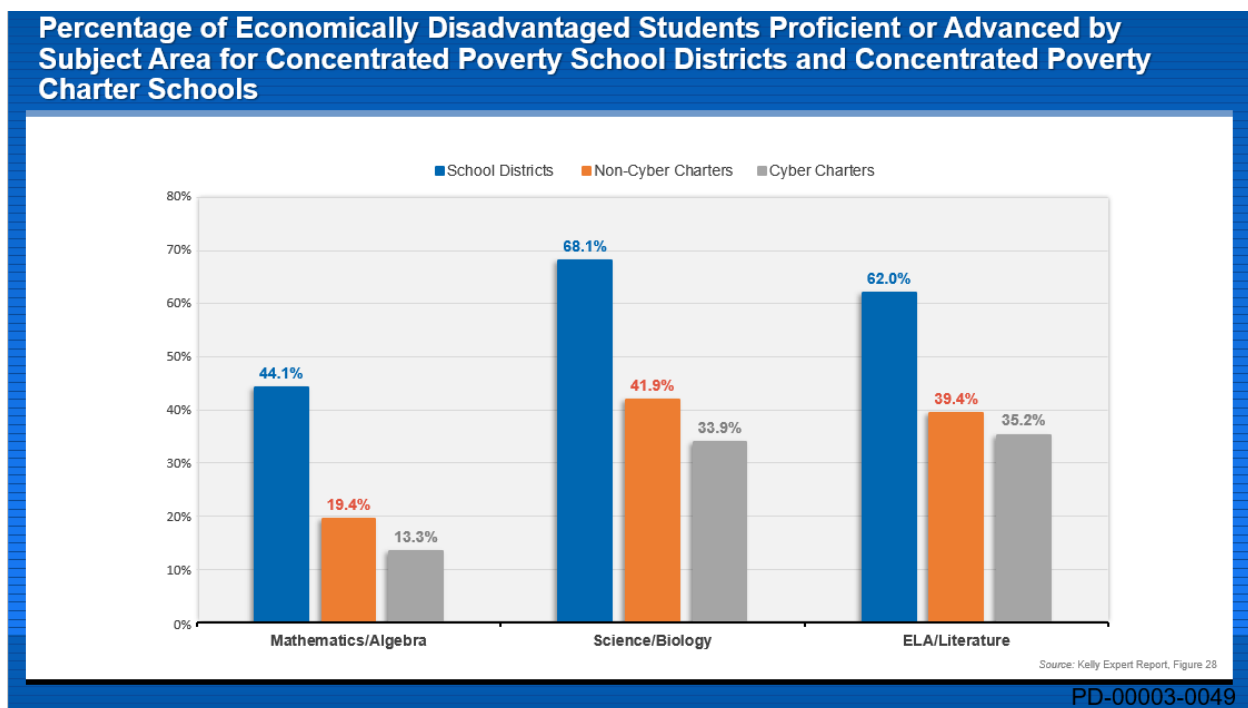
946. Given that they are dependent on many of the same revenue streams as school districts, it is unsurprising that charter schools also regularly struggle to meet state standards.

947. By some broad measures, charter schools and district schools do not perform substantially differently on state outcomes. Tr. 1269:13-1270:1 (Kelly). By other measures, however, charter schools perform much worse. For example, when looking specifically at the performance of economically disadvantaged students, charter schools, especially cyber charter schools, perform significantly worse than traditional public schools. Tr. 1270:4-1271:5 (Kelly):



PD-3-48.

948. Charter schools are more heavily concentrated in poor communities. Yet even when comparing charter performance to districts with concentrated poverty — those districts with 30% or more economically disadvantaged students — public school districts outperform both brick and mortar and cyber charter schools. Tr. 1271:6-21 (Kelly).



PD-3-49.

949. The particular struggle of cyber schools is consistent with the testimony of Dr. Flurie,⁴⁸ who represented that at his cyber charter school,

⁴⁸ Counsel for Senator Corman objected numerous times to the cross-examination of cyber charter leaders Mr. Flurie and Mr. Cote, asserting that they were not offered to testify about and therefore should not opine on “national metrics or standards for educational quality” (Tr.

Commonwealth Charter Academy (CCA), only 40.7% of students scored proficient or advanced on the ELA PSSA in 2019, and that such performance was comparable to prior years. Tr. 12447:21-12452:6 (Flurie).

950. Similarly, Dr. Flurie testified that only 28.6% of CCA students scored proficient or advanced on the 2019 Algebra Keystones, 48% on the Literature Keystones, and 28.1% on the Biology Keystones, and that these performances were also comparable to prior years. Tr. 12452:8-12453:22 (Flurie).

951. As PDE has identified, “outcomes for students in cyber charter school . . . are lower than they are for — not only for brick and mortar public school students, but when compared to their brick and mortar charter counterparts[.]” Tr. 2006:12-23 (Stem). This is why PDE has proposed a moratorium on new cyber charter schools, including a “[l]imit [on] student enrollment in low-performing cyber charter schools until outcomes improve,” PX-4899-2; Tr. 2005:9-2007:8 (Stem).

12581:20-23 (Flurie)) or “Pennsylvania’s funding system” (Tr. 12596:11-13 (Flurie)) or “whether students in any given level of poverty . . . need or don’t need supports” (Tr. 13975:10-15 (Cote)) or how a “cyber charter school is financed or funded” (Tr. 14039:1-8 (Holtzman, Cote)). Counsel specifically asserted that Senator Corman was not asking the Court to infer from Mr. Cote’s testimony anything “to do with whether any other school can or cannot provide an adequate education”, but rather that he was “here only to testify about the relative quality of the education” at his school, Twenty-First Century Cyber Charter School. Tr. 14047:19-14048:2 (Cote). Likewise, counsel for Senator Corman stated that Mr. Flurie was being offered only to “testify about his school, the situations they confront, the things they do and the education they provide.” Tr. 12599:17-21 (Flurie).

XI. Petitioners, the School District of Philadelphia, and Other Low-Wealth School Districts Have Been Disproportionately Impacted by the COVID-19 Pandemic.

A. The pandemic “shed greater light on historic disparities” in school funding.

952. Since March of 2020, when the COVID-19 pandemic abruptly forced schools to shut down, districts across the Commonwealth have had to navigate a series of challenges to educate their students. But as Respondents have all acknowledged, the pandemic’s negative impacts on learning have not been experienced evenly across Pennsylvania’s student population. Tr. 2013:23-2017:5 (Stem); Tr. 14153:19-14154:21 (Hanushek); PX-8319-2 (Speaker Cutler, expressing the need to “provide[] targeted support for those students and schools who may have been greatly impacted by the pandemic”). Instead, COVID-19 has had “disproportionate impacts to students in poverty and districts [with] concentrated poverty, students of color, English learners, the students that are historically disadvantaged in their school systems.” Tr. 2017:1-5 (Stem); *see also* PX-4791.

953. At trial, numerous witnesses identified chronic underfunding as a significant root cause of these disproportionalities. Tr. 2015:3-19 (Stem); Tr. 2851:11-22 (Arcurio); Tr. 10870:7-10872:4 (Costello). As PDE acknowledged, “[i]f the pandemic has taught us anything, it’s that folks have been disproportionately affected. And, in many ways . . . , this is a large part to do with

resources available at the institutions.” Tr. 8856:5-10 (Ortega); PX-7016-11.

Ultimately, “[t]he pandemic shed greater light on historic disparities and heightened the urgency for a sustainable solution.” Tr. 2014:11-13 (Stem); PX-4791.

954. For example, when schools were forced to close and technology suddenly became essential to districts’ ability to continue educating their students, Petitioners and many other low-wealth districts were left behind. As schools went remote, PDE “saw a disproportionate number of low-wealth schools that struggled to meet the technology needs, not only as a district, but also of having technology that students could bring to their homes to engage in remote learning.” Tr. 2014:20-2015:2 (Stem).

955. Petitioners and Philadelphia testified at length about how their schools’ longstanding technology deficits, detailed *supra* at Section IX(B), became crippling once the pandemic hit. Superintendents described the stark differences in their ability to pivot to online learning compared to their wealthier neighboring districts. Former William Penn superintendent Ms. Harbert recalled sitting in Zoom meetings with several other superintendents in March of 2020, listening to them talking about their plans to distribute Chromebooks and put virtual learning in place and realizing, “I don’t know how I’m going to get a device in every child’s hand. I have no idea because I know we don’t have enough for 5,000 students.” Tr.

7039:4-7040:8 (Harbert). Panther Valley Superintendent Mr. McAndrew also experienced the impact of the technology disparities firsthand: in March of 2020, he was the principal of a school in the Jim Thorpe School District, where he had sufficient funding to ‘have a complete [virtual learning] program in place’ within a week of the shutdown. Tr. 371:12-18 (McAndrew). At the same time, as a parent of a Panther Valley student, he watched as “March, April, May, June” went by and “we weren’t getting any education or very little education . . . because we weren’t ready for it and we didn’t have those devices.” Tr. 369:1-12 (McAndrew). The NAACP-PA testified that it responded to a series of complaints from families across the state that their districts “were not getting computers . . . ramped up to help the students remotely as quickly as other districts were.” Tr. 8930:13-20 (Zeff); Tr. 8932:11-8933:3 (Zeff).

956. Districts scrambled to quickly round up and distribute every tablet, computer and hotspot they could find. *See, e.g.*, Tr. 5198:1-18 (Rau); Tr. 7040:9-15 (Harbert); *see also* Tr. 7857:4-21 (Hite). Multiple superintendents described only being able to provide one Chromebook or iPad per household, and having to create a remote learning schedule that allowed multiple children in a household to use a single device at different times throughout the day. Tr. 7040:9-7041:5 (Harbert); Tr. 2774:13-19 (Arcurio); Tr. 5199:7-24 (Rau). In many districts, teachers had to resort to paper packets. Tr. 2770:2-20 (Arcurio); Tr. 3468:17-24

(Waite); Tr. 5198:19-5199:3 (Rau); Tr. 7856:5-19 (Hite). Greater Johnstown was not able to provide every student with a Chromebook until December of 2020, nine months into the pandemic. Tr. 2775:7-13 (Arcurio). Shenandoah Valley did not become one-to-one until the start of the 2021-22 school year, 18 months after the pandemic began. Tr. 3470:13-3471:8 (Waite).

957. Even once districts were able to get one-to-one technology in place, their longstanding technology deficits hampered their efforts to provide virtual learning. Superintendent McAndrew described how even after every student and every teacher had a computer, “it was kind of, like, good luck, here you go. We weren’t able to roll out one to one like other schools did over a time period with professional development. So even though we had the devices, it took us time for our teachers to figure out, on their own . . . or [with the] one person . . . that handles our technology” how to use the new systems. Tr. 332:10-333:3 (McAndrew). As Lancaster superintendent Dr. Rau remarked, “what we learned was that it was a whole lot more complicated to access your learning on a device if you hadn’t been accustomed to using a device.” Tr. 5200:20-24 (Rau); *see also* Tr. 3468:10-16 (Waite); Tr. 7859:9-14 (Hite).

958. Poor building conditions also disproportionately affected districts’ ability to educate their students during the pandemic. As Mr. Stem explained, when districts started making plans to return to in-person learning, PDE tried “to

encourage schools to keep students apart [and] make sure that they had air filtration systems,” but low-wealth school districts like Petitioners Districts and Philadelphia struggled with “the need for air quality [and] the need for space.” Tr. 2015:3-19 (Stem).

959. In the wake of the pandemic, the facility problems that had created uncomfortable learning conditions for years, such as broken windows and cramped classrooms, were now serious “health hazards.” Tr. 7002:7-19 (Harbert). In turn, this created barriers to providing in-person instruction. For example, Dr. Becoats explained that William Penn’s small rooms made it so difficult to social distance that rather than splitting students into an “A” group and “B” group for hybrid instruction, “we had to actually develop an A day, B day, C day, D day schedule. So, we were only able to provide for students one day of in-person instruction.” Tr. 7436:23-7437:12 (Becoats). Similarly, Panther Valley superintendent Mr. McAndrew explained that once the district started to transition students back to in-person learning, they had to send their students home to eat their lunches and could not provide full days of instruction. Tr. 375:7-24 (McAndrew). Dr. Hite testified that the School District of Philadelphia was forced to remain completely virtual for an entire year before any of their students could return to the building, because of concerns about ventilation and adequate access to personal protective equipment. Tr. 7861:16-7862:11 (Hite).

960. Petitioners’ chronic understaffing — especially in the area of social and emotional support, *see supra* at Section IX(B)(4) — also exacerbated COVID’s toll on students’ and staff’s mental health. As Wilkes-Barre superintendent Dr. Costello remarked, “there are so many social and emotional issues that we need to deal with” as a result of COVID. Tr. 10870:12-14 (Costello); *see also, e.g.*, Tr. 6014:22-6015:5 (Aikens). Some students experienced anxiety, depression, isolation, or trauma related to the pandemic, creating additional mental health needs. Tr. 7492:1-8 (Becoats); Tr. 5943:6-15 (Przywara); Tr. 7865:7-21 (Hite). Many students struggled to adjust to in-person learning. Tr. 10870:24-10871:13 (Costello).

961. And reintegration was made more difficult by the prolonged lockdowns districts were forced to endure as a result of their inadequate facilities: Dr. Hite described the challenges of young people in the School District of Philadelphia who “left school as 7th graders and did not return to an in-person experience until they were in the 9th grade in a totally different facility.” Tr. 7865:7-21 (Hite). Many of the Petitioner Districts’ youngest students, who disproportionately lack access to pre-kindergarten, *see supra* at Section IX(B)(1), and had to attend kindergarten online, have never been in a school building and need help mastering basic social skills. Tr. 360:1-18 (McAndrew).

B. As a result of resource inequities, Petitioners’ and Philadelphia’s students have experienced particularly significant learning loss.

962. As a result of these resource gaps, students in Petitioner Districts, PARSS district Otto-Eldred, and Philadelphia have lost a disproportionate amount of instructional time since the start of the pandemic. Tr. 2015:16-17 (Stem). For example, in Panther Valley, students missed “three to four months” of learning because Panther Valley did not have the technology to provide “a proper [virtual learning] program” in the spring of 2020. Tr. 461:16-462:9 (McAndrew). Similarly, as a result of inadequate resources, “education for students at Greater Johnstown stopped in March 2020, and we were in review for the remainder of that school year.” Tr. 2771:3-6 (Arcurio).

963. Shenandoah Valley superintendent Mr. Waite described reviewing the paper packets that teachers sent home in lieu of online instruction during the shutdown, and realizing that “even with teachers trying to provide explicit directions . . . we could see by the information that was coming back that [the students] definitely did not have the ability to know the materials as well as they would if they were sitting in front of a teacher in face-to-face instruction.” Tr. 3472:1-20 (Waite). Dr. Rau watched Lancaster students, especially her ELL population, struggle to adapt to virtual learning, because it “was not how instruction was ever done in our classrooms.” Tr. 5201:12-5202:11 (Rau). ELLs

were further “disproportionately impacted” by remote learning because they could not understand how to use new technologies in English. Tr. 7860:24-7861:7 (Hite). And many students with disabilities were not able to receive services virtually. Tr. 7860:10-23 (Hite). In Wilkes-Barre, “the amount of learning that has taken place for the majority of our students has been minimal.” Tr. 10872:15-18 (Costello).

964. The challenges Petitioners and Philadelphia faced in returning to in-person learning resulted in even more lost instructional time. Tr. 462:2-5 (McAndrew); Tr. 2773:16-2774:19 (Arcurio). A significant number of the students stayed remote rather than try to negotiate complicated hybrid schedules or risk health and safety. Tr. 462:5-9 (McAndrew); Tr. 2753:9-16 (Arcurio). Some districts struggled to provide the resources necessary to support students who had trouble transitioning back to being in a school setting. Tr. 10870:2-10871:19 (Costello).

965. Every superintendent testified that, as a result of longstanding resource deficits, compounded by COVID-related disruptions, students have experienced “significant” learning loss. Tr. 3472:1-3473:19 (Waite); Tr. 10869:23-10870:6 (Costello); Tr. 5203:19-23 (Rau); Tr. 5209:19-5211:2 (Rau); Tr. 463:9-16 (McAndrew); Tr. 2848:8-2853:7 (Arcurio); Tr. 6243:17-22 (Splain); Tr. 7492:1-14 (Becoats); Tr. 7864:9-7865:6 (Hite). “[T]hese students had significant gaps in their learning . . . but we were unable to respond due to our lack of resources prior to the

COVID pandemic,” explained Dr. Arcurio. “And so now we see, fast forward, that our students who were . . . in and out of remote learning, who did not have significant access to the Internet while they were in remote learning . . . they suffered greatly and are unable to perform at a level of proficiency[.]” Tr. 2851:11-22 (Arcurio); *see also* Tr. 5210:23-5211:2 (Rau); Tr. 10870:7-10872:4 (Costello).

966. Internal evaluations and state assessments both confirm this learning loss. In Lancaster, an independent reading assessment conducted after students returned to in-person learning showed that elementary children had suffered a year’s worth of loss. Tr. 6044:4-11 (Aikens). Internal assessments administered at William Penn indicate that the district’s sixth graders are almost three grade levels behind in math. Tr. 7469:5-7474:1 (Becoats). Dr. Hite testified that the academic impact was especially significant among Philadelphia’s youngest students, in kindergarten through second grade. Tr. 7864:12-7865:6 (Hite).

967. Learning loss is also glaringly apparent in the 2021 state assessments, some of which demonstrate single-digit proficiency.⁴⁹ Dr. Becoats called the results “very, very troubling[.]” Tr. 7467:6-7468:3 (Becoats):

⁴⁹ Legislative Respondents suggest there is a difference in Petitioners’ Keystone Exam summary charts and the Keystone Exam results that were eventually released by the Commonwealth in March of 2022. They misapprehend the supposed discrepancy. At trial, Petitioner Districts moved into evidence the 2021 PSSA and Keystones score data for their 2021 test takers, which PDE had not publicly released, but had distributed to school districts. *See* PX-4817; PX-4818;

William Penn SD, Percentage of Students Proficient or Advanced by Subject Area and Grade, 2021 PSSA/Keystones Scores								
Subject Area	3rd Grade	4th Grade	5th Grade	6th Grade	7th Grade	8th Grade	3rd to 8th Grade	Keystones
Math/Algebra I	12.83%	6.22%	7.54%	2.63%	2.99%	6.04%	6.67%	14.29%
ELA/Literature	30.04%	26.39%	22.61%	34.04%	31.36%	23.87%	28.09%	38.70%
Science/Biology	N/A	53.96%	N/A	N/A	N/A	21.13%	N/A	21.27%
Source: Ex. No. PX-04776, PX-04788								

PX-4821;

Greater Johnstown SD, Percentage of Students Proficient or Advanced by Subject Area and Grade, 2021 PSSA/Keystone Scores								
Subject Area	3rd Grade	4th Grade	5th Grade	6th Grade	7th Grade	8th Grade	3rd to 8th Grade	Keystone
Math/Algebra I	11.11%	10.34%	5.92%	3.92%	5.75%	0.65%	6.18%	6.14%
ELA/Literature	22.07%	16.55%	19.87%	21.43%	27.59%	20.89%	21.60%	25.93%
Science/Biology	N/A	35.00%	N/A	N/A	N/A	17.20%	N/A	11.46%
Source: Ex. No. PX-04526								

PX-4817;

PX-4819; PX-4820; PX-4821. This data only shows the scores of students that took their respective tests in 2021. However, students can take a Keystone Exam in earlier years and “bank” their score until it is reported in their 11th grade year. PX-313 (“Keystone Exams are designed to be administered to students at or near the end of a Keystone related course. Students results are banked until their junior year for accountability purposes.”); Stem Dep. Tr. Vol. 1, 235:7-11 (identifying that the Future Ready Index includes “banked Grade 11 scores”). And students who take a Keystone Exam in seventh or eighth grade, and bank a score, are often a district’s most advanced students. *See, e.g.*, Tr. 10541:4-24 (Hacker) (“[B]y the time this cohort of students got to the high school, a good proportion of them had already taken, and, therefore, passed the Keystone in algebra.”); Tr. 5160:8-20 (Rau).

The test data distributed to school districts by PDE in September of 2021 did not yet include these “banked” scores. PX-8321. The parties subsequently moved into evidence PSSA and Keystone results publicly released by PDE in March of 2022 that included results for *all* 11th grade test takers, including those that had previously “banked” a Keystone score. LR-3443; *see also* PX-8321. It is for this reason that the variances between data sets are confined only to the Keystones, and not the PSSAs.

Thus, these PDE datasets do not contain any discrepancies, as they compare two different student groups. PX-8321. Moreover, as a matter of math, because general test participation was down in 2021, the banked scores of advanced-track students form a larger proportion of the March 2022 set of results. PX-8321.

Panther Valley SD, Percentage of Students Proficient or Advanced by Subject Area and Grade, 2021 PSSA/Keystones Scores								
Subject Area	3rd Grade	4th Grade	5th Grade	6th Grade	7th Grade	8th Grade	3rd to 8th Grade	Keystone
Math/Algebra I	30.00%	8.25%	11.21%	10.94%	13.08%	4.63%	13.34%	13.92%
ELA/Literature	45.00%	32.67%	26.61%	35.34%	38.53%	37.04%	36.03%	50.00%
Science/Biology	N/A	66.33%	N/A	N/A	N/A	36.45%	N/A	36.90%
Source: Ex. Nos. PX-04614, PX-04782								

PX-4818;

Shenandoah Valley SD, Percentage of Students Proficient or Advanced by Subject Area and Grade, 2021 PSSA/Keystone Scores								
Subject Area	3rd Grade	4th Grade	5th Grade	6th Grade	7th Grade	8th Grade	3rd to 8th Grade	Keystones
Math/Algebra I	31.51%	9.46%	12.82%	20.00%	4.84%	3.23%	13.86%	15.94%
ELA/Literature	52.70%	35.14%	37.18%	38.18%	38.71%	25.40%	38.18%	33.33%
Science/Biology	N/A	60.81%	N/A	N/A	N/A	20.63%	N/A	14.29%
Source: Ex. Nos. PX-04574, PX-04575								

PX-4819;

Wilkes-Barre Area SD, Percentage of Students Proficient or Advanced by Subject Area and Grade, 2021 PSSA/Keystone Scores								
Subject Area	3rd Grade	4th Grade	5th Grade	6th Grade	7th Grade	8th Grade	3rd to 8th Grade	Keystones
Math/Algebra I	21.03%	10.43%	8.41%	12.50%	8.02%	3.92%	11.47%	Not Available
ELA/Literature	28.63%	34.91%	26.32%	38.28%	28.74%	28.21%	30.90%	40.43%
Science/Biology	N/A	57.69%	N/A	N/A	N/A	30.00%	N/A	18.01%
Source: Ex. Nos. PX-04638, PX-04785								

PX-4820.

968. As Speaker Cutler has acknowledged, these results are “proof” of “immense” learning loss due to the pandemic. PX-8318. And as Senator Corman’s expert witness Dr. Hanushek testified, economically disadvantaged students have suffered larger learning losses than others — losses that will “absolutely” have disparate long-term consequences on those students’ educational outcomes and future wages. Tr. 14154:8-21 (Hanushek).

C. One-time federal emergency aid “does not and will not address the enduring resource inequities in Pennsylvania’s education system.”

969. In response to the pandemic, schools received three rounds of emergency relief funding from the federal government, colloquially referred to as ESSER 1, ESSER 2, and ARP/ESSER. Tr. 2452:11-2453:1124 (Stem). Each round of funding had different time periods by which those dollars had to be expended, with the last round of funding expiring in September of 2024. Tr. 2462:14-2463:6 (Stem). ESSER funding is intended to be used for certain expenses “which address the impacts of COVID on school communities, and . . . mitigate some of the negative impacts of COVID on students,” such as “health and safety activities or functions, instructional functions, facilities-related needs related to air quality or social distancing.” Tr. 2464:14-2465:11 (Stem). The funding requires districts to set aside a certain amount of funds for specific purposes, including to address learning loss. Tr. 2465:12-16 (Stem).

970. It is well understood that the financial relief provided by these federal funds is temporary. PX-4655; Tr. 2468:1-9 (Stem). School districts have repeatedly been told by Respondents that ESSER is one-time money that should be used for one-time purposes. *See, e.g.*, Tr. 284:13-285:7 (McAndrew); Tr. 2804:18-2805:22 (Arcurio); Tr. 3505:2-16 (Waite); Tr. 5213:15-5215:7 (Rau). In a letter to school districts, Senator Corman specifically advised that “school districts should not use

one-time funding to increase their ongoing, baseline spending with the expectation that the state’s fiscal condition will be in a position to replace the funding in future years.” PX-4655. Secretary Ortega similarly advised districts to “consider how your school entity can sustain these non-recurring resources” LR-1725-2. As Mr. Stem explained, the intent was to warn districts that the money was not appropriate for recurring costs such as “long range staffing needs,” because “[t]here’s a cliff that school leaders should be anticipating.” Tr. 2467:11-2469:6 (Stem).

971. Faced with enormous challenges and limited dollars, Petitioner Districts, PARSS district Otto-Eldred, and Philadelphia have used the COVID relief funds to target some of their most urgent needs. *See, e.g.*, Tr. 286:10-288:9 (McAndrew). For example, every district has invested in technology, purchasing enough tablets or Chromebooks to ensure that every student can access remote learning, upgrading internet and server capacity, and outfitting classrooms with modern instructional tools such as software and smartboards. Tr. 286:10-19 (McAndrew); Tr. 3283:17-19 (Arcurio); Tr. 3505:17-3506:22 (Waite); Tr. 5200:7-12 (Rau); Tr. 7041:14-7042:4 (Harbert); Tr. 7422:21-7423:10 (Becoats); Tr. 7428:4-7431:5 (Becoats); Tr. 10794:19-10795:4 (Costello); Tr. 10195:17-10196:3 (Monson); Tr. 6242:16-6243:8 (Splain); Tr. 6243:23-6244:5 (Splain).

972. However, the districts are acutely aware that this technology requires regular maintenance and replacement. *See, e.g.*, Tr. 368:10-22 (McAndrew); Tr. 369:11-19 (McAndrew); Tr. 7431:18-7432:15 (Becoats). For example, the average lifespan of a Chromebook is three to five years. Tr. 7432:2-9 (Becoats). And multiple superintendents testified that they do not have the funds necessary to sustain their technology needs after the ESSER money expires. Tr. 369:11-19 (McAndrew); Tr. 2778:19-22 (Arcurio); Tr. 7433:9-15 (Becoats); Tr. 10797:5-20 (Costello). As Greater Johnstown superintendent Dr. Arcurio explained, “that is an issue that . . . keeps me up at night, because you can’t put the toothpaste back in the tube, as I like to say. You know, these kids have this technology and they’re using it and it’s great and it’s enhancing their learning experience. So you know, now I’m . . . worried, how are we replacing this technology, because when the ESSER money is gone in September 2024 . . . we’re back to the technology budget that we currently have.” Tr. 2777:17-2778:4 (Arcurio); *see also* Tr. 404:4-16 (McAndrew); Tr. 7433:16-7434:3 (Becoats).

973. Every district has also committed ESSER money to address critical facilities needs such as upgrades to HVAC systems and other efforts to improve air quality and ventilation. Tr. 2805:23-2806:14 (Arcurio); Tr. 3507:4-12 (Waite); Tr. 5753:23-5754:5 (Przywara); Tr. 6244:9-12 (Splain); Tr. 7437:13-7438:1 (Becoats); Tr. 7450:14-7451:3 (Becoats); Tr. 7867:12-21 (Hite); Tr. 10873:24-10874:6

(Costello). As Dr. Arcurio explained, Greater Johnstown used its ESSER funds “to make significant changes and upgrades to our schools that haven’t happened for decades.” Tr. 3283:19-3284:1 (Arcurio). But these repairs are only scratching the surface of their facilities needs. Mr. Waite described having to decide between improving Shenandoah Valley’s HVAC system and replacing the two 40-year-old coal burning boilers. Tr. 3508:8-3511:2 (Waite). Shenandoah Valley chose to prioritize the HVAC — but “now that we’ve done that, one of our boilers has actually gone down. And so . . . our heating system within our district is operating on one boiler.” Tr. 3511:5-3511:9 (Waite). William Penn’s facility study indicates that just its HVAC needs alone are three times the total amount of the ESSER funding that has been allocated to the district. Tr. 7450:14-7451:3 (Becoats); *cf.* LR-1573, cell C647.

974. Every district is also using the ESSER money to address learning loss through a variety of strategies, including summer enrichment, tutoring, remediation programs, and smaller class sizes. Tr. 430:3-11 (McAndrew); Tr. 2852:7-2853:7 (Arcurio); Tr. 5210:12-22 (Rau); Tr. 5211:8-5213:7 (Rau); Tr. 6243:17-6244:17 (Splain); Tr. 7424:19-23 (Becoats); Tr. 7492:15-7493:5 (Becoats); Tr. 7866:7-18 (Hite). Many invested in upgrading some of their outdated textbooks and curricula. Tr. 387:9-21 (McAndrew); Tr. 393:4-19 (McAndrew); Tr. 7424:7-18 (Becoats). But these materials need to be updated on a regular cycle. Tr. 368:23-369:10

(McAndrew). And the significant learning gaps their students have cannot be remedied in the short timeframe provided by ESSER funds, especially without the ongoing investments in human resources that these learning interventions require. Tr. 2850:22-2852:22 (Arcurio); Tr. 5211:8-14 (Rau); Tr. 5213:8-14 (Rau); Tr. 7494:6-21 (Becoats).

975. As Philadelphia’s Chief Financial Officer Mr. Monson testified, “in order to make the investments we need to make in education, you need recurring funding; you need to be able to maintain the level of counselors or teachers or whoever has been added. . . . And you can only do that if you have recurring funding.” Tr. 10206:1-9 (Monson). As a result, many school leaders decided that they could not use ESSER funds to hire permanent staff, because “you really shouldn’t be spending [one-time funding] on ongoing costs because you’re creating a bigger deficit down the road.” Tr. 6245:23-6246:8 (Splain); *see also* Tr. 5724:21-5725:19 (Przywara). So, for example, William Penn elected to contract with an outside counseling service to address its social and emotional support needs, rather than create new positions. Tr. 7426:24-7427:20 (Becoats).

976. Nonetheless, some districts have had no choice but to use their ESSER funds to plug gaps in operating funds and put in place critical services, even though they know they will not be able to sustain them. Tr. 284:8-285:7 (McAndrew); Tr. 287:5-288:9 (McAndrew); Tr. 289:17-290:19 (McAndrew); Tr.

3507:18-3508:7 (Waite); Tr. 10204:16-10205:14 (Monson). As Mr. McAndrew explained, “[w]e felt at the time the way to . . . live for another day, was to use this money to get us through to keep the doors open [.]” Tr. 284:21-285:1 (McAndrew). Similarly, Mr. Waite testified that even though he was advised to use the funds for one-time expenses, the needs of Shenandoah Valley’s students were so great that the district decided to use some ESSER funds to lower class sizes and hire specialists. Tr. 3507:18-3508:7 (Waite). However, none of these districts will be able to continue to employ those positions after ESSER funding runs out. Tr. 3513:3-9 (Waite); Tr. 290:20-291:14 (McAndrew). As Mr. Monson stated: “They go away once the federal funding goes away.” Tr. 10205:10-14 (Monson).

977. Ultimately, regardless of how carefully these districts use their ESSER dollars, the funds will expire, and as William Penn superintendent Dr. Becoats testified, “we will revert back to where we were. And in my opinion, that’s unacceptable[.]” Tr. 7494:6-11 (Becoats). This is not because Petitioners and other low-wealth districts haven’t used their money wisely. Tr. 2017:6-20 (Stem). It is because, as PDE has stressed, the purpose of the ESSER money was “[t]o mitigate the impacts of COVID on student learning” and that “[w]hile this funding is vital to ensuring our educational system’s recovery from the challenges of the pandemic, it is one-time emergency aid intended to cover unforeseen health, safety and educational expenses, particularly for our most vulnerable students. The

funding does not and will not address the enduring resource inequities in Pennsylvania's education system.” Tr. 2016:14-2017:20 (Stem); PX-4899-2.

978. As Dr. Arcurio testified, “we’ll utilize those COVID dollars and we’ll work incredibly hard like we do between now and September 2024 to make the biggest impact for our students that we can, but then . . . that window closes and . . . we’ll be left with . . . those painful decisions again of what students are eligible to receive the resources that our budget can afford.” Tr. 2852:23-2853:7 (Arcurio). Every district expressed grave concerns about their ability to survive in a post-ESSER world. *See, e.g.*, Tr. 290:20-291:14 (McAndrew); Tr. 10201:9-10202:9 (Monson).

XII. Legislative Respondents' Experts Were Not Credible.

979. Legislative Respondents offered the expert testimony of six expert witnesses, five of which were qualified by the Court. As discussed below, these experts did not provide probative, credible testimony regarding the adequacy or equity of Pennsylvania school funding, and their testimony is deserving of no weight.⁵⁰

A. Respondents' experts' reliance on the U.S. Census is in error, because that data does not provide a reliable measure of Pennsylvania per-student spending.

980. Through Mr. Willis, Mr. Eden, and other witnesses, Legislative Respondents sought to rely on information from the United States Census ("Census") and the National Center of Education Statistics ("NCES"), which purportedly capture Pennsylvania's per-student funding as compared to other states. *See, e.g.*, U.S. Census Bureau, Summary Tables: Public Elementary-Secondary Education Finances: Fiscal Year 2018, <https://www.census.gov/data/tables/2018/econ/school-finances/secondary->

⁵⁰ The testimony of Dr. Christine Rossell is more fully discussed in Section V(E). The testimony of Dr. Eric Hanushek is more fully discussed in Section VI(E)(2).

education-finance.html.⁵¹; *see also* Tr. 12753:18-12754:10 (Willis); Tr. 13326:9-18 (Eden); Tr. 1399:10-22 (Kelly).

981. Even were the per-student Census data offered by Legislative Respondents accurate, it would be of limited value in evaluating Petitioners' claims. The Census has no adjustments for labor market costs or other data, and it is an aggregate figure, which does not reveal whether low-wealth districts are adequately or equitably funded. Tr. 1541:1-15 (Kelly).

982. But in fact, the Census information is not reliable. The Census reports far higher per-student levels of expenditures and revenues for Pennsylvania than Pennsylvania itself reports. Tr. 14475:13-24 (Kelly). For example, the per-pupil figures reported by the Census report that Pennsylvania's per-pupil revenue is \$20,434 for the 2017-2018 fiscal year. Tr. 14466:14-14467:16 (Kelly) (discussing U.S. Census Bureau, Summary Tables: Public Elementary-Secondary Education Finances: Fiscal Year 2018). Yet PDE reports that per-ADM revenue for the same time period is \$17,622.37, a difference of roughly \$3,000 per student. PX-2133; Tr. 14475:13-21 (Kelly).

⁵¹ The Court took judicial notice of U.S. Census Bureau data, which was reviewed during the rebuttal testimony of Dr. Kelly, as LR-1626. Tr. 14466:11-14467:9 (Kelly).

983. Dr. Kelly explained why these differences exist. Tr. 14465:6-14484:9 (Kelly). First, the Census double-counts revenues that flow to charter schools (counting them once as they go to school districts, and then again as they are passed through to charter schools), which results in the Census over-reporting Pennsylvania's total revenues. Tr. 14465:21-14466:8 (Kelly). Second, the Census undercounts the total students those funds are paying for, by leaving charter students out of its denominator. Tr. 14478:8-18 (Kelly).

984. As is undisputed, Pennsylvania school districts are fiscally responsible for charter school students who reside in their district. Tr. 14468:24-14469:24 (Kelly). As a result, the funds that a school district receives and expends are for both the students in their own schools, but also for those students residing in their districts who attend charter schools. Tr. 14474:9-22 (Kelly); *see also* Section VI(F)(3).

985. Dr. Kelly demonstrated, by way of example, that the Census data used to calculate per-pupil revenue for 2017-2018 reflected that there were 1,570,061 students enrolled in Pennsylvania public schools. Tr. 14470:10-21 (Kelly); U.S. Census Bureau, Summary Tables: Public Elementary-Secondary Education Finances: Fiscal Year 2018, table 19, cell E55. This is not accurate. Tr. 14470:22-14471:3 (Kelly). In fact, there were over 1.7 million students during that school year. PX-2133, tab "2017-18 Rev per ADM," cell D503. In other words, as Dr.

Kelly explained, in the denominator of its per-pupil figure, the Census leaves out the charter students that state funds are paying to educate. Tr. 14477:18-14478:7 (Kelly).

986. As a matter of basic math, the failure to include all students a school district is paying for in a per-student figure will artificially inflate that figure. Tr. 14477:18-14478:18 (Kelly). By way of example, Dr. Kelly showed how the error worked in Philadelphia, where approximately 70,000 students attend charter schools. Tr. 14480:11-14484:6 (Kelly); Tr. 7711:23-7712:5 (Hite).

987. For the 2017-18 school year, Philadelphia was fiscally responsible for 203,016 students. Tr. 144880:4-19 (Kelly); PX-2133, tab “revenue per ADM,” cell D400. Rather than dividing Philadelphia’s revenues by 203,016 students to determine the district’s per-student revenue, however, the Census divided only by 131,238, which represents only the students enrolled in district-run schools. Tr. 14881:22-14482:10 (Kelly); *see* U.S. Census Bureau, Summary Tables: Public Elementary-Secondary Education Finances: Fiscal Year 2018, (table 15, cell F35). Accordingly, because the Census was missing one-third of the students Philadelphia pays to educate in its denominator, the Census calculated per-student funding in Philadelphia as over \$26,000. Tr. 14481:14-14484:6 (Kelly). In actuality, on a per-student basis, Philadelphia’s revenues were only \$16,385 in

2017-18. Tr. 14880:23-14881:2 (Kelly); PX-2133, tab “2017-18 Rev per ADM,” cell E400.

988. Dr. Kelly testified that these errors, combined, explain nearly all of the discrepancy between PDE’s per-pupil revenue numbers and the Census numbers. Tr. 14555:12-14556:14 (Kelly). This error should come as no surprise to Legislative Respondents’ experts. Both the Making the Grade report cited by Mr. Willis below, *see infra* at Section XII(B)(1)(b), and the Urban Institute report cited by Mr. Eden below, *see infra* at Section XII(D)(2) expressed concerns with the way the Census reports these figures in Pennsylvania.

B. Jason Willis’s testimony was not credible, made various fatal flaws, and was lacking critical information.

989. At trial, Speaker Cutler offered the testimony of Jason Willis, the Director for WestEd, a national education research organization. Tr. 12671:1-12 (Willis). Mr. Willis’s testimony was not credible.

990. To start, and as explained in the various sections above, Mr. Willis agreed with numerous premises of Petitioners’ case, from the impact of educational interventions on students, to the effect of mandated costs on school districts, to the importance of the research of scholars such as Petitioners’ experts Dr. Rucker Johnson and Dr. Clive Belfield. *See, e.g.*, Tr. 12876:22-12877:9 (Willis); Tr. 12934:14-12935:1 (Willis); Tr. 12888:4-12 (Willis); Tr. 12982:7-13

(Willis). Yet starting with the first question Mr. Willis was asked on cross-examination, that agreement generally came only after he was impeached with his past writings. *See, e.g.*, Tr. 12870:7-12874:24 (Willis); Tr. 12895:2-12897:11 (Willis); Tr. 12921:10-12922:21 (Willis); Tr. 12931:19-12932:19 (Willis); Tr. 12939:8-12940:17 (Willis); Tr. 12951:5-12952:8 (Willis); Tr. 12982:19-12985:14 (Willis).

991. Moreover, Mr. Willis initially made broad claims that he could not substantiate, because he was provided with only surface-level information by Speaker Cutler. *See, e.g.*, Tr. 12953:1-12954:9 (Willis). By way of example, Mr. Willis admitted that there is a large body of literature documenting the positive impacts of small class sizes on students in grades K-3, so long as class sizes are reduced to ratios of 17 students or less to one teacher. Tr. 12950:10-12952:19 (Willis). And Mr. Willis then testified that Petitioners opted for lower class sizes. Tr. 12952:20-24 (Willis).

992. But Mr. Willis did not actually calculate class size data at all, but rather student-teacher ratios. Tr. 12953:1-18 (Willis). However, as explained by Petitioners' witnesses, and as Mr. Willis acknowledged, student-teacher ratio is not the same as class size, because teacher counts often include non-regular classroom teachers, such as ELL teachers or Title I teachers, and because the overall ratio includes atypically sized classes, such as self-contained special education

classrooms. Tr. 5727:5-5729:22 (Przywara); Tr. 12954:4-9 (Willis).⁵² In Lancaster, for example, the District has approximately 60 special education classrooms that contain only 8-12 students each, Tr. 5727:9-5929:12 (Przywara), and 82 ELL teachers, Tr. 5079:17-19 (Rau).

993. That student-teacher ratios are not even a rough proxy for class size data is exemplified by contrasting Mr. Willis’s student-teacher ratios with the actual evidence in this case regarding class size. *See, e.g.*, Tr. 12965:10-12976:15 (Willis). For example, Mr. Willis’s analysis of the William Penn School District stated that the district has a student-teacher ratio of 18.7 students to 1 teacher. Tr. 12965:10-13 (Willis). But as Mr. Willis acknowledged, during the very same year he studied, every single K-3 class in William Penn exceeded this ratio, with classes of 28, 29, 30, and 31 students per teacher. Tr. 12965:10-12976:15 (Willis).

994. Mr. Willis acknowledged it would have been better to have “access to some data that would allow us to understand the granularity of circumstances

⁵² PDE keeps track of the number of “classroom teachers” each school district has. *See, e.g.*, LR-474. Several summary exhibits submitted by Legislative Respondents utilized this figure to create a “Student/Classroom Teacher Ratio.” *See, e.g.*, LR-5043A. No witness from PDE was called to explain what PDE’s definition of “classroom teacher” is, nor did Legislative Respondents submit any exhibits containing such a definition. However, Senator Corman’s counsel conceded that it includes “special education teachers . . . ELL teachers” as well as even “occupational therapy assistants.” Tr. 11245:16-20 (evid. hr’g); Tr. 11266:14-23 (evid. hr’g).

across school districts,” but the data he was provided did not allow him to “get beyond student-to-teacher ratio.” Tr. 12979:17-12980:6 (Willis).

995. Mr. Willis also made various qualitative claims that he could not substantiate. *See, e.g.*, Tr. 12971:1-14 (Willis). For example, Mr. Willis suggested the same oversized classes in William Penn were a “choice” made by William Penn, and were he a leader in William Penn, he would have hired additional teachers to achieve class sizes of 20 students or lower. Tr. 12971:1-24 (Willis). But he then conceded he didn’t know whether William Penn had the resources to hire more teachers and didn’t know anything about the resource decisions William Penn had made in the past. Tr. 12972:1-22 (Willis). Moreover, he had never spoken with, nor was provided the deposition or trial testimony of William Penn administrators, even though they occurred more than a year prior to the submission of his report. Tr. 12976:21-12977:11 (Willis); Tr. 12977:21-12979:16 (Willis).⁵³

996. Mr. Willis also made a series of other errors that render his testimony not credible.

⁵³ Along similar lines were Mr. Willis’s claims about the Act 1 index. *See* Section VI(G)(1).

1. Mr. Willis's reliance on national report cards was not credible and merits no weight.

997. Rather than use primary sources, much of Mr. Willis's testimony and report evaluating Pennsylvania relied upon two national report cards, Education Week magazine's Quality Counts and the Education Law Center's Making the Grade. Tr. 12760:7-23 (Willis); Tr. 12767:10-20 (Willis).⁵⁴ Mr. Willis's use and characterization of these report cards was not credible, and neither the report cards, nor the analysis Mr. Willis derived from them, merit any weight. *See, e.g.*, Tr. 13030:17-13033:10 (Willis).

a. Mr. Willis admitted Education Week deviates from best practices.

998. The first report card repeatedly cited by Mr. Willis was the Quality Counts survey from Education Week. Tr. 13029:14-13030:10 (Willis). In fact, Mr. Willis cited Education Week throughout his report and testimony. Tr. 13029:14-13030:10 (Willis). Despite his reliance on it in this Court, Mr. Willis's testimony,

⁵⁴ While bearing a similar name, the Education Law Center that published Making the Grade is not related to the Education Law Center of Pennsylvania, whose lawyers represent a number of Petitioners in this matter. Tr. 12767:10-13 (Willis) (referring to the "Rutgers Education Law Center").

report, and past writings reveal he does not deem it worthy of significant consideration. *See, e.g.*, Tr. 13030:17-13033:10 (Willis).

999. For example, on cross-examination Mr. Willis ultimately admitted that Education Week does not provide much detail on which specific revenues and expenditures are included in its analyses. Tr. 13030:17-13033:10 (Willis). And he also eventually conceded that his own report acknowledged that Education Week does not provide detailed and technical information about how Pennsylvania fared on those indicators. Tr. 13033:15-13035:2 (Willis). Mr. Willis explained he still needed to rely on Education Week, however, because he did not have access to the detailed state financial information that he normally relies upon. Tr. 13035:3-11 (Willis); Tr. 13039:10-17 (Willis).

1000. In his testimony, Mr. Willis recited various grades provided by Education Week. *See, e.g.*, Tr. 13029:14-20 (Willis). He did so despite cautioning elsewhere that Education Week groups the majority of states very close together, and as a result, “it’s hard to assign much significance to the score of any given state.” Tr. 13037:13-13039:2 (Willis). Mr. Willis also eventually admitted that Education Week deviates from his own preferred approach, with limited results that deviate from best practices. Tr. 13039:4-13041:14 (Willis).

1001. Put simply, a data source that an expert cautions deviates from best practices and believes should not be “assign[ed] much significance” cannot be assigned significance. Tr. 13039:4-13041:14 (Willis).

b. Mr. Willis omitted key information from Making the Grade.

1002. Mr. Willis next cited a report titled Making the Grade. Tr. 12767:10-13 (Willis). In his expert report, and on the stand, Mr. Willis testified that Pennsylvania received an “A” on two “equity-focused” grades issued by Making the Grade. Tr. 13044:11-19 (Willis). On cross-examination, it was revealed that this testimony was inaccurate. Tr. 13046:9-13047:15 (Willis). In fact, Mr. Willis admitted that Making the Grade only publishes one equity-focused grade, not two, and that he had omitted that grade from both his report and testimony. Tr. 13046:9-13047:15 (Willis).

1003. Mr. Willis eventually testified that he disagreed with how Making the Grade’s equity grade is calculated — demonstrating an obvious familiarity with it — but provided no credible reason for his omission, or for his false assertions that Pennsylvania scored well on that measure. Tr. 13046:9-13047:24 (Willis). In fact, as Mr. Willis ultimately conceded on cross-examination, Pennsylvania initially received an equity-focused grade of “C”. To make matters worse, although Mr. Willis initially testified that Pennsylvania’s grades remained the same after the

Making the Grade Report was updated, Tr. 12768:21-12769:5 (Willis), he ultimately admitted that as part of that update, Pennsylvania’s equity grade was revised downward from a “C” to an “F.” Tr. 13053:8-12.

1004. The reason Making the Grade revised Pennsylvania’s equity grade is instructive:

[T]he census membership definition leads to incorrect per-pupil revenue figures for some districts in some states. The F33’s survey membership count does not include students who are residents of a district but attend independent charter schools.

...

In many states, these districts are financially responsible for those charter students and make payment to the charter schools their resident students attend. Because the F33 data includes the revenues that will ultimately be passed to charter schools, but exclude the charter students in the membership count, per-pupil revenues in districts with significant charter populations are incorrectly inflated. For example, in the F33 reports Philadelphia’s membership has, approximately, 134,000, excluding more than 70,000 students who are funded through the district but attend charter schools.

Tr. 13049:1-13050:18 (Willis).

1005. Making the Grade further noted that correcting for the error made particularly significant differences in evaluating the funding equity of states like Pennsylvania, because “[t]hese states have reasonably large charter populations that are concentrated in high-poverty districts. The inflated per-pupil revenues in mostly high-poverty districts made these states look more progressive than they actually are.” Tr. 13052:20-24 (Willis). And as explained in Section XII(B)(3), this

same methodological error would eventually reveal itself in Mr. Willis's own analysis.

2. Mr. Willis's district and state peer selections were not credible and merit no weight.

1006. In his report and his testimony, Mr. Willis compared school districts and the Commonwealth to so-called "peers" along a variety of measures. Tr. 12834:22-12835:12 (Willis). Mr. Willis's comparisons were unreliable and implausible, and are deserving of no weight.

a. Mr. Willis's district peers were not reliable or credible.

1007. As part of a purported "efficiency analysis" of the Petitioner Districts, Mr. Willis first matched Petitioner Districts with what he described to be their closest twenty school district peers: "district[s] that, as close as we can possibly approximate, look[] similar to" Petitioners, based upon measures such as size, student demographics, and wealth. Tr. 12835:2-5 (Willis). Mr. Willis explained that his goal was to find "districts that most closely mirror" Petitioners. Tr. 12834:22-12835:12 (Willis); Tr. 12836:21-12837:3 (Willis). Accordingly, Willis testified that for each Petitioner District, he identified twenty similar districts, minus outliers, which he allegedly eliminated. Tr. 13060:13-24 (Willis).

1008. Mr. Willis explained that the importance of choosing similar districts for his efficiency comparisons of academic growth to student spending was to

ensure the comparisons were not unfair or biased. Tr. 13059:1-13060:24 (Willis). His goal was to see whether there were “other places in the State of Pennsylvania that are achieving more results with the same level of funding.” Tr. 12842:1-12 (Willis).

1009. In reality, the peers Mr. Willis identified were not mirror images of Petitioners by any reasonable measure. *See, e.g.*, Tr. 13061:1-16 (Willis). For example, Mr. Willis found that two of the twenty closest peer districts for the School District of Lancaster were the Jenkintown School District and the Radnor Township School District. Tr. 13061:1-16 (Willis). But Jenkintown and Radnor are not “mirrors” of Lancaster:

School District	Total Students	Special Education	ELL	Econ. Disadvantaged	Homeless
Lancaster SD	10,880	19.15%	19.80%	90.71%	5.83%
Jenkintown SD	730	15.75%	1.92%	16.30%	0.27%
Radnor Township SD	3,799	11.85%	3.42%	10.74%	0.39%

PX-4806 (excerpt).

1010. As Mr. Willis admitted, and as the evidence shows, Lancaster is far larger, with much higher percentages of special education students, ELLs, students experiencing homelessness, and economically disadvantaged students than Jenkintown or Lancaster. Tr. 13062:9-13065:4 (Willis).

1011. These were not the only implausible peers Mr. Willis found. *See, e.g.*, Tr. 13061:17-13062:3 (Willis). For example, Mr. Willis found that Petitioner

Wilkes-Barre was a peer with Council Rock School District, and Petitioner Shenandoah Valley was a peer with Lewisburg School District. Tr. 13061:17-13062:3 (Willis). As identified below, and as Willis admitted, Wilkes-Barre and Shenandoah also have much higher percentages of special education students, ELLs, and economically disadvantaged students. *See* PX-4806; Tr. 13065:11-13067:19 (Willis).

1012. Once again, these are not reasonable peers, and the method that found them to be so is deserving of no weight:

School District	Total Students	Special Education	ELL	Econ. Disadvantaged
Wilkes-Barre Area SD	7,310	19.56%	7.55%	80.16%
Council Rock SD	10,778	15.69%	2.06%	10.11%

School District	Total Students	Special Education	ELL	Econ. Disadvantaged
Shenandoah Valley SD	1,079	16.31%	12.23%	75.44%
Lewisburg Area SD	1,951	13.02%	2.87%	28.09%

PX-4806 (excerpt).

1013. Mr. Willis’s second method of peer matching fares no better. Tr. 13070:9-20 (Willis). At the outset, Mr. Willis agreed that statistical reliability occurs when “you have an ability to be able to repeat methodologies over and over and over again and get nearly the same results without error rates or statistical significance that show different results.” Tr. 13067:23-13068:6 (Willis). And Mr.

Willis acknowledged that his second methodology for finding peer districts — which identified two peers per district, instead of twenty — was conducted according to a similar methodology as his first. Tr. 13070:9-20 (Willis).

1014. Yet despite this, Mr. Willis’s results were not reliable. In fact, three-quarters of the alleged peers that Mr. Willis found using his second methodology (identifying two peers) were not peers in his first methodology (identifying twenty peers):

Jason Willis Peer Group Discrepancies	
School District	Peer Group 2 Not in Group 1
William Penn SD	Harmony Area SD
	Farrell Area SD
Wilkes-Barre Area SD	Bensalem Township SD
	East Stroudsburg Area SD
Shenandoah Valley SD	Wilkesburg Borough SD
	Woodland Hills SD
Panther Valley SD	Pottstown SD
	York City SD
Lancaster SD	Hazleton Area SD
	Duquesne City SD
Greater Johnstown SD	Saint Clair Area SD
	Albert Gallatin Area SD
Source: LR-04071	

PD-18-7; Tr. 13073:10-13075:8 (Willis).

1015. Moreover, the second methodology matched Petitioner Districts to “peers” that were just as implausible. *See, e.g.*, Tr. 13075:15-13079:7 (Willis). For example, despite testifying that he matched district peers as to size, density, racial composition, and other student demographics, Mr. Willis found one of the two

peers in the entire Commonwealth for William Penn was the Harmony Area School District, in Clearfield County. Tr. 13075:15-13079:7 (Willis). Mr. Willis admitted that while he matched districts on measures such as density, he didn't know anything about Clearfield County. Tr. 13708:5-10 (Willis). Regardless, it is implausible to suggest that in the entire Commonwealth, Harmony is one of William Penn's two peers:

School District	County	Total Students	White	Black	ELL	Econ. Disadvantaged
William Penn SD	Delaware	4,916	3.54%	87.77%	4.62%	57.85%
Harmony Area SD	Clearfield	253	99.21%	0.00%	0.00%	39.53%

PX-4806 (excerpt).

1016. By way of further example, rather than finding that a peer for Wilkes-Barre was Scranton, Hazleton, Allentown, or Bethlehem, Mr. Willis found it to be a peer with Bensalem, a district with a median income that is 60% higher. Tr. 13080:8-18 (Willis). And Mr. Willis found that Greater Johnstown, by median income the poorest school district in the Commonwealth, was a peer of Albert Gallatin, a district with far fewer economically disadvantaged children. Tr. 13079:8-13080:7 (Willis).

1017. All told, Mr. Willis's peer matching process was flawed and unreliable. *See, e.g.*, Tr. 13075:15-13079:7 (Willis); Tr. 13061:1-16 (Willis). The peers he found and the analysis he conducted based on those matches are deserving of no weight.

b. Mr. Willis's state peers were not reliable or credible.

1018. Mr. Willis's peer state comparisons were similarly flawed. Mr. Willis testified that through a three-step process, he found eight alleged peer states with which to fairly compare the Commonwealth: Delaware, New York, Maryland, Ohio, Illinois, Michigan, Arkansas and Texas. Tr. 13159:21-13160:4 (Willis).

1019. Absent from Mr. Willis's list was New Jersey, Pennsylvania's neighbor, labor and housing market competitor, and a state known for spending significant sums on public education and high grades on the national report cards Mr. Willis relied on. Tr. 13160:5-13161:16 (Willis). In fact, as Dr. Kelly explained, even the regional measure of inflation that Mr. Willis used was shared between New Jersey and Pennsylvania. Tr. 14502:1-12 (Kelly).

1020. Mr. Willis explained that he nonetheless excluded New Jersey, however, because its percentage of population living in urban areas allegedly differed significantly from that of Pennsylvania. Tr. 13161:22-13162:5 (Willis). Yet as Dr. Kelly explained, this was not a credible justification, because Pennsylvania and New Jersey were closer by that measure than Pennsylvania and Arkansas, and yet Arkansas was included in Mr. Willis's analysis. Tr. 14502:18-14503:7 (Kelly).

1021. Mr. Willis also admitted that in a previous report he conducted in Arkansas, he identified approximately a third of the country as Arkansas’s peers — but not Pennsylvania. Tr. 13162:12-13163:16 (Willis). He explained that this was because the Arkansas Legislature influenced his selection process: “The legislature . . . had a very strong feeling of who those peer states would be.” Tr. 13163:8-10 (Willis).

1022. In fact, Mr. Willis’s peer selection lacked a systematic rationale, such that if one consistently applied his three-step process to each state, every single “peer” would be eliminated. Tr. 14499:14-14500:8 (Kelly). In other words, states were included in one step, despite the fact that they should have been excluded in another. Tr. 14499:14-14500:8 (Kelly). As Dr. Kelly explained succinctly, “it was not systematic and it was contradictory.” Tr. 14500:7-8 (Kelly). Mr. Willis’s state peer selection, along with the analysis that relies upon it, is deserving of no weight.

3. Mr. Willis made various calculation errors that skewed his analysis.

a. Mr. Willis failed to account for charter students, creating large errors in his findings.

1023. For the purpose of comparing student spending, Mr. Willis created a figure he termed “operating expenditures.” Tr. 13082:11-13083:15 (Willis). Mr. Willis’s “operating expenditures” was a three-year average of a school district’s spending, minus debt service, transportation costs, food costs, adult education

expenditures, and capital project expenditures. Tr. 13082:11-24 (Willis). While not exact, Mr. Willis agreed that his number was similar to what the Pennsylvania Department of Education terms “current expenditures,” and by definition would be less than a district’s total expenditures. Tr. 13083:1-15 (Willis).

1024. In Pennsylvania, the charter school tuitions that districts pay are listed as line 1000 instructional expenses on Annual Financial Reports. Tr. 12189:14-12190:2 (Hanft); *see, e.g.*, PX-4651-49 (line 562). While Mr. Willis removed five categories of expenditures from his definition of operating expenditures, he did not remove expenses from line 1000, and did not therefore remove charter school tuitions that school districts pay. Tr. 13103:6-10 (Willis); Tr. 13112:2-18 (Willis); Tr. 13135:13-19 (Willis).

1025. But Mr. Willis agreed that his spending was calculated on a “per pupil” basis. Tr. 13102:1-17 (Willis). Accordingly, Mr. Willis made a common, but fatal calculation error. Tr. 13102:19-13103:21 (Willis). Similar to the Census-based error committed by Making the Grade, Mr. Willis included revenues that pay for charter school students in his numerator. Tr. 13102:19-13103:21 (Willis). Yet in dividing by a school or district’s pupils, rather than its average daily membership, he also failed to include charter students in his denominator. Tr. 13102:19-13103:21 (Willis).

1026. By way of example, Mr. Willis calculated that the Chester-Upland School District spends approximately \$36,000 in operating expenditures. Tr. 13090:12-17 (Willis). In reality, on a per ADM basis, Chester-Upland's current expenditures (which Mr. Willis agreed should approximate his "operating expenditures") for the 2017-18 year were less than half what Mr. Willis calculated, at \$17,538 per student. PX-1966 (expenditures per ADM, cell I203); PD-18-2; Tr. 13094:22-13095:6 (Willis).

1027. Mr. Willis had no plausible explanation for this discrepancy, but the root of his error was clear. Tr. 13102:19-13103:21 (Willis). In the 2017-18 school year, Chester-Upland's ADM was approximately 6,890 students, but over half of those students were attending charter schools. Tr. 13103:22-13105:4 (Willis); PX-1913, tab "Student-Weighting," cells S203, O203. As a consequence, Chester-Upland paid approximately \$58.6 million dollars to charter schools and other schools during the 2017-18 budget year, accounting for nearly half of its total expenditures of \$127.4 million. Tr. 13105:5-13107:6 (Willis) (discussing PX-1822 and PX-1966). Mr. Willis then divided these expenditures by a "per pupil" basis, rather than by average daily membership. Tr. 13102:1-17 (Willis). In other words, Mr. Willis doubled Chester-Upland's per student spending because he left out half of the students those expenditures were paying for.

1028. Chester-Upland was only one of the most obvious indications of Mr. Willis's mistake. *See, e.g.*, Tr. 13097:24-13098:16 (Willis). For example, the Duquesne City School District is Pennsylvania's tenth poorest district, with 87% of its students classified as low-income. PX-4806, cells M47, N47. By the Aid Ratio, Duquesne is the second poorest district in the entire Commonwealth. PX-4898, cell K26. And yet Mr. Willis calculated that Duquesne spent approximately \$52,000 per student, or about \$32,000 per student more than calculated by PDE. Tr. 13097:24-13098:16 (Willis).

1029. Mr. Willis's same error was also evident in his "vertical equity" analysis, which allegedly found that Pennsylvania's highest need schools spent more than its lowest need schools. Tr. 12798:16-12800:1 (Willis).

1030. Mr. Willis agreed that to arrive at his per student figure for spending he removed the same things as from his school district spending calculation. Tr. 13125:8-13127:8 (Willis). But once again, Mr. Willis left charter students out, using a denominator of 1.55 million students, rather than 1.7 million students. Tr. 13123:1-13125:3 (Willis). When confronted with the fact that Pennsylvania schools educate 1.7 million students — which his own expert report confirmed — Mr. Willis insisted that by another PDE definition, which he could not identify, the total enrollment of students was actually 1.5 million. Tr. 13124:5-13125:3 (Willis).

It is not. *See* PX-2097, tab “Statewide,” cell T6 (listing statewide enrollment of 1,722,461).

1031. Mr. Willis’s error did not simply shift relative spending upward across the board — it disproportionately inflated the per student numbers for the highest need districts. *See, e.g.*, Tr. 14483:9-14484:6 (Kelly). As Dr. Kelly testified — and as is undisputed — poor districts in Pennsylvania have far more charter students. Tr. 14479:2-13 (Kelly); Tr. 14490:8-17 (Kelly). Thus, as Dr. Kelly explained, failing to account for charter students does not inflate per-pupil revenues evenly, because high-poverty schools are disproportionately responsible for charter students. Tr. 14490:8-17 (Kelly). Instead, it will in particular “make high-poverty, high-need districts appear like they have more funding per-pupil than they actually do.” Tr. 14490:8-14491:3 (Kelly).

1032. Accordingly, Mr. Willis’s error “cause[d] him to misrepresent the funding levels for high-need districts and essentially invert patterns that we can see clearly in AFR data.” Tr. 14486:18-14487:8 (Kelly). This inversion became clear with Mr. Willis on the stand:

2017-18 Current Expenditures -- PDE vs. Jason Willis			
School District	PDE Current Exp per ADM	Jason Willis Approximate Exp. Per Student	Difference Between PDE Current Exp and Jason Willis Appr. Exp. per Student
Radnor Township SD	\$23,380.59	\$21,000.00	\$2,380.59
Jenkintown SD	\$21,439.08	\$20,500.00	\$939.08
Ringgold SD	\$13,533.98	\$13,750.00	-\$216.02
Pittston Area SD	\$13,423.61	\$13,750.00	-\$326.39
Greater Johnstown SD	\$14,016.45	\$16,500.00	-\$2,483.55
Wilkes-Barre Area SD	\$14,364.83	\$17,500.00	-\$3,135.17
Sto-Rox SD	\$14,249.48	\$18,000.00	-\$3,750.52
Armstrong SD	\$15,685.18	\$19,500.00	-\$3,814.82
Harrisburg City SD	\$17,725.19	\$22,500.00	-\$4,774.81
York City SD	\$15,831.37	\$21,000.00	-\$5,168.63
Chester-Upland SD	\$17,538.05	\$36,000.00	-\$18,461.95
Duquesne City SD	\$20,396.95	\$52,000.00	-\$31,603.05
Source: PX-01966 (PDE 2017-2018 Current Expenditures per ADM), LR-04071 (Jason Willis Approximate Exp. Per Student)			

PD-18-2.

1033. Accordingly, in both his district analysis, and his school analysis, Mr. Willis did not uncover that poor districts or high-need schools have more funding. Tr. 14486:18-14487:8 (Kelly). Instead, he inadvertently revealed that poor, high-need school districts have more charter students. Mr. Willis's numbers were in error, and are deserving of no weight. Tr. 14479:2-13 (Kelly); Tr. 14490:8-17 (Kelly).

b. Mr. Willis's "synthetic control analysis" of Act 35 was in error.

1034. Mr. Willis also prepared what he called a "synthetic control analysis" to study the impact of Act 35. Tr. 12810:2-18 (Willis). Mr. Willis created scatterplots where his Y axis represented "the percentage increase in state revenue" that districts received under the Fair Funding Formula, while the X axis

represented “the percent increase in average daily membership from the [Act 35] weights.” Tr. 12812:4-12813:4 (Willis). Ostensibly, Mr. Willis attempted to look at the connection between a school district’s need — represented by their student weights from Act 35 — and the increases in funding they have received since Act 35 was enacted. Tr. 12812:4-12813:4 (Willis).

1035. Here, too, Mr. Willis’s analysis was plainly in error. For example, Mr. Willis was presented with PDE documents that he agreed would be those which he used to construct his metrics. Tr. 13144:18-13145:8 (Willis). And he agreed he was presented on the stand with an approximate method by which his numbers were calculated. Tr. 13153:5-11 (Willis). Yet those calculations, when done in Court, revealed unexplainable discrepancies by Mr. Willis. Tr. 13142:2-13159:12 (Willis).

1036. For example, Mr. Willis purported to calculate how much a school district’s raw average daily membership changes from the weights of the Fair Funding Formula. Tr. 12812:4-12813:4 (Willis). In essence, Mr. Willis attempted to replicate the same basic method that Petitioners and Dr. Kelly also used to measure relative need. *See* Sections VI(D), VII(A).

1037. Yet on a statewide basis, the range of values that Mr. Willis found for those changes in a school district’s weights were between 12% and 20%. Tr. 13142:23-13143:6 (Willis). The actual range of values from Act 35’s weights, as

demonstrated while Mr. Willis was on the stand, were between 2% and 70%. Tr. 13143:9-13149:20 (Willis). Mr. Willis could offer no satisfactory explanation for this discrepancy. Tr. 13142:2-13159:12 (Willis).

1038. Moreover, having already admitted that Petitioner Districts all came from high-poverty communities with above-average levels of need, Tr. 12875:15-12876:22 (Willis), Mr. Willis's analysis in this section reached a different, unexplained conclusion: that Petitioner Districts were below the median in average need of Pennsylvania school districts. Tr. 13142:23-13143:2 (Willis).

1039. This was also in error. Tr. 13142:2-13159:12 (Willis). As demonstrated during cross-examination, recreating the same methods Mr. Willis purported to use shows that every Petitioner represents some of the highest need districts in the state, and actually should have been off Mr. Willis's scale entirely. Tr. 13148:3-13149:13 (Willis); Tr. 13156:9-13158:24 (Willis). Mr. Willis could offer no satisfactory explanation for this discrepancy. Tr. 13156:19-13159:19 (Willis).

1040. Even with these errors, Mr. Willis found increases in school district funding since the passage of Act 35 to only be weakly related to the needs identified by the Fair Funding Formula. Tr. 13159:1-12 (Willis). And he conceded that if his calculations were in error, it was "very plausible" that the relationship he found would be even more weakly related. Tr. 13159:13-19 (Willis).

1041. All told, Mr. Willis’s calculations for his synthetic control analysis were premised on calculation errors that Mr. Willis could not explain, and are deserving of no weight. Tr. 13156:19-13159:19 (Willis).

c. Mr. Willis’s demonstration of Pennsylvania spending growth was in error.

1042. Finally, Mr. Willis submitted a graph purporting to demonstrate growth in “total expenditures” for Pennsylvania versus the nation. Tr. 13168:4-20 (Willis). Here, too, Mr. Willis made an error. Despite the title of his graph, Mr. Willis admitted that his national figures were actually current expenditures — a number that does not include all spending. Tr. 13168:4-13169:12 (Willis). Yet he compared those national figures to a number for Pennsylvania that exceeded Pennsylvania’s current expenditures by approximately \$2,000 per student. Tr. 13171:8-13172:23 (Willis). The result of such a comparison was to artificially inflate Pennsylvania versus its national comparator. Tr. 13171:8-13172:23 (Willis). Mr. Willis could not provide a satisfactory answer for this discrepancy, either, and this calculation is owed no weight. Tr. 13164:6-13173:15 (Willis).

C. Dr. Abel Koury’s report misused a data set of limited use, and therefore is deserving of no weight.

1043. As part of his case-in-chief, Senator Corman offered the testimony of Dr. Abel Koury. Tr. 13614:1-2 (Koury). Dr. Koury’s report generally focused on interpreting scatterplots, which ostensibly examined the correlation between school

spending and student growth as measured by the Pennsylvania Value Added Assessment System (PVAAS). Tr. 13626:4-13627:9 (Koury).

1044. While delivered honestly, Dr. Koury’s analysis was purposefully cabined by Senator Corman in a way that limited his analysis. Tr. 13755:5-12 (Koury). And Dr. Koury lacked familiarity with the metrics that made up his entire report. *See, e.g.*, Tr. 13754:15-13755:4 (Koury). Accordingly, his testimony provides no credible evidence.

1. PVAAS does not measure achievement.

1045. As explained in Section V, the state’s two primary assessments are criterion-referenced, measuring students’ attempts to reach proficiency on the Commonwealth’s academic standards. Tr. 1654:24-1655:15 (Stem). One of the state’s other assessments, however, is not criterion-referenced, but rather attempts to measure student growth through the Pennsylvania Value Added Assessment System (PVAAS). Tr. 1959:16-22 (Stem).

1046. PVAAS is not truly an assessment; rather, PVAAS attempts to model relative student growth in PSSA and Keystone scores over time. Tr. 1957:4-10 (Stem); Tr. 1959:16-22 (Stem). It does so by calculating a “growth measure,” which reports growth relative to other Pennsylvania students. Tr. 1957:11-13 (Stem); Tr. 1959:23-1060:10 (Stem).

1047. PDE explains the distinction this way: achievement measures like the Keystones and PSSAs “measure[] a student’s performance....and compare[] student performance to a standard. This is critical to a student’s postsecondary opportunities.” LR-4229-2. Conversely, “PVAAS is NOT a set of standards and does not require a specific set of standards to measure student growth.” LR-4229-5.

1048. PVAAS’s growth measures are expressed in both positive and negative numbers, with a zero signifying that relative to other students, a student grew one year in one year’s time, and therefore “maintained their relative position” to others. Tr. 1961:15-1962:12 (Stem); PX-2120-5. In other words, “they haven’t fallen behind, but they haven’t necessarily advanced significantly either.” Tr. 1962:8-10 (Stem).⁵⁵

1049. The more positive a growth score, the greater the evidence that the student has made at least one year’s worth of growth over the course of a year. Tr. 1962:13-1963:19 (Stem). The more negative the score, the greater the evidence that a student did not make one year’s worth of growth. Tr. 1963:3-10 (Stem).

⁵⁵ Similarly, while PDE stands behind the use of PVAAS for particular purposes, they concede that because it measures growth “intentionally scaled . . . against the progress of other students in the Commonwealth . . . PVAAS should not be used as a measure of whether students are college and career ready, since, by definition, not all students can make growth against the mean” Tr. 14863:8-18 (Executive Respondents closing).

1050. PVAAS also calculates an Adjusted Growth Index (“AGI”) score, which is a measure expressing the relative confidence in the growth measure that is found. Tr. 1964:1-16 (Stem); PX-2118-18. AGI is calculated by dividing the growth measure by a standard error. Tr. 1970:8-10 (Stem); PX-2118-0016.

1051. PDE documentation explains that, “[i]n general, if the Average Growth Index is positive (greater than 0), this indicates that, on average, students . . . met or exceeded the growth standard.” LR-4229-5. Conversely, “[i]f the Average Growth Index is negative (less than 0), this indicates that, on average, students . . . did not meet the growth standard” LR-4229-5.

1052. For public reporting purposes, AGI is also reported on a five-color scale. PX-2120-5. Dark Blue is an indication that there is “significant evidence of exceeding the standard.” Any population with an AGI of greater than 2 is rated as Dark Blue. PX-2120-5. Light Blue is an indication that there is “moderate evidence of exceeding the standard.” Any population with an AGI of greater than 1 but less than 2 is rated as Light Blue. PX-2120-5. Green is an indication that there is “evidence of meeting the standard.” Any population with an AGI of less than 1 but greater than -1 is rated as Green. PX-2120-5. Yellow is an indication that there is “moderate evidence of not meeting the standard.” Any population with an AGI of less than -1 but greater than -2 is rated as Yellow. PX-2120-5. Red is an indication

that there is “significant evidence of not meeting the standard.” Any population with an AGI of less than -2 is rated as Red. PX-2120-5.

2. School district size changes AGI scores.

1053. AGI, either as a number or color, is the most frequently reported PVAAS outcome. Tr. 1996:5-8 (Stem). Yet AGI — a ratio of growth to standard error — is heavily dependent on school district size. Tr. 1975:1-9 (Stem). This is because the standard error used to calculate AGI is derived from the number of tests given in a district, and thus is a proxy for school district size. Tr. 1974:21-1975:9 (Stem); PX-2120-4. As Deputy Secretary Stem described it, the reasoning is that “the greater number of students you have . . . the greater your confidence is going to be” in the evidence of growth or regression. Tr. 1972:4-6 (Stem).

1054. Moreover, there is “great variation” in school district size in Pennsylvania. Tr. 1974:21-1975:9. (Stem). As a result, there is corresponding wide variation in standard error. Tr. 1975:1-9 (Stem).

1055. Practically speaking, because standard error serves as the denominator for calculating AGI, large districts can have much more positive or negative AGI scores than smaller districts, even if their actual growth scores are identical. Tr. 1972:12-1974:9 (Stem). In fact, PDE cautions about this very phenomenon. Tr. 1972:18-1974:9 (Stem) (discussing PX-2120).

1056. The scores for Pennsylvania's largest district, Philadelphia, provides apt examples of this distortion. Tr. 1979:14-1986:21 (Stem); PX-4921. For instance, Philadelphia and Johnsonburg Area School District (a small district) had an identical growth score of 1.3 for PSSA math in the 2018-19 school year. Tr. 1981:20-24 (Stem); Tr. 1987:13-17 (Stem); PX-4921-20. Yet because those districts are very different sizes and therefore have different standard errors, Philadelphia's AGI was 24.65, while Johnsonburg's was 1.73. Tr. 1987:21-1988:10 (Stem); PX-4921-20.

1057. Philadelphia's students did not grow fifteen times more than Johnsonburg's students in 2018-19. Tr. 1988:11-15 (Stem). The difference, instead, is that there is simply more "statistical confidence" that the 1.3 growth score in Philadelphia is indicative of actual growth than Johnsonburg's 1.3 growth score. Tr. 1988:11-18 (Stem); Tr. 1971:15-1972:9 (Stem).

1058. Similarly, a district can have a larger growth measure than another, but end up with a lower AGI score. Tr. 1982:13-20 (Stem). By way of example, for 2018-19 PSSA math, Chambersburg Area School District's growth measure was 2.0 (greater than Philadelphia's), with an AGI of 10.52 (less than half of Philadelphia's). Tr. 1981:14-1982:12 (Stem); PX-4921-1. Deputy Secretary Stem agreed that the difference in AGI scores between the districts did not mean that

Philadelphia's students grew two and a half times more than Chambersburg's students. Tr. 1984:7-1985:1 (Stem).

1059. In fact, for the same school year and subject, Philadelphia's growth was smaller than that of, among others: Boyertown Area School District, Lower Moreland Township School District, Colonial School District, Hempfield School District, Greater Latrobe School District, Midd-West School District, Southwestern School District, Jim Thorpe School District, Albert Gallatin School District, Saint Clair Area School District and Hollidaysburg Area School District, and more. PX-4921-2-4. But Philadelphia's AGI score was much higher than each of those districts', solely because Philadelphia is larger and therefore has a smaller standard error. PX-4921-2-4.

1060. In other words, as Deputy Secretary Stem testified, a higher AGI score reflects an assessment of the level of "confidence in the growth measure score," but does not inherently reflect an increase in the level of growth itself. Tr. 1964:1-17 (Stem). Put another way, AGI represents the "confidence by which a group of students has met or not met a growth standard." Tr. 1964:14-17 (Stem). AGI may therefore establish confidence in the "directionality" of growth, but it does not establish the level of growth. Tr. 1990:3-1991:22 (Stem).

1061. Similarly, because PVAAS's color coding is based on AGI scores, it is prone to the same deviation between growth scores and AGI scores. Tr. 1992:15-

19 (Stem). By way of example, for 2018-19 PSSA math, Neshaminy Area School District (a larger district) had a growth score of -0.5 and a standard error of -0.2, for an AGI of -2.5. PX-4921-50; Tr. 1992:24-1993:15 (Stem). As a result, Neshaminy received an AGI color of red, which means “significant evidence that the district did not meet the growth standard.” Tr. 1993:12-:15 (Stem).

1062. During the same year, the Turkey Foot Area School District (a smaller district) had a growth score of -1.0, or twice as negative as Neshaminy. PX-4921-39; Tr. 1993:20-1994:11 (Stem). But Turkey Foot’s standard error was greater, and as a result, its AGI was only -0.92. PX-4921-39; Tr. 1994:14-19 (Stem). This meant that Turkey Foot — with a worse growth score than Neshaminy — did not receive the red color that Neshaminy received. PX-4921-39; Tr. 1994:20-21 (Stem). Instead, it was assigned an AGI color of *green*, or “evidence that a [district] met the growth standard.” Tr. 1994:20-21 (Stem); Tr. 1966:2-3 (Stem).

1063. With these examples in mind, and as a matter of math, Deputy Secretary Stem confirmed that relative AGI scores cannot be used to rank school districts, or to make mathematical claims about their difference in growth. Tr. 1990:6-12 (Stem); Tr. 1994:22-1995:9 (Stem).

1064. Finally, AGI is also reported on the Future Ready Index on a 50 to a 100 scale, with a 100 being high and a 50 being low. Tr. 1997:1-22 (Stem); Tr. 1999:21-23 (Stem). For the same reasons as above, PDE agrees that it is

inappropriate to “rank and sort” schools based on that scale. Tr. 1999:24-2001:4 (Stem).

3. AGI is not a substitute for student proficiency.

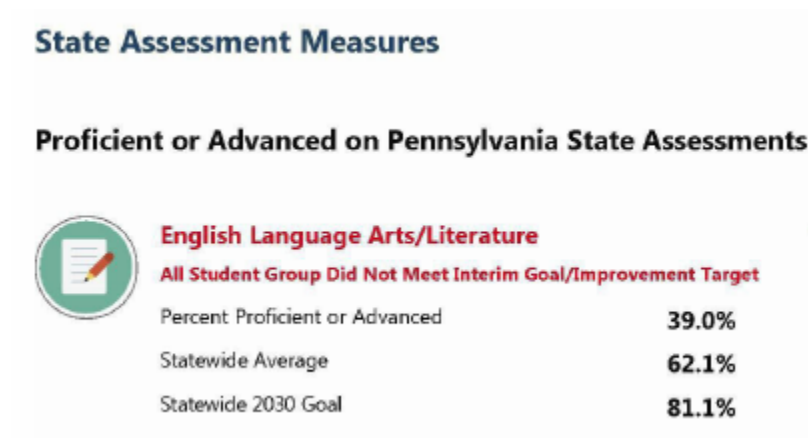
1065. In the broadest sense, all school leaders want their students to exhibit growth — that is, to improve.⁵⁶ For example, Petitioners’ expert Dr. Johnson explained that when he measures the impact of school funding on student outcomes, he measures student growth. Tr. 9512:21-9513:18 (Johnson). But that growth is “in relationship to progress toward a common standard” because it is important “not to have different expectations for some children than other children.” Tr. 9762:14-21 (Johnson).

1066. However, PVAAS does not reflect whether or not students are proficient on the state standards, as measured by the PSSAs and Keystones. Tr. 1956:14-1957:3 (Stem). And, because PVAAS is solely measuring students against each other, it also does not measure whether students are in fact moving towards proficiency. Tr. 9993:22-9995:18 (Johnson); Tr. 5603:9-16 (Rau).

1067. In fact, on the Future Ready Index, PDE makes another calculation: whether schools are “making sufficient improvement” in helping more students

⁵⁶ This is all the more true when student proficiency scores and teacher morale are lacking each year. Tr. 3226:20-3227:9 (Arcurio).

reach proficient on state exams such that they will meet the state’s ESSA goals. Tr. 1706:15-1708:04 (Stem) (referencing PX-2963-1).



PX-2963 (excerpt).

1068. As explained in Section X(B), the Commonwealth’s interim ESSA targets are themselves reflective of inequity. But Petitioners show no sign of even meeting those remedial improvement goals. By way of example, for the last year tested, across Petitioners’ eight high schools, there was not a single subject where Petitioners met overall state goals for improvement. *See* PX-2964-1–2 (Shenandoah Valley JSHS); PX-2956-1–2 (Panther Valley JSHS); LR-96-1–2 (Greater Johnstown SHS); LR-1672-1–2 (McCaskey HS); LR-1749-1–2 (Coughlin HS); LR-1750-1–2 (Meyers HS); LR-1749-1–2 (GAR HS); PX-3012-1–2 (Penn Wood HS). Other Petitioners schools did not fare much better. *See, e.g.*, LR-4123-1 (Greater Johnstown MS); LR-4148-1–2 (Lincoln MS); LR-4156-1–2 (Reynolds MS); LR-4162-2 (Wheatland MS); LR-4181-1–2 (Penn Wood MS).

1069. In fact, Dr. Rau noted that PVAAS “hides the fact that students are not proficient or advanced on their achievement” and is not a “truthful representation of how that child is doing meeting the target standards.” Tr. 5611:2-18 (Rau). She noted that “the biggest shortcoming is that PVAAS does not tell you that the students are not meeting the standard as defined by the Department of Education.” Tr. 5603:9-16 (Rau).

1070. Indeed, Dr. Rau highlighted that for several subgroups, Lancaster students received the highest AGI designation of “dark blue” even when every single student in that subgroup scored “Below Basic” or “Basic” on the PSSAs for that year. Tr. 5609:23-5610:15 (Rau) (referencing PX-1744). Given the fact that a high AGI score can be obtained when students are uniformly scoring at the lowest level of PSSA scores, PVAAS results therefore shed little, if any, light on the underlying performance of students. Tr. 5611:2-18 (Rau).

1071. Similarly, as Deputy Secretary Stem explained, AGI scores of “green” — maintaining a relative position — are not satisfactory for school districts with large numbers of students scoring below proficiency. Tr. 1969:10-15 (Stem). That is, “green is not sufficient or good enough for a lower-achieving group of students since this means that the group would simply be maintaining a lower level of achievement.” LR-618-9; Tr. 1968:21-1969:15 (Stem).

1072. Deputy Secretary Stem explained this when reviewing the performance of Latino children in Shenandoah Valley, who had both low levels of proficiency and green AGI scores:

[A]s a general matter, given the numbers that are in green, those that have maintained their position when compared alongside achievement, which is not only significantly below state averages, but also below their interim targets, that maintaining that level of achievement is — in vernacular is not enough and . . . I would say, and as would the team at the Department if they were working with this school, that the building level leadership, district leadership, school board and others should be working closely together with a sense of urgency to ensure that all the resources and supports are in place to begin to move these students forward and close achievement gaps.

Tr. 2520:23-2521:24 (Stem) (*comparing LR-5058 with PX-2963*).

1073. In other words, even if PVAAS functions as it claims, if students start behind, green scores mean they will never catch up. Tr. 2520:23-2521:24 (Stem).⁵⁷

4. The PVAAS-based analysis of Dr. Koury fails to provide probative information.

1074. Within this context, Dr. Koury’s analysis of AGI scores sheds little light on the foundational issues of this case. To start, even though all of Dr. Koury’s analyses used AGI scores, Senator Corman’s counsel made clear that “Dr. Koury was not offered as an expert in the field of value-added metrics or PVAAS”

⁵⁷ Indeed, as noted above, green scores can actually reflect a negative number. PX-2120-5. This makes summary analyses of PVAAS, which count green results as illustrative of a positive result, especially unhelpful. *See, e.g.*, LR-5034A through LR-5036A.

and did not offer testimony “as to the underlying meaning and the problems and items of that nature regarding value-added metrics.” Tr. 14595:03-10 (Senator Corman counsel).

1075. In fact, Dr. Koury agreed that his analysis was so limited in scope that it would be “improper . . . to infer . . . any conclusion from [his] report about the causal relationship between spending and academic growth.” Tr. 13845:8-14 (Koury). And he agreed his analysis did not explain “whether spending money on certain interventions in certain districts would have an impact on student growth.” Tr. 13845:23-13846:8 (Koury).

1076. The only thing Dr. Koury did do was look for a correlation between two variables, without ascribing any meaning to that relationship. Tr. 13847:13-21 (Koury). Yet Dr. Koury lacked familiarity with the construction of the very data sources he used. *See, e.g.*, Tr. 13769:18-13770:2 (Koury) (when asked “Where have you read about AGI,” responding, “I read about AGI really just a couple nights ago”); Tr. 13764:7-11 (Koury) (when asked if “AGI itself doesn’t actually measure growth,” responding, “I couldn’t say that for sure. I don’t know.”); Tr. 13764:21-13765:17 (Koury) (demonstrating an inability to explain the relationship between the PVAAS growth measure and AGI); Tr. 13783:19-13784:1 (Koury) (testifying, “[w]hether or not I believe that AGI is a good measure of growth or a bad measure of growth, my opinion does not matter. It’s not an opinion.”). And as

described below, that lack of knowledge further undermined the import of Dr. Koury's analysis.

a. Dr. Koury misused the AGI measure.

1077. At its core, Dr. Koury believed his report examined whether there was a “meaningful relationship that is found” when “looking at funding and growth.” Tr. 13734:4-13 (Koury). But that assumption rested upon metrics Dr. Koury did not understand. *See, e.g.*, Tr. 13764:7-11 (Koury).

1078. For example, for his representation of growth, Dr. Koury used AGI. But as noted above, AGI is not PVAAS's growth measure, but instead a ratio of PVAAS's growth measure relative to district size. Tr. 1970:8-10 (Stem); PX-2118-16. Yet when Dr. Koury was confronted with data demonstrating this basic point, he insisted otherwise:

If I believe that the AGI is an indicator of growth, which I do, then I would have to say if the — if the AGI is larger, then that means that they are growing more.

Now, again, just when I say that something is growing more, that is based off of the measure. That's what the measure shows.

Tr. 13783:15-21 (Koury).

1079. Dr. Koury was mistaken. As explained by Deputy Secretary Stem, Dr. Kelly, and PDE documentation, a greater AGI score does not mean a district “is growing more.” *See* Tr. 14516:21-14517:10 (Kelly); Tr. 1964:9-16 (Stem). In other words, as Dr. Kelly explained, Dr. Koury's report rested upon a fundamental flaw:

Dr. Koury, in examining this relationship between AGI and a school district's funding, assumed that AGI, itself, represents growth, and that differences between districts would be representing differences in growth that he would then examine relative to funding to draw conclusions about the relationship between student growth and education funding in the Commonwealth.

The problem is that AGI is not a measure of growth, and so . . . the premise, the assumption of the analysis is that this is a growth measure. It's not, so it's not valid.

Tr. 14523:19-14524:9 (Kelly).

1080. AGI cannot be used as a measure of growth to rank districts. Tr. 1990:6-12 (Stem); Tr. 1994:22-1995:9 (Stem). Dr. Koury's analysis, however, did exactly that. Tr. 13783:15-21 (Koury).

b. Dr. Koury acknowledged that underfunding should already be accounted for in the PVAAS model.

1081. The second fundamental flaw in Dr. Koury's analysis is that it sought to identify a relationship between funding and AGI, while using a model that purports to control for that very connection. Tr. 13811:19-21 (Koury); Tr. 9760:20-9761:9 (Johnson).

1082. For instance, Dr. Koury agreed that PVAAS is calculated by "measur[ing] the changes in student achievement from one point in time to another using all prior data for a student" PX-2118-13, so that "each child is acting as their own control." Tr. 13811:19-21 (Koury).

1083. Dr. Koury also agreed that certain interventions, like Pre-Kindergarten, have an impact on student outcomes. Tr. 13811:1-10 (Koury). Dr. Koury agreed he did not control for Pre-K in his model, but said that it did not affect his analysis, because PVAAS already controls for “all of the factors that the child is bringing with them into school”:

Q. Sure. And so, isn't it possible that pre-K attendance could be a confounding variable for student growth or achievement?

A. It's not that I don't believe that pre-K is important. Obviously, I think it's important. But I don't think that the impact of pre-K is not being captured already when you're capturing the sort of demographics. So remember that each child is acting as their own control, if you're using AGI. And so that child is coming in, and if they're having the sort of high-quality education experience plus all the demographic factors — remember that they're having that, you know, at Time Point 1, Time Point 2, Time Point 3. So I think that you're controlling for it already.

Q. So, if I'm understanding you correctly — and please tell me if I'm wrong — it's already baked in, you're saying, whether the student had pre-K or not?

A. I'm saying that all of the factors that the child is bringing with them into school at Time Point 1, if we're using that to keep predicting growth along the way then, yes, then it's already present.

Tr. 13811:11-13812:12 (Koury).

1084. Yet there is no credible reason why the presence or absence of Pre-K is controlled for by PVAAS, while broader underfunding — which causes the lack of Pre-K, or the lack of various other needed interventions — is not. *See* PX-2123-9 (touting study of PVAAS methodology allegedly finding that if “**any other**

possible factors resulted in low achievement and minimal learning growth in the past, all that is taken into account when the system calculates the teacher's contribution to student growth in the present") (emphasis added).

1085. When confronted with this conflict, Dr. Koury agreed it was a question he had not considered. Tr. 13821:24-13822:9-18 (Koury). And he agreed, in the end, that if the PVAAS model is to be believed, then it already controls for whether a student attends an underfunded district. Tr. 13824:12-15 (Koury).

1086. As Dr. Kelly explained, this reveals that Dr. Koury was attempting to find a relationship that the very model he relies upon should be eliminating:

[Y]ou're trying to essentially isolate and examine just the impact of a teacher's effectiveness in a given year. And you've essentially taken out of what you come up with all the other factors, right, that would impact a student's achievement, except for the effectiveness of that teacher.

And so if a student is in a chronically underfunded district and that's where these models are taking that out, and so if you're looking at the results and underfunding has already been taken out, you wouldn't expect to see it.

Tr. 14530:16-14531:4 (Kelly).

1087. As a result, if the PVAAS model is to be believed, Dr. Koury's analysis provided no information about the relationship between spending and growth because PVAAS is designed to decouple those very two things. *See, e.g.*, Tr. 13824:12-15 (Koury).

c. Dr. Koury agreed that certain districts need more funds, but failed to use the Commonwealth's measure of need.

1088. The third flaw in Dr. Koury's report was not one of his choosing: Senator Corman instructed Dr. Koury to run his model with an unweighted per-student funding figure. Tr. 13824:16-13825:13 (Koury). This instruction also limited the import of Dr. Koury's findings.

1089. To start, while acknowledging that different students might be costlier to educate, Dr. Koury was unaware that Pennsylvania contained a student-weighted measure to account for differing student costs. Tr. 13827:9-13828:2 (Koury); Tr. 13833:21-24 (Koury); Tr. 13832:19-23 (Koury). When shown that formula for the first time, however, he agreed that the measure was "useful" and "great," but didn't know how re-running the analysis with student need accounted for would alter his findings: "I concede the point the I did not consider it. I do not know. I can't say for sure how it would have changed things." Tr. 13835:21-13836:8 (Koury).

1090. But Dr. Koury eventually conceded that using a measure of spending that accounted for student need could change the relationships he found, because low-wealth, high-needs districts would see their per student spending numbers drop. Tr. 13832:10-23 (Koury). Dr. Kelly echoed this point: "those districts that

have the highest need level, they'd have the largest weighted adjustment and so they would be impacted at the highest rate." Tr. 14529:4-7 (Kelly).

d. Dr. Koury failed to recognize or compensate for the fact that AGI scores are unreliable and volatile.

1091. As Dr. Kelly explained, at its core, the PVAAS model is "trying to essentially isolate and examine just the impact of a teacher's effectiveness in a given year." Tr. 14530:16-18 (Kelly); PX-2118-4 (PVAAS results are "dependent on what happens as a result of schooling" with "little to no correlation, or relationship, with students' demographic background"). Moreover, teachers are professionals, and thus as a general matter, effectiveness will build over time, and is not likely to vary dramatically from year to year. Tr. 6954:19-6956:18 (Harbert).

1092. Yet PVAAS scores show something different altogether: "extreme swings in the results." Tr. 14519:19-14520:2 (Kelly). "[T]he [AGI] values, themselves, are very volatile. They will differ from district to district and year to year in ways that raise very important questions about the reliability of those measures for an analysis of funding and its impact on student growth." Tr. 14517:11-21 (Kelly).

1093. Dr. Koury's own analysis showed these swings, with districts repeatedly changing AGI colors from year to year. Tr. 13757:22-13760:20 (Koury). In his rebuttal report and testimony, Dr. Kelly explained it further,

breaking the Commonwealth's districts into quintiles by AGI scores, and tracking their relative placement in those quintiles year after year. Tr. 14520:15-14522:22 (Kelly). What he found was that school districts repeatedly changed whether they were among Pennsylvania's "best" or "worst" performing districts by AGI. Tr. 14520:15-14521:24 (Kelly).

1094. By way of example, when Dr. Kelly examined "districts that were in the bottom quintile, and the percentage of those districts that are in the bottom quintile again the following year," he found that the majority no longer were. Tr. 14521:13-24 (Kelly). When shown this analysis, and that by some measures 70% of the lowest performing districts in one year are no longer the lowest performing districts the next year, Dr. Koury did not dispute the accuracy of what Dr. Kelly found. Tr. 13762:5-18 (Koury).⁵⁸

1095. Similarly, Dr. Kelly examined the AGI colors districts were assigned, and whether they changed year-to-year. Tr. 14522:2-22 (Kelly). He found they repeatedly did. Tr. 14522:16-22 (Kelly). Over the course of the time he studied, 96% of districts changed their AGI color at least once in math, while 98% of districts changed their AGI color in English Language Arts. Tr. 14522:1-22

⁵⁸ Dr. Koury also appeared to have been unfamiliar with the rebuttal report that Dr. Kelly authored, even though it directly addressed Dr. Koury's report. *See, e.g.*, Tr. 13762:24-13763:8 (Koury).

(Kelly). And again, when shown Dr. Kelly’s analysis demonstrating that a quarter of school districts changed AGI levels for four consecutive years, Dr. Koury termed the analysis “pretty straightforward” and seemingly correct. Tr. 13762:24-13763:18 (Koury). Dr. Koury, however, explained that he did not do a similar analysis because “that wasn’t the question that was asked to [him].” Tr. 13763:19-13764:6 (Koury).

1096. Dr. Koury also asserted that PVAAS’s volatility did not concern him. Tr. 13763:19-13764:6 (Koury). Former William Penn superintendent Ms. Harbert put in practical terms why it should have — because it calls into question the reliability of the measure being used to make claims about the relationship between funding and growth. Tr. 6960:7-18 (Harbert).

1097. Ms. Harbert testified that at William Penn she used PVAAS to celebrate teachers who received blue scores as “smurfs.” Tr. 6953:24-6954:4 (Harbert). Yet Senator Corman’s summary exhibits of William Penn’s AGI results showed dramatic volatility on those scores from year to year. *See* LR-5085. For example, for PSSA ELA scores, William Penn went from dark blue (the best score) to red (the worst score) to dark blue (the best score), all in consecutive years. LR-5085.

1098. In other words, William Penn students and teachers would “go from the best to the worst to the best” with “no real change in curriculum or instructional

practices.” Tr. 6960:7-6960:14 (Harbert). As she said, this volatility “makes no sense to me,” and made her doubt the veracity of the PVAAS system she once used to celebrate her staff. Tr. 6960:7-18 (Harbert).

1099. Dr. Kelly and Ms. Harbert are not alone in expressing this concern about PVAAS. The American Education Research Association, the American Statistical Association and the American Association of Secondary School Principals expressed a similar concern regarding the volatility of PVAAS. Tr. 14522:23-14523:11 (Kelly).

D. Max Eden’s testimony is deserving of no weight.

1100. Speaker Cutler offered the testimony of Max Eden, of the American Enterprise Institute, to provide a “literature review” on a variety of topics. Tr. 13225:16-18 (Eden). As described below, Mr. Eden’s testimony is deserving of no weight.

1. Mr. Eden has “pugnacious,” “strong views” about education.

1101. At trial, Mr. Eden acknowledged that school finance is not his “primary body of master literature.” Tr. 13245:6-8 (Eden). Mr. Eden conceded that he has no specialized academic experienced in education, history, economics, or statistics, Tr. 13248:4-24 (Eden); does not produce peer-reviewed research, Tr. 13276:24-13277:3 (Eden); and has not conducted a formal peer-reviewed research

regarding state educational spending, the relationship between spending and student achievement, or other educational topics, Tr. 13277:4-13278:2 (Eden).

1102. Instead, Mr. Eden is a self-described “public intellectual,” who seeks to garner attention through inflammatory and “pugnacious” statements, including calling teachers unions “cartels” that hold children hostage for ransom, Tr. 13256:5-13257:14 (Eden), positing that school board associations are part of the “far left edudeep state,” Tr. 13257:18-13261:7 (Eden), and asserting that teachers unions condone child rape, Tr. 13261:8-13265:13 (Eden). In fact, while he conceded that he regretted doing so, Mr. Eden admitted to claiming that teachers who teach gender identity are doing so to groom children for molestation. Tr. 13266:24-13269:9 (Eden).

1103. Mr. Eden also acknowledged that at times, he departs from academic analysis to advocate for particular policy positions. *See, e.g.*, Tr. 13275:9-16 (Eden). In fact, Mr. Eden, who admitted to stating many times in the past that “data is mostly just a fancy way of fake rationalizing ideological preferences,” Tr. 13275:9-16, directs the Conservative Education Reform Network, made up of legislators and advocates, whose goal is to facilitate and uplift certain policy ideas. Tr. 13251:14-13252:3 (Eden); Tr. 13254:3-13255:2 (Eden). And he conceded that the “public commentary” role he plays at American Enterprise Institute is something not typically done by academics. Tr. 13242:9-12 (Eden). Mr. Eden sees

his role as influencing and shaping the debate around educational policy. Tr. 13298:24-13299:16 (Eden); Tr. 13230:6-14 (Eden); Tr. 13267:10-13268:8 (Eden).

2. Mr. Eden's expert testimony lacked support.

1104. Mr. Eden's testimony also revealed a lack of careful review of the information he sought to convey to the Court. *See, e.g.*, Tr. 13545:8-21 (Eden). That is, while the sole expertise and analysis Mr. Eden brought to bear was his review of other datasets and studies, he related that he "sometimes read[s] them less carefully than [he] should." Tr. 13545:8-21 (Eden). Similarly, in reviewing materials to develop his expert report, Mr. Eden admitted to "making discretionary judgmental decisions" to ignore findings in the underlying reports that did not support, or even directly contradicted, his conclusion. Tr. 13574:1-13582:12 (Eden).

1105. By way of example, Mr. Eden attempted to dispute that Pennsylvania school funding was regressive. Tr. 13383:20-13385:10 (Eden). In doing so he relied solely upon a study from the Urban Institute, which "stand[s] out for the way that it was designed," and uses "the most sophisticated methodology" to define the progressivity of school funding Tr. 13383:2-19 (Eden); Tr. 13535:14-13536:20 (Eden). In fact, however, cross-examination revealed that same study flagged a by-now familiar concern about national data: questions about the way that charter students were accounted for in Pennsylvania. Tr. 13540:5-13541:22 (Eden); Tr.

13548:10-13549:11 (Eden). Mr. Eden eventually admitted that, in fact, when the study that he heavily relied upon used a measure that attempted to control for the impact of charter school students, it found that the results “change dramatically,” with Pennsylvania having the most regressive school funding system in the nation. Tr. 13543:21-13546:24 (Eden).

1106. Similarly, through Mr. Eden, Speaker Cutler sought to offer into evidence a chart demonstrating alleged growth in Pennsylvania school spending, from 1981 to the present. Tr. 13322:11-19 (Eden). Yet Mr. Eden did not prepare that chart. Tr. 13462:8-19 (Eden). Rather, it was prepared by the Commonwealth Foundation, a Pennsylvania think tank that Mr. Eden agreed “does tend to have an advocacy view.” Tr. 13462:8-13464:5 (Eden); Tr. 13319:23-13320:7 (Eden).⁵⁹

1107. Mr. Eden testified that he “spot checked” the chart’s data to ensure its accuracy. Tr. 13464:22-13465:10 (Eden). But PDE explained that they do not have data on school spending from earlier than 1995-96. Hanft Dep. Tr. Vol. 2, 72:14-22. Ultimately, Mr. Eden conceded that even though the chart was purporting to show long-term trends, he could not have “spotchecked” the first fifteen years of data in the graph. Tr. 13461:9-13462:7 (Eden). And he admitted that he also did

⁵⁹ In fact, the Commonwealth Foundation filed an amicus brief in this case in support of Legislative Respondents. Tr. 13464:6-10 (Eden).

not verify whether the chart he offered in court had correctly accounted for inflation. Tr. 13458:1-13460:8 (Eden).

1108. Similarly, while Mr. Eden's expert report compared education spending in Pennsylvania to that in Western Europe, Mr. Eden conceded that was not an "apples to apples" comparison because the international data was based upon "a bunch of different assumptions [and] assertions." Tr. 13487:7-20 (Eden). Mr. Eden had no idea how whether the international data used similar definitions of "pupil" and "education spending" or whether the spending accounted for pension costs and healthcare costs, as the Pennsylvania figures do. Tr. 13487:7-13489:1 (Eden). He conceded, however, that the difference in accounting for pension spending alone "might really skew things." Tr. 13488:12-22 (Eden).

1109. And when making comparisons between Pennsylvania, Utah, and New York, Mr. Eden did not examine or account for how those states fund charter schools, undermining the value of the comparisons. Tr. 13551:16-13555:8 (Eden). Further, Mr. Eden was unaware of how New York and Utah compare to Pennsylvania in terms of students designated as economically disadvantaged, as English Language Learners, and as special education students. Tr. 13557:5-9 (Eden). Nor was he aware of the how the populations compared by demographic group. Tr. 13556:24-13558:17 (Eden).

1110. Overall, Mr. Eden's testimony consistently lacked accuracy and credibility, and deserves no weight.

XIII. Conclusion

1111. Petitioners have proven that Pennsylvania's education system is inadequately and inequitably funded, to the detriment of the students of Pennsylvania generally, and to Petitioners specifically. As explained in the Conclusions of Law that follow, such a system violates the Pennsylvania Constitution

PETITIONERS' PROPOSED CONCLUSIONS OF LAW

I. The Education Clause of the Pennsylvania Constitution requires the General Assembly to provide a universal system of high-quality public schools.

1. Beginning in 1874, with language that “has remained in our Constitution in materially the same form since,” *William Penn Sch. Dist. v. Pa. Dep’t of Educ.*, 170 A.3d 414, 418 (Pa. 2017), the people of Pennsylvania have required the General Assembly to maintain and support a thorough and efficient system of public education. Pa. Const. art. III, § 14; *see also* Findings of Fact (“FOF”) § III(A).

2. Pursuant to black-letter principles of constitutional construction, the import of such a mandate is plain: the General Assembly must ensure that a contemporary, high-quality education is available to children in every corner of the Commonwealth, without regard to wealth, race, or any other characteristic.

A. To define and measure what constitutes a “thorough and efficient” education, the Court should apply the legal framework set forth by the Pennsylvania Supreme Court in this case.

3. The Pennsylvania Supreme Court has held that courts must “give meaning and force to the language of a constitutional mandate to furnish education of a specified quality, in this case ‘thorough and efficient.’” *William Penn Sch. Dist.*, 170 A.3d at 457.

4. While it is well established that the education system required by the Constitution is a contemporary one, *see Malone v. Hayden* (“*Teachers’ Tenure Act Case*”), 197 A. 344, 352 (Pa. 1938), the analysis of the system’s parameters begins with the most “fundamental” method of interpretation: “the Constitution’s language controls and must be interpreted in its popular sense, as understood by the people when they voted on its adoption.” *Pa. Env’t Def. Found. v. Commonwealth*, 161 A.3d 911, 929 (Pa. 2017) (quotation omitted).

5. To the extent that “the language of a constitutional provision is unclear, [a court] may be informed by the occasion and necessity for the provision; the circumstances under which the amendment was ratified; the mischief to be remedied; the object to be attained; and the contemporaneous legislative history.” *Id.* at 929-30 (quotation omitted).

6. In other words, in formulating “a practicable standard by which courts might define and measure the thoroughness and efficiency of a given statutory educational scheme,” a court should consider the history of Pennsylvania’s Constitution, which involves “develop[ing] the historic record concerning what, precisely, thoroughness and efficiency were intended to entail,” *William Penn Sch. Dist.*, 170 A.3d at 450, 457 (citing *Hornbeck v. Somerset Cnty. Bd. of Educ.*, 458 A.2d 758, 770-81 (Md. 1983)), based on “the history underlying the enactment,”

“its contemporaneous construction,” and the “debates and proceedings held in the course of constitutional conventions.” *Hornbeck*, 458 A.2d at 770.

1. The language of the Education Clause mandates a universal, high-quality system of public education.

7. The “language upon which the instant case primarily hinges first appeared in our Constitution in 1874,” *William Penn Sch. Dist.*, 170 A.3d at 425, when “shall” indicated “a duty,” “provide” meant “[t]o furnish,” “maintenance” and “support” were the acts of “keeping up” and “sustaining,” “thorough” and “efficient” meant “complete” and “[e]ffective,” and “system” called for “a regular union of . . . parts forming one entire thing.” Webster’s American Dictionary of the English Language 430, 802, 1054, 1212-13, 1330, 1345, 1377 (1865), <https://archive.org/details/americaandictiona00websuoft/mode/2up>; *see also* *Campbell Cnty. Sch. Dist. v. State*, 907 P.2d 1238, 1258 (Wyo. 1995) (noting contemporary definition of “thorough” was “fully executed; having no deficiencies; hence, complete in all respects; unqualified; perfect,” while “efficient” was “acting or able to act with due effect; adequate in performance; bringing to bear the requisite knowledge, skill, and industry; capable, competent”) (quoting *The Century Dictionary* (1889)).

8. A thorough and efficient system, in other words, means the General Assembly is duty-bound to provide a comprehensive, complete, and effective

system of education. *See Robinson v. Cahill* (“*Robinson I*”), 287 A.2d 187, 210-11 (N.J. Super. Ct. Law Div. 1972) (determining that “thorough” in the 1875 amendment to the New Jersey education clause “means more than simply adequate or minimal” and “connotes in common meaning the concept of completeness and attention to detail”); *In re Walker*, 36 A. 148, 150 (Pa. 1897) (“The object of these large appropriations was to add to the efficiency of the schools.”); Debates of the Convention to Amend the Constitution of Pennsylvania (1873) (“Pennsylvania Debates of 1873”), Vol. 2:436 (“[T]he appropriation from the State is of the highest importance to the efficiency of the public school system of Pennsylvania.”).

9. Said differently, the plain language of the Education Clause requires a universal system of high-quality public schools.

2. The history of the Education Clause mandates that the system be of paramount importance, set apart from politics, and contemporary.

10. If the Constitution’s language is unclear, the Court “may be informed by the occasion and necessity for the provision; the circumstances under which the amendment was ratified; the mischief to be remedied; the object to be attained; and the contemporaneous legislative history.” *Pa. Env’t Def. Found.*, 161 A.3d at 929-30 (quotation omitted). That history is instructive.

11. Education has been a “vitally important part” of the Commonwealth’s mission from its inception in 1776, *William Penn Sch. Dist.*, 170 A.3d at 423 (quotation omitted), and has been embedded in the Pennsylvania Constitution since that time. Tr. 930:7-12 (Black); *see also* FOF § III(A).

12. The Education Clause has evolved in the centuries since. “By the Constitution of 1790 the people of this commonwealth imposed upon the Legislature the positive duty of establishing schools throughout the state for the free education of the poor.” *Bd. of Pub. Educ. Of First Sch. Dist. v. Ransley*, 58 A. 122, 123 (Pa. 1904). In 1834, the Legislature expanded the system, so Pennsylvania children could “all fare alike in primary schools; receive the same elementary instruction; . . . and be animated by a feeling of perfect equality.” *William Penn Sch. Dist.*, 170 A.3d at 421 (quoting XIII Register of Pa. 97 (1834)).

13. Before Pennsylvania first cemented the right to a “thorough and efficient” education in the 1874 Constitution, the state’s “school system had then been in operation 40 years, yet statistics demonstrated that a large percentage of even Pennsylvania born children grown to manhood and womanhood under the public school system were illiterate.” *In re Walker*, 36 A. at 149.

14. During those years, “the administration of the school law was intrusted [sic] almost wholly to the particular locality constituting the school

district,” resulting in disparate educational opportunities for the Commonwealth’s schoolchildren:

In one district would be found excellent teachers, ample and comfortable school rooms, with suitable school apparatus, and a term of eight to ten months. In another district, perhaps in the same county, would be found incapable teachers, rude and insufficient buildings, not supplied with any of the aids to teacher, such as globes, blackboards, and other school furniture, with a term of four months.

Id.

15. The school system “had not accomplished nearly to the full extent the purpose of its founders. Hence the mandate of the new constitution.” *Id.*

a. In an era of fear of legislative corruption, the mandate of the Education Clause is created.

16. During a “unique time of fear of tyrannical corporate power and legislative corruption,” *Pennsylvanians Against Gambling Expansion Fund, Inc. v. Commonwealth*, 877 A.2d 383, 394 (Pa. 2005), a constitutional convention was held from November 1872 to December 1873. Tr. 928:9-13 (Black); *see also* FOF § III(A)(1).

17. Professor and constitutional historian Derek Black explained that for the delegates, education was the “most important” interest of the state, ““second in importance to no other section to be submitted to this Convention,”” and “the Constitution itself might actually ride upon it.” Tr. 919:19-920:15 (Black); Tr. 939:11-940:14 (Black) (quoting the Pennsylvania Debates of 1873, Vol. 2:421);

see also FOF § III(A)(2). The delegates “linked the importance of public education to the success of democracy,” *William Penn Sch. Dist.*, 170 A.3d at 424, and recognized its vital role in preparing individuals to “participate . . . in a civic way in society, and also . . . [to] be self-sufficient.” Tr. 940:15-943:23 (Black); *see also* FOF § III(A)(2).

18. As ratified by the people, the 1873 Convention’s final product was to make mandatory the provision of education for “all the children”: “The General Assembly shall provide for the maintenance and support of a thorough and efficient system of public schools, wherein all the children of this Commonwealth above the age of six years may be educated, and shall appropriate at least one million dollars each year for that purpose.” Pa. Const. art. X, § 1 (1874). “[I]t was only upon the adoption of the 1874 Constitution that Pennsylvania fortified the public school system, making schools an integral part of our governmental system, as a state institution, and rendering school districts but agencies of the state Legislature to administer its newly-defined constitutional duty.” *William Penn Sch. Dist.*, 170 A.3d at 423 (quotation omitted).

19. The 1874 Constitution both enshrined education and elevated it above partisan politics, a testament to the delegates’ commitment to making education not only “one of the distinct obligations of the state” but also “an indispensable

governmental function.” *Teachers’ Tenure Act Case*, 197 A. at 352. The delegates set education apart in several respects.

20. First, and most obviously, they singled out education as a provision that the General Assembly could not refuse to support, and specified that the system must be funded to a required level of quality — “thorough and efficient.” *See William Penn Sch. Dist.*, 170 A.3d at 457 (The Education Clause serves as a “constitutional mandate to furnish education of a specified quality, in this case ‘thorough and efficient.’”); *see also* FOF § III(A)(3)(c).

21. Second, they included education alongside the three branches of government in the general appropriations bill. Pa. Const. art. III, § 15 (1873). Education was not to be “a pet project of the legislature,” but rather “embodied as a central aspect of the Government of the Commonwealth.” Tr. 945:11-17 (Black); *see also* FOF § III(A)(3)(b).

22. Third, the delegates mandated “at least one million dollars each year” be provided in state funds to education, which was “approximately a 40 percent increase over what had been appropriated in the prior year.” Tr. 933:8-21 (Black); Tr. 945:21-948:5 (Black); *see also* Pa. Const. art. X, § 1 (1874); FOF § III(A)(3)(b). In setting a minimum appropriation at a much higher amount than the previous year, the 1874 Constitution recognized that prior “state appropriations for school purposes were comparatively small” and attempted to address the

inadequate and inequitable education offerings, the implication being “that the fund raised by local taxation has not been sufficient; it must be liberally supplemented by state aid.” *In re Walker*, 36 A. at 149; *see also* FOF § III(A)(3)(b). The million-dollar appropriation was meant to “equalize the burdens of supporting the system of education prescribed by the Constitution.” *William Penn Sch. Dist.*, 170 A.3d at 424 (quotation omitted).

23. The appropriation was also meant to protect education by shielding the Superintendent of Public Instruction from having to “annually . . . go before the committee of the Legislature to beg and implore, and threaten and argue, and use all the means and the devices in his power to get a respectable appropriation.” Pennsylvania Debates of 1873, Vol 2:436; *see also* FOF § III(A)(3)(b).

24. Fourth, the delegates sought to isolate the Superintendent from politics by enshrining in the Constitution a role for the Superintendent (now the Secretary of Education) as a constitutional officer. Pa. Const. art. IV, §§ 1, 8, 20 (1874); Tr. 934:22-935:9 (Black); *see also* FOF § III(A)(3)(b).

25. Also notable is what the delegates rejected: any proposal to constitutionalize two separate systems of education, one for pauper children and one for the rest of the citizenry. Tr. 931:13-933:7 (Black); Tr. 954:24-957:22 (Black) (explaining that to “ensure a thorough and efficient system of education . .

. [the delegates] believed it was important to bring all those kids under one roof and serve them together in one system”); *see also* FOF § III(A)(3)(a).

26. The delegates also rejected a “uniform” system out of concern that schools would be forced to provide education in precisely the same way, such as through the use of identical textbooks, or that schools in urban and rural areas would be unable “to tailor their instruction to the disparate needs” of different student bodies. *William Penn Sch. Dist.*, 170 A.3d at 424. But as the drafters of the Education Clause reported to the 1873 Convention, that rejection was not intended to undercut the universal, uniform quality that was demanded from the single system the delegates proposed. *See Pennsylvania Debates of 1873*, Vol. 2:423 (“The word ‘system,’ of itself, suggests sufficient symmetry, and a sufficient measure of uniformity.”); *see also id.* (“[I]f the system is intended to give an opportunity to every child in the Commonwealth to get an equal chance for a good and proper education, the word ‘uniform’ ought not to be put into it.”); *see also* FOF § III(A)(3)(c).

27. Moreover, in rejecting strict prescriptions about the types of books or the language taught in schools, the people enshrined a system that was designed to evolve with the needs of the times. The delegates understood they were establishing “principles” rather than “descend[ing] to the minutae”: “We are not here to make a code, but we are here to make a Constitution. . . . What, in this

progressive age of ours, limit our children to human knowledge, as it was ten years ago?” Pennsylvania Debates of 1873, Vol. 2:461; 2:451; *see also* FOF § III(A)(3)(c).

28. Accordingly, the high-quality system that was created was not static, but contemporary: “the very essence of this section is to enable successive Legislatures to adopt a changing program to keep abreast of educational advances. The people have directed that the cause of public education cannot be fettered, but must evolute or retrograde with succeeding generations as the times prescribe.” *Teachers’ Tenure Act Case*, 197 A. at 352; *see also William Penn Sch. Dist.*, 170 A.3d at 440.

29. Soon after the passage of the Education Clause, the Pennsylvania Supreme Court began to give contour to its meaning:

The maintenance of the public schools under these constitutional provisions imposed an obligation to erect and maintain suitable buildings, to furnish conveniences and equipments [sic] reasonably necessary to promote the work of education, to provide and employ competent teachers and to do all the necessary things . . . that the people may have a thorough and efficient system of public schools.

McLeod v. Cent. Norman Sch. Ass’n of Pa., 25 A. 1109, 1110 (Pa. 1893).

b. The 1967 changes to the Education Clause did not alter its substantive meaning.

30. The first part of the Education Clause, which mandates “the maintenance and support of a thorough and efficient system” of public schools, has

remained constant in the years since 1874. *Compare* Pa. Const. art. X, § 1 (1874) *with* Pa. Const. art. III, § 14 (1967).

31. In 1967, there were three amendments to the Education Clause. Article III, Section 14 of the Pennsylvania Constitution now states that “[t]he General Assembly shall provide for the maintenance and support of a thorough and efficient system of public education to serve the needs of the Commonwealth.” Pa. Const. art. III, § 14 (1967). Two phrases from the 1874 provision were removed: the age limitation for children who could attend public school, and the “anachronistic” million-dollar minimum appropriation for the school system. *William Penn Sch. Dist.*, 170 A.3d at 425; *compare* Pa. Const. art. X, § 1 (1874) *with* Pa. Const. art. III, § 14 (1967); *see also* FOF § III(A)(4). And a new closing phrase — “to serve the needs of the Commonwealth” — was added. Pa. Const. art. III, § 14.

32. The new phrase was proposed by Project Constitution, an initiative formed by the Pennsylvania Bar Association to recommend revisions to the Constitution, in order to “make it clear that this system would benefit the overall Commonwealth, in addition to just the children.” Tr. 962:9-964:18 (Black); *see* Report of Committee No. 10 on Education, 34 Pa. B. Ass’n Q. 147, 304-305 (Jan. 1963) (“[T]he system of public education should not necessarily be limited to serve the needs of children as the Constitution now provides.”); *see also* Report of

Committee No. 10 on Education, 33. Pa. B. Ass’n Q. 365, 466-67 (Jun. 1962) (“[O]ne member of the Committee raised the point that the language ‘wherein all the children of the Commonwealth may be educated,’ . . . might raise a question whether the public schools could be used for adult education. In these days when automation is putting many workers in the ranks of the unemployed, there is a growing need for retraining these workers and there should be no restriction on the Legislature’s right to make provision for such retraining.”); *see also* FOF § III(A)(4). But, as the Pennsylvania Supreme Court recognized in this case, this was not a material change to the standard set forth in the Education Clause. *William Penn Sch. Dist.*, 170 A.3d at 418 (“[T]he Education Clause . . . has remained in our Constitution in materially the same form since 1874.”).

B. Other courts have reached similar conclusions about how to judge what an education system requires.

33. The Supreme Court instructed that “examples offered by other jurisdictions” provide guidance for how courts may provide “a broad, flexible judicial standard” while remaining sensitive to the prerogative a legislature has “to negotiate the particular policies that will satisfy it.” *William Penn Sch. Dist.*, 170 A.3d at 450-51. While by no means exhaustive, a number of states reach similar, instructive conclusions.

34. West Virginia’s education clause provides for ““a thorough and efficient system of free schools,”” which necessitates a school system that “develops, as best the state of education expertise allows, the minds, bodies and social morality of its charges to prepare them for useful and happy occupations, recreation and citizenship, and does so economically”; includes every child’s development of eight specified skills and “good physical facilities, instructional materials and personnel”; “requires the development of certain high quality educational standards” pursuant to which the “educational system must be tested”; and “adapt[s] to conditions its beneficiaries need meet.” *Pauley v. Kelly*, 255 S.E.2d 859, 861, 876-78 (W. Va 1979) (quoting W. Va. Const. art. XII, § 1).

35. New Jersey’s education clause, which obligates its legislature to ““provide for the maintenance and support of a thorough and efficient system of free public schools,”” requires ““that educational opportunity which is needed in the contemporary setting to equip a child for his role as a citizen and as a competitor in the labor market,’ . . . mean[ing] that poorer disadvantaged students must be given a chance to be able to compete with relatively advantaged students.” *Abbott v. Burke*, 575 A.2d 359, 363 n.1, 372 (N.J. 1990) (quoting N.J. Const. art. VIII, § 4, ¶ 1; *Robinson v. Cahill*, 303 A.2d 273, 295 (N.J. 1973)). “[T]he measurement of the constitutional requirement must account for the needs of the students,” *id.* at 375, and students attending public schools in districts located in

poor urban areas have needs that “go beyond educational needs, they include food, clothing and shelter, and extend to lack of close family and community ties and support, and lack of helpful role models,” which “clearly must be confronted and overcome in order to achieve a constitutionally thorough and efficient education,” *Abbott v. Burke*, 693 A.2d 417, 420, 434 (N.J. 1997) (quotation omitted).

36. Kentucky’s education clause, which mandates that its General Assembly “provide for an efficient system of common schools,” requires a system that has

as its goal to provide each and every child with at least the seven following capacities: (i) sufficient oral and written communication skills to enable students to function in a complex and rapidly changing civilization; (ii) sufficient knowledge of economic, social, and political systems to enable the student to make informed choices; (iii) sufficient understanding of governmental processes to enable the student to understand the issues that affect his or her community, state, and nation; (iv) sufficient self-knowledge and knowledge of his or her mental and physical wellness; (v) sufficient grounding in the arts to enable each student to appreciate his or her cultural and historical heritage; (vi) sufficient training or preparation for advanced training in either academic or vocational fields so as to enable each child to choose and pursue life work intelligently; and (vii) sufficient levels of academic or vocational skills to enable public school students to compete favorably with their counterparts in surrounding states, in academics or in the job market.

Rose v. Council for Better Educ., Inc., 790 S.W.2d 186, 205, 212 (Ky. 1989) (quoting Ky. Const. § 183).

37. As the Pennsylvania Supreme Court noted, many of these constitutional requirements are similar to what Pennsylvania already acknowledges today are the purposes of public education. *William Penn Sch. Dist.*, 170 A.3d at 452 (citing 22 Pa. Code § 4.11). Indeed, there is largely consensus as to what a thorough and efficient system must provide in the 21st century: the skills and tools children need to be engaged, college-and-career ready citizens, prepared to actively participate in the modern economy and the democratic process. *See* FOF § IV(B).

II. The Commonwealth has failed its constitutional duty under the Education Clause to maintain and support a thorough and efficient system of public education.

A. Under the Education Clause, the Court must examine whether the General Assembly’s funding scheme achieves or is reasonably likely to achieve the mandate of providing all children with a contemporary, high-quality education.

38. “[C]onsistent with the intuition that to disregard the beneficiaries of a mandate is to render that mandate little more than a hortatory slogan,” *William Penn Sch. Dist.*, 170 A.3d at 423, 461 n.68, Pennsylvania courts have long recognized that the creation of the education system was to bestow a right on the Commonwealth’s youngest citizens. In other words, “[t]he schools are for the students. It is their welfare that the Constitution aims to promote by the ‘thorough and efficient system of public schools.’” *Kaplan v. Sch. Dist. of Phila.*, 113 A.2d 164, 166 (Pa. Super. Ct. 1955), *aff’d*, 130 A.2d 672 (Pa. 1957); *see also Sch. Dist. of Phila. v. Twer*, 447 A.2d 222, 224 (Pa. 1982) (“[T]he maintenance of a public school system is primarily for the education and training of our youth”); *Walker v. Sch. Dist. of City of Scranton*, 12 A.2d 46, 48 (Pa. 1940) (“The aim and object of our school system is to provide the best education for the children of the Commonwealth.”); *Appeal of Walker*, 2 A.2d 770, 772 (Pa. 1938) (“The fundamental public policy, expressed in the Constitution and underlying school laws, is to obtain a better education for the children of the Commonwealth.”).

39. Consequently, pursuant to “a positive mandate that no Legislature could ignore,” *Teachers’ Tenure Act Case*, 197 A. at 352, and unlike traditional negative rights jurisprudence, Pennsylvania’s Education Clause confers upon its citizens a “a true right, created by a positive constitutional grant,” *McCleary v. State*, 269 P.3d 227, 248 (Wash. 2012) (quotation omitted), or, put more succinctly, “a positive constitutional right,” *Martinez v. State*, No. D-101-CV-2014-00793, 2018 WL 9489378 at *8 (N.M. 1st Jud. Dist. July 20, 2018). Negative constitutional rights, by comparison, include constitutional freedoms or privileges, such as freedoms of speech and religion, which “exist because the constitution has, in a negative sense, provided for noninterference.” *McCleary*, 269 P.3d at 248 (quotation omitted).

40. While negative constitutional rights may be impaired upon the state’s showing of a compelling state interest, the state “cannot invade or impair” a positive constitutional right. *Id.* (quotation omitted). As the Washington Supreme Court explained:

This distinction between positive and negative constitutional rights is important because it informs the proper orientation for determining whether the State has complied with its [Education Clause] duty in the present case. In the typical constitutional analysis, we ask whether the legislature or the executive has overstepped its authority under the constitution. The vast majority of constitutional provisions, particularly those set forth in the federal constitution’s bill of rights and our constitution’s declaration of rights, are framed as negative restrictions on government action. With respect to those rights, the role of the court

is to police the outer limits of government power, relying on the constitutional enumeration of negative rights to set the boundaries.

This approach ultimately provides the wrong lens for analyzing positive constitutional rights, where the court is concerned not with whether the State has done too much, but with whether the State has done enough. Positive constitutional rights do not restrain government action; they require it. The typical inquiry whether the State has overstepped its bounds therefore does little to further the important normative goals expressed in positive rights provisions. . . . **Instead, in a positive rights context we must ask whether the state action achieves or is reasonably likely to achieve “the constitutionally prescribed end.”**

Id. (quoting Helen Hershkoff, *Positive Rights and State Constitutions: The Limits of Federal Rationality Review*, 112 Harv. L. Rev. 1131, 1137 (1999)) (citation omitted) (emphasis added).

41. Similarly, in this case, the Court is not being asked to evaluate “whether the State has done too much, but . . . whether the State has done enough” to meet the constitutional standard set forth in the Education Clause. *McCleary*, 269 P.3d at 248; *see also Abbeville Cnty. Sch. Dist. v. State*, 767 S.E.2d 157, 161-62 (S.C. 2014) (“Plaintiff Districts do not argue that the statutes comprising South Carolina’s education regime in and of themselves are repugnant to the Constitution, or that the Defendants overstepped their authority in creating the regime. Instead, Plaintiff Districts argue, and we agree, that the proper question is whether the education funding apparatus as a whole gives rise to a constitutional violation.”).

42. That is, the Court must consider whether the Commonwealth’s education funding scheme “achieves or is reasonably likely to achieve the constitutionally prescribed end,” *McCleary*, 173 Wash. 2d at 519 (quotation omitted): the provision of a contemporary, high-quality, and complete public education that effectively provides every child with the skills and knowledge they need to realize their potential, engage fully in democracy and citizenship, meaningfully participate in the economy, and meet the workforce needs of Commonwealth.

B. The inadequate resources in Pennsylvania schools, along with widespread failure, demonstrate that the Commonwealth has failed in its constitutional duty.

43. To determine whether Pennsylvania public schools offer students a “thorough and efficient” education consistent with the General Assembly’s constitutional mandate, the Court must evaluate the resources students receive, from the sufficiency of their educators to their receipt of updated curricula and academic interventions, to reasonably current textbooks and technology, to adequate learning facilities. And it must also evaluate the results students achieve, including proficiency on standardized assessments, high school graduation rates, and the ability to access and succeed in college and the working world. *See Maisto v. State*, 149 N.Y.S.3d 599 (N.Y. App. Div. 2021); *Martinez*, 2018 WL 9489378; *Gannon v. State*, 390 P.3d 461 (Kan. 2017); *Hoke Cnty. Bd. of Educ. v. State*, 358

N.C. 605, 599 S.E.2d 365 (N.C. 2004); *Campaign for Fiscal Equity, Inc. v. State*, 801 N.E.2d 326 (N.Y. 2003); *Robinson I*, 287 A.2d 187 (N.J. Super. Ct. 1972).

44. As described in the Findings of Fact, *supra*, and as will be more fully detailed in Petitioners’ brief, Pennsylvania’s school funding system fails on both accounts. School districts cannot provide their students the resources they need. *See* FOF § IX. And the consequence of that deprivation is widespread failure: hundreds of thousands of students unable to meet state standards, and districts like Petitioners unable to offer the support necessary to change the trajectories of their children’s academic success and lives.⁶⁰ *See* FOF § X.

45. Moreover, those who have traditionally borne the brunt of inequity — low-income children and children of color — are failing, or being failed, at profound rates. Courts have found far less to be constitutional violations. *See, e.g.,*

⁶⁰ The vast majority of conditions described during trial remain present today. To the extent certain conditions were temporarily improved through emergency federal relief, those past conditions remain relevant to Petitioners’ challenge. *See Commonwealth v. TAP Pharm. Prods., Inc.*, 36 A.3d 1197, 1242 (Pa. Commw. Ct. 2011) (holding “an injunction can issue to restrain future conduct based on prior unlawful conduct”), *vacated on other grounds*, 94 A.3d 350 (2014); *City of L.A. v. Lyons*, 461 U.S. 95, 102 (1983) (While plaintiffs must show prospective injury for injunction, “[p]ast wrongs [are] evidence bearing on whether there is a real and immediate threat of repeated injury.”) (quotation omitted); *i4i Ltd. P’ship v. Microsoft Corp.*, 598 F.3d 831, 862 (Fed. Cir. 2010) (holding “it [is] proper for the district court to consider evidence of past harm to [plaintiff]” because, “[a]lthough injunctions are tools for prospective relief designed to alleviate future harm,” the injunction analysis “looks, in part, at what has already occurred”).

Gannon, 390 P.3d at 469 (examples of inadequacy include one quarter of all students, half of Black students, and one third of Latino students failing to meet state proficiency standards).

46. The Supreme Court has long recognized that it is the General Assembly's responsibility "to do all the necessary things . . . that the people may have a thorough and efficient system of public schools." *McLeod*, 25 A. at 1110; accord *William Penn Sch. Dist.*, 170 A.3d at 442 (finding "the General Assembly alone must be held accountable, regardless of whether one perceives the cause of the actionable deficiency to exist at the local or state level"). The connective tissue between the education's system lack of resources and its unacceptable results is therefore straightforward: the General Assembly has failed its duty, and instead erected a school funding system with insufficient resources, where those school districts who need the most have the least, despite trying the hardest.

III. The Commonwealth’s school funding system discriminates against children in low-wealth districts in violation of the Constitution’s equal protection principles.

47. Pennsylvania’s equal protection provision — Article III, Section 32 of the Pennsylvania Constitution — “embodies the principle that like persons in like circumstances should be treated similarly by the sovereign.” *William Penn Sch. Dist.*, 170 A.3d at 458 (quotation omitted).

48. There are three standards of judicial review for equal protection claims, whose application depends on the classification or type of right involved:

The first type — classifications implicating neither suspect classes nor fundamental rights — will be sustained if it meets a rational basis test. In the second type of case, where a suspect classification has been made or a fundamental right has been burdened, another standard of review is applied: that of strict scrutiny. Finally, in the third type of cases, if important, though not fundamental rights are affected by the classification, or if sensitive classifications have been made, . . . an intermediate standard of review, or a heightened standard of review [is applied].

Id. at 458 (quotation omitted).

49. Because education is a fundamental right under the Pennsylvania Constitution, it is plain that the highest standard review of review must be applied.

A. Education is a fundamental right in Pennsylvania.

50. “[F]undamental rights, are those which have their source, explicitly or implicitly, in the Constitution.” *Smith v. City of Phila.*, 516 A.2d 306, 311 (Pa. 1986); *see also Zauflik v. Pennsbury Sch. Dist.*, 104 A.3d 1096, 1118 (Pa. 2014).

Under federal equal protection principles, no right to education has been recognized, a consequence of the “United States Constitution’s conspicuous and complete silence on the very topic of education.” *William Penn Sch. Dist.*, 170 A.3d at 460 (referencing *San Antonio Indep. Sch. Dist. v. Rodriguez*, 411 U.S. 1 (1973)).

51. Accordingly, because the “state charter is invoked to support a departure from established federal law” under the Equal Protection Clause, “the court should engage in a four-factor analysis to determine whether the Pennsylvania [equal protection principles] ha[ve] a different scope or meaning.” *Zauflik*, 104 A.3d at 1117 n.10. The four factors are “(1) the text of the Pennsylvania constitutional provision; (2) the history of the provision, including Pennsylvania case law; (3) relevant case law from other jurisdictions; and (4) policy considerations, including unique issues of state and local concern, and applicability within modern Pennsylvania jurisprudence.” *Commonwealth v. Arter*, 151 A.3d 149, 156 (Pa. 2016) (citing *Commonwealth v. Edmunds*, 586 A.2d 887, 895 (Pa. 1991)).

52. An assessment of the four *Edmunds* factors commands elevating to a holding what the Pennsylvania Supreme Court has already recognized in *dictum*: “public education in Pennsylvania is a fundamental right,” one which is “required

by Article III, Section 14 of the Pennsylvania Constitution.” *Sch. Dist. of Wilkesburg v. Wilkesburg Educ. Ass’n*, 667 A.2d 5, 9 (Pa. 1995).

53. First, as detailed above, unlike the federal Constitution, the Pennsylvania Constitution “is not at all silent on the topic” of education. *William Penn Sch. Dist.*, 170 A.3d at 460. And an examination of the text of the relevant Pennsylvania constitutional provisions evidences that education is a right of paramount importance bestowed upon each of the Commonwealth’s citizens.

54. The Education Clause has long mandated that the General Assembly provide for a thorough and efficient system of public schools, the general appropriations bill includes education alongside funding for the state government, and the only constitutionally prescribed executive officer who is not subject to election is the Secretary of Education. *See* FOF §§ III(A)(2)-(3). These constitutional provisions support the founders’ intent to elevate education above politics and ensure its treatment as a fundamental right afforded to all Pennsylvania children.

55. Second, the history of the provision and interpretive case law reflect that education has been of the utmost concern to the Commonwealth and that, at least since the 1873 Convention, education has been heralded as a “great fundamental right.” Pennsylvania Debates of 1873, Vol. 3:345; *see also* FOF § III(A)(1). Pennsylvania Supreme Court decisions for more than a century have

interpreted the Education Clause as “impos[ing] an obligation” on the General Assembly “to do all the necessary things . . . [so] that the people may have a thorough and efficient system of public schools.” *McLeod*, 25 A. at 1110. As the Supreme Court instructed, the level of judicial oversight should reflect “the priority” of education in the Constitution and “the constitutional imperative, ensuring that non-constitutional considerations never prevail over that mandate.” *William Penn Sch. Dist.*, 170 A.3d at 464.

56. Third, a review of case law from other jurisdictions confirms that various states have deemed education a fundamental right pursuant to education mandates that contain similar standards to that of Pennsylvania. *See Skeen v. State*, 505 N.W.2d 299, 309, 313 (Minn. 1993) (“[E]ducation *is* a fundamental right under the state constitution, not only because of its overall importance to the state but also because of the explicit language used to describe this constitutional mandate.”)⁶¹; *Rose*, 790 S.W.2d at 200, 206, 212 (A “child’s right to an adequate education is a fundamental one under our Constitution,” as the “framers of [the Education Clause] emphasized that education is essential to the welfare of the

⁶¹ The Minnesota Supreme Court clarified that the “fundamental right recognized in *Skeen* was not merely a right to anything that might be labeled as ‘education,’ but rather, a right to a general and uniform system of education that is thorough and efficient, that is supported by sufficient and uniform funding, and that provides an adequate education to all students in Minnesota.” *Cruz-Guzman v. State*, 916 N.W.2d 1, 11 (Minn. 2018).

citizens of the Commonwealth.”); *Washakie Cnty. Sch. Dist. No. One v. Herschler*, 606 P.2d 310, 320-21, 333 (Wyo. 1980); *Pauley*, 255 S.E.2d at 878 (“Certainly, the mandatory requirement of ‘a thorough and efficient system of free schools,’ found in . . . our Constitution, demonstrates that education is a fundamental constitutional right in this State.”).

57. Several other states have recognized education as a fundamental right under their constitutions. *See, e.g., Martinez*, 2018 WL 9489378, at *25; *Leandro v. State*, 488 S.E.2d 249, 255 (N.C. 1997); *Claremont Sch. Dist. v. Governor*, 703 A.2d 1353, 1358 (N.H. 1997); *Horton v. Meskill*, 376 A.2d 359, 362 n.2, 373 (Conn. 1977); *Serrano v. Priest*, 487 P.2d 1241, 1248, 1258 (Cal. 1971). As one court reflected, this is for good reason, as these “State Constitution[s] specifically charge[] the legislature with the duty to provide public education” and “even a minimalist view of educational adequacy recognizes the role of education in preparing citizens to participate in the exercise of voting and first amendment rights.” *Claremont Sch. Dist.*, 703 A.2d at 1358-59.

58. Fourth and finally, an examination of the relevant policy considerations all point in the same direction: “from the beginning the policy of the state was to educate all the children of the state.” *In re Walker*, 36 A. at 149. With good reason: education is essential to maintaining our democratic system of government. *See Appeal of Albert*, 92 A.2d 663, 665 (Pa. 1952) (“[O]ur public

school system is the most vital feature of our governmental and democratic system.”); *Teachers’ Tenure Act Case*, 197 A. at 352 (“Education is today regarded as one of the bulwarks of democratic government. Democracy depends for its very existence upon the enlightened intelligence of its citizens and electors.”); *Bovino v. Bd. of Sch. Dirs. of Ind. Area Sch. Dist.*, 377 A.2d 1284, 1289 (Pa. Commw. Ct. 1977) (“Certainly it can be conceded that our public school system is a most vital feature of our governmental and democratic system.”).

59. And the benefits have been proven: education has a profound impact on the individuals who receive it and the state and local communities that are sustained by it. Increased education correlates with higher earnings, greater tax contributions, and less reliance on public benefits as well as improved health and safety. *See* FOF § III(C).

B. In the alternative, and as admitted by Respondents, education is also an important right.

60. For similar reasons, education is plainly at least an important right. “Those rights which have been considered important enough to warrant . . . heightened scrutiny have been described as those affecting liberty interests, or a denial of a benefit *vital* to the individual,” *Fischer v. Dep’t of Pub. Welfare*, 502 A.2d 114, 122 (Pa. 1985) (quotation omitted and emphasis added), and even before Pennsylvania mandated the provision of education in 1874, the “Constitutions of

1776, 1790 and 1838, and the laws recognized [education’s] *vitaly important* part in our existence.” *Wilson v. Sch. Dist. of Phila.*, 195 A. 90, 94 (Pa. 1937) (emphasis added). Indeed, for many of the reasons described above, no party disputes that “[e]ducation is extremely important.” Tr. 159:21-23 (Corman opening); Tr. 14889:18-19 (Corman closing); Tr. 113:13-15 (Cutler opening); Tr. 14992:16-18 (Cutler closing); Tr. 61:10-13 (Executive Respondents opening); Tr. 14838:2-8 (Executive Respondents closing).

C. The denial of a high-quality education to low-wealth communities is unjustifiable under strict scrutiny or intermediate scrutiny.

61. While there is consensus that a “child’s zip code should not determine the quality of education a student receives,” PX-3215, Resp. No. 97 (Speaker’s Resp. to RFAs), this trial has proven that this is the case in the Commonwealth.

62. Beginning with the very first witness, the Court has seen throughout this trial that low-wealth school districts in particular do not have the resources necessary to provide the high-quality education their children need, Tr. 282:14-16 (McAndrew) (“we’re broke”), and are instead relegated to triaging the needs of their students, *see* FOF § VIII. This is not because those low-wealth communities do not try hard, but rather because they are low-wealth. *See* FOF § VI.

63. The Commonwealth, in other words, maintains an education system of widespread, profound disparities between groups of children, with systemic

inequities pervading both learning conditions and outcomes. Whether a child receives a constitutionally adequate education is directly related to the wealth of the community in which he or she resides.

64. Because education is a fundamental right, the Commonwealth has the burden of proving these radical differences in treatment are “necessary to advance a compelling state interest.” *William Penn Sch. Dist.*, 170 A.3d at 458. If education is an important right, the Commonwealth has the burden of proving the disparities are “substantially related to its purpose.” *Yanakos v. UPMC*, 218 A.3d 1214, 1225-26 (Pa. 2019). While Respondents can rely on a variety of means to meet their burden, “mere anecdote and supposition” will not do. *Id.* (quotation omitted).

65. In the face of this burden, Respondents have offered little. Indeed, the two justifications gleaned from their arguments and evidence — local control and the need to fund other, non-constitutional priorities — have already been foreclosed.

66. To start, as a matter of this record, calls to local control are clearly no justification for the Commonwealth’s failures. *See* FOF § VIII(G). Moreover, the Supreme Court has already observed that “[t]he school funding disparities defended by resort to local control in practice disserve that end as to many districts.” *William Penn Sch. Dist.*, 170 A.3d at 442 n.40. The obligation to provide a thorough and efficient system of education is the General Assembly’s alone, and

entreaties to a “tendentious” link between local control and funding will not do: “the General Assembly alone must be held accountable, regardless of whether one perceives the cause of the actionable deficiency to exist at the local or state level.”

Id.

67. The same goes for the suggestion that such disparities are justified because the Commonwealth has other, non-constitutional priorities. There is little question that there are “many competing and not infrequently incompatible demands our legislators face to satisfy non-constitutional needs, appease dissatisfied constituents, and balance a limited budget in a way that will placate a majority of members in both chambers despite innumerable differences regarding policy and priority.” *William Penn Sch. Dist.*, 170 A.3d at 464.

68. But the Supreme Court has unequivocally rejected the very premise that these competing needs are a justification for constitutional failure:

Judicial oversight must be commensurate with the priority reflected in the fact that for centuries our charter has featured some form of educational mandate. Otherwise, it is all but inevitable that the obligation to support and maintain a “thorough and efficient system of public education” will jostle on equal terms with non-constitutional considerations that the people deemed unworthy of embodying in their Constitution. We cannot avoid our responsibility to monitor the General Assembly’s efforts in service of its mandate and to measure those effects against the constitutional imperative, ensuring that non-constitutional considerations never prevail over that mandate.

Id.

69. In other words, “financial burden is of no moment when it is weighed against a constitutional right.” *Blum v. Merrell Dow Pharm.*, 626 A.2d 537, 548 (Pa. 1993). As such, “financial concerns [can] not in any way dilute the [General Assembly’s] primary responsibility to maintain ‘a thorough and efficient system of public schools,’” *Twer*, 447 A.2d at 224 (quoting Pa. Const. art. III, § 14).

70. With no adequate justification, the disparities in the Commonwealth’s system of education violate the Pennsylvania Constitution.

D. The denial of a high-quality education to low-wealth communities is unjustifiable even under rational basis review.

71. There is no dispute about the vital importance of education. But even were the right to education only accorded rational basis review, the system would still fail to meet constitutional muster.

72. To evaluate laws subject to rational basis review, courts carry out a two-step inquiry: first, “whether the challenged statute seeks to promote any legitimate state interest or public value.” *Curtis v. Kline*, 666 A.2d 265, 269 (Pa. 1995). And if so, “whether the classification . . . is reasonably related to accomplishing that articulated state interest or interests.” *Id.* “In other words, a classification must rest upon some ground of difference which justifies the classification and have a fair and substantial relationship to the object of the

legislation.” *William Penn Sch. Dist.*, 170 A.3d at 458 (quotation and citation omitted).

73. Here, too, Pennsylvania’s education system fails for the same reasons. It is beyond dispute that ultimately the “exclusive obligation” of the Education Clause is the Commonwealth’s. *See William Penn Sch. Dist.*, 170 A.3d at 442 n.40. Also beyond dispute is the impact education has on those who acquire it. *See* FOF § III(C).

74. Given this, a system which provides profoundly differently levels of educational opportunities to students, based solely upon the wealth within school district borders the Commonwealth sanctions, is not rational. *See DuPree v. Alma Sch. Dist. No. 30 of Crawford Cnty.*, 651 S.W.2d 90, 93 (Ark. 1983) (finding that a state’s school financing system which “bears no rational relationship to the educational needs of the individual districts” and instead is “determined primarily by the tax base of each district” has “no legitimate state purpose”). In other words, there is “no rational basis for the state government to provide only certain . . . citizens with legal means to overcome the difficulties they encounter in pursuing” the opportunity that public education presents. *Curtis*, 666 A.2d at 269-70.

IV. Petitioners should prevail on the other legal questions at issue in this case.

A. In the case of the General Assembly's failure to act, the proper burden of proof is a preponderance of the evidence.

75. Specific acts of the General Assembly will be declared void only if they “clearly, palpably and plainly” violate the Constitution. *City of Phila. v. Commonwealth*, 838 A.2d 566, 585 (Pa. 2003) (quotation omitted). While Pennsylvania case law is less than clear as to whether such a requirement is a burden of proof, the matter here is a different one: whether the General Assembly's failure to properly carry out its affirmative mandate is a violation of the Constitution.

76. Faced with a virtually identical framework and a claim about South Carolina's failure to act, that state's Supreme Court explained that the proper burden in a case about the failure to act is a preponderance of the evidence:

All statutes are presumed constitutional and, if possible, will be construed to render them valid. Accordingly, we will not find a statute unconstitutional unless its repugnance to the Constitution is clear beyond a reasonable doubt.

However, the Plaintiff Districts do not argue that the statutes comprising South Carolina's education regime in and of themselves are repugnant to the Constitution, or that the Defendants overstepped their authority in creating the regime. Instead, Plaintiff Districts argue, and we agree, that the proper question is whether the education funding apparatus as a whole gives rise to a constitutional violation.

We conclude the trial court, in utilizing a preponderance of the evidence standard, applied the correct burden of proof.

Abbeville, 767 S.E.2d at 161-62 (quotations omitted).

77. Other courts have echoed this point. *See, e.g., Martinez*, 2018 WL 9489378 at *8 (“determin[ing] whether a preponderance of the evidence shows the administrative or legislative actions at issue achieve or are reasonably related to achieving the constitutional requirement of providing all school children with an adequate education” because the “standard requires ‘the court to take a more active stance in ensuring that the State complies with its affirmative constitutional duty’” (quoting *McCleary*, 269 P.3d at 248)); *Delawareans for Educ. Opportunity v. Carney*, 199 A.3d 109, 114, 120 (Del. Ch. 2018) (holding that the plaintiffs must prove their claim that the state was failing to meet its constitutional commitment to education by a preponderance of the evidence at trial); *Seattle Sch. Dist. No. 1 of King Cnty. v. State*, 585 P.2d 71, 100 (Wash. 1978) (holding that the preponderance of the evidence standard applies to a case concerning “legislative compliance with a specific constitutional mandate”). Petitioners, however, have met their burden under any standard.

B. Petitioners have established inadequate and inequitable funding is a proximate cause of their harm.

78. Throughout the course of trial, Legislative Respondents have suggested that Petitioners must prove that the constitutional violations demonstrated in this matter are the sole or exclusive cause of the harm they suffer.

Respondents have offered no evidence proving that Petitioners' harm emanates from any other source; but more fundamentally, their position is wrong as a matter of law. Instead, pursuant to basic principles of Pennsylvania jurisprudence, Petitioners must prove that inadequate and inequitable funding is a "substantial factor" in bringing about injury. As the Supreme Court has explained:

Proximate cause is a term of art, and may be established by evidence that a defendant's . . . failure to act was a substantial factor in bringing about the harm inflicted upon a plaintiff. Pennsylvania law has long recognized that this substantial factor need not be, as the trial court incorrectly charged, the only factor, i.e., that cause which produces the result.

Jones v. Montefiore Hosp., 431 A.2d 920, 923 (Pa. 1981) (quotation omitted); *see also Rost v. Ford Motor Co.*, 151 A.3d 1032, 1051 (Pa. 2016) ("This Court has never insisted that a plaintiff must exclude every other possible cause for his or her injury, and in fact, we have consistently held that multiple substantial causes may combine and cooperate to produce the resulting harm to the plaintiff.").

79. In other words, claims that other factors may by some measure be implicated in Petitioners' injuries will not excuse Respondents' failures. *See, e.g., Campaign for Fiscal Equity, Inc. v. New York*, 861 N.E.2d 50, 53 (N.Y. 2006) ("[P]laintiffs . . . established the causation element of their claim by showing that increased funding can provide better teachers, facilities and instrumentalities of learning, and that such improved inputs in turn yielded better student

performance.”). Here, the evidence is clear that Pennsylvania’s school funding scheme is a substantial factor in causing systemic harm. *See* FOF §§ VI, VII, IX, X.

C. Section 2502.48 of the Pennsylvania School Code was not repealed and remains good law.

80. As described above, FOF § VI(E)(4), Section 2502.48 of the Pennsylvania School Code provides that PDE “shall determine an adequacy target for each school district” in the Commonwealth. 24 Pa. Stat. § 25-2502.48. As a matter of fact, Section 2502.48 of the School Code is a conservative estimate of the costs necessary to provide all children with the resources necessary to meet state proficiency standards and graduate college and career ready. *See* FOF § VI(E). And as a matter of basic principles of statutory construction, Section 2502.48 remains valid law today.

81. When originally enacted, subsection (c)(2) of Section 2502.48 announced a goal: meeting state-determined portions of adequacy targets by the 2013-2014 school year. *See* Act 2008-61, P.L. 846, No. 61, § 30. In 2011, subsection (c)(2) — but only subsection (c)(2) — was removed by amendment. Act 2011-24, P.L. 112, No. 24, § 34. The adequacy calculation, along with the requirement that PDE calculate the target, was left untouched and remains in law today. *See* 24 Pa. Stat. § 25-2502.48.

82. It is fundamental that the General Assembly’s choice to repeal only one part of a statute means that the remainder of the statute is law. Indeed, the Pennsylvania Statutory Construction Act makes explicit that “[w]henever a section or part of a statute is amended, the amendment shall be construed as merging into the original statute, become a part thereof, and replace the part amended, and the remainder of the original statute and the amendment shall be read together and viewed as one statute passed at one time.” 1 Pa. Cons. Stat. § 1953.

83. This is consistent with other fundamental axioms of construction: “that every statute shall be construed, if possible, to give effect to all its provisions.” *E. Univ. Acad. Charter Sch. v. Sch. Dist. of Phila.*, 265 A.3d 300, 316 (Pa. 2021) (quoting 1 Pa. Cons. Stat. § 1921(a)), and that courts must interpret “entire statute[s] to be effective and certain.” 1 Pa. Cons. Stat. § 1922. In other words, courts “disfavor[] interpreting language as mere surplusage.” *Commonwealth v. McClelland*, 233 A.3d 717, 734 (Pa. 2020). Accordingly, the law is read as a whole today: the Commonwealth must calculate adequacy targets and shortfalls, but the General Assembly makes no promise to ever meet them. 24 Pa. Stat. § 25-2502.48.

84. Nor do later appropriation statutes change the law’s mandates: “a later statute shall not be construed to supply or repeal an earlier statute unless the two statutes are irreconcilable.” 1 Pa. Cons. Stat. § 1971. Neither does PDE’s failure to

calculate those targets for ten years: “A statute shall not be deemed repealed by failure to use such statute.” 1 Pa. Cons. Stat. § 1973. All told, the Commonwealth’s obligation to calculate the funds school districts need for their students — written in the present tense — is an ongoing obligation to do so into the future.⁶² *See* 1 Pa. Cons. Stat. § 1902 (“Words used in the past or present tense shall include the future.”). And as a matter of law, the definition of “adequacy” remains in law today.

⁶² Moreover, even were the law actually repealed, the General Assembly’s failure to act is inexcusable. One of the most basic ways to meet its obligation under the Education Clause is to reasonably assess what funds are actually needed to provide the education the Constitution requires, a task that the Commonwealth has ignored for the past decade. *See* FOF § VI(K).

V. A broad remedy is an appropriate use of the Court’s power to vindicate the right to an education.

85. “The role of the judiciary when a meritorious constitutional challenge is brought ‘includes the obligation to vindicate’ the constitutional rights at issue, and in doing so courts have wide latitude to craft an appropriate remedy.” *Pa. Democratic Party v. Boockvar*, 238 A.3d 345, 395 (Pa. 2020) (quoting *Robinson Twp. v. Commonwealth*, 83 A.3d 901, 953 (Pa. 2013)); *see also League of Women Voters of Pa. v. Commonwealth*, 178 A.3d 737, 822 (Pa. 2018) (The “Court possesses broad authority to craft meaningful remedies [for constitutional violations] when required.”).

86. In consideration of the importance of education, the factual record developed in this matter, and the Court’s broad remedial power, the following is an appropriate remedy:

- a) A declaration that Respondents have violated their constitutional mandate by failing to fulfill their obligations to all children under the Education Clause, and in violation of the rights of Petitioners;
- b) A declaration that Respondents have violated their mandate for equal protection of law, by discriminating against Petitioners and against students in low-wealth school districts, in violation of their fundamental right to education, and in violation of the rights of Petitioners;

- c) A declaration that to maintain and support a thorough and efficient system of public education, the General Assembly shall provide all students throughout Pennsylvania with a contemporary, high-quality, and effective public education, which prepares them to be college and career ready, allows them to meet their potential, promotes democracy and citizenship, and provides the Commonwealth with an able, competitive workforce;
- d) A declaration that 24 P.S. § 25-2502.48 of the Public School Code remains valid and operative, including PDE's obligation to calculate adequacy targets and shortfalls for the Commonwealth's school districts;
- e) An injunction directing that the General Assembly, while taking into account the findings of this Court, shall allocate sufficient funding to provide a high-quality education to every student, accounting for capacity and reasonable local effort, with such funding to be available in a timeframe consistent with the urgency of correcting this constitutional violation, and in a manner approved by the Court;
- f) An instruction that in determining the adequacy and equity of funding, the General Assembly shall take into account the findings of the Court;
- g) An injunction directing Executive Respondents to assist the General Assembly and to otherwise take whatever steps are necessary in carrying out the orders of this Court;

- h) An instruction that within 90 days of this Order, Respondents file a status report of their efforts to comply with this Order; and,
- i) Continued jurisdiction over this matter until such time as the Respondents have complied with the Court's orders.

[Signature page to follow]

Dated: May 2, 2022

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