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An Uneven Path

Student Achievement in Boston Public Schools, 2007-2017

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Executive Summary

Since 1635, when the United States' first public school was founded by a Bostonian, the city of Boston has held a reputation as a national leader in public education. In the past several decades, Boston has been a proving ground for new strategies such as mayoral control, charter schools, and expanded access to early childhood education. Located in a state known for rigorous standards and accountability, Boston Public Schools (BPS) has consistently ranked among the top-performing large public school districts in the country.

At the same time, BPS currently faces significant challenges, including tight budgets, aging facilities, and persistent achievement gaps by race, ethnicity, native language, and special needs status. Too many BPS students fall off track, fail to graduate on time, or lack sufficient preparation to take their next steps after high school. Furthermore, after many years of stable leadership, BPS has had four interim or permanent superintendents in the past ten years and is currently searching for its fifth. This period of transition presents an opportune time to take stock of BPS' progress to date and consider the best strategies to move forward.

In this paper, we set out to inform the public dialogue about BPS' current performance and future direction. Through analysis of academic data and interviews with a variety of stakeholders in Boston's education community, we explore a set of key questions: How does the current pace of improvement in BPS compare to the district's past performance? Do BPS' trends in student outcomes track above, below, or alongside those of other urban districts? What policies do local stakeholders view as having contributed to or hindered progress on student learning and equity? And based on recent trends and stakeholder input, how might local leaders rethink or revise their efforts?

This paper examines those questions through two lenses. The first section of the paper summarizes BPS' recent performance trends, using metrics such as graduation rates, the National Assessment of Educational Progress' (NAEP) Trial Urban District Assessment (TUDA), and the Massachusetts Comprehensive Assessment System (MCAS). The second section seeks to understand the context for these trends through interviews with a variety of Boston stakeholders, including representatives from the BPS central office, the mayor's office, the school committee, school-based leaders and teachers, community and parent advocates, local foundations, and the teachers' union.

Our analysis of BPS performance trends finds that the district has consistently outperformed other large cities participating in the NAEP, across subjects and grade levels. Although it still trails the national average for all schools, BPS demonstrated particularly rapid improvement from 2003 to 2011, especially in eighth-grade math. After 2011, the rate of growth slowed, though Boston still leads other large cities. However, several urban district peers have instituted a variety of reforms in recent years and are closing the gap with Boston.

Meanwhile, BPS has struggled to make a dent in persistent racial and ethnic disparities in test scores and graduation rates within the district. Taken together, these trends suggest that BPS is in need of targeted, innovative strategies to improve equity and address slowing achievement trends in order to maintain its status as a national leader among large, urban school districts.

Interviews with key stakeholders revealed both strengths and challenges in BPS policy over the past decade. The policies viewed as most impactful during this period included human capital reforms—such as mutual consent hiring, accelerated hiring timelines, and the reduced role of seniority in hiring decisions—and expanded access to high-quality pre-K.

Stakeholders described another set of policies as potentially promising, but suffering from poor design or weak implementation. These initiatives include the BuildBPS facilities initiative, unified enrollment, and the effort to improve inclusion for students with special needs.

The analysis of performance trends combined with lessons from stakeholder interviewees leads us to offer three recommendations for the next BPS leader to consider, as key strategies to accelerate performance in the near future:

- 1 Articulate a clear, concise theory of action and drive it through implementation.** The next leader of BPS will have to articulate a coherent and focused vision, anchored in a defined set of key priorities, for the future of Boston Public Schools. Without a clear set of targeted priorities, district leaders will get bogged down in trying to address every strategy at once, leading to inefficiency and weak execution.
- 2 Make tough choices to advance equity.** BPS' persistent struggles with inequitable outcomes by race, ethnicity, income, native language, and special education status are incompatible with the city's vision of itself as an urban district that stands above its peers.
- 3 Double down on areas of strength and bright spots.** Both the objective data and our qualitative interviews point to a few bright spots that merit continued investment and improvement. These strengths include expanded early childhood access and quality, changes to human capital processes that appear to be attracting a better, more diverse talent pool to Boston schools, and positive external partnerships.

Introduction

As America's oldest public school system, Boston has historically been a beacon to the rest of the country. More than 350 years ago, Boston became the first American city to offer a system of free public schools in recognition of the need for a well-educated community. Like the state of Massachusetts as a whole, Boston has long had a reputation of outperforming its peers educationally.

In more recent years, Boston has been a leader in other ways. In the early 1990s, Boston became the first city to give authority over its traditional public school system to its mayor, placing ultimate accountability for one of the city's largest and most important public services in the hands of a single elected leader. Massachusetts was an early leader in the growth of a new type of public school called charter schools,¹ and the city of Boston is home to one of the more successful charter school sectors in the country.² Boston is also at the vanguard of the recent push for greater access to high-quality pre-K. These initiatives have served as drivers of change for Boston and, along with rigorous statewide standards and assessment and BPS' move toward greater autonomy for school leaders, have made it a place that other cities look to for leadership.

Right now, however, Boston's school district is at a moment of inflection. After many prior years of leadership stability, Boston Public Schools (BPS) has had four interim or permanent superintendents in the past ten years, and may soon have a fifth.³ In that same decade, BPS has overhauled its approach to teacher hiring, teacher evaluation, school budgeting, school assignment, and other core services that directly affect students, families, and educators.

Not all of these changes have been well-received by the community, and some high-profile recent initiatives floundered before they could begin. At the same time, BPS is grappling with tight budgets, aging facilities, and disparate student outcomes by race, ethnicity, native language, neighborhood, and family income across its schools.

As Boston leaders prepare a way forward through this time of transition, it is an opportune moment to take stock of BPS' progress to date through questions like: How does the current pace of improvement in BPS compare to the district's past performance? How does BPS' pace of improvement compare to that of other large districts? What policies do local stakeholders view as having contributed to or hindered progress on student learning and equity? And based on recent trends and stakeholder input, how might local leaders rethink or revise their efforts?

In this paper, we aim to reflect on those questions and offer some preliminary answers. Our focus is primarily on BPS and the schools it operates, but as researchers who work with and analyze school systems across the country, we also draw comparisons to other cities and reflect upon what Boston can learn from its peers. While the future of the city's charter school sector is consequential for Boston students and families—a 2016 voter referendum maintained a cap on charter school growth⁴—that is outside the scope of our work. We began this project before Superintendent Tommy Chang stepped down in the summer of 2018, but his departure made our work all the more pressing. This is an opportune moment to reflect on what is going well in Boston and what is not. We intend this report to inform discussion and reflection within Boston on BPS' leadership needs and its future direction.

The report proceeds in two parts. In Part I, we summarize BPS' recent performance trends using a variety of metrics. Part II examines the policies behind those trends, drawing on interviews with Boston stakeholders to describe their perceptions of the strengths or weaknesses of key policy initiatives over the past decade. Ultimately, both sections of the report are designed to work in tandem and serve as a source of information and recommendations for city and district leaders as they continue to work on behalf of Boston students. While this report is not meant as an evaluation of any particular initiative, we conclude with a discussion of lessons from the data and stakeholder interviews, as well as recommendations for how Boston can learn more about its own progress and accelerate its performance going forward.

PART I:

Boston's Recent Performance Trends

The story of Boston Public Schools' performance over the last ten years is complex. Looking at some metrics and time spans, BPS is performing well relative to other urban districts. Test scores and graduation rates have risen alongside access to educational opportunities such as pre-K and advanced placement (AP) courses. However, some of that growth has stagnated or reversed in the past five years. And across nearly every metric of success and student outcomes, equity challenges are deep. Growth and high performance have not been sufficient to close or even significantly narrow achievement and opportunity gaps for students historically marginalized by their race, ethnicity, family income, native language, or special education status.

As context, BPS demographic trends have shifted and enrollment has decreased in the past ten years. BPS currently serves approximately 56,000 students, about 70 percent of school-aged children living in the city of Boston.⁵ According to BPS data, 34 percent of its students are African American, 42 percent are Hispanic/Latino, and 66 percent are economically disadvantaged.⁶ BPS faces declining enrollment amidst competition for students from the charter sector, private schools, and neighboring school districts. From 2007 to 2017 BPS enrollment shrank by about 4,000 students, while the charter sector grew by over 5,500 students.⁷ Declining enrollment has created pressure on BPS' budgets and buildings, as some school buildings and types of schools are under capacity, while others are overenrolled.⁸ As this enrollment shift occurred, the percentage of black students in BPS declined from 40 percent to 32 percent, and the percentage of Hispanic students rose, from 35 to 42 percent.⁹ One in three BPS students today are English learners, and 75 percent are designated as "high-need."¹⁰

Data note: There are some differences between BPS data and data reported by the Massachusetts Department of Elementary and Secondary Education (MA DESE) around enrollment and other metrics. BPS often includes Horace Mann charter schools in its reports. A Horace Mann charter school is a special designation for district-authorized charter schools under Massachusetts law. Other charter schools are known as Commonwealth charter schools. Because the state legally considers these schools to be separate districts, numbers reported by MA DESE are limited to BPS-run schools and exclude Horace Mann charters. Thus, high-level numbers on some metrics may appear slightly different in district vs. state reports. All data from state sources and from NAEP do not include Horace Mann charter schools or Commonwealth charter schools located in Boston.

More data on Boston enrollment is available in Appendix Figures 1-5. The remainder of this section delves into the performance data to examine BPS' strengths, weaknesses, and ongoing challenges.

BPS Has Increased Access to Educational Opportunities Along the P-12 Pipeline, but Inequities Persist

BPS students today have more access to important educational opportunities than students did ten years ago. The city of Boston has invested heavily in pre-K access in BPS schools and in other community-based early childhood education settings. Total pre-K enrollment in BPS grew by 80 percent in the past ten years, from 1,700 students in 2007 to over 3,000 students in 2017.¹¹ In high school, BPS has increased the percentage of students with access to advanced placement coursework from 5 percent in 2007 to 11 percent as of 2017.¹²

BPS has also made significant strides in improving high school graduation rates and has halved the gap between BPS and Massachusetts statewide averages in the past ten years, as Figure 1, shows.

Serious and persistent gaps in graduation rates remain for historically disadvantaged subgroups of students. However, graduation rates are climbing for all BPS student subgroups.¹³ Figure 2 shows graduation rates broken out by student subgroup over the past decade, and it shows particularly large gains among students with disabilities and English language learners.

Figure 1

Boston Public Schools' Graduation Rates Are Rising Over Time¹⁴

Boston Public Schools and Massachusetts Average Graduation Rates, 2007-2017

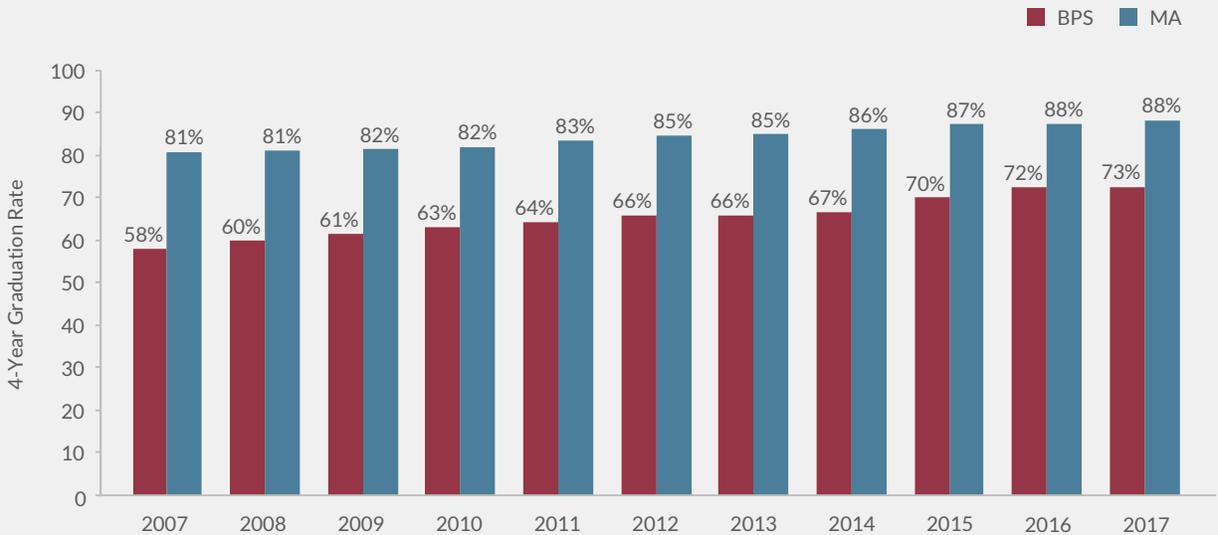
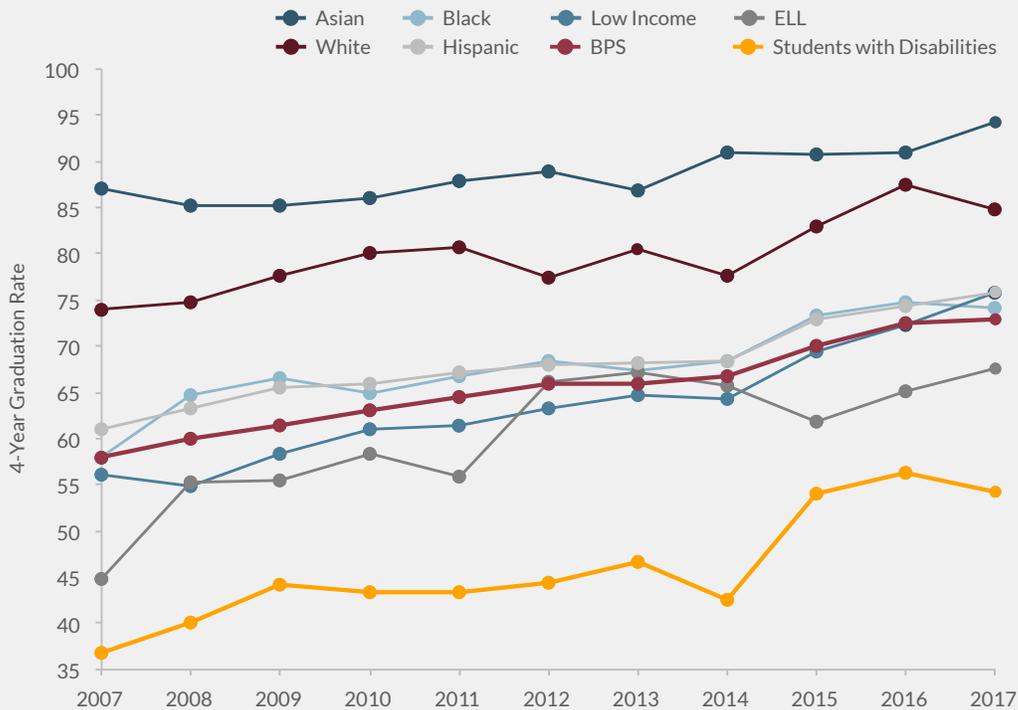


Figure 2

Graduation Rates Have Risen for All Boston Public Schools Subgroups, Although Large Gaps Remain

Boston Public Schools Graduation Rates by Subgroups, 2007-2017



Source: MA DESE

Boston's gains at the high school level should also be understood in the context of equity gaps among different BPS schools. While overall graduation rates have risen and gaps have narrowed over time, BPS' high schools are heavily segregated by race, economic status, and student achievement. Boston's three selective exam schools enroll a disproportionate share of higher-income, white, and Asian students in BPS. A recent Harvard study offered potential recommendations to boost the diversity at those schools without reducing their selectivity,¹⁵ but Boston residents should also question whether this system of high schools is productive. A rigorous academic study published in 2014 found no evidence that students admitted to exam schools had significantly better subsequent test scores or attended better colleges than peers who just missed the admissions cutoff point.¹⁶ Meanwhile, a recent report focusing on the BPS high school students who were off-track to graduate found that these students were disproportionately likely to be black or Hispanic, and to be enrolled in an open enrollment or alternative high school.¹⁷

BPS Has Outperformed Other Large Cities on the NAEP TUDA Since 2003

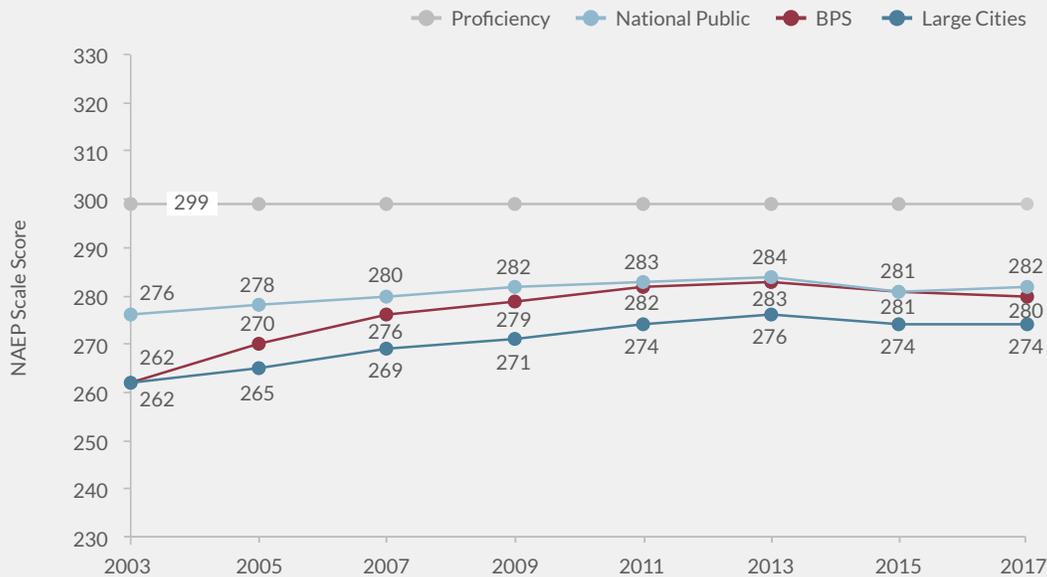
Boston is part of a small cohort of large urban districts that have participated in the National Assessment of Educational Progress' (NAEP) Trial Urban District Assessment (TUDA) since 2003, which allows researchers to track BPS students' results on a high-quality, low-stakes assessment. Since 2003, Boston students have consistently performed at or above the level of their peers in other TUDA cities on all subjects.¹⁸ On some tests, the BPS average score is substantially above that of other cities; on the 2017 eighth-grade math test, for example, BPS outperformed the large city average by six points (Figure 3). BPS students even meet the nationwide public school averages on some NAEP tests, which is rare for an urban district with a relatively high concentration of poverty.¹⁹

Furthermore, BPS' performance has improved over the 14-year period in all subjects. BPS students' average scores were between 9 and 13 points higher in 2017 than they were in 2003, depending on the grade and subject level, as seen in Figure 3 and in Appendix Figures 6-8.²⁰ Between 2003 and 2009, Boston's rate of improvement outpaced that of other TUDA cities across grades and subjects—most notably in eighth-grade math (Figure 3). Since 2009, BPS growth on the NAEP has more closely mirrored the rate of improvement in other TUDA cities. An additional perspective is provided by a recent study looking at learning improvements between third and eighth grade in school districts across the country between 2009 and 2014. During that five-year period, researchers placed BPS students at the 70th percentile in growth among school districts nationwide.²¹

Figure 3

Boston Public Schools' Achievement Scores Have Improved Substantially Over the Past 15 Years

NAEP TUDA Scale Scores: Boston, Large Cities, and National Public Average 8th Grade Math, 2003-2017



Source: NCES NAEP

In the Past Five Years, BPS Performance Has Plateaued

Despite positive trends over the longer term, Boston's scores have mostly plateaued or even fallen in the past five years, depending on the grade and subject. As an example, Figure 3 shows that, of the remarkable 20-point improvement in eighth-grade math scores from 2003 to 2011, most of that occurred before 2013. In the last five years, Boston's performance in eighth-grade math has fallen by three points. BPS still leads the large city average on TUDA, but the pace of continued improvement has flattened.

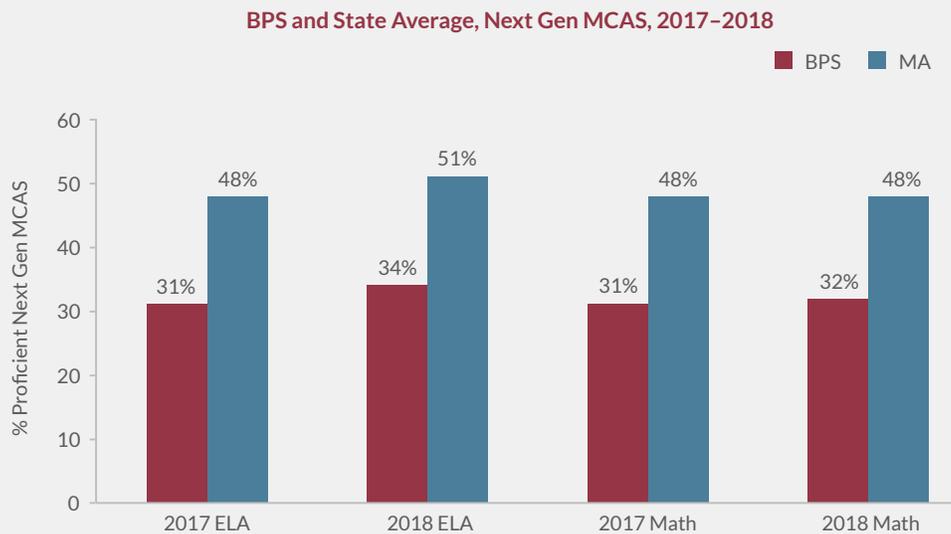
Similar trends are playing out in fourth grade (Appendix Figures 6-7). Fourth-grade math average scores grew by 13 points from 2003 to 2011, but since then, scores have fallen by four points. On the reading exam, Boston's fourth-grade scores improved markedly from 2003 to 2011, but they've bounced around since then and, as of 2017, were back to where they were in 2011. Eighth-grade reading appears to be on a different trajectory: Although scores flat-lined between 2011 and 2015, 2017 showed a recovery, with averages above any prior score (Appendix Figure 8).

The Massachusetts state test provides an additional lens on Boston students' academic performance. Changes in the Massachusetts test in recent years preclude analysis of trends in performance on the new "Next Gen" Massachusetts Comprehensive Assessment System

(MCAS), making it difficult to determine whether the improvement trajectories exhibited on TUDA are reflected on the state test. Still, the MCAS allows for a deeper look at how BPS students in grades three through eight perform compared to the rest of the state. In 2018, about a third of BPS students in grades three through eight achieved grade-level proficiency in math and reading. This represents incremental growth from the year prior, and is well below state averages on the Next Gen MCAS (Figure 4).

Figure 4

Two-thirds of Boston Public Schools Students Are Not Proficient on State Exams



Source: MA DESE

BPS' Achievement Gaps by Race, Ethnicity, and Other Student Subgroups Could Be Part of the Reason for Stagnating Scores

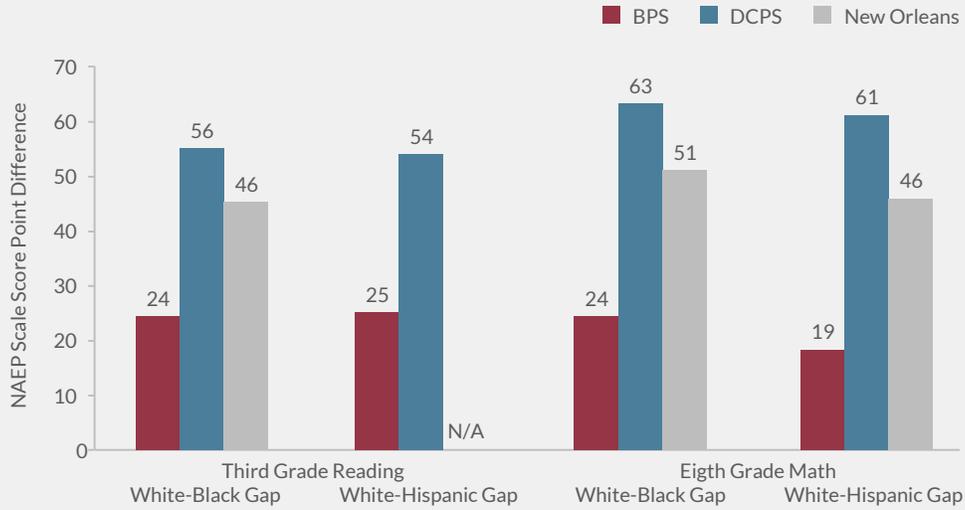
Like its large urban district peers, BPS faces the ongoing challenge of disparities in achievement along racial and ethnic lines. Notably, the size of the gaps in BPS appears to be smaller than in similar districts. According to data from the Stanford Education Data Archive,²² which allows for comparisons across school districts by converting state test scores at all grade levels into equivalent NAEP scores, the white-black and white-Hispanic achievement gaps in BPS are roughly a third or even half the size of those in Washington, D.C., and New Orleans, depending on the grade and subject (Figure 5).

Nonetheless, the achievement gaps in BPS have been persistent over time, and may be part of the story behind BPS' stalled progress in recent years. On the eighth-grade math TUDA, performance among black and Hispanic students declined between 2011 and 2017 (Figure 6). Similar patterns are evident on the NAEP TUDA reading exam: Other than

Figure 5

Boston Public Schools' Achievement Gaps Are Narrower Than Other Districts'

Selected Urban District Score Gaps Based on State Test Results, 2009-2015
Transformed to NAEP Scale

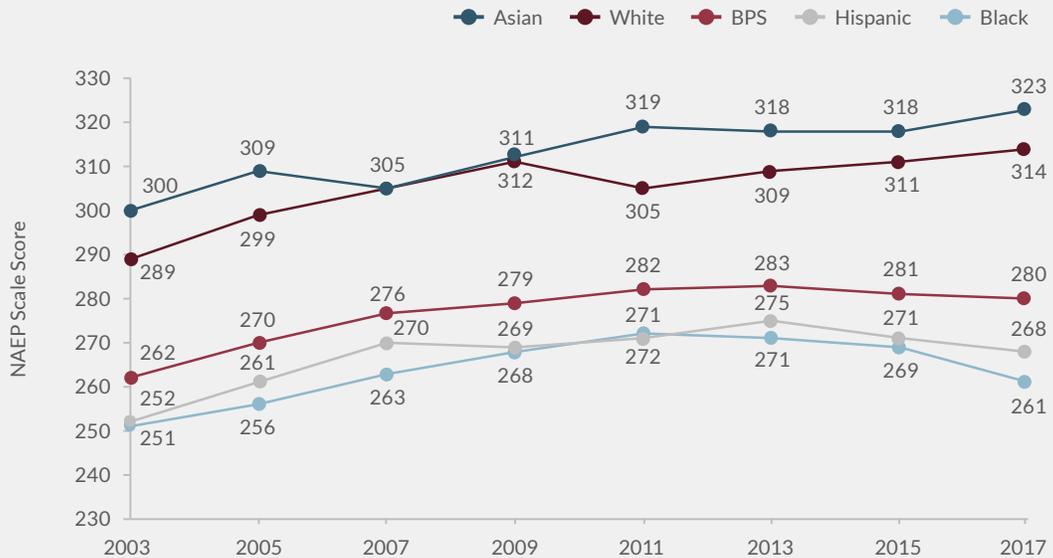


Source: NCES NAEP

Figure 6

Boston Public Schools' Racial/Ethnic Gaps in NAEP TUDA Performance Have Increased

NAEP TUDA Scale Scores by Race/Ethnicity, BPS 8th Grade Math, 2003-2017



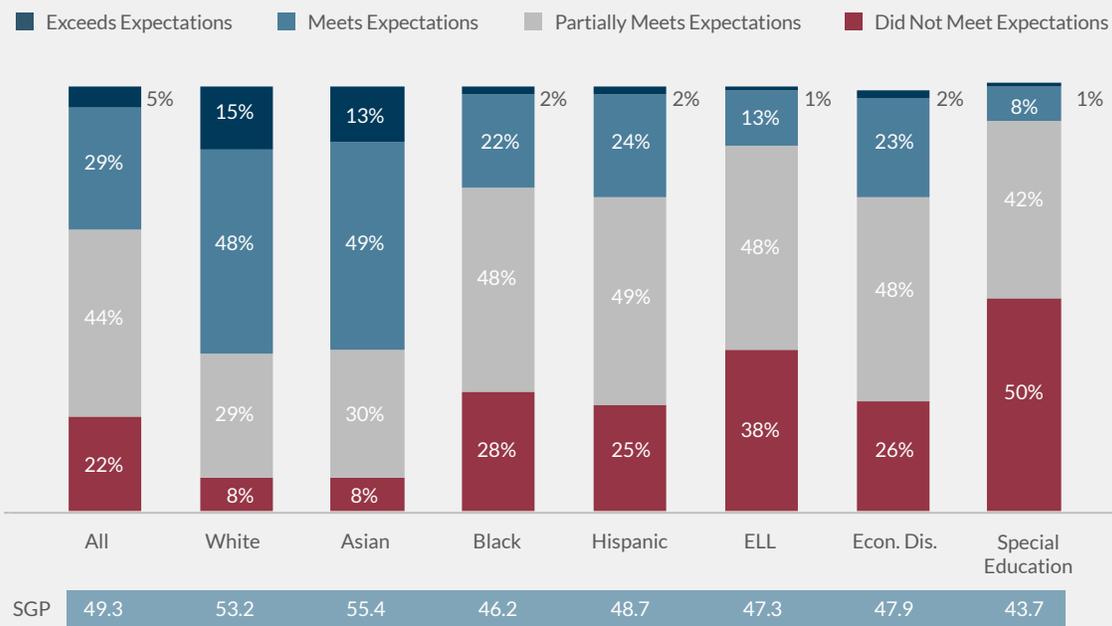
Source: NCES NAEP

Asian students, whose scores have risen over time, the reading scores of Boston’s fourth-grade white, black, and Hispanic students are all down since 2011. While the exact trends vary by grade and subject (see Appendix Figures 9-11), the overall patterns are similar. Similarly, wide achievement gaps persist in both ELA and math in Boston’s 2018 Next Gen MCAS scores for grades three through eight, as Figures 7 and 8 show. For example, only 24 percent of Boston’s black students and 26 percent of Hispanic students scored above grade-level proficiency in reading, compared to 63 percent of white and 62 percent of Asian students. Achievement gaps are about as bad or worse for English learners, economically disadvantaged students, and students with disabilities.

To close those achievement gaps, BPS would need to accelerate growth among its lower-performing students. But that doesn’t appear to be happening either. Massachusetts uses a measure called student growth percentiles, or SGPs, to track each student’s growth compared to his or her peers with similar prior scores. For all subgroups of students within BPS, only white and Asian students had SGP scores that were higher than the district average in terms of growth. This is true in both reading and math, and it means that Boston’s lower-performing subgroups are not growing fast enough to materially close achievement gaps.

Figure 7 > State Exams Show Large Reading Performance Gaps in Boston Public Schools

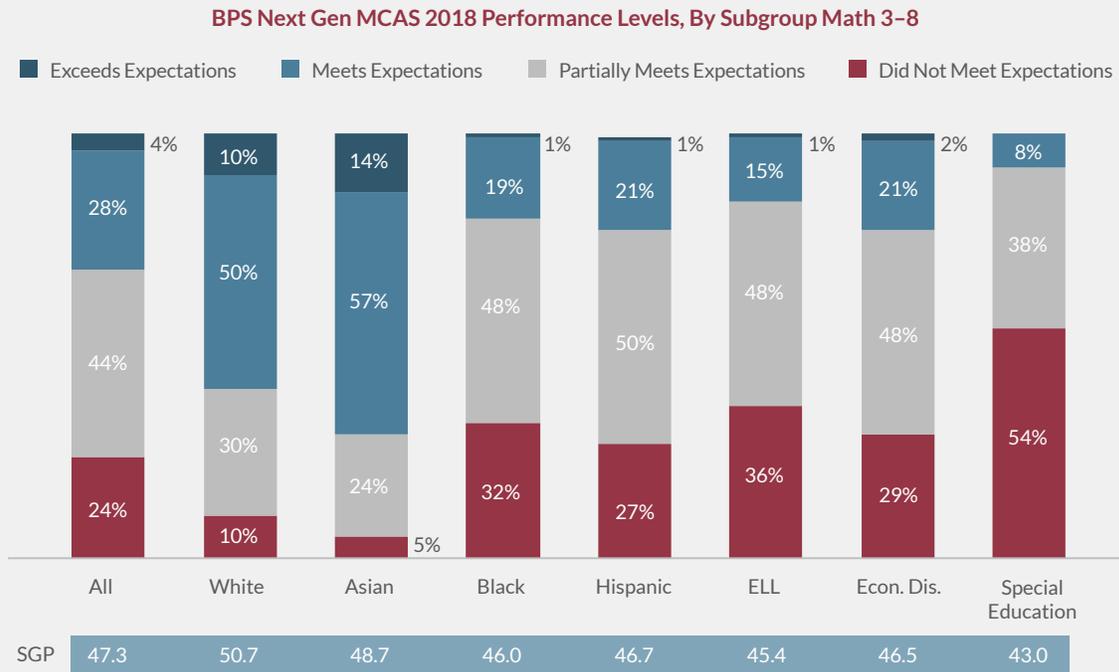
BPS Next Gen MCAS 2018 Performance Levels, By Subgroup ELA 3-8



Source: MA DESE

Figure 8

Gaps in Math Performance for Historically Disadvantaged Boston Public Schools Students



Source: MA DESE

Table 1

Boston Public Schools Look Somewhat Similar Demographically to D.C. Public Schools and New Orleans

District	Total Enrollment, 2017-18	Economically Disadvantaged, 2017-18*	Students of Color	Students with Disabilities
Boston Public Schools	56,000**	66%	86%	20%
DC Public Schools	49,000	77%	85%	14%
New Orleans***	49,000	82%	92%	12%

*These measures are defined at the state level and are not strictly comparable. Massachusetts defines as participation in one or more of these programs: SNAP, TAFDC, DCF Foster Care, and MassHealth.

**Includes in-district Horace Mann charter schools authorized by the state and approved by the Boston School Committee.

***All public schools in Orleans Parish, including charter schools.

Source: BPS At A Glance Fact Sheet, 2017-18, District of Columbia Office of the State Superintendent of Education, Louisiana State Department of Education

Meanwhile, Achievement Levels in Similar Urban Districts Continue to Approach Boston's

Boston students once outperformed their peers in cities like New Orleans and Washington, D.C., by wide margins, but those margins have narrowed in recent years.²³ DC Public Schools (DCPS) and New Orleans are interesting points of comparison for Boston because they are similarly sized, with approximately 50,000 students, and similar student demographics in some respects (Table 1). Unlike Boston, D.C. and New Orleans have historically been considered very low-performing districts, but they have made significant reforms in the past 15 years that may have helped change their achievement trajectory.

Boston still outperforms these cities in almost all academic metrics, but its lead is shrinking. A dataset created by Stanford researchers that allows for comparisons across state lines indicates that these peer cities are catching up to Boston in academic performance.²⁴ This dataset converts state test scores into comparable NAEP scale scores. Figures 9 A and B show Boston's performance on state tests as mapped onto NAEP scale scores, allowing for comparisons to other cities even in years, grades, and places without NAEP TUDA results (like New Orleans). For example, in third-grade reading (Figure 9A), in 2009 Boston students outperformed DC Public Schools (DCPS) students by 14 points and New Orleans students by 20, but those gaps had shrunk roughly in half by 2015, to 7 and 11 points respectively. In eighth-grade math, shown in Figure 9B, Boston's lead shrank from 28 and 25 points to 23 and 14 points, respectively.

Can BPS Maintain Its Leading Status and Successfully Close Gaps?

The examination of Boston's performance trends over the past decade points to some good news and some challenges for the near future. In general, Boston's performance on standardized tests has tracked the national trends since the early 2000s, but Boston made faster progress when the nation as a whole was improving, and Boston's slowdown in the past five years has been more pronounced. Furthermore, while Boston continues to outperform many other large urban districts, some peer cities have instituted reforms, as seen in the sidebar on the next page, that have contributed to more rapid progress in recent years compared to BPS. Meanwhile, BPS has struggled to make a dent in persistent racial and ethnic disparities in test scores and graduation rates. Without the launch of new and innovative initiatives to improve equity and address stagnating achievement trends, BPS could be at risk of losing its status as a national leader in pre-K-12 education.

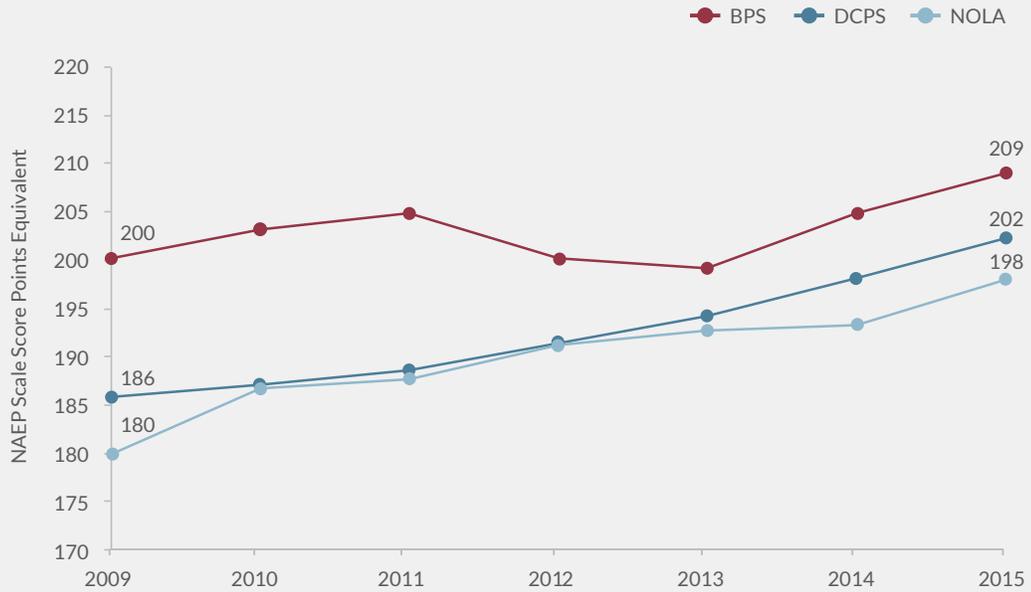
In Part II of this document, we provide context for Boston's performance trends by exploring some of the key policies and initiatives implemented in BPS over the last ten years, as identified by a variety of Boston stakeholders. Our interviews with these local leaders provide insight into which policies are viewed as most impactful and where stakeholders see opportunities for improvement. Their perspectives on the last decade in BPS policy also suggest some potential key areas of focus for moving forward.

Figure 9

Boston Public Schools' Performance Advantage Over DC Public Schools and New Orleans is Shrinking

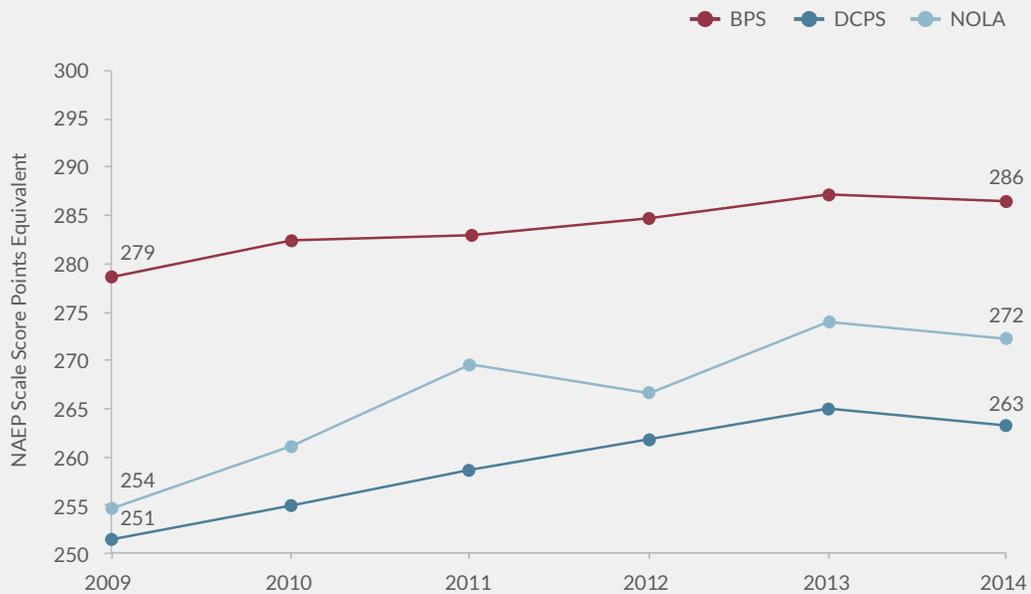
A.

**Selected Urban District Performance Based on State Test Results, 2009–2015
Transformed to NAEP Scale, Third Grade Reading**



B.

**Selected Urban District Performance Based on State Test Results, 2009–2015
Transformed to NAEP Scale, Eighth Grade Math**



Source: Sean F. Reardon et al., "Stanford Education Data Archive (Version 2.0)," 2017, <http://purl.stanford.edu/db586ns4974>.

How are other cities pursuing reforms?

As the data in Part I show, Boston generally does better than other large cities in many respects, but there are some signs that historically lower-performing urban districts like New Orleans and Washington, D.C., are improving rapidly and approaching BPS' achievement levels. What are the reform strategies these districts have pursued, and how might that set them apart from Boston?

Several of our Bellwether colleagues recently released “Eight Cities,” a project to tell stories about reform strategies and successful academic results in cities that have each pursued elements of a strategy commonly referred to as the “portfolio model.”ⁱ These cities include Denver; New Orleans; Washington, D.C.; Newark and Camden, New Jersey; Chicago; New York City; and Oakland, California. The Center for Reinventing Public Education (CRPE) defines the portfolio strategy primarily as a shift in orientation for school districts away from compliance and directly managing each school in the same way, and toward overseeing performance in a diverse range of school choices.ⁱⁱ There are many variants of the portfolio strategy, but it is usually characterized by increasing school-level autonomy; increasing high-quality choices for families among traditional, charter, and other types of schools; student-based budgeting; performance-based school accountability; and performance supports for schools.

The portfolio strategy has won the support of many large urban districts (many of whom Bellwether has worked with in the past or is working with currently).ⁱⁱⁱ Because the portfolio strategy encompasses a range of elements and ideas, there are few fully generalizable studies of its results, or indications of whether some elements are more important than others. Results from individual cities have been mixed. For example, in New Orleans, researchers have found that the transformation of New Orleans schools following Hurricane Katrina significantly increased student achievement, graduation rates, and postsecondary outcomes.^{iv} But other districts, such as Indianapolis and Cleveland, that have pursued portfolio models have not seen similar improvements. These mixed results speak to the variety of design and implementation choices, as well as environmental factors in each city, that can shape success.

The eight cities featured in Bellwether's recent report, as well as other districts, have also pursued reforms that do not necessarily fall under the portfolio umbrella. Lawrence, Massachusetts, is an in-state example of a district turnaround strategy that used multiple kinds of central office and school improvement strategies to affect academic results under state receivership.^v Districts like Denver, Memphis, and Springfield, Massachusetts, have all created variants on “innovation zones” where a subset of schools has increased autonomy and flexibility to pursue improvement strategies.^{vi}

Any one of these other approaches may or may not be the best direction for Boston in general and BPS specifically. As Part II discusses in detail, BPS has often been ambivalent or unclear on reform strategies, and in recent years, leadership has not always clearly articulated priorities. Big changes in district strategy should not be based solely on what is trendy or what has worked elsewhere.

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But one theme that fast-improving cities tend to share, and BPS appears to lack, is a clearly articulated vision for improvement, an aligned set of priorities that will contribute to the district’s goals, and an ability to stick with the vision and priorities long enough to implement them.

Table 2, below, shows the wide variety in governance and reform approaches in Boston and four other cities—D.C., New Orleans, Denver, and Newark. This demonstrates the variety of shapes city-centric reforms can take.

Signature Reforms and Governance in Selected Cities Show Differences in Reform Approaches^{vii}

City	Mayoral Control	Student Based Budget	Within-District Charters	City Charter Sector 2017-18	Unified Enrollment	Innovation Network	School Performance Framework
Boston	✓	✓	✓	19%			✓*
Washington, DC	✓	✓		45%	✓		✓*
New Orleans		✓	✓	92%	✓		✓*
Denver		✓	✓	18%	✓	✓	✓
Newark		✓		30%	✓		✓

*School Performance Framework is created/managed by the state, not the district.

- i Bellwether Education Partners, “Eight Cities,” last updated October 23, 2018, <https://www.eightcities.org/blog/introduction>.
- ii Robin Lake et al., “Sticking Points: How School Districts Experience Implementing the Portfolio Strategy,” CRPE, October 2016, <https://www.crpe.org/sites/default/files/crpe-sticking-points.pdf>.
- iii Matt Barnum, “Advocates of the Portfolio Model for Improving Schools Say It Works. Are They Right?,” Chalkbeat, December 8, 2017, <https://chalkbeat.org/posts/us/2017/12/08/advocates-of-the-portfolio-model-for-improving-schools-say-it-works-are-they-right/>.
- iv Douglas Harris and Matthew Larsen, “What Effect Did the New Orleans School Reforms Have on Student Achievement, High School Graduation, and College Outcomes?,” Education Research Alliance for New Orleans, July 15, 2018, <https://educationresearchalliancenaola.org/publications/what-effect-did-the-new-orleans-school-reforms-have-on-student-achievement-high-school-graduation-and-college-outcomes>.
- v Education Resource Strategies, “Back from the Brink: A Case Study of Lawrence Public Schools,” April 2015, https://www.erstrategies.org/tap/lawrence_public_schools_case_study.
- vi Susan Patrick and Susan Gentz, “Innovation Zones: Creating Policy Flexibility for Personalized Learning,” issue brief, iNACOL, March 2016, <https://www.inacol.org/resource/innovation-zones-creating-policy-flexibility-for-personalized-learning/>.
- vii Mayoral control refers to shifting authority over schools from a traditionally elected school committee/board to a mayor. Student-based budgeting, discussed in more detail on page 25, is the apportionment of funds to schools primarily based on student population and need. Cities with within-district charters have the ability to authorize charter schools under the authority of the school district. Unified enrollment systems, discussion in more detail on page 28, allow for families to submit a single application for the district and charter schools of their choice and be matched to a single school. And finally, an innovation network is the ability for districts to grant waivers from district and/or state processes and policies to a subset of schools to pursue innovative ideas and performance improvement.