

Boston's Education Pipeline

A Report Card

The Boston Indicators Project



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Authors

Charlotte B. Kahn, Senior Director, Boston Indicators Project

Tim H. Davis, Director of Research, Boston Indicators Project

Jessica K. Martin, Research Associate, Boston Indicators Project

Executive Editor

Mary Jo Meisner, Vice President for Communications, Community Relations and Public Affairs, The Boston Foundation

Editor

Barbara Hindley, Director of Publications, The Boston Foundation

Design

Kate Canfield, Canfield Design

The Boston Indicators Project is a Special Initiative of the Boston Foundation and Greater Boston's Civic Community

In cooperation with:

Many public agencies, civic and educational institutions, research institutes, and community-based organizations

About the Boston Indicators Project And the Boston Foundation

The Boston Foundation, Greater Boston's community foundation—grantmaker, partner in philanthropy, key convener and civic leader—coordinates the Boston Indicators Project in partnership with the City of Boston and the Metropolitan Area Planning Council. The Project relies on the expertise of hundreds of stakeholders gathered in multiple convenings to frame its conclusions, and draws data from the wealth of information and research generated by the region's excellent public agencies, civic institutions, think tanks, and community-based organizations.

Through biennial reports, special reports and a constantly updated website, the Project tracks changes in 10 sectors: Civic Vitality, Cultural Life and the Arts, the Economy, Education, the Environment, Health, Housing, Public Safety, Technology and Transportation.

The Boston Foundation has released four biennial Boston Indicators Reports since 2000 and will continue to release them, with supplemented updates and outreach, through the year 2030, Boston's 400th anniversary. The Boston Indicators Project also works to develop a shared Civic Agenda reflecting the perspectives of thousands of participants. The Civic Agenda provides a platform for and informs the John LaWare Leadership Forum, which convenes Greater Boston's business and civic leaders to focus on and respond to regional competitiveness issues.

A constantly updated, state-of-the-art, Boston Indicators website includes the latest research, downloadable data, and charts and analysis tracking Boston's progress in a regional context across the 10 sectors, with additional cross-cuts, such as Sustainable Development, Race & Ethnicity and Children & Youth, interactive features, and links to numerous data-rich resources. It also features a Hub of Innovation and a Cultural Resources Survey. New research from area and national sources is posted on a regular basis. **Visit www.bostonindicators.org.**



Dear Members of the Greater Boston Community:

The Boston Foundation is honored to publish the first comprehensive “Report Card” on Boston’s Education Pipeline. This special report of the Boston Indicators Project explores the entire arc of the educational experience from early childhood development to Pre K-12 classrooms through college or post-secondary training and on into the workforce.

The report paints a detail-rich portrait of Boston’s children and students of all ages—and evaluates how well they are being prepared to thrive in the regional knowledge economy. It finds that while Boston’s education pipeline is among the very best in the United States, with a proud record of achievement and promising new initiatives, being the best is no longer good enough. The pace of progress must be accelerated.

Already, Greater Boston’s dependence on imported talent to replenish the local workforce has created a widening mismatch between the skills of available workers and the skills needed for open jobs. With a declining birthrate, aging population and mounting global competition for highly skilled workers, it is not hyperbole to suggest that our city’s future depends on offering a world-class education to all who live here. As both moral and economic imperatives, we must develop a comprehensive human capital agenda with, at its core, a public education pipeline of the highest quality.

This report tracks inputs and outcomes, progress and remaining challenges. It concludes that if one generalization can be made about Boston’s children and students, it is that ‘generalizing’ itself is outmoded and that the big picture is truly in the details. In the Boston Public Schools, for instance, an increasing number of ethnicities are represented, almost 40 percent of students are English Language Learners and more than 20 percent have cognitive or physical disabilities. It is increasingly clear that one size does not fit all at any point along the education pipeline. Flexibility and responsiveness will be necessary to create “best practice” options and choices that can inspire all of Boston’s students—at all ages—to achieve their full potential.

The ultimate measure of Boston’s success—on its own terms and as a model for the nation—will be in breaking the stubborn link between socioeconomic status and educational attainment.

In the face of dismal national statistics, that goal may appear daunting. But in this birthplace of public education and city of champions, where a native son once challenged the nation to put a man on the moon, creating an education pipeline that works for everyone is difficult, ambitious and—if we can challenge ourselves to build on recent successes and to confront current gaps—achievable.

Paul S. Grogan
President and CEO
The Boston Foundation

Online Content @ www.BostonEducationReportCard.org

In the tradition of the Boston Indicators Project's commitment to providing ongoing access to data, information and resources, the website for *Boston's Education Pipeline Report Card* is an online portal for accessing the wealth of knowledge and information compiled in the report. Launched soon after the Report Card, it serves as a link to resources for families and students, and to data updates and innovative research tracking the strength and progress of Boston's Education Pipeline.

This interactive online resource includes:

- **The Complete Report Card:** A pdf of the entire report, *Boston's Education Pipeline: A Report Card*, or by individual pipeline segment, with separately printable pages of measures and charts.
- **Credits & Acknowledgments:** A complete list of credits and acknowledgments of everyone who contributed to the depth of information at each pipeline segment.
- **Sources & Notes:** An interactive bibliography organized by pipeline segment providing a comprehensive overview of sources and notes on particular data with live links to original reports and analysis referenced within the report.
- **Links & Resources:** An expandable list of community organizations, parent associations, academic think-tanks, websites and other rich sources of information to help strengthen Boston's Education Pipeline by encouraging involvement and understanding.
- **Research & Data Updates:** A link to the Boston Indicators Project website's Education Sector, with up-to-date information about how Boston's students are progressing, with supporting research at the local, state and national levels.

Explore the Boston Indicators Project website's Education Sector, with downloadable data tables and printable charts, innovations in the field and other special features. Look for an updated version of the Boston Indicators Report 2006-2008 to be released in June 2009.

Table of Contents

Introduction	7
The Demographic Context: Boston’s Children	33
School Readiness: Early Cognitive, Emotional & Social Development ...	38
Elementary & Middle School: Kindergarten – Grade 8	46
High School: Grades 9 – 12	70
Post-Secondary and Higher Education	96
Educational Attainment and the Boston Workforce	107
Appendix	115

Introduction

Achieving gold-standard educational outcomes for all children, regardless of family income or racial/ethnic background, is arguably the nation's greatest challenge.

If any American city has what it takes to create a seamless and effective education pipeline that works for all children, it is Boston. Birthplace of American public education, icon of world-class higher education and home to a highly skilled workforce, Boston's challenge today is to strengthen its education pipeline on behalf of homegrown talent.

In this Report Card, the education pipeline begins at birth and continues through Pre-K-12 education, higher education and the workforce. Ideally, each segment prepares each child for the next phase of learning, particularly boosting the life chances of children born into less advantaged homes.

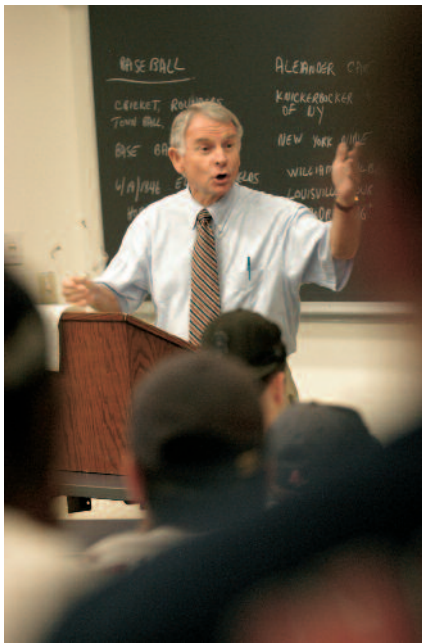
No American city has yet succeeded, however, in leveling the academic playing field for economically disadvantaged children. As a result, many nations are outpacing the US on key measures of educational progress.

Against this bleak national and global backdrop, the Boston Public Schools (BPS) is demonstrably among the best of the nation's large urban school districts. Since passage of Massachusetts' Education Reform Act of 1993, it has implemented major curriculum upgrades, expanded school choice, increased passing rates on all MCAS exams and narrowed the achievement gap on some measures. In 2006, the Boston Public Schools received the prestigious Broad Prize for Urban Education for overall performance and improvement among large urban US school districts.

Today, however, being among the best in the US is not good enough given the growing importance of educational attainment to a child's future in the global economy. Like all urban school districts, Boston has a long way to go to attain gold standard outcomes for all of its children and students:

- **Boston's 0-16 pipeline is not yet sufficiently robust to redress early disadvantage.** Boston faces major challenges in the demographic characteristics of the great majority of students in the public education pipeline: 29% of children under the age of four live in poverty and almost 50% live in households in which English is not the primary language spoken. Among BPS students, almost three-quarters are low-income, 40% are English Language Learners and about 20% have a cognitive or physical disability. By and large, these demographic characteristics too often predict later academic trajectories in Boston.





The ultimate measure of Boston's success...will be in finally breaking the stubborn link between socioeconomic status and educational attainment.

- **While BPS MCAS passing rates continue to climb, when *Proficiency*, or grade-level mastery, is used as the standard for student performance in Boston's public schools, it is estimated that at the current rate of improvement, 90% of students will achieve this goal by 2047, decades beyond the stated local, state and national goal of 2014.** Many students struggling to attain *Proficiency*, the bar for graduation for the Class of 2014, have physical or cognitive disabilities or limited English proficiency. However, on average, public schools and colleges showing the highest levels of student performance have the lowest percentage of students with these challenges. *Proficiency* rates in Boston will not rise dramatically until the learning needs of more challenged students are fully met.
- **Boston's progress is stalled on major outcomes: high school and college completion.** BPS 4-year graduation and drop out rates have been static for five years, with about 60% of students graduating, 20% dropping out and 20% still enrolled at the time of graduation. And according to a new study by the Boston Private Industry Council, of BPS graduates in 2000, while 64% enrolled in college, by 2007 only 35% had completed a 2- or 4-year degree, with nearly 14% still enrolled. Extrapolations from that data suggest that, without improved college retention, only about 15% of the BPS Class of 2007 who entered 9th grade in 2003 will be on track to complete a college degree by 2014.

Given the levels of effort and resources expended to date, these stark findings offer three possibilities of interpretation: 1) that change at the scale necessary to boost the prospects of all children and students in Boston is simply not feasible; 2) that gradual improvements may finally succeed if given sufficient time; or 3) that bolder steps and an accelerated pace of change are urgently required.

The good news is that Boston has made measurable progress. Yet most Boston parents, public officials, educators, and business, civic and community leaders agree that the third path must be chosen, and that bolder steps must be put in place to quicken the pace of change.

This Report Card, for the first time, brings the power of data to bear on the full continuum of Boston's education pipeline. As such, it reveals areas of significant progress, areas in which critical next steps are underway, and areas in urgent need of improvement. It also presents a wealth of baseline data about risk and enrichment factors as well as outcome measures, and a comprehensive Appendix with detailed information about every one of Boston's public Elementary, Middle and High Schools, including Charter Schools.

The ultimate measure of Boston's success—on its own terms and as a model for the nation—will be in finally breaking the stubborn link between socioeconomic status and educational attainment. And it can. Anything less would be unworthy of that place called again and again to its legacy and mission as the City on a Hill.

BOSTON'S EDUCATION PIPELINE: FISCAL FACTS

Early Childhood

- Median daily rates for Boston group child care centers range from about \$36 or \$9,000 annually for pre-school children to \$60 or about \$15,000 for infants
- After-school care for school-age children: an average \$19.50/day
- Waiting list for state-subsidized early care and education in Boston as of July 2008: 4,004

K-12 Education

- For FY07, per-pupil BPS costs: \$10,476 for regular students to \$25,000 to nearly \$60,000 for some substantially separate special education students
- Tuition at Catholic Schools (plus substantial subsidies from the Archdiocese): \$3,525 at St. Theresa's (K-8) and \$13,850 at Boston College High School
- Private school tuition: from \$0 for the Epiphany Middle School to \$29,000 for the Commonwealth and Winsor schools, with the national median at \$16,440

Post-Secondary Education

- Annual tuition and fees for fall 2008 at MA community colleges: \$3,480 at Bunker Hill Community College; \$3,660 at Roxbury Community College; 2007 national average \$2,361
- Average costs at Boston's private 2-year colleges: \$15,156
- Annual in-state tuition and fees: \$8,508 at the MA College of Art, \$10,001 at UMass-Boston, 2007 national average \$6,185
- Average tuition and fees for the 17 private undergraduate colleges in Boston: \$28,348, 2007 national average \$23,712.
- FY05, 78% of full-time MA students did not have their financial aid needs fully met by government grants and loans, with a median unmet need of \$7,740
- MA state funding for public higher education in FY08 was 13% lower than in FY02
- Massachusetts' per capita state spending on public higher education is estimated at 46th among 50 states

Overall Education Spending in Massachusetts

- State funding for education overall declined in inflation-adjusted dollars by 2% between FY02 and FY08
- As a portion of the MA budget, all inflation-adjusted education spending declined from 25% to 21% from FY02 to FY08; health care spending increased by 45%

The Cost of an Inadequate Education

- Alliance for Excellent Education: If all BPS students graduated high school, each class of graduates would increase its annual earnings by \$250 million and decrease lifetime health costs by \$15 million.
- 2007 median earnings for a Bostonian without a high school diploma were \$19,901—\$7,188 less than those with a high school diploma and \$30,116 less than those with a Bachelor's Degree

“Today, Boston Public Schools, the birthplace of public education in this nation, offers the best education possible for some of its students. Boston Public Schools has the capacity to offer the best education possible for all of its students.”

—Dr. Carol R. Johnson,
Superintendent,
Boston Public Schools
January 30, 2008

THE NEW INFRASTRUCTURE FOR CHANGE

The good news is that the City of Boston and the Commonwealth of Massachusetts are working to strengthen the infrastructure for change at a depth and breadth that may be unparalleled in the nation. For 15 years, the Massachusetts Education Reform Act of 1993 has supplied more equitable funding to urban school districts, focused resources on teacher quality and training, and established clear curriculum frameworks, goals and a system of assessment to measure results and disparities. With the support of Mayor Thomas M. Menino, former BPS Superintendent Thomas Payzant focused the Boston Public Schools on Whole School Improvement for more than a decade, with measurable gains.

Today, BPS Superintendent Carol R. Johnson is building on these gains, shifting the focus to the Whole Child with data-driven goals, strategies, measurable targets and best practices applied to individual students and specific student cohorts.

Alongside their achievements stand a host of skilled and energetic teachers and administrators, and community-based and civic-sector partners working to expand learning time, improve instructional quality, engage parents, increase in- and out-of-school enrichment and expand the range of available high quality options.

In the fall of 2008, in recognition that schools can't “do it all,” the City of Boston is instituting the groundbreaking *Thrive in 5* initiative to address disparities in the earliest years and advance school readiness for all of Boston's children.

Similarly, Governor Deval Patrick is moving forward with the *Readiness Project*, a comprehensive set of policies and programs designed to address weaknesses in the Commonwealth's education pipeline from preschool to higher education. Governor Patrick also created the new position of Secretary of Education, appointing respected expert Paul Reville, to coordinate the departments of Early Education and Care, Elementary and Secondary Education, and Higher Education.

Today, change is permeating the Boston Public Schools and, more recently, the Commonwealth's entire systems of early and public higher education. With dynamic new leadership in place at all segments of the education pipeline, Bostonians today aspire to a high level of achievement for all children and a high level of accountability from public institutions. They are asking: Are Boston's children on track to succeed in the 21st century? And if not, what more can we do?

WHAT BOSTON IS DOING

Mayor Thomas M. Menino’s Thrive in 5 “School Readiness Roadmap” is a 10-year movement launched in 2008 by the City of Boston with the United Way of Massachusetts Bay and Merrimack Valley and others. Encompassing measurable goals, broad-based and expert participation and research findings, *Thrive in 5* addresses all dimensions of children’s development and learning through collaboration among public health services, educators, city agencies and private and nonprofit sector institutions. The initiative is designed to act on Boston’s “Readiness Equation:” *Ready Families + Ready Educators + A Ready City = Children Ready for Sustained School Success.*

Boston Public Schools Superintendent Dr. Carol R. Johnson has two related initiatives—“Pathways to Excellence” and the “Acceleration Agenda.” Pathways

to Excellence consolidates some school facilities while increasing the range of school choice. Its proposals are designed to support the Acceleration Agenda, which includes both academic priorities and strategies to strengthen operations and financial management.

The Acceleration Agenda establishes measurable goals for the year 2012 to boost outcomes through a focus on reading proficiency, enrichment of in- and out-of-school time, a streamlined K-12 curricula with increased access to math and advanced curricula, and expanded services for the highest risk students. She has also announced plans to bring Teach For America to Boston on a pilot basis to add to Boston’s acclaimed Teacher Residency program to boost the recruitment and retention of a new generation of qualified, diverse and committed teachers.

For more details on Boston initiatives, see www.BostonEducationReportCard.org

Acceleration Agenda Goals

BPS PERFORMANCE GOALS

TARGET BY 2012

Reading by the end of Grade 1	80% of Grade 1 students read at or above grade level
Reading to learn in Grade 3	100% pass MCAS English Language Arts (ELA) Reading Comprehension exam 85% or better score <i>Proficient</i> or Above The gap between the highest and lowest performing subgroups—by race/ethnicity, English Language proficiency and special education category—is less than 5 points on the MCAS English Language Arts (ELA) Reading Comprehension exam
Skillful, analytical writing in Grade 7	100% of all Grade 7 students attempt open-response questions on the MCAS ELA exam
Algebra I in Grade 8	80% of Math 8 students receive a B or better on the final exam 30% of non-Exam School students take Algebra I in 8th Grade
“On track” to graduate by the end of Grade 10	90% of the Class of 2014 scores as <i>Proficient</i> on required MCAS exams in Grade 10 in 2012
SAT I 1650 & “Excellence for All”	Students who take the SAT I exam score an average 1650 (out of 2400) All students enroll in at least one honors or Advanced Placement (AP) course during High School
Accelerated mastery of English for English Language Learners (ELL)	90% of all English Language Learners (ELL) progress two or more steps on the MEPA within the same grade (or one or more between grade spans) across all grade spans (Elementary, Middle and High School)
College ready & success bound	The annual dropout rate is 3% or lower The 4-year graduation rate is 80%; for English Language Learners (ELL), 70%



THE VALUE AND LIMITATIONS OF A REPORT CARD

One of the challenges in assessing progress in education is the fragmented nature of the education system and the lack of consistent, reliable data comparable across all segments of the pipeline that can be used to track progress. Yet a key finding of recent research is that truly successful programs, schools, teachers and systems base their strategies on data—both quantitative and qualitative.

Data are increasingly used to provide personalized attention and instruction to students who are struggling or seeking greater challenges, and to evaluate progress in specific schools, school systems and entire educational pipelines within a city, state or region. However, while experts evaluate progress within specific segments of the education pipeline, these measures are rarely combined to represent the full spectrum of opportunities and supports a child needs to transition successfully from early cognitive development to advanced post-secondary learning.

There are large areas of disagreement among experts about critical issues, such as what constitutes teacher or curriculum quality. While these issues will take time to resolve, there are nevertheless clear indicators of educational opportunity and excellence that can be used to assess the quality and performance of the education pipeline in Boston, including:

- Baseline data and long-term trends on key measures;
- The degree of early and continuing disparities;
- The equitable distribution of educational resources;
- The degree and range of options and the results of experimental strategies and structures;
- The number and educational status of students at key transition points along the educational journey by a variety of characteristics; and
- Rates of progress overall.

Recent research finds that the “Growth Model,” or the assessment of each child’s educational development longitudinally along the full course of the education continuum, is a critical dimension to gauging a school or school district’s quality. This approach to quality measurement is now being piloted in and/or adopted by a number of states but is not yet used as a substitute for the federal No Child Left Behind Adequate Yearly Progress (AYP) status report for each school—and such data are not yet fully available for Boston students.

New data on actual student educational trajectories are now being released by the Massachusetts Departments of Elementary and Secondary Education and Higher Education (without personal identifiers to protect student confiden-

tiality), beginning with the high school classes of 2003. Individual student data also form the basis for an assessment of the college entry and completion rate of Boston’s graduating seniors by the Boston Private Industry Council with the Center for Labor Market Studies at Northeastern University. Data on individual students also inform research by a team at the Harvard Graduate School of Education, which is comparing Boston’s Regular, Charter and Pilot Schools in terms of student performance.

Until reliable data are available to support a clear understanding of individual student progress against the backdrop of intangibles—such as family and community networks, health, safety, and the impact of art, nature study, sports and hands-on science innovation—no education report card will be complete. Nevertheless, this Report Card does serve to:

- frame both progress and challenges along the educational pipeline in Boston;
- impart a sense of urgency about the need for more rapid progress;
- inform civic discourse about the next phase of education reform; and
- inspire greater consensus and collaboration in the implementation of effective strategies to improve outcomes for all children and students.

METHODOLOGY

Boston’s Education Pipeline: A Report Card measures change and progress along a continuum from early childhood into the workforce. It includes both “input” and “outcome” measures along the entire education pipeline. These include:

- Measures that describe family, neighborhood and educational contexts;
- Important input measures of educational quality, such as choice, opportunity, risks and enrichment and equity;
- Broadly accepted and standard educational outcome measures of student achievement throughout the “education pipeline” from Pre-K through college entry and completion, with relevant comparison data, when feasible.

The methodology used to arrive at this Report Card’s findings include:

- An intensive scan of other indicator frameworks used to assess educational quality and results in other US cities, including frameworks for “education report cards;”
- A review of standard national measures of educational excellence and No Child Left Behind Act measures of progress, with analysis of relevant datasets;
- A review of key indicators selected by stakeholders and experts in Sector Convenings and reported on by the Boston Indicators Project in its biennial reports over the past decade;



- A review of the standard educational outcomes measures in use in Massachusetts, with analysis of key datasets, as well as comparisons of population characteristics and educational outcomes among 20 municipalities surrounding Boston, including several urban school districts and a range of suburban communities;
- A review of standard educational quality measures used by the Boston Public Schools, with analysis of key datasets;
- Alignment with Boston's research-based *Thrive in 5* and *Smart from the Start* initiatives;
- Contextual demographic data from the US Census from 1950 to 2000 and from the 2001 to 2006 American Community Surveys;
- Identification of important data gaps.

This report uses broadly available quantitative and qualitative data from a range of respected sources including: the Centers for Disease Control (CDC); the Commonwealth of Massachusetts; the City of Boston; the Boston Public Schools; the Boston Public Health Department; the Boston Higher Education Partnership; the Boston Private Industry Council; the Massachusetts Budget and Policy Center; the Harvard School of Public Health and its Boston Youth Survey; Harvard University's Center for the Developing Child; BostonNavigator (a partnership between Boston After School and Beyond and BosNET); and Associated Early Care and Education's BostonEQUIP survey.

Report methodology also includes special analyses by Boston Indicators Project Research Director Tim Davis and Research Associate Jessica Martin including:

- Analysis and mapping of the Boston Medical Center-based Children's Sentinel Nutrition Assessment Program food security data;
- Identification of better performing schools in Inner Core Communities surrounding Boston using a methodology and interactive database based on the analytical framework developed by *Just for the Kids*, which is sponsored by the National Center for Educational Achievement;
- Analysis of Adequate Yearly Progress (AYP) best practices in the Boston Public Schools using the Boston-based organization EdVestors' methodology;
- Analysis of the Commonwealth's Adult Basic Education (ABE) and English as a Second or Other Language (ESOL) programs in order to ascertain overall program capacity, enrollment, and wait lists for Boston.

The Report Card concludes with a comprehensive Appendix, compiled by Jessica Martin, detailing the key characteristics of each of Boston's public schools (including the Charter Schools) in terms of student and teacher characteristics, core enrichment, amenities and test scores.

MAJOR CONCLUSIONS

THE DEMOGRAPHIC CONTEXT

1. Boston's greatest asset, a highly-skilled 21st century workforce, is sustained not by homegrown but imported talent; as a result, Boston and the region face an already widening mismatch between workers' skills and vacant jobs.

- In 2006, 35% of Bostonians born in Massachusetts had a BA or advanced degree compared to 60% of Bostonians born in another state;
- 42% of adult Bostonians held a BA or advanced degree in 2006, yet just 27% of households with children had a member with a college degree;
- Among all Bostonians over the age of 25, 17%, or 61,400, had not completed high school as of 2006;
- In 2007, those without a high school diploma comprised 35% of the workforce but 46% of unemployment claimants; in contrast, those with a college degree comprised 65% of the workforce but 43% of unemployment claimants;
- Of vacant jobs in the first quarter of 2007 in Greater Boston, 53% required at least an Associates Degree.

2. Boston's students and educators alike face high hurdles because of the economic and educational disadvantage of the majority of households with children. Of Boston households with children in 2006:

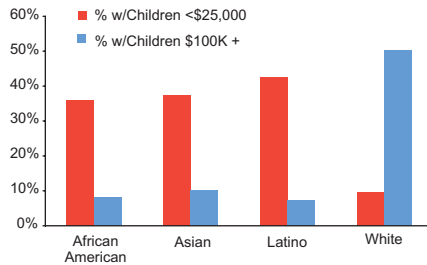
- 73% contained no person with a college degree and 18% contained no person with a high school diploma;
- Almost 50% were headed by an immigrant, and a language other than English was spoken in almost 50%;
- 42% were headed by a single mother, of which 52% were in poverty;
- In 18%, no adult member participated in the workforce.

3. On average, Boston's white children experience a high level of economic and educational advantage compared to children of color, beginning at birth:

- Among mothers giving birth in Boston in 2004, 68% of white mothers had a BA or advanced degree compared to 43% of Asian, 16% of African American and 9% of Latina mothers.
- Only about 13% of Boston's white households contained a child in 2006. Of those that did, 48% had an adult with a BA or higher in contrast to 32% of comparable Asian, 18% of African American and 9% of Latino households.



Households with Children,
Percent with Income less than
\$25,000 and more than \$100,000,
by Race/Ethnicity Boston, 2006



Source: US Census Bureau, 2006 American Community Survey
Racial categories do not include Latinos.

- A full 50% of white households with children had annual incomes of more than \$100,000 compared to fewer than 10% of comparable African American, Latino and Asian households.
- Despite the proven capacity of high quality early education to redress the effects of early disadvantage, preschool classrooms serving low-income children are, on average, of lower quality than those serving higher income children.
- About 23% of all of Boston's school-age children—including about 50% of Boston's white students, attend a private or parochial school.

4. Students in the Boston Public Schools (BPS) show a high concentration of economic disadvantage and special needs. In 2006/07:

- Almost 75% qualified for free or reduced-price meals with 64% qualifying for full subsidies, a proxy for children living at or below the poverty line.
- Almost 20% were students with physical, cognitive or learning disabilities, about half of whom qualified for Substantially Separate Classrooms; and 18% were Limited English Proficient (LEP) students. These are the two groups at the highest statistical risk of failing or dropping out;
- About 77% were African American or Latino—two groups that have historically underperformed Asian and white students.

THE INSTITUTIONAL CONTEXT

5. There are few major challenges along the education pipeline for which strategies have not been developed by the City of Boston and its partners.

Since the Education Reform Act of 1993, Boston—as a public school district, municipal government and civic community—has vastly improved the institutional infrastructure needed to address the needs of Boston's children and students of all ages:

- **School readiness, coordinated through Mayor Thomas M. Menino's comprehensive *Thrive in 5* initiative:** Support for healthy early childhood development, particularly among vulnerable children, including programs to encourage reading and talking to children in the earliest years, parental education and support, and high quality early education;
- **A widening of school choice and structural innovation:** Smaller and more autonomous public schools including Charter and Pilot School at all levels—which now account for 18% of Boston's public school enrollment—Early Learning Centers, K-8 Schools, 6-12 Schools, Two-Way Bilingual Schools, Small High Schools, Theme-Based Schools and Learning Communities;

- **A greater range of selected high quality curricula:** Tools and teaching methods to advance outcomes across a range of learning styles and abilities;
- **In-school and out-of-school enrichment and family support:** Extended Learning Time, arts education, out-of-school time programs, and facilitation of parent engagement;
- **A higher level of educator quality and programs to improve teacher training and retention:** As measured by subject-matter licensure, 94% of BPS teachers are licensed in their subject, and, with 500 teachers hired annually and a loss of 47% of teachers within 3 years, initiation of the exemplary Boston Teacher Residency Program to improve retention;
- **Programs to address the warning signs of school failure or the risk of school drop out:** Targeted approaches to reducing MCAS failure, truancy or suspension, teen pregnancy and mental or physical health problems, including Full Service Schools, expanded Alternative Education options, faith-based programs and extended hours at youth-serving organizations;
- **Structural and programmatic attention to difficult transition points, including Kindergarten entry, the transition between Middle and High School, the transition between 10th Grade and graduation from High School, and the transition to college or post-secondary training:** parent information programs and centers, smaller, theme-based and more autonomous school structures, out-of-school-time and school-to-work programs, college access and in-college support programs;
- **Adult literacy and English classes** to advance the educational attainment and workforce skills of underemployed adults, parents and newcomer immigrants;
- **Workforce training programs and partnerships** such as the public-private partnership SkillWorks.

EDUCATIONAL OUTCOMES

1. **Boston is one of the best, arguably the very best, large urban school district in the nation, while Massachusetts ranks first among the states.**
 - Among 10 large urban school districts participating in the National Assessment of Educational Progress (NAEP) in Math and Reading, Boston's 4th graders outperformed the urban district average in both exams;
 - BPS 8th graders outperformed the average of 10 other large urban school districts in Math and Reading on the National Assessment of Educational Progress (NAEP) in 2007;
 - BPS 8th graders achieved the 3rd highest scores in both Math and Reading and came in 2nd in the Writing Assessment.



Boston is one of the best, arguably the very best, large urban school district in the nation...



However, national and state rankings obscure the fact that scores below *Proficient* leave children unprepared for grade-level work. For example, 27% of Boston's 8th graders achieved *Proficient* in NAEP Math—the greatest rate of improvement among 10 large urban school districts—but Boston's African American and Latino students scored just 12% and 20% *Proficient* respectively. Similarly, at 59% *Proficient*, Massachusetts students attained the top score among all states, but the average scaled score was one point below the *Proficiency* benchmark, indicating many low-scoring students.

2. Whole-School and Whole-System change resulted in important measurable gains:

- **Dramatic improvement in MCAS passing rates:** In 2001, 62% of BPS 10th graders passed the MCAS English Language Arts (ELA) compared to 87% in 2007; in Math, 53% of 10th graders passed in 2001 compared to 82% in 2007.
- **A narrowing of the achievement gap between boys and girls:** In 2001, 54% of 10th grade boys passed MCAS ELA compared to 68% of girls—a gap of 14 percentage points; by 2007, the gap had narrowed to 5 percentage points, with 85% of boys and 90% of girls passing the 10th grade MCAS ELA exam. In Math, girls outperformed boys by 9 percentage points in 2001 and 6 points in 2007.
- **A narrowing of the racial/ethnic achievement gap on the 8th and 10th grade MCAS Math exams:** In 2001, the gap between white and Latino 8th graders scoring *Proficient* in MCAS Math was 37 percentage points, and the 10th grade white/Latino proficiency gap was 46 points. By 2007, the 8th grade white/Latino achievement gap had narrowed to 32 percentage points and the 10th grade gap to 26 percentage points almost halved.
- **Specific BPS schools—Regular, Charter and Pilot—are outperforming schools of similar demographic makeup on student MCAS scores in other districts,** even among schools in wealthy suburban districts. This raises the bar for everyone.

3. However, key educational outcomes show declining rates of progress:

- **Dropout Rates:** BPS High School dropout rates are trending upward. In the 2006/07 school year, 1,659 BPS High School Students dropped out—a 9% rate, following a nearly 10% rate in 2005/06—the highest dropout rate since 1999 and following many years of 7% and 8% rates:
 - Among the class of 2007, over the course of 4 years, 22% either dropped out (19%) or were permanently excluded through expulsion (3%);
 - Large gaps exist along lines of race/ethnicity and gender ranging from a low 4-year rate for Asians of 4.5% to a high for Latinos of 20%;
 - Girls had a 4-year dropout rate of 13% compared to boys at 21%.

■ **High School Graduation Rates:** The BPS four-year high school graduation rate for the class of 2007 was 58%, the lowest since the class of 2003, and has hovered at about 60% since 2001. The 4-year graduation rate shows deep achievement gaps:

- 87% of Asian students and 74% of white students graduated within 4 years compared to 58% and 56% of African Americans and Latinos;
- Along gender lines, 71% of girls graduated within 4 years compared to 54% of boys.

4. At the rate of improvement achieved by the BPS between 2003 and 2007, without intervention, 90% Proficiency—still short of the mandated goal of 100% Proficiency—on key MCAS exams will not be achieved until the year:

- 2043 for Boston’s 8th grader in MCAS Mathematics
- 2019 for 10th graders on the English Language Arts MCAS
- 2015 for 10th graders on the Math MCAS

5. While BPS students are achieving higher rates of MCAS Proficiency overall in English Language Arts, significant progress in narrowing the racial/ethnic achievement gap is proving to be elusive:

- **3rd Grade Reading:** A gap in *Proficiency* of about 26 percentage points is documented on the first standardized test taken by Boston’s public school students. In 2007, white and Asian 3rd graders scored 54% and 46% *Proficient* or *Advanced* respectively in contrast to African American and Latino children at 27% and 26%. This gap has remained virtually unchanged since 2001, when white and Asian students achieved 51% and 43% while African American and Latino students achieved 26% and 24% respectively.
- **8th Grade English Language Arts MCAS:** The 2007 results showed a gap of about 30 percentage points, with white and Asian students achieving *Proficiency* rates of 80% and 74% compared to African American and Latino students at 48% each. This mirrors 2001, when white and Asian students achieved the rate of 69% compared to African American and Latino students at 31% and 32%.
- **10th Grade English Language Arts MCAS:** In 2007, white and Asian students achieved *Proficiency* rates of 74% and 76% compared to 40% of African American and 43% of Latino students. In 2001, 63% of white students and 49% of Asian students achieved the *Proficiency* benchmark compared to 19% of African Americans and 16% of Latinos, all groups showing significant improvement but with a persistent achievement gap.



While BPS students are achieving higher rates of MCAS Proficiency overall in English Language Arts, significant progress in narrowing the racial/ethnic achievement gap is proving to be elusive.



6. Reflecting national trends, Boston's education pipeline fails to lead to a college degree for the great majority of BPS graduates, stranding many along the way.

Among 3,130 graduates of the BPS Class of 2005:

- At the time of graduation, 53% stated their intention to enroll in a 2- or 4-year higher education institution, and nine months after graduation, 70% had enrolled—58% in Massachusetts public or private 4-year institutions, 22% in a Massachusetts public 2-year institution, and 17% in an out-of-state 2- or 4-year institution.
- Of graduates enrolled in any Massachusetts public college or university, 41% were required to take at least one developmental or “remedial,” course; of those from BPS Exams Schools, 9% were required to take developmental courses compared to an average of 57% of those from other BPS high schools.
- The first year fall-to-fall persistence rate was 78%, with an average of 88% among Exam School graduates, 77% among Pilot School graduates and 69% among graduates of other High Schools.

For any BPS graduate entering college for the first time in 2005, according to the Boston Higher Education Partnership:

- 61% of community college enrollees were required to take developmental courses compared to the national average of 42%; and 25% of enrollees in 4-year institutions were required to take remedial courses compared to a national average of 20%.

Among the 2,964 graduates of the 2000 BPS graduating class, according to new data from the Boston Private Industry Council:

- About 64%—1,090—enrolled in a 2- or 4-year institution. Seven years later, in 2007:
 - About 36% had graduated from either a community college or a 4-year institution—or about 23% of all 2000 graduates—while slightly more than 50% had dropped out with an additional 14% remaining enrolled.
 - Among those who enrolled in a 4-year private institution, by 2007, 56% had graduated compared to 35% of those who had enrolled in a public 4-year institution and just 12% who had entered a community college.
 - The 7-year graduation rate was 24% and 28% for Latino and African American students, compared to 53% and 52% for white and Asian students respectively.
 - Among students who graduated from one of Boston's three Exam Schools—comprising about 24% of all Class of 2000 graduates—59% had attained a college degree within 7 years compared to 24% of graduates of all other BPS High Schools.

THE BOSTON EDUCATION PIPELINE: CORRECTED OUTCOMES

Boston's preschoolers enrolled in High Quality Early Education	Not Yet Available				
3rd Grade Reading, 2007 MCAS (BPS)	<table border="1"> <tr> <td>Passing* or Above</td> <td>78%</td> </tr> <tr> <td>Proficient or Above</td> <td>32%</td> </tr> </table>	Passing* or Above	78%	Proficient or Above	32%
Passing* or Above	78%				
Proficient or Above	32%				
4th Grade Reading/Math, 2007 NAEP	<table border="1"> <tr> <td>Basic</td> <td>54% / 77%</td> </tr> <tr> <td>Proficient or Above</td> <td>20% / 27%</td> </tr> </table>	Basic	54% / 77%	Proficient or Above	20% / 27%
Basic	54% / 77%				
Proficient or Above	20% / 27%				
8th Grade Reading/ Math, 2007 NAEP	<table border="1"> <tr> <td>Basic</td> <td>63% / 65%</td> </tr> <tr> <td>Proficient or Above</td> <td>22% / 27%</td> </tr> </table>	Basic	63% / 65%	Proficient or Above	22% / 27%
Basic	63% / 65%				
Proficient or Above	22% / 27%				
8th Grade English Language Arts / Math, 2007 MCAS (BPS)	<table border="1"> <tr> <td>Passing* or Above</td> <td>85% / 82%</td> </tr> <tr> <td>Proficient or Above</td> <td>56% / 27%</td> </tr> </table>	Passing* or Above	85% / 82%	Proficient or Above	56% / 27%
Passing* or Above	85% / 82%				
Proficient or Above	56% / 27%				
8th Grade Writing, 2007 NAEP	<table border="1"> <tr> <td>Basic</td> <td>83%</td> </tr> <tr> <td>Proficient or Above</td> <td>25%</td> </tr> </table>	Basic	83%	Proficient or Above	25%
Basic	83%				
Proficient or Above	25%				
10th Grade English Language Arts / Math, 2007 MCAS (BPS)	<table border="1"> <tr> <td>Passing* or Above</td> <td>87% / 82%</td> </tr> <tr> <td>Proficient or Above</td> <td>50% / 55%</td> </tr> </table>	Passing* or Above	87% / 82%	Proficient or Above	50% / 55%
Passing* or Above	87% / 82%				
Proficient or Above	50% / 55%				
Class of 2007: Dropped Out / Graduated / Still Enrolled (over 4 years) (BPS)	20% / 58%/22%				
Class of 2005: Graduates Enrolled in College or Training (BPS)	74%				
Graduates Enrolled in MA Public Higher Education	23%				
Of these, required to take Developmental Courses	41%				
Class of 2000: Graduates Enrolled in 2- or 4-year Higher Education (BPS)	64%				
Received an Associates Degree within 7 years	12%				
Received a Bachelor's Degree within 7 years	35%				
Bostonians age 18-24 Not in School, Not Working, 2006	1,800 or 3%				
Bostonians age 25 and Older with a BA or Advanced Degree, 2006	42%				
Bostonians born in Massachusetts	40%				
Bostonians born elsewhere in the US	60%				
Unemployed Bostonians with a High School Diploma or Less, 2007	50%				
Job Vacancies in Greater Boston Requiring at Least an Associates Degree, Q4 2007	56%				
Boston's ABE/ESOL Capacity for Total Enrollment, SY 2007/08	4,983				
ABE/ESOL Waitlist, January 2008	3,209				

*“Passing” includes students who achieved “Proficient or Above” or grade level mastery.



A NEW LENS OF ANALYSIS

Traditional measures of educational performance and progress paint a binary, split-screen picture: Asian and white students outperform African American and Latino students; high income students outperform low-income students; girls outperform boys. However, as individual student data gradually become available, it is clear that reporting on student, school and school district performance by race/ethnicity, income and gender alone obscures a more nuanced picture. For example:

1. The greatest achievement gap—in Boston and elsewhere—is not by gender, race/ethnicity or income but between regular students and students with linguistic or physical and cognitive challenges, who have been shown to have the greatest statistical risk of failing or dropping out of High School.

For example, among BPS 10th graders, 66% of regular education students scored *Proficient* or *Advanced* in Math. This compared with 40% of Limited English Proficient (LEP) students and 17% of students with disabilities (SWD). In English Language Arts, 62% of regular education students scored *Proficient* or *Advanced* compared to 19% of LEP and 13% of SWD students. And among 10th graders challenged by both English Proficiency and cognitive or physical disabilities, 8% scored *Proficient* or *Advanced* on the Math MCAS and 1% in English Language Arts.

When the daily challenges faced by LEP and SWD students are combined with the low educational attainment or poverty status of their household, their statistical jeopardy increases. When combined with in- and out-of-school risk factors, students and educators are highly challenged to keep student performance on track. Out-of-school risk factors include housing instability and high mobility (moving in and out of schools), sickness, violence, teen pregnancy and court-involvement. In-school risk factors include MCAS failure, truancy and suspension and grade repetition leading to over-age status.

2. The risk factors described above are unevenly distributed across race and ethnicity in Boston and elsewhere, invisibly contributing to the widely reported racial/ethnic achievement gap. Reporting student performance measures only by racial/ethnic percentages both misses the scale and complexity of the challenges facing low-performing students and obscures the accomplishments of high-performing African American and Latino.

For example:

- Among BPS 10th graders in 2007: 27% of both African American and Latinos were classified as LEP students, Students with Disabilities (SWD) or both, in contrast to 20% of Asian students and 17% of white students.

■ While BPS African American and Latino students are disproportionately represented among underperforming students, they vastly outnumber their white and Asian counterparts among the highest-performing students. While 76% and 74% of Asian and white students compared to 43% of Latino and 41% of African American students, respectively, scored *Proficient* or *Advanced* on the 10th Grade English Language Arts MCAS, among all high scoring students, 61% were African American or Latino compared to 39% who were white or Asian. Similarly, among Class of 2007 BPS students who graduated in a timely four years, 70% were African American or Latino compared to 30% who were white or Asian.

3. At each segment of the education pipeline, most students fall not into one of two but one of three categories.

These could be described as:

Off Track: Students who are not school ready in the earliest grades, receive *Warning* or *Failing* on MCAS exams, exhibit high rates of truancy and suspension, show risk factors for low academic achievement and dropping out, have severe physical or cognitive disabilities or very low English proficiency, are likely to take longer than four years to complete high school and are least likely to go on to college or skills training.

Side Track: Students who are not school ready in the earliest grades, pass MCAS exams with *Needs Improvement*, exhibit poor to good attendance, face moderate hurdles in physical or cognitive disabilities or low English proficiency, lose momentum between the 10th Grade MCAS exams and graduation, and are likely to require developmental (remedial) coursework if they enroll in college and take longer than 6 years to complete a college degree.

On Track: Students who enter school with the life and academic skills needed to advance to the next stage, achieve *Proficient* (grade-level competence) on MCAS exams, exhibit high attendance and few if any risk factors, such as low English proficiency and/or physical and cognitive disabilities, take AP courses or rigorous coursework to prepare for college, disproportionately enroll in 4-year and more selective colleges, and are likely to complete college in 4-6 years.

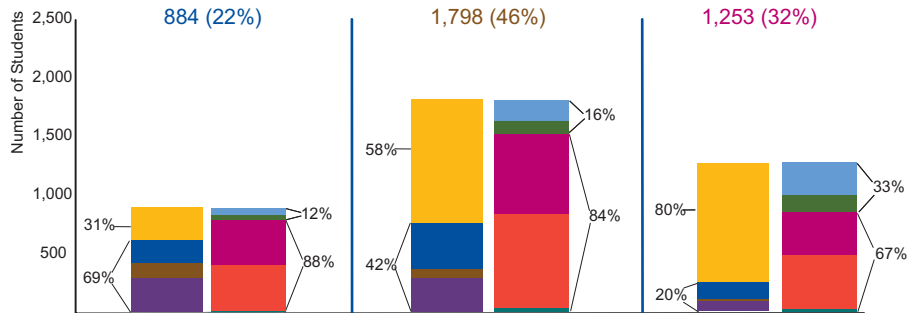
Part of the solution to persistent achievement gaps is to acknowledge the distinct challenges facing students in each of these tracks—or distinct segments of the education pipeline—in order to boost both their opportunities and their outcomes.

4. The BPS is a large urban school district in which 40% of students are English Language Learners, 75% of students live in poverty and school enrollment is based on residence, choice, lottery or competitive exam. In this context, the uneven terrain of parent knowledge and informed choice creates an unintended but very real de facto branching of the education pipeline that reinforces rather than overcomes advantage and disadvantage.

Disparities Through a New Lens

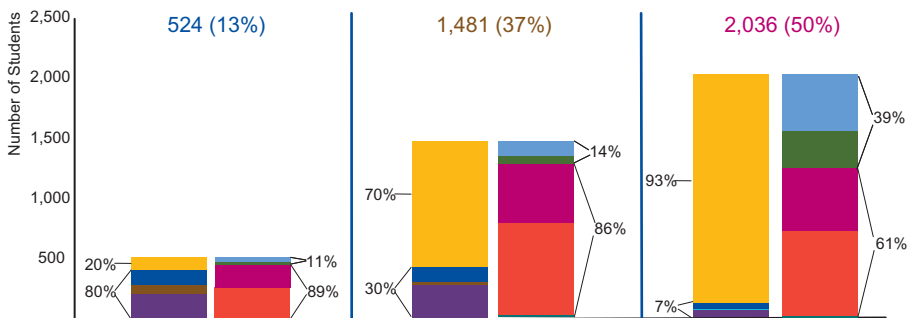
Warning/Failing Needs Improvement Proficient/Advanced

3rd Grade Reading MCAS, The Boston Public Schools, 2007



Regular Students:	274 (12%)	1,046 (45%)	1,002 (43%)
English Language Learners:	194 (27%)	390 (53%)	146 (20%)
English Language Learners with Disabilities:	130 (56%)	80 (34%)	22 (9%)
Students with Disabilities:	286 (44%)	282 (43%)	83 (13%)
Whites:	58 (11%)	174 (34%)	274 (54%)
Asians:	43 (15%)	117 (40%)	136 (46%)
African Americans:	385 (23%)	801 (49%)	453 (28%)
Latinos:	387 (27%)	675 (47%)	361 (25%)
Multi-Racials/Others:	11 (15%)	31 (44%)	29 (41%)

10th Grade English Language Arts MCAS, The Boston Public Schools, 2007



Regular Students:	104 (3%)	1,038 (34%)	1,895 (62%)
English Language Learners:	126 (40%)	131 (41%)	61 (19%)
English Language Learners with Disabilities:	69 (79%)	17 (20%)	1 (<1%)
Students with Disabilities:	225 (38%)	295 (49%)	79 (13%)
Whites:	40 (6%)	122 (19%)	469 (74%)
Asians:	18 (4%)	83 (20%)	315 (76%)
African Americans:	266 (15%)	761 (44%)	703 (41%)
Latinos:	197 (16%)	496 (41%)	522 (43%)
Multi-Racials/Others:	3 (6%)	19 (39%)	27 (55%)

Source: BPS Office of Research, Assessment & Evaluation, Massachusetts ESE

Student Type

- Regular Education Student
- English Language Learner
- English Language Learner with Disabilities
- Student with Disabilities

Race/Ethnicity

- White
- Asian
- Latino
- African American
- Multi Racial & Other

How to read this chart: The columns add up to 100% of those in each "track."
Percentages in the tables add up across the page to 100% of each student type/demographic group.

HELPING STUDENTS GET ON A TRACK TO SUCCEED

OFF-TRACK ●●●●▶ SIDE-TRACK ●●●●▶ ON-TRACK

School Readiness	<p>Developmental damage or delays</p> <p>No or low-quality early education or expulsion from preschool</p> <p>Very low score on school readiness assessment</p>	<p>Exposure to developmental risks</p> <p>Mediocre early education</p> <p>Below benchmark on school readiness assessment</p>	<p>Healthy birth, early nurturing</p> <p>High quality early education</p> <p>Above benchmark on school readiness assessment</p>
K-12	<p>Achieves D's and F's</p> <p>MCAS: Failing</p> <p>Grade repetition</p> <p>Often truant or suspended, (less than 80% attendance rate)</p> <p>Eligible for alternative education</p> <p>Multiple Risk Factors: Late Entrant, LEP, significantly over age, requires substantially separate classroom for special needs</p> <p>Enrolled in High School 6 years</p> <p>Drops out</p>	<p>Achieves C's and D's</p> <p>MCAS: Passing/ Needs Improvement</p> <p>Low to average school attendance, (80-85% attendance rate)</p> <p>Often ELL, LEP Student with Disabilities, Late Entrant, Overage</p> <p>Still enrolled in High School after 4 years</p> <p>High School graduation within 6 years of entering 9th Grade</p>	<p>Achieves A's and B's</p> <p>MCAS: Proficient or Advanced</p> <p>Excellent school attendance (absent less than 5% or fewer than 5 days)</p> <p>Rigorous college preparation courses (Mass Core or AP)</p> <p>Graduation within 4 years of entering 9th grade</p>
Higher Ed. or Advanced Training	<p>Not enrolled</p> <p>Teen pregnancy</p> <p>Court-involved</p>	<p>Requires remedial or developmental college coursework</p> <p>Early attrition (exit) from college or training OR</p> <p>6 to 8 year graduation track</p>	<p>Prepared for college-level coursework</p> <p>On-time college graduation or completion of highly skilled technical training</p>
Workforce	<p>Not in school, not working</p> <p>Court-involved or in prison</p>	<p>Underemployed</p> <p>Employed without benefits</p>	<p>Employed with good benefits</p>

Students who are able to take the greatest advantage of available choices tend to select schools proven or perceived to be of superior quality, with the result that high performing schools “magnetize” more advantaged and higher performing students. At the same time, those schools proven or perceived to be of lower quality often disproportionately serve students with multiple risk factors (a lack of English proficiency, low household income and physical or cognitive disabilities). This branching molds opportunity and outcomes along the entire length of the education pipeline. For example:

- **Preschool:** While just 14% of community-based early education programs serving lower-income children meet “high quality” benchmarks, this is true for 67% of those serving high income children.
- **K-12:** Boston has great unevenness in the distribution of high-need students. About 20% of BPS students are Students with Disabilities (SWD), of whom about half are severely disabled. Nearly 40% are English Language Learners (ELL), with 18% Limited English Proficient (LEP). These students account for up to 20% to 30% of “regular” BPS High School enrollees, including a disproportionate percentage of the highest-need students. By comparison, Boston’s Exam Schools together enroll 1% SWD and 1.5% LEP students, Pilot High Schools (excluding alternative schools) enroll 16% SWD and 4% LEP students and Charter High Schools enroll 14% SWD and fewer than 1% LEP students. These variations must be better understood and accounted for in student- and school- performance assessments to identify and track progress on best practices.
- **Higher Education:** Of the BPS Class of 2005, a high percentage of those with the greatest risk factors—79% of SWD and 48% of LEP graduates—enrolled in a Massachusetts community college, but within two years just 21% were continuously enrolled. That compares to their peers enrolled in a 4-year college, where continuous enrollment two years later ranged from 44% to 80% and increased with the selectivity of college, reinforcing the achievement of both school and student.

The de facto reinforcement of student characteristics by school greatly influences school performance. Unless and until schools are rated and ranked in comparison with like schools according to student characteristics rather than only by structural type or percentage of students by race/ethnicity and income, it is impossible to know which schools are truly boosting student outcomes beyond in-coming socioeconomic and special needs status and which are not. (New York City recently adjusted its measurement system accordingly.)

5. The BPS and Massachusetts public higher education system are expanding the range and quality of available choice in response to unmet demand for a greater range of choice to meet the needs of each “whole child.”

For example:

- In Boston, the range of public school options have been expanded through METCO, Pilot and Charter and Exam Schools, small High Schools and Small Learning School communities. Long waiting lists for METCO (12,000 students for 3,000 places), waiting lists and lotteries for Pilot and Charter Schools, and intense competition for places in Boston’s three Exam Schools attest to unmet demand.
- Unless and until the range of choice is broadened to include the potential for every child to enter a quality school of his or her choice, Boston risks reinforcing a two-tiered system, with greater opportunity and better outcomes for students guided by savvy parents or helpers who know how to find and navigate available options, rather than becoming a true model of equal educational opportunity for all.
- The BPS plan Pathways to Excellence program—announced in October of 2008—will increase the range and scale of options proven to be both effective and in high demand. In that context, Pilot, Charter, K-8 and Exam schools can be seen not as “silver bullets” but rather as important parts of an expanding range of options, choices and tailored programs designed to meet all students’ needs.

6. Individual student-level data—made available by the Massachusetts Department of Education across the education pipeline and tracked over time—coupled with Superintendent Carol R. Johnson’s plan to expand the range of options to meet the needs of each “Whole Child” through fine-grained matches of students and programs, will accelerate the pace of change through the rapid assessment and refinement of strategies, and leverage the impact of successful models as they are taken to scale.

- Through the Student Information Management System (SIMS), Massachusetts is creating the capacity to track individual student data (with protections of student confidentiality). The BPS, too, is moving to individual student data, reflecting and informing its shift to individual student plans and measures of progress.
- Using individual student identifiers, Massachusetts, the Boston Private Industry Council and the Center for Labor Market Studies at Northeastern University, the Harvard School of Public Health, and the Harvard Graduate School of Education can describe critical junctures in the education pipeline that must work better for vulnerable students if they are to be adequately prepared for the demands of the 21st century.

INCREMENTAL PROGRESS IS NO LONGER SUFFICIENT



If current trends persist, the region may lack the skilled talent necessary to compete in the knowledge economy. The year 2008 marks a decline in experienced US workers as millions of Baby Boomers begin the path to retirement. With recent demographic changes, the Nellie Mae Foundation projects that by 2020, 48% of young workers in Massachusetts will be of color, and for Boston, that moment will arrive much sooner. To meet this challenge, the current pace of progress is not sufficient.

Longstanding deficiencies in public education in Boston and the Commonwealth stem from the legacy of a two-tiered system. Private schools were the training ground for children of privilege, while public schools largely served low-income and working class students. Elite elementary and secondary “prep” schools led to Ivy League colleges. Parochial school could lead to BC High, Boston College and, for some, BC Law School and “Triple Eagle” status. Boston’s competitive exam schools, Boston Latin and Girls Latin, offered a rigorous classical education to a limited number of high-

achieving children and provided a public pathway to an elite college education.

In contrast, the vast majority of Boston’s low-income and working class children attended mediocre public schools. While some made their way to commuter colleges such as Northeastern and Suffolk University (originally night schools for immigrants and working class aspirants), or to Boston State Teachers College, most ended their educations at or before high school graduation.

A part of this legacy is that Massachusetts was late in creating a high quality public higher education system. The University of California was established in 1868 compared to 1947 for the University of Massachusetts, and even today, public higher education in Massachusetts garners less public support per \$1,000 of residents’ income than in almost all other states.

However, with intense global competition for skilled workers, educating the privileged few and a fraction of gifted children while expecting to fill the gap with imported talent is a risky strategy. Today, the goal of bringing all of Boston’s children into a once-elite circle of academic excellence is an educational—and economic—imperative.

WHERE DO WE GO FROM HERE?

A SPECIAL MOMENT OF OPPORTUNITY TO TACKLE THE TOUGH ISSUES

The year 2008 marks an unprecedented period of economic and political change in the United States. For Boston and for the Commonwealth of Massachusetts, it also marks the end of one—and the beginning of another—period of transformation in the field of education.

Fifteen years ago, the Massachusetts Education Reform Act of 1993 initiated a process of resource reallocation, higher standards and greater accountability. In Boston, statewide school reform coincided with a strong mayoral commitment to education, skilled leadership and a remarkably stable decade of methodical progress. As a result, most low-hanging fruit has been harvested to good effect and a great deal of the necessary infrastructure for change constructed.

The next phase of education reform is well expressed in the title of a widely disseminated recent report on American education, *Tough Choices or Tough Times*. It calls for a revolutionary approach and a faster pace of change in the context of dismal rates of progress nationally and a rapidly expanding global talent pool.

In the context of the global economy, then, a sense of urgency about the results of Boston's educational pipeline is warranted. At current rates, only about 63% of entering 9th graders in the Boston Public Schools can expect to achieve a high school diploma in four years, and it is estimated that, without change, fewer than one in five will complete a college degree. Sadly, this reflects national trends among large urban school districts. We in Boston can and must do better.

Paradoxically, this moment of tumultuous economic and political change in the US and in the world may offer a unique opportunity to confront some of the thorniest challenges in American education. However, doing so will require deeper and more honest dialogue than is usually evident in the civic arena. The reason for this is that the greatest challenges to successful education reform are *not* those illuminated by conventional measures of progress but rather those in the shadows and on the margins of formal policy and practice. Unless brought to light and addressed, these hidden issues and undercurrents create a powerful resistance to change that no one entity or initiative, no matter how well conceptualized or endowed, can overcome.

As resources tighten, one way to sustain and even accelerate progress would be to resolve tough issues that require few financial resources yet great civic will. In Boston, these might include:



Research is finding some best practices that require flexibility in planning and execution—such as longer school days...

- **Lack of a search for common ground among teachers unions, civic and business leaders, academics and innovators.** Research is finding some best practices that require flexibility in planning and execution—such as longer school days and the recruitment of educators with content knowledge but sometimes without formal credentials. This flexibility, by definition, is more easily achieved in Charter Schools with greater autonomy than “Regular” schools, often putting teachers unions on edge. Conversely, teachers unions point to flaws in broadly disseminated research that fails to account for the additional challenges faced by schools and teachers in educating a disproportionate percentage of Limited English Proficient (LEP) Learners and Students with Disabilities (SWD), the two groups statistically most at risk of academic failure. The bottom line is that, despite recent progress, Boston’s civic culture still lacks a strong and resilient “collaborative gene.” Unless and until this conversation is joined in good faith, little progress will be made on identifying and taking to scale the full range of best practices for all students.
- **The rocky and too often dead-end road to college.** A high percentage of BPS graduates who have not attained grade-level proficiency—or are highly challenged in terms of learning disabilities or language skills—enroll in a community or public college and face great statistical odds against completion. It is estimated by the authors of this report that about half of BPS students entering an Exam School in the 9th grade (who are disproportionately white and Asian) will complete a college degree, compared to fewer than 8% of non-Exam School grads (who are disproportionately African American, Latino and English Language Learners). For a city that relies on children of color, newcomer immigrants and a highly skilled talent pool to drive growth, that is inequitable, unacceptable and—above all—unwise.
- **High transportation costs in an era of shrinking resources.** The BPS spends about 10% of its budget—\$76 million annually—on transportation. While \$33 million of this covers the transport of children with special needs, savings could be achieved as high quality schools become available throughout the city. As the BPS increases school quality and expands the range of choice in every part of the City, it may be time to market quality schools close to home.
- **Early educators’ need for access to excellent educational opportunities to upgrade skills and increase compensation, raising concerns about preserving system affordability and the ethnic, racial and cultural diversity of the teaching force.** Upgrades in the quality of early education in Boston must address compensation and other disparities between community- and school-based systems.
- **Racial/ethnic and gender achievement gaps that persist even when adjusted for parental income and educational attainment.** This suggests to some experts that large societal forces such as media messaging, cultural norms, peer pressure and low internal and external expectations may influence academic outcomes—particularly among vulnerable young men

of color—far more than in-school factors. This is a perspective that at least bears open dialogue and exploration.

- **Students with *preventable* developmental delays coming into the education pipeline at a point when their challenges are difficult or impossible to reverse and expensive to manage.** About 20% of BPS students enter school with cognitive or physical disabilities, some of which could have been prevented. On the whole, this cohort struggles more than any other to advance academically. Greater progress must be made in reducing and, if possible, eliminating known risk factors that contribute to developmental delays and damage as early, or “upstream,” as possible in a child’s life to prevent long-term “downstream” hurdles and costs.
- **Isolated “islands of excellence” with too little connective tissue or rigorous dissemination of information about what is working.** Pre K–12 education in Boston is a hotbed of innovation, yet there are few ways for educators to share lessons across school types and segments of the education pipeline in order to take best practices to scale. For example, findings about promising practices are not broadly disseminated across Regular, Pilot and Charter School classrooms. Moreover, relevant results of well child visit screenings aren’t shared with early educators; 9th grade teachers can’t touch base with Advanced Placement teachers; 10th grade teachers aren’t connected to guidance counselors; public high schools don’t connect to public colleges to develop plans for students needing extra support; parents are left out of planning and information networks. High quality mechanisms for knowledge sharing would serve all segments of the school community across the education pipeline.
- **The nexus of child and adult literacy.** Reading at grade level in the 3rd Grade forms the foundation for independent learning and later student achievement. Yet 3rd Grade MCAS proficiency scores show little improvement since 2001, hovering at about 30%, with great disparities by race/ethnicity. This may be connected to Boston’s very high rate of newcomer immigrants with school-age children. Long waiting lists for state-funded English classes attest to great unmet demand for high quality adult literacy programs that could boost parents’ marketable skills while helping them to support their children’s learning. It’s time to consider a full-court literacy initiative involving the whole civic community.

Even in these turbulent times of economic hardship, then, there are options available to accelerate progress. Exploring these options in open dialogue and good faith will create the dynamic, creative and inclusive school community that can provide our children with the high quality education they so desperately need to build good lives and innovate solutions to mounting challenges in this new century.

Greater progress must be made in reducing and, if possible, eliminating known risk factors that contribute to developmental delays and damage...



INTERNATIONAL PAPER
HAMMERMILL

author study

The Demographic Context: Boston's Children

Between 1960 and 2006, the number of Boston households with children declined sharply, from 81,000 to 55,000, as non-family households increased.

Particularly during the 1970s—the decade of school desegregation and busing—Boston's child population shrank in size. Between 1970 and 1980, it fell by one-third, from 180,000 to about 120,000.

Over the following decade, from 1980 to 1990, Boston's child population declined by another 10% to 110,000. The decline in Boston's child population overall was marked by a sharp loss in white children that was partially offset by an increase in children of color.

Despite an uptick of about 8,000 children during the decade of the 1990s, this longer-term trend is continuing. In 2006, the American Community Survey (ACS) estimated the number of children in Boston at 110,000, the same figure as 1990. The relative difference in the gain or loss of white children and children of color also continues. The ACS estimated that between 2000 and 2006, white children in Boston declined by 11%, with a slower rate of decline of 4% among children of color.

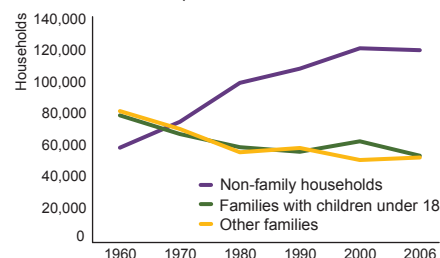
One result of these long-term trends is that the BPS has seen a marked decline in enrollments. Another is that Boston today is relatively "childless" among its urban counterparts.

In 2006, children ages 0-17 accounted for 19.2% of Boston's total population—down from 19.8% in 2000. Only San Francisco, at 14.8%, and Seattle, at 15.3%, had a smaller percentage of children among comparable American cities, and most had child populations of between 20% and 25% of the total.

Another result of long-term trends is that Boston's children today are much more racially and ethnically diverse than Boston's adult population, of whom 55% are white, 20% African American, 13% Latino, 8% Asian, and about 4% Multiracial or Other. Boston's child population, by contrast, is 38% African American, 31% white and 21% Latino, with only Asian and Other adults and children at about equal percentages.

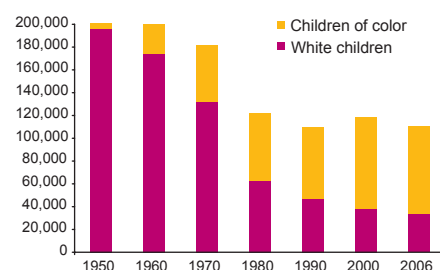
Surprisingly, however, according to ACS estimates, Boston's population since 2000 has increased only among children under the age of 5—showing a 13% increase—and among adults between the ages of 45 and 64.

Households by Type, Boston, 1960 to 2006



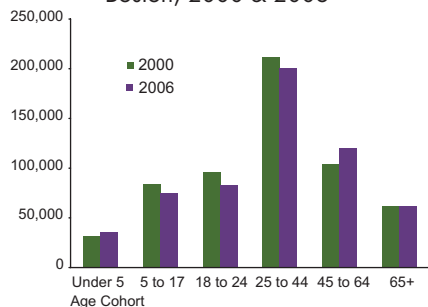
Source: US Census Bureau, Decennial Censuses and 2006 American Community Survey

Children under 18 by Race, Boston, 1950-2006



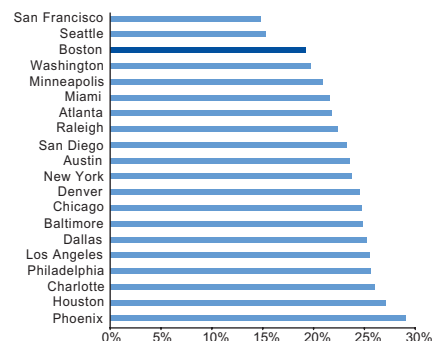
Source: US Census Bureau, Decennial Censuses and 2006 American Community Survey

Population by Age Group, Boston, 2000 & 2006



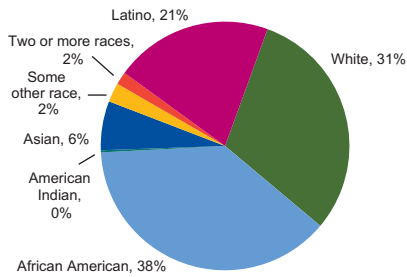
Source: US Census Bureau, 2000 Census and 2006 American Community Survey

Percent of Population Aged 0-17, Boston and Selected Cities, 2006



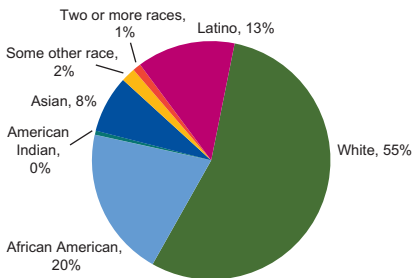
Source: US Census Bureau, 2006 American Community Survey

Children by Race/Ethnicity, Boston, 2006



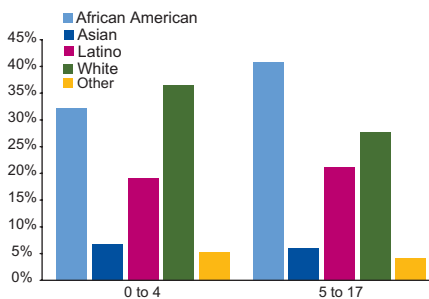
Source: US Census Bureau, 2006 American Community Survey
Racial categories do not include Latinos.

Adults by Race/Ethnicity, Boston, 2006



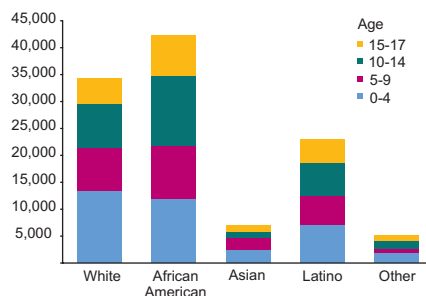
Source: US Census Bureau, 2006 American Community Survey
Racial categories do not include Latinos.

Race/Ethnicity for Children by Age Group, Boston, 2006



Source: US Census Bureau, 2006 American Community Survey
Racial categories do not include Latinos.

Children by Age and Race/Ethnicity, Boston, 2006



Source: US Census Bureau, 2006 American Community Survey
Racial categories do not include Latinos.

Indeed, among all Massachusetts counties, only Suffolk County showed a gain in very young children. Whether this will translate into an increase in school-age children and in Boston Public Schools (BPS) enrollments may depend on whether more middle- and high-income families remain in the city as their children reach school age, and, if so, where they enroll their children in school.

RACIAL/ETHNIC DIFFERENCES

Within Boston's child population, there are striking differences among age groups. For example, whites make up 37% of children in the 0-4 age group, but only 25% of youths between the ages of 15 and 17. The 2006 ACS estimated the figure of 13,427 white children under the age of 5, but only 7,918 white children ages 5 to 9—a 41% decrease, strengthening the evidence that a disproportionate number of white families are moving out of Boston when their child reaches school age. Conversely, African American preschoolers make up just 32% of children ages 0-4 but 38% of those between the ages of 5 and 9, and 43% of those ages 10-14, reflecting the decline in white children as a percentage of the total. The percent of Latino children in each age group does not vary significantly and consistently represents 21% of all children.

Boston's children experience a high degree of racial/ethnic, economic and geographic concentration. About 70% of Boston's children live in just six neighborhoods—Dorchester, Roxbury, Mattapan, East Boston, Hyde Park and Roslindale—containing fewer than 50% of Boston's total population but 70% of its residents of color and 64% of its families living in poverty. Children as a percent of total population ranges from 2% in college-student-dominated Fenway/Kenmore and 5% in upscale Back Bay/Beacon Hill to 33% in family-rich Mattapan and Roxbury (2000 Census data). Children are also concentrated within neighborhoods. For example, in most of the Boston neighborhoods showing child populations of between 11% and 20%—Jamaica Plain, the South End, South Boston and Charlestown—children tend to be concentrated in public and subsidized housing developments.

Note on Terms to Describe Racial/Ethnic Groups

In this report, the terms "Latino" and "Hispanic" are used interchangeably, and members of this group may be of any race/color. Unless otherwise noted, the terms "white," "African American" and "Asian" do not include Latinos/Hispanics. The term "African American" is used to describe non-Latinos with historical or contemporary African ancestry including, for example, newcomer Haitian immigrants.

CHARACTERISTICS OF BOSTON'S HOUSEHOLDS WITH CHILDREN

Languages Spoken at Home

Among Boston households with children, English is the only language spoken in about half, or 51%, according to 2006 American Community Survey estimates. Spanish is spoken in approximately 12,000 homes with children (22%); other Indo-European languages (including Haitian and Cape Verdean Creole, Portuguese and Russian) are spoken in approximately 10,350 (19%); and Asian or Pacific Island languages are spoken in 3,000 (5%).

The overwhelming majority of Latino and Asian children in Boston speak a language other than English at home. Among all Latino households with children, nearly 11,000 (98%) speak Spanish at home. Among Asian households with children, 2,400 (87%) speak an Asian language at home. However, Latino householders with children are less likely than Asians to consider themselves as linguistically isolated—only 25%, compared to 62% of Asians.

Child Poverty and Family Structure

Female-headed households make up an estimated 42% (45,000) of Boston households with children, and 84% (24,500) of households living in poverty that contain children. More than half—54%—of female-headed households with children in Boston live in poverty (as defined by the federal poverty standard, which does not make allowances for Boston's high cost of living).

Family Economic Self-Sufficiency

The Crittenton Women's Union tracks the Family Economic Self Sufficiency Standard (FESS)—which refers to the income required to meet basic needs by household type for Boston—specifically in relationship to the actual cost of living.

For all families with children of all types, the FESS increased by 13% to 14% between 2003 to 2006—well below the rise in wages, and outpacing increases in the Federal Poverty Standard (4%-12% depending on family size over that period).

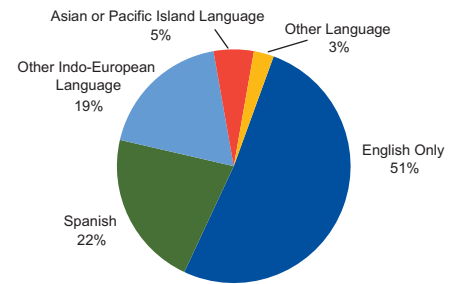
Boston's FESS standard is now 277% higher than the Federal Poverty Standard for a single parent with one preschooler.

SHARP CONTRASTS IN ECONOMIC ADVANTAGE & DISADVANTAGE

In general, Boston's white children and children of color inhabit two almost distinct economic tiers.

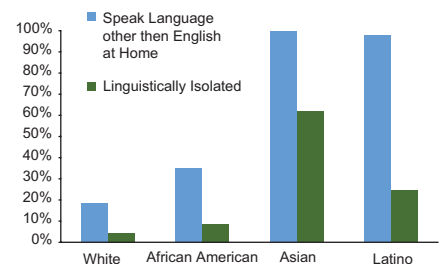
Among all Boston households, of which there are an estimated 232,000, only 13% of white and 19% of Asian households contain children, compared to 42%

Household Language, Households with Children, Boston, 2006



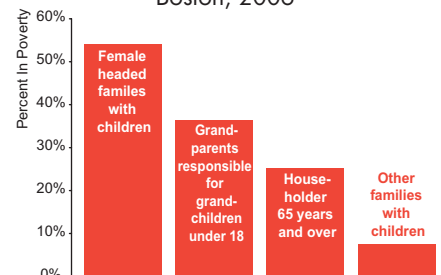
Source: US Census Bureau, 2006 American Community Survey

Language Spoken at Home and Linguistic Isolation, Households with Children, Boston, 2006



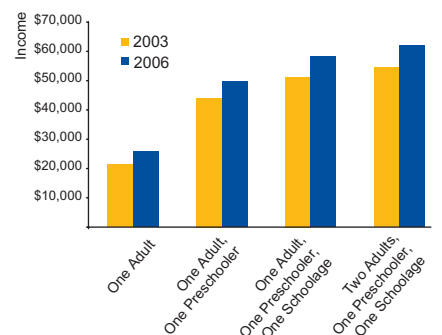
Source: US Census Bureau, 2006 American Community Survey
Racial categories do not include Latinos.

Poverty by Household Type, Boston, 2006



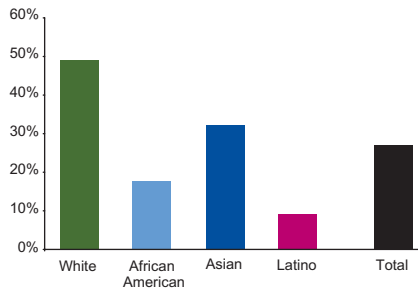
Source: US Census Bureau, 2006 American Community Survey

Family Economic Self-Sufficiency Standard, Boston 2003 and 2006



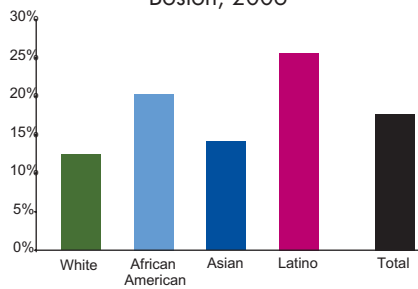
Source: Crittenton Women's Union

Percent of Households with Children in Which a Household Member has Completed a BA or Higher, by Race/Ethnicity, Boston, 2006



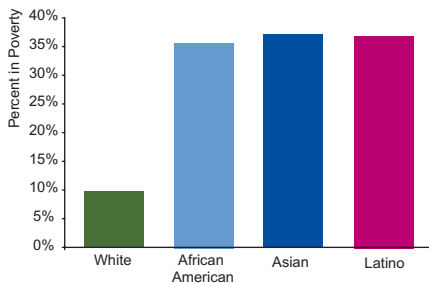
Source: US Census Bureau, 2006 American Community Survey
Racial categories do not include Latinos.

Percent of Households with Children with Householder Not In Labor Force, Boston, 2006



Source: US Census Bureau, 2006 American Community Survey
Racial categories do not include Latinos.

Poverty by Race/Ethnicity for Children Under 18, Boston, 2006



Source: US Census Bureau, 2006 American Community Survey
Racial categories do not include Latinos.

of Latino and 45% of African American households. And among these, Boston's white and Asian children live in households significantly more likely than African American and Latino households to be characterized by two parents and by at least one household member participating in the work force and with a college or advanced degree.

Educational Attainment

In 2006, an estimated 15,000, or 27% of Boston households with children had at least one adult with a BA degree or higher, compared to 49% of households with no children. Among households with children, 49% of white households had a member with a BA or advanced degree compared to 32% of Asian households, 18% of African American households and 9% of Latino households. Conversely, among the estimated 40,600 households with children in which no member had a college or advanced degree, 39% were African American, 25% were Latino, 20% were white and 5% were Asian, with the remaining 11% mixed or "Other" race.

Workforce Participation

On average, 18%—almost one in five—households with children in Boston had no family member in the labor force in 2006 (well before the recent downturn). This figure ranged from 13% for whites and 14% for Asians to 20% for African Americans and 26% for Latinos.

Poverty

Boston's estimated overall child poverty rate in 2006 was 27%: a consistent 36%-37% for African American, Asian and Latino children compared to 10% for white children. Childhood poverty rates vary little at different stages along the K-12 education pipeline in Boston, ranging from 28% for those in Pre-K to 30% for those in high school.

Income Disparities

Not surprisingly, these sharp racial/ethnic differences in educational attainment and workforce participation are reflected in income disparities. In 2006, only 10% of white households with children had annual incomes of less than \$25,000 yearly in comparison to 42% of Latino, 37% of Asian and 36% of African American households with children. These figures reverse for Boston households with incomes over \$100,000. A full half—50%—of white households with children had annual incomes above \$100,000 but only 10% of Asian, 8% of African America and 7% of Latino households with children. On this measure, Asian and white households with children diverge considerably.

LOOKING AHEAD: BIRTH DATA & POPULATION PROJECTIONS

While the number of both white and African American births have declined significantly in Boston, Asian and Latino births remained steady between 1989 and 2005. During that period, African American births declined from 4,800 to 2,200, and white births fell from 4,000 to 2,700, after spiking early in the new century.

The percent of Boston births to mothers born outside the United States, US territories and Puerto Rico has increased significantly. In 2005, 43% of births in Boston were to mothers born outside the US or in Puerto Rico compared to 32% in 1989.

Among mothers of color and by ancestry only (in contrast to place of birth), Central Americans had the greatest number of births in 2005, followed closely by Puerto Ricans, Dominicans and Haitians. This suggests that a very large number of new babies in Boston are going home to non-English-speaking families, and that many families with newborns may be linguistically isolated.

The educational attainment level of mothers—cited in research as a key variable in a child's educational attainment—is rising in Boston. In 2004, the last year for which data are available, 36% of mothers with newborns had a college degree or higher—double the level in 1989. Similarly, the percentage of those with a high school diploma or less dropped from 61% to 42%. However, there are large racial/ethnic disparities in mothers' educational levels. In particular, a high percentage of Latina mothers had not completed high school, although, at 29%, that figure had improved markedly from 45% in 1989.

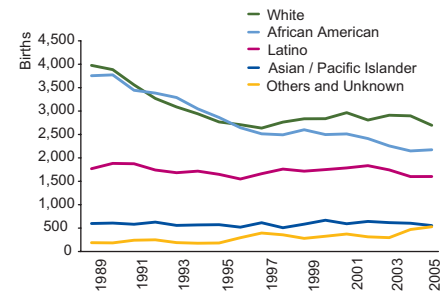
Of all babies born to mothers without a high school diploma in 2004, 43% were Latino, 28% were African American, 10% were Asian and 9% were white. Only about 3% of white mothers did not have a high school diploma in 2004.

White mothers in Boston have by far the highest educational attainment level. In 2004, 68% of white mothers held a BA degree or higher, up from 35% in 1989. Asians followed with 43%—up from 20% in 1989. In contrast, only 16% of African American mothers giving birth in Boston had a BA or higher—up from 7% in 1989, and among Latina mothers, 9%, up from 6% in 1989.

A Projected Decline in Children in Boston Through 2030

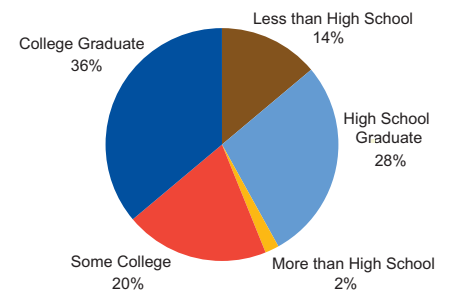
The Metropolitan Area Planning Council projects that from 2000 to 2030, Boston will see an 8% decrease in the number of 0 to 19-year-olds, an 8% decrease in adults ages 19 to 54, and a 67% increase in the population aged 55 and older. This means that all children are a precious and limited resource, and that the academic outcomes of Boston's children—a major part of the region's total—will weigh heavily on Greater Boston's future prospects.

Births by Race/Ethnicity,
Boston, 1989-2005



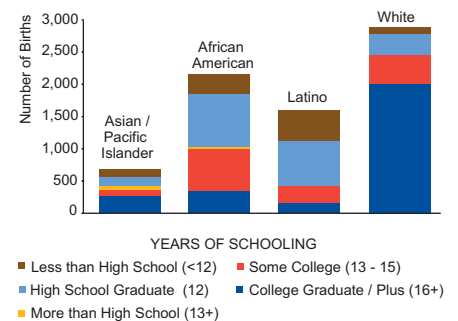
Source: MassCHIP Natality Data
Racial categories do not include Latinos.

Educational Attainment of
Birth Mothers, Boston, 2004



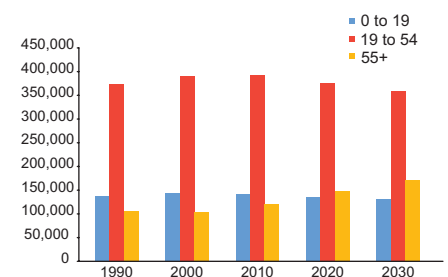
Source: MassCHIP Natality Data

Births by Mother's Race/Ethnicity
& Education Level, Boston, 2004



Source: MassCHIP Natality Data
Racial categories do not include Latinos.

Boston Population by Age
MAPC Projections 1990-2030



Source: Metropolitan Area Planning Council

School Readiness: Early Cognitive, Emotional & Social Development



A 2005 Princeton University/Brookings Institution report, *The Future of Children*, found that “up to one-half of the gap in achievement scores in school can be attributed to gaps already evident at the time of school entry.” A 2007 analysis compiled by Harvard’s Center on the Developing Child concluded that “early experiences determine whether a child’s developing brain architecture provides a strong or weak foundation for all future learning, behavior, and health.” On the basis of this and other research, Boston Mayor Thomas M. Menino’s *Thrive In 5* initiative and the statewide *Readiness Project* and *Early Education for All Campaign* are focused on improving early childhood development and education. Many measures of progress are already available. Others, despite their critical importance—such as talking to and reading aloud to children from the earliest months and years—are not.

- Boston is home to approximately 36,000 children age 0 to 4, who make up one-third of all children under 18. Boston’s youngest residents live in some 14,600 households, according to 2006 American Community Survey estimates. Of those, 10,500—or 29%—live in poverty. Of those living in poverty, 87% reside in households headed by a single woman. Almost one-third of Boston households with a child age 0-4 have no member with an education beyond high school, and in almost half—47%—a language other than English is spoken.

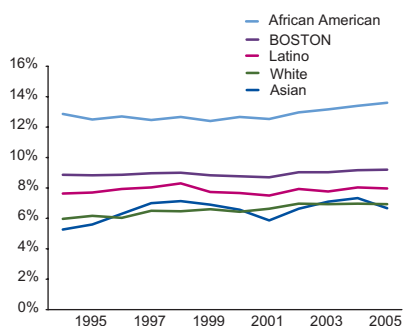
RISK FACTORS

Birthweight

Low birthweight is a proxy measure for maternal health and adequate prenatal care. It is also a significant risk factor for developmental delays and learning disabilities.

The percentage of low-weight births in Boston increased from 8.9% over the three years ending in 1994 to 9.2% over the three years ending in 2005—with significant racial/ethnic disparities. Over the three years ending in 2005, for Asians and whites, the percentage of low-weight births was 6.7% and 6.9% respectively; for African Americans and Latinos, the rate was 13.6% and 8% respectively. The percentage of low-weight births for babies born to mothers living in Dorchester and Roxbury was 13% in 2005.

Low Birthweight Births,
by Race/Ethnicity, Boston,
3-year Running Average 1994-2005



Source: Boston Public Health Commission

Food Insecurity

Food insecurity is a lack of consistent access to enough nutritious food for a healthy life, and small children in “food insecure” households are at significant risk for developmental problems and delays according to Boston Medical Center’s Children’s Sentinel Nutrition Assessment Program (C-SNAP). Boston Medical Center is one of five research sites in the nation where respondents with children under 3 seeking health care in emergency rooms or clinics are sampled.

From June 1998 - June 2007, almost 20% of study participants from Boston zip codes showed household food insecurity, with 9.1% of children showing food insecurity. Rising energy costs were found to increase food insecurity. Among the 10 Boston zip codes with the highest number of survey respondents, East Boston (25.4%) and Hyde Park (21.8%) showed the highest rates of child food insecurity while South Boston had the lowest rate (6.8%). Overall, almost 10% of Boston’s young children were estimated to be at developmental risk due to food insecurity compared with an average 12.2% among the other study sites. Boston addresses hunger through federally funded programs, emergency programs like The Greater Boston Food Bank, and organizations funded by Project Bread.

Federally-funded programs include:

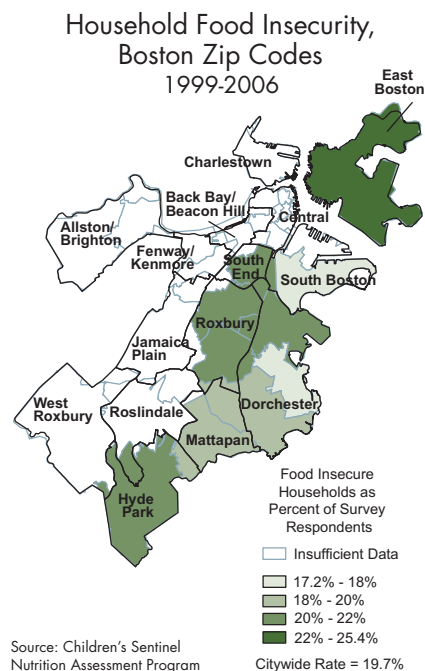
The Women, Infants and Children (WIC) Nutrition Program: WIC serves pregnant and breastfeeding women and children under 5. The number of WIC participants in Boston remained steady at between 11,000—12,000 households from 2000—2005, a figure close to the total 12,975 WIC-eligible households in Boston estimated by the 2006 American Community Survey.

The Food Stamp Program: While recent Boston data are unavailable, in 1999, 52% of those living in poverty in Suffolk County (including Boston), participated in the Food Stamp program—comparable to the national rate of 50% but higher than the statewide rate of 32%. Participation in Massachusetts increased by 56% from FY2003 to FY2007—more than in any other state and well above the 25% national increase.

Exposure to Environmental Toxins: Lead

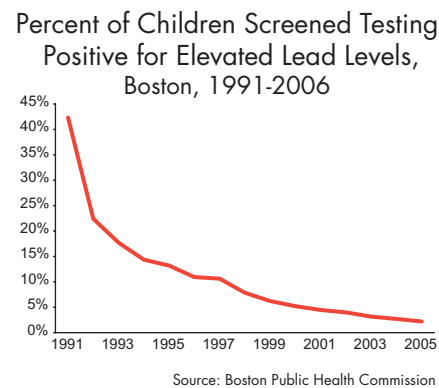
Early childhood exposure to environmental toxins, such as lead and mercury, can result in permanent neurological damage. Lead poisoning can result from consuming lead in unsafe toys, older paint, soil and dust, polluted air, water in lead pipes and other sources. Prolonged elevated lead levels can produce learning disabilities, a reduced intelligence quotient, impaired memory, and behavioral problems such as attention deficit disorder and a propensity for violence.

Boston’s rate of lead poisoning in children under the age of 6 declined by 90%—from 42% to 2%—between 1991 and 2006. However, childhood lead poisoning rates exceed the citywide average in Dorchester, Mattapan and

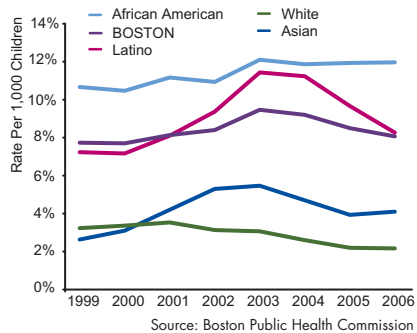


“Developmental risk in early childhood is a continuum of vulnerabilities with slow or unusual development in one or more areas...that identifies children with increased likelihood for later problems with learning, attention and/or social interactions.”

—Boston Medical Center



Asthma Hospitalization Among Children Under 5, By Race/Ethnicity Boston, Three-Year Running Average 1999 to 2006



Roslindale, which together contain 46% of Boston's children. North Dorchester had Boston's highest rate at 3.8% of children tested.

Asthma Hospitalization

Asthma, the #1 cause of hospitalization for children under age 5 in Boston, can impede both learning and physical activity. Asthma prevalence reflects, in part, poor air quality, stress and other environmental triggers. Since asthma can be manageable at home, frequent hospitalization can flag other important factors such as family distress or a lack of access to consistent or culturally competent primary care.

Boston's three-year running average rate of asthma hospitalization per 1000 children under age 5 increased from 7.7 in 1997-1999 to 9.5 in 2000-2003 before falling to 8.1 in 2004-2006, with stark racial/ethnic disparities and the greatest prevalence among African American and Latino children. Of Boston neighborhoods, Dorchester, Mattapan and Roxbury were the only neighborhoods to exceed the 2004/2006 citywide average.

PREVENTION FACTORS

Well Child Visits

Under the Massachusetts Medicaid program, MassHealth, almost every enrolled child is entitled to "Well Child Visits." Called Early and Periodic, Screening, Diagnosis and Treatment (EPSDT) or Preventive Pediatric Healthcare Screening and Diagnosis (PPHSD), in Massachusetts these visits should occur at 1-2 weeks, at 1, 2, 4, 6, 9, 12, 15 and 18 months, and once a year between the ages of 2 and 20. Ideally, visits include a comprehensive health and developmental history, unclothed physical exam, screenings for vision, hearing, dental (with referral to a dentist by age 3), developmental delays, cancer, and behavioral health as well as a nutritional assessment, immunizations and health education. The most successful visits include a parent or guardian to whom developmental benchmarks and health issues can be explained and anticipatory guidance provided.

Data about compliance with and the results of Well Child Visits would help to identify problems and track progress among Boston's most vulnerable children. However, data—aside from screenings for behavioral problems—are not required to be made available, hampering accountability. Since a December 2007 court order, health care providers delivering EPSDT/PPHSD are required to use standardized behavioral health screening tools, and MassHealth is required to track the number of screens delivered, as well as the children who may need services. In August 2008, legislation mandated mental health screening in pediatricians' offices, early education settings and schools, as well as insurance coverage and treatment for children with identified behavioral and mental health needs.

State Funding of Home Visiting & Early Intervention

Harvard’s Center for the Developing Child found that for vulnerable families expecting a first child, intensive support by a skilled home visitor, such as a trained nurse—beginning during prenatal care through the third year of a child’s life—is highly effective in promoting healthy childhood development. Massachusetts’ Early Intervention Program provides services for children 0-3 with developmental delays or disabilities or at risk of delays, and an Individualized Family Service Plan (IFSP) is created for each child to help manage and follow the child’s (and family’s) progress. The Healthy Families Home Visiting Program provides pre- and post-natal home visits and parenting training to any first-time parents under the age of 21.

State funds for both Home Visiting and Early Intervention were reduced due to budget constraints in 2001 and further declined through 2006, with a recent increase for Early Intervention. According to the Massachusetts Budget & Policy Center, the Massachusetts home visiting program serves 4,000 families annually, including a core group of teenage parents (although approximately 6,200 teenagers give birth in the state each year). In Boston, the number of Early Intervention clients increased by 13% between 2000 and 2005.

Immunization

Immunization by age 3 through the basic 4:3:1 vaccine—covering diphtheria, pertussis, tetanus, polio, measles, mumps and rubella—significantly reduces childhood diseases and is a measure of parental connection to a primary care institution between birth and preschool—years during which institutional connections can be fragile.

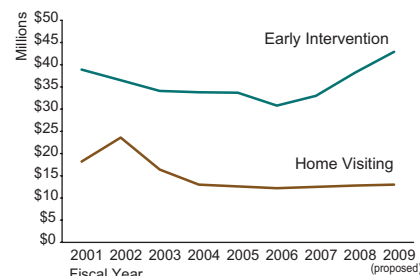
Boston’s immunization rate—at 86.5% in 2006—matched or exceeded that of 44 other states and all other large cities in the nation with the exception of Cleveland. However, Boston’s immunization rate has seesawed while the Commonwealth’s rate has shown steady improvement.

Access to Quality Child Care (Ages 0-3)

Quality child care, especially for vulnerable low-income children, has been shown to enhance cognitive and social development. Accreditation of child care programs is based on standards developed by the National Association for Family Child Care (NAFCC) in five areas: relationships; environment; developmental learning activities; safety and health; professional and business practices.

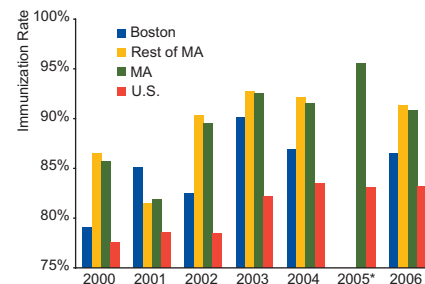
Boston contained 19,200 child care slots for children under the age of 6 in the 2006/07 school year, some of which went unfilled due to cost barriers. As of fall 2007, 2,266 Boston children were on the wait list for state-funded child care vouchers despite the availability of open slots, according to Boston

Early Intervention & Home Visiting Funding, Massachusetts, FY2001-FY2009



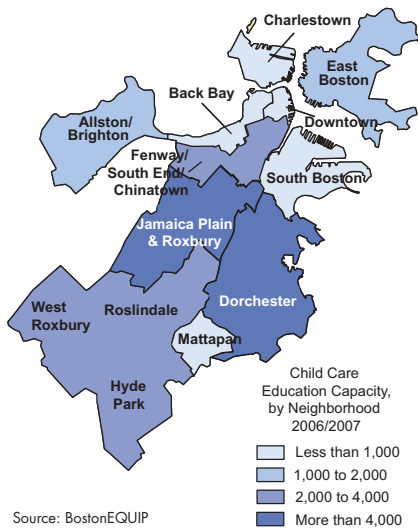
Source: Massachusetts Budget & Policy Center

Childhood Immunization Rates, 4:3:1 Vaccine 2000-2006

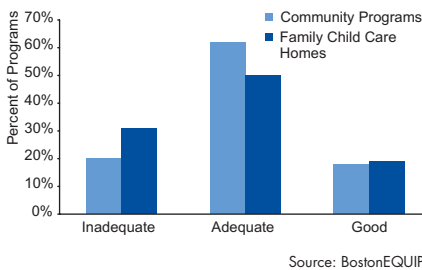


Source: US Centers for Disease Control
*Boston data unavailable for 2005.

Child Care Education Capacity
Boston, 2006/2007



Quality of Infant and Toddler
Childcare Programs, by Type
Boston, 2007



EQUIP, a longstanding research program of the Boston-based Associated Early Education and Care organization.

Quality by Program Type: In 2007, Boston EQUIP randomly selected three types of early child care programs for quality inventories. For infants and toddlers, separate inventories were completed on services based in homes (“family child care homes”) and in larger “community programs.” A third inventory was taken of pre-school classrooms serving 3- and 4-year olds. Based on the results, using National Association for Family Child Care standards, Project Equip reported that:

- **20% of Boston’s community-based infant and toddler child care programs and 31% of family child care homes were rated “inadequate in quality.”** For both program types, fewer than 20% met professionally recognized benchmarks for good care and child development.
- **Only 14% of family child care programs serving primarily low-income families met recommended benchmarks,** while 67% of those serving higher-income families were considered “good.”
- **Community-based programs serving low-income families, which include Early Head Start Centers, were more likely to be good (27%) than those serving higher-income families (15%).**
- **The accreditation rate of center-based and Head Start centers varies significantly, with a noticeably lower percentage of accredited programs in East Boston, Jamaica Plain and Roxbury.** (Accreditation takes time, and accreditation for some programs is pending. The City of Boston’s Thrive in 5 initiative has committed funding to increase the number of accredited programs.)

Convenience: The 2006 Boston EQUIP Parent Survey found that 47% of respondents travel 10 minutes or less from home to their regular child-care arrangement and 85% stated that the location was “good” or “excellent.” Some 84% reported that operating hours were “good” or “excellent;” while fewer—66%—found cost to be “good” or “excellent.”

Pre-School Enrollment (Ages 3-4)

Harvard’s Center on the Developing Child finds that access to high quality preschool beginning at age 3 can support the development of all children, but provides the greatest measurable benefits to vulnerable low-income children.

The 2006 American Community survey (ACS) estimated that 69% of Boston’s 11,400 3- and 4-year olds—7,800—were enrolled in “nursery school, preschool or pre-kindergarten” while for the fall of 2007, the Massachusetts Department of Elementary and Secondary Education reported that 1,716 3- and 4-year olds—22% of the total—were enrolled in a Boston Public Schools Pre-

Kindergarten class. Of those, 349 were enrolled in one of six Early Learning Centers (grade K0 for 3 year-olds through Grades 1 and 2), and 1,367 were enrolled in one of 53 BPS elementary schools offering K0 for 3 year olds and K1 for 4 year olds. An additional 40 3- and 4-year olds were enrolled in Charter Elementary preschool classes.

Enrollment in publicly-financed preschools (BPS and Charters) declined by 8.6% from 2002 to 2003 and increased by 4.6% from 2003 to 2007. The BPS is now expanding its preschool capacity. In 2008, the BPS expects to offer 171 more K0 and K1 classrooms for a total of 3,762 seats (new public capacity may attract children from private programs rather than expand capacity overall). In 2007, of preschoolers enrolled in BPS preschool classes in Boston, 70% were low income and 27% were Limited English Proficiency (LEP), while children of color made up 84% of the total—about the same percentage as in Grades 1 -12 in the BPS. At 36%, Latino children represented the largest single ethnic group while African American preschoolers accounted for 35%.

Access to Quality Early Education (Ages 3-4)

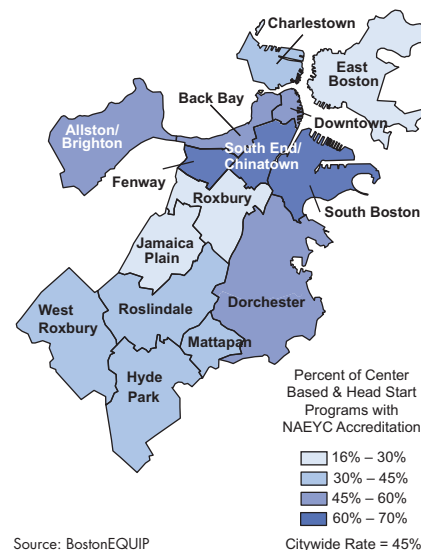
The Boston-based statewide Early Education for All Campaign cites research showing that low-income children in high-quality early education develop better language skills, score higher on school readiness tests and have better social skills and fewer behavioral problems once they enter school. Early education quality and accreditation standards are set by the National Association for the Education of Young Children (NAEYC) in 10 areas: relationships; curriculum; teaching approach; assessment of child progress; health; teacher qualifications; families; community relationships; physical environment; and leadership and management, with credit for staff with Child Development Associates Degrees.

BPS Classroom Accreditation and Quality: BPS has among the highest rate of early education accreditation of any public school district. In 2008, BPS reported that of 68 schools with K0 and K1 classrooms, 4—with 12% of total capacity—had NAYEC accreditation and 10—with another 12% capacity—were undergoing the accreditation process. All BPS teachers are requires to have a Bachelor’s Degree, surpassing the educational attainment rates of private preschool educators.

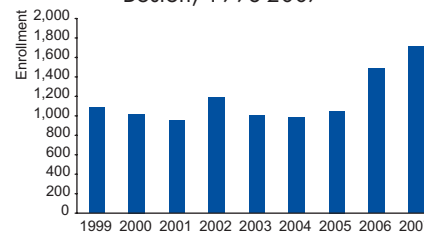
Non-BPS Classroom Accreditation and Quality: The 2007 Project EQUIP Boston Quality Inventory (which does not include BPS preschool classrooms) found that non-BPS preschool classrooms that served low-income children were significantly outperformed by those serving moderate- to high-income children:

- Just 37% of teachers in Head Start and low-income preschool classrooms had a BA or higher compared to 82% of teachers in moderate- to high-income students’ classrooms; in other classrooms serving low- to moderate-income students, 63% of teachers had a BA or higher.

Child Care Program Accreditation
Boston, 2006/2007

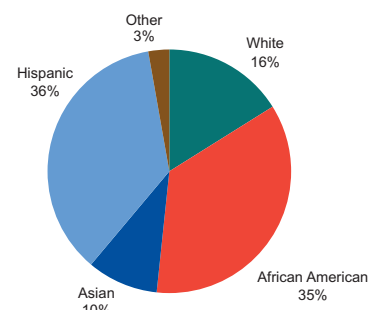


Pre-Kindergarten Enrollment,
Publicly Financed Schools
Boston, 1998-2007



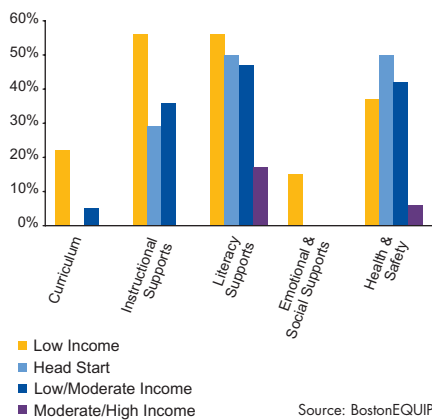
Source: Massachusetts Department of Elementary and Secondary Education

Pre-Kindergarten Enrollment,
by Race/Ethnicity,
Publicly Funded Schools,
Boston, 2007



Source: Massachusetts Department of Elementary and Secondary Education

Percent of Preschool Classrooms Failing to Meet "Adequate" Benchmark, by Income Boston, 2007



- 56% of the Boston preschool classrooms surveyed that serve low-income children failed to meet adequate standards for instructional and literacy supports; 15% did not meet adequate health and safety standards.
- Boston's Head Start program classrooms, on average, met adequate standards for curriculum and emotional and social supports but fell behind on health and safety standards.

Non-BPS Preschool Teachers' Educational Credentials, by Income of Program Consumers, Boston, 2006/2007

	Low Income	Head Start (Low Income)	Low/Moderate	Moderate/High
Some College	30%	7%	5%	6%
CDA/AA	33%	57%	32%	12%
BA+	37%	36%	63%	82%

Source: BostonEQUIP

State Pre-kindergarten Expulsion Rates, Northeastern States, 2004

State	Expulsion Rate	Rank
Maine	21.1%	2
Connecticut	12.3%	7
Massachusetts	11.2%	9
New York	9.1%	12
Vermont	8.3%	15
New Jersey	6.2%	21
Pennsylvania	3.5%	33

Source: Yale University Child Study Center. New Hampshire, Rhode Island & eight other states do not fund pre-kindergarten.

Preschool Expulsion Rates (Massachusetts)

Expulsion from a Pre-Kindergarten classroom indicates serious behavioral, emotional and/or familial problems that, if not successfully addressed, can create early self-identification with school failure often carried into later years.

While statistics for Boston are not available, a Yale University Child Study Center found that in 2004, Massachusetts had the 9th highest Pre-K expulsion rate nationally and the third highest in the Northeast. At 11.15%—or more than 11 preschoolers per 100—this rate was 14 times higher than that for Massachusetts' students enrolled in K-12 classes. The expulsion rate for state-funded Head Start programs, at 5%, was considerably lower.

PRE-K-12 EDUCATION IN BOSTON AT-A-GLANCE 2006-07

School Options

Of roughly 77,000 school-aged children:

- **Boston Public Schools:** enrolls about 58,000—74% of Boston’s kids—in one of 144 BPS Pre-K, Kindergarten, Elementary, Middle or High School, a rate that has remained virtually static for decades.
- **Private, Parochial Schools:** enroll more than 12,000—about 16%—among 29 low-cost Catholic Schools in Boston (of which 23 begin at Pre-K or K and six begin at Grade 9), one of three religiously-affiliated, tuition-free private middle schools, or one of 24 Catholic Schools located just outside of Boston.

- **Charter Public Schools:** enroll about 4,500—6%—among Boston’s 14 Charter Schools, including four beginning in Pre-K or K, nine beginning in grades 5 or 6 and three beginning in grade 9.
- **METCO:** Slightly more than 3,000—4%—attend a school in one of 37 suburban school districts welcoming students of color from Boston to promote diversity in education;
- **Other Options:** Less than 1% of are enrolled in out-of-district special services or are home schooled (380 and 200 students respectively).

Source: www.bostonschooloptions.org

The Boston Public Schools 2006-07

The Boston Public Schools (BPS) includes 144 schools serving students in the Pre-K - 12th Grade. Of those, 20 are Pilot Schools with increased autonomy over staffing, calendar, budget, curriculum and governance policies:

- 6 Early Learning Centers Grades K0 to 1 (1 Pilot)
- 61 Elementary Schools K0 or K1 to 5 (3 Pilot)
- 17 K0 or K1 to 8 (4 Pilot)
- 17 Middle Schools 6-8 (2 Pilot)
- 1 Pilot Middle & High School 6-12
- 30 High Schools 9-12 (8 Pilot, 2 Horace Mann)
- 3 Exam High Schools 7-12
- 6 Special Education Schools
- 3 In-district Alternative Programs

Of the approximately 58,000 enrolled students:

- 41% are African American
- 35% are Latino

- 14% White
- 9% Asian
- 74% qualify for Free or Reduced Price Lunch
- 20%—about 11,170—are Students With Disabilities (SWD)
 - 5,510 with mild to moderate disabilities
 - 4,970 with severe disabilities requiring BPS special education
 - 380 who attend private or residential school
- 39%—21,936—of all students are English Language Learners (ELL) and 18%—10,390—are Limited English Proficient (LEP). The most common languages are:
 - Spanish—6,020
 - Haitian Creole—890
 - Chinese—840
 - Cape Verdean—680
 - Vietnamese—570
 - Somali—353

BPS Teachers & Administrators

Of 4,979 teachers:

- 94% are licensed in their teaching assignment
- 92% are identified as “highly qualified”
- 61% are white
- 25% are African American
- 9% are Latino
- 5% are Asian

Of 730 administrators:

- 46% are African American
- 33% are white
- 17% are Latino
- 4% are Asian

Source: BPS

Elementary & Middle School: Kindergarten – Grade 8



The years spanning kindergarten through the 8th grade constitute the longest and arguably most potentially transformative segment of the education pipeline. Over the course of a near-decade, children develop a self-image and tackle fundamental skills—reading and math, navigating peer relationships, strategic decision making—that underpin later academic achievement. In Boston as in all large US urban school districts, this part of the pipeline is too often a period in which a racial/ethnic achievement gap opens wide, with Asian and white students generally outperforming their African American and Latino peers.

- According to recent estimates by the American Community Survey (ACS), in 2006, Boston was home to nearly 56,000 children between the ages of 5 and 14, who accounted for about 10% of the city's total population and 64% of its school-aged children. Of these, 41% were African American, 29% white, 21% Latino and 6% Asian.
- As of 2006, about one in four—26%—of Boston's 5 to 14 year-olds were living at or below the federal poverty level.
- In more than 50% of Boston households with children between the ages of 5 and 14, a language other than English is spoken.

SCHOOL READINESS

School readiness refers to such characteristics as good physical health and motor development, the ability to interact socially and emotionally with peers, enthusiasm and persistence toward learning tasks, listening, vocabulary, and print awareness skills, and an awareness of one's world. For optimum learning, children also need caring families, supportive communities, ready schools and educators, and ready systems of services.

In the fall of 2008/09, as part of the City of Boston's Thrive in Five Initiative, which was launched in 2008 to improve school readiness and prevent the achievement gap, the Boston Public Schools will conduct a Work Sampling Assessment to evaluate the skills of incoming kindergartners and identify and address developmental needs.

ENROLLMENT IN THE PUBLIC SYSTEM

Public school enrollment reflects trends in the child population overall as well as perceptions of a school district's quality.

The overwhelming majority—77%—of Boston's 5 to 14 year-olds are enrolled in public schools. Of these, 87% are enrolled in the Boston Public Schools (BPS). The remaining 23% attend a private school in Boston, one of Boston's 24 Catholic parochial schools, or a private or parochial school outside of Boston.

Kindergarten: Since 1998, when the BPS began to guarantee free, kindergarten to all 5 year-olds in Boston, enrollment has declined from 5,000 to about 3,800, reflecting an estimated decline in the number of 5 year-olds. Data show a fall-off from the estimated number of 4 year-olds, indicating that some families may be leaving Boston before their child reaches school age.

Elementary and Middle School: From 1995-2007, BPS K-8 student enrollment declined by more than 11,000 due primarily to a decline in 5 to 14 year-olds. Rising Charter School enrollments also contributed to this trend.

White families are not enrolling their children in BPS Elementary and Middle Schools in the same proportion as other racial/ethnic groups. The 2006 American Community Survey (ACS) estimated that 29% of Boston's 5 to 14 year-olds are white, compared to 12.9% of white BPS students of this age.

SYSTEM CHARACTERISTICS

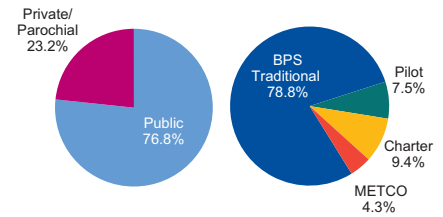
Degree of Complexity: Historically Challenged Groups as a Percent of Student Enrollment

A well documented achievement gap among students according to their household income, race/ethnicity, English language proficiency and special needs status persists across the United States. School districts with a high percentage of historically underperforming groups are particularly challenged to attain excellent outcomes for all.

In the size and complexity of its student population, the Boston Public Schools (BPS) is unlike any other school district in Massachusetts. While the demographics of BPS students may be similar to those in other large urban districts or local gateway communities, the BPS is more than 4 times larger than the next largest district within Boston's Inner Core and is by far the Commonwealth's largest school district. Among BPS K-8 students in the academic year 2006/07:

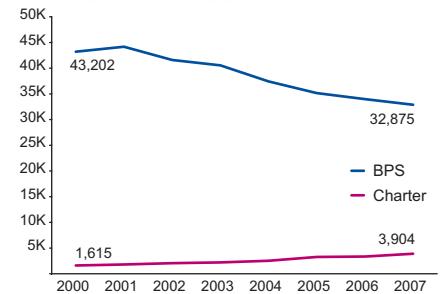
- 21% were identified as Limited English Proficient (LEP), and a majority of these students were enrolled in Elementary Schools (K-5);

Enrollment in Boston's Public & Private Schools 2006/2007



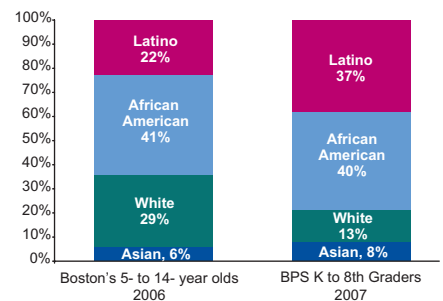
Source: US Census Bureau 2006 American Community Survey, Massachusetts ESE

Change in K-8 Enrollment by School Type 2000-2007



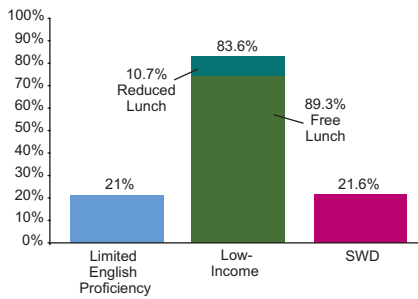
Source: Massachusetts ESE

Elementary & Middle School Student Demographics, Boston vs. BPS 2006, 2007



Source: US Census Bureau 2006 American Community Survey, Massachusetts ESE

Enrollment of Special Populations K-8 BPS 2007



Source: Massachusetts ESE

K-8 Enrollment of Special Populations Boston and Inner Core Districts 2007

District	2007 K-8 Enrollment	Limited English Proficient (%)	Low-Income (%)
Arlington	3,407	5%	10%
Belmont	2,577	3%	5%
Boston	37,708	21%	78%
Brookline	4,307	9%	12%
Cambridge	3,991	8%	45%
Chelsea	4,065	22%	86%
Everett	3,664	9%	58%
Lynn	9,276	28%	77%
Malden	4,643	9%	51%
Medford	3,296	6%	28%
Melrose	2,631	1%	5%
Milton	2,673	1%	11%
Newton	7,945	6%	7%
Quincy	5,884	15%	37%
Revere	4,171	13%	61%
Saugus	2,246	1%	15%
Somerville	3,474	17%	63%
Waltham	3,301	10%	35%
Watertown	1,753	12%	23%
Winthrop	1,438	5%	19%

Source: Massachusetts ESE

- More than 80% of students were identified as low-income, with a majority in deeper poverty as measured by their eligibility for free- rather than reduced-price lunches;
- Almost 8 in 10 BPS K-8 students—77%—are African American or Latino, or racial/ethnic groups at statistical risk of falling behind;
- More than 20% were identified as Students With Disabilities (SWD) qualifying for Special Education services ranging from literacy assistance to substantially separate classroom placement.

For purposes of comparison, the BPS system is the largest of the 20 Inner Core communities in Greater Boston as identified by the Metropolitan Area Planning Council. In this context, the BPS student population is unlike any other in the combination of its size and make up:

- Chelsea has the greatest percentage of low-income students (86%) followed by Boston (78%) and Lynn (77%). Lynn has the highest percentage of Limited English Proficient or LEP students (28%), followed by Chelsea (22%) and Boston (21%). Chelsea has the highest percentage of Latino students (77%), followed by Lynn (42%) and Boston (35%). Boston's K-8 student body is more than 4 times larger than the next largest, Lynn, at 9,276.
- Only Cambridge has a percentage of African American students comparable to Boston's—at 36% and 41% respectively. Milton (20%) has the third largest African American student population.
- Districts with the greatest percentage of Asian students are Quincy (28%), Malden (20%), Brookline (18%) and Newton (13%). Districts with the greatest percentage of white students are Winthrop (90%), Melrose (88%) and Saugus (88%).
- Districts with the highest percentage of Students With Disabilities (SWD) are Somerville (24%), Cambridge (22%), Waltham (22%) and Boston (20%), though the reported size of this population may be influenced by the availability of diagnostic tests and special education services.

The Range & Quality of School Choice

Unlike private and parochial schools, public school districts are mandated to accept and provide a quality education to all students, although some schools within a district may have entrance requirements. Districts that serve a highly diverse student body are particularly challenged to create stimulating, personalized learning spaces and a range of school types to respond to the needs, interests and learning styles of all children.

Boston as a whole, and the BPS in particular, offers an expanding range of K-8 choices. However, wait lists for Boston's Charter Schools, the METCO Program, BPS Pilot Schools, and the competition for BPS schools offering

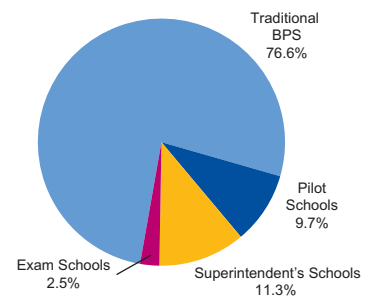
Advanced Work Course and Exam Schools far exceed potential enrollments, showing pressure to increase available options. Boston’s public school options and choices currently include:

- **11 Pilot Schools:** Distinguished by their autonomy over budget allocations, staffing and hiring, curriculum, schedules, and length of the school day, Pilot Schools are accountable to meet BPS standards through a separate School Quality Review (SQR). The current Boston Teachers Contract allows for at least 7 additional Pilot Schools including one operated by the Boston Teachers Union (BTU). Since the first opened in 1995, Pilot Schools serving Grades K through 8 have increased to 11 serving about 3,100, or 8.3% of BPS Elementary and Middle School students enrolled in 2007. In early 2008, 5 Elementary and Middle Schools and 4 K-12 or 6-12 Schools were awarded a Boston Foundation planning grant to assess their possible expansion or conversion as one of at least 7 new Pilot Schools. In the planning phase, the BTU is also developing the Discovery School model, combining the curriculum autonomy of a Pilot School with the hiring and employment policies of traditional BPS schools.
- **10 Superintendent’s Schools:** Identified as under-performing, each school is given up to \$1.2 million to add teachers and enhance teachers’ professional development, increase the school year by 180 hours, and staff a full-time Family and Community Outreach Coordinator. As of academic year 2006/07, more than 11% of BPS Elementary and Middle School students were enrolled in Superintendent’s Schools, with 10 more slated for Superintendent School status over the next two years.
- **3 Exam Schools:** Usually considered to be High Schools, all three of Boston’s Exam Schools include Middle School classes beginning in Grade 7. Potentially open to all, admission is based on an entrance exam and grades. In 2006/07, 2.5% of BPS Middle School students were enrolled in an Exam School.
- **14 Charter Public Schools:** Since 1995, Boston’s public Charter Schools have grown through lottery-based enrollment and in 2006/07 served nearly 4,000 students in grades K-8. As a proxy measure of demand, Boston’s 2007 Charter School K-8 waitlist, at 4,146, was greater than current Charter School enrollments—though students can be waitlisted for more than one school simultaneously.
- **The Metropolitan Council for Education Opportunity (METCO):** METCO has enrolled approximately 3,000 Boston students of color per year across all grades annually in predominantly white suburban public school districts since the 1960s. METCO’s annual enrollment figure has not changed since inception, and its waitlist has also remained unchanged—at more than 12,000 Boston students annually.

The BPS includes 113 Elementary to Middle Schools:

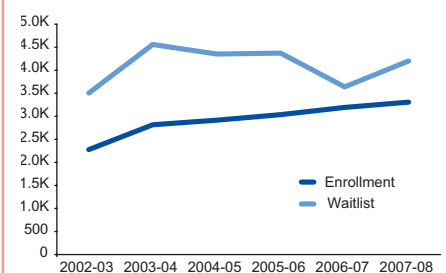
- 6 K-1 Early Learning Centers;
- 61 K-5 Elementary Schools;
- 17 K-8 combined Elementary and Middle Schools;
- 17 6-8 Middle Schools;
- 6 Special Education Schools for selected students throughout K-12;
- 3 Exam Schools beginning in Grade 7 and continuing through Grade 12;
- 3 in-system Alternative Schools for particularly at-risk students; and
- Among all of the above, 11 autonomous Pilot Schools

BPS Enrollment by School Type
2007



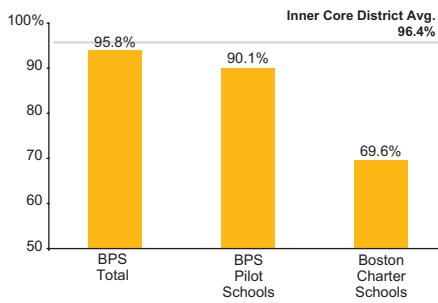
Source: Massachusetts ESE

Charter School K-8
Enrollment & Waitlist
2002/03-2007/08



Source: Massachusetts ESE

Average Percent of K-8 Teachers Licensed in Subject Taught by School Type 2007



Source: Massachusetts ESE

WHOLE SCHOOL IMPROVEMENT

Since 1997, the Boston Public Schools (BPS) has promoted efforts to close the achievement gap and help every child achieve academic proficiency through the **Whole School Improvement** plan, which includes: effective instructional practices and a collaborative school environment to improve school learning; professional development to improve instruction; shared leadership to sustain instructional improvement; resources to support instructional improvement and improve student learning; partnerships with families and community to support student learning; and the close examination of student work and data to drive instruction and professional development.

Teacher Quality

Experts almost universally agree that teacher quality is the single most important school-based factor in student achievement but there is less agreement on the characteristics of highly effective educators. Measurable characteristics may include possession of a Bachelors Degree, licensure in the subject being taught, and teaching experience of 3 or more years—when research shows that mastery is generally attained.

Licensure: In the 2006/07 academic year, 95.8% of BPS K-8 teachers were licensed in their subject matter and 94.5% were classified under No Child Left Behind as *Highly Qualified* in a core subject area such as Math and Reading. Teachers in Greater Boston's Inner Core Districts averaged 96.4% subject matter licensure and 95.2% were classified as *Highly Qualified*. In Pilot Schools with greater autonomy in hiring, 90% of teachers are licensed in their subject matter and 88% are considered *Highly Qualified*. In Charter Schools, where teachers are not required to be licensed, 70% of teachers were subject-matter licensed and 89% were deemed *Highly Qualified*.

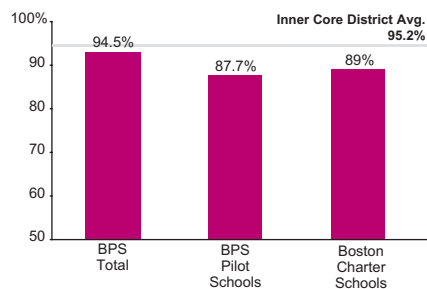
Experience and Retention: BPS hires about 500 new teachers annually, 47% of whom leave within 3 years. To address high turnover, BPS partners with the Boston Teacher Residency Program to train, recruit and support new teachers and to increase workforce diversity. Boston is home to another 20 to 30 teacher preparation and educational programs.

Student-to-Teacher Ratio

A low student-to-teacher ratio is generally understood to provide greater opportunities for personal attention and many consider it to be an important measure of quality.

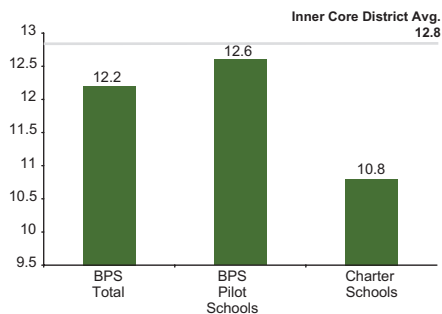
Elementary and Middle Schools are held to strict class-size limits: 22:1 in Grades K-2, 25:1 in Grades 3-5, and 28:1 in Grades 6-8—the best in the nation. In 2006/07, excluding alternative and special needs schools, the average student-to-teacher ratio for all BPS schools serving grades K-8 was 12.2 to 1

Average Percent of K-8 Teachers Identified as NCLB Highly Qualified in Core Subject by School Type 2007



Source: Massachusetts ESE

Average Students Per Teacher by School Type 2007



Source: Massachusetts ESE

and 12.4 to 1 when not including alternative schools and those serving special needs students. Pilot Schools—with greater autonomy over budget—had a slightly higher average of 12.6 to 1—still lower than the Inner Core average of 12.8 to 1. Boston’s Charter Elementary and Middle Schools had the lowest ratio of 10.8 students per teacher.

Effective School Leadership

School leaders—from the Superintendent to principals and headmasters—profoundly influence school culture. Recent research has found that certain characteristics of effective school leaders—such as intellectual stimulation, community or situational awareness and the ability to challenge the status quo—directly affect student outcomes.

Few data are available to measure the quality of BPS leadership, however the BPS plan for Whole School Improvement encourages innovative and shared leadership among school leaders and teachers to create a consistent culture of learning. Also, by definition, Pilot and Charter School leaders reflect greater autonomy in developing options and incentives for teachers as well as students.

Teacher and Leadership Diversity

The BPS has noted research on the importance of hiring teachers of color to support students of color, and is committed to increasing the diversity of faculty and staff.

While the BPS has made tremendous progress in hiring educators of color a gap remains. With an Elementary and Middle School student body that is 87% of color:

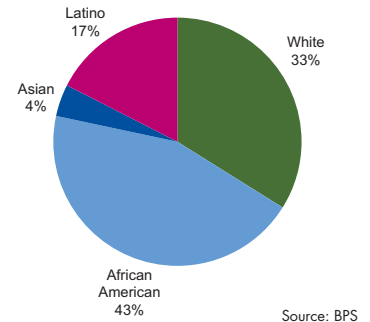
- In 2006/07, 43% of BPS administrators were African American, 33% were white, 17% were Latino and 4% were Asian.
- Among classroom teachers in 2006/07, 61% were white, 25% were African American, 9% were Latino and 5% were Asian.

Parental Involvement

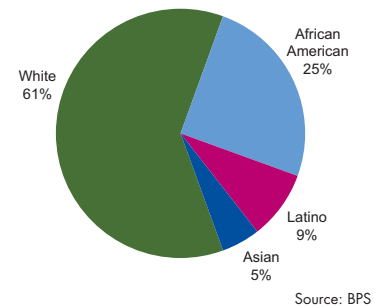
While experts agree on the importance of parental involvement in the education of children its effect on student outcomes is difficult to measure. Despite this, all BPS Elementary and Middle Schools highlight the importance of welcoming and engaging parents or guardians as well as the broader community into the school community, with some schools able to offer dedicated staff for this purpose.

In 2006/07, 25 BPS Elementary and Middle Schools employed the services of a full- or part-time Family & Community Outreach Coordinator (FCOC). Employed by schools on a full-time or part-time basis, the role of an FCOC—

BPS Administrators
by Race & Ethnicity 2007



BPS K-8 Teachers
by Race & Ethnicity 2007



Tests Used by the BPS to Evaluate Curriculum Quality and Performance.
(Of these, test scores are readily available only for the MCAS):

- **Massachusetts Comprehensive Assessment System (MCAS)** measures the performance of students, schools and districts in alignment with statewide curriculum frameworks and progress toward 100% *Proficiency* in Math & Reading by 2014 using set standards for public school students in Grades 3 -10 statewide.
- **Stanford 9:** A national test that measures student, school and district performance on a bell curve. The BPS administers the Stanford 9 Math & Reading tests to 3rd and 5th graders annually to assess curriculum quality and student progress.
- **Formative Assessment of Student Thinking in Reading (FAST-R):** A test used by the BPS to evaluate student literacy aptitude and to promote the workshop-style classroom teaching of reading and writing.

in alignment with Boston's plan for Whole School Improvement—is to strengthen family engagement within schools, support resources for families and measure the outcomes of school-specific programs. Additionally, many BPS Elementary and Middle Schools have established Family Centers to provide parental and community support services in school.

CURRICULUM QUALITY

A curriculum can be understood as “what is taught and learned” in the classroom. However, there is little consensus among experts about what constitutes curriculum quality. Some advocate for district, state or even national consistency—especially in high-mobility districts where children's academic progress can suffer when families move. Others argue for a high degree of flexibility, particularly in districts serving a high percentage of Special Education or Limited English Proficient (LEP) students.

Since 1996, the BPS has implemented detailed Citywide Learning Standards and Curriculum Frameworks at each grade level. To meet specified goals, principals and teachers combine standards-based curricula with student-specific learning frameworks. Curriculum effectiveness is currently measured only through student, school and district scores on standardized tests (see box).

For Core Classes—like reading, math and science—the BPS has committed to the Workshop Approach to Instruction which promotes: creating instructional objectives for the class; direct instruction or skills modeling; guided practice for students; independent applications; structured closing activities and integrated student notebooks.

- **For writing and literacy**, all schools use the workshop model of mini-lessons, shared work and independent guided lessons. District-wide, 45 schools reported using Writer's Workshop and Reader's Workshop, and an additional 18 reported using the Harcourt Trophies curriculum. In January 2008, new BPS Superintendent Carol Johnson identified a “streamlined” K-12 literacy curriculum as a key goal;

- **For math and science**, all BPS Elementary Schools except Pilot Schools are required to utilize TERC Investigations—a National Science Foundation-funded, research and inquiry-based model for teaching math in grades K-5.

Charter and Pilot Schools, like all public schools, are required to achieve progress on the MCAS, but enjoy greater latitude in their choice of curricula. It is hoped that this experimentation, once evaluated, will inform the range of curriculum choices available to the BPS as a whole.

Individual Support for Underperforming Students

For students experiencing difficulty achieving *Proficiency* in reading and math, the BPS offers an **Individual Student Success Plan (ISSP)** to identify and support a student's personal learning needs.

In 2007, 65% of BPS Elementary and Middle School students were eligible for an ISSP, but due to resource constraints, as well as decisions to enroll students in private tutoring outside of the BPS, only 67% of these students received a personalized plan. Among BPS Elementary and Middle Schools in 2007, the percentage of students eligible for an ISSP ranged from 40% to 84%. The extent to which students receive support varies widely, with 21 schools providing an ISSP to 90%-100% of eligible students and 12 schools providing an ISSP to fewer than 40%.

According to the BPS, in 2006/07, 19 nonprofit and for-profit Supplemental Education Services providers were selected by BPS parents to provide ISSPs and additional services. Among the barriers to full utilization are cost, availability of space, lack of demand and use by students and parents and the inability of a provider to support specified academic and linguistic needs.

SPECIALIZED CURRICULA

The BPS is committed to city- and statewide curriculum frameworks and standards for its Elementary and Middle Schools. The BPS also offers a range of specialized curricula and curricula options for students with special needs such as English Language Learners and Gifted and Talented Students.

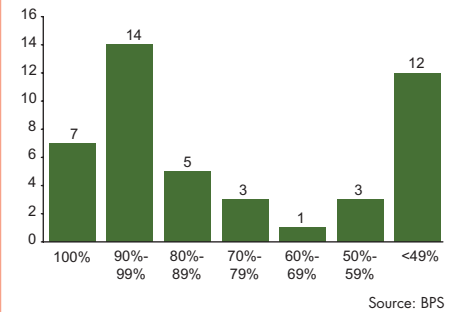
Support for English Language Learners

English Language Learners are at higher risk of underachieving and dropping out. To address their needs, the BPS currently offers:

Two-Way Immersion: Full academic instruction in both English and Spanish with the goal of complete bilingual fluency for all students. **Three BPS K-8 schools offered two-way immersion in 2007:** the Rafael Hernandez School, the Hurley School and the Sarah Greenwood School.

Sheltered English Immersion (SEI): Academic instruction in a student's native language is required by the Commonwealth to support the transition for English Language Learners to English proficiency and instruction. **Eighteen BPS Elementary and Middle Schools offered SEI in 2007,** including Ellison/Parks and East Boston K0-1 Early Learning Centers. Of 18 schools in 2006/07, 7 offered instruction in Spanish, 2 in Chinese, 2 in Haitian Creole, 1 in Vietnamese, 1 in Somali and 1 in Cape Verdean Creole, while 3 schools offered instruction in multiple languages.

Percent of Eligible Students Receiving an ISSP, BPS Elementary & Middle Schools, 2007



BPS Schools Offering Advanced Work Tracks:

- David Ellis Elementary
- Dearborn Middle School
- Farragut Elementary
- Ames F. Condon Elementary
- Charles H. Taylor Elementary
- Curley K-8 School (James M. Curley Elementary & Mary E. Curley Middle)
- Jackson/Mann K-8 School
- James P. Timilty Middle School
- James W. Hennigan Elementary
- John P. Holland Elementary
- John W. McCormack Middle School
- John Winthrop Elementary
- Joseph Lee Elementary School
- Josiah Quincy Elementary School
- Menassah E. Bradley Elementary
- Martin Luther King Jr. Middle School
- Phineas Bates Elementary
- Quincy Upper School
- Richard J. Murphy K-8 School
- Thomas A. Edison Middle School
- Umana Middle School Academy
- Warren-Prescott K-8 School
- Washington Irving Middle School
- William Ellery Channing Elementary
- William H. Ohrenberger Elementary
- William B. Rogers Middle School

Special Education

Recent research conducted by the Parthenon Group found that substantially separate Special Education students are at greatest risk for falling behind and for dropping out of school. BPS Special Education Services cover a spectrum—from programs such as Reading Recovery, which focuses on 1st graders who have difficulty reading, to extra literacy tutoring to substantially separate courses.

In 2007, more than 11,000 students required Special Education Services, 4,900 of whom attended one of six K-12 BPS Special Education Schools. Among mainstream BPS Elementary & Middle Schools, 14 offered support for special education students to succeed in mainstream classrooms, and 24 offered literacy coaches.

Advanced Work Class (AWC)

AWC is a full-day program in which eligible 4th, 5th & 6th graders follow the city-wide curriculum with greater in-depth analysis, school work and home work, and instruction in a world language. Students must qualify by examination and be invited into a program. **Currently, 15 BPS Elementary Schools and 9 Middle Schools offer advanced work.**

Advancement Via Individual Determination (AVID)

AVID is a program for students in grades 4 through 12 who have high academic potential but consistently fall short. It enrolls underperforming students in the most difficult classes—such as Honors and Advanced Placement—and special elective courses in organization, study skills and college tutoring. **In 2007, 3 BPS Middle Schools offered AVID:** the Umana/Barnes Middle School, the Clarence Edwards Middle School and the James Timilty Middle School.

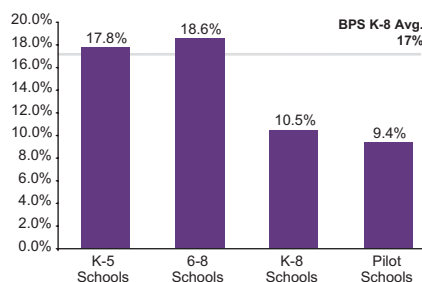
IN-SCHOOL RISK FACTORS

Student Mobility

Experts agree that the significant movement of students in and out of different schools can negatively affect student performance and also place classrooms at a disadvantage. Conversely, low mobility rates contribute to a more stable and stronger school community. Numerous factors, including housing insecurity, contribute to student mobility.

In 2006/07, the average BPS Elementary and Middle School mobility rate—transfers in and out as a percent of total enrollment—was 17%, although the BPS limits the number of transfers within the district to once per year in K-5 and once in 6-8. In 2006/07, K-5 schools had an average mobility rate of 17.8% and 6-8 middle schools had an average mobility rate of 18.6%, while the

Average Mobility Rate by BPS School Type 2007



Source: BPS

system’s K-8 schools overall had a mobility rate of 10.5%. Among Pilot Elementary and Middle Schools—4 of which are K-8 schools—the mobility rate was 9.4%.

Student Attendance

Consistent attendance is critical to academic success. Experts have concluded that an 80% attendance rate—equal to one day lost per week—sets a child back a half year by Grade 4 and a full academic year by Grade 8. According to the 2007 Parthenon Report, titled *Boston’s Dropout Challenge*, Boston 8th graders with an 80% attendance rate or worse are at great risk of dropping out of High School, with a 4-year graduation rate of just 34%.

In 2006/07, the average BPS Elementary and Middle School attendance rate was 94%—better than the state-wide goal of 92%—or an average 10 days absent, with great variation among schools. In 2006/07, students in three K-5 schools averaged 5 or fewer days absent, students in 47 schools averaged 5-10 days absent, and students in 39 schools averaged 10-15 days absent, while 9 schools averaged 15-20 days, all of which were Middle Schools (Grades 6-8).

Out-of-School Suspensions

While a broad spectrum of activities that can lead to suspension, out-of-school suspensions reflect more severe transgressions.

BPS Elementary and Middle Schools had an average out-of-school suspension rate of 6.4% in 2006/07, highly concentrated in Middle Schools (Grades 6-8).

In 2006/07, K-5 schools and K-8 schools suspended just 4% and 3% of students, respectively. However, Grades 6-8 schools suspended—on average—almost 18% of the student population, while 3 BPS Middle Schools had out-of-school suspension rates greater than 30%.

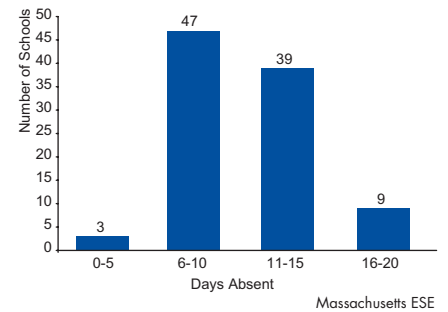
Charter Schools serving grades K-8 had the highest rates at an average of 22.4%. (It is not apparent whether the Charters’ high rates are tied to expulsions. If so, that could skew their performance outcomes considerably.)

Grade Repetition

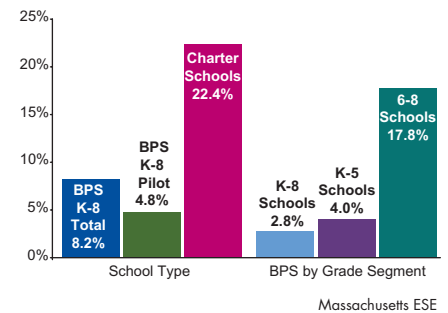
Multiple grade repetitions in Grades K-8 place a student at higher long-term risk for dropping out. However, for some students, repeating a grade with better instructional support can provide the opportunity to master critical math and literacy skills, particularly in Elementary School.

BPS Elementary and Middle School grade repetition averaged about 5%, while BPS Pilot Schools had an average retention or grade repetition rate of 2.6%—about half the district average. Charter Schools were only slightly lower at 4.4%.

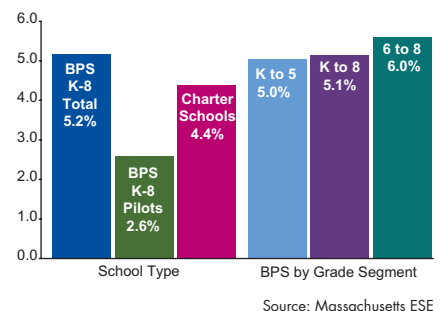
Average Number of Days Absent
BPS Elementary & Middle Schools
2007



Average Suspension Rates
by School Type
BPS & Charter Schools 2007

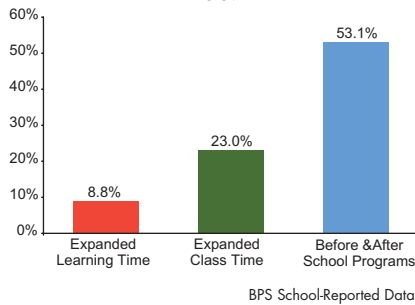


Average Grade Repetition Rates
by School Type
BPS and Charter Schools 2007

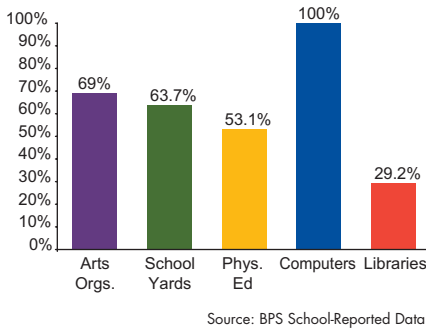


IN-SCHOOL ENRICHMENT

Percent of BPS Elementary & Middle Schools Reporting Opportunities for Expanded Learning Time 2007



Percent of BPS Elementary & Middle Schools Reporting on School Amenities 2007



Experts, teachers, parents and students agree that quality teaching and learning require more than high quality curricula and standardized tests. Boston's Community Learning Initiative—announced in fall 2008—coordinates the work of the Boston Center for Youth & Families, the Boston Public Schools (BPS) and the Boston Public Library to align in- and out-of-school-time learning through arts education, character building opportunities, sports programs and parental involvement. In addition to this new initiative, BPS is enhancing the range and quality of offerings for the development of each "whole child:"

■ **Expanded Learning Time (ELT) has been shown to boost student outcomes:** While the typical BPS school day ends between 2:00 and 3:00 p.m., 10 BPS Elementary and Middle Schools now offer extended school days until 4:00 or 5:00 p.m. and an additional 26 report offering extended class time or "Block" periods to provide up to 120 minutes of math or literacy class time per day. More than 60 BPS Elementary & Middle Schools report offering Before- and After-School Programs. Many Charter and Pilot Schools offer expanded-day schedules and even weekend classes.

■ **Performing and visual arts education has been shown to enhance self expression and creativity:** The BPS currently requires all students to spend 90 hours per year in Creative Arts classes. In addition, 78 schools have partnered with outside organizations to offer theater, music, visual arts, dance and theater instruction.

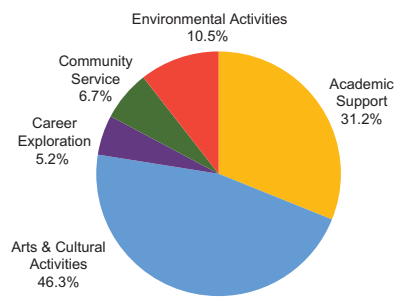
■ **Well-designed schoolyards offer space for outdoor play and learning labs:** By the fall of 2008, 72 BPS Elementary and Middle Schools—or 63%—had been redesigned through the Boston Schoolyard Initiative, with many now used for learning activities.

Out-of-School-Time Enrichment

Boston's K-8 students enjoy an increasing range of out-of-school-time (OST) options: as of 2006, 54% of K-3 graders, 52% of 4-5 graders and 45% of 6-8 graders participated in OST in an array of BPS, nonprofit and private organization programs. A new website www.bostonnavigator.org—a partnership among the City of Boston, BostNet and Boston After School & Beyond—offers a one-stop online shop of information about:

- 399 Programs offering academic support;
- 592 programs with a focus on arts and cultural activities;
- 67 career exploration programs;
- 86 programs with a community service or civic engagement component;
- 134 programs that offer environmental education and outdoor activities.

Activities Offered at Boston After School Programs 2007



Source: BOSTONavigator

■ **Physical Education (PE) may assist children’s learning capacity, improve overall health and reduce overweight and obesity:** As of 2006/07, 60—or 53%—of BPS Elementary and Middle Schools reported offering PE as a part of the general curriculum. Many additional schools had partnerships with sports organizations—such as Sports4Kids—and after-school sports and physical activity programs.

■ **Access to computers and the Internet can enhance learning networks and research skills:** As of 2006/07, 100% of BPS Elementary and Middle School students had classroom access to the Internet, with a student-to-computer ratio of 4:1

■ **Libraries are critical to literacy and a love of reading:** In addition to making free books available to students and expanding their sense of possibilities, many BPS schools make their libraries available to parents and families for parent education, ESOL and other classes. As of 2006/07, 33—or 29%—of BPS Elementary and Middle Schools reported being equipped with libraries.

(See the Appendix for enrichment factors offered by every Boston school.)

KEY OUTCOME

3rd Grade Reading Proficiency (MCAS)

According to **ReadBoston**, a City of Boston initiative, “Until third grade, children learn to read; after third grade, they read to learn. Studies have found that if children do not learn to read by the 3rd grade, they will struggle throughout Middle and High School. *Proficient* readers entering 4th grade are more likely to graduate from High School and continue on to post-secondary education.” Third grade reading is the first standardized MCAS test encountered by Massachusetts students. No Child Left Behind requires proficiency on all tests by 2014.

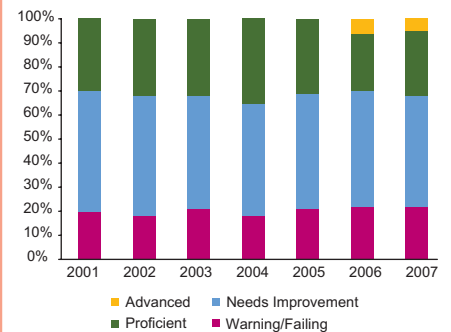
Overall District Score ➡➡

As of 2007, 32% of BPS 3rd graders were *Proficient* or *Advanced* readers while the majority received a passing score on the MCAS. *Proficiency* scores have changed little since 2001, when 30% tested *Proficient* or *Advanced*, though third graders were not assessed at *Advanced* prior to 2006.

Disparities ➡➡

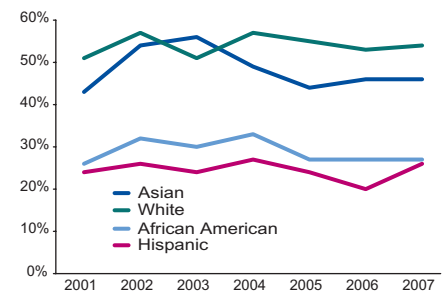
As of 2007, 54% of white and 46% of Asian 3rd graders were *Proficient* readers compared to 27% of African American and 26% of Latino students—with a sizable and persistent gap since 2001; overall, 50% of non-low-income students achieved *Proficiency* compared to 27% of low-income students. Though nearly 30% of Limited English Proficient (LEP) students achieved *Proficiency* in 2002 and 2004, this was true of only 17% of LEP 3rd graders in 2007.

3rd Grade MCAS Reading
BPS District Results 2001-2007



Source: Massachusetts ESE

3rd Grade MCAS Reading
Proficiency by Race/Ethnicity, BPS
2001-2007



Source: Massachusetts ESE

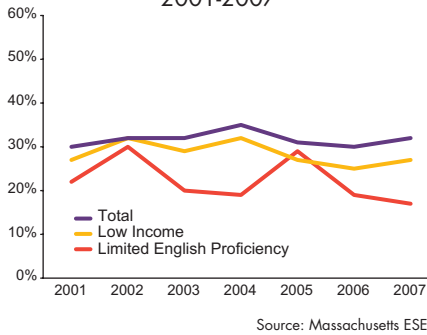
Key to Trend Arrows

➡➡ = No Significant Change

↗ = Positive Change

↘ = Negative Change

BPS 3rd Grade Reading Proficiency by Income & English Proficiency 2001-2007



3rd Grade MCAS Reading Proficiency Boston and Inner Core Districts 2007

3rd Grade Inner-Core Districts	Percent Proficient	Limited English Proficient (%)	Low-Income (%)
Belmont	79	2.9	5
Brookline	79	7.2	12.2
Arlington	77	4.2	9.7
Newton	76	5.2	7
Milton	75	0.6	11.3
Melrose	67	1.3	7.1
Winthrop	67	4.6	19
Saugus	63	0.8	14.1
Watertown	61	10.2	24.7
Revere	58	11.5	63
Cambridge	57	6.9	42.7
Medford	57	5.5	27
Quincy	53	12.2	35.3
Waltham	48	8.8	32.6
Malden	47	8.4	51.9
Somerville	45	16.3	64.8
Lynn	41	23.3	75.1
Everett	37	8.7	53.7
Chelsea	33	19.4	85.1
Boston	32	18.3	72.7

Source: Massachusetts ESE

Comparisons & Best Practices

At 32% Proficient in 2007, Boston's 3rd graders ranked below other Inner Core communities including districts with student bodies somewhat similar to Boston's. The statewide average was 59%.

Comparisons at the school level show that many of Boston's elementary schools are higher performing than schools with similar socio-economic demographics elsewhere in Greater Boston:

- Among Inner-Core schools with a low percentage of low-income and Limited English Proficient (LEP) students, the top 5 performing schools were the BPS' Mary Lyon (86%)—which focuses on special education students—Lynn's Edward J. Sisson School (82%), the BPS' Joyce Kilmer (81%), Medford's McGlynn Elementary (79%), and Somerville's Kennedy School (71%). An additional 3 BPS schools in this grouping ranked above the state-wide average of 59% Proficient.
- Among Inner-Core schools with a high percentage of low-income student populations but a low percentage of LEP student populations, only 3 schools ranked above the statewide average, and all 3 were in Boston: the John D. Philbrick, Boston Renaissance Charter School and the Menassah E. Bradley. The additional schools in the top 5—although below the statewide average of 59% Proficient—were also BPS schools: Oliver Hazard Perry (56%) and Samuel Mason Pilot School (50%). (Only Cambridge has schools with a similar demographic makeup.)
- Among Inner-Core schools with a high percentage of low-income and LEP students, the top 5 were Lynn's William F. Fallon School (78%), Revere's Garfield Elementary (67%), Lynn's Lincoln-Thompson School (63%) and Robert L. Ford School (60%), and BPS' Winship Elementary (55%). No Boston schools ranked above the statewide average.

For more school-level comparisons, see the web-based Report Card.

KEY OUTCOME

4th Grade Reading Proficiency (NAEP)

The National Assessment of Educational Progress (NAEP) is the standard evaluative tool for measuring continuous national and state-by-state achievement and progress. It is administered by the National Center for Education Statistics, an arm of the US Department of Education. Since 2003, a sample of students from Boston and 10 other large cities have participated in a Trial Urban District Assessment analyzed and compared within a city-to-city framework. NAEP exams are administered every two years to 4th and 8th graders in Reading and Mathematics, with occasional tests for 12th graders and students taking special subjects like history and science.

Overall District Score

In 2007, 20% of Boston's 4th graders scored at *Proficient or Above* in reading, up from 16% in 2003. Boston's average scaled score increased from 206 to 210—the 3rd greatest increase among large US cities—while the percentage of 4th graders scoring *Below Basic* declined by 6 percentage points; however, nearly 50% of BPS 4th graders scored *Below Basic* in 2007.

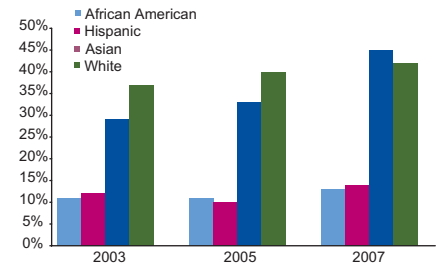
Disparities

In 2007, 45% of Asian students and 42% of Boston's white 4th graders achieved reading *Proficiency* compared to 14% of Latinos and 13% of African Americans respectively. While all students, on average, achieved gains, Boston's white and Asian 4th graders, representing about 2 in 10 4th graders, outperformed their African American and Latino counterparts, who make up almost 8 in 10. However, Boston's achievement gap between white and African American students and white and Hispanic students is smaller when compared to other large US cities such as Washington, DC or Los Angeles.

National Comparisons

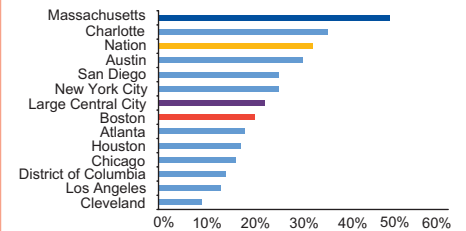
At 20% *Proficient* in reading, Boston's 4th graders ranked behind Charlotte, Austin, San Diego and New York among selected large urban districts. However, since 2003, the percentage of 4th graders achieving *Proficiency* has increased faster in Boston than in any other city aside from Charlotte and Atlanta, which increased at the same rate. Boston's score was significantly lower than Massachusetts' nation-leading average scaled score of 236 and nearly 50% *Proficient*.

4th Grade NAEP Reading
Percent of Students at *Proficient*
by Race & Ethnicity Boston, 2007



Source: National Center for Education Statistics

4th Grade NAEP Reading
Students Achieving *Proficiency*
Boston vs. Select US Cities, 2007



Source: National Center for Education Statistics

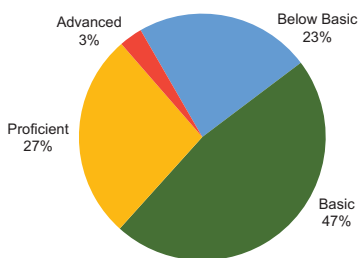
National Comparisons: The Demographic Context

In general, among 11 Trial Urban Districts ranked on NAEP test results, the BPS is significantly more challenged by student characteristics such as racial/ethnic and linguistic diversity and students with special needs than its peers, a factor not accounted for in rankings. Among the 4th and 8th graders who participated in the 2007 NAEP, in the aggregate:

Among 4th graders: 87% of Boston students were of color, 31% were ELL, 22% were SWD and 82% were low income. By comparison, Charlotte NC—which led the rankings in Reading and Math—had the lowest percentage of students of color at 60%, the second lowest of SWD at 12%, the fourth lowest percentage of ELL students at 11% and the lowest percentage of students qualified for federally subsidized school lunch at 48%.

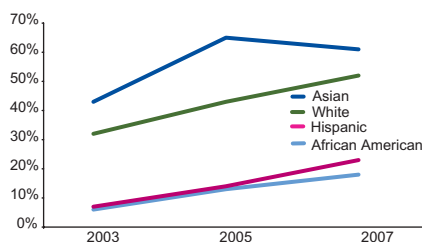
Among 8th graders: 83% of Boston's assessed students were of color, 11% were ELL, 21% were SWD and 69% were low income. Comparatively, the three highest achieving districts—Charlotte, Austin and San Diego—had the lowest percentages of students of color at 64%, 68% and 76%, respectively and low income students at 49%, 54% and 59% respectively. Charlotte and San Diego had among the lowest percentages of SWD at 13% and 11% and Austin and San Diego each had a higher percentage of ELL students due to large Spanish-speaking populations while Charlotte had a lower percentage at 9%.

4th Grade NAEP Math Boston District Results 2007



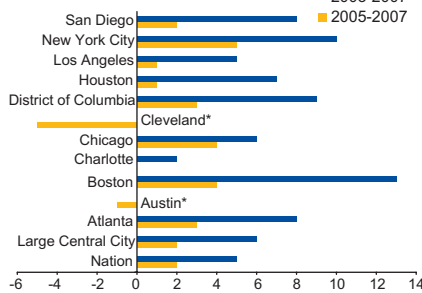
Source: National Center for Education Statistics

4th Grade NAEP Math Percent of Students at Proficient by Race & Ethnicity 2007



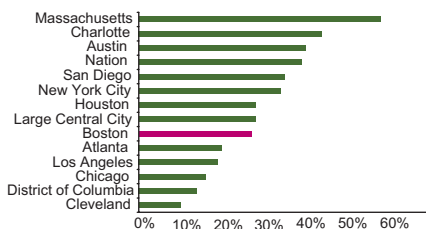
Source: National Center for Education Statistics

4th Grade NAEP Math Change in Average Scale Score Boston & Select Cities 2003-2007



* City did not Participate in 2003 NAEP
Source: National Center for Education Statistics

4th Grade NAEP Math Students Achieving Proficiency Boston vs. Select US Cities 2007



Source: National Center for Education Statistics

KEY OUTCOME

4th Grade Mathematics Proficiency (NAEP)

BPS Students—and their statewide peers—participate in the National Assessment of Educational Progress (NAEP) Mathematics Exam. Boston is also one of 11 large urban school districts involved in the Trial Urban District Assessment (TUDA) since 2003. This test allows for both peer-to-peer and national comparisons.

Overall District Score

As of 2007, 27% of BPS 4th graders achieved *Proficiency* on the NAEP Math—up from 12% in 2003. At the same time, the percentage of students performing at a level *Below Basic* declined from 41% in 2003 to 23% in 2007.

Disparities

Between 2003 and 2007 the percentage of all BPS 4th graders achieving *Proficiency* more than doubled, but white and Asian students consistently out-performed their African American and Latino peers, and the rate of improvement for African Americans and Asian students has stalled. While 61% of Asian and 52% of white 4th graders achieved *Proficiency* on the math NAEP, only 23% of Latino students and 18% of African American students achieved *Proficiency*. Despite this large disparity, Boston's achievement gap between white and Latino and white and African American students on 4th grade NAEP Math is smaller than the nation's and that in other large cities.

National Comparisons

Boston lags about half of its urban counterparts in *Proficiency* rates on the 4th grade math NAEP but outpaces them in the rate of improvement. In 2007, 27% of BPS 4th graders achieved *Proficiency* in NAEP Mathematics—a scaled score of 233—placing Boston below the National and Large Urban averages as well as below the scores in 5 of 11 cities evaluated. However, since 2003, Boston's average scaled score has increased by 13 points, more than twice the national average increase of 5 points and the Large Urban District average increase of 6 points.

KEY OUTCOME

8th Grade Reading Proficiency (NAEP)

BPS 8th graders—along with their state-wide peers—participate in the (NAEP) Mathematics and Reading Exams. Boston is also one of 11 large urban school districts in the Trial Urban District Assessment (TUDA) pilot since 2003, allowing for national comparisons.

Overall District Score ➡➡

At 22% in 2007, Boston’s 8th graders’ reading proficiency score on the NAEP has changed little since 2003. However, there was a slight gain in *Advanced* readers and a slight decline in those scoring *Below Basic*: in 2007, 3% of students achieved *Advanced* status, up from 2% in 2003 while the percentage of students not achieving *Basic* status declined from 39% in 2003 to 37% in 2007.

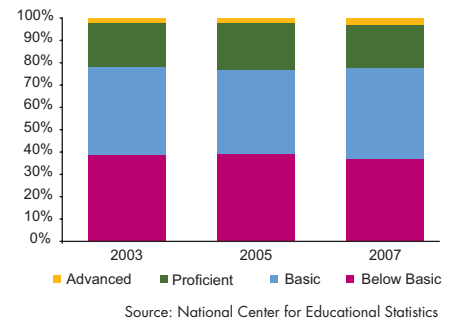
Disparities ➡➡

Boston’s white and Asian 8th graders consistently out-perform their African American and Latino peers. Between 2003 and 2007, the percentage of white and Asian 8th graders achieving *Proficient* remained essentially static, rising slightly from 44% to 48% and 44% to 46% respectively. African Americans increased from 14% to 16% while Latino students remained at 16%.

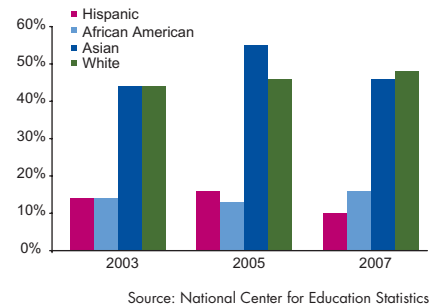
National Comparisons ➡➡

In 2007, Boston ranked 4th of 11 districts in the percentage of students achieving *Proficiency* in 8th grade reading. At 22%, Boston ranked below Charlotte, NC (29%), Austin, TX (28%), and San Diego, CA (23%) in students achieving *Proficiency*. In 2003, Boston ranked behind only Charlotte, NC and the same as New York City, indicating that other school districts are making progress at a faster rate.

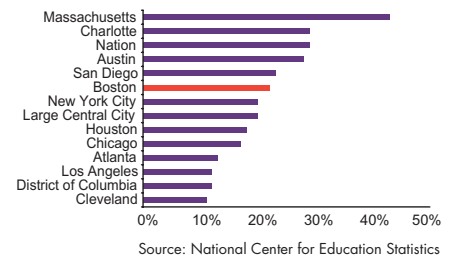
8th Grade NAEP Reading
Boston District Results 2003-2007



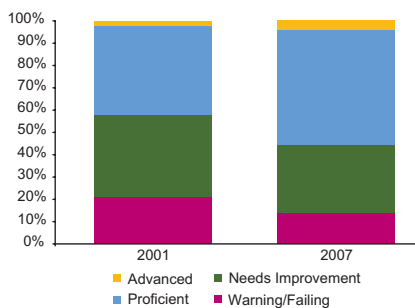
8th Grade NAEP Reading
Percent of Students at *Proficient*
by Race & Ethnicity 2003-2007



8th Grade NAEP Reading
Students Achieving *Proficiency*
Boston vs. Select US Cities 2007



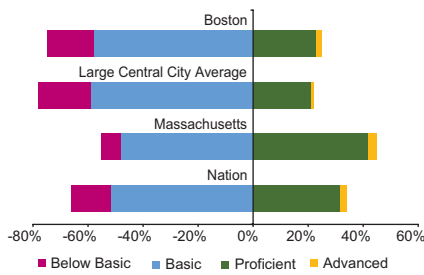
8th Grade MCAS ELA
BPS District Results 2001 & 2007



8th Grade Reading MCAS

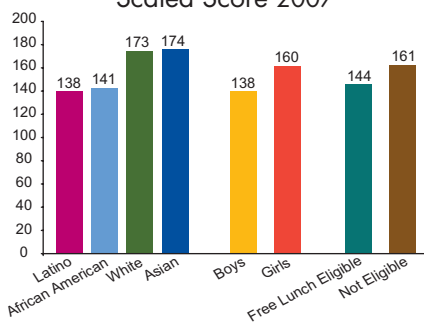
➡➡ In 2007, 56% of Boston’s 8th graders achieved *Proficiency* in MCAS Reading, up from 42% in 2001—a dramatic gain. The percentage of 8th graders failing MCAS reading declined from 21% in 2001 to 14% in 2007. Because the MCAS Reading exam was administered to 8th graders only in 2001, 2006 and 2007, however, long-term annual scores are not available. As MCAS exams are phased into all grades between 3rd and 8th, future analyses of score changes and trends will be available.

8th Grade NAEP Writing Results Boston, MA & US 2007



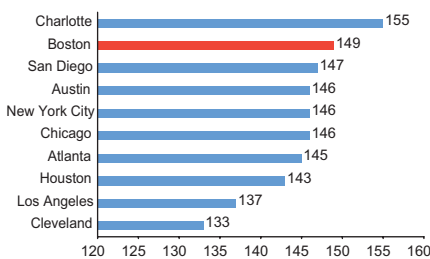
Source: National Center for Education Statistics

8th Grade Writing NAEP by Demographic Group in Average Scaled Score 2007



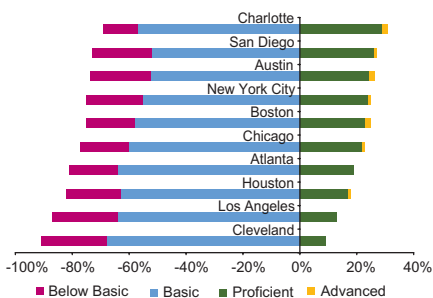
Source: National Center for Education Statistics

8th Grade NAEP Writing Average Scaled Score Boston vs. Select Cities 2007



Source: National Center for Education Statistics

8th Grade Writing NAEP District Results Boston vs. Select US Cities 2007



Source: National Center for Education Statistics

KEY OUTCOME

8th Grade Writing Proficiency (NAEP)

In 2007, essays written by Boston's 8th graders—along with their peers in the Commonwealth and 45 other states and 10 US Urban Districts—were assessed and evaluated in the National Assessment of Educational Progress Writing Test. Graded on a scaled score of 0-300, an 8th grader's 2007 performance was deemed *Basic* at 114, *Proficient* at 173 and *Advanced* at 224. Though many states and cities were evaluated in 1998 and 2002, this was the first year of BPS participation.

Overall District Score

In 2007, 25% of Boston's 8th graders achieved *Proficiency* in writing by NAEP standards. The district's average scaled score was 149—between *Basic* and *Proficient*. Among 8th graders who did not achieve *Proficiency*, 58% wrote an essay deemed *Basic* and 17%, or nearly 1 in 5, wrote an essay graded *Below Basic*.

Disparities

By Race/Ethnicity: Boston's white and Asian 8th graders achieved a *Proficient* average scaled score—173 and 174, respectively—on the 2007 NAEP while their African American and Latino peers achieved average scaled scores in the *Basic* range—141 and 138, respectively. Boston's white and Asian students, on average, scored above their national counterparts while African American and Latino students scored within the same range as their statewide and national counterparts.

By Gender: In 2007, the average scaled score for Boston's 8th grade girls (160) was 22 points higher than the average score for boys (138).

By Income: Boston's low-income 8th graders achieved an average score 17 points lower than their higher-income peers.

National Comparisons

In 2007, Boston's 8th graders achieved the second highest average scaled score (149) among the 10 US urban districts participating in the NAEP Writing exam, however, Boston ranked 5th among the districts in the percent of students achieving *Proficiency*. Boston's students also achieved a higher scaled score than the average of all US large Urban Districts (145); only students in Charlotte, NC achieved a higher scaled score of 155. In terms of the percent of students achieving *Proficiency*, Boston—at 25%—ranked behind: Charlotte, NC where 31% of students achieved a score of *Proficient* or *Advanced*; San Diego, CA with 27% *Proficient* or *Advanced*; Austin, TX with 26% *Proficient* or *Advanced* and tied with New York at 25% *Proficient* or *Advanced*.

KEY OUTCOME

8th Grade Math Proficiency (MCAS)

A recent study conducted by the Parthenon Group, *Boston's Dropout Crisis*, found that students failing one or both Middle School MCAS tests have a four-year graduation rate of 48% compared to the District-wide average rate of 53%. Conversely, *Proficiency* on the 8th grade MCAS test indicates a smooth transition to High School and a greater likelihood of graduation in four years, and prepares students for college-track math classes in High School. While BPS 6th, 7th and 8th graders are now being tested in Language Arts, Science and History as well as in Math, only the 8th Grade Mathematics test has been administered since the inception of MCAS.

Overall District Score ➡➡

In 2007, just 27% of BPS 8th graders achieved *Proficiency* in MCAS math. Though the percentage of students achieving *Proficiency* has steadily increased since 2001, this is only a 7 percentage point increase over 2001 when 20% of students achieved *Proficiency*. On the other hand, the percentage of students failing declined from 55% in 2001 to 42% in 2007.

Disparities ➡➡

By Race/Ethnicity: Since 2001, between 50% and 60% white and Asian 8th graders have achieved *Proficiency* on the 8th grade MCAS math test compared to between 10% and 20% of African American and Latino students. In 2007, 67% of Asian students and 52% of white students achieved *Proficiency* compared to 20% of Latino 8th graders and 14% of their African American peers.

By Linguistic Proficiency: Limited English Speaking Proficient (LEP) students are losing ground. In 2007 only 7% achieved *Proficiency* compared to 14% in 2003.

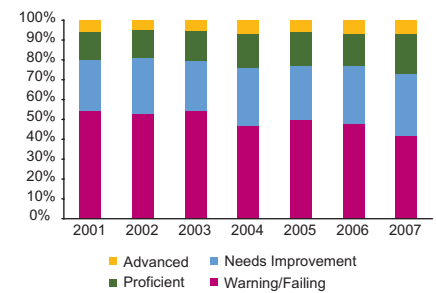
By Gender and Income: Low-income students as well as boys and girls are all making progress, with girls outpacing boys in rate of progress.

Comparisons & Best Practices

With 27% of 8th graders achieving MCAS Math *Proficiency*, Boston ranks 17th among the 20 Inner Core districts; however, many BPS and Charter Schools in Boston—with large “at risk” populations—are performing as well as—if not better than—top-performing suburban school districts. In a “like-to-like” comparison:

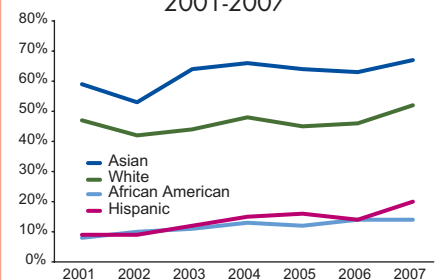
- Among schools with a relatively small low-income and LEP population, **Boston Latin** (a competitive Exam School), achieved 90% *Proficiency* in 8th grade math. Boston’s **Mary Lyon School**—which overwhelmingly serves

8th Grade MCAS Math
BPS District Results 2001-2007



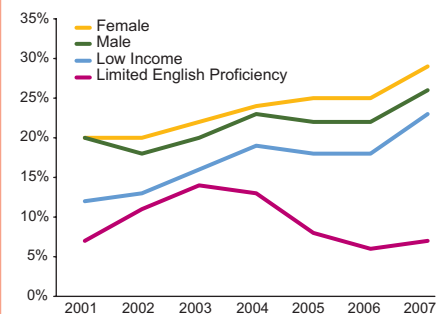
Source: Massachusetts ESE

8th Grade MCAS Math
Proficiency by Race & Ethnicity, BPS
2001-2007



Source: Massachusetts ESE

8th Grade MCAS Math
Proficiency by Gender, Income,
English Proficiency, BPS 2001-2007



Source: Massachusetts ESE

8th Grade MCAS Math Proficiency Boston and Inner Core Districts 2007

8th Grade Inner-Core Districts	Percent Proficient	Limited English Proficient (%)	Low-Income (%)
Brookline	70	7.2	12.2
Newton	69	5.2	7
Belmont	68	2.9	5
Milton	66	0.6	11.3
Arlington	59	4.2	9.7
Melrose	53	1.3	7.1
Watertown	50	10.2	24.7
Winthrop	48	4.6	19
Medford	42	5.5	27
Quincy	42	12.2	35.3
Waltham	36	8.8	32.6
Cambridge	35	6.9	42.7
Revere	34	11.5	63
Somerville	33	16.3	64.8
Malden	32	8.4	51.9
Saugus	31	0.8	14.1
Boston	27	18.3	72.7
Everett	26	8.7	53.7
Lynn	23	23.3	75.1
Chelsea	17	19.4	85.1

Source: Massachusetts ESE

Special Education Students with a student body more than 60% of color—achieved 77% *Proficiency*—higher than the average of top-performing districts like Brookline, Newton and Belmont.

- **Among schools with a large low-income, low-LEP population**, Boston's 8th graders in Charter Schools are achieving high rates of *Proficiency*. **Roxbury Preparatory Charter School** achieved 94% *Proficiency* and **Excel Academy Charter School** achieved 91% *Proficiency*.
- **Among schools with a large low-income, high-LEP student body**, the BPS' **Rafael Hernandez School**—a two-way English/Spanish school—achieved 64% *Proficiency* in 8th grade math—similar to the average in top-performing Inner Core communities.

KEY OUTCOME

8th Grade Mathematics Proficiency (NAEP)

As a leading technology state, educating Massachusetts’ students in math is critical to developing a highly-skilled workforce. Massachusetts’ students rank as top performers in the NAEP mathematics test in the US while BPS students, like their counterparts in other large urban districts, often fall far behind. BPS students are now scoring at close to the national average, but because the 8th grade NAEP is also used in international comparisons (see following page), it is clear that students in both Massachusetts and Boston must improve their scores to compete internationally.

Overall District Score

The percentage of Boston’s 8th graders scoring *Proficient* in math increased from 17% in 2003 to 27% in 2007 while the percent scoring *Below Basic* declined from 52% in 2003 to 35% in 2007. Over the same period, Boston’s average scaled score increased by 14 points from 262 to 276. Despite this gain, Boston’s average scaled score—as well as the scaled scores for all US cities and states—fell below the benchmark for *Proficiency*.

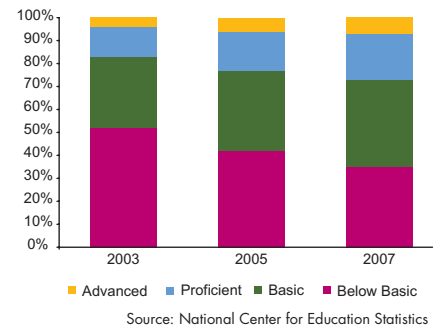
Disparities

In 2007, 58% of white 8th graders and 57% of Asian students scored at or above *Proficient* in the NAEP math test compared to 20% of Latino students and 12% of African Americans, indicative of a deep and persistent gap in achievement. However, since 2003, the percentage of African American and Latino 8th graders achieving *Proficiency* has increased at a rate far greater than their white and Asian counterparts. Between 2003 and 2007, the percentage of African American 8th Graders achieving *Proficiency* in the Math NAEP test doubled from 6% to 12% while the percentage of Latino students achieving *Proficiency* nearly tripled from 7% to 20%. Over the same period of time, the percentage of white students achieving *Proficiency* increased from 48% to 58%, while it remained unchanged among Asian students at 57%.

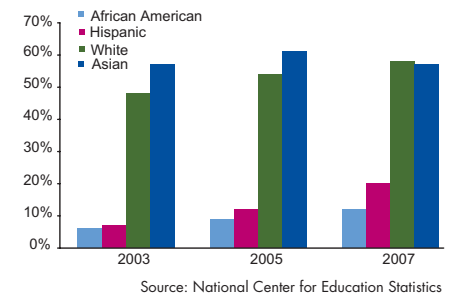
National Comparisons

Boston’s 8th graders are outperforming many of their urban peers in scoring at close to the national average and in their rate of improvement. Among the 11 urban school districts for which NAEP results are analyzed, Boston ranked 3rd in 8th grade math *Proficiency* in 2007. With 27% of students scoring at or above *Proficient*, Boston is behind Charlotte, NC and Austin, TX and roughly equal to the national average of 31%. In statewide comparisons, Boston’s average scaled score of 276 was well below Massachusetts’ nation-leading score of 298, although even the statewide average scaled score was 1 point below *Proficiency*.

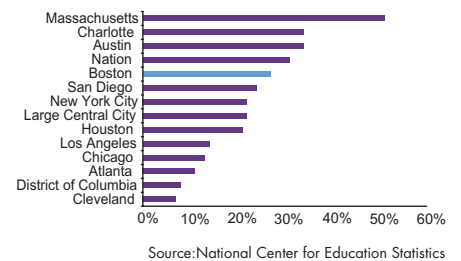
8th Grade NAEP Math
Boston District Results 2003-2007



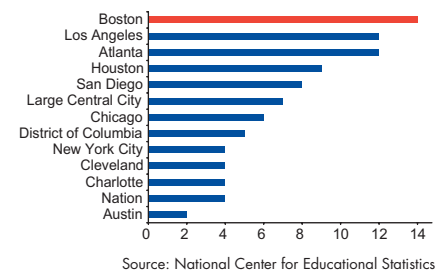
8th Grade NAEP Math
Percent of Students at *Proficient*
by Race & Ethnicity 2007



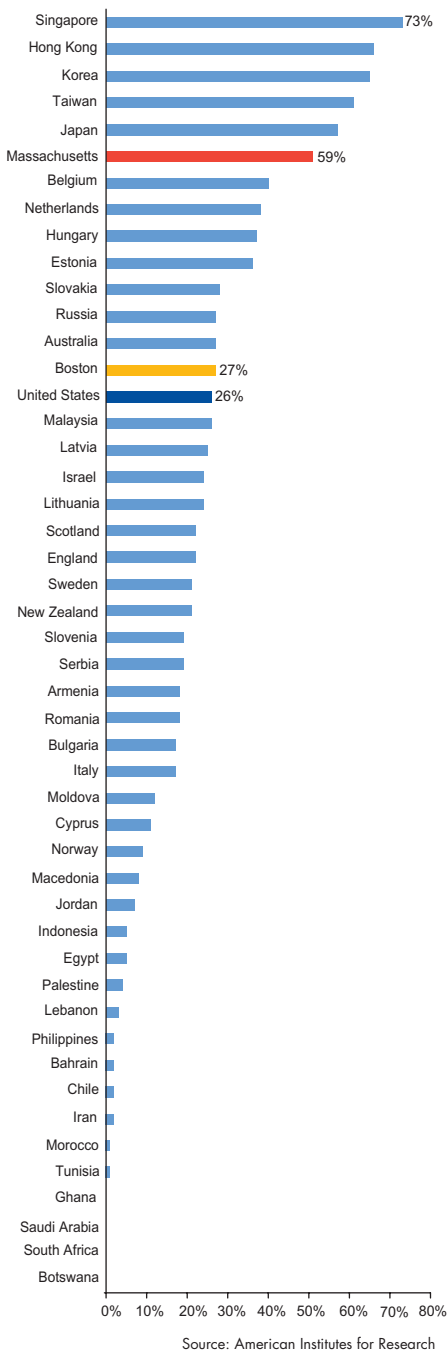
8th Grade NAEP Math
Percent of Students at Proficient
Boston vs. Select US Cities 2007



8th Grade NAEP Math
Change in Average Scaled Score
Boston vs. Select Cities 2003-2007



8th Grade Math Proficiency International Comparison Boston vs. Select Nations NAEP & TIMSS 2007



8th Grade Math & Science Proficiency: Global Comparisons

A world class center of education, science and technology, Boston is home to some of the nation’s leading colleges, universities and innovation economy clusters. However, competition for jobs and talent now comes not only from other US regions but from regions in Asia and the European Union (EU), threatening Greater Boston’s position in the global economy. Experts agree that a home-grown, fully high-skilled workforce is key, and that it can be achieved only through educational excellence for all, including improved Science, Technology, Engineering and Mathematics (STEM) education.

While the NAEP exam is designed to allow for state-by-state comparisons, the Trends in International Mathematics and Science Study (TIMSS) exam provides a framework for nation-to-nation comparisons, and in 2007, the American Institutes of Research published methodology allowing for comparisons of NAEP and TIMSS on a state-to-nation basis. As one of the 11 Trial Urban Districts analyzed by NAEP, Boston’s math scores can now be analyzed against the TIMSS to provide a picture of how Boston’s 8th graders stack up in the global knowledge economy.

Math:

Based on the 2007 Math NAEP and TIMSS, Boston’s score of 27% for 8th grade math proficiency ranked 14th among evaluated nations, equivalent to the performance of Australia and Russia, but dwarfed by top-performing Singapore at 73%, Hong Kong at 66%, Korea at 65%, Taiwan at 61% and Japan at 57%—just above nation-leading Massachusetts at 59%. US 8th graders scored 26%. The world’s top-performing nations are now clustered in Asia, with the US and EU falling behind and many nations in the Middle East and Africa ranking in the single digits.

Science:

Massachusetts vs. Global Competitors: In a state-to-nation comparison using 2005 8th grade NEAP state science exams and 2003 8th grade TIMSS science exams, Massachusetts, at 41% *Proficient*, ranked 7th against 47 evaluated nations.

8th Grade MCAS—Boston vs. Massachusetts: According to the 2007 MCAS Science evaluation, 8% of Boston’s 8th graders achieved *Proficiency* compared to 33% statewide. Though the MCAS is not directly comparable to NAEP or TIMSS, this discrepancy highlights Boston students’ challenge in the competitive 21st century knowledge economy.

KEY OUTCOME

Achievement Gaps ➡➡

As a function of Whole School Improvement, the Boston Public Schools is “committed to closing the achievement gap so that all students are learning at proficient levels.” By this, it means gaps in performance by race/ethnicity, household income, educational status and gender. Narrowing the achievement gap also ensures that Boston is making progress towards the No Child Left Behind mandated goal of 100% *Proficiency* for all students by 2014. (Math was not taken by 3rd graders until 2006, so this analysis is focused on 3rd and 8th grade achievement in Reading and Language Arts from 2001 to 2007).

Despite national acknowledgement of its efforts to close the achievement gap and incremental progress in a number of areas, Boston’s achievement gaps are stubborn and persistent from Elementary to Middle School, with only slight gains.

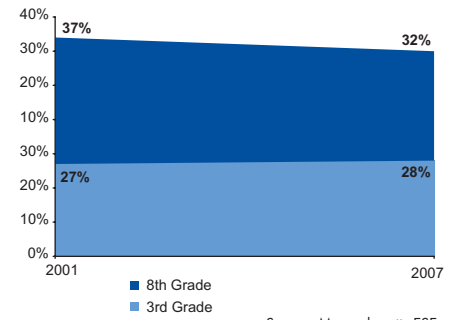
The Racial/Ethnic Gap: Overall, the point difference narrowed slightly between white students and their Latino and African American peers, between 2001 and 2007, and scores improved somewhat for both Latino and African American students. **Fewer than one-third of Latino and African American 3rd graders achieved *Proficiency* in Reading in 2001 compared to 54% of their white peers; 50% of Latino and African American 8th graders achieved *Proficiency* compared to 80% of their white peers in 2007.**

The White/Latino Gap: In 2001, the 3rd grade reading *Proficiency* gap between white and Latino students was 27 percentage points; by the 8th grade English Language Arts (ELA), it was 37 percentage points. The gap between white and Latino 3rd graders increased by 1 percentage point, from 27% to 28%, between 2001 and 2007 due to a slight increase in the achievement of white students. Over the same time period, the 8th grade ELA *Proficiency* achievement gap narrowed by 5 percentage points—from 37% to 32%.

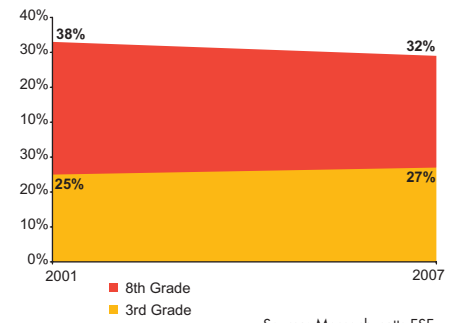
The White/African American Gap: In 2001, the *Proficiency* gap in 3rd grade between white and African American students was 25% in Reading and 38% in 8th grade ELA. By 2007, the 3rd grade gap had increased to 27 percentage points while the 8th grade had narrowed to 32 points.

The Limited English Proficiency Gap: Each year since 2001, only about 20% of nearly 1,000 LEP 3rd graders have scored *Proficient* in MCAS reading. As more students become fluent in English, the LEP population shrinks—in Boston by about two-thirds by the 8th grade. However, that student group is at greatest academic risk. Of LEP 8th graders, only 6% score *Proficient* or Above in MCAS Language Arts, compared to 70% of Regular Academic Students.

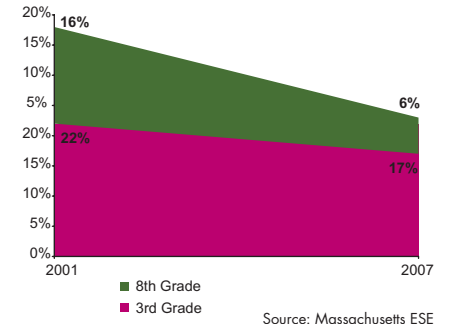
White/Latino
Reading/English Language Arts
Achievement Gap 3rd & 8th Grade
2001-2007



White/African-American
Reading/English Language Arts
Achievement Gap 3rd & 8th Grade
2001-2007



LEP Students
Reading/Language Arts Proficiency
3rd Grade & 8th Grade
2001-2007



See alternate versions of these charts
on the website:
BostonEducationReportCard.org

The Income Gap: Since 2001, a consistent 25%-30% of Boston's low-income 3rd graders have achieved *Proficiency* in MCAS Reading compared to about 50% of non-low-income 3rd graders—a gap of 20-25 percentage points. By the 8th grade, however, twice the percentage, or 50%, of low-income BPS students achieve an MCAS Reading score of *Proficient*. Non-low-income students were not tracked until 2006, but as of 2007, 85% of non-low-income 8th graders achieved *Proficiency* in MCAS Reading and English Language Arts, showing a *Proficiency* gap of 30 points.

Adequate Yearly Progress (AYP)

As a function of No Child Left Behind, Adequate Yearly Progress (AYP) measures the extent to which schools and districts are making progress toward yearly *Proficiency* benchmarks for all students and is closing the achievement gap among student groups. AYP is based on four criteria: 95% **student participation** in MCAS; 92% **attendance rate**; meeting a complicated **Performance Target** of 85.4 for English Language Arts and 76.5 in Math—based on a 100-point scale—and achieving an **Improvement Target** specific to each school.

AYP by School:

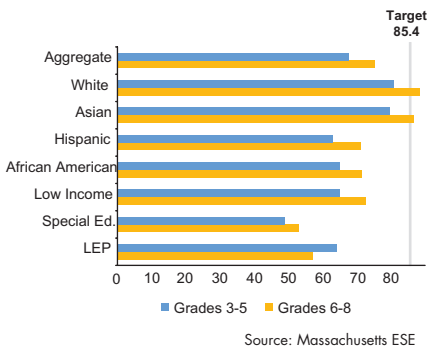
In 2007, among 113 BPS schools serving grades K-8, 26 achieved AYP for both Math and English Language Arts in the aggregate, including 3 of the 11 Pilot Schools serving these grades. Of those 26, 24 also made AYP in ELA and Math for “subgroups” (low income, special education, LEP, and students of color), of which 2 were Pilot Schools. Likewise, 8 of Boston's 11 Charter Elementary & Middle Schools made Math and ELA AYP for the aggregate, of which 6 made AYP for the subgroups in both subjects. On the other end of the spectrum, 28 BPS schools failed to make AYP for the aggregate and for subgroups in both ELA and Math.

AYP by Grade Segment:

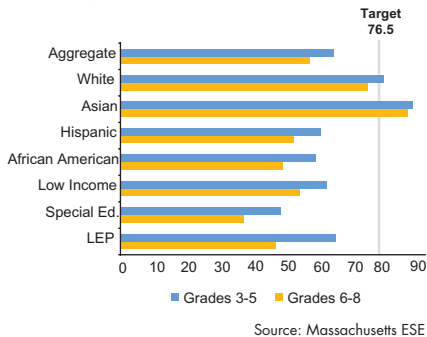
In ELA overall, BPS students show some improvement from Elementary School to Middle School. In Math, however, improvement toward AYP targets declines as students move from Elementary to Middle School.

- In 2007, only white and Asian Middle School students (grades 6-8) achieved the AYP performance target in English Language Arts (ELA). Similarly, only Asian BPS students in Elementary and Middle School and white Middle School students met the Math Performance Target.
- Special Education and Limited English Proficient (LEP) students are the most challenged to achieve AYP performance targets. Likewise, there is an evident achievement gap between white and Asian students and their African American and Latino peers when it comes to making AYP. With variation by grade, to date, as sub-groups, only whites and Asians have consistently achieved AYP.

BPS English Language Arts AYP by Grade Segment 2007



BPS Math AYP by Grade Segment 2007



Boston's Public Schools (BPS & Charter) that Made Adequate Yearly Progress in English Language Arts & Math, in the Aggregate and for Subgroups, 2007

MCAS evaluates student, school and district performance and evaluates and informs curriculum performance. NAEP is a national test and a tool for comparing states and other jurisdictions on long-term academic achievement. Performance Level Definitions reflect inherent differences in the two exams. This list includes Charter Schools.

- | | |
|------------------------------------|--------------------------------------|
| ■ Conservatory Lab Charter School | ■ Harvard-Kent Elementary |
| ■ Edward Brooke Charter School | ■ Joseph Lee Elementary |
| ■ Roxbury Prep Charter School | ■ Joseph P. Tynan Elementary |
| ■ Uphams Corner Charter School | ■ Joyce Kilmer K-8 School |
| ■ Beethoven Elementary | ■ Manassah E. Bradley Elementary |
| ■ East Boston ECC | ■ Mission Hill School* |
| ■ Emily Fifield Elementary | ■ Patrick J. Kennedy Elementary |
| ■ James A. Garfield Elementary | ■ Patrick O'Hearn Elementary |
| ■ James J. Chittick Elementary | ■ Rafael Hernandez K-8 School |
| ■ John D. Philbrick Elementary | ■ Samuel W. Mason* |
| ■ Orchard Gardens K-8* | ■ Thomas J. Kenny Elementary |
| ■ Phineas Bates Elementary | ■ William E. Russell Elementary |
| ■ Quincy E. Dickerman Elementary | ■ William Ellery Channing Elementary |
| ■ Roger Clap Elementary | ■ Winship Elementary |
| ■ Boston Collegiate Charter School | |
| ■ Charles H. Taylor Elementary | |
| ■ Excel Academy Charter School | |

*Pilot School

High School: Grades 9 – 12



The High School years encompass a shift toward self-directed learning, reasoning, the comprehension of complex ideas, mastery of specific subjects, self expression, independent after-school activities and the honing of interests and talents. Ideally, students begin to deepen their engagement with academic pursuits and plan for the future. These years are also marked by the influence of peers, the presence or absence of caring adult support, encouragement and guidance, concerns about appearance and personal safety, and engagement with potentially life-shaping decisions and transitions—from dropping out to teen pregnancy to involvement in the criminal justice system to a smooth or difficult transition to college, training, the military or the workforce.

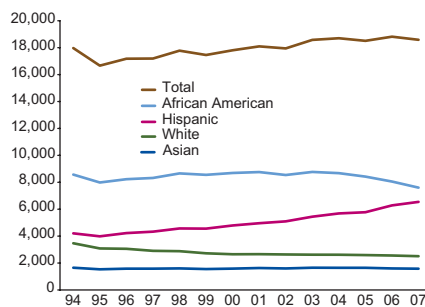
- Boston is home to more than 31,000 High-School-aged youth ages 15-18. Of these, 42% are African American, 26% are Latino, 25% are white and 7% are Asian—and the vast majority, 95%, are enrolled in High School.
- About 43% of Boston's High-School-age young people live in households that fall below the federal poverty level.
- Almost 75% of students enrolled in Boston's public High Schools qualify for free- or reduced-price lunch, a proxy for low household income.

ENROLLMENT IN THE PUBLIC SYSTEM

Public school enrollment is a measure of trends in the size of the student population as well as a school district's perceived quality and confidence in its leadership and direction. In early 2008, Superintendent Carol R. Johnson identified as a key priority that Boston's public schools will become "schools of choice" for the city's families.

As of 2006, 87% of Boston High-School-age students were enrolled in a public school, including the Boston Public Schools (BPS), Charter Schools or a suburban public High School through the Metropolitan Council for Educational Opportunity (METCO) program. Of the 13% of High-School-age students who are not attending a publicly-funded High School, 2,962, or 81%, attended one of the 5 Catholic High Schools in Boston. The remaining students attended one of 23 private or parochial High Schools in Boston's Inner-Core communities or a private school outside the region.

BPS High School Enrollment by Race/Ethnicity 1994-2007

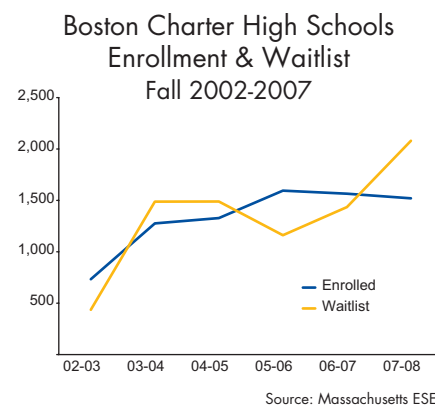


Source: Massachusetts ESE

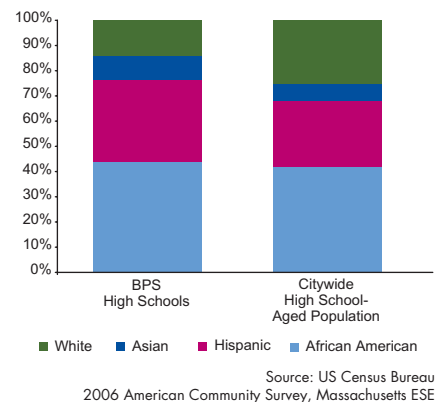
Enrollment in BPS High Schools has increased slightly—3%—since 1994 and has remained steady at about 18,500 since 2003. The increase can be partially attributed to growing numbers of 15-18 year olds in Boston. The Census Bureau estimates that this age group grew by more than 2,000 in Boston between 2000 and 2006. The BPS may also be attracting students due to its **High School Renewal** initiative, which is creating a greater range of innovative school types such as **Pilot Schools**—with autonomy over staffing, budget and curriculum, **Small Schools** and “schools within a school” or **Small Learning Communities**, offering smaller class sizes and focused or themed curricula.

Since Charter Schools became a public alternative to BPS High Schools in 1994, Charter High School enrollment has risen to more than 1,500. As a proxy measure for demand, the wait list stood at 2,000—or more than total enrollment in 2007 (although it should be noted that students can be waitlisted for more than one school simultaneously). Despite the demand, the number of Charter Schools allowed in Massachusetts is capped by the State Legislature at 72 or 9% of a district’s total budget. There is an additional allowance for 48 Horace Mann Charter Schools which operate within a public district under a Commonwealth-issued charter approved by the local school board and teachers union. Boston currently has six Charter High Schools (three beginning in 5th or 6th grade) and two Horace Mann Charter High Schools (Note: Horace Mann schools are analyzed with Pilot Schools in this report, see explanation on page 74).

Enrollment data also show that utilization of Boston’s public High School system varies by race/ethnicity: The American Community Survey (ACS) estimates that in 2006, white students accounted for 25% of Boston High School students but comprised 14% of 2007 BPS High School enrollments (of which about half were enrolled in Boston’s **Exam Schools**).



BPS High School Enrollment vs. Citywide High School-Aged Population by Race/Ethnicity 2006/07



DEGREE OF COMPLEXITY

Historically Challenged Groups as a Percent of Student Enrollment

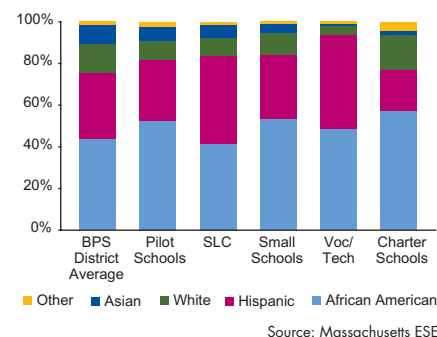
Well documented disparities in academic achievement persist in the US by household income, race/ethnicity, English language proficiency and special needs. Large urban school districts with a high percentage of historically challenged cohorts are particularly challenged to attain excellent outcomes for all students.

BPS District-Wide

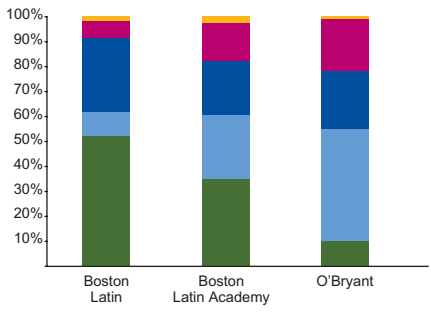
Among BPS High School students in the academic year 2006/07:

- 13.4% were identified as Limited English Proficient (LEP);
- About 16% were identified as requiring Special Education services ranging from literacy assistance to Substantially Separate classroom placement;

9-12 Enrollment by Race/Ethnicity BPS & Charter 2007



BPS Exam School
Grades 9-12 Enrollment
by Race/Ethnicity 2007



Source: Massachusetts ESE

High School Enrollment of Special Populations Boston and Inner Core Districts 2007

District	2007 9-12 Enrollment	Limited English Proficient (%)	Low-Income (%)
Arlington	1,141	1.9	7.6
Belmont	1,150	3.2	5.7
Boston	18,585	13.4	63.3
Brookline	1,829	2.4	13.1
Cambridge	1,606	5.2	37.8
Chelsea	1,493	12.9	81.9
Everett	1,771	7.5	39.1
Lynn	4,331	14.2	70.3
Malden	1,676	7.5	53.8
Medford	1,563	4.3	24
Melrose	896	1.1	12.3
Milton	1,043	0.5	12.6
Newton	3,673	2.7	6.2
Quincy	2,900	6.6	30.9
Revere	1,682	7.8	54.5
Saugus	824	0.1	11
Somerville	1,505	14.7	67.2
Waltham	1,535	6.8	26.9
Watertown	738	5	28.9
Winthrop	579	3.5	20.2

Source: Massachusetts ESE

- More than 60% were identified as low-income, with a majority of these students in deep poverty in terms of their eligibility for free—rather than reduced-price lunches;
- More than 7 in 10, or 75%, were African American or Latino—members of the two major racial/ethnic groups at greatest statistical risk of falling behind.

Within the district—a majority of white and Asian BPS High School students attend one of the three Exam Schools. In 2007, white students comprised 14% of all BPS High School students but 36% of all Exam School students, with most attending Boston Latin—more than 50% white in 2007. In the same year, Asian students comprised 9% of the total student body, but 26% of all Exam School students. Only the John D. O’Bryant School of Math & Science enrolled a student population demographically similar to the district as a whole. In 2007, 70% of the O’Bryant’s students were African American or Latino. However, none of the Exam Schools enrolled more than 2% Limited English Proficient (LEP) students, who make up more than 13% of BPS High School students overall.

District Comparisons

For purposes of comparison, the BPS system is assessed as one of the 20 Inner Core communities in Greater Boston as identified by the Metropolitan Area Planning Council. In this context, the BPS student population is unlike any other in the combination of its size and the make up of its student population.

Among the 20 public school districts in Greater Boston’s Inner-Core communities, the BPS is among those with the greatest degree of difficulty in meeting the needs of all its students and is the largest district in the Bay State:

- Chelsea has the greatest percentage of low-income students (82%) followed by Lynn (70%), Somerville (67%) and Boston (63%). Somerville High School has the highest percentage of Limited English Proficient (LEP) students (15%), with Lynn coming in next (14%) and Boston next (13%). Chelsea also has the highest percentage of Latino students (74%) followed by Lynn (38%) and Boston (32%). The Boston High School population is more than four times the size of the next largest, Lynn.
- Only Cambridge has a percentage of African American students comparable to Boston’s—at 40% and 44%, respectively. Milton (22%) has the third greatest African American student population.
- Districts with the highest percentage of Special Education High School students are Waltham (20%), Newton (19.7%) and Medford (18.6%), though the size of this population may be influenced by the availability of diagnostic tests and special education services within a district. Among Boston’s High School students, 16.4% are identified as Students With Disabilities.
- Districts with the highest percentage of Asian students are Quincy (28%), Malden (20%), Brookline (18%) and Newton (13%).

- Winthrop (93%), Saugus (90%) and Melrose (86%) had the highest percentage of white High School students.

THE RANGE & QUALITY OF PUBLIC SCHOOL CHOICE

Since founding the nation’s first public High School—Boston Latin—in 1635, the BPS has been a national leader in public High School innovation. Recent efforts to revolutionize High School education have come in two waves: in 1995, with the opening of the first Pilot High Schools, and in 2001, with the total restructuring of grades 9-12 through BPS High School Renewal. As a result, the BPS’ secondary school landscape is characterized by a growing number of small educational settings and fewer traditional large High Schools. In 2008, BPS Superintendent Carol R. Johnson announced plans to explore additional new school models, including High School/Community College Dual Enrollment programs and replication of innovative programs from Boston’s Pilot Schools.

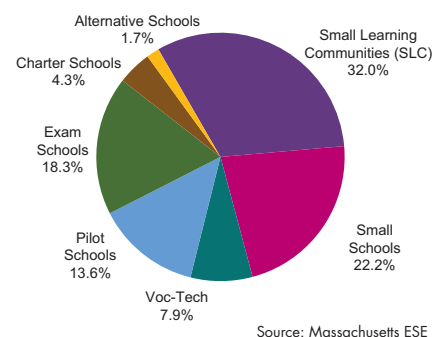
School Types

National studies have shown that students who attend smaller schools enjoy school more, have lower transfer and dropout rates, forge closer relationships among students, teachers, and families, and have better academic outcomes. Through its Office of High School Renewal, the BPS has structurally transformed its High Schools into “small, dynamic learning environments that promote student engagement, positive relationships among adults and students, and a love of learning.” As a result of this effort and an increase in the number of autonomous Pilot Schools, the landscape is changing:

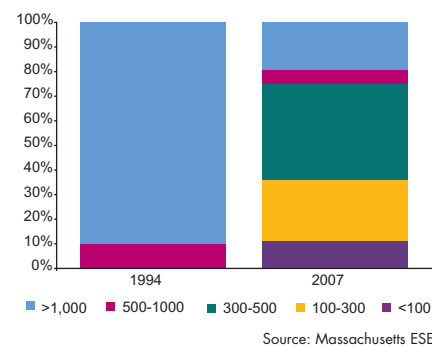
In 1994, 90% of BPS High Schools were large, enrolling more than 1,000 students; by 2007, 75% enrolled fewer than 500 students. The number of High Schools has more than doubled from 17 large traditional urban High Schools to 36 smaller, subject-focused schools under plans for High School Renewal and an expanding number of Pilot Schools. (Of the 7 BPS High Schools enrolling more than 1,000 students today, 2 are Exam Schools, 1 is Boston’s Voc/Tech School, Madison Park, and 4 are structured around Small Learning Communities). While 3 Charter High Schools enroll 4.3% of students attending a public High School in Boston, the overwhelming majority of students are enrolled in BPS High Schools and can chose among:

- **15 Small Schools:** Independent schools at former large district High Schools—such as the Dorchester Educational Complex—provide a formal community-building infrastructure to support students, with student advisory councils, after-school programs, and service projects. Each small school is organized around a unifying theme such as Arts, Engineering, Social Justice, Technology, and Health Careers.

Enrollment in Public High Schools by Type, Boston 2007



BPS High Schools by Enrollment Size 1994 & 2007



The BPS offers an increasing range of choice:

- 30 High Schools serving grades 9-12
- 3 Exam Schools (the John D. O’Bryant, Boston Latin and Boston Latin Academy, 7-12)
- 8 Pilot Schools, of which 2 are Horace Mann Schools and 1 is a Commonwealth School
- 1 Technical/Vocational High School
- 6 serving students with Special & Alternative needs

School-to-Career Programs:

BPS High Schools offer a wide range of career-training opportunities for students who plan to enter the workforce directly following graduation.

City/Build: Introduces students to architecture, design, engineering, planning and construction by combining coursework with in-field training.

Construction Futures Build Up!: Partners with the Associated General Contractors of America to provide students with hands-on experience in construction.

Heath Education & Careers Network: Trains students for careers in medical assistance such as EMT's, Nursing Assistants, Home Health Aides and more.

National Foundation for Teaching Entrepreneurship: Offers training in small businesses operation & technology training.

ProStart: An initiative of the National Restaurant Association that offers training in hotel/restaurant management, culinary arts and related services.

STRIVE: Facilitates career training and job placement for students with significant disabilities.

TEACHBoston: Prepares High School students for a career in education services with opportunities for job shadowing and mentorship.

TechPrep: Trains in and encourages students to enter tech-savvy careers.

- **Seven Small Learning Community Schools:** “Schools within” larger and more traditionally structured High Schools, such as Brighton and East Boston High, providing individualized and supportive learning environments centered on themes such as World Languages, Travel & Tourism, and Law & Government.
- **10 Pilot Schools:** A Boston innovation distinguished by their autonomy over budgets, staffing and hiring, curriculum, schedules, and length of the school day, Pilot Schools are accountable to meeting BPS standards. Like BPS Small Schools, many Pilot Schools are theme-based—such as Boston Arts Academy.
- Counted among the Pilot schools are **two Horace Mann Charter Schools** which—unlike traditional Charter Schools—operate within the BPS school district and Teachers Union while under a Commonwealth-issued Charter. Due to their relationship with the Boston public school system, Horace Mann Charter Schools are often aligned with Pilot Schools and for the purposes of this report are analyzed as Pilot Schools.
- **Three Exam Schools:** Boston Latin, Latin Academy and the John D. O'Bryant, which begin enrolling students in Grade 7. Potentially open to all, admission is based on a highly competitive entrance exam.
- **One Vocational /Technical School:** Madison Park offers both a BPS diploma and Certificates of Competency in 19 career exploration paths.

Schools Organized Around Themed Curricula

Through its High School Renewal initiative, BPS High Schools, in addition to their standardized curriculum goals, offer focused curricula and theme-based learning similar to an undergraduate “major” to support and nurture students’ interests, learning styles and abilities.

Students entering BPS High Schools in 2007 could choose among 11 theme-based learning options in 15 Small Schools, four Pilot Schools, seven Comprehensive High Schools organized into Small Learning Communities, and One Voc/Tech School. While all schools must adhere to the same citywide Learning Standards for math, reading and writing, students can enroll in schools organized around a particular theme:

- **6 schools focused on Arts, Media & Communications**, including the city’s only audition-based performing and visual arts Pilot School, Boston Arts Academy;
- **7 schools centered on Business**, including the sub-themes of finance, entrepreneurship and high tech business;
- **3 schools with Education & Human Services curricula;**
- **2 “Small Schools” with a focus on Environmental Sciences & Biology;**

- **7 schools with a focus on Health**, including career training and college prep for students interested in pursuing careers in health services and medicine;
- **2 schools with a focus on Hospitality** and service-sector business education;
- **6 schools with a focus on Information Technology**, including 1 Pilot School—TechBoston—exclusively devoted to educating students in high tech skills;
- **3 schools focused on International Studies & World Languages**;
- **7 schools offering a curriculum focus in Law, Government & Public Service**; and
- **5 schools offering a focus in Science, Technology, Engineering & Math (STEM)**, including the John D. O’Byrant Exam School.

Additionally, the BPS offers 6 High Schools that are not theme-focused including **2 Exam Schools with a classic Liberal Arts curriculum**, **4 Pilot Schools offering college-prep, lifelong learning and portfolio-based curricula**, and the **Horace Mann School for the Deaf**, the city’s only public school for hearing-impaired students.

Schools With Specialized Academic Options

Dual Enrollment: 11th and 12th graders with high academic achievement and college aspirations can take courses at local 2- and 4-year colleges and universities that apply credits towards a BPS diploma and post-secondary education. (In 2007, 11 BPS High Schools offered dual enrollment opportunities.)

Advanced Placement (AP) Courses: Academically rigorous courses in such disciplines as Reading, Writing, Calculus, Biology, Statistics and Studio Art, among numerous others, are accompanied by a year-end cumulative exam administered by the College Board. A score of 3 or above on a 1 to 5 scale can earn college credits for entering freshmen. In 2007, BPS High Schools offered 108 AP courses, of which nearly half were offered at the 3 Exam Schools.

Advancement Via Individual Determination (AVID): For students in grades 4 through 12 who are often B, C and even D students with high academic potential but who consistently fall short, AVID enrolls underperforming students in the most difficult classes—such as Honors and Advanced Placement—and special elective courses. In 2007, 5 BPS High Schools offered AVID: Another Course to College (Pilot), Parkway Academy of Technology & Health, Snowden International High School, English High and Urban Science Academy.

Sheltered English Immersion (SEI): In 2007, 12 BPS High Schools offered SEI, or academic instruction in a student’s native language while he or she transitions to English proficiency and instruction, including Boston International High School, which enrolls only English Language Learners. Among all SEI programs, 3 offered instruction in Spanish, 3 in Haitian Creole, 2 in Portuguese,

BPS Adult & Alternative Diploma-Granting Programs:

Boston Adult Technical Academy, Boston Day & Evening Academy (Pilot School), Community Academy, Greater Egelston Community High School (Pilot School)

Community-Based Diploma-Granting Programs:

ABCD University High School, City Roots, EDCO Youth Alternative, El Centro del Cardenal, Ostiguy High School, Notre Dame Education Center, YouthBuild

2 in Vietnamese, 2 in Cape Verdean, 1 in Chinese, 1 in Somali, and 3 in multiple languages.

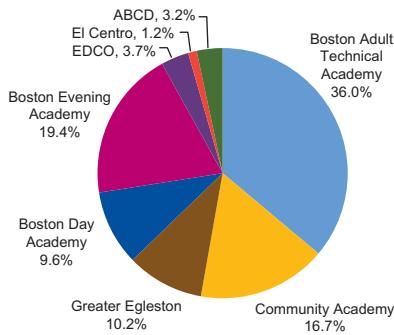
For more school-by-school details, see the Appendix.

Alternative Education Options

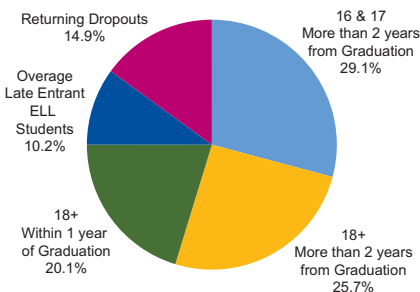
Alternative Education programs expand the options available to students falling off track and/or at high risk of dropping out of school, and ensure that a school district can meet the needs of students of all ages, life circumstances and abilities. In early 2008, BPS Superintendent Carol R. Johnson made alternative education and Boston's "off-track" students a high priority.

As of 2007, the portfolio of Alternative Education programs included a range of options within the BPS as well as through community based organizations to serve roughly 1,400 students of varying needs. Likewise, since 1987 BPS has partnered with a number of community organizations offering accredited programs to support students in need of a diploma, GED, or transitional education, including:

Enrollment in Internal & External Alternative Education Programs 2006



Profile of BPS High School Students in Need of Alternative Education 2006



9 Diploma-Granting Programs: As of 2007, BPS offered 4 in-district diploma-granting programs with a total enrollment cap of 910 students. BPS partners with 6 community-based organizations that enable students to earn credits towards a BPS diploma as well as the Notre Dame Education Center where students earn credits towards a diploma from Cathedral High School. Together, these 7 community-based programs had an enrollment cap of 200 in 2007.

6 GED Programs: As of 2007, Boston and the BPS Office of Alternative Education offered 7 programs to assist students over the age of 16 to prepare for the General Educational Development (GED) test. The total capacity of these programs in 2007 was 134 students.

5 Transitional Programs: Community-based organizations throughout Boston offer programs for students who must leave traditional schools for a specified amount of time and offer academic support for students involved in the juvenile court system through the Department of Youth Services (DYS) or who leave school due to pregnancy. As of 2007, 5 organizations in Boston offered 125 available seats for students in need of Transitional Education Programs.

Although there are more than 1,100 seats available in BPS diploma-granting Alternative Education Programs, recent research suggests that BPS currently enrolls more than 4,500 students who may need Alternative Education. The 2007 report *Strategic Planning to Serve Off-Track Youth* by the Parthenon Group found that the BPS enrolled about 4,500 "off track" students in 2005/06, with 92% falling into one of the following 5 categories which exhibit an increased dropout risk:

- **Students 16 or 17 with 2 or more years off-track for graduation:** 1,323 students fell into this category, of which 21% were Substantially Separate Special Education students;
- **Students 18 years or older with 2 or more years off-track for graduation:** 1,171 students, of which 20% were in Substantially Separate Special Education;
- **Students 18 or older within 1 year of graduation:** 913 students, of which 23% were in Substantially Separate Special Education;
- **Students who are ‘over-age’ or Late Entrant English Language Learners:** 462 non-native English speakers who entered the BPS for the first time in High School;
- **Returning Dropouts:** in 2005/06, 679 BPS students returned after having dropped out.

QUALITY LEADERSHIP, TEACHING & ADULT GUIDANCE

Research over the past two decades has concluded that factors such as the quality of school leadership and teaching, class size and school size can profoundly impact student outcomes. While the High School Renewal initiative has transformed the BPS High School landscape into smaller, curriculum-focused schools, the plan for Whole School Improvement is designed to simultaneously focus on improving the quality and capacity of school educators and leaders (for details about Whole School Quality, see K-8).

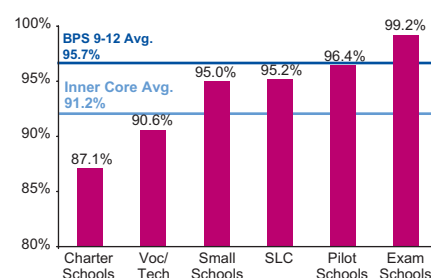
Teacher Quality

Recent research identifies the key characteristics of teacher quality directly affecting student outcomes including: subject matter proficiency; knowledge of teaching and learning; and years spent teaching.

Highly Qualified Teachers: No Child Left Behind established a requirement that all students in all districts be taught by *Highly Qualified* teachers in Core Academic Areas by 2005/06. *Highly Qualified* teachers are defined as full-time equivalents holding a Massachusetts Teaching License and demonstrating subject matter competency. This is seen to be of particular importance in core subject areas such as English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, the arts, history and geography.

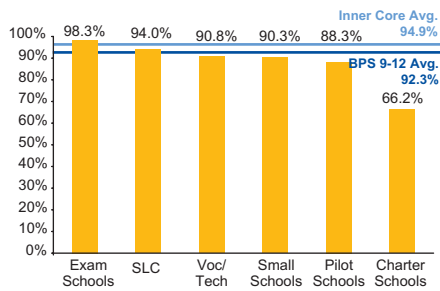
In the 2007 school year, an average of 95.7% of teachers in core academic areas were identified as *Highly Qualified*. The average percentage of *Highly Qualified* teachers in core academic areas in Greater Boston’s Inner Core communities was 92%.

Percent of High School Teachers Identified as NCLB *Highly Qualified* in Core Subject by School Type 2007



Source: BPS

Percent of High School Teachers Licensed in Teaching Assignment by School Type 2007



Source: Massachusetts ESE

Subject Matter Licensure: Teachers in Massachusetts public schools are generally required to hold a license issued by the Massachusetts Department of Elementary and Secondary Education. Licenses are issued in specific subject areas and for particular grade levels (such as “Biology, Grades 8-12”). There are 4 levels of licenses: Preliminary, Initial, Professional, and Temporary (representing the career continuum). Teachers earn a license by demonstrating subject matter knowledge and instructional skills.

Of BPS High School teachers in 2007, 92.2% were subject-matter-licensed compared to an average of 95% among Greater Boston’s Inner-Core Districts and 66.2% among Boston’s Charter schools (which are not required to have licensed teachers). Within the BPS, larger schools such as Exam Schools and Small Learning Communities employed the highest percentage of teachers with subject-specific licenses at 98% and 94% respectively.

Teacher Experience & Turnover: Research shows that teachers with at least 3 years of classroom experience have a positive effect on student outcomes compared to teachers with less than 3 years, although the impact of experience plateaus after 5 years.

District-wide, 19% of new BPS teachers leave after their first year and 47% within 3 years.

Student-to-Teacher Ratio

In 2007, the BPS District-wide average student-to-teacher ratio was just over 13:1—the same as the average of Greater Boston’s inner core communities and well below the 30:1 BPS standard. Boston’s larger schools—the Exam Schools and the traditional High Schools restructured into Small Learning Communities—have the largest number of students per teacher, whereas theme-focused Small Schools, Pilot Schools and Madison Park hover close to the average. Alternative schools, due to students’ extensive needs, have a much lower student-per-teacher ratio.

Effective School Leadership

School leaders—from the District Superintendent to school principals and headmasters—profoundly influence school culture. Research has found that certain characteristics of effective school leaders, such as intellectual stimulation, community or situational awareness and the ability to challenge the status quo, directly affect student outcomes.

While data are currently not available to assess the quality of BPS leadership, other than student outcomes, the BPS' plan for Whole School Improvement encourages innovative and shared leadership among school leaders and teachers to create a consistent culture of learning. It is hoped that in the future, measures of excellence will be established.

Guidance Counselors

A guidance counselor can assist students to choose classes appropriate for their future aspirations, sign up for SAT or MCAS prep, find extra academic help if needed, and select and apply for college or weigh alternatives—as well as assisting in crisis management and prevention.

In 2006/07, BPS High Schools employed 99 guidance counselors district-wide, with many dedicated and specialized in the needs of High School students.

Parental Involvement

Parental involvement can be a determining factor in student outcomes but is very difficult to measure. All BPS High Schools now highlight the importance of including parents—and often the broader community—in the school community.

In 2006/07, 8 BPS High Schools used the services of a Family & Community Outreach Coordinator (FCOC). Employed by schools on a full- or part-time basis, the role of an FCOC—in alignment with Boston's plan for Whole School Improvement—is to strengthen family engagement within schools, connect families to resources, and measure the outcomes of school-specific programs. Additionally, in 2006/07, 5 BPS High Schools established Family Centers to provide parental and community support services in school. Many schools have additional formal and informal outreach strategies to inform and engage parents.

IN-SCHOOL RISK FACTORS

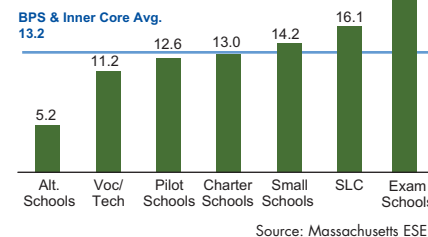
A 2007 study of the school dropout trends in the BPS by the Parthenon Group found that students with multiple risk factors, such as high mobility and low attendance rates, are at greater risk of requiring more than 4 years to graduate or of dropping-out altogether.

Student Mobility

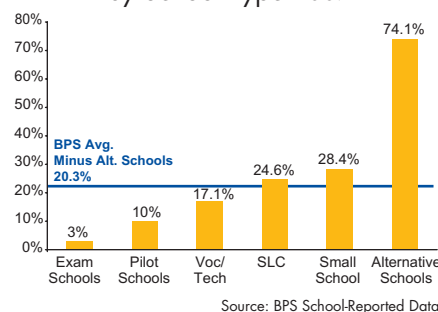
According to the Parthenon Group, students with high mobility rates—those who move in and out of a particular school district or enter the BPS in later years—showed an increased risk of dropping out of High School.

As of 2006/07, BPS district-wide High School mobility rate was 20%, though the range extended from less than zero to 35% and up to 75% among Alternative Schools. BPS Exam High Schools had the lowest average mobility rate of 3%

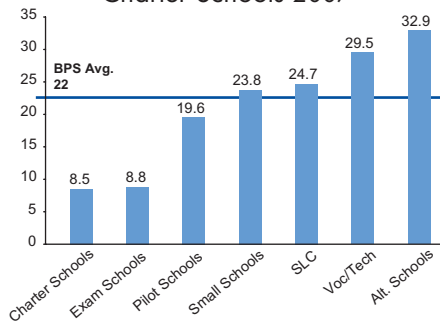
Students Per Teacher
by School Type 2007



Average BPS 9-12 Mobility Rate
by School Type 2007

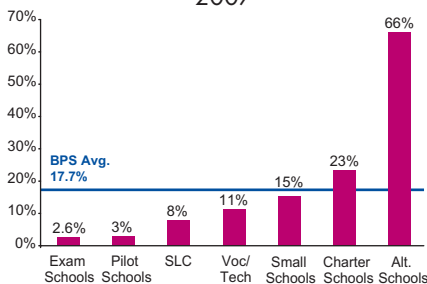


Average Annual Absences by School Type BPS Charter Schools 2007



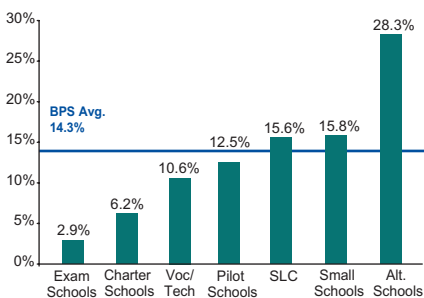
Source: Massachusetts ESE

Average Out of School Suspension Rate by School Type 2007



Source: Massachusetts ESE

Average Grade Repetition Rate by School Type BPS & Charter Schools 2007



Source: Massachusetts ESE

while BPS Small Schools had the highest average rate of 28.4% among regular education schools, though Alternative Schools had an average mobility rate of 74%. Among all BPS drop outs, Parthenon Group data show that 30% had not attended a BPS Middle School and 57% had not enrolled in the BPS until the 10th grade or later.

Student Attendance & Truancy

Research shows that consistent attendance is critical to success in High School. Every day missed heightens the risk of falling behind grade level. Absences can reflect family emergencies, health problems, fear or other distress. Truancy—the unexcused absence from school for reasons other than illness—often reflects and allows for at-risk behavior outside of school.

In 2006/07, BPS High School Students, on average, missed 22 days of school with a great range among school types. On average, students at Boston's Exam Schools missed 8 days per year and Pilot School students missed 19 days, students enrolled in Small Schools and Small Learning Communities missed, on average, 24 days, and students in Voc/Tech Education and Alternative Education missed 29 and 34 days respectively, or roughly one fifth of the school year based on a 180-day calendar.

Out-of-School Suspensions & Expulsions

The spectrum of activities that can lead to suspension is broad, but out-of-school suspensions reflect serious transgressions. Expulsions—11 days or more of mandatory exclusion—reflect the most severe cases, which include bringing a weapon to school, assaulting a faculty member or a felony conviction.

BPS High Schools had, on average, an out-of-school suspension rate of 18% in 2007, but this shrinks to 8% when Alternative Schools are excluded, which had the highest rate at 66%. Exam and Pilot High Schools (minus Alternative Pilot Schools) suspended fewer than 3% of students, while Boston's Charter High Schools had a rate of 23%. Larger BPS schools—Voc/Tech Madison Park and restructured Small Learning Communities—had lower suspension rates than Small Schools. By comparison, Greater Boston's Inner Core Districts averaged 16%.

In 2007, 0.7% of BPS High School students were permanently expelled compared to an average of 0.2% among Greater Boston's Inner Core Districts.

Grade Repetition

Over-age students—those held back one grade or more and those who enter the BPS at least two years older than their grade-level counterparts—have been identified as at risk for dropping out of High School.

In 2006/07, the District-wide BPS High School grade repetition rate was 14.8%. Across school types, the rate varied from a low of 2.9% among Exam Schools

to a high of 29.3% among Alternative schools. Charter High Schools had an average repetition rate of 6.2%. (Failing Charter School students are offered the opportunity to re-enter the BPS system rather than repeat a year, which may affect school performance results considerably.)

Academic Performance

Among the indicators of risk identified by The Parthenon Group in the report *Strategic Planning to Serve Boston's Off-track Youth*, were Performance on Middle School MCAS Exams and 9th Grade course failures. The report found that poor performance in both of these measures was associated with lower graduation rates and increased risk of falling off-track.

Middle School MCAS: Among the BPS Class of 2006, students who scored *Proficient* or higher on both English Language Arts and Math MCAS exams in Middle School had an average 4-year High School graduation rate of 92%. By comparison, those students who scored *Warning* on all Middle School MCAS exams had a 4-year graduation rate of 39%. Students scoring *Needs Improvement*—the benchmark score for passing—on one Middle School MCAS exam had a 78% 4-year graduation rate.

9th Grade Course Failure: Students in the BPS Class of 2004 who passed all of their 9th grade core courses (such as English, Math, Science and History) had a 4-year graduation rate of 88% and a 6-year graduation rate of 91%. By comparison, students who failed just one core course had a 4-year graduation rate of 65% and a 6-year graduation rate of 72%. Among students who failed 5 or more courses, only 5% graduated within 4 years and 9% within 6 years.

IN-SCHOOL ENRICHMENT FACTORS

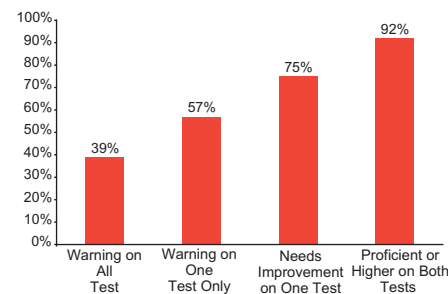
In-school enrichment—from expanded learning time to the arts and outdoor activities—have been shown to increase resilience to risk factors, positively affect student outcomes and build and strengthen the school community.

Though High Schools have a highly-focused curriculum, additional factors enrich learning for students and help them to stay on track.

Expanded Learning Time: Many experts believe that one key to increasing proficiency and student outcomes is to give students more time to learn and teachers more time to teach through Extended Block Classes and Extended Days. In 2007, 4 BPS High Schools offered Expanded Learning Time—school days that extend past 1:00 or 2:00 p.m. Additionally, 4 schools offered Extended Class Time, including 70 to 80 minute time blocks for a subject.

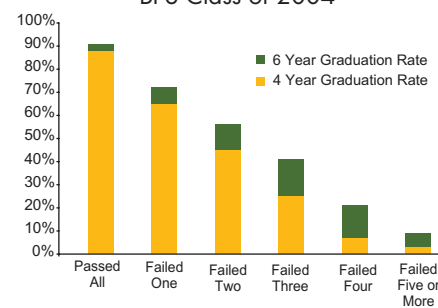
Performing and Visual Arts Education: The BPS currently requires all students to spend 90 hours per year in Creative Arts classes. In addition, many schools have partnered with outside organizations to offer theater, music, visual

Four-Year Graduation Rate by Performance on Middle School MCAS Exams, BPS Class of 2006



Source: The Parthenon Group Analysis of BPS Internal Data

Four & Six-Year Graduation Rates by Core Course Failure BPS Class of 2004



Source: The Parthenon Group Analysis of BPS Internal Data

arts and dance instruction. In 1998, the BPS opened the district's first and only High School dedicated to performing and visual arts, Boston Arts Academy (BAA), a Pilot School. Students must apply to and audition for a space at BAA where they study within all citywide and statewide learning standards in addition to the arts-based curriculum.

Physical Education: Recent research has noted the importance of physical activity in improving academic outcomes as well as combating youth obesity. For some students, school time may be the only time for structured physical exercise. **In 2007, 15 High Schools offered Physical Education as a part of the general curriculum and 22 offered intramural and school-sponsored sports.**

MCAS & SAT Prep: As standardized tests become the primary measure of academic success and college readiness, many High School students find additional tutoring and prep courses a necessity or a boost to achieving a high score. **In 2007, 15 BPS High Schools offered free SAT prep or tutoring for students; 17 offered MCAS prep and peer tutoring.**

Student Organizations: Opportunities to voice opinions and affect the school community as leaders can enrich the High School experience. **In 2007, 13 BPS High Schools supported active student leadership organizations.** Additionally, students from High Schools across the BPS system participate in the **Boston Student Advisory Council**, which convenes twice a month for dialogue about citywide and school-specific issues.

OUT-OF-SCHOOL RISK FACTORS

For adolescents straddling childhood and adulthood, a lack of constructive activities can limit choices, amplify the effects of peer pressure, media and street distractions and compound risks for off-track students, increasing poor performance and drop out rates.

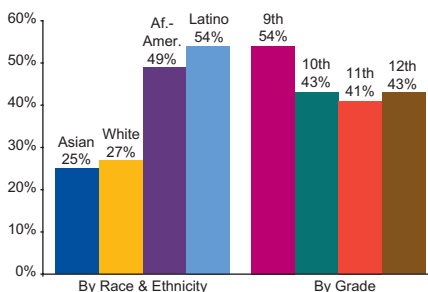
Hours Spent Watching TV

Though there is not a consensus among experts regarding the effects of television watching on educational outcomes, some studies show that extensive time spent on watching TV, surfing the web and playing video games can detract from time spent on homework and may contribute to obesity and aggression.

In 2006, an average 46% of BPS High School Students reported watching 3 or more hours of TV per day, according to the Boston Youth Survey by the Harvard School of Public Health. Though not directly correlated, television watching is aligned with other academic risk factors:

By Race/Ethnicity: While 25% of Asian and 27% of white students reported watching more than 3 hours of TV per day, this was true for 49% of African American students and 51% of Latinos. (It is interesting to note that these statistics roughly parallel the current academic achievement gap.)

Percent of BPS High School Students Who Report Watching More Than 3 Hours of TV Per Day 2006



Source: 2006 Boston Youth Survey

By grade level: Among 9th graders, 53% reported watching more than 3 hours per day—the highest percentage among all grades. (While there is no established correlation, this is a warning sign as research shows that 9th graders who fail one or more courses are at the greater risk of falling off-track in high school.)

By gender: About 42% of girls in BPS high schools in all grades reported watching 3 or more hours of TV compared to 51% of boys.

Overweight/Obesity

Students who are overweight or obese are at higher risk for developing health problems, which may contribute to increased absence—a risk factor for falling off track.

In 2006, 46% of BPS High School Students were reported to be overweight through a survey conducted by the Harvard School of Public Health. Though the rate is relatively consistent across grade level, gender, and race/ethnicity, Asian students accounted for the lowest rate of 37%, while 9th graders were found to have the highest rate at 51%.

Teen Pregnancy

Teen pregnancy interrupts the school experience, may increase a teen’s risk of dropping out, and is correlated with low-weight births, a risk factor for developmental delays. It is also correlated with single parenthood and household poverty.

In 2006, Boston’s teen birth rate—births to teen girls age 15-19 per 1,000—was 29%. Boston ranked 21st among Massachusetts cities and towns in its teen birth rate. A recent report by the Massachusetts Alliance on Teen Pregnancy found that teen birth rates in Boston and across the state are increasing, particularly among teens in lower income communities.

Feelings of Safety

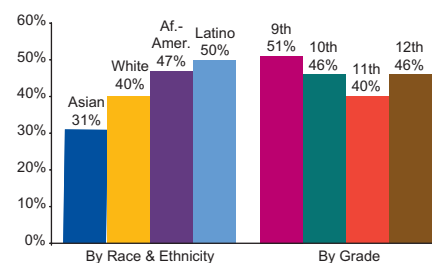
Feeling unsafe increases stress and may prevent teens from playing or walking outside and even from attending school.

In 2006, 22% of Boston teenagers felt unsafe in their own neighborhood. Across grades, 9th and 12th graders felt the least safe—24% and 27% respectively—compared to 19% of 10th graders and 16% of 11th graders. About 26% of African American teens and 19% of Latinos felt unsafe in their own neighborhood compared to 14% of Asians and 9% of whites, while 25% of foreign-born teens reported feeling unsafe compared to 19% of US-born teenagers.

Youth Violence & Crime by Time of Day

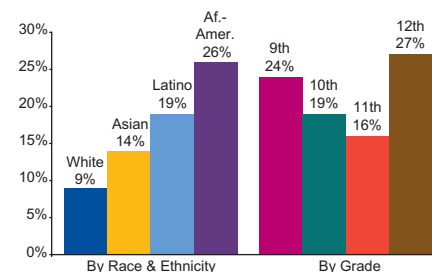
Teens have been shown to engage in risky behaviors between 3:00 - 5:00PM—after school ends and before adults return from work. However, new data show that the evening is very dangerous as well.

Percent of BPS High School Students Identified as Overweight 2006



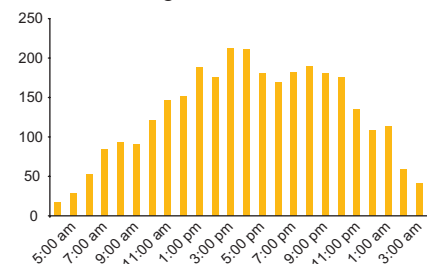
Source: 2006 Boston Youth Survey

Percent of BPS High School Students who Report Feeling Unsafe in Their Neighborhood 2006



Source: 2006 Boston Youth Survey

Boston Youth Part 1 Crime by Time of Day
Victim age 12 to 20 2007



Source: Boston Police Department, Strategic Planning and Research

Summer Programs & Jobs

Research shows that a large percentage of the academic achievement gap can be traced to unequal opportunities for summertime enrichment. A report of the Summer Safety Funder Collaborative found that in the summer of 2007, Boston's out-of-school organizations:

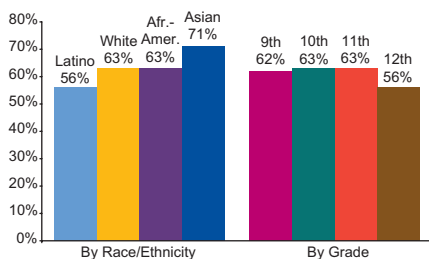
- Served 17,000 youth;
- Provided more than 15,000 hours of programming;
- Served court-system involved youth with 14 targeted programs;
- Offered extended hours of programming, with 80% open after 5:00 p.m. on weeknights and 40% open until 9:00 p.m. at least one night a week.

Of participants throughout the summer:

- 28% were 12 to 13 years old;
- 61% were 14 to 17 years old; and
- 11% were 18 to 20 years old.

In summer 2007 the Mayor's Summer Jobs Campaign successfully paired 9,378 Boston teens with paying summer jobs in the private and public sectors. No other major city has a summer jobs program near this scale.

BPS High School Students Involvement in After School Programs 2006



Source: 2006 Boston Youth Survey

In 2007, incidents of youth crime in Boston reached a daily peak between the hours of 4:00 p.m. and 5:00 p.m. However, incidents of aggravated assault perpetrated by youth peaked around 8:00-9:00 p.m., on average. While access to youth services and after-school programs reduce rates of risky behavior and violence in the hours immediately after school and during the summer months, rates of violence increase when centers close for the night and summer programs conclude, suggesting a need for extended hours of operation.

OUT-OF-SCHOOL ENRICHMENT FACTORS

With some exceptions, BPS High Schools begin at 7:20 a.m. and end at 1:40 p.m. Monday through Friday. The range and quality of out-of-school options available for the remainder of students' waking hours can play an enormous role in augmenting formal educational opportunities.

Participation in After-School Programs

A two-year study based on surveys conducted by Boston After School & Beyond found that students in supervised after-school settings had more positive work habits, were more persistent in completing tasks, performed better academically, had better social skills and were less aggressive with peers than their counterparts in non-supervised settings. Similarly, the After-School Corporation Center for After School Excellence found that after-school program attendance and associated relationships and activities were predictors of increased classroom engagement, and that quality instruction was linked to higher scores in Math and English Language Arts. After-school programs and youth centers also increase feelings of safety for students who fear violence at home or on the street.

In 2006, 61% of BPS High School students were involved in an after-school program—a relatively stable percentage across grades, gender, race and ethnicity. The 2006 survey of parents conducted by Boston After School & Beyond found that 64% of youth attended at least one after-school program, more than half attended a program at the student's school, and 26% went to the YMCA or a Boston Center for Youth and Families Community Center. According to BostonNavigator data, 46% of after-school programs offer Arts & Culture, 31% academic and homework support, 10.5% outdoor environmental and science, 7% opportunities for civic engagement, and 5% mentoring, guidance and career exploration. Almost all programs also offer sports and opportunities for physical games and exercise.

Time Spent on Homework

Time spent on homework increases the likelihood of in-school success on subject-matter tests, is a measure of personal investment in academic success, and can also reflect parental involvement. According to the Boston Youth Survey:

About 40% of BPS High School Students reported spending more than 1 hour per day on homework in 2006, with just 36% of 9th graders spending 1 or more hours on homework—the lowest rate by grade level. By race/ethnicity, 71% of Asian students spent an hour or more on homework compared to about 40% of white and African American students and 31% of Latino students.

Time Spent Exercising

Physical activity decreases the likelihood that a child will become overweight or obese—which can contribute to additional health risks and time spent out of school, and Boston After School & Beyond research found that involvement in out-of-school sports can positively affect academic test scores.

On average, 38% of BPS High School Students reported exercising for more than 20 minutes 4 days a week—including structured sports, pick-up games or any activity that required exertion. However, just 28% of 12th graders reported regular exercise—the lowest among all High School grades, and girls also reported lower levels of physical activity than boys at 28% compared to 54%.

KEY OUTCOME

10th Grade English Language Arts Proficiency (MCAS)

Overall District Score

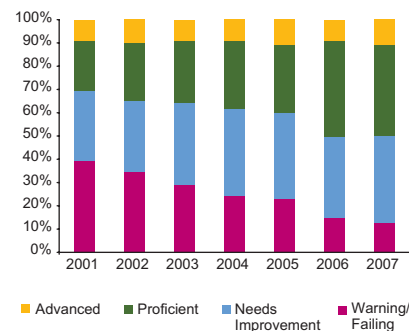
50% of Boston’s 10th graders achieved *Proficiency* in MCAS English Language Arts (ELA), up from 31% in 2001. Overall district scores have continuously improved since 2001, particularly since becoming a graduation requirement in 2003. In 2007, just 13% of BPS 10th graders failed to pass English Language Arts MCAS compared to 40% in 2001.

Disparities

In 2007, 76% of Asian students and 74% of white students achieved ELA *Proficiency* compared to 40% of African American and 43% of Latino students. All 10th grade scores by race/ethnicity show progress since 2001, particularly the scores of students of color.

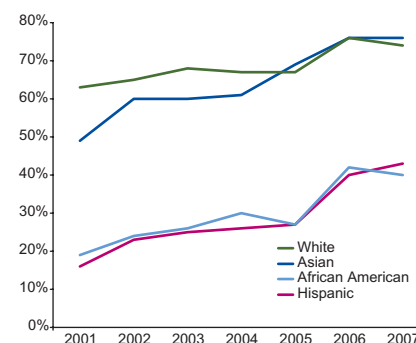
Limited English Proficient and Students With Disabilities face high hurdles to *Proficiency* in ELA: in 2007, 15% and 12% of those 10th graders achieved *Proficiency* respectively. The recent Parthenon Group on Boston’s dropout crisis found that LEP students—particularly those who enter BPS after 9th grade—and High School Students With Disabilities are among those off-track students with an increased risk of dropping out.

BPS 10th Grade MCAS English Language Arts Results 2001-2007



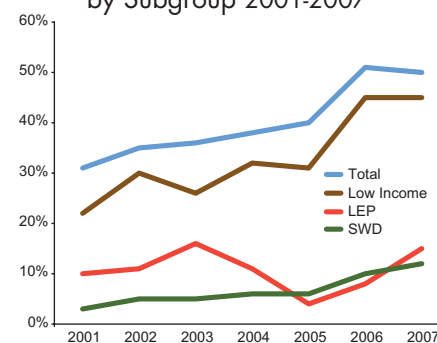
Source: Massachusetts ESE

BPS 10th Grade MCAS English Language Arts Proficiency by Race/Ethnicity 2001-2007






Source: Massachusetts ESE

BPS 10th Grade MCAS English Language Arts Proficiency by Subgroup 2001-2007



Source: Massachusetts ESE

Key to Trend Arrows

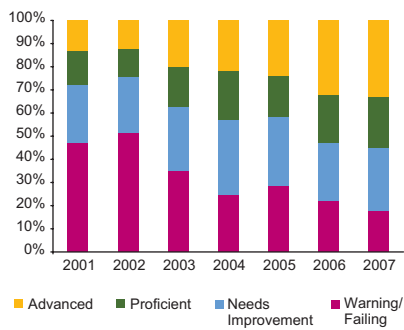
-  = No Significant Change
-  = Positive Change
-  = Negative Change

10th Grade MCAS ELA Proficiency Boston and Inner Core Districts 2007

Districts	Percent Proficient or Advanced in MCAS ELA	Limited English Proficient (%)	Low-Income (%)
Belmont	89	3.2	5.7
Newton	88	2.7	6.2
Brookline	88	2.4	13.1
Arlington	85	1.9	7.6
Melrose	82	1.1	12.3
Milton	79	0.5	12.6
Winthrop	75	3.5	20.2
Medford	73	4.3	24
Waltham	69	6.8	26.9
Saugus	69	0.1	11
Watertown	66	5	28.9
Malden	65	7.5	53.8
Cambridge	64	5.2	37.8
Quincy	62	6.6	30.9
Revere	59	7.8	54.5
Somerville	52	14.7	67.2
Lynn	50	14.2	70.3
Boston	50	13.4	63.3
Everett	48	7.5	39.1
Chelsea	42	12.9	81.9

Source: Massachusetts ESE

BPS 10th Grade MCAS Math District Results 2001-2007



Source: Massachusetts ESE

Comparisons & Best Practices

With 50% of Boston's 10th graders achieving *Proficiency* on the Math MCAS, Boston ranks 17th among Greater Boston's 20 Inner Core districts. However, many BPS and Charter Schools in Boston with large "at risk" populations are performing as well as if not better than schools in the top-performing suburban school districts. In a "like-to-like" comparison of schools based on student socio-economic demographics:

- Among schools with a low percentage of LEP and Low-Income students: **Boston Latin** and **Boston Latin Academy Exam Schools** were at 99% and 100% *Proficient* respectively—higher than Belmont High School at 89% *Proficient*; **Community Charter School of Cambridge** (89%), **Boston Collegiate Charter School** (83%) and **Prospect Hill Academy Charter School** (69%) in Cambridge; **Fenway High School** (67% *Proficient*) **TechBoston Academy** (64% *Proficient*) and **Boston Arts Academy** (55% *Proficient*)—all BPS Pilot Schools.
- Among schools with a lower LEP population and high Low-Income population: **John D. O'Bryant Exam School** (92% *Proficient*), **MATCH Charter School** (83% *Proficient*), **City on a Hill Charter School** (72% *Proficient*), **Another Course to College Pilot School** (61% *Proficient*) and **Health Careers Academy** (60% *Proficient*)
- Among schools with a higher percentage of LEP and Low-Income students: **Lynn English High** (64% *Proficient*), **Excel High School** (61% *Proficient*), **Lynn Classical High** (59% *Proficient*), **Somerville High** (56%) and **Boston Community Leadership Academy Pilot School** (53% *Proficient*).

KEY OUTCOME

10th Grade Math Proficiency (MCAS)

Students encounter their final Mathematics and English Language Arts MCAS exams in the 10th grade. Since 2003, passage of the 10th grade MCAS exams has been a requirement for High School graduation.

Overall District Score

BPS 10th grade MCAS Math scores are improving dramatically: 55% achieved *Proficiency* or *Advanced* in 2007, up from 28% in 2001. In 2002, 24% of BPS 10th graders achieved *Proficient* or *Advanced* and 51% failed; in 2003, 37% achieved *Proficient* or *Advanced* and 35% failed; in 2007, 55% achieved *Proficient* or *Advanced* and 18% failed.

Disparities

Despite a persistent racial achievement gap, African American and Latino students' scores improved significantly between 2001 and 2007. In 2007, while 89% of Asian and 74% of white 10th graders achieved *Proficiency*, 45% of African Americans scored *Proficient*—up from 14% in 2001—and 48% of Latinos—up from 12% in 2001. Asian and white students' scores also increased but at a slower rate, from 70% and 61% in 2001 respectively.

BPS Low-Income, LEP and Students With Disabilities also made significant progress. Between 2001 and 2007:

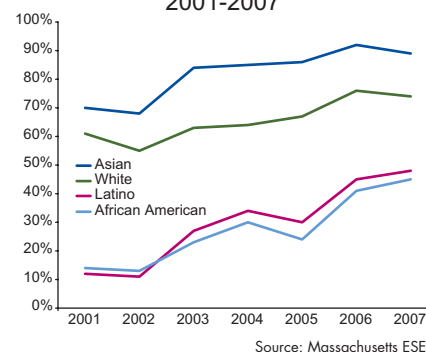
- The percent of Low-Income students achieving *Proficiency* increased from 21% to 52%;
- LEP students' *Proficiency* increased slightly from 26% to 33%;
- Students With Disabilities' *Proficiency* increased from 3% to 16%.

Comparisons & Best Practices

In 2007, BPS ranked 16th among Greater Boston's 20 Inner-Core Districts. However, many BPS and Boston Charter Schools with large "at risk" populations perform as well or better than high schools in the top-performing suburban school districts. In a "like-to-like" comparison of schools based on student socio-economic demographics:

- Among schools with a low percentage of LEP and Low-Income students, the **Boston Latin** and **Boston Latin Academy Exam Schools** achieved 100% and 98% *Proficient* respectively—higher than Belmont High School at 93% *Proficient*. Among Boston Charter Schools, **Academy of the Pacific Rim** and **Boston Collegiate Charter School** achieved 91% and 89% *Proficient* respectively. Among other BPS schools, **TechBoston Academy** (76% *Proficient*), **Fenway High School** (70% *Proficient*) and **Boston Arts Academy** (54% *Proficient*)—all Pilot schools.
- Among schools with a low LEP and high Low-Income population: **MATCH Charter School** (98% students of color) at 100% *Proficient*, the **John D. O'Bryant Exam School** (91% students of color) 98% *Proficient*, Another **Course to College Pilot School** (83% *Proficient*), **City on a Hill Charter** (76% *Proficient*), **Health Careers Academy**, a **Horace Mann Charter** (69% *Proficient*).
- Among Schools with a higher percentage of LEP and Low-Income students: **Lynn English High** (65% *Proficient*) and **Lynn Classical High** (64% *Proficient*) **Excel High School** (64% *Proficient*), **Boston Community Leadership Academy** (59% *Proficient*) and **Somerville High** (57% *Proficient*).

BPS 10th Grade MCAS Math Proficiency by Race/Ethnicity 2001-2007

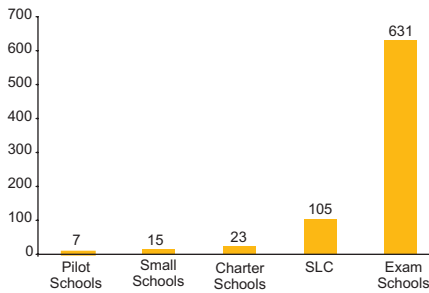


10th Grade MCAS Math Proficiency Boston and Inner Core Districts 2007

Districts	Percent Proficient or Advanced in MCAS Math	Limited English Proficient (%)	Low-Income (%)
Belmont	93	3.2	5.7
Newton	88	2.7	6.2
Brookline	85	2.4	13.1
Melrose	83	1.1	12.3
Arlington	80	1.9	7.6
Medford	72	4.3	24
Winthrop	72	3.5	20.2
Milton	69	0.5	12.6
Cambridge	67	5.2	37.8
Saugus	67	0.1	11
Waltham	67	6.8	26.9
Watertown	67	5	28.9
Quincy	64	6.6	30.9
Malden	63	7.5	53.8
Revere	63	7.8	54.5
Boston	55	13.4	63.3
Somerville	54	14.7	67.2
Lynn	53	14.2	70.3
Everett	48	7.5	39.1
Chelsea	37	19.9	81.9

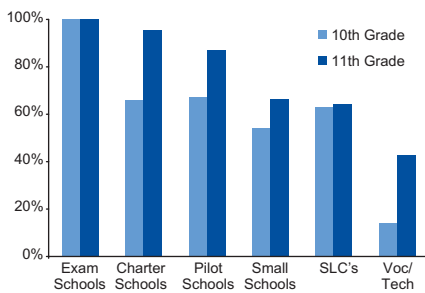
Source: Massachusetts ESE

Average Number of AP Exams Taken by School Type 2007



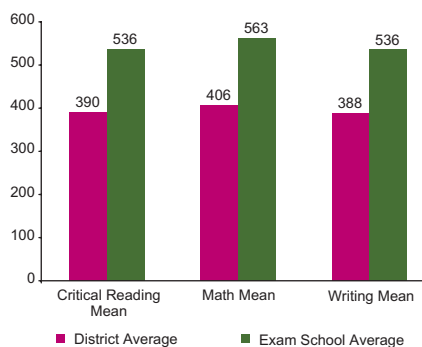
Source: College Board

Average Percent of 10th & 11th Graders Taking the PSAT by School Type 2006



Source: College Board

SAT I Average Scores BPS Average & Exam Schools 2007



Source: College Board

KEY OUTCOME

College Readiness: PSAT, SAT, AP

While experts reexamine the degree to which standardized testing adequately determine readiness for college, Advanced Placement Courses (AP), the Scholastic Aptitude Test (SAT) and the Preliminary SAT (PSAT) are used as virtually universal standards for college readiness and acceptance.

Advanced Placement Exams & Scores

AP courses enable High School students to study a subject at a college level. Scored on a scale from 1 to 5, a score of 3 or higher on an AP exam may be honored for college credit. The availability of AP courses speaks to the capacity of a District and a school to prepare students for college, while student performance on AP exams reflects how well a school or District has actually prepared its students.

A disproportionate percentage of Boston's AP courses are offered and exams taken at BPS' Exam schools:

- In 2006/07, 17 BPS High Schools offered an AP Course in at least one subject; in total, these schools offered 108 AP courses—47 of which were offered at an Exam School;
- In 2007, more than 1,700 BPS students took at least 1 AP exam, of whom more than 1,000 were Exam School students;
- Of nearly 3,000 AP Exams taken by BPS students, 65% were taken by Exam students (Boston Latin has a policy mandates that all students enrolled in AP courses must take the corresponding exam);
- Of the more than 50% of exams taken that were scored 3 or higher, 90% were taken by students enrolled in an Exam School.

PSAT Participation

Though PSAT scores are not used for college admissions, measuring the percent of 10th and 11th graders taking this practice test is an early indicator of college aspirations and readiness. Additionally, the PSAT is the standard by which National Merit Scholars are selected in the 11th grade.

Though BPS insures that all 10th and 11th graders can take the PSAT for free, in 2006 50% of BPS 10th graders and 71% of 11th graders participated in the PSAT. Exam and Pilot 11th graders had the highest rate of participation at 94% and 87% respectively. Comparatively, 66% of Charter School 10th graders and 95% of 11th graders took the PSAT.

SAT Participation and Scores

Since the 1920s, the Scholastic Aptitude Test (SAT) has been the primary standardized test used to determine college eligibility and readiness.

As of 2006/07, nearly 70% of BPS 12th graders took the SAT, scoring, on average, 390 in Critical Reading, 406 in Math and 388 in Critical Writing. By comparison, at the BPS Exam Schools, 100% of 12th graders took the SAT, scoring an average of 536 in Critical Reading, 563 in Math and 536 in Critical Writing. Among Charter Schools serving grades 9 to 12, 100% of 12th graders took the SAT in 2006/07, scoring an average 429 in Critical Reading, 458 in Math and 432 in Writing.

KEY OUTCOME

Dropout Rates

In an era in which some college is required for most jobs in Greater Boston, dropping out of High School and falling off the education pipeline can portend a life of narrowing options and deep economic and social disadvantage.

BPS District-wide Average Four-Year Dropout Rates

Among the 3,822 students who entered the BPS in the 9th grade in 2003 (the Class of 2007), 638 students—or 16.7%—dropped out over the next 4 years. Including late entrants to the class [the *unadjusted* rate], the rate rose to 20% over the 4 years. A 2007 report by The Parthenon Group found that late-entrant students displayed an increased risk of dropping out: among the BPS class of 2004, roughly 30% had not attended a BPS Middle School and, of those, 57% did not attend BPS in the 9th grade.

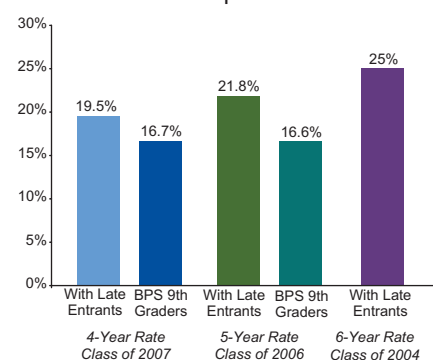
Six-Year Outcomes

For the Class of 2004, the 6-year cumulative dropout rate—including late entrants—stood at 25%. Of the 17.4% of the Class of 2004 that remained enrolled after 4 years, 44% eventually dropped out, contributing to the 6-year cumulative 25% drop out rate. (Final figures are not yet available for the Class of 2007.)

The Annual Dropout Rate

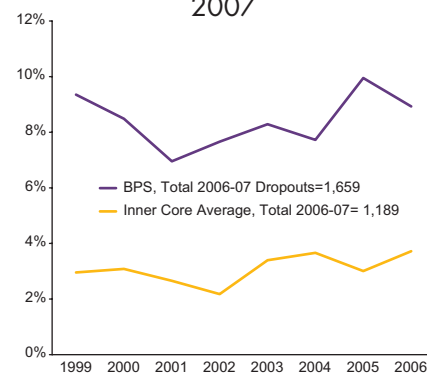
In 2006/07 a total of 1,659 BPS students, or 8.9% of students enrolled in High School across all grades, dropped out. This rate declined from 9.9% in 2005/06 but increased from the lowest annual rate of 7% in 2001/02—the final year before passage of the 10th grade MCAS exams became a graduation requirement. The data collected for the 2006/07 year are reflective of updates made to the

BPS District-Wide 4-, 5- & 6-Year Cumulative Dropout Rates 2007



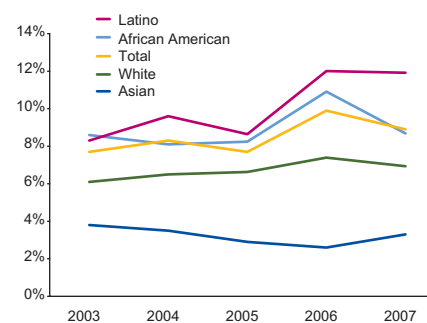
Source: Massachusetts ESE, The Parthenon Group Analysis of BPS Internal Data

Annual High School Dropout Rate BPS vs. Inner Core District Average 2007



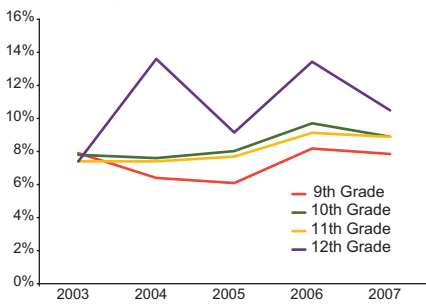
Source: Massachusetts ESE

BPS Annual Dropout Rates by Race & Ethnicity 2003-2007



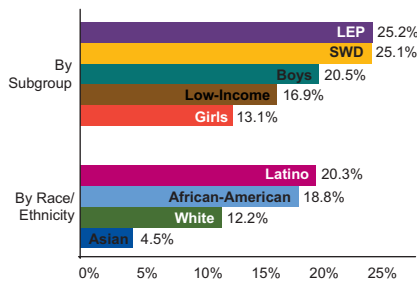
Source: Massachusetts ESE

BPS Annual Dropout Rates by Grade 2003-2007



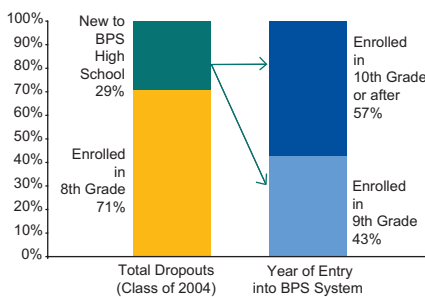
Source: Massachusetts ESE

BPS 4-Year Cumulative Adjusted Dropout Rates by Subgroup, 2007



Source: Massachusetts ESE

Time of Entry for BPS Dropouts Class of 2004



Source: The Parthenon Group Analysis of BPS Internal Data

Student Information Management System (SIMS), allowing for more accurate tracking of transfers and dropouts; therefore, data from this year on are more accurate than in previous years.

- **By Grade Level:** In 2006/07, 8% of 9th graders, 9% of 10th and 11th graders and 10.5% of 12th graders dropped out.
- **By Race/Ethnicity:** For Latino students, the annual dropout rate from 2003 to 2007 peaked in 2006/07 at 12.0%, up from 8.3% in 2003; for African American students, the annual rate was static over 4 years at about 9% with a spike in 2005/06 to 11%; for white students, the annual dropout rate remained steady at between 6% and 7%, with an increase to 7.4% in 2005/06; and for Asian students, the drop out rate declined from 3.8% in 2003 to 2.6% in 2006, with a slight increase 2006/07.

Disparities

Among those BPS students who entered the Class of 2007 as 9th graders in 2003, the cumulative 4-year dropout rate was 16.7%:

- **By Race/Ethnicity:** Across the 4 years of High School, the cumulative dropout rate was 20.3% for Latinos, 18.8% for African Americans, 12.2% for whites and 4.5% for Asians.
- **By Students With Disabilities (SWD):** Cumulatively, about 25.1% of SWD students dropped out over 4 years, increasing to 26% including late entrants. According to The Parthenon Group, Substantially Separate Special Education students are at the highest risk.
- **By Linguistic Proficiency (LEP):** 25% of Limited English Proficient students dropped out of the BPS over the course of 4 years. The rate increases to 26% including late entrant LEP students identified as at high risk for falling off track according to The Parthenon Group.
- **By Gender:** About 13% of girls who began attending the BPS as 9th graders in 2003 had dropped out of school by 2007; for boys in this cohort, the 4-year dropout rate was 20.5%.

Dropout Rates Including Late Entrants

Late entrants generally include newcomer immigrants who are not proficient in English as well as over-age students, and many remain enrolled in the BPS after their class graduates in the hope of attaining an academic credential. Including students who transferred into BPS after the 9th grade through the 12th grade in the calculation, the dropout rate rises.

For the Class of 2007, the 4-year *unadjusted* cumulative dropout rate increases to 963 students, or almost 20%, with 18.5% of students remaining in school after their peers either drop out or graduate. This is important because students who

remain after 4 years themselves have an increased risk of dropping out. For the class of 2004, 44% of the students who remained enrolled after 4 years eventually dropped out.

Comparisons & Best Practices

Within the BPS, Exam Schools and Pilot Schools achieved the lowest 4-year dropout rates for the class of 2007—1% and 8.4% respectively—but they also serve the smaller percentage of students most at risk of falling off-track. Similarly, Boston’s Charter Schools have a lower dropout rate than the BPS average, but serve relatively few Students With Disabilities (SWD) and virtually no Limited English Proficient (LEP) students (0.3%—1 in 333 in 2007). Comparatively, the BPS Voc/Tech High School and Large Comprehensive High Schools—organized into Small Learning Communities—enroll a majority of students with the greatest linguistic and academic risk factors in terms of both numbers and percentage, and have a 4-year cumulative dropout rate of 23.5% and 24%, respectively. BPS Small Schools, with smaller LEP and SWD populations, had a 4-year dropout rate of 23.3%.

Four Year Dropout Rates by Enrollment of Special Populations by School Type, 2007

School Type	Average Size	Average LEP (%)	Average SWD (%)	Average 4-Year Dropout Rate
BPS District-wide Average	18,585	13.4	16	16.7
Inner Core District Average	1,618	5.7	15.6	7.1
Exam Schools	1,811	1.5	1.1	1
Pilot Schools*	329	3.5	15.6	8.4
Charter Schools	274	0.3	13.8	11.4
Voc/Tech	1,575	19.4	30.9	23.5
Large High Schools/SLC’s	1,067	17.9	18	24
Small Schools	336	9.8	21.9	23.3
Alternative Schools**	220	28.6	25	32.3

Source: Massachusetts ESE

* Minus 2 Alternative Pilot Schools

** Includes McKinley School which serves SWD students & Boston International High School which serves English Language Learners and two Alternative Pilot Schools.

KEY OUTCOME

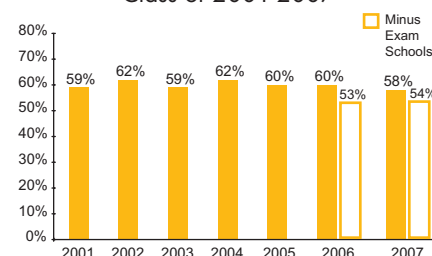
High School Graduation

A High School diploma is increasingly important in Boston, which ranks 44th out of 50 large US cities in the employment of dropouts. Graduation within 4 years is often used as a measure of college preparedness, although some students—particularly late entrant English Language Learners, Substantially Separate Special Education Students and generally under-performing students—may require more than 4 years to attain a diploma. Boston Public Schools Superintendent Carol Johnson has highlighted the graduation of all BPS students as a key priority in her plan, titled *Proficiency, Opportunity and Efficiency: Superintendent’s Acceleration Agenda for the Boston Public Schools*. Strategies to achieve this goal include increasing in-school support services for off-track students, and credit-recovery courses for Middle School students and for High School students a few credits shy of graduation.

BPS District-wide Average ➡➡

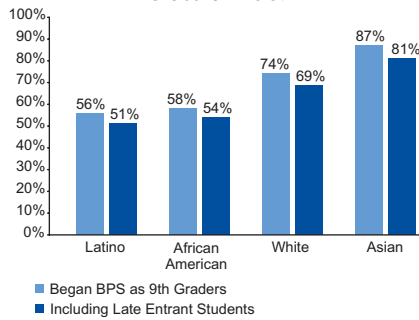
The 4-year graduation rate has remained constant at around 60% since 2001. For the class of 2007: among those students who began the BPS as 9th graders in 2003, the 4-year graduation rate was 63%. When including late entrant students who transferred into BPS High Schools, the 4-year graduation rate declined to 58%.

BPS Four-Year Graduation Rate Class of 2001-2007



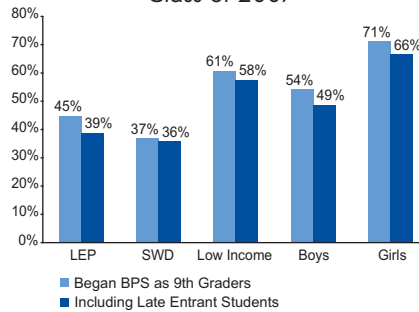
Source: The Parthenon Group Analysis of BPS Internal Data, Massachusetts ESE

BPS Four Year Graduation Rates by Race & Ethnicity Class of 2007



Source: Massachusetts ESE

BPS High School Four Year Graduation Rates by Special Populations Class of 2007



Source: Massachusetts ESE

Over 6 years, for the Class of 2004 (the last class for which the 6-year graduation rate can be calculated), the graduation rate rises to 68%. This rate includes the 24% of students in the class who remained enrolled after 4 years, of whom 27% graduated. Even at 6-years, 7% of the Class of 2004 remained enrolled, of whom 23% were in Substantially Separate Special Education classes. The 6-year drop out rate was 25%.

CLASS OF 2007

Disparities

By Race & Ethnicity: Regardless of the time of entry into BPS High Schools, white and Asian students have a higher 4-year graduation rate than their Latino and African American peers. In the class of 2007, Asian students who began High School in the BPS had the highest 4-year graduation rate at 87.1%, which declined to 80.9% accounting for late entrants. White students had a 4-year graduation rate of 74.4%, or 68.8% including late entrants. African American students had a 58% graduation rate—54.2% including late entrants—while Latinos who began BPS in the 9th grade had a 55.7% 4-year graduation rate, declining to 51% including late entrants. (Data available at the time of writing do not allow for an analysis of the overlap of race/ethnicity with LEP and SWD students populations, which would produce a more nuanced and accurate understanding of disparities.)

By Low Income: Because the great majority of students enrolled in BPS High Schools qualify as low-income, the 4-year graduation rate for this group closely mirrors the district averages of 60.8% among those who began in the 9th grade, and 57.6% including late entrants.

By LEP and Students With Disabilities: The 4-year graduation rate for LEP students who began BPS in the 9th grade was 44.8% in 2007, dropping to 38.8% including late entrants. BPS SWD students had the lowest 4-year graduation rates in 2007, regardless of time of entry. Among those who began as 9th graders in 2003, 36.8% graduated in 2007 while the rate including late entrants was 35.8%. A 2007 study conducted by The Parthenon Group found that Late Entrant English Language Learners and Substantially Separate Special Education students are among those at very high risk of falling off track in the education and graduation pipeline.

By Gender: Among the Class of 2007, girls had a graduation rate more than 10 points higher than boys, regardless of time of entry into BPS. Among students who were enrolled in BPS as 9th graders, 71% of girls and 54% of boys graduated within 4 years—a 17 percentage points difference. Including late entrants, the 4-year graduation rate for girls declined to 66% and 49% for boys.

Comparisons

While Exam and Pilot Schools achieved the highest 4-year graduation rates for the BPS Class of 2007—94.8% and 77.8% respectively—they also had the smallest percentage of students most at risk of falling off-track. Similarly, Boston’s Charter Schools had a higher than average graduation rate at 73.3%, but serve relatively few Students With Disabilities and virtually no Limited English Proficient (LEP) students (0.3% or 1 in 333 in 2007). Comparatively, the BPS Voc/Tech High School and Large Comprehensive High Schools—some reorganized into Small Learning Communities—enroll a majority of students with the greatest linguistic and academic risk factors in terms of both numbers and percentage, and had an average 4-year graduation rate of 54% and 51%, respectively, and BPS Small Schools had a 4-year graduation rate of 50.8% for the Class of 2007, including late entrants.

Four Year Graduation Rates by Enrollment of Special Populations by School Type, 2007

School Type	Average Size	Average LEP (%)	Average SWD (%)	Average 4-Year Grad. Rate
BPS District-wide Average	18,585	13.4	16	58
Inner Core District Average	1,618	5.7	15.6	79.4
Exam Schools	1,811	1.5	1.1	94.8
Pilot Schools*	329	3.5	15.6	77.8
Charter Schools	274	0.3	13.8	73.3
Voc/Tech	1,575	19.4	30.9	54.1
Large High Schools/SLC’s	1,067	17.9	18	54.1
Small Schools	336	9.8	21.9	50.8
Alternative Schools**	220	28.6	25	24.3

Source: Massachusetts ESE

* Minus 2 Alternative Pilot Schools

** Includes McKinley School which serves SPED students & Boston International High School which serves English Language Learners and two Alternative Pilot Schools

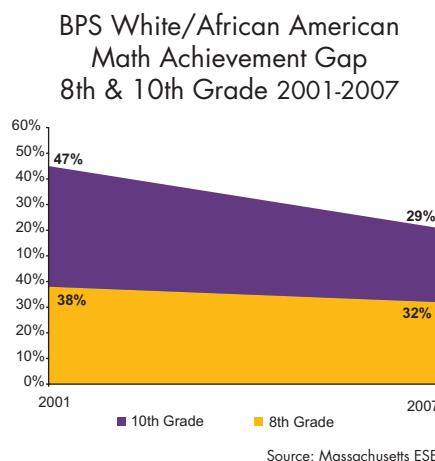
KEY OUTCOME Achievement Gaps

The BPS and Boston’s Charter Schools are legally mandated to close the current academic achievement gap. To date, this gap occurs by race/ethnicity, household income, English language proficiency, gender and disabilities. Closing the achievement gap is also a critical component of attaining 100% *Proficiency* by 2014 for all students on key standardized tests as mandated by the No Child Left Behind Act.

Math

Between 2001 and 2007, the gap in math *Proficiency* in the BPS between white and Latino and African American students narrowed significantly from the 8th to 10th grade. While *Proficiency* rates for white students improved, the rate of improvement for Latino and African American students was greater.

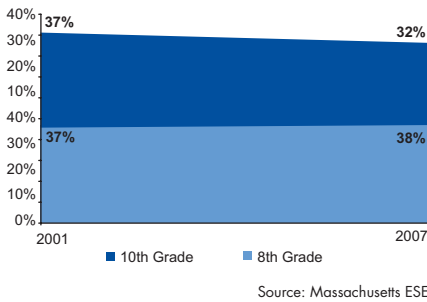
- **White/Latino:** Between 2001 and 2007 the gap in math *Proficiency* between white and Latino 8th graders narrowed from 37 to 32 percentage points and among 10th graders from 49 to 26 percentage points—a dramatic decline of 23 percentage points.
- **White/African American:** The gap in math *Proficiency* between white and African American narrowed from 38% to 32% for 8th graders, or 6 percentage points, and for 10th graders from 47% to 29%—a very significant decline of 18 percentage points.



For complete charts and additional charts see the website: BostonEducationReportCard.org

English Language Arts

BPS White/Latino
ELA Achievement Gap
8th & 10th Grade
2001-2007



Between 2001 and 2007, the gap in English Language Arts (ELA) *Proficiency* between white students and Latino and African American students remained essentially flat among both 8th and 10th graders.

■ **White/Latino:** This ELA *Proficiency* achievement gap was essentially flat from 2001 to 2007 with a 37 percentage point difference between white and Latino student scores in both the 8th and 10th grades. This gap increased by one point in the 8th grade and declined by 5 points in the 10th grade over the five-year period.

■ **White/African American:** In 2001, the ELA proficiency gap between white and African American students widened by 6 percentage points from 32% to 38% from the 8th grade to 10th grade. Between 2001 and 2007, the gap held steady at 32% among 8th graders but narrowed slightly among 10th graders, falling from 38% to 32% over the five years.

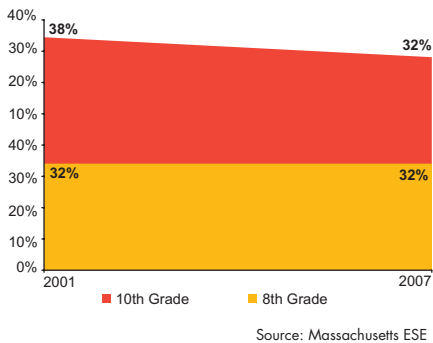
Adequate Yearly Progress (AYP)

A requirement of No Child Left Behind, Adequate Yearly Progress (AYP) assesses the extent to which individual schools and entire school districts are progressing toward yearly benchmarks for all students and for traditionally underperforming groups. It is based on four criteria: 95% student participation in MCAS; 92% attendance rate; 55% graduation rate for High Schools; meeting a Performance Target of 85.4 for English Language Arts and 76.5 in Math based on a 100-point scale; and achieving an Improvement Target calculated for each school based on prior performance.

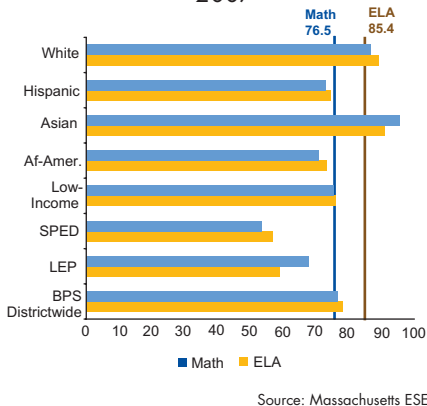
By School District: As a whole in 2007, BPS High Schools barely achieved the AYP Math Performance Target with an aggregate score of 76.6, and fell short of achieving the ELA Performance Target with an aggregate score of 78.1.

By School: In 2007, 14 BPS High Schools achieved AYP in the aggregate in both Math and ELA, of which 7 were Pilot High Schools. Four Charter High Schools also achieved AYP for both subjects. Among BPS schools achieving AYP in both subjects, 4 made AYP in ELA and 8 made AYP in Math for “subgroups”—Low Income, Special Education, LEP, and students of color (African American, Latino and Asian). Two Charter Schools Achieved AYP for subgroups in ELA and 3 achieved AYP for subgroups in Math. Conversely, 16 BPS High Schools failed to make AYP for both ELA and Math, both school-wide and for all subgroups, and all had a graduation rate lower than the 55% requirement.

BPS White/African American
ELA Achievement Gap
8th & 10th Grade 2001-2007



BPS 9-12 AYP
Target Performance
English Language Arts & Math
2007



By Subgroup: Among BPS students, only Asian and white students, as a whole, achieved both the Math and ELA Performance Target, although Low-Income, Latino and African American students came within a few points of achieving the Math Performance Target. All of the subgroups other than white and Asian students failed to reach the ELA Performance Target, with Limited English and Special Education students falling particularly far behind.

BPS High Schools Achieving Adequate Yearly Progress in English Language Arts & Math

- Another Course to College (Pilot School)
- Boston Arts Academy (Pilot School)
- Boston Community Leadership Academy (Pilot School)
- Boston Latin (Exam School)
- Boston Latin Academy (Exam School)
- Brook Farm Business and Service Career Academy
- Excel High School
- Fenway High School (Pilot School)
- Health Careers Academy (Horace Mann Charter School)
- O'Bryant School of Math & Science (Exam School)
- Tech Boston Academy (Pilot School)
- The English High

Charter High Schools Achieving Adequate Yearly Progress in English Language Arts & Math

- Academy of the Pacific Rim Charter School
- Boston Collegiate Charter School
- City on a Hill Charter Public School
- Codman Academy Charter Public School

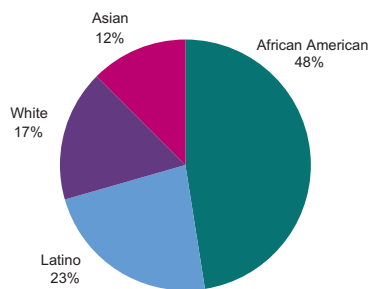
Post-Secondary and Higher Education



The aspirations of many Boston Public Schools students include a college degree. However, new data suggest that only about one-third of BPS graduates will actually complete a college degree, including about half of Exam School graduates and fewer than 14% of non-Exam School grads. Extrapolating to the Class of 2007, it is estimated that just one in six BPS students who entered the 9th grade in 2003 will attain a college degree—including half of those who enrolled in an Exam School and fewer than one in 12 who enrolled in a non-Exam School. For a world center of education, this is deemed to be unacceptable.

POST-SECONDARY TRANSITIONS: THE BOSTON PUBLIC SCHOOLS CLASS OF 2005

Race and Ethnicity, Boston Public School Graduating Class, 2005

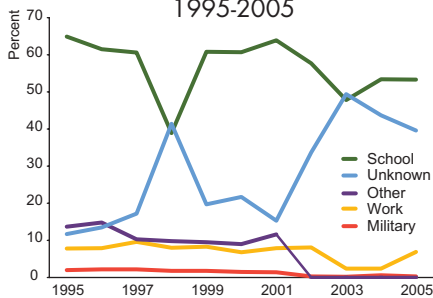


Source: Boston Private Industry Council annual survey

Data from the Boston Private Industry Council (PIC) combined with data from the Massachusetts Department of Elementary and Secondary Education and the Massachusetts Department of Higher Education for the BPS Class of 2005—regardless of when they entered or how long it took them to graduate—allow for a new understanding of post-secondary trajectories. Of the 3,956 students enrolled in Grade 12 in a BPS High School in 2004/05, a total of 3,130, or 79%, graduated that year. Of those:

- 54% were young woman, 46% young men;
- Almost half (48%) were African American, 23% Latino, 17% white and 12% Asian;
- Slightly more than one-quarter had attended a BPS Exam School, and 74% had attended a large or small BPS High School, of which 7 were Pilot High Schools. (Charter Schools constitute their own school districts and are not included).

Post-Graduation Plans, Boston Public School Students, by Graduating Class 1995-2005



Source: Massachusetts Department of Elementary & Secondary Education

Senior Year Post-Secondary Aspirations

Researchers cite the importance of the aspirations of Middle School students. In the senior year of High School, these aspirations meet real-life options. The Massachusetts Department of Elementary and Secondary Education (ESE) surveys each class of graduating seniors about their post-graduation intentions. For graduating members of the BPS Class of 2005:

- 41% intended to enroll in a 4-year college or university, surpassing the previous high mark for the Class of 2004;
- 12% planned to attend a 2-year college, down from 26% in 2001;
- 40% were unsure of their plans—the highest percentage since 1994; and
- 7% intended to work or enlist in the military, down from 9% in 2001.

Graduates' Activities Nine Months After Graduation

The trajectory students take immediately after graduating from High School reveals whether they are on track to fulfill their aspirations. Since 1999, the Boston Private Industry Council (PIC) has surveyed each BPS class nine months after graduation—with a response rate of between 75% and 85%. Of graduates of the Class of 2005 nine months after graduation:

- 77% were enrolled in a post-secondary institution of some kind—70% in a 2- or 4-year college or university and 7% in vocational training (a major improvement over 2002, when just 63% were in a post-secondary institution), and of those enrolled in higher education, 36% were also working;
- 16% were working and not enrolled in school; 4% were unemployed but looking for work; 2% were unemployed and not looking for work; and 1% had enrolled in the military.

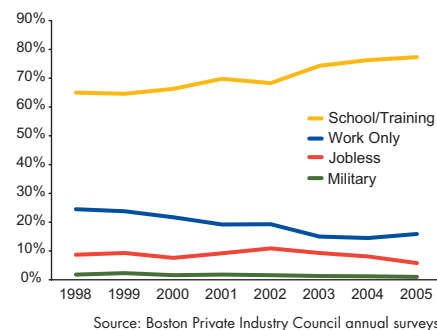
By Race: Among BPS Class of 2005 survey respondents, 92% of Asians, 80% of whites, 74% of African Americans and 72% of Latinos reported being enrolled in post-secondary higher education or training. Excluding training programs, 89% of Asians, 77% of whites, 69% of African Americans and 59% of Latinos were enrolled in a 2- or 4-year college.

By Gender: Among survey respondents, 81% of young women were enrolled in post-secondary higher education or training compared to 72% of young men—a 9% gender gap favoring young women overall, with a gap of 5% among Asians, 8% among whites, 11% among African Americans and 9% among Latinos.

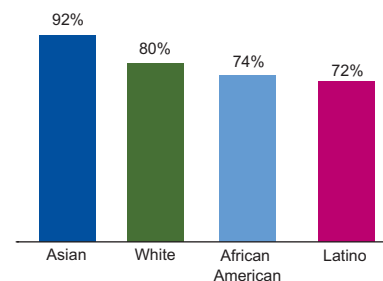
By School:

- **Boston's three competitive Exam Schools sent the highest percentage of graduates (94%) to college or training:** Boston Latin School, 96%; Boston Latin Academy, 92%; the John D. O'Bryant, 91%. (Of these, the O'Bryant closely reflects the BPS student body in racial/ethnic makeup as a whole—while the two other Exam Schools are disproportionately white and Asian).
- **Boston's Pilot Schools, a subset of regular BPS High Schools, sent a disproportionately high 67% to college or training:** for the seven schools, this ranged from 95% for Fenway High (which sent an average of 78% between 2001 and 2006 to college or training) to fewer than 40% from Greater Egleston, an Alternative High School.

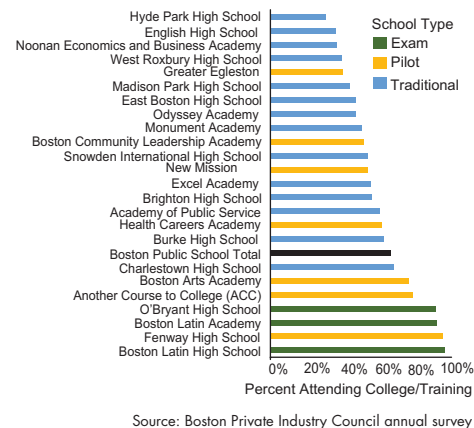
Activities of Boston Public High School Graduates, Classes of 1998-2005



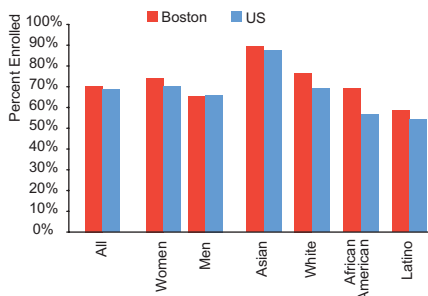
Percent Enrolled in College/Training by Race/Ethnicity, Boston Public School Graduating Class of 2005



Boston Public School Graduates Attending College or Vocational Training, by High School Class of 2005



Higher Education Enrollment Rates, Boston Public School Graduates Compared with U.S., Class of 2005



Source: Boston Private Industry Council annual survey

Types of 2- and 4-Year Colleges Attended by 2005 BPS Graduates

	Number	Percent Attending 2- or 4-year Colleges
MA Public 2-Yr	346	22%
MA Private 2-Yr	22	1%
2-Yr Out of State	8	1%
Total 2-Yr	376	24%
MA Public 4-Yr	357	23%
MA Private 4-Yr	567	36%
4-Yr Out of State	254	16%
Total 4-Yr	1,178	76%
Total	1,554	100%

Source: TBF analysis of Boston Private Industry Council surveys. Does not include those in training or programs not clearly identified as 2- or 4-year colleges.

■ **BPS non-Exam, non-Pilot High Schools sent the lowest percentage of graduates (48%) to college or training:** Charlestown High sent the highest percentage at 68% and Hyde Park High the lowest at 30%. In the fall of 2005, Hyde Park High was converted into three smaller schools. (In general, Boston's non-Exam, non-Pilot schools enroll a higher percentage of students with special needs—Students with Disabilities (SWD) and Limited English Proficiency (LEP) students—than their higher performing counterparts.)

Comparisons with Other Large US Cities and the US Average: Based on enrollments in 2- and 4-year colleges (not vocational training/certificate programs), the BPS Class of 2005:

- **Surpassed the US average** for college enrollments at 70% compared to 69%;
- **Surpassed the US central city average** by 6% and the US average by 2% for Asians, 5% for Latinos, 7% for whites and a very significant 12% for African Americans;
- **Exceeded the US average for women but not for men**, with 74% of women enrolling, compared to 70% of women nationally—in contrast to 66% for BPS men, which is the same as the US average.

Where the Boston Public Schools Class of 2005 Graduates Enrolled in College

The Boston Private Industry Council (PIC) Survey conducted nine months after graduation found that:

- Of the total 1,554 BPS graduates of the Class of 2005 who entered college, about three quarters—1,181, or 76%—had entered a 4-year institution of higher education and 373—24%—had enrolled in a 2-year institution;
- More than eight in 10—1,301, or 83%—of BPS grads who enrolled in higher education had attended a Massachusetts-based higher education institution while just 17% were attending an out-of-state institution;
- Of all BPS 2005 graduates enrolled anywhere, 567—36%—were attending private 4-year Massachusetts colleges while another 357—23%—were enrolled in a public 4-year college or university in the Bay State; and 346—or 22%, were enrolled in a 2-year public or community college in Massachusetts.

Adequacy of College Preparedness

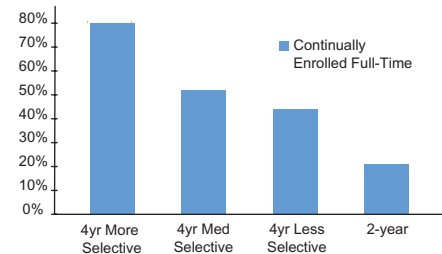
Counting the number of college-bound students who need developmental or remedial coursework is one way to measure the adequacy of college preparedness. In 2007, the Boston Higher Education Partnership (BHEP) released a study of a sample of 465 BPS students who had graduated between 2003 and 2005 and entered one of 11 Massachusetts 2- and 4-year colleges in the fall of 2005. The study found that:

Progress, Persistence & Performance in College: Preliminary Findings

In 2008, the Boston Higher Education Partnership (BHEP) conducted a study of 946 BPS students from the graduating classes of 2003 to 2005 who entered any of 23 Massachusetts 2- or 4-year colleges in 2005. The study classified these schools into four categories of selectivity, regardless of their private or public status: 4-year more selective; 4-year medium selective; 4-year less selective; and 2-year of any level of selectivity. Preliminary results two and a half years after college entry (from entry to the beginning of the 5th semester) show that:

- Full-time continuous enrollment status was the factor most highly correlated with greater progress (number of credits completed) and performance (Grade Point Average);
- Success in college varies more by the selectivity of the college entered than by the type of High School (Exam/non-Exam) attended;
- Boston’s Exam School graduates were more likely to attend more selective colleges (62% of Exam School students compared to 18% of non-Exam School students).

Enrollment Persistence After 2 Yrs by College Selectivity
BPS Graduates Entering College, 2005



Source: Boston Higher Education Partnership

- **Massachusetts Community Colleges:** 68% of BPS graduates sampled who were attending a community college were enrolled in a developmental course compared to 61% for all Massachusetts community college students and 42% on average for the nation.

- **Massachusetts 4-Year Colleges:** 25% of the BPS graduates who were attending a 4-year institution were enrolled in developmental coursework compared to 20% for 4-year college students nationally.

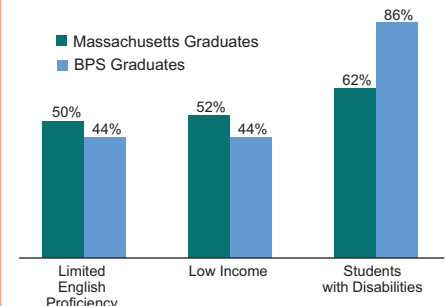
Recent school-to-college reports from the Massachusetts Department of Elementary and Secondary Education and Department of Higher Education provide more fine-grained information about the preparedness of the 720 (or 23%) of BPS students who graduated in 2005 and enrolled in public higher education in the Commonwealth.

BPS Graduates versus Massachusetts Public High School Graduates: 41% of BPS graduates sampled were enrolled in a developmental course at a Massachusetts public college compared to 37% of all Massachusetts graduates.

By High School:

- **Of Exam Schools measured:** 1% of Boston Latin School, 8% of Boston Latin Academy and 17% of John D. O’Bryant graduates attending a public college were enrolled in a developmental course;
- **Of Pilot Schools measured:** 40% of Fenway High students and 56% of graduates of Boston Arts Academy and the Boston Community Leadership Academy attending a public college were enrolled in a developmental course.

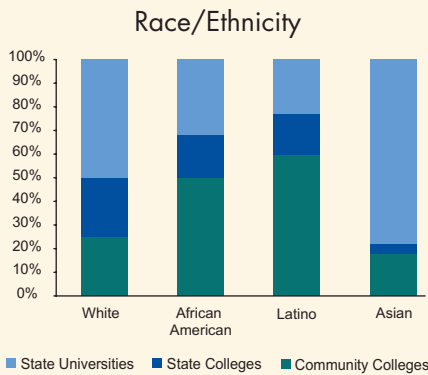
Developmental Course Enrollment, by Special Populations, Graduates Entering Public Higher Education BPS and Massachusetts, Class of 2005



Source: MA Dept. of Elementary and Secondary Education/ MA Dept. of Higher Education

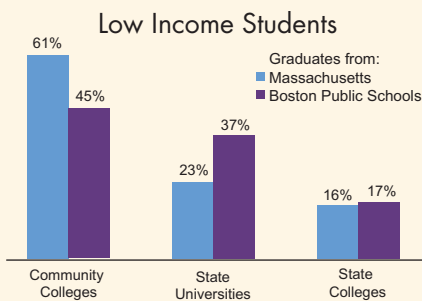
BPS CLASS OF 2005 GRADUATES' RELIANCE ON THE MASSACHUSETTS SYSTEM OF PUBLIC HIGHER EDUCATION

BPS Graduate Enrollment by Public College Type, Class of 2005



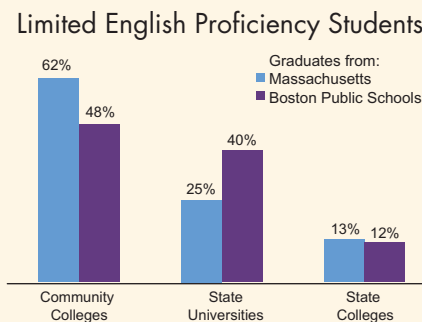
Data from the Massachusetts Departments of Higher Education and Elementary and Secondary Education allow for the comparison of Boston Public Schools (BPS) graduates enrolled in a public Massachusetts college or university with those from other public High Schools (including Charter Schools) in the Bay State.

Of the 3,130 graduating members of the BPS Class of 2005 who enrolled in a college or university of any kind, 720, or 23%, enrolled in a Bay State public higher education institution compared to 33% statewide. Of those public higher education institutions, Bunker Hill Community College, the University of Massachusetts-Amherst and the University of Massachusetts-Boston ranked as the top three schools chosen.



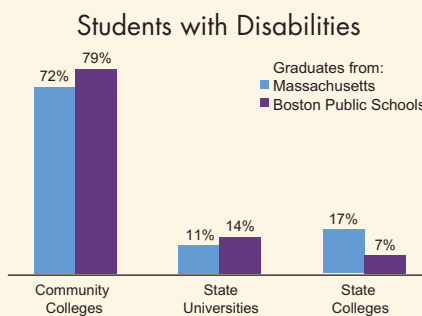
BPS Class of 2005 graduates enrolled in a Massachusetts public higher education institution were much more likely than their statewide counterparts to be low income, to lack English proficiency and be of color, reflecting Boston's status as a large urban school district.

- Limited English Proficient (LEP) graduates made up 44% of BPS enrollees in public higher education compared to 5% of their Massachusetts counterparts;



- Low-income BPS graduates made up 62% of public higher education enrollees compared to 17% of their Massachusetts counterparts; and

- Students of color made up 80% of BPS graduates enrolled in public higher education compared to 19% of their counterparts statewide.



Across the state among both BPS graduates and graduates from all public high schools, students with the highest hurdles to overcome relied much more on 2-year community colleges than on Massachusetts' 4-year state colleges and public universities.

Similarly, African American and Latino graduates of both the BPS and other public High Schools in the Bay State also disproportionately enrolled in a Massachusetts community college.

Enrollment in Massachusetts' state colleges was roughly comparable (see charts), with sharper contrasts emerging among enrollees in the University of Massachusetts.

Source: MA Dept. of Elementary and Secondary Education/ MA Dept. of Higher Education

■ **Of Other BPS High Schools Measured:** Developmental course enrollment for graduates attending a public college was 57% on average, ranging from 29% of graduates of Excel High to 74% of those from Madison Park, Boston’s technical/vocational High School.

By Student Characteristics:

■ **Race/Ethnicity:** The BPS educates a much higher percentage of students of color than Massachusetts as a whole, yet BPS graduates were less likely to enroll in developmental courses than their peers by racial/ethnic group, including: BPS Asian students at 17% compared to 33% of their Massachusetts peers; 21% of BPS white students compared to 34% from all of Massachusetts; 52% of BPS Latinos compared to 58% of Latinos throughout Massachusetts; and 55% of BPS African Americans compared to 59% from Massachusetts.

■ **Low-Income, Limited English Proficient (LEP) Students and Students with Disabilities (SWD):** 44% of BPS low-income graduates enrolled in a public college were taking developmental courses compared to 52% of their Massachusetts peers; among LEP students, 44% of BPS graduates at a public college were taking developmental courses compared to 50% of their Massachusetts counterparts. Of students with physical or cognitive disabilities, 86% of BPS graduates enrolled in a public college were taking developmental courses compared to 62% of their Massachusetts peers.

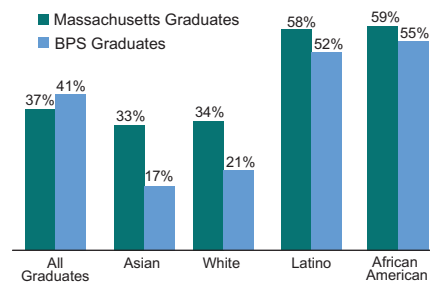
Higher Education and Public Financing

According to the Grapevine Center for Higher Education, Massachusetts state appropriations for higher education increased by 14% from FY1998 to FY2008. However, nationally, state funding of public higher education increased by 56% during this period. Indeed, Massachusetts ranks 48th among all states in the percentage of increased dollars for higher education, and also ranks near the bottom on measures often used to compare public higher education appropriations by state:

- On appropriations per resident, at \$163 per capita, Massachusetts ranked 46th in FY2008;
- As a percent of personal income, at \$3.35 per \$1,000 personal income, Massachusetts ranked 49th in FY2008.

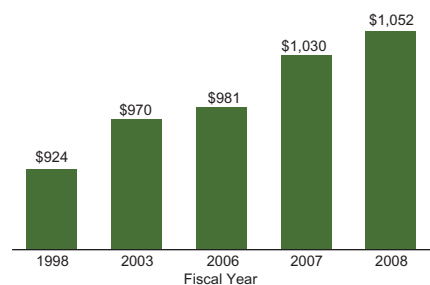
These comparisons focus on overall, not per-student, public higher education spending, and in Massachusetts, a high percentage of residents enroll in private colleges rather than public institutions. When enrollment data available from the National Center for Public Policy and Higher Education are taken into account, Massachusetts ranks 27th in per-student appropriations for public higher education (as of FY2006, the most recent year of available data).

Developmental Course Enrollment, by Race/Ethnicity, Graduates Entering Public Higher Education BPS and Massachusetts, Class of 2005



Source: MA Dept. of Elementary and Secondary Education/ MA Dept. of Higher Education

Massachusetts Appropriations for Higher Education FY1998-FY2008 (millions)



Source: Grapevine Center for Higher Education

KEY OUTCOME

College Completion: BPS Class of 2000 (2007 Outcomes)

New data from the Boston Private Industry Council (PIC) and Northeastern University's Center for Labor Market Studies tracked BPS students in the Class of 2000—as individuals—from high school through private and public colleges a full seven years after graduation. (In addition to on-time BPS graduates, the study included those from the Class of 2000 who had taken more than four years to complete high school as well as those from the Class of 2000 who had enrolled in higher education at any time up to 2007.) Additional analyses by the authors of that study cover more graduating classes.

College Enrollment

Among 2,964 BPS Class of 2000 graduates, 1,904—or 64%—had enrolled in a 2- or 4-year public or private institution by 2007 while 1,060—or 36%—had never enrolled in higher education. Of the 1,904 enrolled, 40% were attending a private 4-year institution, 25% were in a 4-year public institution and 35% had enrolled in a 2-year private college or community college.

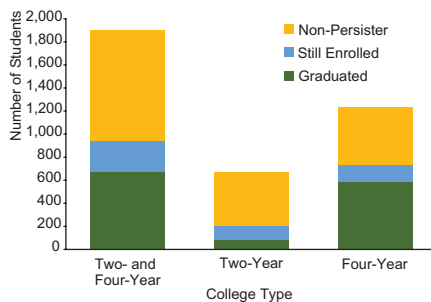
College Completion

By 2007, 675 BPS Class of 2000 graduates—23% of the total number of graduates—had completed an Associates or Bachelors Degree. This represented slightly more than a third of the 1,904 BPS graduates who had enrolled in college over the seven-year period. Some 267, or 14%, were still enrolled after seven years while about half—962 in total—had dropped out of college.

By College Type: College completion rates for BPS graduates enrolled in private 4-year institutions were 20% higher than for graduates attending public 4-year colleges.

- Of the 763 BPS Class of 2000 graduates enrolled in a 4-year private college, 56% had graduated by 2007 and an additional 10% remained enrolled, while 34% had dropped out over the seven-year period;
- Of the 467 enrolled in a 4-year public college, 35% had graduated by 2007, an additional 15% remained enrolled, and 50% had dropped out within seven years;
- Of the 674 BPS graduates who enrolled in 2-year private or community college, fewer than 13% had graduated by 2007 and 18% were still enrolled. Nearly 70% had dropped out.

7-Year College Completion Status
BPS 2000 Graduates
by College Type



Source: Boston Private Industry Council

Note: Non-persister is the same as drop-out

By Race/Ethnicity: By 2007, just 13% of Latino and 17% of African American BPS Class of 2000 graduates had completed a college degree compared to 38% of white and 42% of Asian graduates. This wide gap in achievement can be attributed to disparities in higher education enrollment that persist—and often grow—throughout college:

- Of 1,472 African American BPS graduates, 60% enrolled in higher education. Of those, by 2007, 28% had completed a college degree, 17% were still enrolled and 55% had dropped out;
- Of 581 Latino BPS graduates, 56% enrolled in higher education. Of those, by 2007, 24% had completed a college degree, 15% were still enrolled and 61% had dropped out;
- Of 512 white BPS graduates, 72% enrolled in higher education. Of those, by 2007, 53% had completed a college degree, 13% were still enrolled and 34% had dropped out;
- Of 341 Asian BPS graduates, 81% enrolled in higher education. Of those, by 2007, 52% had completed a college degree, 7% were still enrolled and 42% had dropped out.

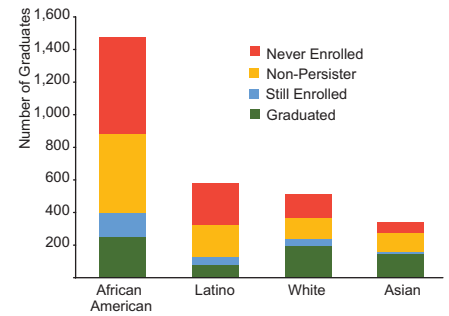
By Gender: More women than men enrolled in college. Seven-year graduation rates were roughly comparable, although men dropped out at a higher rate while more women were still enrolled:

- Of 1,357 men who graduated in the class of 2000, 60% enrolled in higher education. Of those, by 2007, 34% had graduated, 11% were still enrolled and 55% had dropped out. About 40% of men never enrolled in college.
- Of the 1,607 women who graduated in the BPS Class of 2000, 68% enrolled in higher education. Of those, by 2007, 36% had graduated, 16% were still enrolled and 47% had dropped out. About 36% of women never enrolled in college.

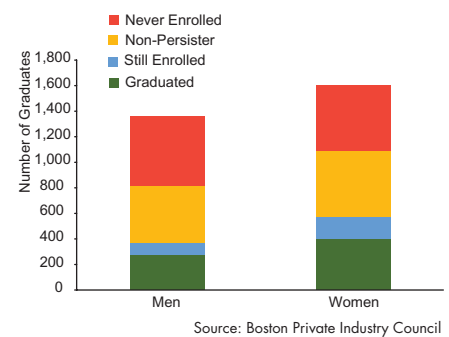
By High School Type: College graduation rates for graduates of BPS Exam Schools were two and a half times higher than for graduates of other BPS High Schools:

- Of 717 Exam School graduates of the BPS Class of 2000, 86% enrolled in higher education. Of those, by 2007, 59% of all Exam School graduates had completed a degree, 11% were still enrolled and 30% had dropped out. About 14% never enrolled in college.
- Of 2,247 graduates of BPS traditional and Pilot High Schools in the Class of 2000, 57% enrolled in higher education. Of those, by 2007, 24% had completed a degree, 15% were still enrolled, and 61% had dropped out. About 43% never enrolled in college.

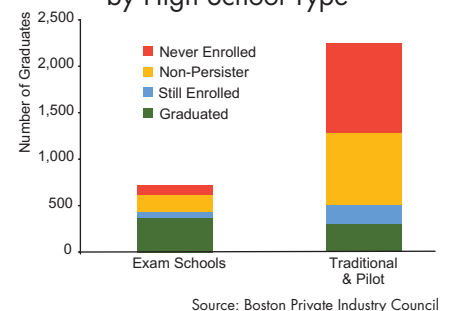
7-Year College Completion Status
BPS 2000 Graduates
by Race/Ethnicity



7-Year College Completion Status
BPS 2000 Graduates by Gender



7-Year College Completion Status
BPS 2000 Graduates
by High School Type



Real and Extrapolated Key Pipeline Outcomes For the Boston Public Schools Class of 2007

The Massachusetts Department of Elementary and Secondary Education (ESE) has begun to track individual students through High School, beginning in 2002 with the Class of 2006, which makes it possible to track outcomes for the Boston Public Schools (BPS) Class of 2007 among entering 9th graders.

The Center for Labor Market Studies at Northeastern University has compiled individual-student trajectories with the Boston Private Industry Council (PIC) for BPS graduates going into and through college, beginning with graduates of the Class of 2000 through the year 2007. By combining accurate ESE data for the BPS Class of 2007 with outcomes extrapolated from the PIC study, we can calculate hypothetical outcomes for the Class of 2007.

Extrapolated (Hypothetical) Seven-Year Outcomes for the BPS Class of 2007: 2007—2014

Of the 3,822 students who entered the BPS Class of 2007 as 9th graders in 2003, 2,408, or 58%, graduated within four years. Based on extrapolated outcomes for the Class

of 2000, it is expected that 1,546 of those would enroll in college and, by 2014, or seven years later, just 549, or 14%, could be expected to earn a Bachelors or Associates Degree. While 28% of white and 37% of Asian BPS graduates would have received a college degree, that would be true for fewer than 10% of African American and 8% Latino students. And of those receiving a college degree, 391 (70%) would be graduates of an Exam School compared to just 166 (30%) from all other BPS High Schools (despite their greater number at High School graduation: 1,211 (61%) from all High Schools; 766 (39%) from Boston's Exam Schools).

Changing the Future

Greater Boston's leadership—from Mayor Thomas M. Menino and BPS superintendent Carol R. Johnson to Massachusetts Governor Deval Patrick, business, civic and community leaders—are committed to expanding learning opportunities, available choices and proven best practices to ensure better outcomes than those extrapolated below for both members of the BPS Class of 2007 and for all those who will follow.

BPS Education Pipeline Outcomes 2003-2014

Documented					Extrapolated					% of 9th graders who completed a degree within 7 years of HS Graduation
2003		2007			2008		2014			
Total 9th Grade	Dropout / Expelled	Still Enrolled / Non-Grad Completers / GED	Graduated	Not Enrolled	Enrolled in College	Non-Persisters	Still Enrolled	Graduated		
Total	3,822	646	768	2408	862	1546	781	216	549	14.4%
Af-Am	1,634	310	360	949	380	569	312	343	160	9.8%
Latino	1,146	236	272	638	280	358	218	225	86	7.5%
White	613	77	82	454	129	325	110	78	173	28.2%
Asian	380	17	32	331	64	267	111	34	139	36.6%
Exam Schools	803	10	27	766	106	660	195	74	391	48.7%
All Other BPS	3,019	636	741	1,642	703	939	568	145	225	7.5%

Source: TBF extrapolation of Massachusetts ESE & Boston PIC data.

Boston's Institutions of Higher Education

Boston's Institutions of Higher Education

Institution	Type	Total Enrollment
Boston University	4-year, private	32,053
Northeastern University	4-year, private	24,434
Boston College	4-year, private	14,621
UMass-Boston	4-year, public	13,433
Suffolk University	4-year, private	9,103
Bunker Hill Community College	2-year, public	8,806
Simmons College	4-year, private	4,733
Emerson College	4-year, private	4,380
Berklee College of Music	4-year, private	4,090
Wentworth Institute of Technology	4-year, private	3,728
Harvard University (part)*	Graduate Only, Private	3,644
Massachusetts College of Pharmacy and Health Sciences	4-year, private	3,626
Emmanuel College	4-year, private	2,467
Roxbury Community College	2-year, public	2,398
Massachusetts College of Art	4-year, public	2,312
Tufts University (part)*	Graduate Only, Private	1,903
Boston Architectural College	4-year, private	1,338
Fisher College	4-year, private	1,225
New England School of Law	Graduate Only, Private	1,103
Wheelock College	4-year, private	1,086
MGH Institute of Health Professions	Graduate Only, Private	864
School of the Museum of Fine Arts	4-year, private	797
New England Conservatory of Music	4-year, private	787
Urban College of Boston	2-year, private	673
Lesley University (Art Institute)*	4-year, private	565
Boston Conservatory of Music	4-year, private	630
Caritas Laboure College	4-year, private	548
Benjamin Franklin Institute	4-year, private	513
New England College of Optometry	Graduate Only, Private	464
Bay State College	4-year, private	354
New England School of Photography	2-year, private	142
St John's Seminary	Graduate Only, Private	118

Source: National Center for Education Statistics, fall 2007 enrollment.

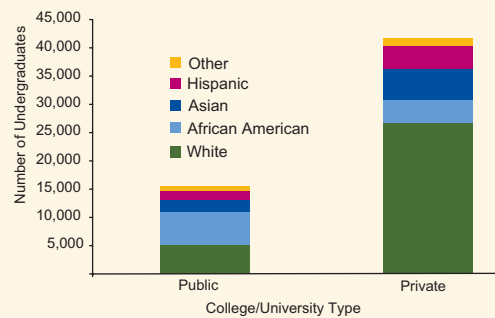
* Boston Redevelopment Authority, spring 2006 enrollment.

The Demographics of Students Living in Boston

According to American Community Survey estimates, 77,500, or 13.5%, of Boston residents were enrolled in higher education in 2006. (This does not include those who attend school in Boston but live elsewhere.)

Boston is a destination for students from well beyond New England and its resident student demographics are very different than those for Boston's children. Whites are the largest racial/ethnic group of students, at 31,600, representing 55% of undergraduates; followed by African Americans with 10,200, or 18%; Asians with 7,400, or 13%; and Latinos with 5,700, or 10%. People of color make up 50% of the city's total population but account for just 45% of undergraduates, while some 12% of undergraduates residing in Boston are foreign citizens.

Undergraduates by Public/Private College and Race/Ethnicity, Boston Residents, 2006



Source: US Census Bureau, 2006 American Community Survey
Racial categories do not include Latinos.

Among resident students attending public institutions in Boston, 68% are of color compared to 36% in private institutions. African American students, at 6,000, make up an estimated 39% of Boston's public institutions of higher education, while whites account for 5,000, or 55%; Asians account for 2,000, or 13%; and Latinos make up 1,600, or 10%. Among those attending private colleges and universities, approximately 26,600, or 64%, are white; 5,400, or 13%, are Asian; 4,200, or 10%, are African American; and 4,000, or 10%, are Latino.

The bottom line is that for the BPS Class of 2000, just 23% of all graduates and 36% of those who enrolled in higher education were able to obtain a college degree within seven years of their High School graduation.

It is clear from these statistics that among Boston Public Schools graduates, those already “on track” to succeed, such as BPS Exam School graduates who were accepted by and could afford to attend a private 4-year college, had the best college completion rates. In contrast, those who relied on 2-year public colleges were disproportionately challenged and fared least well.

It is estimated by the authors of this report, based on data extrapolated from these outcomes that if nothing changes, fewer than 15% of entering BPS 9th graders would graduate from college or post-secondary training—potentially leaving about 85% stranded on the sidelines of the region’s knowledge economy.

Educational Attainment and The Boston Workforce

In the industrial economy of the 1950s, many workers with only a high school diploma found decent jobs in manufacturing. Today, some college-level work is often required even for entry level work in the knowledge economy. With this change, each new generation is more likely to need higher education credentials. In Boston today, those with less than a high school diploma face a shrinking number of job opportunities—and many of the jobs for which they are eligible lack a living wage and benefits. With the area's continuing hemorrhaging of manufacturing jobs, and young skilled workers attracted to other US regions and emerging economies, income inequality driven by differences in educational attainment is increasing, with particularly negative results for young people beginning their adult lives lacking a good education.



OVERALL ATTAINMENT

There were dramatic changes between 1970 and 2006 in the educational attainment levels of Boston residents. The percentage of college graduates rose sharply from 10% to 42% and the percentage of those completing some college increased from 9% to 17%. Conversely, those with only a high school diploma declined from 34% to 25%—and those without a high school diploma from 46% to 16%.

UNDER-EDUCATION

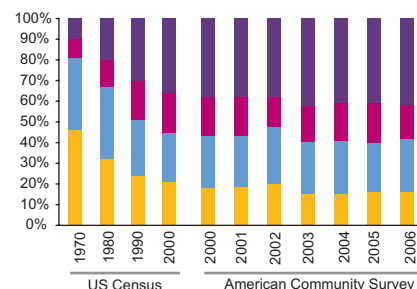
18-24 Year-Olds

According to the American Community Survey (ACS), of an estimated total 83,400 youths and young adults ages 18 to 24 living in Boston in 2006, about 6,000 had *no* high school diploma and were *not* enrolled in school.

Of nearly 50,000 ages 18 to 21, a total of about 9,000, or 18%, were *not* enrolled in school. Of those, 3,600 (40%) were white, 3,200 (35%) were African American, 1,700 (19%) were Latino, and 300 (3%) were Asian.

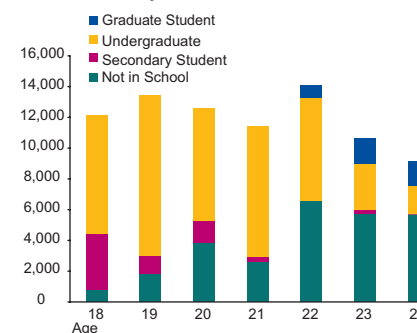
- About 3,000 had *not* completed high school and were *not* enrolled in school.
- About 5,700 were estimated to have completed high school but *not* enrolled in college. Of these, 57% (approximately 3,200) had completed high school but never attended college, and 43% (approximately 2,400) had attended some college but not completed a degree.
- About 1,600 were *not* working.

Educational Attainment, Boston Residents 25 and Older 1970-2006



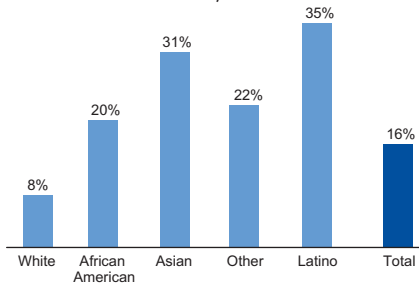
Source: US Census Bureau

School Enrollment, 18 to 24 year olds, Boston, 2006



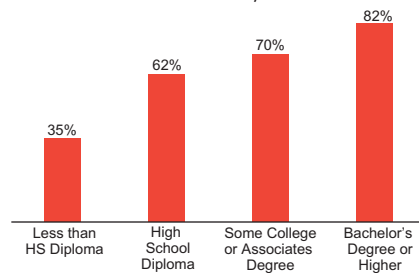
Source: US Census, 2006 American Community Survey

Percent Who Have Not Completed High School, by Race/Ethnicity Boston, 2006



Source: US Census Bureau, 2006 American Community Survey. Racial categories do not include Latinos.

Labor Force Participation Rate, by Educational Attainment Boston PMSA, 2003



Source: US Bureau of Labor Statistics

Among young adult Bostonians ages 22 to 24, the ACS estimates that as of 2006, 18,000 (53%) were *not* enrolled in school, and of these, approximately 2,100 (12%) were *not* working. That 2,100 included nearly 700 (34%) who had not completed high school and 1,200 (58%) with only a high school diploma, while fewer than 200 (8%) had completed some college and/or obtained a college degree.

Adults 25 and Older

In 2006, according to the most recent ACS estimates, while 84% of Boston residents age 25 and older held a high school diploma, 17%—approximately 61,400 adults—did not, including:

12,600 or 35% of Latinos; 8,400 or 31% of Asians; 15,200 or 20% of African Americans; and 17,500 or 8% of whites;

Of Bostonians over the age of 25 who speak a language other than English at home, 35,600, or 27%, did not have a high school diploma, compared to 25,800, or 10%, of those who do speak English at home.

Approximately 7,800 Boston parents with school-aged children have not completed high school. This represents 17% of all parents in Boston.

Workforce Participation

For Greater Boston, the Boston Primary Metropolitan Statistical Area (PMSA) in 2003, the most recent data available, Bureau of Labor Statistics data show that among those without a high school diploma, 65% were not participating in the labor market at all. Overall, workforce participation ranged from 35% of those without a high school diploma to 61% of those with a high school diploma to 82% of those with a Bachelor's degree or higher.

ADULT EDUCATION

In addition to the Pre-K–16 years of formal education, Boston's education pipeline offers opportunities for those outside the traditional trajectory to increase their employability and workforce participation. Adult education can include continuing education at institutions of higher education and adult education centers, formal job training, training for General Educational Development (GED), literacy and numeric skills through Adult Basic Education (ABE), and English for Speakers of Other Languages (ESOL) to assist immigrant newcomers with the language skills necessary to function on a job. These programs, when high quality, can reduce unemployment, boost earnings and, ideally, narrow the gap between available jobs and workers' skills.

Enrollment

Adult Basic Education (ABE) and English for Speakers of Other Languages (ESOL) both target adults with limited skills. ESOL programs focus on recent immigrants while ABE programs include immigrants, high school dropouts and those who are incarcerated. Some ESOL classes include an ABE curriculum and focus on the vocabulary and other language skills needed in a specific workplace.

Adult Basic Education (ABE): For school year 2007/08, there were 1,639 enrollees in Boston-based ABE classes, filling 79% of the available 2,067 slots, despite long waiting lists. (Empty slots may be due lack of coordination among sites, lack of effective publicity, the timing of classes, or program restrictions such as classes for Service Employees International Union (SEIU) members only.) Classes are offered by 25 agencies in locations across Boston except in the Fenway/Kenmore, Hyde Park and Roslindale neighborhoods. Programs in Dorchester and Roxbury have 45% of the classes/classroom capacity, with 49% of those enrolled.

English For Speakers of Other Languages (ESOL): ESOL classes, with a 2007/08 enrollment of 2,595, are filling 89% of the program's 2,916 capacity in Boston, despite long waiting lists. Classes are offered by 24 agencies covering every neighborhood except West Roxbury. In contrast to ABE classes, 31% of Boston's ESOL capacity and 33% of enrollments are concentrated in Boston's Central Planning District, which includes Downtown and Chinatown, where six agencies provide services—including two that focus on Chinatown. One of these, the International Institute of Boston, also provides a wide array of services for refugees and other newcomers. An additional 29% of Boston's ESOL classes and 28% of enrollments are in Dorchester and Roxbury.

Wait Lists

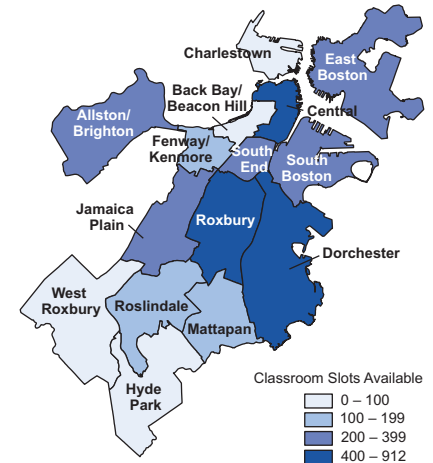
Wait lists measure only a portion of unmet need and act as a deterrent to participation because overbooked providers are less likely to do the publicity and outreach needed to bring in additional potential clients. Nevertheless, it is one measure of unmet need.

In early 2008, 3,209 people were waiting for Adult Education classes in Boston, and during the academic year 2007/08, Boston's wait list equaled 64% of its total capacity of 4,983 seats. Statewide, wait lists for ABE and ESOL increased from spring of 2002 to fall of 2004 but then began to decline, and through early 2008, wait lists in the Commonwealth as a whole declined by 34% for ABE and 31% for ESOL.

Completion & Goals Achieved

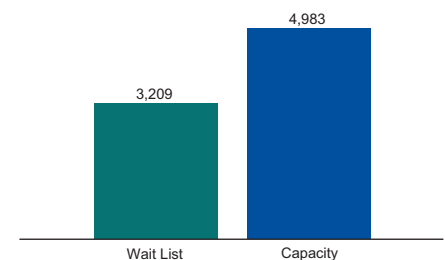
ABE and ESOL classes are intended to equip adult learners with the skills they need to enter or compete in the job market, but learners' goals vary—from

ABE/ESOL Capacity, by Neighborhood, 2007/2008



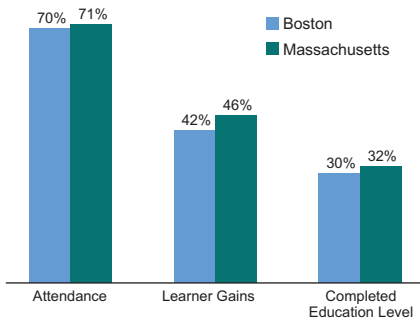
Source: Massachusetts Department of Elementary and Secondary Education ABE/ESOL directory. Map: TBF

Boston ABE/ESOL Capacity and Wait List, 2007/2008



Source: Massachusetts Department of Elementary and Secondary Education ABE/ESOL directory

ABE/ESOL Performance Outcomes, Boston & Massachusetts Programs, Average Percent of Students, by Program FY2006-2007



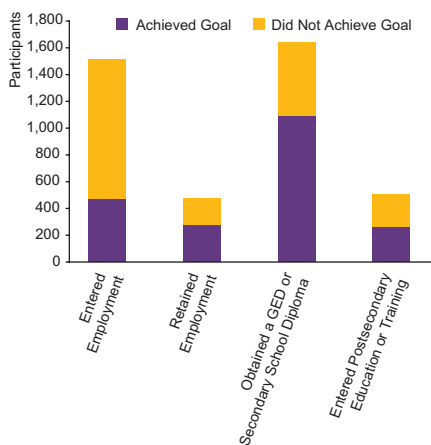
Source: Massachusetts Department of Elementary and Secondary Education, Adult and Community Learning Services

learning to speak English to completing a GED test to preparing for entry into higher education—which complicates evaluation. The US Department of Education has established course completion and goal attainment indicators for federally-funded programs.

On average, for Boston programs, 42% of students tested had learner gains, compared to 46% for all Massachusetts programs, although 18% of Boston programs did not meet the standard for learner gains. Overall, both Boston and Massachusetts met performance standards set by the Massachusetts Department of Elementary and Secondary Education.

The Commonwealth also monitors the percentage of students who not only achieve a learning gain but meet the full educational goals of a course. On average, in FY2007, for Boston programs, 30% of students met such goals compared to the statewide average of 32%. Programs in which at least 33% of students meet this goal are considered to have met state standards, and 43% of Boston programs met this standard.

ABE/ESOL Participants Meeting Goals Massachusetts, FY2007

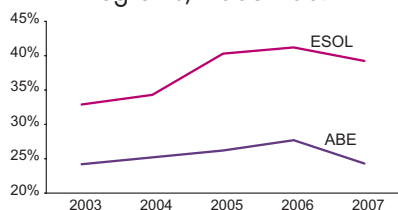


Source: Massachusetts Department of Elementary and Secondary Education, Adult and Community Learning Services

Statewide-level data are available on the percentage of students who meet goals that they have set for themselves (and not all students have the same goals). For FY2007, 31% met their goal of entering employment, 59% met their goal of retained employment, 67% obtained a GED or secondary school diploma, and 52% entered postsecondary education or training.

Data available on a statewide level show that the percentage of students completing an “education level” varies greatly by program. In 2003, 24.2% of students met this goal, increasing to 27.7% in 2006 before declining to 24.3% in 2007. Performance for ESOL students was better, with the percentage completing an education level increasing from 32.9% in 2003 to 41.2% in 2006 before falling to 39.2% in 2007.

Percent Completing Education Level, Massachusetts Adult Education Programs, 2003-2007



Source: Massachusetts Department of Elementary and Secondary Education, Adult and Community Learning Services

KEY OUTCOME

Percent of Adults with a BA Degree or Higher

According to American Community Survey (ACS) estimates, 42% (176,000) of Boston residents age 25 and over in 2006 had a Bachelor’s Degree (BA) or higher—up from 30% in 1990 and 36% in 2000. In 1990, just 18% of all Bostonians (64,400) held a Bachelor’s Degree, increasing to 23% (88,200) in 2006, while those with a professional or graduate degree increased from 12% (45,300) to 18% (70,300) in 2006.

Boston Compared to Other Cities

The 2006 ACS estimates that Boston’s higher education attainment rate for Bostonians age 25 or more, at 42% with a BA or higher, is substantially higher than that of Massachusetts (37%) and the US as a whole (27%). Boston also compares well to comparably sized cities: In 2006, among the 19 US cities with populations between 500,000 and 750,000 (Boston’s population is estimated at 590,763), the average percentage with at least a BA was 32% while Boston’s rate was 10 points higher. However, among comparable cities, Boston ranked 5th, outpaced by Seattle (53%), San Francisco (50%), Washington, DC (46%) and Austin (43%). In terms of those holding a professional or graduate degree, Boston ranked 4th among the 19 cities at 18%, falling behind only Washington, DC (25%), Seattle (21%) and San Francisco (19%).

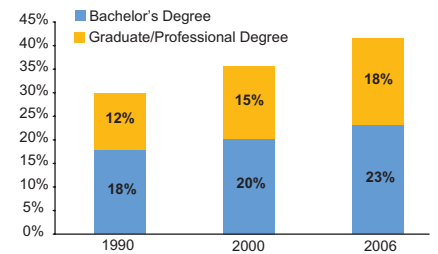
A comparison of Greater Boston (the Boston-Cambridge-Quincy Metropolitan Statistical Area) with the other 12 US metro areas with populations of 3 to 6 million finds that 41% of Greater Boston residents over the age of 25 had at least a BA—placing Metro Boston third behind Washington, DC (46%), and San Francisco (42%).

Disparities ➡➡

By Race/Ethnicity: The percentage of white (non-Latino) Bostonians with at least a BA increased from 37% in 1990 to 57% in 2006. Among Asians, it increased from 32% to 40%, among African Americans from 14% to 18%, and among Latinos from 14% to 17%. When adjusted for age, these stark disparities in rates of higher educational attainment hold. Despite the higher levels of educational attainment for those ages 25 to 34, compared to the population as a whole, all racial/ethnic groups have not benefited from this generational shift.

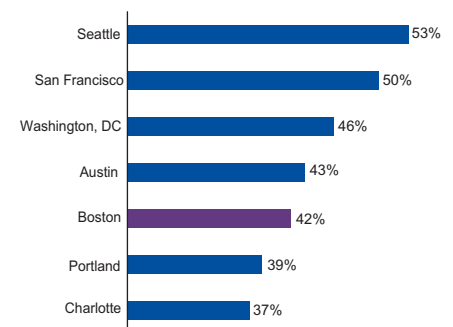
Of younger Bostonians ages 25 to 34, 80% of Asians and 77% of whites have a BA or higher, compared to just 31% of African Americans and 18% of Latinos. Moreover, within this age group, 26% of Latinos had not completed high school compared to just 6% of African Americans and Asians—and 3% of whites.

Higher Education Attainment, Boston, 1990-2006



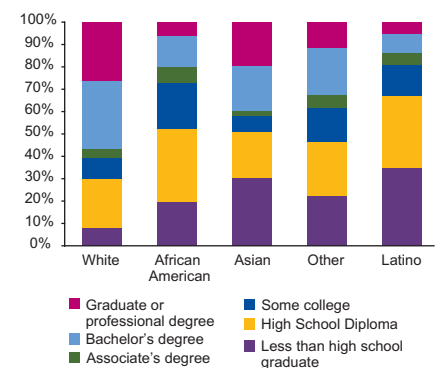
Source: US Census Bureau, Decennial Census and 2006 American Community Survey

Percent of Residents Age 25 and Over with At Least a Bachelor’s Degree, Select US Cities, 2006



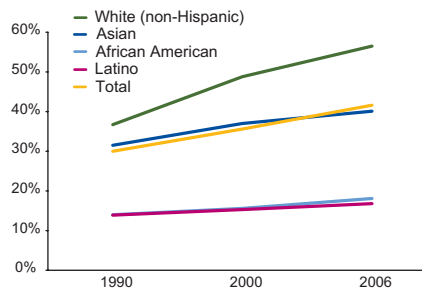
Source: US Census Bureau, 2006 American Community Survey, Cities with a population from 500,000 to 750,000

Educational Attainment by Race/Ethnicity, Boston, 2006



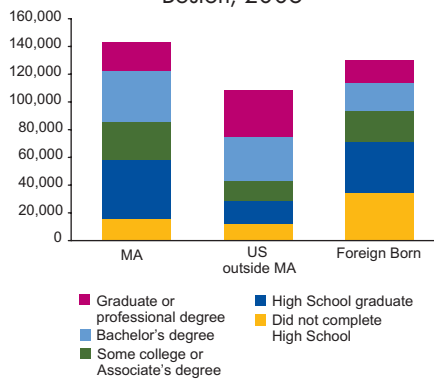
Source: US Census Bureau, 2006 American Community Survey Racial categories do not include Latinos.

Percent of Residents over 25 with at least a Bachelor's Degree, by Race/Ethnicity, Boston, 1990-2006



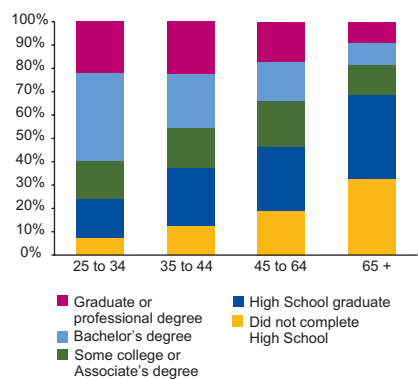
Source: US Census Bureau, 2006 American Community Survey

Educational Attainment, Residents 25 and over, by Place of Birth Boston, 2006



Source: US Census Bureau, 2006 American Community Survey

Educational Attainment, Residents 25 and over, by Age Boston, 2006



Source: US Census Bureau, 2006 American Community Survey

By Gender: Despite disparities in educational outcomes for girls and boys in the Boston Public Schools, there was no significant gender disparity among Bostonians age 25 and over in 2006. Men had a higher education attainment rate (43%) than women (41%), but because there are more women than men of this age in Boston, women with at least a Bachelor's Degree outnumbered men about 80,000 to 78,000.

By Place of Birth: In 2006, 42% of Boston residents age 25 or older held at least a BA degree, with stark differences among them when it came to place of birth, highlighting the importance of non-native workers to Boston's labor force:

- Bostonians born within the US but outside of Massachusetts, age 25 and older, had the highest educational attainment level by far, with an estimated 64,700 (60%) holding a BA degree or higher.
- Among Bostonians born in Massachusetts, 40% (an estimated 57,000) held a BA degree or higher.
- Of an estimated 157,000 foreign-born Bostonians, who make up 27% of Boston's total population, 28% of those age 25 and older hold a Bachelor's Degree or higher. However, a significantly higher percentage of immigrants than US-born Bostonians—34,600, or 27%—have not completed high school. An estimated 29% of Boston's foreign-born residents—about 45,000 total—are newcomers and have arrived since 2000, with Brazil, Haiti, China and Vietnam topping the list of countries of origin.

By Age: In the industrial economy of the 1950's, many workers with a high school diploma could find a decent job in manufacturing. Today, some college is required for even entry level work in the knowledge economy, and each new generation is more likely to need and to have higher education credentials.

In 2006, 60% of Boston residents ages 25–34 (64,800) had a BA or higher compared to 45% of those ages 35–44 (41,500), 34% of those ages 45–64 (40,700), and 19% of those age 65 and older (11,500). This represents a significant increase from the year 2000 for two groups: those 25–34 (up 8%, from 52%) and those ages 35–44 (up 11%, from 34%). Those ages 45–64 and 65 and older both saw smaller increases—up 4% from 30% and 3% from 16%, respectively.

KEY OUTCOME

Unemployment by Race/Ethnicity

Increasingly, educational levels are correlated with unemployment. In Boston in 2006, according to the most recent ACS estimates, those with a high school diploma or less represented 35% of the labor force but 46% of unemployment claimants. Conversely, those with some college or more represented 65% of the labor force but only 43% of unemployment claims. However, there were major differences by race/ethnicity:

- Despite their relatively low levels of education (61% had not attended college), the percentage of unemployment claims for Latinos, at 15%, was almost equal to their representation in the labor force, at 14%.
- African Americans (50% of whom had not attended college) represented 34% of claimants but 21% of the labor force.
- Whites and Asians, with higher educational levels overall, filed a lower percentage of unemployment claims than their share in the workforce.

KEY OUTCOME

Unfilled Vacant Jobs: The Skills Mismatch

In an economy increasingly reliant on high skill levels, the bottom line when determining whether the education pipeline is working for both residents and the economy is the extent of the skills mismatch—whether or not job vacancies increase at the same time as unemployment.

In Massachusetts (data for Boston is limited), the Massachusetts Department of Workforce Development reported that vacancies increased by 15% even as the number of unemployed persons also increased—by 4% from the 2nd Quarter of 2005 to the 2nd Quarter of 2007.

At least an Associates Degree was required for 42% of all job vacancies in Massachusetts in Q2 2007, unchanged from the year before. In Greater Boston, 53% of job vacancies required at least an Associates Degree.

A young and highly educated workforce is Boston’s key economic asset, but Boston faces intense competition from other US regions and emerging economies, whose strength lies in the number and rising educational levels of their younger workers. Population projections through 2030 show an 8% decline in Bostonians ages 19 to 54 and a rise in older residents. To replenish its workforce, Boston must successfully develop its “home grown talent” as well as attract and retain a high percentage of residents with a Bachelor’s degree or higher. Without a broadly educated workforce, the current mismatch between the skills needed for job vacancies and the skills held by available workers will widen.

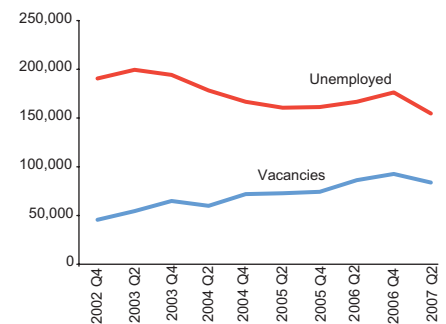
Labor force and Unemployment, Boston, 2006

	Percent of Labor Force (July 2006)	Percent of Unemployment Claimants (Nov. 2006)
Whites	61%	48%
African Americans	21%	34%
Asians	7%	5%
Latinos	14%	15%
Men	49%	55%
Women	51%	45%
High School Graduate or Less	35%	46%
Attended College*	65%	43%

Source: Massachusetts Department of Workforce Development

* Includes all those who attended any college, regardless of degree completion

Job Vacancies & Unemployment Massachusetts 2002 to 2006



Source: Massachusetts Department of Workforce Development

Introduction to the Appendix

This Appendix offers a detailed at-a-glance view of school, teacher and student characteristics and outcomes for each of Boston's public schools, including Charter Schools. It is drawn from data provided by the Massachusetts Department of Elementary and Secondary Education, the Boston Public Schools and the Massachusetts Charter Public School Association. Data on amenities are primarily sourced from school self-reporting. Lack of a particular item may be due to an omission in self-reported data. Likewise, student and school outcome data labeled "Not Reported" may refer to data withheld due to a sample size of fewer than 10 students. Given space limitations, this does not include information about school-community partnerships and other features that are unique to particular schools.

LEGEND

Y: Present at the school

N/R: Not reported

N/A: Not available

ABBREVIATIONS:

Af-Am: African American

AP: Advanced Placement

AVID: Advancement Via Individual Determination

AYP: Adequate Yearly Progress

BFIT: Benjamin Franklin Institute of Technology

BHCC: Bunker Hill Community College

CPI: Composite Performance Index

ELL: English Language Learners

HMCS: Horace Mann Charter School

LEP: Limited English Proficiency

MCAS: Massachusetts Comprehensive Assessment System

PSAT: Preliminary Scholastic Aptitude Test

RCC: Roxbury Community College

SAT: Scholastic Aptitude Test

SEI: Sheltered English Immersion

SWD: Students with Disabilities

TBE: Transitional Bilingual Education

For a complete Glossary of all terms in Appendix, please go to www.BostonEducationReportCard.org