



The Research Bureau

Benchmarking Public Education in Worcester: 2008

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Benchmarking Public Education in Worcester: 2008

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The Research Bureau

Dear Citizen,

This is the sixth annual report on the status of public education in Worcester prepared by The Research Bureau's Center for Community Performance Measurement (CCPM). Much of the discussion in this report examines student, school, and district performance in relation to the standards adopted under the Massachusetts Education Reform Act of 1993 and the Federal No Child Left Behind (NCLB) education reform legislation, which was signed into law in 2002 in an effort to close the achievement gap among American elementary and secondary school students. NCLB requires states to implement statewide accountability systems covering all public schools and students to ensure that all students, including subgroups such as racial and ethnic minorities, students with limited English proficiency, and students with disabilities, reach proficiency in English language arts and mathematics by 2014.

It is important to bear in mind that no single indicator should be considered in isolation. In other words, context is important, and the indicators discussed in this report are interrelated. For example, students with high rates of absenteeism (Indicator 1) may show lower levels of academic achievement as measured by MCAS tests (Indicator 3).

We wish to thank the Alfred P. Sloan Foundation for its continued support of the CCPM as well as the George I. Alden Trust for its sponsorship of this report. We hope that this report will encourage continued discussion about the future of public education in Worcester.

Sincerely,

Brian J. Buckley, Esq., Chairman of the Board

Overview of Inputs

Table 1 highlights recent trends in the Worcester Public School District's (WPS) budget, staffing levels, and student enrollment, as well as enrollment in the two public charter schools located in Worcester for the five-year period from FY03 through FY07. (This period corresponds to the years for which performance data are available and discussed in later sections of this report.) On October 1, 2006, the District's 44 schools serving grades pre-K through 12 enrolled 23,603 students, while Worcester's two charter schools enrolled an additional 1,862 students. (As discussed further in Indicator 5, these charter schools are state-funded public schools that are not operated by the Worcester Public Schools District or governed by the Worcester School Committee.)

As in other urban districts, students in the WPS are demographically diverse. One-third of the students enrolled in 2006-07 were Hispanic, 42.5% were white, 12.8% were African-American, and 8% were Asian. More than a third (38%) of the students spoke a first language other than English, and 17% of all students could not perform ordinary classroom work in English. Nearly two-thirds of WPS students are from low-income families, and 19% of students have an Individualized Education Plan (IEP), qualifying them for special education services.

From FY03 to FY07, the WPS approved budget increased by 11.4%, or more than \$24 million. When adjusted for inflation over this period however, the budget declined slightly, by 0.6%. Although State Chapter 70 funding has increased annually since FY03, when adjusted for inflation, the State's contribution declined by 2.4%. The City's annual funding contribution to the WPS grew by 11%, or \$8 million, from FY03 to FY07 (from \$71 to \$79 million). When adjusted for inflation, the City's contribution from FY03 to FY07 declined slightly, by .8%. At the same time, enrollment steadily declined, with 2,109 (8%) fewer students enrolled on October 1, 2006 compared to just four years earlier. When adjusted for inflation, however, per pupil spending actually rose by more than 8% during that period, from \$9,276 to \$10,043.¹

Despite a 12% reduction in overall staffing levels (resulting in 359 fewer staff) during this period, the budget allocation for employee salaries and benefits grew by almost \$20 million, or 11%. Soaring health insurance costs have consumed an ever-greater proportion of the district's budget, growing from \$24.7 million, or 12% of the WPS budget in FY03, to \$42.6 million, or about 18% of the budget in FY07.

Enrollment in Worcester's two public charter schools increased by 23% from FY03 to FY07. The 8% decline in students enrolled in the WPS (as stated above) may be partially explained by students transferring to these charter schools. Like the Worcester Public Schools, the two charter schools in Worcester are ethnically diverse. Forty-six percent of the students enrolled at the Seven Hills Charter School in 2006-07 were Hispanic, 17% were white, and 31% were African-American. Nearly 70% of the school's students were from low-income families, about 12% were students whose first language was not English and who could not perform ordinary classroom work in English, and 12% of students qualified for special education services. At Abby Kelley Foster Charter School, which draws students from Worcester and eight other towns in the region, 45% of the students were white, 25% African-American, and 21% were Hispanic. Almost half of the school's students were from low-income families, about 2% did not speak English well enough to perform ordinary classroom work in English, and 10% of students qualified for special-education services.

Payments made by the state to Charter schools enrolling students whose home district is the WPS have grown by 38% since FY03, increasing from \$11.7 to \$16.2 million. During this time period, however, per pupil spending, when adjusted for inflation, remained about the same (\$8,612 in FY03 and \$8,686 in FY07.) The WPS district is partially reimbursed by the State for students attending charter schools instead of district schools. (See <http://www.doe.mass.edu/charter/> for additional information about charter school funding regulations.)

¹ The Worcester Public Schools budget includes tuition for special education students who are placed in out-of-district schools. In 2007, there were 77 of these students.



Overview of Inputs (continued)

Table 1: Input Indicators for the Worcester Public School District and Abby Kelley Foster Regional and Seven Hills Charter Schools

	FY03	FY04	FY05	FY06	FY07	% Change FY03-FY07
Student Enrollment						
WPS October 1 Enrollment	25,712	25,055	24,538	24,023	23,603	-8.20%
Approved Budget						
WPS Budget (Approved)	\$212,775,225	\$216,509,552	\$222,868,164	\$230,478,935	\$237,047,827	11.41%
WPS Budget (Inflation Adjusted)	\$238,514,474	\$237,505,481	\$237,338,560	\$236,439,401	\$237,047,827	-0.61%
Salaries	\$148,081,689	\$148,247,782	\$148,342,903	\$147,654,076	\$146,955,036	-0.76%
Salaries as % of Budget	70%	68%	67%	64%	62%	
Average Salary (All Positions)	\$48,856	\$52,645	\$52,829	\$54,165	\$54,998	12.57%
Health Insurance Costs	\$24,659,152	\$30,128,161	\$34,364,865	\$37,442,442	\$42,555,528	72.57%
Health Insurance as % of Budget	12%	14%	15%	16%	18%	
Retirement	\$7,970,080	\$8,463,564	\$9,428,242	\$9,893,271	\$10,292,369	29.14%
Total Salaries and Benefits	\$180,710,921	\$186,839,507	\$192,136,010	\$194,989,789	\$199,802,933	10.56%
Total Salaries and Benefits as % of Budget	85%	86%	86%	85%	84%	
Tuition (Special Education Placements)	\$8,901,251	\$9,593,249	\$10,117,544	\$12,234,722	\$12,234,722	37.45%
Staffing						
Total Staff (FTE)	3,031	2,816	2,808	2,726	2,672	-11.84%
School and District Administrators	102.00	94.25	95.25	96.25	94.25	-7.60%
Teachers	2,076	1,942	1,913	1,876.50	1,864	-10.21%
Other	853	780	800	753	714	-16.30%
Funding/Reimbursement						
Chapter 70 State Aid (Actual)	\$153,103,294	\$154,518,307	\$158,861,691	\$161,059,359	\$167,480,913	9.39%
Chapter 70 State Aid (Inflation Adjusted)	\$171,624,077	\$169,502,659	\$169,176,271	\$165,224,550	\$167,480,913	-2.41%
City Contribution (Actual)	\$71,350,738	\$73,843,193	\$75,954,193	\$80,015,430	\$79,337,953	11.19%
City Contribution (Inflation Adjusted)	\$79,981,980	\$81,004,108	\$80,885,751	\$82,084,726	\$79,337,953	-0.81%
Charter Schools						
AKFCS Enrollment, October 1	858	889	1,087	1,175	1,176	37.06%
Seven Hills Enrollment, October 1	662	647	667	661	686	3.63%
Total Charter Enrollment (Worcester), October 1	1,520	1,536	1,754	1,836	1,862	22.50%
Charter School Payments (Actual)*	\$11,678,807	\$12,351,948	\$13,689,279	\$15,682,993	\$16,173,909	38.49%
Charter School Payments (Inflation Adjusted)*	\$13,091,583	\$13,549,773	\$14,578,097	\$16,088,574	\$16,173,909	23.54%

Data Sources:

1) Data Sources: (1) October 1 Enrollment Data: Mass DOE Enrollment By Grade Reports for the years 2002-03 through 2006-07, available at <http://www.doe.mass.edu>

(2) Budget Data, Staffing, and Funding: Worcester Public Schools Annual Budgets

Salaries line does not include grant-funded positions.

*In FY07, charter school payments made to the City were moved from the Worcester Public Schools budget to the City of Worcester budget.



Why are they important?

While teacher effectiveness, quality of school buildings, and the availability of textbooks and computers are important elements that contribute to student academic achievement, students must consistently attend classes in order to receive maximum benefit from these resources. Students who are frequently absent from school are at higher risk for poor academic performance, repeating a grade, and dropping out of school.

Students who drop out of high school can expect lower life-time earnings and fewer opportunities in today's labor market. According to the Bureau of Labor Statistics, during 2007, among full-time workers age 25 and over, nationwide, median weekly earnings for high school graduates (no college) were 41 % higher than those of high school dropouts (\$604 per week versus \$428).²

What are the trends in Worcester?

As shown in **Chart 1.1**, during the 2006-07 school year, on average, WPS elementary students attended school 95.2 % of the days they were enrolled, WPS middle school students attended slightly less often (on average, 94.7 % of the days enrolled), and high school students had the poorest attendance rate (91.1 %).^{3,4} Attendance rates at each of these levels decreased slightly compared to the previous year. **Appendix B** (pp. 24-25) shows attendance rates and average number of days absent per pupil for each school in the WPS District. During the 2006-07 school year, the average number of days absent per pupil varied substantially, from 5 days at the Midland Street School to 16.3 days at North High School. The district-wide average during this period was 9 days.

Table 1.1: High School Dropouts, WPS

School	2002-03		2003-04		2004-05		2005-06	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
University Park Campus School	2	1.6%	2	1.5%	1	0.7%	1	0.7%
Accelerated Learning Lab	7	4.4%	3	1.9%	5	2.4%	2	1.0%
Worcester Vocational High School	38	3.8%	48	4.7%	35	3.4%	19	1.8%
Doherty Memorial High School	56	3.9%	56	3.8%	64	4.2%	67	4.3%
North High School	71	6.0%	109	8.8%	97	7.6%	61	4.9%
Burncoat Senior High School	70	5.5%	77	5.9%	79	5.6%	71	5.0%
South High Community School	91	6.6%	100	7.0%	103	6.8%	82	5.3%
District Total	335	5.1%	395	5.8%	392	5.5%	303	4.2%

Source: MA Department of Education.

² <http://www.bls.gov>

³ The Massachusetts Department of Education calculates attendance rates for students in grades 1 – 12 only. Therefore, attendance rates at the elementary school level do not include pre-K or kindergarten students.

⁴ Because Claremont Academy and University Park Campus School include grade spans beyond the traditional categories of elementary, middle, and high school, they are not included in Chart 1.1.

Dropout Rate

The dropout rate reflects the percentage of students in grades 9-12 who dropped out of school between July 1 and June 30 prior to the listed year and did not return to school or transfer to another school by the following October 1.⁵ The most current data available are for 2005-06, and show the WPS dropout rate at 4.2% (representing about 303 students), a decrease from the 2004-05 school year when the rate was 5.5%, and also the lowest rate in the past four years. While Worcester's rate was higher than the statewide average of 3.3% in 2005-06, it was below those of several other urban districts in Massachusetts. **Chart 1.2** shows dropout trend data for a number of such districts.⁶ Statewide, the dropout rate decreased from 2004-05 to 2005-06 (from 3.8% to 3.3%).

As shown in **Table 1.1**, in 2005-06, the University Park Campus School again had the lowest dropout rate among Worcester schools at .7% (1 student). Doherty Memorial High School experienced a very slight increase (.1%) in its dropout

Chart 1.1: WPS Attendance Rates

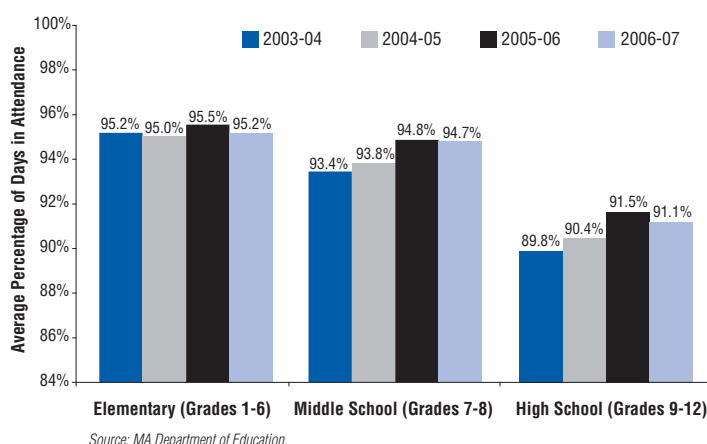
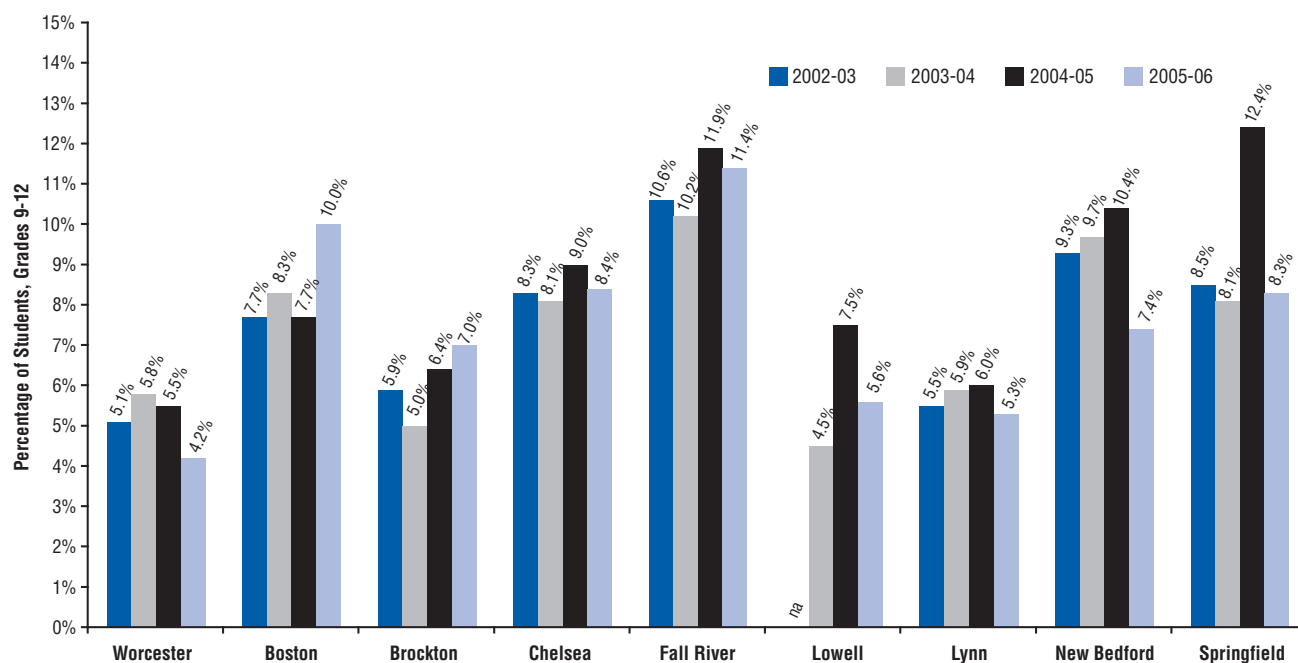


Chart 1.2: High School Dropouts, 2002-03 to 2005-06



Source: MA Department of Education.

rate from 2004-05 to 2005-06, while rates at Burncoat, North, South, Accelerated Learning Lab, and the Vocational High Schools all declined. Although South High Community School's dropout rate decreased from 6.8% in 2004-05 to 5.3% in 2005-06, it remained the highest in the district. From 2004-05 to 2005-06, North High School experienced the largest decrease in the dropout rate, from 7.6% to 4.9%.

What does this mean for Worcester?

Research has documented that regular attendance is an important factor in student academic performance. The WPS district has shown improvement at the middle school and high school levels, where attendance rates have shown a 1.3 percentage point increase over a four-year period. However, attendance rates are the lowest among students at Worcester's four comprehensive high schools (Burncoat, Doherty, North, and South High Schools) with the average number of absences per pupil at these schools ranging from 13.7 to 16.3 days in 2006-07. In other words, students in these schools missed an average of almost three weeks of school per year. According to the WPS Superintendent, improved middle school attendance is largely due to the following two factors: 1) increased court intervention, and 2) the district's use of Connect-ED™ to improve school-to-home communication. Connect-ED™ enables

administrators to record, schedule, send, and track personalized voice messages to thousands of parents in minutes, including messages to inform parents that their child is absent from school on a given day.

In the past three years, almost 1,100 WPS students have dropped out of grades 9-12. However, the dropout rate has been decreasing of late in most high schools, and Worcester's dropout rate is the lowest it has been in four years. Some of these dropouts may have re-enrolled in schools outside of Massachusetts or the US, and some will ultimately earn a high school degree and may even pursue further education. However, those who do not complete high school face diminished job prospects and earnings potential. Worcester's Comprehensive Skills Center has proved to be a successful model for attracting former dropouts back into the public school system. It provides high school dropouts an opportunity to return to school and earn their high school diploma; it also assists students who are currently enrolled in one of the comprehensive high schools but have been identified as being "at risk" of dropping out of school. In 2007, the program provided services for approximately 250 students, and approximately 80 former dropouts served by the program graduated with a regular diploma.

⁵ The Massachusetts Department of Education requires districts to count a student as a dropout if the district is unable to determine that the student re-enrolled in another district.

⁶ The Chelsea and Lowell districts each have a single high school; all other districts listed in Chart 1.2 have multiple high schools.



Why are they important?

Student mobility (also referred to as student turnover or transience) refers to the practice of students changing schools during the school year or between school years.⁷ While student mobility has various causes, researchers have found that high student mobility can have significant adverse effects on student achievement among both the mobile students and their non-mobile peers.⁸ A student who transfers from one school to another during the academic year may have to adjust to different curricula, textbooks, and instructional styles, and may also experience difficulty adapting to a new peer group. Non-mobile students in high-turnover settings may also lose out if their teachers are forced to repeat lessons or take time away from instruction to familiarize new students with the classroom routine. Schools facing high turnover may experience low teacher morale, a slower instructional pace, and added administrative burdens.

Stability rates describe the percentage of students who remain in a classroom from the beginning to the end of a school year. It is possible for a school with a high mobility rate (many students entering and exiting) to also have a substantial number of students who remain in the same school throughout the year. Additionally, two schools with similar stability rates may have dissimilar mobility rates if one experiences a higher rate of students entering and/or leaving the school over the course of a year than the other.

What are the trends in Worcester?

Mobility

As calculated by the WPS, a school's mobility rate reflects the number of student transfers into or out of (entries and exits) the school during a 12-month period (October 1 of the initial year to October 1 of the following year), expressed as a percentage of total school enrollment on October 1 of the initial year. Because some students may experience multiple moves during a school year, mobility rates do not necessarily provide an unduplicated count of students transferring during a year. Mobility calculations include both transfers occurring within the district and transfers into or out of the district. As

shown in Chart 2.1, from October 1, 2006 to October 1, 2007, the district-wide entry mobility rate was 21.1% and the exit mobility rate was 20.3%.⁹ Chart 2.1 also shows that student turnover as a percentage of enrollment had been steadily increasing since 2002-03, but dropped slightly during the 2006-07 school year.

Charts 2.2 and 2.3 show average entry and exit mobility rates for WPS elementary, middle, and high schools, as well as the district-wide averages for the past five years.^{10,11} (Mobility rates for individual schools are listed in **Appendix B**.) During the 2006-07 period, 714 transfers across Worcester's four comprehensive high schools involved students moving within the district (from one WPS to another) and 659 entries into these high schools involved a student arriving from outside the district. Additionally, 608 exits occurred from schools within the district, and 876 exits occurred out of the district during this time period. Although students who arrive at a school after October 1 are required to participate in MCAS testing, their scores are not included in most school-level MCAS and accountability reports. However, their performance is included in district-level adequate-yearly-progress (AYP) determinations and performance summaries.¹²

District-wide average combined mobility rates (the number of times students enter and exit schools as a percentage of October 1 enrollment) had slightly increased from 2002-03 (39%) through 2005-06 (44%); however, the 2005-06 combined mobility rate includes students from the four closed elementary schools who transferred to other schools. The combined mobility rate for the October 1, 2006 to October 1, 2007 time period (41.4%) dropped from the previous year (44.2%), but was equal to the 2004-05 rate.

⁷ Mobility rates exclude "normal promotions" that occur when students are promoted from elementary to middle or middle to high school.

⁸ David Kerbow, "Patterns of Urban Student Mobility and Local School Reform." *Journal of Education for Students Placed at Risk* 1(2) (1996): 147-169.

⁹ During this 12-month period, the district's 44 schools reported a total of 4,824 student transfers in (entry); the mobility rate is calculated by dividing this number by the October 1, 2006 enrollment figure of 22,875 students. Similarly, the exit mobility rate reflects 4,632 transfers out of the 44 schools.

¹⁰ Middle School and High School mobility rates in **Charts 2.2 and 2.3** do not include Claremont Academy and University Park Campus School, as these schools enroll students in both the middle and high school grades (7-12).

¹¹ The average elementary school entry mobility rate for the October 1, 2005 to October 1, 2006 period included students who were forced to transfer to other schools following the closure of four elementary schools in June 2006.

¹² See **Indicator 3: MCAS Scores and School and District Accountability** for further explanation of student performance and school and district accountability standards in Massachusetts.



Student Mobility and Stability Rates (continued)

Chart 2.1: WPS Student Mobility Rates

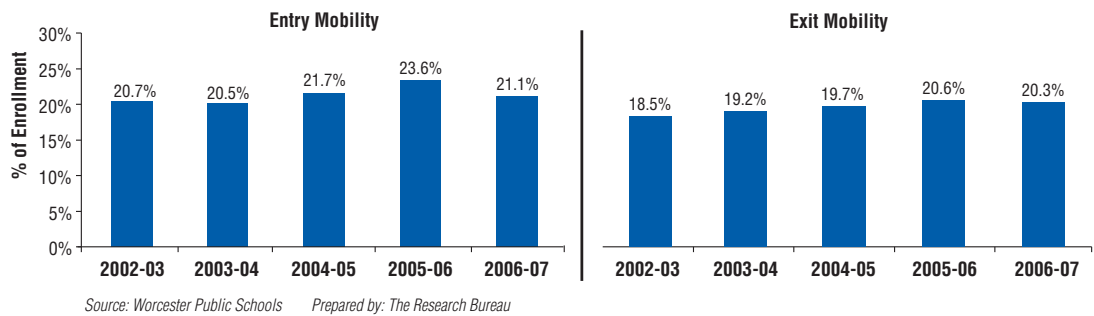


Chart 2.2: WPS Entry Mobility Rates, by School Level

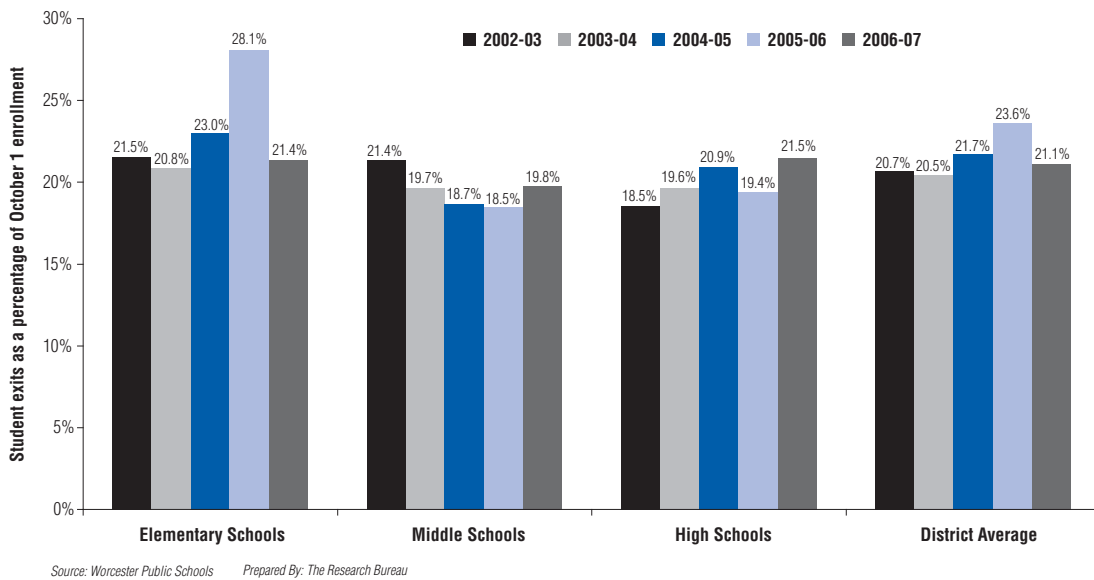
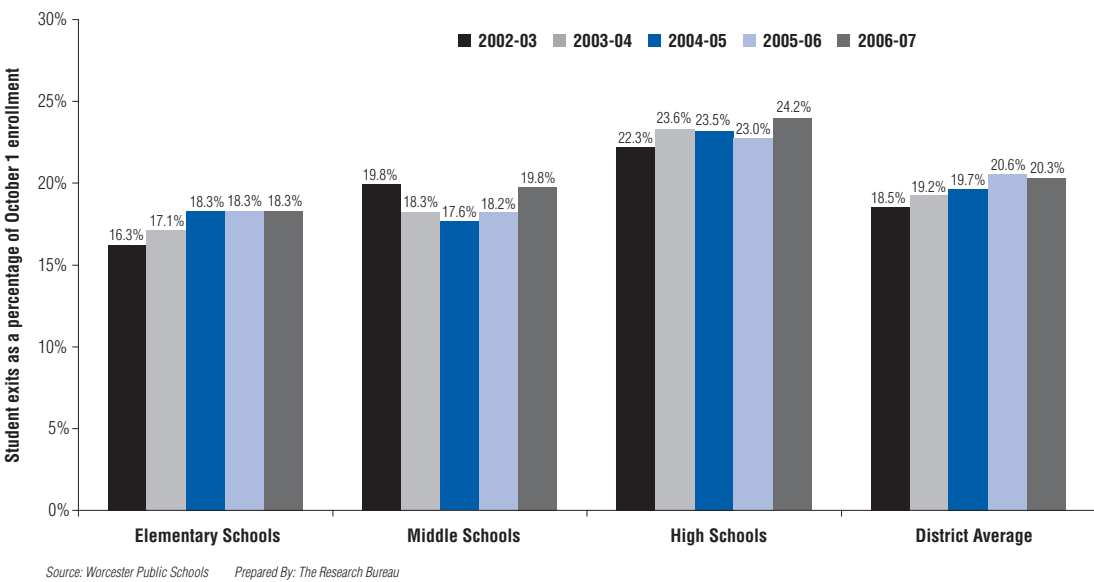


Chart 2.3: WPS Exit Mobility Rates, by School Level

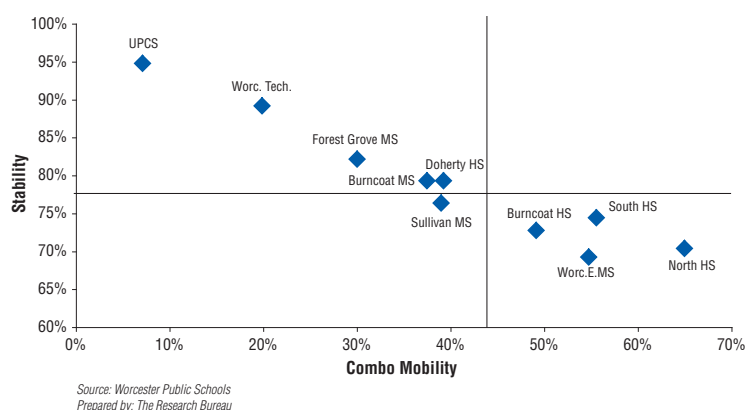


Stability

As calculated by the WPS, the stability rate reflects the number of students who were enrolled in a school for 175 or more days during a school year (180 days), divided by total enrollments.¹³ Stability reflects consistent enrollment, whereas mobility tracks the rate of movement in and out of a school. The reader is cautioned that mobility and stability rates are not the reverse of each other.

As calculated by the WPS, during the 2006-07 school year, three-quarters of students (76.8%) in the district enrolled at one school remained in that same school through the end of the year. (During the 2005-06, the stability rate was almost the same, at 76.3%.) School-level mobility and stability rates, included in **Appendix B**, show that schools with higher stability rates tend to have lower mobility rates, and vice versa. University Park Campus School had both the highest stability rate (95.4%) and the lowest mobility rate (6.56%), while Flagg Street School had both the second-highest stability rate (92.9%) and the second-lowest mobility rate (11.86%). At the other extreme, Chandler Elementary experienced the lowest stability in the district (just over half, 55%, of students enrolled at Chandler remained there through the end of the year) and the highest mobility (85%). **Chart 2.4** plots mobility rates against stability rates for each of the WPS middle and high schools.¹⁴

Chart 2.4: Stability & Mobility in Worcester's Middle and High Schools, 2006-07



What does this mean for Worcester?

Student mobility and student stability are important factors to consider when, under NCLB, districts are held accountable for the performance of all students, regardless of their enrollment history. While the performance of students entering a school after October 1 in a given year is not factored into that school's AYP calculation, these students' performance does count when determining the district's accountability status. Since districts are being held accountable for the performance of students who may have received much of their education elsewhere, it would be desirable to determine how these mobile students are performing, particularly as measured by MCAS and graduation rates. Doing so would require in-depth analysis of mobility and its relationship to student academic achievement as measured by the MCAS.¹⁵

While **Appendix B** shows that a number of schools with high mobility also have poor MCAS results, this is not uniformly the case. Generally, schools with high mobility rates and low stability rates also have higher percentages of minority students, students with limited English proficiency, students eligible for free/reduced-price lunch, and special-education students, all factors that have been shown to correlate with lower performance.¹⁶ Where schools with high mobility show low MCAS performance, we do not know which students—mobile or non-mobile—are among the poor performers. Additionally, there ought to be further analysis of the performance of students who move within the district, compared to those who enter from another district. (The WPS has adopted a district-wide curriculum under which students transferring from one school to another within the district should find their new classroom at approximately the same instructional point as the classroom they left.)

Another challenge in understanding the nature and extent of student mobility is the lack of standardized collection and reporting of mobility data, since schools and districts are not currently required to report such data to the MA Department of Education. Therefore it is difficult to compare Worcester's rates relative to those of other large urban districts. The ability to do so could be useful if districts were able to use the data to identify and share strategies to address the problem.

¹³ Since a student could enroll, leave, and return within one year (2 enrollments), the number of enrollments may exceed the number of individual students who enrolled in a given year.

¹⁴ The lines on Chart 2.4 represent the district average for each measure plotted.

¹⁵ Currently, we are not tracking the performance of mobile students separately from their non-mobile peers.

¹⁶ Based on data available from the MA Department of Education. Other factors that are not measured, such as neighborhood characteristics, housing availability and affordability, employment opportunities, and parental educational attainment and income may also affect mobility.



Why is it important?

The Massachusetts Comprehensive Assessment System (MCAS) was established following passage of the Massachusetts Education Reform Act of 1993 (MERA) to measure student performance based on the Massachusetts Curriculum Frameworks learning standards. The subject-matter MCAS tests, which have been administered statewide since 1998, serve as the primary means by which schools and districts in Massachusetts are held accountable for student performance, as required by both MERA and the Federal No Child Left Behind Act (NCLB) of 2001. Schools and districts in which student performance does not improve sufficiently, as determined by specific state performance standards, are subject to review, and possible oversight by the Massachusetts Department of Education. Finally, in addition to meeting local graduation requirements, students must pass both the grade 10 English Language Arts (ELA) test and grade 10 mathematics test to earn a high school diploma.¹⁷

Since NCLB requires that all students meet state-established proficiency standards in English Language Arts and math by 2014, this indicator describes the proportion of students whose performance was at the “Advanced” or “Proficient” level on the ELA and math MCAS tests.

MCAS Performance Level Definitions

As defined by the Massachusetts Department of Education, students scoring at the “Advanced” level demonstrate a comprehensive and in-depth understanding of rigorous subject matter, and provide sophisticated solutions to complex problems. Students scoring at the “Proficient” level demonstrate a solid understanding of challenging subject matter and solve a wide variety of problems. Students whose scores are at the “Needs Improvement” level demonstrate a partial understanding of subject matter and solve simple problems, while those performing at the “Warning/Failing” level demonstrate only a minimal understanding of the subject matter and cannot solve even simple problems.

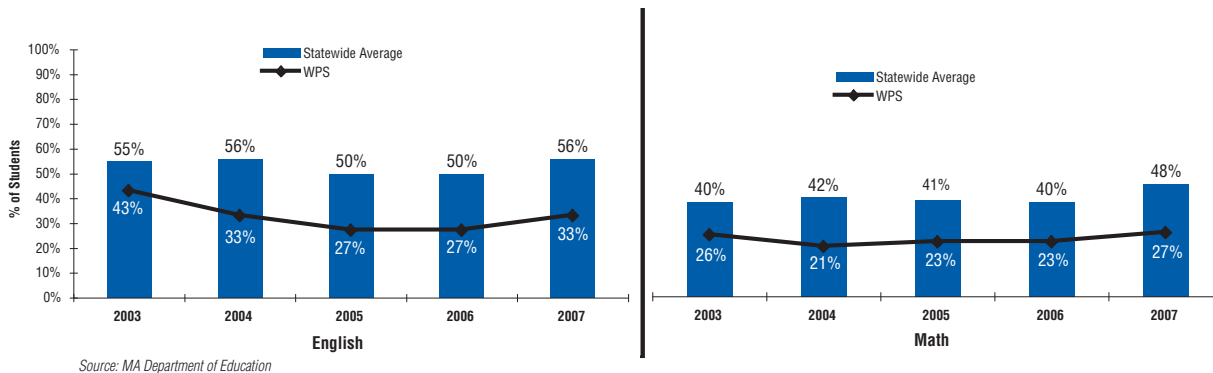
What is the trend in Worcester?

As shown in **Chart 3.1**, in each year during the five-year period from 2003 to 2007, the proportion of WPS fourth-graders scoring at or above proficiency on both the ELA and math MCAS exams has been well below the statewide averages. In 2007, 33% of WPS fourth-graders scored at or above proficiency on the ELA exam compared to 56% of students statewide. About 27% of WPS fourth-graders scored in the proficient or advanced category in math, compared to 48% statewide. While the proficiency rate for WPS fourth-graders increased on both the ELA and math exams from the previous year, the statewide average increased in both of these areas as well, leaving a considerable gap between the WPS and statewide proficiency averages.

In 2007, students at Clark Street Community, Worcester Arts Magnet, Jacob Hiatt Magnet, and Flagg Street elementary schools scored at or above the statewide average on both the grade 4 ELA and math tests. Proficiency rates on the 2007 ELA and math MCAS test are provided for individual schools in **Appendix B**.

While the above discussion highlights Worcester’s performance relative to that of all students statewide, the charts in **Appendix A** (pp.21–23) show WPS student performance in comparison to the 21 other urban districts.¹⁸ On the 2007 fourth-grade ELA exam, none of the 22 urban districts reported student proficiency rates at or above the statewide average of 56% (See **Appendix A, Chart A.1.**) Overall, 36% of urban fourth-grade students achieved proficiency on the 2007 ELA exam (the proportion for the WPS was 33%). This urban average represents a five-percentage point increase from 2006 when 31% of urban fourth-graders achieved proficiency on the ELA exam (the WPS average increased by six percentage points from the previous year).

Chart 3.1: 4th Graders Scoring At or Above Proficient on MCAS, 2003-2007



¹⁷ Currently, students need to score at the Needs Improvement level or above on both the English Language Arts and Mathematics MCAS grade 10 tests to meet the State graduation requirement. Passing MCAS exams in **Science and Technology/Engineering** and **History and Social Science** to graduate will be required starting with the classes of 2010 and 2012, respectively.

¹⁸ These 22 districts, enrolling 28% of students statewide, represent the state’s most demographically disadvantaged urban communities; they enroll higher percentages of low-income and limited English proficient students than their suburban and rural counterparts.



MCAS Scores: School and District Accountability (continued)

About one in three urban fourth-graders statewide (32%) scored at the proficient or better level on the 2007 math MCAS exam (an increase from 2006 when 26% achieved proficiency); this proportion was 27% for the WPS. (See **Appendix A, Chart A.2.**)

To comply with NCLB requirements, in 2006 for the first time Massachusetts tested all students in grades 3- 8 in both English Language Arts/Reading and math.¹⁹ New ELA tests were added in grades 5, 6 and 8 and new math tests were added in grades 3, 5 and 7. **Table 3.1** shows the percentages of Worcester students in 2007 who achieved proficiency in these subjects for each of those grades. In future reports, we will be able to compare MCAS scores over time for these grade levels.

Chart 3.2 shows the proportion of WPS middle-school

students scoring at the proficient or advanced levels on the ELA and math MCAS tests as well as the statewide average.²⁰ In 2007, fewer than half (44%) of WPS seventh-graders scored in the proficient or advanced categories on the ELA portion of the MCAS. Only about one in four (24%) of WPS eighth-graders scored in the advanced or proficient categories on the 2007 math test.

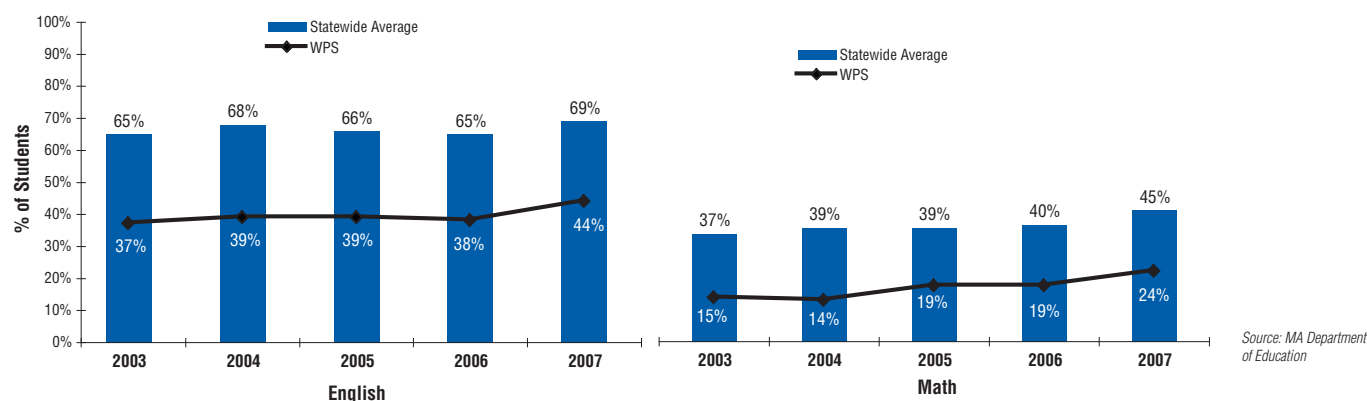
Additionally, on both the ELA and the math tests, the proportion of WPS students performing at the proficient or advanced levels was substantially below the statewide average: 25 percentage points lower in English, and 21 percentage points lower in math. In 2007, none of Worcester's middle schools performed above the statewide average on both the English and math test. However, eighth-grade students at the University Park Campus School scored above the statewide average in math.

Table 3.1: WPS MCAS Scores, 2007

Grade and Subject	Advanced/Proficient		Needs Improvement		Warning/Failing	
	District	State	District	State	District	State
Grade 3- Reading	33%	59%	44%	32%	23%	9%
Grade 3- Math	36%	60%	27%	24%	37%	16%
Grade 4- English Language Arts	33%	56%	44%	34%	24%	10%
Grade 4- Math	27%	48%	44%	39%	28%	13%
Grade 5- English Language Arts	40%	63%	40%	28%	20%	9%
Grade 5- Math	36%	51%	33%	31%	31%	18%
Grade 6- English Language Arts	48%	67%	36%	25%	16%	7%
Grade 6- Math	38%	52%	28%	28%	34%	20%
Grade 7- English Language Arts	44%	69%	37%	23%	20%	8%
Grade 7- Math	24%	46%	29%	30%	47%	24%
Grade 8- English Language Arts	55%	75%	31%	18%	13%	6%
Grade 8- Math	24%	45%	30%	30%	46%	25%
Grade 10- English Language Arts	52%	71%	37%	24%	11%	6%
Grade 10- Math	48%	69%	33%	22%	19%	9%

Source: MA Department of Education.

Chart 3.2: 7th Graders (ELA) and 8th Graders (Math) Scoring At or Above Proficient on MCAS, 2003–2007



¹⁹ Third-graders are tested in Reading.

²⁰ From 2002 to 2005, the middle school ELA test was administered only to grade 7 students; in 2006 and 2007 students in grades 7 and 8 were tested in ELA. The middle school Math MCAS test has consistently been administered in the eighth grade. Therefore, in order to present trend data, the ELA performance data reflect the scores of seventh-graders while the Math scores reflect the performance of eighth-graders.



Students in grades 4-8 and 10 performed better on the ELA exam than on the math exam, with the greatest disparity in scores occurring at the middle school level. The proportion of eighth-graders performing at the proficient or advanced level on the 2007 ELA test—55%—was more than double the 24% who scored at this level on the 2007 math test.

2007 middle school ELA and math MCAS scores for the state's 22 urban districts are shown in **Appendix A, Charts A.3 and A.4** (p.22). Fifty-six percent of eighth-graders in these urban districts achieved proficiency on the ELA MCAS exam, while a substantially lower percentage—25%—achieved proficiency of the eighth-grade math exam. Worcester was slightly below the urban average, at 55% and 24% proficiency in ELA and math, respectively. The 2007 urban average is a slight improvement from 2006, when 53% of urban students were proficient in ELA and 21% in math.

When looking at individual middle schools within the WPS District, Forest Grove Middle School, Burncoat Middle School, Sullivan Middle School, and University Park Campus School (middle grades) either outperformed or had an average equal to the urban-district averages in each of the subject areas.

Chart 3.3 shows that the percentage of WPS tenth-graders scoring proficient or better on the ELA exam increased from 47% in 2006 to 52% in 2007, although this remains well below the statewide rate of 71%. Student performance on the math exam improved as well, from 41% in 2006 to 48% in 2007; however, the district average was 21 percentage points below the statewide average of 69% in 2007.

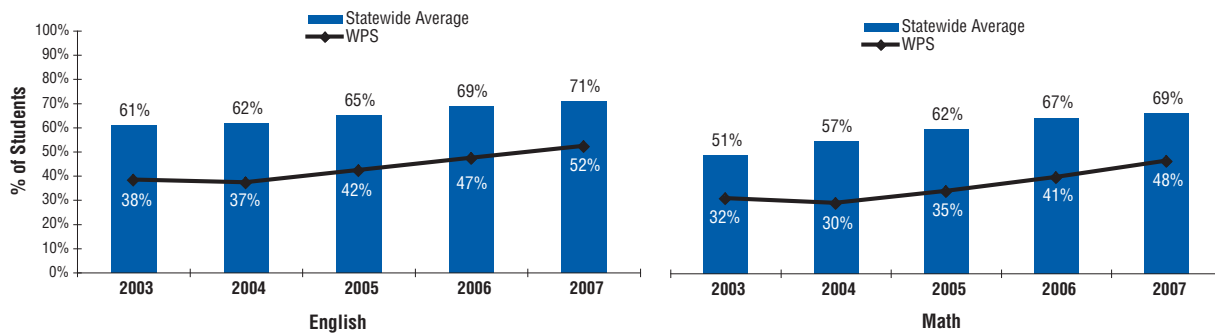
Appendix A, Charts A.5 and A.6 show tenth-grade performance on the 2007 ELA and math MCAS exams for the WPS and 21 other urban districts in the Commonwealth. Slightly more than half of the urban district tenth-graders (52%) scored in the proficient or advanced categories on the ELA exam, the same as Worcester. In 2006, the urban average on the 10th grade ELA exam was 50% proficient.

On the tenth grade math exam, the 22-district average was 51%, an increase from 47% in 2006. As noted above, the rate for Worcester was 48%. As is the case at each grade level for each subject area (ELA and math), the range in the proportion of students achieving proficiency among the 22 urban districts is substantial. In Lawrence, just one in four tenth-graders scored proficient or better on the math exam, while in Framingham, more than four out of five (83%) did so.

Sub-Group Performance

The goal of NCLB is explicit: every child must achieve proficiency in English Language Arts (ELA) and mathematics by 2014. In seeking to ensure that all students meet this goal, every state monitors the progress being made by its students not only in the aggregate but also by student subgroups, at both the school- and district-level. Subgroups include the following: students with disabilities, students with limited English proficiency, economically disadvantaged students, and African American/Black, Hispanic, Asian, White, and Native American students.²¹ **Table 3.2** shows the proportion of WPS students in each subgroup who performed at or above proficiency on the grades 4, 8, and 10 ELA and math tests.

Chart 3.3: 10th Graders Scoring At or Above Proficient on MCAS, 2003 – 2007



²¹ Students belonging to multiple subgroups are counted in each subgroup to which they belong (i.e., one student can be represented in multiple groups).



Table 3.2: 2007 Worcester Public Schools MCAS Results by Subgroup

Subgroup	Proportion of Students Tested Scoring at the Advanced or Proficient Level					
	Grade 4 (%)		Grade 8 (%)		Grade 10 (%)	
	ELA	Math	ELA	Math	ELA	Math
Students with Disabilities	7	6	17	2	14	16
LEP/FLEP	19	18	13	2	18	26
Low Income	22	19	47	16	44	42
African American/Black	28	19	54	15	42	40
Asian or Pacific Islander	38	52	74	55	67	79
Hispanic	20	13	38	10	37	34
Native American	37	38	*	*	*	*
White	43	36	66	33	64	57
WPS Average	33	27	55	24	52	48

* Performance level percentages are not calculated if student group is less than 10. Source: Massachusetts Department of Education

Table 3.3: School Accountability Status Summary, WPS 2007 (Total Schools: 44)

Accountability Status	Subject Area Identified					
	ELA Only		Math Only		Both ELA and Math	
	#	%	#	%	#	%
Identified for Improvement	9	20	5	11	6	14
Corrective Action	4	9	1	2	2	5
Restructuring	3	7	2	5	9	20
Subtotal (Accountability Status)	16	36	8	18	17	39
No Status	0	0	8	18	11	25

Prepared by: The Research Bureau Source: Massachusetts Department of Education

What does this mean for Worcester?

While WPS MCAS scores have been slowly improving from year to year, the district is still lagging far behind the state. Statewide, MCAS scores have also been improving, meaning that the gap between WPS scores and the state has not been narrowing. When comparing WPS against the other 21 urban districts in the state, Worcester is either at or slightly below the average proficiency rate.

Under NCLB, districts, schools, and student subgroups must demonstrate *adequate yearly progress (AYP)* that puts them “on target” for all students to reach proficiency by 2014. AYP determinations are based on a combination of student attendance and MCAS participation, performance, and improvement over time. A school or district that fails to make AYP for two or more consecutive years in the same subject area, for students in the aggregate or subgroups, is identified as in need

of improvement, corrective action, or restructuring status. Schools or districts that make AYP in a subject for all student groups for two or more consecutive years are assigned to the “No Status” category. Schools in need of improvement, corrective action, or restructuring all face specific consequences that grow in severity each year that they do not make AYP.

In 2007, 33 Worcester schools (75%), enrolling more than eighty-percent of the district’s students, were identified for improvement, corrective action, or restructuring in math, ELA, or both, either in the aggregate or for subgroup performance (see **Table 3.3**). Fourteen schools in Worcester are implementing restructuring plans that were approved by the Massachusetts Board of Education, including all four of Worcester’s middle schools, which were identified for restructuring status in 2007.



AYP Accountability Status Definitions

As defined by the Massachusetts Department of Education, a school or district that has not made AYP for two consecutive years in ELA or math, in the aggregate or in any subgroup, is labeled as Identified for Improvement – Year 1. If the same school or district does not make AYP in the same subject (ELA or math; aggregate or subgroup) in the consecutive year its status will become Identified for Improvement - Year 2.

Responsibilities for schools that are identified for improvement include: notifying parents/guardians of their children's school's status, revising the school's improvement plan, and receiving technical assistance from the district. Additionally, schools receiving Title I (Title I is a federal program that distributes funds to schools and districts that have a large proportion of low-income students) funding must: provide their students with the option of attending another school, a portion of the Title I funds must be put towards professional development, and supplemental educational services must be offered to low-income students in the school.

If AYP is not met again in the subsequent year, the school or district will move into the Corrective Action category. Along with the responsibilities stated above, the district must take at least one corrective action, such as extending the length of the school day or year or replacing certain school staff. Another year of failure to make AYP will result in the school moving into Restructuring status. The district must develop and implement a plan for fundamental reforms at the school while in Restructuring. Required reforms include major changes in the school's governance, structure and staffing. A No Status school or district is one that has made AYP for at least two consecutive years in a subject in all grades.

Only one WPS school—Worcester Technical High—that was identified for improvement in 2006 was removed from the 2007 list of schools in need of improvement after making adequate yearly progress for two consecutive years. All four of Worcester's comprehensive high schools were identified either for improvement, corrective action, or restructuring. The district as a whole was identified for corrective action for subgroup performance in both ELA and math. (In 2006, the district was identified for improvement-subgroups in ELA and corrective action-subgroups in math.)

Recent regulations promulgated by the Massachusetts Board of Education for schools and districts in need of improvement require that school improvement plans include ten specific elements. Two of these entail implementing a program of

interim formative assessments (given several times during the academic year) of student performance relative to the school curriculum and State frameworks and using the results to “inform curriculum, instruction, and individual interventions.” In the fall of 2005, the WPS adopted the Measures of Academic Progress (MAP) as an interim formative assessment program in reading, language arts, and math for students in grades two through ten. This diagnostic tool was developed by the Northwest Evaluation Association, and the online tests are administered annually to more than one million students nationwide. The assessments measure individual students' progress in reading, language usage, and mathematics. Scores depend on two things: how many questions are answered correctly and the difficulty of each question. In the MAP system, the difficulty of the test is adjusted to the student's performance. As the student answers questions correctly, the questions become more difficult. If the questions are answered incorrectly, the questions become easier. The testing system determines the difficulty level at which an individual student can perform successfully, and collects enough information to identify a student's strengths and weaknesses relative to the Massachusetts curriculum standards. The goal is a more precise and timely identification of students' abilities so that targeted remedial help (i.e., additional instruction during the day, after-school, and in the summer) can be given to students who need it. The final score is an estimate of the student's optimal instructional level, and this information is used by teachers to determine how to format their lesson plans and where they may need to differentiate instruction so that all students are learning at an appropriate level.

When MAP is administered at regular intervals over time (in Worcester, students may be tested three times a year), schools can determine the rate of progress of an individual student or an entire class or grade level in basic skills. In addition to identifying a student's current instructional level, the test also produces a target growth score for each student based on the typical growth experienced by students nationwide who were at the same grade level with the same starting score.



Table 3.4: Percentage of Students Meeting MAP Growth Targets

Grade	Reading		Math	
	2005 – 06	2006 – 07	2005 – 06	2006 – 07
2	na	41.7%	na	43.7%
3	na	49.4%	na	54.0%
4	54.4%	48.6%	51.1%	60.7%
5	51.5%	52.3%	59.5%	50.4%
6	49.9%	48.4%	52.2%	57.3%
7	48.6%	49.2%	49.7%	46.3%
8	45.9%	53.0%	42.7%	51.6%
9	46.5%	51.6%	48.9%	50.0%
10	47.2%	53.8%	52.6%	56.6%

Source: Worcester Public Schools

According to the WPS, the desired goal for each grade was that 50% or more of the students tested in the fall of 2006 would meet or exceed their individual growth targets by the spring of 2007. Baseline student data for this period show that in math, students in grades 3, 4, 5, 6, 8, 9, and 10 met the 50% benchmark, while students in grades 2 and 7 did not do so. In reading, only at grades 5 and 8, 9, and 10 were growth targets met by 50% or more of the students tested; students in grades 2, 3, 4, 6, and 7 did not meet their growth targets.

Table 3.4 also shows the percentage of students who met their growth targets the prior year, 2005-06. Achieving a student's growth target should not be confused with the student demonstrating grade-level proficiency in subject-matter content (as determined by the Mass DOE and measured by the MCAS). The level of growth a student achieves to meet his or her MAP growth target may not move that child far enough along the continuum of learning to reach proficiency on the MCAS exam. However, meeting the MAP growth target does show that the child is making academic progress.

The following are several important benefits of MAP:

- Test results are available within days and provide teachers with “real-time” assessments of the specific skills that a child knows and those that the child needs to learn.
- Test data enable teachers to develop individual instructional strategies for each student, and place students in appropriate courses or instructional settings. The ability to test students at several points throughout the year allows teachers to gauge a student's progress toward meeting his or her goals, and to adjust strategies as needed.

- Schools could use data to group students with their academic peers; this could entail grouping students into instructional settings for particular subjects within or across grade levels.
- MAP assessments can be administered when a new student transfers into a classroom, providing an immediate assessment of the student's knowledge and skills.
- Since the tests are aligned with the Massachusetts Curriculum Frameworks, they provide WPS students, teachers, and administrators with an interim measure of progress toward meeting the state's proficiency standards.
- Schools and the district can use the MAP assessment information to analyze the effectiveness of the curriculum, instructional programs, and resources.



Graduation Rate, Post-Graduate Placement, and Advanced Placement

Why are they important?

High school graduation rates are a significant indicator of overall school performance. As required by No Child Left Behind, schools, districts, and states must now report their graduation rates, or the percentage of students who earn a high school diploma in four years (the standard period for completion).²² High schools are held accountable for their students graduating on time as part of the AYP determination.

Specialized training and education beyond high school graduation have also become increasingly important in ensuring an individual's economic success. According to the Bureau of Labor Statistics, during the third quarter of 2007, median weekly earnings for college graduates with at least a bachelor's degree were about 78% higher than those of individuals who had only a high school diploma (\$1,088 per week versus \$610).²³ In turn, over their lifetime, high school graduates stand to earn more than \$500,000 more than high school dropouts. Sixty-seven percent of employed workers with college degrees have health insurance, as compared to 48 percent of high school graduates and just 36 percent of dropouts.²⁴

Additionally, because Massachusetts has a higher-than-average concentration of high-tech, finance, and health-care firms compared to the US as a whole, a greater proportion of available and projected jobs in Massachusetts are professional or technical jobs requiring an associate's degree or higher.²⁵ Nationwide, the following occupations are experiencing the greatest rate of job growth: computer software engineers, health care professionals and paraprofessionals, and preschool and post-secondary teachers, all of which typically require advanced training or a post-secondary degree.

One way to improve the preparation of high school students for college is through enrollment in Advanced Placement (AP) courses- rigorous, college-level classes available in many different subject areas- through which students can earn college credit by passing the end-of-year AP exam. According to studies by the College Board, students who took AP classes and AP tests in high school experience long-term benefits in college, including higher grade point averages and higher four-year graduation rates.²⁶

What is the trend in Worcester?

Graduation Rates

Reported by the Massachusetts Department of Education statewide for the first time for the class of 2006, the graduation rate indicates the percentage of students starting high school in the ninth grade who graduate within the standard four years and receive a high school diploma.²⁷ Students are not counted as "on-time" graduates if they have either dropped out, have not passed the MCAS exam, are still enrolled in school, have been expelled, or obtained a GED instead of a regular diploma. Graduation rates are based on a different measure from dropout rates because the graduation rate represents a particular cohort that starts in ninth grade and completes twelfth grade, while the dropout rate is calculated for a particular school year.

Statewide, about 81% of students in the class of 2007 who entered ninth grade in the fall of 2003 graduated from high school in four years. (For the class of 2006 the figure was 80%.) Among urban districts, about 63% of this cohort graduated in four years. **Chart 4.1** shows four-year graduation rates for 22 urban districts in Massachusetts, and reveals that Worcester's rate was above the average.

About 70% of students in the WPS graduated in four years, while 9.6% are still enrolled in school; 14.7% dropped out; 3.2% earned a GED; 2.4% either completed course work but did not pass the MCAS exam, or were special-education students who had reached the maximum age for remaining in school; and .2% were expelled. **Chart 4.2** shows the graduation rates for each of Worcester's schools with a graduating class in 2007.

Post-Graduation Placement

The Massachusetts Department of Education collects data annually from public high schools regarding the plans of their graduates.²⁸ Since these data are self-reported by students and provide only an indication of their intentions following graduation, they do not always reflect what students ultimately do after graduating from high school. Currently, there is no mechanism to allow the district to track whether students actually enroll in a college, whether a student completes a degree program, and the time that it may take him or her to do so.

²² In Massachusetts, students must pass the grade 10 ELA and Math MCAS test and meet all local graduation requirements to be awarded a diploma.

²³ <http://www.bls.gov>

²⁴ Andrew Sum, et al. "An Assessment of the Labor Market, Income, Health, Social, Civic and Fiscal Consequences of Dropping out of High School: Findings for Massachusetts Adults in the 21st Century." Prepared for the Boston Youth Transition Funders Group, January 2007.

²⁵ Massachusetts Department of Workforce Development, "Massachusetts Employment Projections Through 2014." <http://www.detma.org>

²⁶ College Board, "Advanced Placement Report to the Nation 2007." <http://www.collegeboard.com>

²⁷ For federal accountability purposes under No Child Left Behind, all states are required to produce data describing the percentage of students who graduate with a diploma "within the standard number of years." See <http://www.doe.mass.edu> for further description of the methodology adopted by the Mass DOE to calculate graduation rates.

²⁸ In 2001-02, Massachusetts changed its collection system and began collecting student-level data through the Student Information Management System (SIMS). Any observed changes in trend data before and after this point in time may not fully represent actual changes in the plans of high school graduates from previous years, but rather may reflect changes in data collection and reporting requirements.



Graduation Rate, Post-Graduate Placement, and Advanced Placement (continued)

Chart 4.1: Graduation Rates of Urban Districts, 2007

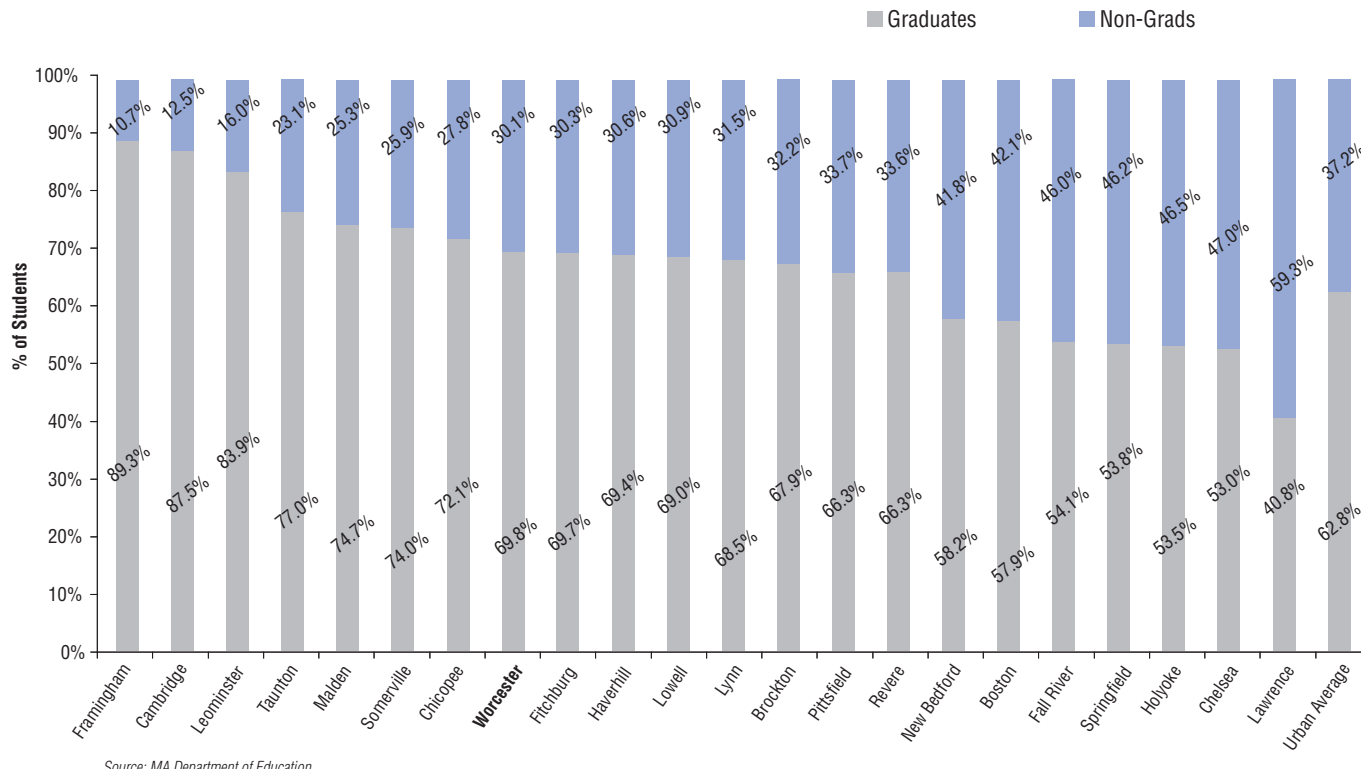
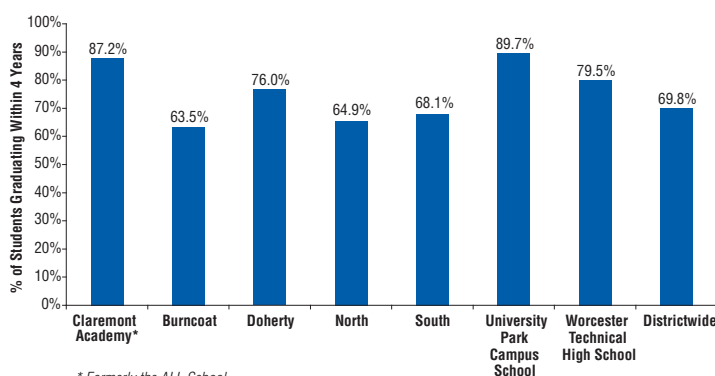


Chart 4.2: Graduation Rates of the Worcester Public Schools, 2007



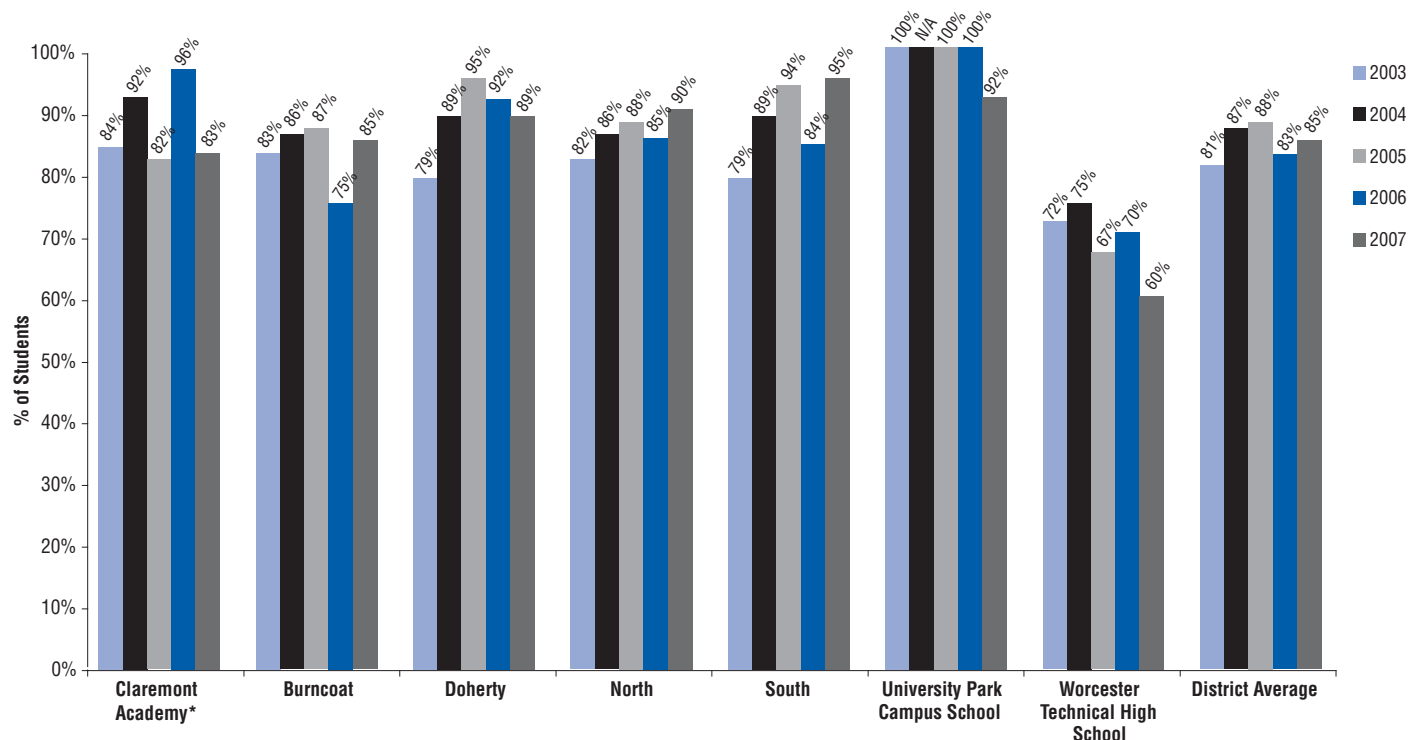
In 2007, 85% of WPS graduates indicated that they planned to attend a 2- or 4-year college or pursue other post-secondary education. As shown in **Chart 4.3**, between 2003 and 2005, the proportion of students planning to attend 2- or 4-year colleges rose from 81% in 2003 to 88% in 2005, dropped to 83% in 2006 and moved up to 85% in 2007. About forty percent of WPS students graduating in 2007 (39%) intended to enroll in a public or private four-year college, while 43% planned to enroll in a two-year college. (An additional 3% of students had plans for other post-secondary education.)

In 2007, South High Community School had the highest proportion (95%) of students intending to enroll in college. The prior four years, University Park Campus School had 100% of graduates intending to enroll in college; in 2007, 1 member of the 37-student cohort of this school planned to enter the military, and post-graduate plans were unknown for an additional 2 students. In 2007, Worcester Technical High School saw a five-year low in the percentage of graduating students with college plans (60%). Thirty-one percent of the school's graduating class intended to work immediately following high school graduation.



Graduation Rate, Post-Graduate Placement, and Advanced Placement (continued)

Chart 4.3: High School Graduates Planning to Attend 2- or 4-year Colleges



Source: Worcester Public Schools

* Formerly the ALL School

Advanced Placement: Participation and Performance

During the 2006-07 school year, students in the Worcester Public Schools were enrolled in 27 Advanced Placement courses, including natural sciences, foreign languages, social sciences, and fine arts.²⁹ In 2007, 553 WPS students who completed one or more AP courses took a total of 805 AP exams, an increase of about 50% from 2002, when more than 500 tests were administered.³⁰ A majority of WPS students enrolled in AP courses (84%) took the AP exam at the completion of the course (51 students did not do so in 2007). Exam grades are reported on the following five-point scale: (5) extremely well-qualified to receive college credit or advanced placement, (4) well-qualified, (3) qualified, (2) possibly qualified and (1) no recommendation to receive college credit or advanced placement. According to the College Board, which administers the tests, exam grades of 3 or above are considered equivalent to a college course grade of “middle C” or above. In 2007, slightly less than half of Worcester’s AP scores (47%) were 3’s, 4’s, or 5’s; in 2006, this percentage was slightly higher at 49%. **Chart 4.4** shows the distribution of AP exam scores by school for 2007. Doherty Memorial High School had the greatest percentage of exam scores of 3 or above (66%).

²⁹ 2007 courses include VHS (Virtual High School) courses.

³⁰ Course offering, enrollment, and AP exam data were obtained from Worcester Public Schools: Report on Advanced Placement Trends: 1996-2007. Of the AP exams administered to WPS students in 2007, the largest percentage (38%) were English Language and Composition or English Literature and Composition, 11% were US History, 9% were Spanish Language, and another 9% were Calculus.

What does this mean for Worcester?

The Massachusetts Department of Education has established a target graduation rate of 55%, and in 2008, this target will be raised to 60%. Although Worcester performed well compared to other urban districts in the state, exceeding the urban-district average and the new DOE target, a significant number—about thirty percent of students who entered the ninth grade in the fall of 2003—failed to graduate four years later.

While WPS seniors stated their intention to attend college at a higher rate than students statewide, and at several comparison districts included in the analysis above, there is currently no comprehensive system in place to track post-secondary enrollment and/or students’ performance once they get to college. A report on Boston’s public school graduates found that one-third of the graduates tracked in the study who had entered community colleges did not complete their first year and 16% of those who enrolled in a four-year college did not complete their freshman year. Recent reports and news articles have also highlighted the increase in the number of college freshmen required to take remedial courses. In future reports we will seek to obtain similar data for WPS graduates.

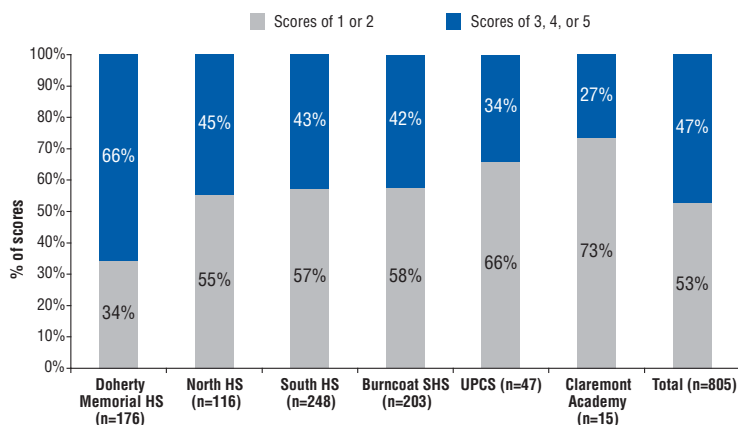


Graduation Rate, Post-Graduate Placement, and Advanced Placement (continued)

Over the past decade, the WPS has seen growth in both the number of AP course offerings (from six in 1996 to 27 in 2007) and the number of AP exams administered (more than a three-fold increase). However, during this period, performance has been relatively flat. In its 2007 Advanced Placement Report to the Nation, the College Board urged educators to track the quality of learning in AP courses as their AP programs expand.³¹ The report states that “a 3 is the grade that research consistently and currently finds predictive of college success and graduation.” While increased enrollment in AP courses may indicate WPS students’ desire to increase their preparedness for college, about half of scores reached the level of 3 or higher. Poor scores may indicate that AP teachers and students are not receiving adequate preparation for the rigors of an AP course or that more weak students are being persuaded to take the exam. Adequate preparation in earlier grades is also an important factor in ensuring the success of students who enroll in AP courses.

In 2007, the Massachusetts Math & Science Initiative received a grant from the National Math and Science Initiative to provide Advanced Placement and Pre-AP teachers with extensive training and preparation, as well as performance-based financial incentives for teachers and students. The goal of the program is to “increase student enrollment in mathematics, science, and English AP courses, as well as to improve student performance as reflected by an increase in the number of qualifying scores.”³² Five Regional Development Centers have been set up to carry out this initiative, and each will include partnerships between higher education institutions and local school districts.³³ The Central Massachusetts center will be led by WPI, UMass Medical School, and Framingham State College.

Chart 4.4: AP Exam Scores by School: WPS, 2007



Source: Worcester Public Schools

³¹ College Board, “Advanced Placement Report to the Nation 2007.” <http://www.apcentral.collegeboard.com>

³² www.massinsight.org/initiatives

³³ www.massinsight.org/initiatives



Why are they important?

A charter school is a public school that is governed by a board of trustees and operates independently of the school committee. Charter schools have the freedom to establish their own specific mission, governance and leadership structure, to control their own budgets, and to hire and fire staff. However, they are accountable to the State Board of Education for results in each of the following areas: academic success, organizational viability, and faithfulness to the terms of the charter. Many of Massachusetts' charter schools have successfully met performance expectations.³⁴ Since 1994 the state Board of Education has granted 71 charters, and has revoked or not renewed only four of these due to poor performance.³⁵ (Three new charters were recently approved by the Board of Education.)

There are two types of charter schools in Massachusetts: Commonwealth and Horace Mann. Commonwealth charter schools are completely independent of their local school district, while a Horace Mann charter school must have its charter approved by the local school committee and teachers' union as well as by the Board of Education.³⁶ In FY07, 59 charter schools operating throughout Massachusetts enrolled more than 23,500 students. Charter schools must admit students by lottery; they may not require an entrance examination nor may they establish other selection criteria. Students may transfer back to the regular public schools at any time.

Charter Schools in Worcester

Two Commonwealth charter schools operate in the City of Worcester: Abby Kelley Foster Regional Charter School (AKFCS) and Seven Hills Charter School (SHCS). Demographic and performance data for these schools are included in **Appendix B**.

Abby Kelley Foster Regional Charter School (AKFCS)

Founded in 1998, AKFCS enrolls students in grades K-12, and as specified in its charter gives preference to applicants from Worcester and eight surrounding towns. During the 2006-07 school year, AKFCS enrolled 1,176 students while maintaining a waiting list of 655 students. According to school administrators, about 82% of students enrolled were from Worcester. AKFCS emphasizes academic achievement and character development through a classical liberal arts education which is "grounded in the great works of Western civilization." The school has both an extended school year--190 days compared to the WPS District's 180 days—and an extended school day (7:45 am to 3:00 pm, more than one hour longer than that of the district schools).

The attendance rate at AKFCS during the 2006-07 school year was 95.4%, meaning that on average, students attended school 95.4% of the days they were enrolled. Fifty-seven students withdrew from the school during 2006-07.

MCAS Results

As shown in **Table 5.1**, the proportion of AKFCS fourth-graders scoring in the advanced or proficient categories on the 2007 MCAS English test—52%—reflects an increase from the previous year, when 41% of fourth-graders achieved proficiency or better, yet is still a marked decrease from 2005, when 63% achieved proficiency. About one in three fourth-graders (35%) scored at the proficient or better level on the math test, a 6 percentage point increase from the previous year. While AKFCS fourth-grade performance on both the English and math tests exceeded the overall WPS district average in 2007, in four of the district's elementary schools higher proportions of students scored in the proficient or advanced categories on the 2007 English MCAS compared to AKFCS, and fourteen in-district elementary schools outperformed AKFCS on the grade 4 math MCAS. (See **Appendix B** for school-level performance data).

Nearly 50% of AKFCS's seventh-graders scored at or above proficiency on the 2007 MCAS English test, a drop from 60% proficient in 2006. More than one-third of eighth-graders (37%) scored at the advanced or proficient level on the math portion of the exam, a slightly higher proportion than in 2006. Among middle schools in the WPS district, only Burncoat Middle School outperformed AKFCS on the ELA exam, and University Park Campus School outperformed AKFCS on the math exam in 2007.

More than four out of five AKFCS tenth-graders (83%) scored in the advanced or proficient categories on the 2007 MCAS English exam, while a similar proportion (80%) achieved this score on the math portion of the test. These scores represent a large increase from 2006, when 64% of students were proficient on the tenth grade ELA exam, and 52% were proficient on the math exam.

Of the 12-member AKFCS cohort of the class of 2007, 100% graduated from high school in the standard four years. In 2006, all members of AKFCS's first graduating class also successfully completed high school in four years. During the 2006-07 school year, no AKFCS students dropped out.

Under NCLB, schools and student subgroups must demonstrate that they are making adequate yearly progress (AYP) that puts them "on target" for all students to reach proficiency by 2014. In 2004 and 2005, AKFCS made AYP in all areas; in 2006 and 2007 the school failed to make AYP in math, resulting in its identification for improvement in math.³⁷

³⁴ See Massachusetts Charter School Common School Performance Criteria (October 2006) at <http://www.doe.mass.edu/charter/acct.html> for a detailed outline and discussion of charter school accountability measures.

³⁵ Under Massachusetts state law, the Board of Education does not have the authority to close underperforming non-charter public schools.

³⁶ For more information about charter schools in Massachusetts, see www.doe.mass.edu/charter/.

³⁷ See **Indicator 3: MCAS Scores** for further discussion of NCLB and accountability measures.



Charter Schools (continued)

Table 5.1: Abby Kelley Foster Charter School, K-12

	2003-04		2004-05		2005-06		2006-07	
Indicator	AKFCS	WPS	AKFCS	WPS	AKFCS	WPS	AKFCS	WPS
Attendance Rate	94.8%	93.6%	95.3%	93.5%	95.5%	94.3%	95.4%	94.0%
Dropout Rate	0.0%	5.8%	0.0%	5.5%	0.0%	4.2%	0.0%	na
Graduation Rate*	na	na	na	na	100.0%	67.2%	100.0%	69.8%
% Students Adv./Prof. ELA 4th Grade	29.0%	33.0%	63.0%	27.0%	41.0%	27.0%	52.0%	33.0%
% Students Adv./Prof. Math 4th Grade	25.0%	21.0%	56.0%	23.0%	29.0%	23.0%	35.0%	27.0%
% Students Adv./Prof. ELA 7th Grade	69.0%	39.0%	58.0%	39.0%	59.0%	38.0%	49.0%	44.0%
% Students Adv./Prof. Math 8th Grade	15.0%	14.0%	34.0%	19.0%	33.0%	19.0%	37.0%	24.0%
% Students Adv./Prof. ELA 10th Grade**	64.0%	37.0%	71.0%	42.0%	64.0%	47.0%	83.0%	52.0%
% Students Adv./Prof. Math 10th Grade**	59.0%	31.0%	58.0%	35.0%	52.0%	41.0%	80.0%	48.0%

* Graduation rates were 1st reported for the class of 2006 ** 2006 was the first graduating class at AKFCS Source: MA Department of Education, AKFCS

Table 5.2: Seven Hills Charter School, K-8

	2003-04		2004-05		2005-06		2006-07	
Indicator	SHCS	WPS	SHCS	WPS	SHCS	WPS	SHCS	WPS
Attendance Rate	94.9%	93.6%	95.4%	93.5%	95.4%	94.3%	95.6%	94.0%
% Students Adv./Prof. ELA 4th Grade	35.0%	33.0%	36.0%	27.0%	29.0%	27.0%	29.0%	33.0%
% Students Adv./Prof. Math 4th Grade	12.0%	21.0%	23.0%	23.0%	22.0%	23.0%	31.0%	27.0%
% Students Adv./Prof. ELA 7th Grade	67.0%	39.0%	69.0%	39.0%	62.0%	38.0%	55.0%	44.0%
% Students Adv./Prof. Math 8th Grade	22.0%	14.0%	44.0%	19.0%	20.0%	19.0%	27.0%	24.0%

Source: MA Department of Education

Seven Hills Charter Public School (SHCS)

Seven Hills Charter Public School was founded in 1996 with a mission of “preparing a diverse cross-section of Worcester’s children for success as students, workers, and citizens.” In the fall of 2007, SHCS enrolled 686 students from the City of Worcester in grades K-8, and had approximately 200 students on a waiting list. Its school year is 190 days (compared to the district’s 180-day year), and its school day is 30 to 45 minutes longer than that of almost all district schools. Thirty-nine students left the school during the 2006-07 school year, and another 20 students who finished the year did not return for the 2007-08 school year. Of these 20 students, 5 moved out of state and 15 enrolled in another public or private school in Worcester. During the 2006-07 school year, SHCS had an average attendance rate of 95.6%.³⁸

As shown in **Table 5.2**, the proportions of SHCS fourth-graders scoring in the advanced or proficient categories on the 2007 English and math MCAS tests were 29% and 31%, respectively. While these proportions were similar to the WPS district-wide elementary school averages in 2007, 18 WPS elementary schools outperformed SHCS (i.e., had higher proportions of students scoring at the proficient or advanced categories) on the English test, and 16 outperformed the charter school on the math test.

Fifty-five percent of SHCS seventh-graders scored in the advanced or proficient category on the 2007 English MCAS exam compared to a WPS middle school average of 44%. From 2005 to 2006, eighth-grade performance on the math MCAS test declined dramatically, from 44% in 2005 to 20% in 2006, and this number improved slightly in 2007 (27%). In 2007, similar proportions of SHCS and WPS middle school students achieved proficiency or better on the math portion of the MCAS exam.

SHCS did not make AYP again in 2007, and has been identified for corrective action in mathematics (subgroups) and for restructuring in English (subgroups).

What does this mean for Worcester?

Worcester’s two public charter schools, whose combined enrollment exceeded 1,800 students in 2007, provide alternatives to public education in Worcester to a significant number of families. Both schools are at full enrollment and maintain waiting lists, indicating a strong demand for such alternatives.

In future reports, perhaps we can determine what characteristics of charter schools attract parents and students to them. Also, if it is possible to obtain all the same data for the charter schools that the WPS is currently tracking, such as student mobility and stability rates, better comparisons can be made between the two different types of schools.

³⁸ Because SHCS enrolls only students in grades K-8, dropout rates, graduation rates, and post high school plans are not available.



Chart A.1: 4th Grade ELA MCAS: Urban Districts 2007

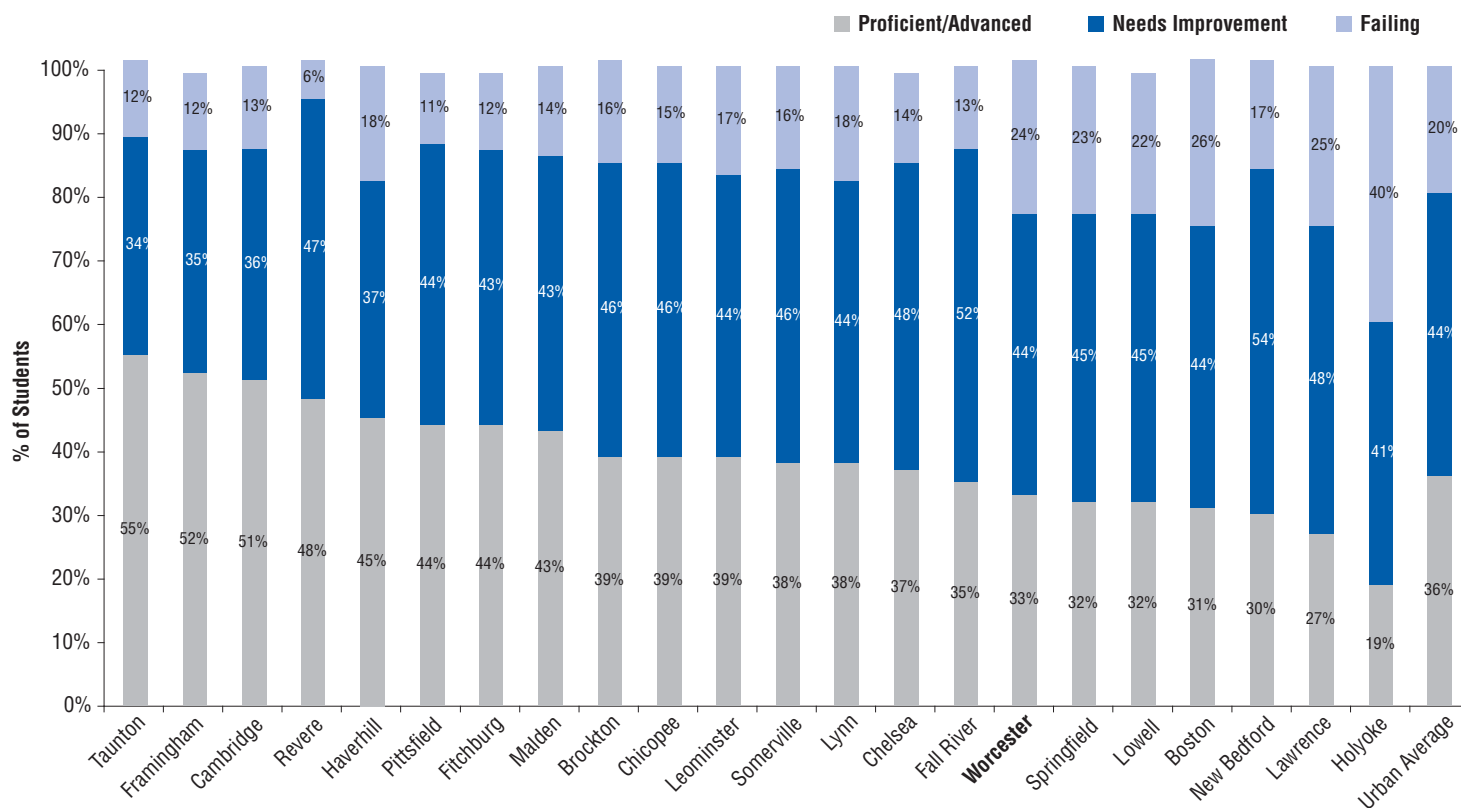


Chart A.2: 4th Grade Math MCAS: Urban Districts 2007

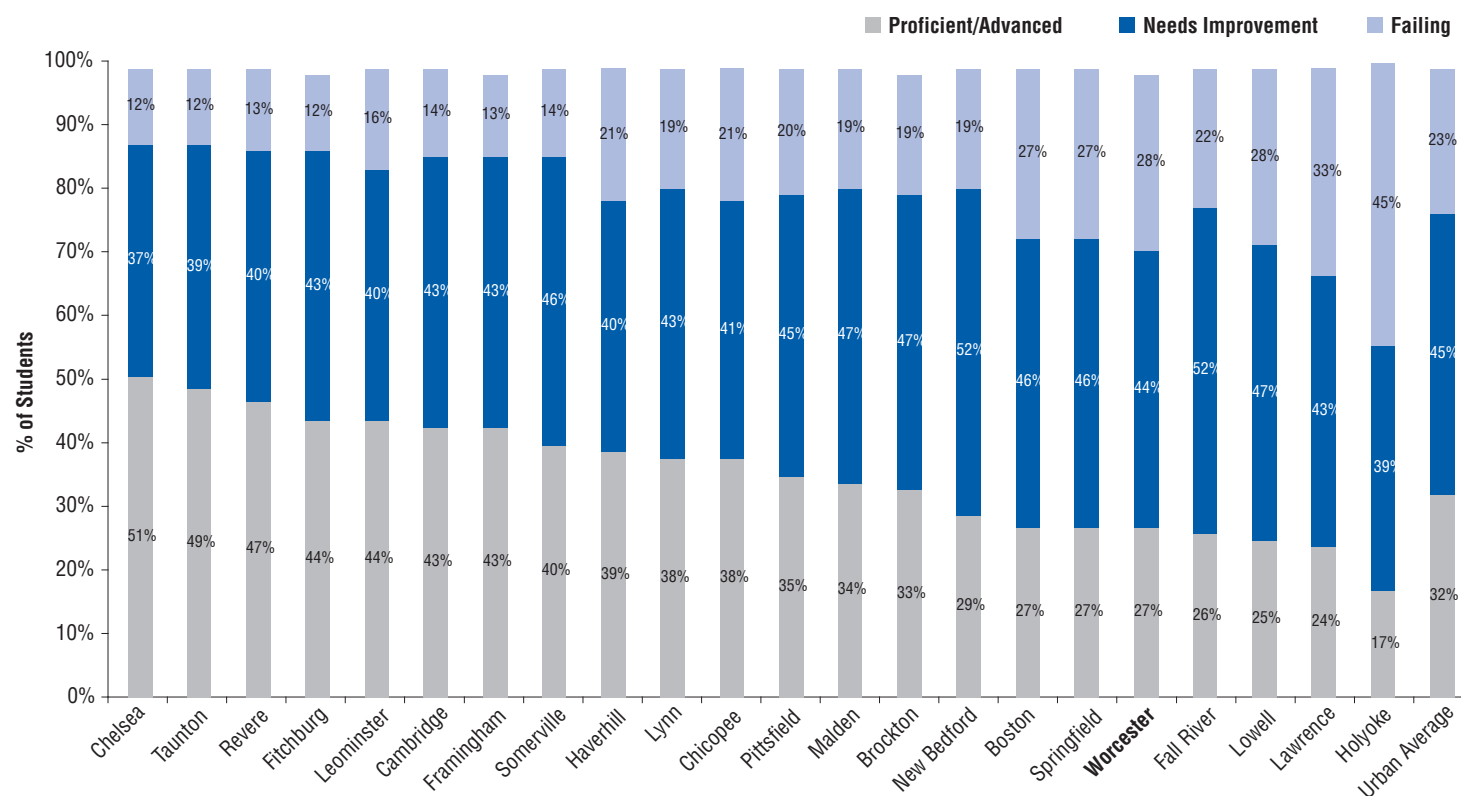
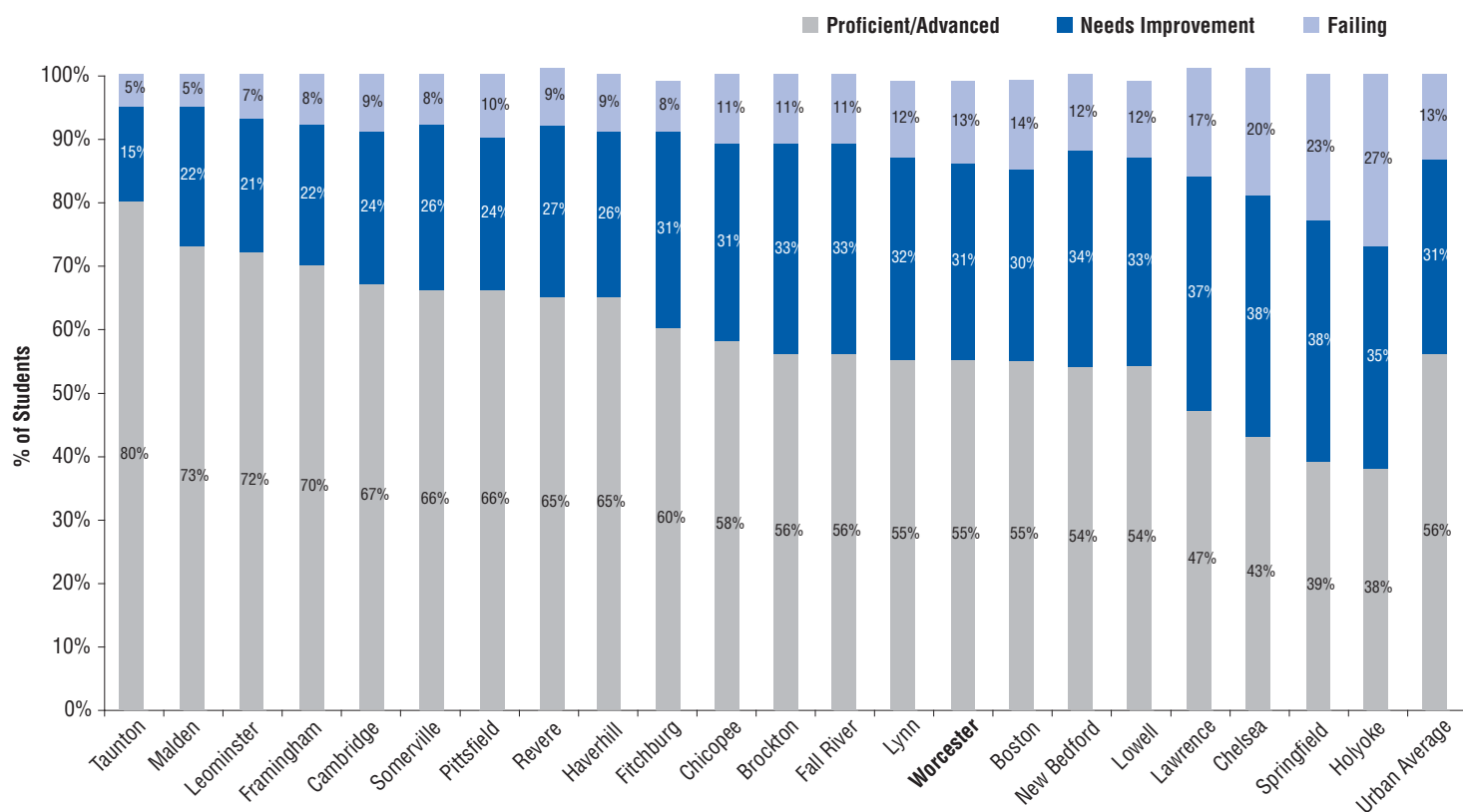
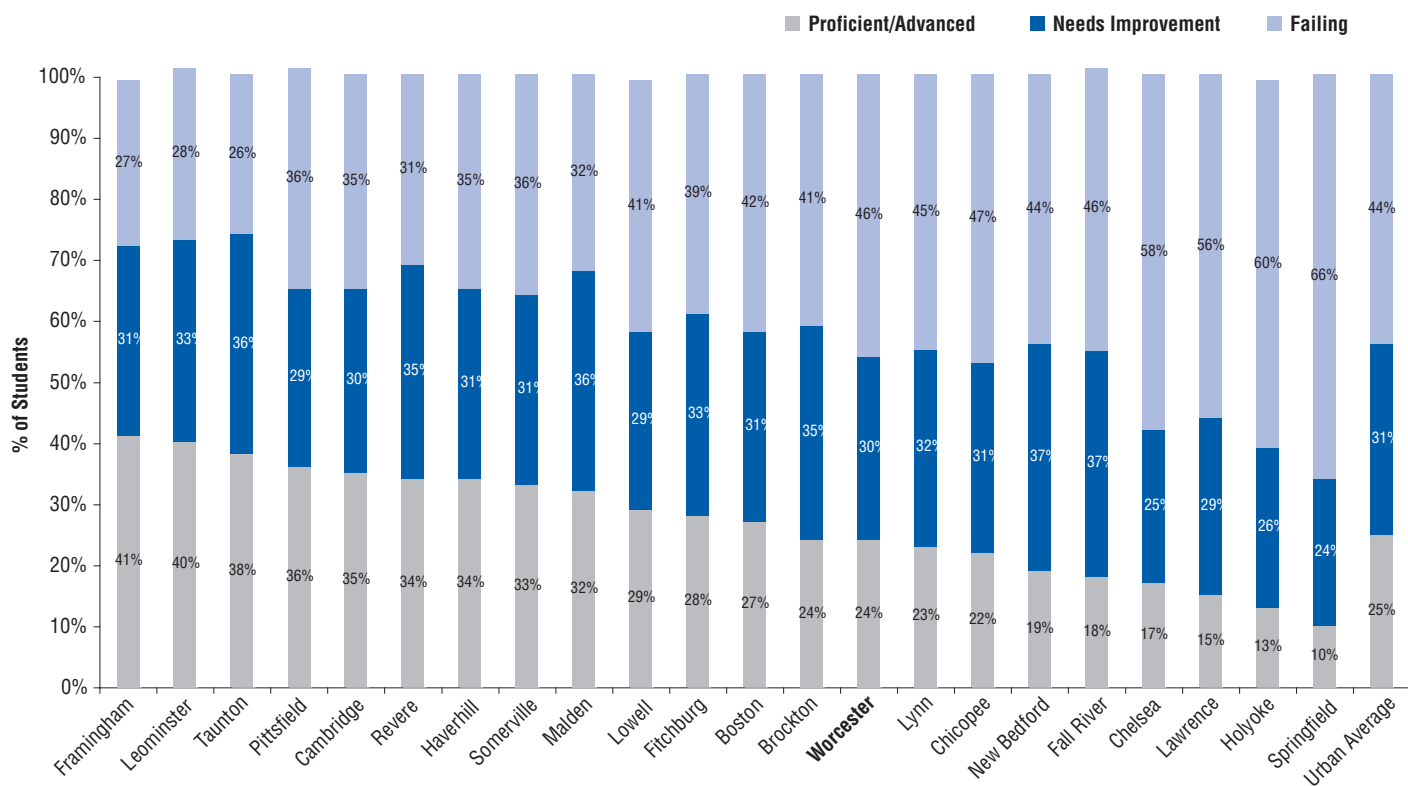


Chart A.3: 8th Grade ELA MCAS 2007: Urban Districts



Source: MA Department of Education

Chart A.4: 8th Grade Math MCAS 2007: Urban Districts



Source: MA Department of Education



Chart A.5: 10th Grade ELA MCAS 2007: Urban Districts

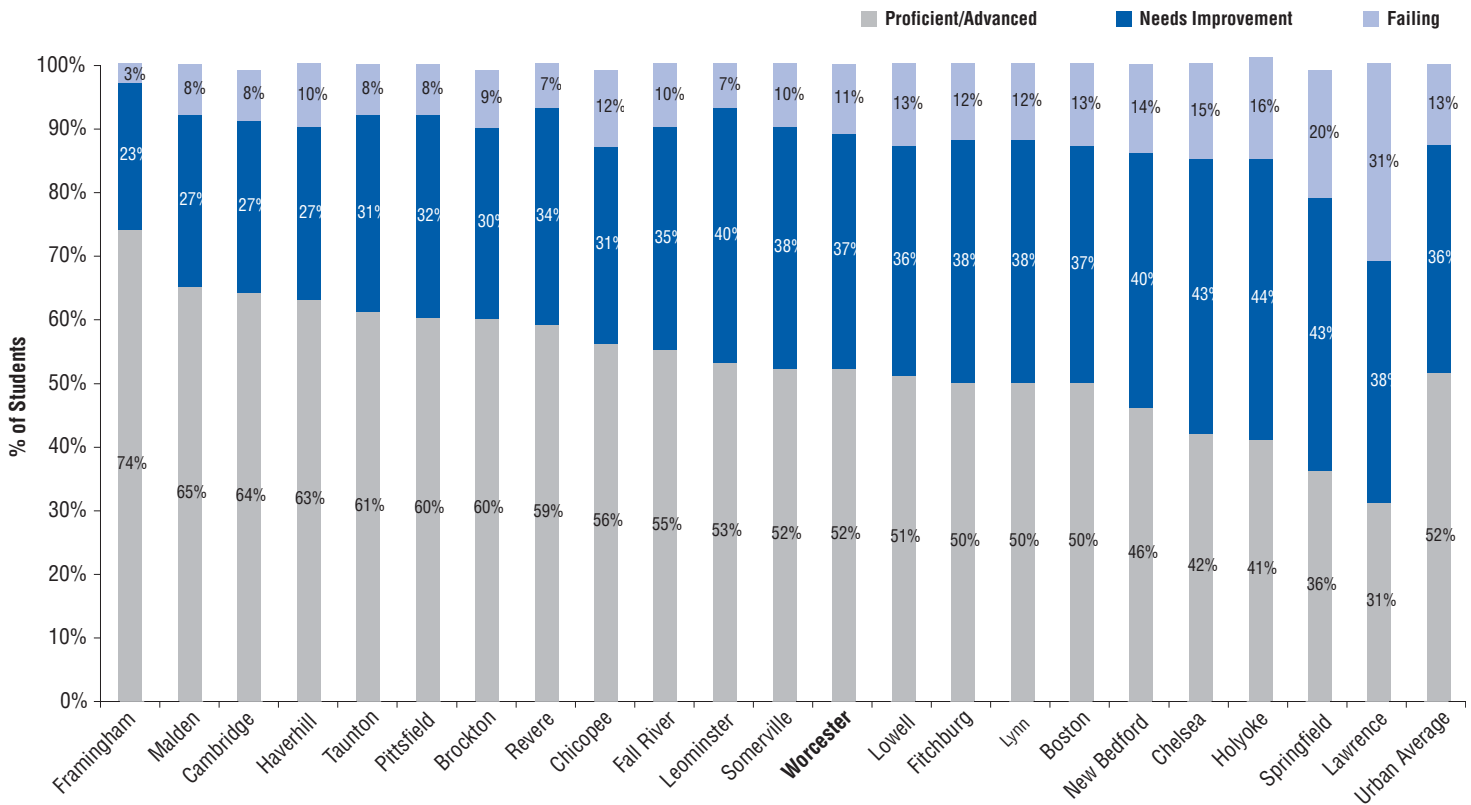
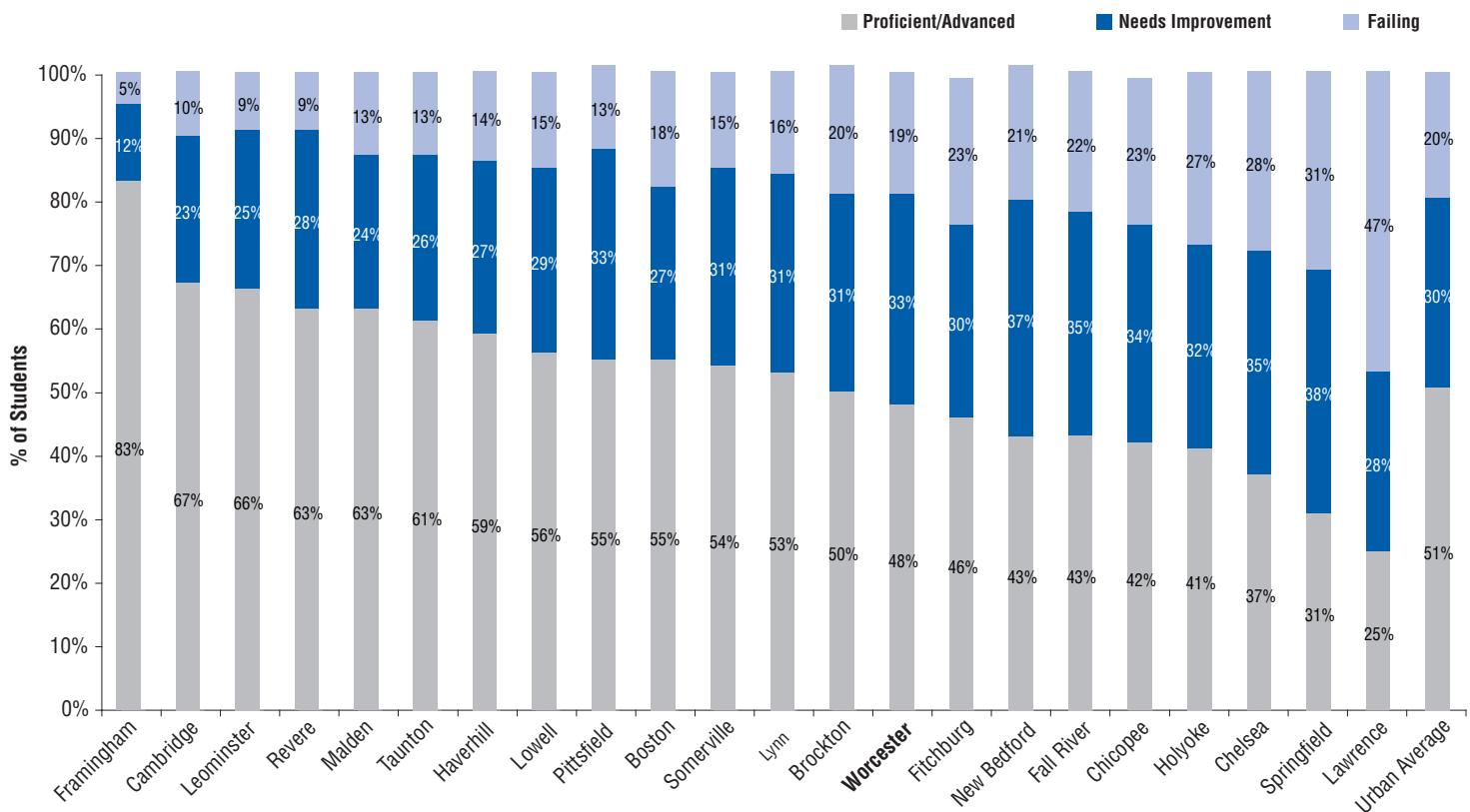


Chart A.6: 10th Grade Math MCAS 2007: Urban Districts



Appendix B – Worcester Public Schools and Charter Schools

School Name	2006-07		Spring 2007				Minority Student Population (%)	Low Income (%)
	Grades Offered	Student Enrollment	Students Proficient/Advanced in English MCAS (%)	NCLB Accountability Status*	Students Proficient/Advanced in math MCAS (%)	NCLB Accountability Status*		
Belmont Street Community	Pre-K - 6	434	27%	NI	38%	NS	75.7%	86.4%
Burncoat Street	K - 6	229	16%	NI	24%	NS	70.2%	82.1%
Canterbury Street Magnet	Pre-K - 6	350	15%	CA	15%	NI	70.1%	88.6%
Chandler Community	Pre-K - 6	315	14%	R	11%	R	85.7%	98.1%
Chandler Magnet	Pre-K - 6	335	47%	R	30%	R	71.1%	87.5%
City View	Pre-K - 6	507	18%	NI	11%	R	66.5%	84.0%
Clark Street Community	Pre-K - 6	272	80%	NS	65%	NS	51.9%	59.9%
Columbus Park	Pre-K - 6	351	37%	NI	40%	NI	73.6%	89.5%
Elm Park Community	Pre-K - 6	432	15%	NI	13%	NI	74.8%	90.0%
Flagg Street	K - 6	447	70%	NS	53%	NS	32.5%	15.9%
Gates Lane	Pre-K - 6	694	39%	NI	30%	NS	51.9%	51.7%
Goddard School/Science Tech	Pre-K - 6	671	20%	CA	24%	CA	81.0%	96.9%
Grafton Street	Pre-K - 6	403	26%	NI	22%	NS	65.2%	79.4%
Heard Street	K - 6	291	47%	NS	38%	NS	48.0%	49.1%
Jacob Hiatt Magnet	Pre-K - 6	467	76%	CA	58%	NS	70.4%	60.2%
Lake View	K - 6	291	48%	NS	49%	NS	40.2%	41.2%
Lincoln Street	Pre-K - 6	244	16%	R	10%	NI	76.2%	81.1%
May Street	K - 6	302	32%	NI	41%	NS	42.7%	46.0%
McGrath	K - 6	180	41%	NS	23%	NS	49.4%	66.7%
Midland Street	K - 6	221	31%	NS	52%	NS	29.0%	34.4%
Nelson Place	K - 6	369	46%	NI	40%	NS	36.1%	26.6%
Norrback Avenue	Pre-K - 6	629	25%	CA	18%	NI	49.7%	54.5%
Quinsigamond	Pre-K - 6	711	17%	R	12%	NI	59.9%	77.6%
Rice Square	Pre-K - 6	449	27%	NI	38%	NI	49.9%	59.9%
Roosevelt	Pre-K - 6	734	34%	R	17%	CA	51.9%	56.7%
Tatnuck Magnet	K - 6	470	31%	NI	25%	NI	45.0%	44.0%
Thorndyke Road	Pre-K - 6	386	43%	NS	39%	NS	42.9%	45.9%
Union Hill	K - 6	299	12%	NI	6%	NI	72.0%	95.0%
Vernon Hill	K - 6	375	50%	CA	34%	NI	62.9%	81.9%
Wawecus Road	K - 6	192	18%	NI	19%	NS	43.8%	54.2%
West Tatnuck	Pre-K - 6	313	47%	NS	44%	NS	38.4%	24.9%
Worcester Arts Magnet	Pre-K - 6	340	79%	NS	65%	NS	41.9%	37.4%
Burncoat Middle	7 - 8	628	58%	R	29%	R	55.1%	65.1%
Forest Grove Middle	7 - 8	922	64%	NI	33%	R	46.4%	53.4%
Sullivan Middle	7 - 8	903	57%	R	25%	R	62.1%	75.0%
Worcester East Middle	7 - 8	654	51%	R	13%	R	62.6%	80.3%
Burncoat High	9 - 12	1363	53%	R	48%	R	52.7%	51.2%
Doherty Memorial High	9 - 12	1560	67%	CA	62%	CA	47.6%	39.4%
North High	9 - 12	1203	43%	NI	46%	NI	62.8%	68.2%
South High Community	9 - 12	1443	52%	R	44%	R	66.3%	69.8%
Worcester Technical High	9 - 12	1200	48%	NS	46%	NS	47.1%	59.3%
Woodland Academy**	Pre-K - 6	429	4%	R	10%	R	81.9%	83.9%
Claremont Academy** — MS	7 - 12	147	64%	R	19%	R	69.3%	79.8%
Claremont Academy** — HS		203	71%	R	46%	R		
University Park — MS	7 - 12	90	69%	NS	55%	NS	68.0%	72.1%
University Park — HS		154	76%	NS	91%	NS		
Abby Kelley Foster RCS — ES	K - 12	894	52%	NS	35%	NS	54.7%	45.5%
Abby Kelley Foster RCS — MS		164	82%	NS	37%	NS		
Abby Kelley Foster RCS — HS		113	83%	NS	80%	NS		
Seven Hills CS — ES	K - 8	535	29%	R	31%	CA	83.5%	69.7%
Seven Hills CS — MS		145	73%	R	27%	CA		

Source: MA Department of Education and Worcester Public Schools.

*NI = In Need of Improvement

CA = Corrective Action

2006-2007									
2006-2007						October 1, 2006 – October 1, 2007			2006-2007
Limited English Proficiency (%)	Students Qualifying for Special Education Services (%)	% of Teachers Licensed in Assignment	% of Core Academic Teachers Teaching Qualified	Attendance Rate (%) Identified as Highly	Average number of days absent	Combined Mobility Rate	Entry Mobility Rate (Entry and Exit)	Exit Mobility Rate	Stability
26.0%	14.7%	99.0%	100.0%	94.0%	9.9	63.5%	38.3%	25.1%	65.2%
28.4%	24.5%	98.4%	100.0%	93.6%	11.1	37.1%	21.8%	15.3%	79.9%
30.6%	18.3%	98.2%	100.0%	95.1%	7.9	60.1%	33.2%	26.8%	67.6%
36.5%	16.8%	93.5%	95.1%	93.9%	9.8	85.0%	48.5%	36.5%	55.2%
51.6%	16.7%	96.0%	91.7%	94.3%	9.5	50.2%	28.8%	21.4%	74.7%
21.7%	18.5%	91.3%	93.0%	94.2%	9.4	37.9%	24.1%	13.8%	73.7%
14.0%	17.3%	94.1%	95.2%	95.0%	8.6	47.0%	28.3%	18.6%	75.6%
30.5%	21.9%	98.5%	100.0%	93.6%	10.6	46.0%	25.2%	20.9%	71.0%
36.8%	20.6%	95.7%	100.0%	94.2%	9.5	66.2%	37.3%	28.8%	63.9%
7.4%	7.8%	98.3%	100.0%	96.6%	5.9	11.9%	5.2%	6.7%	92.9%
14.6%	25.4%	92.1%	95.5%	95.5%	7.6	27.4%	14.5%	12.9%	79.0%
46.8%	15.9%	95.2%	97.5%	94.7%	8.7	56.4%	29.3%	27.1%	70.2%
19.4%	14.6%	98.8%	100.0%	95.0%	8.4	48.8%	24.4%	24.4%	70.8%
15.5%	13.1%	95.4%	94.8%	97.1%	5.1	25.1%	10.3%	14.8%	87.1%
21.6%	13.5%	98.4%	100.0%	96.0%	6.9	17.2%	9.4%	7.8%	87.0%
21.3%	8.2%	91.8%	100.0%	96.3%	6.2	38.8%	17.2%	21.7%	79.6%
29.1%	11.1%	97.0%	100.0%	94.0%	9.7	49.1%	25.5%	23.7%	67.4%
18.2%	8.9%	93.3%	93.2%	96.6%	5.9	25.2%	12.9%	12.3%	84.3%
12.8%	15.0%	91.0%	100.0%	96.6%	6.4	38.9%	22.2%	16.7%	80.8%
11.8%	8.1%	97.6%	100.0%	97.1%	5	17.2%	6.3%	10.9%	88.5%
11.1%	12.2%	94.3%	97.5%	96.8%	5.6	16.3%	8.7%	7.6%	89.4%
25.1%	15.6%	96.9%	97.5%	95.3%	8	33.0%	14.7%	18.3%	80.6%
21.4%	17.9%	97.1%	97.1%	94.5%	9.4	38.4%	18.9%	19.5%	78.3%
19.2%	12.0%	94.8%	100.0%	95.2%	8.2	44.9%	25.7%	19.3%	77.3%
27.8%	24.8%	93.8%	93.9%	95.2%	8.1	35.7%	19.0%	16.8%	79.6%
14.7%	12.6%	94.7%	92.4%	96.3%	6.4	26.2%	13.0%	13.2%	85.7%
15.5%	15.0%	97.4%	100.0%	96.0%	6.8	32.7%	14.7%	18.0%	80.0%
17.4%	27.8%	86.9%	81.3%	93.6%	10.6	69.5%	42.1%	27.4%	59.2%
22.7%	13.3%	98.3%	100.0%	95.5%	7.4	55.7%	32.0%	23.7%	65.4%
22.4%	28.6%	85.6%	90.7%	95.7%	7.4	35.4%	18.2%	17.2%	76.3%
10.9%	24.6%	92.9%	94.3%	93.6%	11.2	14.6%	9.3%	5.3%	88.8%
10.6%	13.2%	98.4%	100.0%	96.3%	6.3	14.1%	7.0%	7.0%	88.4%
10.7%	21.2%	95.3%	90.0%	95.3%	8.1	38.4%	17.4%	21.0%	79.3%
7.4%	20.9%	91.0%	86.2%	95.3%	8	29.5%	15.3%	14.2%	81.8%
13.0%	22.9%	89.2%	85.3%	94.2%	9.7	39.4%	21.5%	17.9%	76.6%
8.6%	22.5%	90.8%	92.2%	93.8%	10.3	55.1%	26.0%	29.2%	68.7%
9.6%	20.2%	87.1%	86.4%	90.3%	15.9	48.9%	22.7%	26.3%	73.1%
4.6%	13.3%	95.7%	93.6%	91.8%	13.7	39.4%	18.5%	20.9%	79.3%
6.7%	23.4%	95.6%	96.6%	89.9%	16.3	64.7%	31.4%	33.3%	70.1%
14.2%	21.3%	90.3%	88.6%	90.1%	15.9	55.5%	27.7%	27.8%	74.5%
2.5%	17.3%	95.6%	94.2%	93.3%	11.8	19.5%	6.8%	12.7%	89.1%
33.3%	16.6%	98.4%	79.4%	95.4%	7.7	50.7%	27.8%	22.9%	73.3%
5.4%	24.8%	89.9%	80.7%	92.4%	12.8	56.2%	27.2%	28.9%	75.0%
2.5%	6.6%	100.0%	86.3%	95.0%	8.9	6.6%	2.5%	4.1%	95.4%
1.8%	9.5%	73.1%	96.1%	95.4%	8.3	na	na	na	na
8.8%	12.4%	81.8%	100.0%	95.6%	8	na	na	na	na
R = Restructuring			NS = No Status		** Formerly the ALL School				

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