November, 2004

Center for
Community
Performance
Measurement

Benchmarking Public Education in Worcester: 2004

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BUREAU

CCPM-04-06

Welcome...

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Dear Citizen,

This is the third report on the status of public education in Worcester from the Center for Community Performance Measurement (CCPM). It provides updated information on the same public education indicators that were presented in previous years. The performance indicators record changes and accomplishments during the past year and may suggest future challenges. This report compares Worcester's performance on each indicator to its past performance as well as to the performance of comparison districts in Massachusetts, including Boston, Brockton, Lynn, and Springfield.

There are new elements in this edition of the report, including an expanded section on family involvement, revisions to student mobility calculations, and additional comparisons to other school districts and statewide standards. There are also more in-depth data tables and charts available on the Research Bureau website, **www.wrrb.org**.

We wish to thank the Alfred P. Sloan Foundation for its support of the CCPM and the George I. Alden Trust for its sponsorship of the *Benchmarking Public Education in Worcester* report.

We hope that the report will encourage widespread discussion about the future of public education in Worcester. We look forward to receiving your comments and suggestions.

Sincerely,

Eric H. Schultz - *President*

Roberta R. Schaefer, Ph.D. - *Executive Director*

Jean M. Supel - *Manager, CCPM*

Benchmarking Public Education - 2004 Highlights

- The dropout rate for the Worcester Public Schools (WPS) has declined steadily from 7.4% in 1995-96 to 5.1% in 2002-03, and is now lower than that of the Boston, Brockton, and Springfield public schools.
- WPS had an average mobility rate of 40%. This means that, on average, four out of ten students who were registered at one school on October 1, 2002, had transferred to another school by October 1, 2003.
- 50% of WPS 8th and 10th grade students reported that their parents/guardians never attend school programs for parents/ guardians.
- 80% of WPS non-vocational-school seniors plan to attend two- or four-year colleges after graduation. 70% of WPS vocational-school seniors plan to attend college after graduation.
- Since 1998, the proportion of WPS 10th grade students who passed the English portion of the MCAS on the first try has increased by 11 percentage points (to 76% in 2004). The statewide percentage of students passing English in 2004 was 89%.
- Since 1998, the proportion of WPS 10th grade students who passed the math portion of the MCAS on the first try increased by 29 percentage points (to 64% in 2004). Statewide, 85% of 10th grade students passed in 2004.

Contents

Introduction and Financial Indicators

In FY04, the Worcester Public Schools consisted of 37 elementary schools, 4 middle schools, 4 high schools, one K-12 school, one 7-12 school, and one vocational high school. In FY04, the total enrollment for WPS was 25,055 students. 1,536 students were enrolled in the two public charter schools located in Worcester. (Charter schools are state-funded public schools that are not operated by the Worcester Public Schools Administration or governed by the Worcester School Committee.)

As shown in the table below, the overall inflation-adjusted budget of WPS increased by more than $84 million since the passage of the 1993 Education Reform Act, from $144 million to $228 million for the 2003-04 school year, or an increase of 58.7%.[1] The total number of students in WPS increased by 16.7% over that period, from 21,476 to 25,055. The result is that inflation-adjusted per pupil expenditures[2] increased from $6,518 in 1993-94 to $8,183 in 2002-03 (the most recent year for which data are available), an increase of 25.5%. Meanwhile, the total number of staff increased by 17.4%, from 2,398 in 1993-94 to 2,816 in 2003-04; the teaching staff increased by 27.8%.

The table also shows charter school payments from the state of $11.2 million in FY04. This is an increase in inflation-adjusted dollars of 19.1% since FY01. The number of Worcester students enrolled in the two charter schools increased by 10.77% from FY01 to FY04. WPS is partially reimbursed by the state for students attending charter schools.[3]

[1] All figures prior to the 2003-04 school year are adjusted for inflation based on the Consumer Price Index from the Bureau of Labor Statistics: **ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt**. The index value for May 2004 was used as the basis for current dollar value for this report.

[2] Per-pupil expenditures are calculated by the Massachusetts Department of Education based on expenditure and enrollment reports submitted by each district at the end of each school year.

[3] The charter school funding formula was amended by the State Legislature September, 8, 2004. The new formula reduces the state per-pupil reimbursement rate to fund charter schools and is now based on reimbursement according to the type of student (e.g., regular, special, or bilingual education). In addition, the new formula adds a capital facilities component paid to the school as part of the tuition rate. For additional information, see **http://finance1.doe.mass.edu/charter/projection05new.html**.

Input Indicators for the Worcester Public Schools

	FY94	FY01	FY02	FY03	FY04	% Change FY94-FY04
Budget (Actual)	$112,998,768	$203,461,736	$215,001,079	$224,454,032	$228,861,500	102.5%
Budget (Inflation Adjusted)	$144,183,988	$217,247,963	$225,996,131	$230,675,312	$228,861,500	58.7%
Number of students	21,476	25,633	25,817	25,721	25,055	16.7%
Total per pupil expenditures (Inflation Adjusted)	$6,518	$8,243	$8,289	$8,183	N/A	25.5%*
Total Staff	2,398	3,212	3,332	3,031	2,816	17.4%
District administrators	23	25	25	21	17	-25.0%
School administrators	70	82	82	81	77	10.0%
Teachers	1,520	2,083	2,132	2,076	1,942	27.8%
Other	785	1,022	1,093	853	780	-0.7%
Charter School Payments (Inflation Adjusted)	N/A	$9,416,750	$11,063,061	$11,023,485	$11,214,533	N/A
Number of Worcester students in charter schools	N/A	1,155	1,236	1,287	1,338	N/A
Total number of students in charter schools	N/A	1,387	1,452	1,520	1,536	N/A
Per student tuition rate (Inflation Adjusted)	N/A	$8,082	$8,824	$8,482	$8,324	N/A
Reimbursement to WPS (Inflation Adjusted)	N/A	$2,658,422	$2,443,735	$0	$462,655	N/A

* % change is FY94 to FY03.

Source: Worcester Public Schools and MA Department of Education.

INDICATOR

1 Attendance and Dropout Rates

Why is it important?

While teacher effectiveness, quality of school buildings, and availability of textbooks and computers are important elements that contribute to student academic achievement, students must attend classes and not drop out before graduation in order to benefit from these resources. Students who drop out of high school have lower lifetime earnings and less success in today's labor market. According to the Bureau of Labor Statistics, the unemployment rate in 2003 for high school dropouts was 8.8% compared to 5.5% for high school graduates. In 2003, median weekly earnings for high school dropouts were almost 30% lower than those of high-school graduates ($396 per week versus $554).[1]

What is the trend in Worcester?

Attendance Rates

The attendance rate across the Worcester Public Schools was 94.5% for the 2002-03 school year. This was a decrease of 0.7 percentage points from the 2001-02 rate of 95.2%. (Data for individual Worcester schools for this and other indicators can be found in the **Data Appendix** on page 17.)

As shown in **Chart 1.1**, attendance rates for all school levels rose from 1995-96 to high points in 2001-02, but then decreased again in 2002-03.[2] Attendance rates are consistently highest among elementary schools and lowest among high schools. In 2002-03, WPS attendance rates were 95.0% for elementary schools, 93.3% for middle schools, and 90.9% for high schools.

The Seven Hills Charter School (grades K-8) had an attendance rate during the 2002-03 school year of 95.8%. The Abby Kelley Foster Regional Charter School (currently grades K-11) had an attendance rate of 92.9% during the 2002-03 school year.[3]

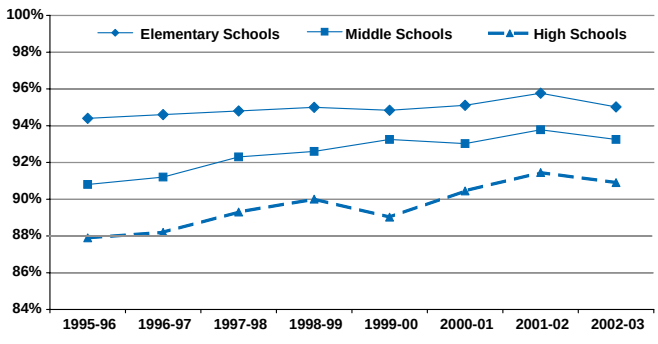
Chart 1.2 shows attendance rates for districts comparable to WPS, including Boston, Lynn, and Springfield, as well as the statewide rate.[4] Worcester's attendance rate of 93.9% was identical to the statewide rate, and above those of comparable districts. Springfield had the lowest attendance rate among comparison cities, 89.2%.

Dropout Rate

A dropout is defined as any student who left school prior to graduation and did not re-enroll in another school or equivalency program. The dropout rate is calculated by dividing the total number of students who dropped out in a given year by the total fall enrollment for grades 9-12. The WPS dropout rate[5] for the 2002-03 school year declined to 5.1% from 5.6% in 2001-02. This rate of 5.1% is the lowest dropout rate that WPS has seen in the recent past, and represents a decline of 2.3 percentage points from the 1995-96 rate (representing about 150 students). **Chart 1.3** shows dropout rates for the comparable districts mentioned above. While Worcester's rate was higher than the statewide average of 3.3% in 2002-03, it was below those of comparable districts. Springfield had the highest dropout rate among comparison districts at 8.5%.

As shown in **Table 1.1**, the University Park Campus School (grades 7-12) had the lowest dropout rate among Worcester high schools for the 2002-03 school year at 1.6%. South High Community School had the highest dropout rate for 2002-03 at 6.6%.

Chart 1.1: WPS Attendance Rates



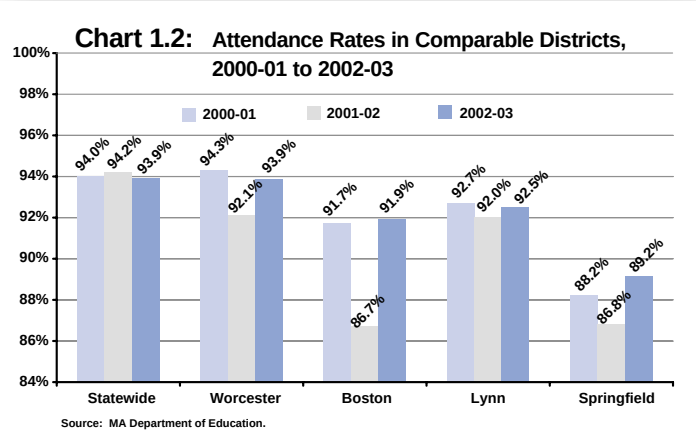
[1] "Education Pays: Unemployment and earnings for workers age 25 and over, by educational attainment," **http://www.bls.gov/emp/emptab7.htm**.

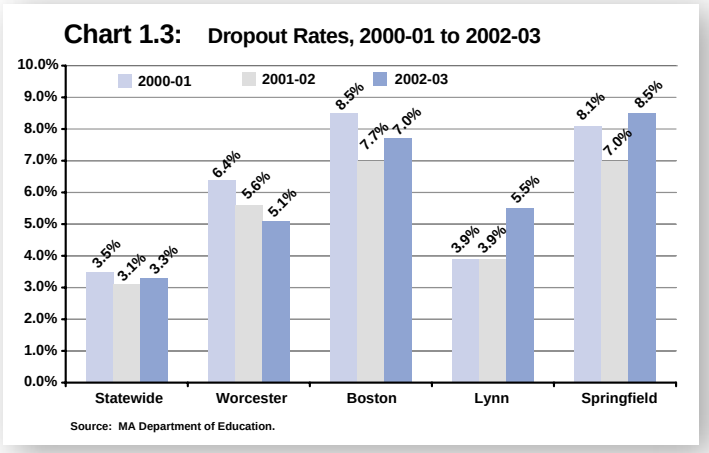
[2] **Chart 1.1** excludes the Accelerated Learning Laboratory, the University Park Campus School, and the Worcester Vocational High School because they include grade spans beyond the traditional categories of elementary, middle and high schools.

[3] Abby Kelley Foster is a regional charter school. Approximately 79% of its students are Worcester residents.

[4] Lowell had been included as a comparable school district in previous reports, but due to errors in the data reported to the MA Department of Education for 02-03 it is not included this year.

[5] The dropout rate for WPS includes students who may have transferred to out-of-state schools, but never reported the transfer, as well as students who dropped out but re-enrolled at a later date.





What does this mean for Worcester?

Attendance rates declined slightly in 2002-03 at all levels in WPS after having improved steadily since 1995-96. These changes should be monitored closely to see if the decline continues. The fact that Worcester maintains a higher attendance rate than other urban districts is commendable.

The continued decline in the dropout rate for WPS from 2001-02 to 2002-03 is also encouraging, especially in light of increases in the dropout rate for some comparable districts (Boston, Lynn, and Springfield) during that time. The class of 2003 was the first to be required to pass both the English and math MCAS exams in order to graduate. While it appears that dropout rates were not adversely affected by this requirement, some students who did not expect to pass the MCAS may have dropped out or moved prior to the 2002-03 school year. In future reports, we will track the number of students who are repeating grades rather than dropping out.

Table 1.1: High School Dropout Rates, WPS

School	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
University Park Campus School	na	na	na	na	na	na	0.0%	1.6%
Worcester Vocational High School	6.6%	0.6%	4.6%	4.3%	5.4%	5.4%	4.5%	3.8%
Doherty Memorial High School	2.4%	5.3%	4.2%	5.9%	5.6%	4.9%	4.7%	3.9%
Accelerated Learning Lab	0.0%	3.3%	1.9%	2.8%	5.1%	5.7%	3.6%	4.4%
Burncoat Senior High School	9.0%	9.9%	7.3%	9.7%	6.9%	7.7%	5.6%	5.5%
North High School	12.7%	9.8%	7.3%	8.6%	7.5%	9.2%	7.5%	6.0%
South High Community School	7.8%	3.5%	5.9%	8.5%	5.8%	5.2%	6.4%	6.6%
District Total	7.4%	6.8%	5.9%	7.3%	6.2%	6.4%	5.6%	5.1%

Source: MA Department of Education.

INDICATOR

2 Student Mobility

Why is it important?

Student mobility, or the rate at which students transfer in and/or out of schools, significantly affects academic performance. A student who starts the year at one school but moves to another school midway through the year will have his learning interrupted and will not have the consistency of one teacher. Furthermore, movement of students in and out of classrooms can disrupt learning for non-mobile students as well. Highly mobile students frequently perform below their peers on the MCAS, bringing down district achievement levels.

The Federal No Child Left Behind Act of 2002 included a provision under which schools should be held accountable to the state only for the annual progress of students who are enrolled in the school for a complete school year. Consequently, the Massachusetts Department of Education established that, beginning in 2003, individual schools will be held accountable for the spring MCAS results only of students who had been enrolled in their school on October 1st of that school year. Districts, however, will be held accountable for all students who take the MCAS tests while enrolled there, regardless of when a student enrolled in the district (or whether a student moved from one school to another during the school year).

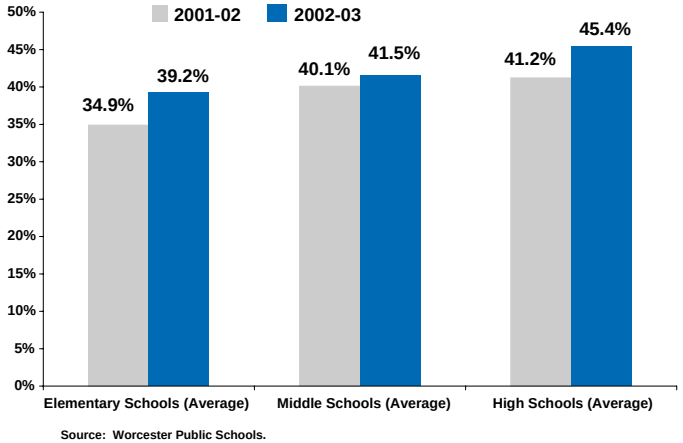
What is the trend in Worcester?

For the 2002-03 school year, WPS had a student mobility rate of 40%, up from 35.9% in 2001-02.[1,2] This means that, on average, four out of ten of students who were registered at one school on October 1, 2002, had transferred to another school by October 1, 2003. As shown in **Chart 2.1**, in 2002-03 high schools reported the highest student mobility at 45.4%, while middle schools had a rate of 41.5%, and elementary schools had a rate of 39.2%.

Table 2.1 shows demographic characteristics among schools with the highest and lowest student mobility rates. Generally, schools with high mobility rates also had higher rates of minority students, students with limited English proficiency, students eligible for free/reduced price lunch, and special-education students.[3] Conversely, schools with low mobility rates had the opposite characteristics (exceptions: Jacob Hiatt Magnet School and the University Park Campus School both had low mobility rates but high rates of minority and low-income students). The Vocational School's mobility rate was less than half the average for the City's comprehensive high schools.

The Abby Kelley Foster Regional Charter School had a mobility rate of 15.9% during the 2002-03 school year, substantially below the average of parallel grade levels in the Worcester Public Schools. The Seven Hills Charter School had a mobility rate of 17.9% in the 2002-03 school year, an increase of 12.6 percentage points from the previous year, but substantially below the WPS average for similar grade levels.[4]

Chart 2.1: WPS Student Mobility Rates



Source: Worcester Public Schools.

[1] Beginning in 2002-03, changes were made in the calculation of student mobility rates for the Worcester Public Schools. Data for the 2001-02 school year were recalculated using this new method in order to have some comparison data. As a result of this change, however, mobility data presented in earlier editions of this report are not comparable to the current data.

[2] These district-wide averages do not include mobility rates for Worcester Vocational High School, the Accelerated Learning Lab, and the University Park Campus School.

[3] 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, parental educational attainment and income may also contribute to mobility.

[4] Source: Abby Kelley Foster Regional Charter School and Seven Hills Charter School. For comparisons of the charter schools to individual WPS schools, see the **Data Appendix** or the charts on our web site, **www.wrrb.org**.

What does this mean for Worcester?

*Staff at individual schools have less influence over this indicator than other indicators presented in this report. However, the WPS has implemented several projects to mitigate the effects of mobility on student achievement. For example, coordinated curricula and teaching methods among a core group of elementary schools which share a common body of high mobility students ensures that students who move from one to another of these schools will continue to study academic material under the same instructional format. Schools of choice – schools in which parents and students choose to enroll – such as the Vocational High School, district magnet schools, and charter schools have lower mobility rates than most other schools. For example, the University Park Campus School and the Jacob Hiatt Magnet School – both schools of choice – are located in two of the most economically disadvantaged neighborhoods in the City. In spite of this, they had the two lowest mobility rates during the 2002-03 school year of all public (including charter) schools in the City. One possible reason for these low mobility rates may be the degree to which parents are involved with each school. In addition, programs to increase the level of family involvement (see **Indicator 3: Level of Family Involvement**) may help to reduce mobility rates as families become more involved and invested in one school. Differences in the availability of such programs may help explain the wide variation in mobility rates among Worcester schools.*

*High mobility rates do affect academic achievement in numerous ways. One major indicator of its effect can be seen in scores on MCAS (discussed in greater depth in **Indicator 6: MCAS Scores**). As shown in **Table 2.1**, schools with high mobility rates had, in general, lower MCAS English and math scores than schools with lower mobility rates.*

Table 2.1: Characteristics of High and Low Mobility Schools 2002-03

LOWEST MOBILITY RATES	Mobility Rate	Minority Students	Limited English Proficiency	Students Eligible for Free/Reduced Price Lunch	Special Education	Students Passing English MCAS	Students Passing Math MCAS
Jacob Hiatt Magnet School	10%	58%	17%	52%	10%	88%	82%
University Park Campus School	10%	59%	2%	68%	5%	97%*	92%*
University Park Campus School	10%	59%	2%	68%	5%	100%**	100%**
Tatnuck Magnet	12%	38%	6%	33%	8%	93%	87%
Nelson Place	13%	36%	3%	21%	10%	94%	82%
Abby Kelley Foster Regional Charter	16%	33%	0%	32%	10%	95%*	61%*
Seven Hills Charter	18%	65%	7%	59%	8%	96%*	55%*
Flagg Street	18%	36%	4%	17%	7%	92%	89%
West Tatnuck	20%	36%	6%	28%	21%	86%	81%
Worcester Vocational High School	20%	44%	3%	51%	18%	66%	47%
Doherty High School	29%	41%	7%	24%	12%	89%	78%
Forest Grove Middle School	36%	48%	5%	42%	18%	88%	46%
HIGHEST MOBILITY RATES							
Belmont Street	69%	64%	15%	84%	20%	99%	83%
Elm Park	69%	63%	24%	78%	25%	64%	56%
Union Hill	65%	53%	16%	93%	18%	74%	60%
Rice Square	61%	37%	5%	47%	9%	88%	83%
Harlow Street	58%	59%	9%	83%	16%	65%	50%
Worcester East Middle School	57%	52%	6%	59%	21%	79%	33%
South High School	56%	68%	17%	61%	21%	65%	55%

* Data reflect Middle School MCAS scores ** Data reflect High School MCAS scores Source: MA Department of Education School Profiles.

INDICATOR

3 Family Involvement

Why is it important?

Temple University psychology professor Laurence Steinberg[1] has shown that parental involvement is important at all grade levels, even though parental involvement in the United States tends to decrease as a child gets older.[2] Steinberg and John McWhorter,[3] a University of California linguistics professor, have identified several characteristics of high school students that highlight the need for more parental involvement at that level, including the tendency not to take school seriously and to be influenced by peer pressure that disparages academic success. Parents and families have the opportunity to counteract this pressure by demonstrating to their children the importance and value of academic success. Additionally, Steinberg notes that older students typically spend less time than younger students engaged in activities outside the classroom that reinforce classroom learning.

[1] Laurence Steinberg, *Beyond the Classroom: Why School Reform Failed and What Parents Need To Do* (New York: Simon & Schuster, 1996).

[2] According to Steinberg, the drop-off in involvement does not occur in many Asian countries; if anything, in Asian countries parents become more involved in their children's education as they get older (page 78-100).

[3] John McWhorter, *Losing the Race: Self-Sabotage in Black America* (New York: Free Press, 2000).

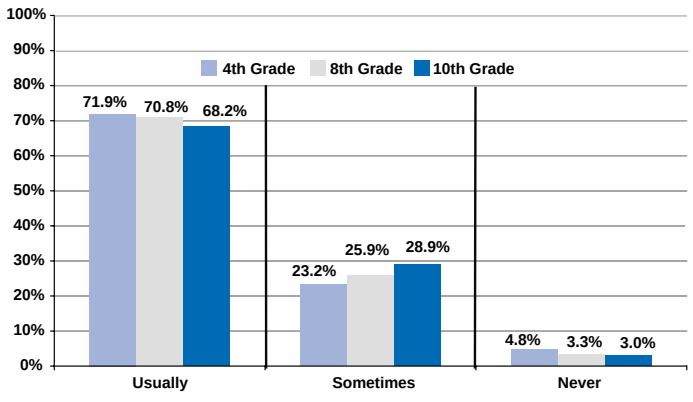
What is the trend in Worcester?

In 2002, the Center for Community Performance Measurement began collaborating with the Worcester Public Schools to survey students to determine parental involvement in their education. Based on the work of Laurence Steinberg, all students in the fourth, eighth, and tenth grades were asked, during the administration of the MCAS exams, how often their parents/guardians knew how they were doing in school, attended school programs for parents, watched them participate in extracurricular activities, and helped them with homework when asked. Additionally, students in the tenth grade were asked how often their parents/guardians helped them choose their courses.

As shown in **Chart 3.1**, in 2003, most WPS students indicated that their parents usually knew how they were doing in school. 71.9% of fourth graders (a decrease of 9.8 percentage points from 2002), 70.8% of eighth-grade students (a decrease of 4.4 percentage points from 2002) and 68.2% of tenth-grade students (a decrease of 7.3 percentage points from 2002) responded this way.

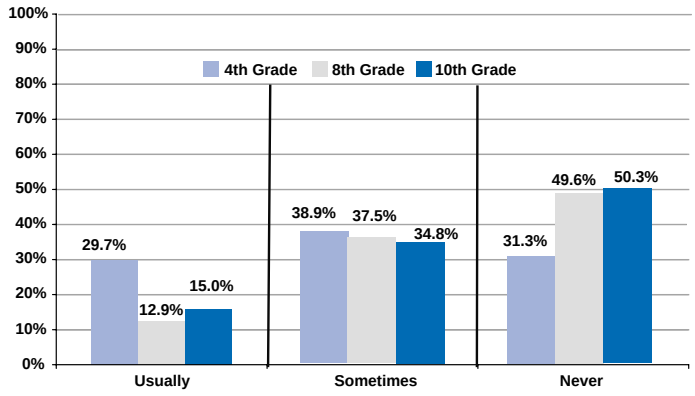
Chart 3.2 shows that in 2003, 29.7% of fourth graders reported that their parents/guardians usually attended school programs for parents (an increase of 4.1 percentage points from 2002), and only 12.9% of eighth graders (an increase of 0.6 percentage points from 2002), and 15.0% of tenth graders responded in this way (an increase of 0.2 percentage points from 2002). Half of all eighth and tenth graders reported that their families never attended school programs for parents.

Chart 3.1: How often parents/guardians know how their child is doing in school (as reported by students in 2003)



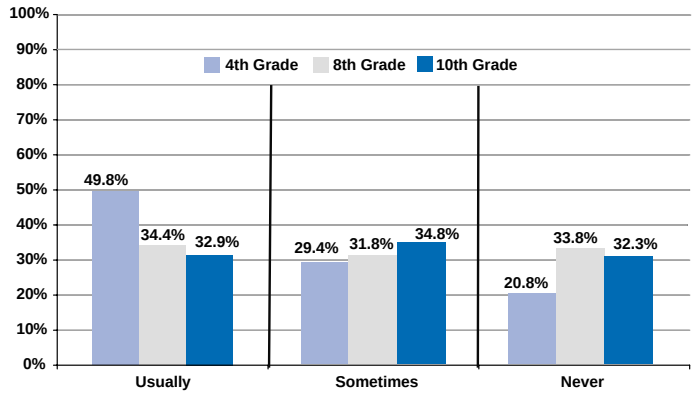
Source: Worcester Regional Research Bureau and WPS Family Involvement Survey

Chart 3.2: How often parents/guardians attend school programs for parents/guardians (as reported by students in 2003)



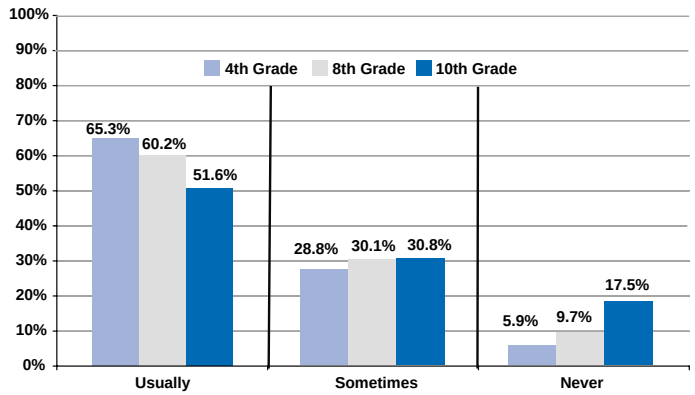
Source: Worcester Regional Research Bureau and WPS Family Involvement Survey

Chart 3.3: How often parents/guardians watch their children in extracurricular activities (as reported by students in 2003)



Source: Worcester Regional Research Bureau and WPS Family Involvement Survey

Chart 3.4: How often parents/guardians help with homework when they are asked (as reported by students in 2003)



Source: Worcester Regional Research Bureau and WPS Family Involvement Survey

As shown in **Chart 3.3**, in 2003, 49.8% of fourth graders indicated that their parents usually watched them participate in extracurricular activities (a decrease of 3.4 percentage points from 2002), compared to 34.4% of eighth graders (a decrease of 2.5 percentage points from 2002), and 32.9% of tenth graders (an increase of 0.1 percentage point from 2002).

Chart 3.4 shows how often students reported that parents help with homework. In 2003, 65.3% of fourth graders said parents usually helped with homework when asked to do so (a decrease of 2.3 percentage points from 2002), compared to 60.2% of eighth-grade students (a decrease of 2.4 percentage points from 2002) and 51.6% of tenth-grade students (a decrease of 4.5 percentage points from 2002). 17.5% of tenth graders indicated that their parents never help with their homework when asked (an increase of 3.5 percentage points from 2002).

In 2003 only 24.3% of tenth graders said that their parents usually help them choose classes (a decrease of 4.2 percentage points from 2002) while 40.6% said that their parents never help them choose classes (an increase of 6.6 percentage points from 2002). These data support Steinberg's hypothesis that family involvement declines as students age.

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Family Involvement (cont.)

What does this mean for Worcester?

*As shown in **Table 3.1**, in most cases, the schools that have the highest levels of family involvement are also those that have lower mobility rates, fewer minority students, fewer students with limited English proficiency, and lower poverty rates (as measured by the percent of students eligible for free/reduced-price lunches). This is the case with Nelson Place, Flagg Street, and Thorndyke Road schools. In addition, students in these schools perform better than average on MCAS exams. However, some schools in poorer and less stable neighborhoods have above-average levels of family involvement. An example of this is Mill Swan Magnet School—a school of choice—which has above-average rates of minority students, students with limited English proficiency, students who are eligible for free or reduced price lunch, and special-education students, yet still has one of the highest average family involvement levels.*

On the other hand, some schools with below-average family involvement levels still have high student achievement. For example, McGrath had below-average family involvement levels (in addition to above average rates of minority, limited-English-proficient, and low-income students) but scored at or above the WPS fourth grade average on both the English and math portions of the MCAS. Thus, these schools have high student achievement despite a very challenging external environment.

Since, in general, our data suggest a correlation between student achievement and parental involvement, the WPS should continue to look for ways to increase the level of parental involvement at all levels of schooling.

Table 3.1: School Characteristics by Reported Level of Family Involvement, 2003

Highest levels of family involvement reported by students

	Parent/Guardian Usually Involved	Mobility Rate	Minority Students	Limited English Proficiency	Students Eligble for Free/Reduced Price Lunch	Special Education
Nelson Place	73.6%	13.4%	35.7%	3.1%	20.7%	9.6%
Mill Swan	72.9%	35.9%	58.5%	17.5%	63.5%	32.5%
Flagg Street	72.4%	17.9%	35.8%	3.7%	16.9%	6.9%
May Street	68.9%	21.7%	39.1%	8.7%	37.0%	13.5%
Thorndyke Road	67.5%	41.7%	42.1%	8.3%	45.3%	12.9%

Lowest levels of family involvement reported by students

	Parent/Guardian Never Involved	Mobility Rate	Minority Students	Limited English Proficiency	Students Eligble for Free/Reduced Price Lunch	Special Education
Canterbury St	27.7%	39.5%	59.5%	19.8%	88.6%	11.7%
Columbus Pk	23.2%	41.8%	62.7%	20.5%	82.4%	18.7%
McGrath	27.9%	52.0%	45.6%	14.8%	57.8%	10.7%
Grafton Street	24.9%	41.0%	55.0%	13.0%	87.0%	14.0%
Harlow Street Magnet	23.9%	58.0%	60.0%	11.0%	87.0%	15.0%
Elm Park Community	23.2%	69.0%	72.0%	28.0%	86.0%	16.0%
City View	23.1%	39.3%	55.3%	14.6%	77.6%	17.9%

Source: MA Department of Education, the Worcester Regional Research Bureau, and WPS Family Involvement Survey.

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4 Post-Graduate Placement

Why is it important?

Education beyond high school has become increasingly important in ensuring an individual's economic well-being. The fields of employment that are currently expected to have the highest growth rates including computer analysts, software engineers, preschool teachers, and numerous health professions typically require advanced training for entry-level positions. One study estimated that a person with a 4-year college degree earns almost twice as much per year as someone with only a high school education.[1]

In order to enhance graduates' employment prospects and earnings potential, WPS has established a goal that 80% of its high school graduates will plan to pursue post-secondary education following graduation.

What is the trend in Worcester?

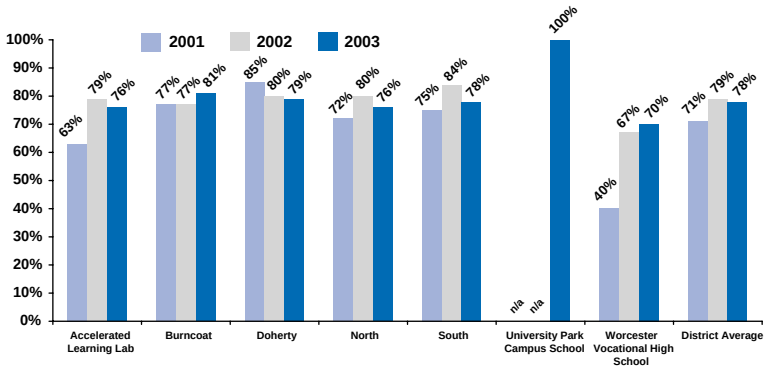
Before they graduate, WPS seniors are asked by their guidance counselors about their post- graduation plans. Among graduates of the Class of 2003, 78% planned to attend 2- or 4-year colleges, as shown in **Chart 4.1**. The University Park Campus School had the highest rate (100%) of students intending to go to college.[2] Among WPS's four traditional high schools, Burncoat had the highest proportion of students intending to go to college (81%, an increase from 77% in 2002).

Chart 4.2 shows that among the class of 2003, a higher percentage of WPS seniors (78%) intended to enroll in college than the statewide average (75%). In addition, Worcester's rate was higher than that for Boston, Lynn, and Springfield (and equal to that of Brockton).

Charts 4.3 and **4.4** reflect trends in post-graduation plans for WPS' non-vocational and vocational students. In 2003, 80% of non-vocational students planned to enroll in 2- or 4-year colleges following graduation. While this overall proportion has remained fairly stable in recent years, the proportion of students enrolling in 2-year versus 4-year colleges has fluctuated from year to year. In 2003, nearly 2 out of 3 students planning to go on to college planned to attend a 4-year school.

From 1998 to 2003, the proportion of vocational students planning to enroll in a 2- or 4-year college following graduation increased dramatically, from 14% to 70%, while the proportion of vocational students planning to enter the work-force declined significantly. This shift may be due in part to fewer employment opportunities for those without advanced education and training. Also, state standards—including the requirement that students pass MCAS tests to graduate—apply to vocational schools as well. Hence vocational students may be better prepared academically to enter college than in previous years.

Chart 4.1: High School Graduates Planning to Attend 2- or 4-Year Colleges

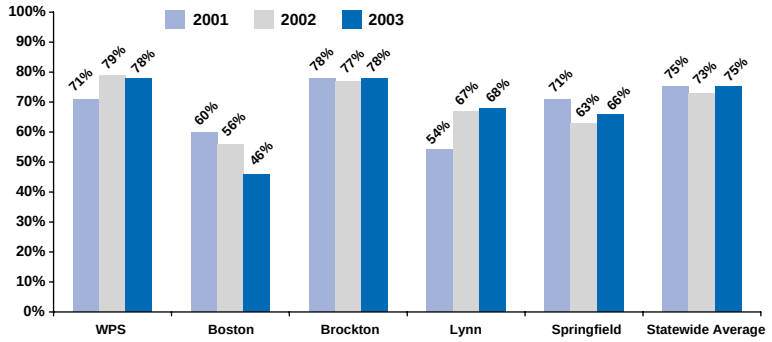


Source: MA DOE *Plans of High School Graduates* reports for 2001-2003.

[1] Jeremy Kahn, "Is Harvard Worth It?," *Fortune* 141, no. 9 (2000), 200.

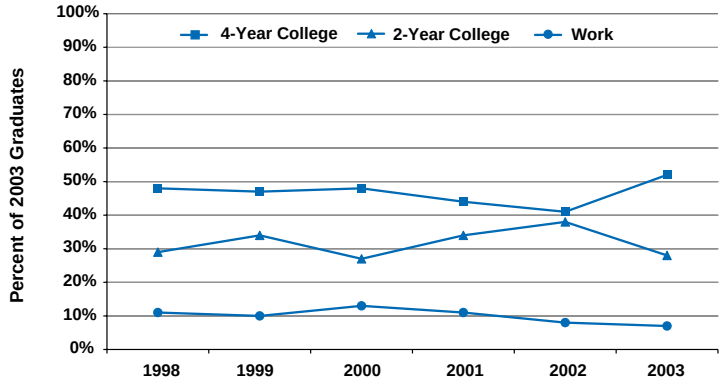
[2] Note: Students who graduate from the University Park Campus School, and who are accepted to Clark University, are able to attend that school tuition-free.

Chart 4.2: Graduates Planning to Attend 2- or 4-Year Colleges, WPS and Comparable Districts



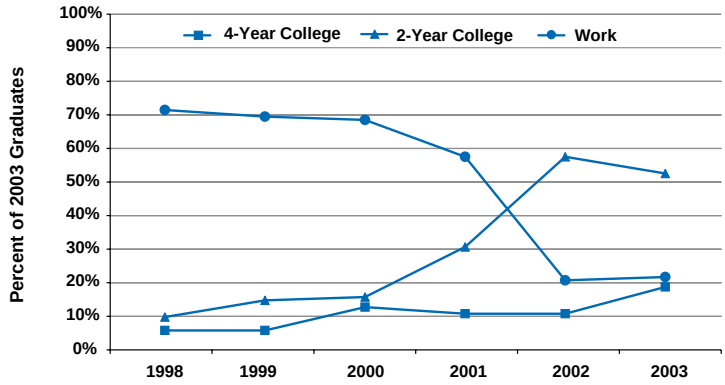
Source: MA DOE *Plans of High School Graduates* reports for 2001-2003.

Chart 4.3: Plans of WPS Graduates: Non-Vocational Students



Source: MA DOE *Plans of High School Graduates* reports for 2001-2003.

Chart 4.4: Plans of WPS Graduates: Vocational Students



Source: MA DOE *Plans of High School Graduates* reports for 2001-2003.

What does this mean for Worcester?

Three out of the four traditional WPS high schools, and the Accelerated Learning Lab, had decreased rates of seniors planning to attend college after graduation. Only Burncoat High School and the Vocational High School had increased rates. Despite decreases among the majority of schools, WPS seniors still plan to attend college at a higher rate than students in most of the comparable school districts, and also at a higher rate than the statewide average.

From 2000 to 2002 it appeared that a trend of decreasing enrollments in 4-year colleges and increasing enrollments in 2-year colleges had emerged among non-vocational school seniors. The class of 2003, however, broke from this pattern by planning to enroll in 4-year colleges at the second-highest rate since 1995 and planning to enroll in 2-year colleges at the second lowest rate recorded.

Recent trends in the post-secondary planning of Worcester vocational school students, in conjunction with the increase in educational requirements to a college-level certificate or 2-year degree for some trade areas, suggest that the role of this institution has changed in some respects. With so many students planning to enter 2- or 4-year colleges after graduation (70% in 2003), the vocational school must now fulfill dual roles: preparing students for employment in their chosen trade area and preparing students to qualify for post-graduate education.

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5 MCAS Scores

Why is it important?

The Massachusetts Comprehensive Assessment System (MCAS) was implemented following the Education Reform Act of 1993 to measure student performance based on the Massachusetts Curriculum Frameworks' learning standards. All students are tested periodically in various subjects, including English language arts, mathematics, history and social science, and science and technology. The tests serve as one basis by which students, schools, and districts are held accountable for student performance. Starting with the class of 2003, all students are required to pass the grade 10 MCAS tests in English language arts and mathematics in order to graduate. Currently, that entails attaining a score of at least 220.

Teachers, principals, and superintendents use MCAS results to identify programs and schools in need of improvement, to diagnose student strengths and weaknesses, and to identify students who need tutoring. The Massachusetts Department of Education (DOE) also uses the results to determine high-performing schools and to identify those that require DOE oversight. Progress on school and district-wide MCAS results are used to comply with the Federal No Child Left Behind Act which requires schools to make Adequate Yearly Progress (AYP) toward achieving 100% proficiency in reading and math by 2014.

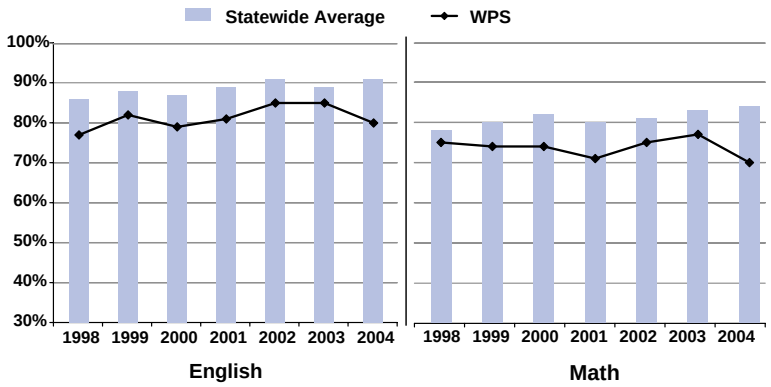
[1] From 1998 to 2000 the English portion of the middle school MCAS test was administered in the 8th grade. In 2001 it was administered in both the 7th and 8th grades (charts include the 7th grade score). Since 2002 it has been administered in the 7th grade. The math portion of the test has always been administered in the 8th grade.

What is the trend in Worcester?

Chart 5.1 shows fourth grade English and math passing rates from 1998 to 2004 for WPS in comparison to the statewide average. The percentage of WPS fourth graders passing the English MCAS test decreased 5 percentage points from 85% in 2003 to 80% in 2004, while the math passing rate decreased by 7 percentage points from 77% in 2003 to 70% in 2004. When looking at comparable districts (see **Table 5.1**), WPS fourth-grade students passed both the English and math portions of the test in 2004 at higher rates than students in Boston, and passed the English portion only at a higher rate than students in Springfield. In 2004, the Abby Kelley Foster Regional Charter School (AKFRCS) passing rate for the fourth-grade English test was 82% (two percentage points higher than the WPS district average of 80%). For fourth-grade math, the AKFRCS passing rate was 70% (equal to the WPS district average). Seven Hills Charter School (SHCS) had higher 2004 fourth-grade MCAS passing rates (88% for English and 73% for math) than either AKFRCS or WPS.

Chart 5.2 shows student passing rates from 1998 to 2004 for the middle school levels[1] of the English and math portions of the MCAS. In 2004, 79% of 7th grade students passed the English portion of the MCAS (a decrease of 2 percentage points from 81% in 2003), while 43% of 8th grade students passed the math portion of the MCAS (an increase of 2 percentage points from 41% in 2003). WPS students passed the English and math portions of the test at lower rates than three of the four comparable districts (**Table 5.1**). WPS scores on both tests were substantially below the statewide average: 12 percentage points lower for English, and 26 percentage points lower for math. Over time, WPS student passing rates on the English portion of the test increased by 4 percent-

Chart 5.1: Percentage of Elementary School Students Passing MCAS



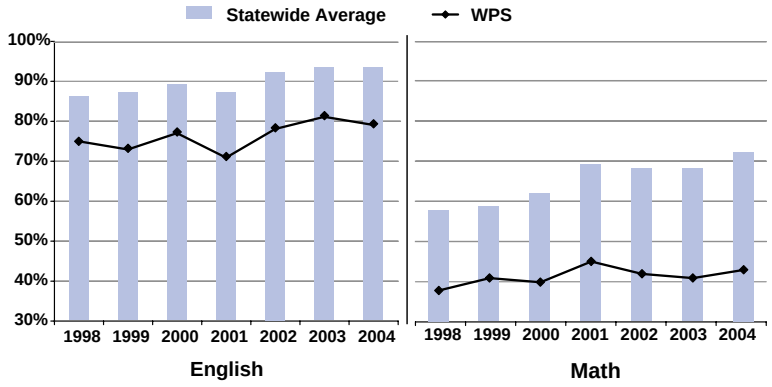
Source: MA Department of Education.

age points (from 75% in 1998), while passing rates on the math portion of the test have increased 5 percentage points (from 38% in 1998). While this trend mirrors that for the statewide average, the magnitude of the statewide increases is greater: 7 percentage points for English and 14 percentage points for math. Both AKFRCS and SHCS (see **Table 5.2**) had English MCAS passing rates (at 98% and 99%) that were higher not only than the WPS district average, but also than the statewide average for public school districts. For math, passing rates for the two charter schools (67% for both schools) were higher than the WPS average, but lower than the statewide average.

Chart 5.3 shows student passing rates for the 10th grade English and math MCAS. In 2004, 76% of WPS 10th graders passed the English portion of the MCAS (the same percentage as in 2003) and 64% passed the math portion (an increase of 1 percentage point from 2003). As indicated in **Table 5.1**, WPS outperformed two of the four comparable districts in English. In math, WPS had a higher passing rate than Springfield. In both English and math, WPS passing rates were lower than the statewide average by 13 percentage points and 21 percentage points, respectively. However, since 1998, WPS passing rates in English have increased by 11 percentage points (from 65%). Passing rates in math have increased by 29 percentage points (from 35%).

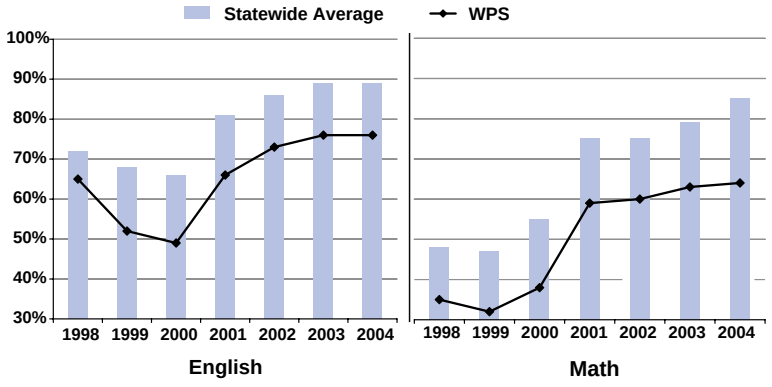
In Worcester's only charter high school, Abby Kelley Foster's first class of tenth grade students scored significantly higher than both the WPS and the statewide average on both portions of the MCAS with 100% of the students passing the English portion and 95% passing the math portion. Characteristics of high performing schools are listed in **Table 5.2**.

Chart 5.2: Percentage of Middle School Students Passing MCAS



Source: MA Department of Education.

Chart 5.3: Percentage of High School Students Passing MCAS



Source: MA Department of Education.

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5 MCAS Scores (cont.)

Table 5.1 MCAS Passing Rates, Comparison Districts

	PERCENT OF STUDENTS PASSING MCAS					
	4th Grade English	4th Grade Math	7th Grade English	8th Grade Math	10th Grade English	10th Grade Math
Worcester	80%	70%	79%	43%	76%	64%
Boston	77%	69%	85%	53%	75%	73%
Brockton	86%	75%	83%	48%	84%	70%
Lynn	87%	82%	89%	58%	78%	72%
Springfield	79%	73%	77%	33%	71%	61%
Statewide	91%	86%	93%	71%	89%	85%

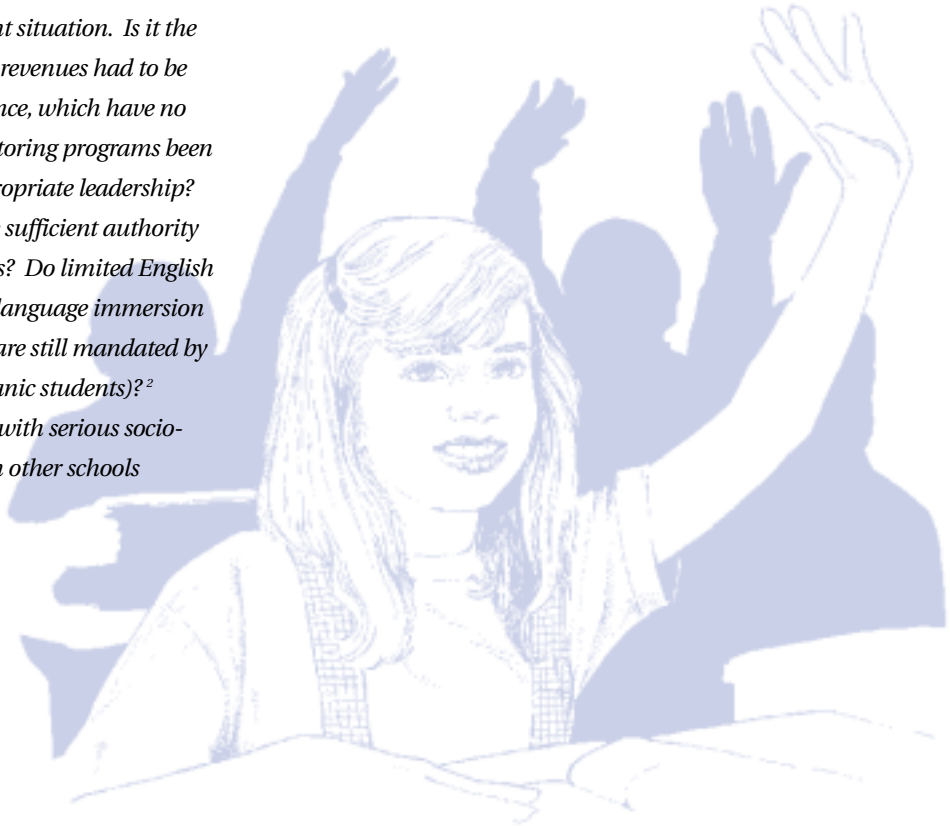
Table 5.2: Characteristics of Schools with High English and/or Math MCAS Passing Rates, 2003-04

ELEMENTARY SCHOOL LEVEL	MCAS Passing Rate English	MCAS Passing Rate Math	Student Mobility Rate*	Minority Student Population	Students with Limited English Proficiency	Low Income	Special Education
New Ludlow	100%	93%	30%	45%	10%	51%	12%
Grafton Street	96%	77%	41%	55%	13%	87%	14%
Thorndyke Road	95%	78%	23%	38%	9%	43%	15%
Worcester Arts Magnet	94%	85%	27%	40%	5%	40%	17%
May Street	93%	63%	22%	38%	6%	33%	14%
Flagg Street	92%	87%	18%	38%	3%	18%	10%
Lake View	92%	85%	27%	39%	7%	43%	7%
Multiple Intelligences	92%	84%	36%	47%	19%	58%	14%
Burncoat	91%	74%	44%	62%	23%	74%	14%
Clark Street Community	91%	82%	37%	19%	10%	56%	17%
Tatnuck Magnet	90%	84%	12%	38%	6%	37%	11%
Heard Street	90%	80%	34%	38%	8%	39%	9%
McGrath	87%	90%	52%	46%	12%	64%	11%
MIDDLE SCHOOL LEVEL							
Seven Hills Charter School	99%	67%	18%	65%	7%	59%	8%
University Park Campus School	98%	97%	10%	59%	3%	73%	5%
Abby Kelley Foster Charter School	98%	67%	16%	33%	0%	32%	10%
Accelerated Learning Lab	90%	53%	47%	67%	19%	86%	19%
HIGH SCHOOL LEVEL							
Abby Kelley Foster Charter School	100%	95%	16%	33%	0%	32%	10%
University Park Campus School	97%	97%	10%	59%	3%	73%	5%

* Data are for 2003-03 school year. Source: MA Department of Education and the Worcester Public Schools.

What does this mean for Worcester?

Although most of the Worcester's MCAS scores have improved over time, 2004 scores show a leveling off, or in some cases, a decline. Since the district has implemented changes in curriculum, instruction, professional development, data analysis, and other areas intended to improve student achievement, Worcester's educators will have to analyze the reasons for the current situation. Is it the result of financial constraints where any new revenues had to be spent on increases in employee health insurance, which have no affect on student instruction? Have MCAS tutoring programs been cut? Do poorly performing schools have appropriate leadership? Does the current teachers' union contract give sufficient authority to principals over who teaches in their schools? Do limited English proficient students perform better in English language immersion classes or bilingual education classes (which are still mandated by a 20-year old Federal consent decree for Hispanic students)?[2] *Since many schools in the district, even some with serious socio-economic challenges are doing well, what can other schools learn from them?*[3]



[2] In order to modify the consent decree, the Worcester Public Schools would have to take the issue back to Federal Court which is what Boston and Holyoke have done.

[3] These schools include Clark Street, Flagg Street, Grafton Street, Heard Street, Lake View, McGrath, Multiple Intelligences, Nelson Place, New Ludlow, Tatnuck Magnet, Thorndyke Road, and Worcester Arts Magnet. The top performing high schools are University Park and Abby Kelley Foster Regional Charter School. See **Data Appendix** for details of all schools.

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Data Appendix: Worcester Public Schools and Charter Schools

School Name	2003-2004 Minority Student Population	2003-2004 Low Income	2003-2004 Limited English Proficiency	2003-2004 Special Education	2002-2003 Attendance Rate	2002-2003 High School Dropout Rate	2002-2003 Student Mobility Rate	2002-2003 Students Reporting High Level of Family Involvement	2004 (Preliminary) Students Passing English MCAS	2004 (Preliminary) Students Passing Math MCAS
ELEMENTARY SCHOOLS										
Belmont Street Community	72%	85%	15%	20%	94%	--	69%	50%	80%	67%
Burncoat Prep	62%	76%	23%	14%	94%	--	44%	n/a	91%	74%
Canterbury Street Magnet	65%	88%	24%	13%	95%	--	39%	38%	70%	56%
Chandler Community	72%	89%	25%	16%	94%	--	76%	47%	56%	37%
Chandler Magnet	64%	80%	47%	24%	94%	--	39%	49%	65%	57%
City View	58%	77%	16%	19%	93%	--	39%	42%	84%	71%
Clark Street Community	19%	56%	10%	17%	95%	--	37%	54%	91%	82%
Columbus Park	66%	80%	22%	21%	95%	--	42%	39%	70%	65%
Elm Park Community	72%	86%	28%	16%	94%	--	69%	47%	76%	49%
Flagg Street	38%	18%	3%	10%	96%	--	18%	72%	92%	87%
Gates Lane	45%	48%	8%	26%	95%	--	25%	56%	80%	76%
Goddard School/Science Tech	71%	89%	42%	17%	95%	--	52%	44%	67%	60%
Grafton Street	55%	87%	13%	14%	95%	--	41%	54%	96%	77%
Harlow Street Magnet	60%	87%	11%	15%	93%	--	58%	52%	81%	48%
Heard Street	38%	39%	8%	9%	96%	--	34%	61%	90%	80%
Jacob Hiatt Magnet	62%	52%	0%	10%	96%	--	10%	59%	88%	75%
Lake View	39%	43%	7%	7%	96%	--	27%	59%	92%	85%
Lincoln Street	72%	78%	30%	16%	94%	--	55%	47%	88%	48%
May Street	38%	33%	6%	14%	96%	--	22%	69%	93%	63%
McGrath	46%	64%	12%	11%	95%	--	52%	41%	87%	90%
Midland Street	39%	46%	12%	7%	96%	--	27%	58%	82%	68%
Mill Swan	58%	68%	18%	31%	94%	--	36%	73%	64%	59%
Multiple Intelligences	47%	58%	19%	14%	95%	--	36%	n/a	92%	84%
Nelson Place	31%	22%	3%	11%	96%	--	13%	74%	93%	78%
New Ludlow	45%	51%	10%	12%	97%	--	30%	60%	100%	93%
Norrback Avenue	49%	53%	26%	15%	94%	--	35%	58%	84%	75%
Quinsigamond	52%	69%	24%	12%	96%	--	41%	48%	70%	64%
Rice Square	39%	52%	11%	15%	95%	--	61%	56%	84%	84%
Roosevelt	44%	49%	21%	17%	95%	--	31%	53%	77%	71%
Tatnuck Magnet	38%	37%	6%	11%	96%	--	12%	54%	90%	84%
Thorndyke Road	38%	43%	9%	15%	96%	--	42%	68%	95%	78%
Union Hill	57%	94%	14%	19%	94%	--	65%	49%	64%	46%
Vernon Hill	54%	80%	21%	13%	95%	--	54%	57%	71%	85%
Worcester Arts Magnet	40%	40%	4%	17%	95%	--	27%	65%	94%	85%
Wawecus Road	38%	44%	6%	23%	95%	--	38%	46%	83%	80%
West Tatnuck	31%	20%	7%	19%	95%	--	20%	n/a	74%	74%
MIDDLE SCHOOLS										
Burncoat Middle	50%	61%	10%	20%	94%	--	38%	46%	77%	40%
Forest Grove Middle	45%	47%	6%	19%	94%	--	36%	49%	81%	53%
Sullivan Middle	56%	73%	13%	23%	93%	--	36%	41%	77%	37%
Worcester East Middle	57%	78%	7%	21%	92%	--	57%	41%	79%	33%
HIGH SCHOOLS										
Burncoat High	50%	44%	8%	17%	91%	6%	40%	41%	79%	70%
Doherty High	43%	31%	6%	14%	92%	4%	29%	41%	83%	71%
North High	54%	58%	6%	19%	90%	6%	56%	41%	78%	69%
South High Community	59%	77%	15%	21%	90%	7%	56%	34%	67%	51%
ALTERNATIVE SCHOOLS										
ALL School -- ES Scores	67%	86%	19%	19%	94%	--	47%	47%	61%	39%
ALL School -- MS Scores	67%	86%	19%	19%	94%	--	47%	44%	90%	53%
ALL School -- HS Scores	67%	86%	19%	19%	94%	4%	47%	32%	78%	75%
University Park -- MS Scores	59%	73%	3%	5%	95%	--	10%	41%	98%	97%
University Park -- HS Scores	59%	73%	3%	5%	95%	2%	10%	33%	97%	97%
Worcester Vocational HS	43%	66%	3%	19%	93%	4%	20%	38%	76%	60%
CHARTER SCHOOLS										
Abby Kelley Foster RCS -- ES	33%	32%	0%	10%	93%	--	16%	67%	82%	70%
Abby Kelley Foster RCS -- MS	33%	32%	0%	10%	93%	--	16%	47%	98%	67%
Abby Kelley Foster RCS -- HS	33%	32%	0%	10%	93%	--	16%	--	100%	95%
Seven Hills CS -- ES	65%	59%	7%	8%	96%	--	18%	41%	88%	73%
Seven Hills CS -- MS	65%	59%	7%	8%	96%	--	18%	53%	99%	67%

Source: MA Department of Education and Worcester Public Schools.

CCPM Advisory Committee

The Research Bureau gratefully acknowledges the following individuals for their advice and assistance during the development of this project:

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	Dave Johnson	Quinsigamond Village
	Mary Keefe	Crown Hill
	Edith Morgan	Brittan Square
	Marge Purves	Crown Hill
	Sue Swanson	Columbus Park

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