

## Introduction

The Massachusetts Education Reform Act (“MERA”) was approved by the legislature of the Commonwealth in 1993. MERA was designed as a comprehensive and multi-targeted effort to address the needs of a complex and interdependent K-12 educational system. Thus, the legislation provided for a broad range of changes in numerous areas, including finance, curriculum standards, assessment, accountability, and the respective roles of the state versus local districts.

The Massachusetts Education Reform Review Commission (“MERRC”) was established within MERA to provide objective, policy-relevant research and analysis regarding MERA’s implementation. Under a research contract with MERRC, the Center for Education Policy of the University of Massachusetts Amherst School of Education has produced this comprehensive report on the progress to date of Education Reform in Massachusetts.

**Goals and Organization of the Report.** The report has three main goals: (1) to develop an appropriate set of primarily quantitative indicators for reporting on the progress of Education Reform; (2) to collect and analyze existing data (secondary data) in the indicator areas from multiple sources and present it in a format useful to policymakers, journalists, and researchers; and (3) to identify any data gaps that might be usefully filled through future research, including primary data collection. Unlike other reports, such as the Annual Report of the Massachusetts Board of Education, this report is focused on MERA itself, rather than the annual goals of any one institution.

The report is organized in five sections: the **context** of Education Reform, **finance** aspects of Education Reform, **standards**-based reforms, **student achievement** and gaps, and **capacity** for Education Reform at state and local levels. Within each of these sections, key indicators are framed as questions, for which the researchers have gathered available data to provide answers.

**About the Data.** In general, the data for this report were those most current and available as of May 2002. During the revision process, more recent data on the Massachusetts Comprehensive Assessment System (MCAS) results for the Class of 2003 have been included. Also, to make financial trends easier to understand, all dollar figures have been adjusted for inflation into 2001 dollars, based upon the Consumer Price Index. Because of changes in data collection and analysis, in some instances it was difficult to obtain comparable data prior to or back to the passage of MERA in 1993.

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**A Note on Income Categories Used in this Report.** For this report, we felt that it was critical to analyze performance on various indicators according to income. Given the data available, we have done this at the district level, dividing the state's districts into five income categories, according to the percentage of their students who are eligible for free and reduced-price school lunches in 2001.<sup>1</sup>

Our district categories include 327 of the state's 373 operating districts. We excluded the 43 charter schools (because eligibility for free or reduced lunch was either not consistently reported or not reported at all prior to 2002), the institutional schools, and two extremely small districts<sup>2</sup>.

**TABLE Intro.1: DETAIL OF DISTRICT INCOME CATEGORIES**

<b>District Category</b>	<b>Percentage of Students Eligible for Free/Reduced Price Lunches</b>	<b>Total Enrollment</b>	<b>Enrollment as a Percentage of Total State Enrollment</b>	<b>Number of Districts</b>
<b>Highest Income</b>	Less than 5%	173,734	18.1%	73
<b>High Income</b>	5%-10%	208,126	21.7%	93
<b>Middle Income</b>	11%-23%	204,244	21.3%	101
<b>Low Income</b>	24%-49%	193,726	20.2%	50
<b>Lowest Income</b>	50% or more	178,619	18.6%	10
<b>Total</b>				<b>327</b>

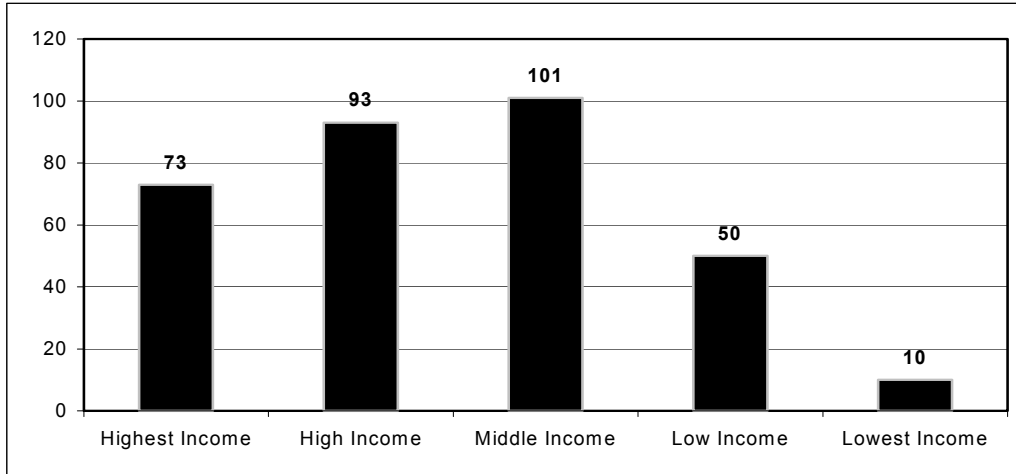
<sup>1</sup> According to the guidelines for the federally assisted school lunch program, children in families whose income is 130% of the poverty-level income, or less, are eligible for free school lunches. Children in families whose income is 185% or less of the poverty level are eligible for reduced-price school lunches.

<sup>2</sup> Gosnold has only two students; Manchester-Essex technically exists as a district but has no students.

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We designed our categories so that they would have comparable numbers of students in them while also grouping similar districts together. The number of districts in each category differs significantly because the size of districts varies greatly. Boston has over sixty thousand students, but there are also many districts with fewer than one thousand students.

**FIGURE Intro.1: NUMBER OF DISTRICTS IN EACH INCOME CATEGORY**



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## Part I. The Context for Education Reform

This section provides information on the underlying context of public education in Massachusetts within which MERA is operating. The section summarizes characteristics of the Commonwealth's schools and districts, its educator workforce, and its student population.

### 1. School Districts and Schools

#### *How many school districts are there in Massachusetts?*

According to the Massachusetts Department of Education, there are 481 districts in the Commonwealth of Massachusetts. This includes 108 non-operating districts<sup>3</sup>, 55 regional school districts (not including the vocational schools, most of which are also regional), 43 charter schools, and 30 vocational-technical or agricultural high schools (DOE considers charter schools and vocational-technical schools to be their own school districts). DOE also counts the Commonwealth's institutional schools (programs for children who are receiving educational services while hospitalized) as one district. The large majority of the operating districts (245) serve a single town.

Districts differ in the grade levels they include. There are 206 districts that include kindergarten through twelfth grade, 72 that offer only the elementary grades or kindergarten through eighth grade, 15 that offer only middle- and high-school grades, and 34 that operate only high schools. Of the high-school only districts, 30 are vocational schools. The 43 charter schools have a variety of configurations, ranging from a single grade to K-12.

#### *How many schools are there in Massachusetts?*

According to the Board of Education's 2001 Annual Report, there were 1,903 public schools in the state during the 2000-01 academic year. Most of them (1,270) were elementary schools, with 282 middle schools and junior high schools and 318 secondary schools. The remaining 33 had other grade configurations.

#### *How big are most Massachusetts schools?*

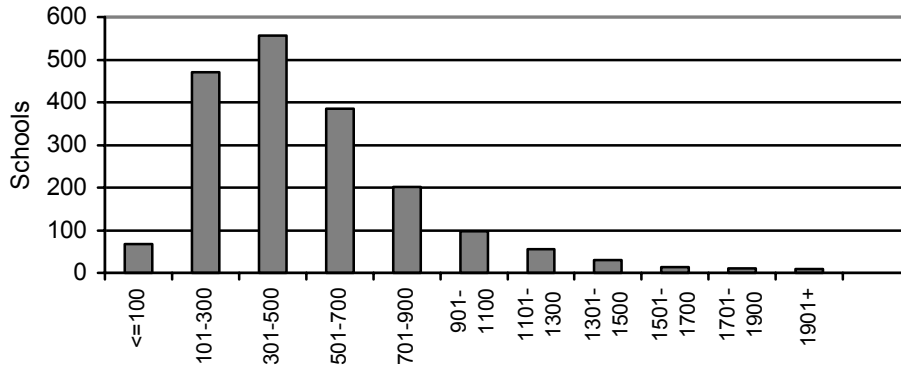
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<sup>3</sup> Towns with non-operating school districts either participate in a regional district or pay tuition for their children to attend school in nearby districts.

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Most schools in Massachusetts have between 100 and 500 students, according to the Board of Education’s 2001 Annual Report. Fewer than 100 schools are smaller than 100 students. There are also fewer than 100 schools larger than 1,300 students.

**FIGURE 1.1: MASSACHUSETTS SCHOOLS BY SIZE, 2000-01**



***What is the age and quality of school buildings?***

According to the Massachusetts School Building Assistance Program’s Administrative Advisory #02-1, the Department of Education “does not keep a working inventory of the condition, size, or age of Massachusetts school buildings.”

A policy report by the Massachusetts School Building Assistance Program cited studies of states’ school facilities programs, which were released by the United States General Accounting Office (GAO) in 1995 and 1996.<sup>4</sup> According to the GAO, Massachusetts ranked 8<sup>th</sup> among the states on per-pupil spending for school buildings. However, 41% of Massachusetts districts reported that they had at least one “inadequate” building and 75% of schools reported at least one inadequate building feature. An “inadequate” building is one “in need of extensive repair or replacement,” and “inadequate building features” include damage to “roofs, framing, floors and foundations; exterior walls, finishes, windows, and doors; interior finishes and trims; plumbing and heating; ventilation and air conditioning, electrical power, electrical lighting and life safety codes.”<sup>5</sup>

In FY2001 there were approximately \$180 million worth of projects on the state’s waiting list. In that fiscal year the legislature approved about \$55 million of new projects, which covered approximately 30% of projects on the waiting list. In FY2002, projects on the waiting list rose dramatically, to \$274 million of new projects, while legislative funding dropped to \$20.2 million, or 7% of projects on the waiting list. Overall expenditures on new and existing projects did rise, however, from \$319 million to \$365 million, between FY2001 and FY2002.

<sup>4</sup> See “Reconstructing the School Building Assistance Program” online: <http://www.state.ma.us/coaf/PolicyReports/sbap/sbapVb.htm>

<sup>5</sup> School Facilities: Profiles of School Condition by State, GAO/HEHS-96-148. Cited in “Reconstructing the School Building Assistance Program.”

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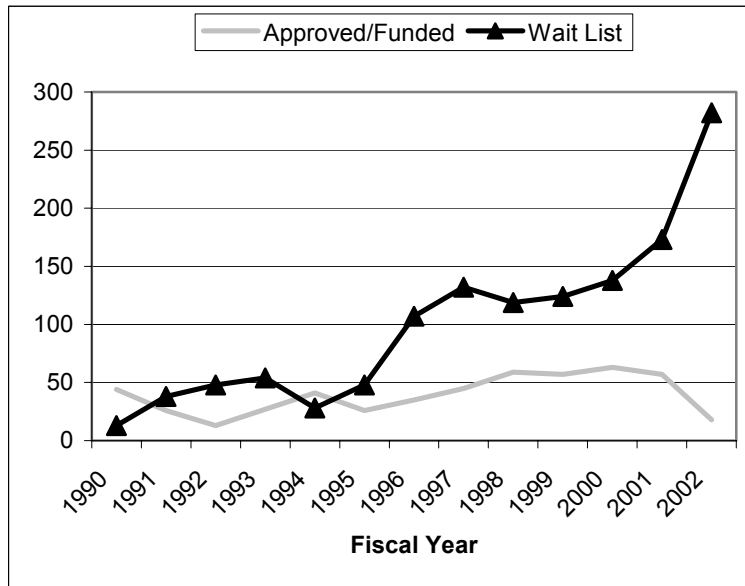
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**TABLE 1.1: SCHOOL BUILDING ASSISTANCE PROGRAM DATA FY90 – FY02**

Fiscal Year	Projects			Funding (in millions)			
	On File	Approved	Waiting	Needed for All Projects	Available for New Projects	Needed for Waiting List	Amount Expended
1990	57	44	13	\$33.0	\$25.0	\$8.0	\$125.5
1991	64	26	38	\$32.0	\$17.6	\$14.4	\$128.3
1992	61	13	48	\$31.0	\$8.9	\$22.1	\$144.9
1993	81	27	54	\$39.0	\$15.5	\$23.5	\$148.1
1994	69	41	28	\$31.0	\$15.5	\$15.5	\$157.7
1995	74	26	48	\$50.6	\$17.0	\$33.6	\$166.5
1996	142	35	107	\$105.7	\$20.6	\$85.1	\$180.1
1997	177	45	132	\$112.0	\$33.0	\$79.0	\$188.1
1998	178	59	119	\$130.5	\$34.0	\$96.5	\$212.5
1999	181	57	124	\$140.5	\$44.0	\$96.5	\$233.1
2000	201	63	138	\$188.9	\$53.4	\$135.3	\$276.0
2001	231	57	173	\$231.2	\$55.1	\$180.1	\$318.6
2002	300	18	282	\$294.7	\$20.2	\$274.5	\$365.0

Since FY1990 the number of projects on the waiting list have increased, while the number of approved projects have dropped.

**FIGURE 1.2: CAPITAL PROJECT STATUS, FY90 – FY02**

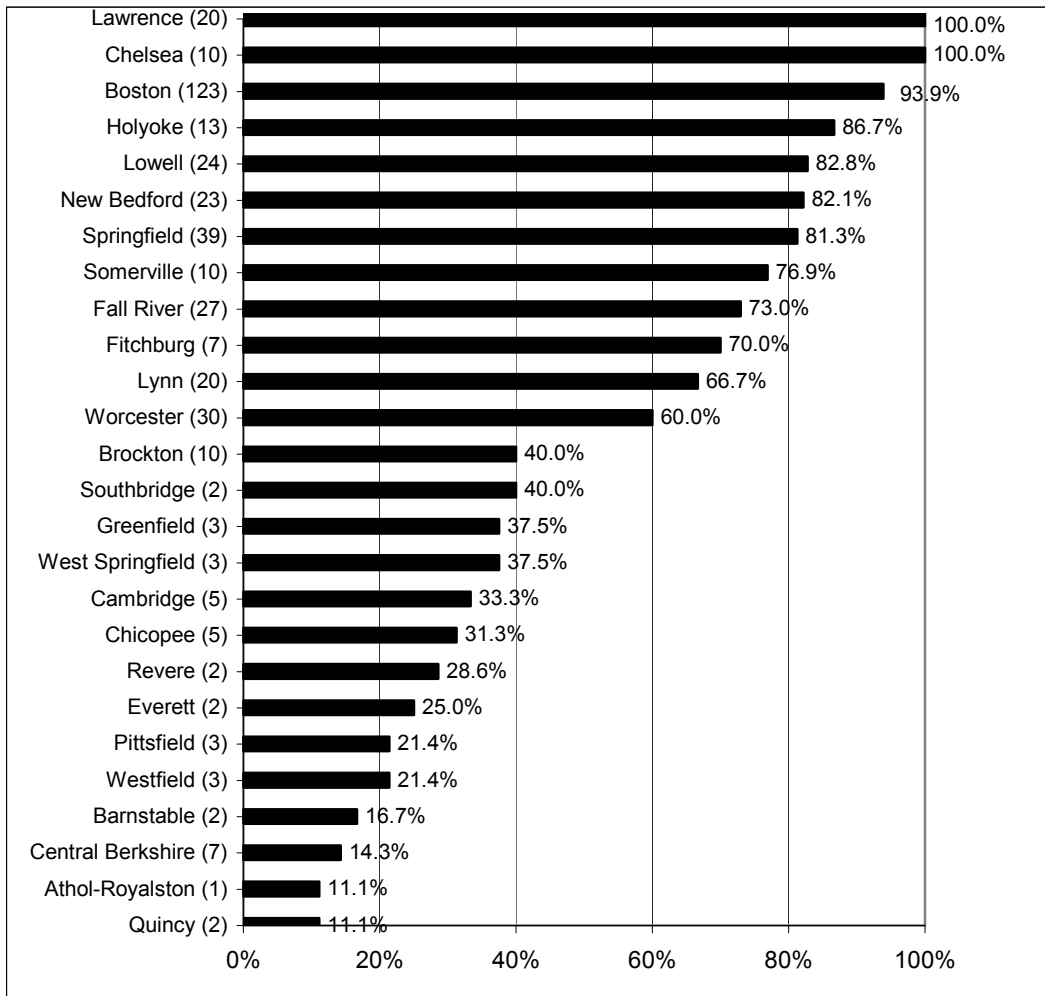


*How many schools have concentrations of poverty?*

Children who come from economically disadvantaged households often require more services, or have more difficulty with school, than children who are not poor. The greater the proportion of poor children who attend a school, the greater the challenges the school faces in educating all its students, whether or not they are poor (Puma, et. al, 1993).<sup>6</sup>

If we consider a school with 50% or more of its students eligible for free or reduced-price lunches to have a concentration of poverty, then according to 2000-01 data, 409 of 1,903 Massachusetts schools (21%) have concentrated poverty. Almost one-third of these schools are in Boston.

**FIGURE 1.3: PERCENT OF SCHOOLS WITH CONCENTRATED POVERTY, BY DISTRICT, 2000-01**

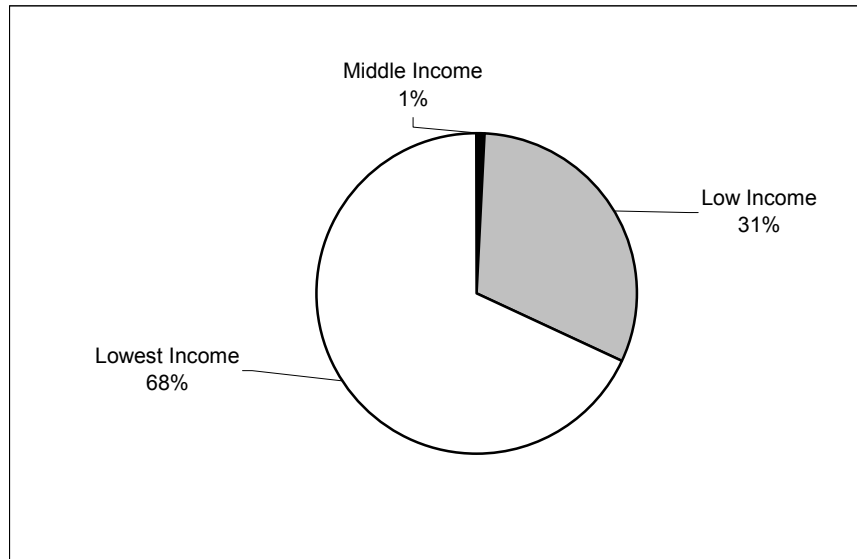


*Numbers in parentheses indicate the 2000-2001 numbers of schools with concentrated poverty (50% or more of students eligible for free or reduced-price lunches) within a district. The following districts each had one school with concentrated poverty: Framingham, Haverhill, Malden, Medford, North Adams, Orange, and Salem.*

<sup>6</sup> Puma, M.J., Jones, C.C., Rock, D., and Fernandez, R., for Abt Associates (1993). Prospects: The Congressionally Mandated Study of Educational Growth and Opportunity: Interim Report. Washington, DC: U.S. Department of Education.

Although about three in four schools with concentrated poverty are in the lowest-income districts (i.e. those with 50% or more of their students eligible for free and reduced-price lunches), the remainder are in districts where less than 50% of students are eligible for free and reduced-price meals. One school with concentrated poverty is Greater Lawrence Technical School, which appears in our analysis as its own school district in the “lowest income” category.

**FIGURE 1.4: DISTRIBUTION OF SCHOOLS WITH CONCENTRATED POVERTY BY DISTRICT CATEGORY, 2000-01**



***What proportion of students in charter schools are eligible for free and reduced-price lunches?***

According to data provided by the Massachusetts Department of Education, students in charter schools are somewhat more likely than public school students statewide to be eligible for free and reduced-price lunches. However, a previous report by the Massachusetts Education Reform Review Commission on charter schools found that while charter schools do serve low-income students at a higher rate than the state average, some actually serve these students at a lower rate than their sending communities.<sup>7</sup> More research is needed to clarify this area.

We can separate the charter schools for which eligibility data were available into the same categories we used above for school districts. Most of them fall into the “high poverty” and “highest poverty” categories.

<sup>7</sup> Wood, Jennifer (1999) “An Early Examination of the Massachusetts Charter School Initiative” Massachusetts Education Reform Review Commission, retrieved from <http://www.massedreformreview.org/research/charters.htm> on October 27, 2001.

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**TABLE 1.2: Charter School Enrollment by Income Category**

Sending-District Income Category	Total Enrollment	Percentage of Enrollment by Income Category	Number of Charter Schools*
Highest Income (< 5% F/RL)	1948	14.3%	3
High Income (5-10% F/RL)	378	2.8%	2
Middle Income (11-23% F/RL)	1868	13.7%	6
Low Income (24-49% F/RL)	3650	26.8%	10
Lowest Income (50%+ F/RL)	5790	42.5%	15
Total			36

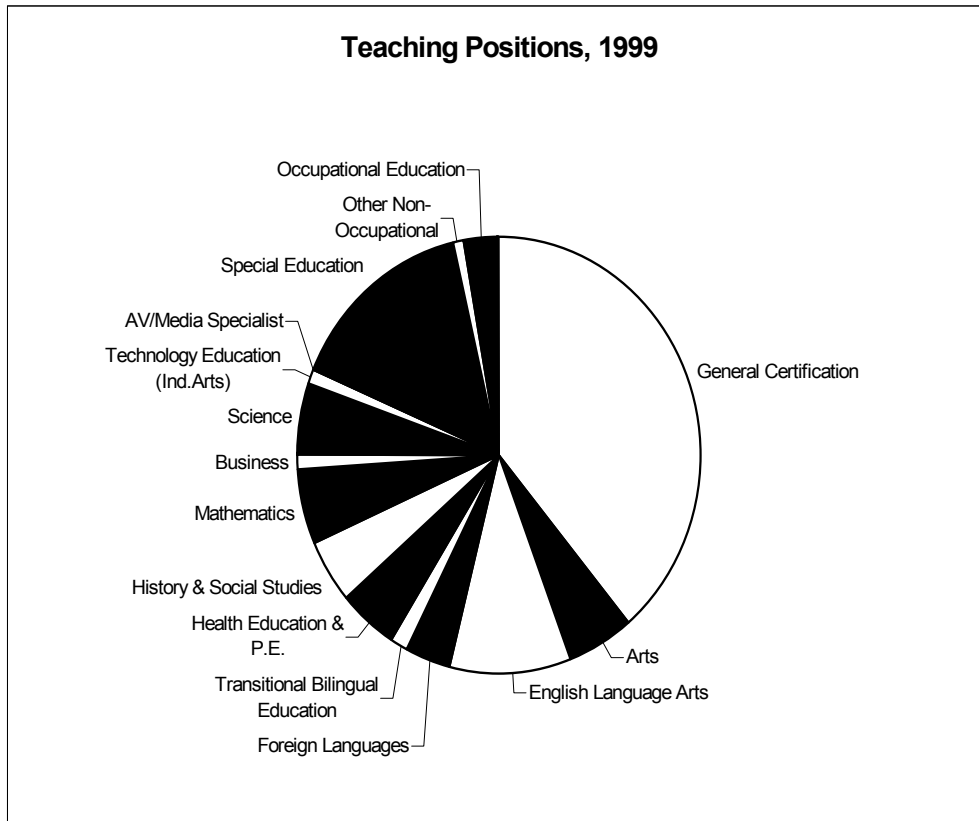
*\*Data were not available for all charter schools.*

## 2. Teachers and Administrators

According to the Department of Education’s 1999 “October 1 Report” (the most recent we were able to obtain), there were 71,412.6 full-time equivalent (FTE) teachers working in Massachusetts. The number of individuals working as teachers is larger than the FTE figure, because some teachers work part-time.

The largest single group of teachers (28,625.1 FTE, or 40.1%) were in generalist positions, including elementary education, middle school, and early childhood education. The second largest group was special education (10,882.4 FTE, or 15.2%).

FIGURE 1.5 TEACHING POSITIONS, 1999



In 1999, there were 5,199.6 FTE administrators and 10,054.1 FTE support staff working in Massachusetts schools and districts. Administrators include principals, assistant principals, supervisors, directors, and superintendents. Support staff include aides, tutors, counselors, librarians, media specialists, psychologists, social workers, and substitute teachers.

***What is the student-teacher ratio? What have been recent trends in student-teacher ratios?***

The student-teacher ratio is the number of students for each teacher in a district. Lower student-teacher ratios are understood to be better than higher ones, because many studies have shown that students in smaller classes do better academically.<sup>8</sup>

In this report, we use the Department of Education’s official definition of student-teacher ratio. Prior to 1999, DOE calculated the student-teacher ratio by dividing the number of students in pre-kindergarten through twelfth grade by the number of full-time equivalent teachers. Since 2000, DOE has defined the student-teacher ratio as the number of pre-kindergarten through twelfth-grade

<sup>8</sup> For an example, see Finn, J.D., Gerber, S.B., Achilles, C.M., Boyd-Zaharias, J. (2001). The Enduring Effects of Small Classes. Teachers College Record 103: 145-83.

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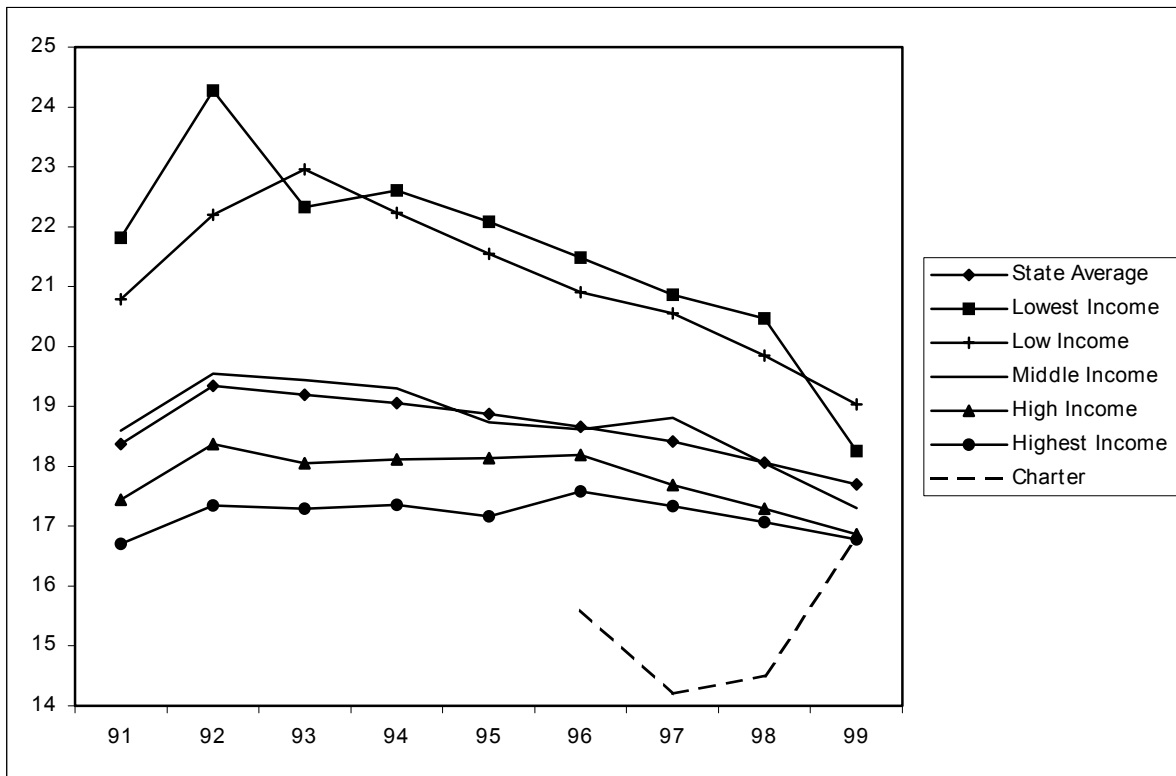
students divided by the number of full-time teachers plus 0.54 times the number of part-time teachers in the district.<sup>9</sup>

Statewide, the average student-teacher ratio was 17.7 in 1999, which represents an improvement over 19.2 when Education Reform was passed in 1993.

All five district categories, from low income to high income, have decreased their average student teacher ratios from 1993-1999.

The highest income districts have the lowest student teacher ratio, 16.7, with Charter schools a close second at 16.8. The low-income districts have the highest student teacher ratio at 18.25 in 1999. However, the lowest-income and low-income districts have reduced their student-teacher ratios the most since 1993. Charter school student-teacher ratios have actually increased.

FIGURE 1.6: STUDENT-TEACHER RATIOS IN MASSACHUSETTS, 1991-1999

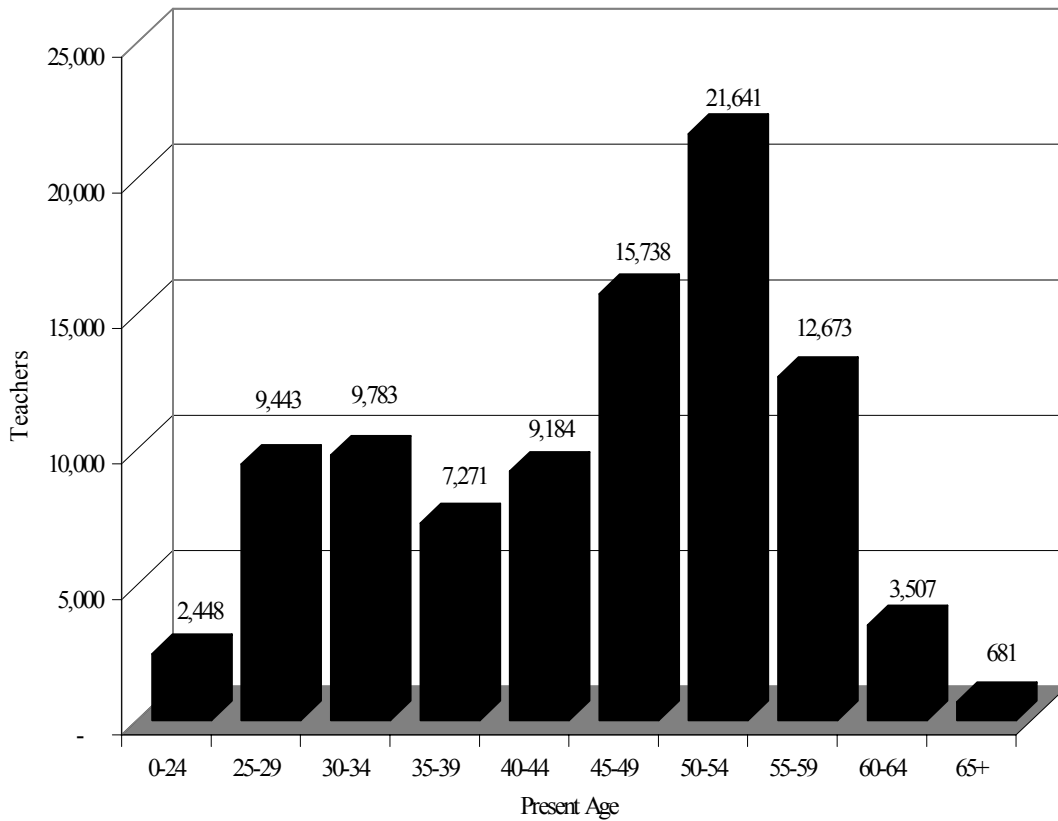


<sup>9</sup> This definition was provided by Robert Lee at the Massachusetts Department of Education. DOE arrived at the new formula for the number of teachers by analyzing data from the October 1 Reports. The analysis indicated that the average part-time teacher worked 0.54 time.

*Is there a teacher shortage? What are the trends in teacher supply and demand?*

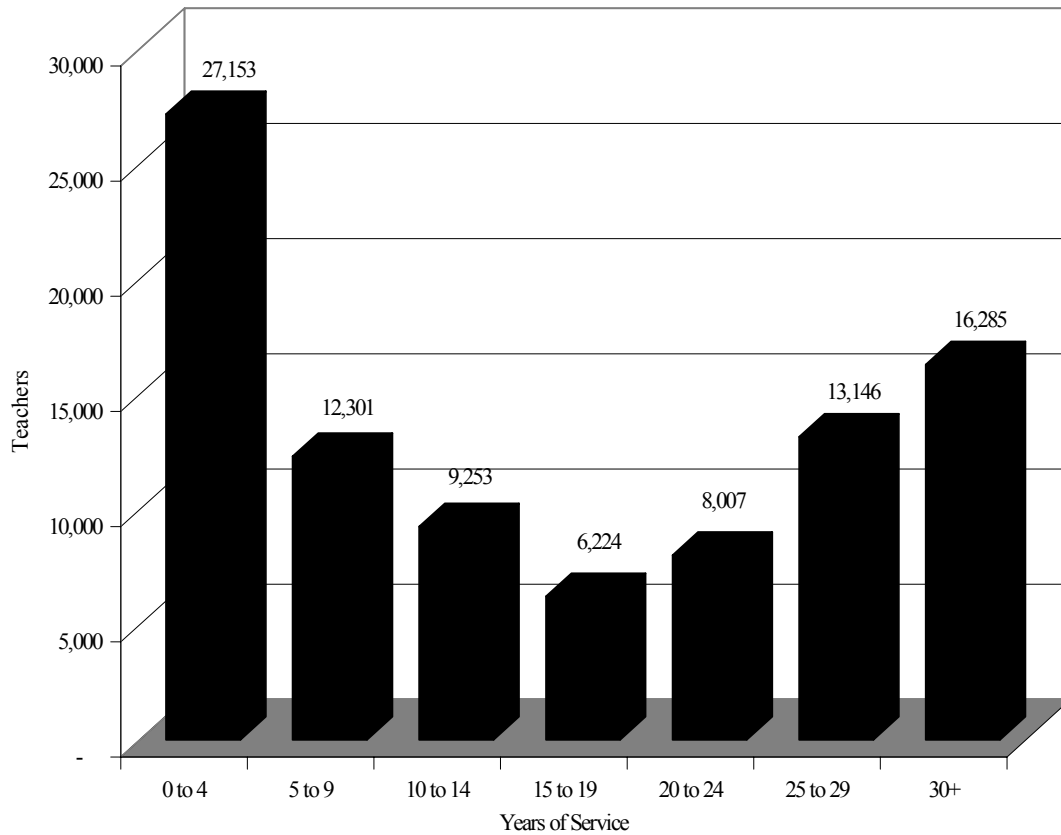
According to data reported in a February, 2002 report issued by the Massachusetts Education Reform Review Commission, 41% of current Massachusetts teachers are age 50 or over, and 43% have 20 or more years of service. About 35,000 teachers (or approximately half of the 1999 FTE total) will probably be retiring over the course of the next decade.<sup>10</sup>

**FIGURE 1.7: AGE DISTRIBUTION OF MASSACHUSETTS TEACHERS, 2000-2001**



<sup>10</sup> Abeille, A., Hurley, N., & Nesbitt, J. (2002) *Teacher Supply and Career Development: Positive Pathways for Massachusetts*. Report prepared for the Massachusetts Education Reform Review Commission. Online: <http://www.massedreformreview.org/research/pdf/TS&D.pdf>

FIGURE 1.8: YEARS OF EXPERIENCE OF MASSACHUSETTS TEACHERS, 2000-2001



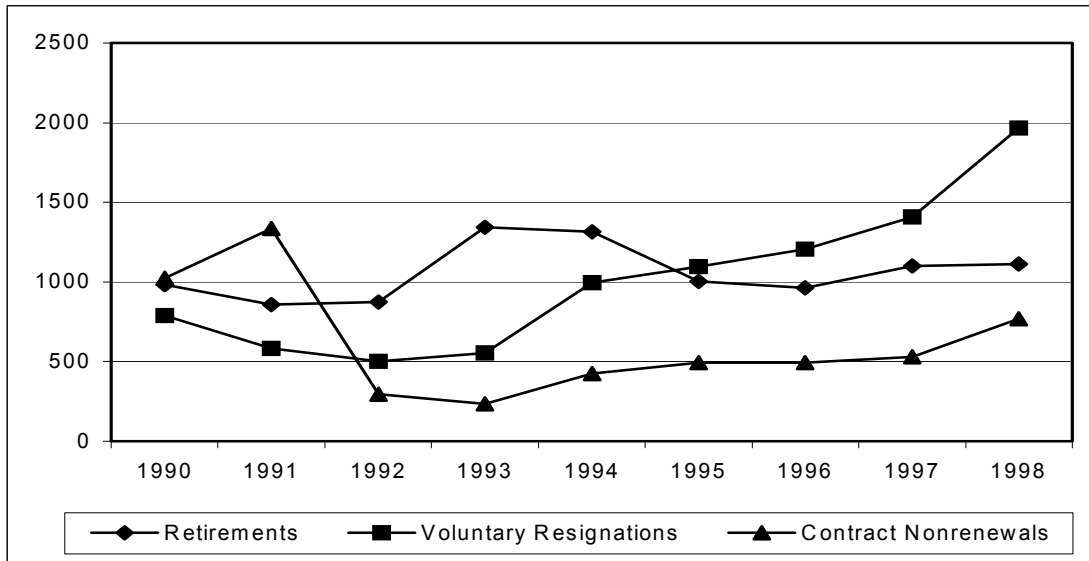
Data on teacher supply and demand have not traditionally been collected, either for the Commonwealth of Massachusetts or for the U.S. as a whole. The data below come from the Massachusetts Department of Education’s “October 1 Reports.” The format for these reports changed between 1998 and 1999, and the most recent report we have available is 1999.

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*Teachers Leaving Positions*

Between 1990 and 1998, the data on teachers' departures from their jobs presents a mixed picture. Retirements increased slightly over the entire time period, but peaked in 1993 and 1994. Voluntary departures, not including retirements, increased steadily between 1992 and 1998. There were more contract non-renewals in 1990 and 1991 than in any post-Education Reform year.

**FIGURE 1.9: TEACHER DEPARTURES, 1990-1998**



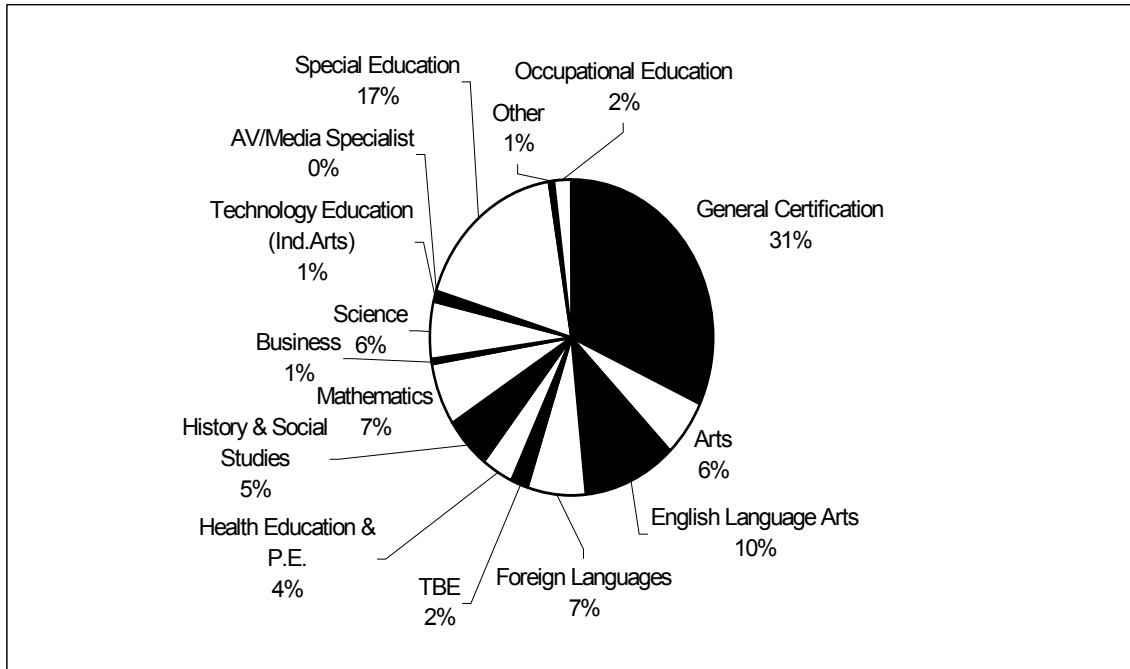
Beginning in 1999, DOE used a different format for the October 1 Reports, which includes voluntary and involuntary departures but does not have separate categories for retirements and contract non-renewals. In 1999, the overall rate of voluntary departure for teachers was 4.7%, and the rate of involuntary departure was 0.6%. These figures appear generally consistent with the earlier trends. In 1998, the combined rate of retirements and voluntary departures was 3.8% and the rate of contract non-renewal was 0.9%.

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*Teachers Entering Positions*

In 1999, the most recent year for which we have data, the largest category of teachers hired was “general certification” (including early childhood and elementary teachers and middle school generalists). There were 2,245 FTE positions filled with generalists in 1999. The next two largest categories were special education (1,241 FTE) and English Language Arts (753 FTE).

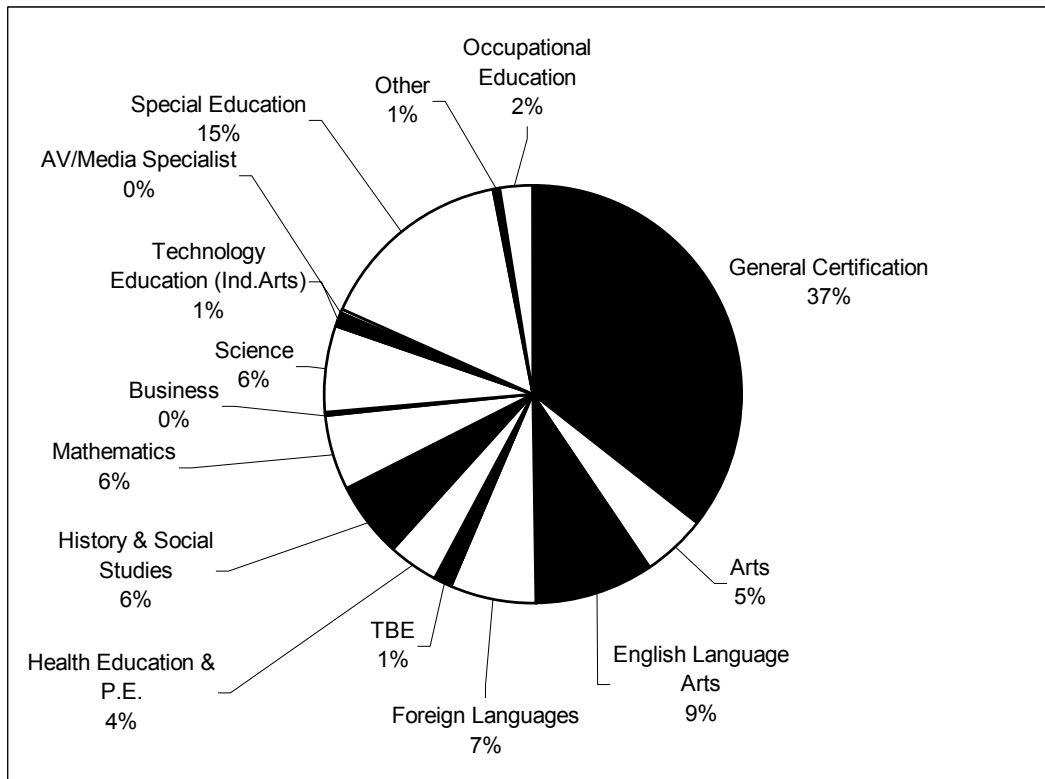
**FIGURE 1.10: TEACHER POSITIONS FILLED, 1999**



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Of the teachers hired in 1999, 32.1% were new to the teaching profession. The newcomers were distributed among the subject categories in much the same pattern as the other new hires.

FIGURE 1.11: TEACHERS NEW TO THE PROFESSION, 1999



Research has shown that teacher shortages do not generally manifest themselves as vacant positions. For a variety of reasons, including the need to maintain a safe environment in school buildings and the need to maintain mandated student-teacher ratios, schools rarely leave positions vacant. A recent study by the Center for Labor Market Studies at Northeastern University (Fogg & Harrington, 2001) found that the Fall, 2000 vacancy rate for teaching positions in Massachusetts was only 0.8%. Special education positions and secondary-level positions were slightly more likely to be vacant.

Instead of vacancies, teacher shortages are more likely to take the form of hiring uncertified educators, or educators who are certified in fields other than the ones in which they are teaching. These and other teacher quality issues will be discussed in Section IV of this report.

***Are there administrator shortages?***

Anecdotal data about the difficulty of filling administrative positions abound. Currently, the best source of state-level data on the administrative work force is a survey conducted jointly by the Massachusetts Department of Education and the administrators' professional associations during

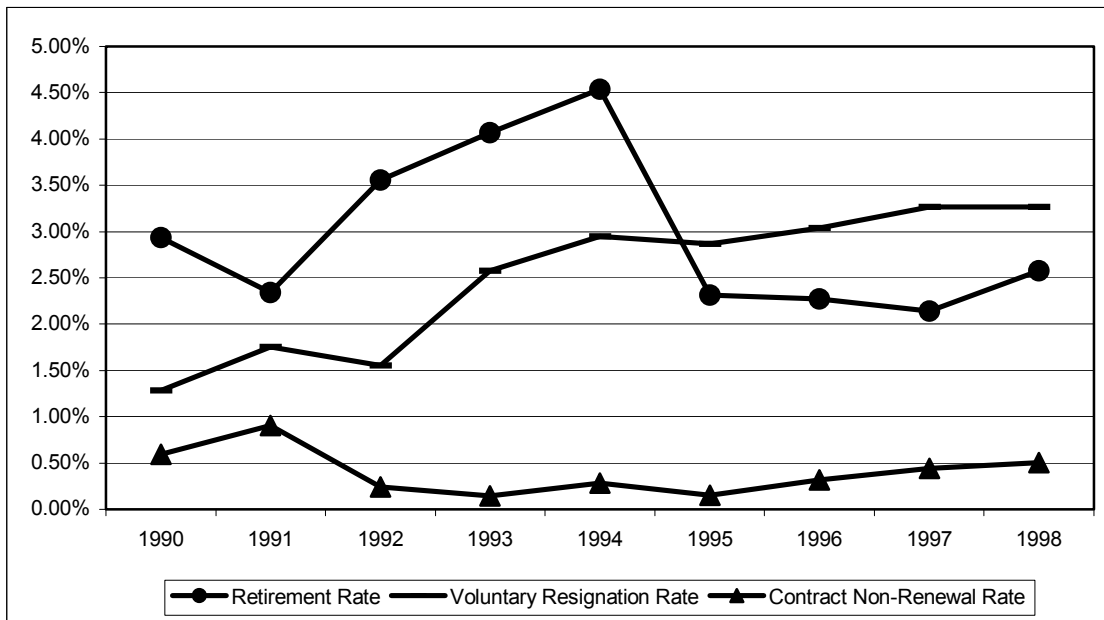
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the summer and fall of 2001. The Massachusetts Education Reform Review Commission also published a study of administrator supply and demand in 2001.<sup>11</sup>

*Administrators Leaving Positions*

Between 1990 and 1998, the retirement rate for principals (the number retiring as a percentage of the total number) peaked in 1994, but began increasing again after reaching a low in 1995. The rate of voluntary resignations increased over the time period. The rate at which principals' contracts are not renewed increased, but remained quite low.

**FIGURE 1.12: PRINCIPALS LEAVING POSITIONS, 1990-1998**



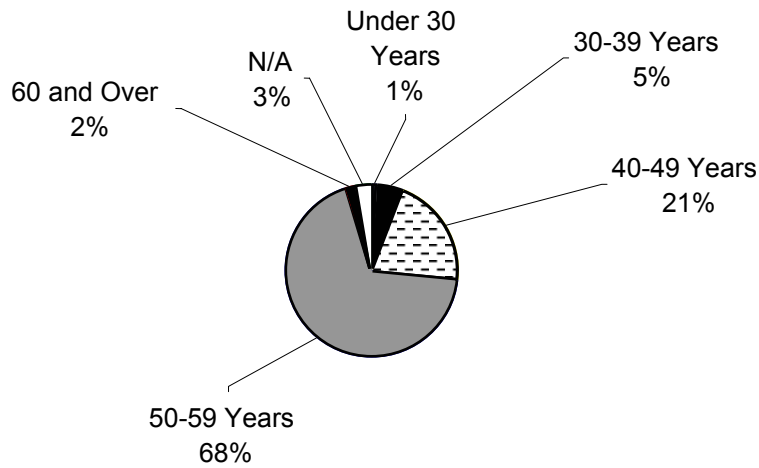
Beginning in 1999, DOE used a different format for the October 1 Reports, which includes voluntary and involuntary departures but does not have separate categories for retirements and contract non-renewals. In 1999, the rate of voluntary departure for all principals and assistant principals was 5.9%. The rate of involuntary departure was 0.5%. Both of these figures are consistent with the trends seen between 1990 and 1998.

A surge in principal departures appears to be on the horizon. According to the 2001 Department of Education survey, 70% of Massachusetts public-school principals are over the age of 50, and 40% are planning to retire by 2005.

<sup>11</sup> Abeille, A., Hurley, N., & Nesbitt, J. (2001). Leadership Challenges: Supply and Demand in Massachusetts Schools. Report prepared for the Massachusetts Education Reform Review Commission. Online: <http://www.masseducationreformreview.org/research/pdf/leaders.pdf>.

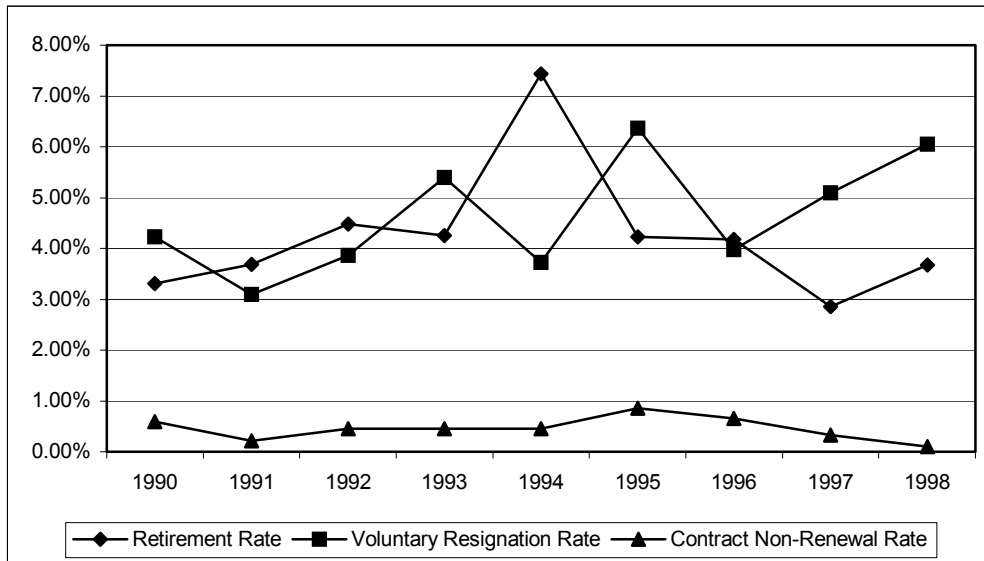
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FIGURE 1.13: AGE OF MASSACHUSETTS PUBLIC SCHOOL PRINCIPALS, SUMMER 2001



Between 1990 and 1998, the retirement rate for superintendents and assistant superintendents peaked in 1994. Beginning in 1995, the rate of voluntary resignation exceeded the retirement rate. For 1999, superintendents' rate of voluntary departure was 5.0% and their rate of involuntary departure was 0.2%. This seems to indicate a slight drop in voluntary departures, but changes in the DOE's reporting format make it difficult to know for sure.

FIGURE 1.14: SUPERINTENDENT DEPARTURES, 1990-1998



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*Administrators Entering Positions*

The number of people expressing interest in principal positions has decreased. 56% of the superintendents surveyed for the MERRC study said that there were more openings and fewer applicants for principal positions in 2001 than prior to Education Reform (Abeille, Hurley, & Nesbitt, 2001). Open positions attract smaller and less-qualified applicant pools than before. As with teacher shortages, administrator shortages are more likely to manifest themselves as quality (or qualification) problems than as unfilled positions (Lee-Davis, 2002). Principals' job satisfaction is also a problem. According to the Department of Education survey, 47% of principals between the ages of 30 and 49 consider leaving their jobs at least occasionally, and 10% consider leaving on a daily or weekly basis (Lee-Davis, 2002). The overwhelming responsibilities and time demands of the principalship emerged as more important causes of dissatisfaction than did salary (Lee-Davis, 2002).

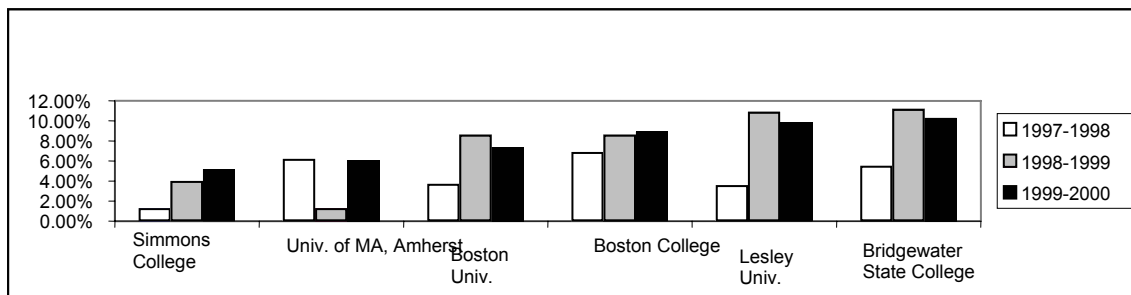
***Where were Massachusetts teachers trained?***

Ideally, it would be possible to obtain data on where each teacher currently working in Massachusetts was trained. Such data do not currently exist. The closest approximation to it is the institutional affiliation that teachers report when they take the Massachusetts Test for Educator Licensure (formerly the Massachusetts Educator Certification Test), which was first administered in 1998. This information does not tell us where all the current teachers were trained, but it does tell us which colleges and universities the most recent groups of aspiring teachers attended.

When the test was first given, about a third of test takers listed themselves as unaffiliated with a college or university, but the number of unaffiliated test takers has since fallen dramatically to 2% in 1999-2000 (the most recent year for which we could obtain data for this report). In 1999-2000, 59% of test takers were affiliated with private colleges and universities, and 39% with public colleges and universities.

The largest single source of 1999-2000 test-takers was a public institution, Bridgewater State College. Four of the five other largest sources of test-takers were private institutions.

**FIGURE 1.15: INSTITUTIONS SUPPLYING 5% TO 10% OF TEACHER TEST TAKERS**



Twenty-four other colleges and universities each accounted for between 1% and 4% of test takers in at least one year. Among this group, some of the larger proportions of test takers came from Fitchburg State College, Framingham State College, the Harvard Graduate School of Education, Salem State College, the University of Massachusetts at Boston, Westfield State College, and

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Wheelock College. Thirty-two other colleges and universities had small numbers of students taking the test.<sup>12</sup>

If we look only at the numbers of students passing the test, as opposed to all test takers, the same institutions appear on the list of main sources of teachers. Bridgewater State College had the largest number of students passing, followed by Lesley University, Boston College, Boston University, the University of Massachusetts at Amherst, and Simmons College. More information on MTEL pass rates appears in Part IV of this report.

An increasing number of teachers are being prepared through the Massachusetts Institute for New Teachers (MINT), an accelerated program for college graduates without an education background. In 2000, 165 new teachers graduated from the program. This is more than graduated from most of the state's higher-education-based teacher preparation programs in that year.<sup>13</sup> In 2002, MINT produced 210 new teachers.

***How have teacher salaries changed since Education Reform? How does Massachusetts teacher pay vary across types of districts?***

At first glance, teacher salaries in Massachusetts appear to have grown considerably in all district types and for the state as a whole since 1993. In fiscal year 1993, the state's average teacher salary was \$38,681. In fiscal year 2000, it was \$46,580. However, if we adjust these figures to take the overall level of inflation in the economy into account, the growth has been less dramatic. Converted into 2001 dollars,<sup>14</sup> the 1993 average salary was \$47,112 and the 2000 average salary was \$47,878. This represents an increase of less than 2%. Such a small increase could conceivably indicate an aging teacher workforce (teachers earn more as they accrue more years of service) rather than a change in the underlying salary structure for the field.

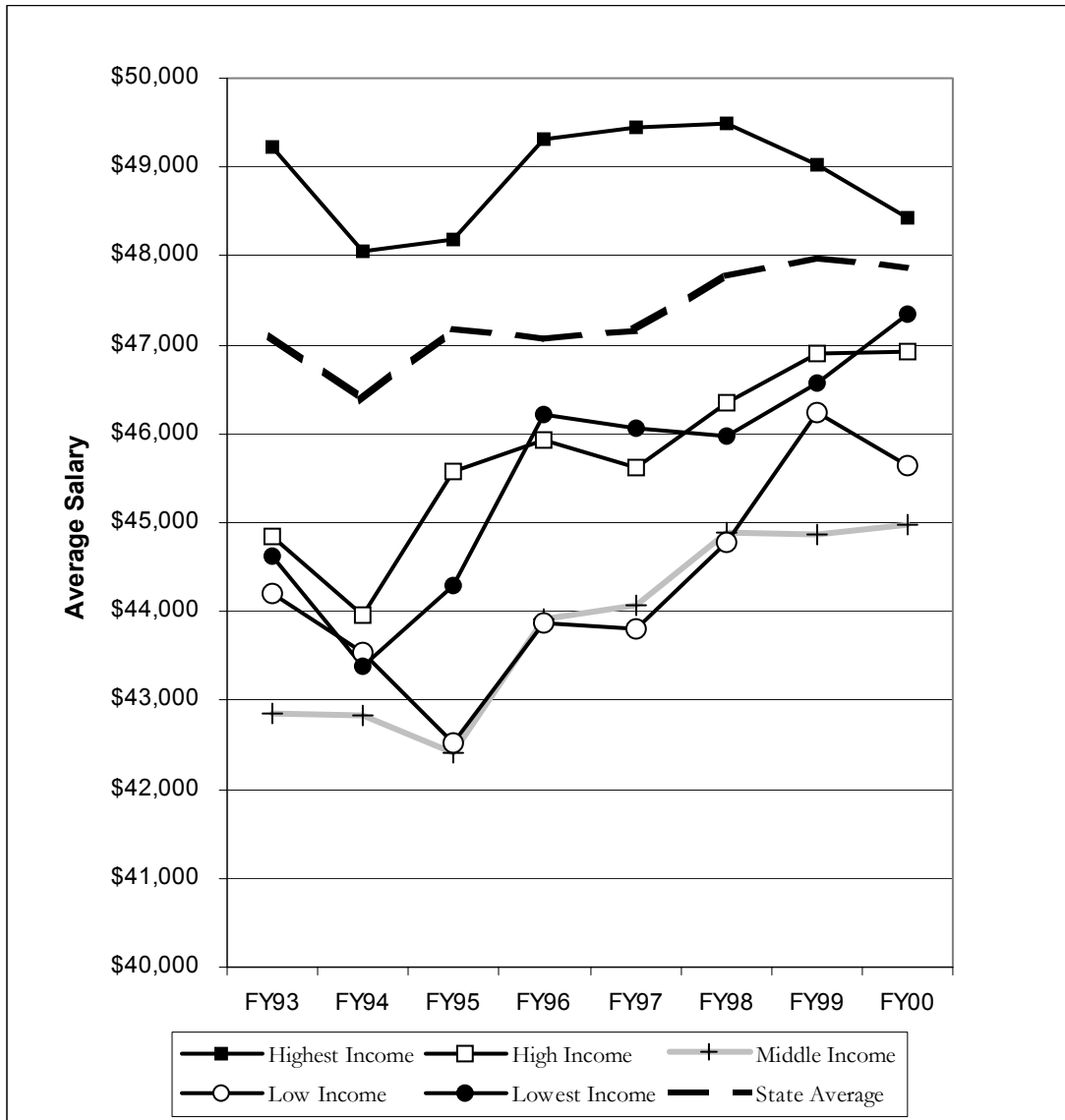
The chart below shows how teacher salaries in districts at different income levels have converged in the years since passage of the Education Reform Act. This narrowing can be seen by comparing the distance between the top line and the bottom line on the left side of the chart to the distance between the top and bottom lines on the right side of the chart. Note that the middle-income districts, not the lowest-income districts, have the lowest teacher salaries on average.

<sup>12</sup> Sources: [www.doe.mass.edu/mtel/results/9798/978sumcum.html](http://www.doe.mass.edu/mtel/results/9798/978sumcum.html) (1997-98), [www.doe.mass.edu/mtel/results/9899/summary.html](http://www.doe.mass.edu/mtel/results/9899/summary.html) (1998-99), [www.title2.org/cgi-bin/broker.exe](http://www.title2.org/cgi-bin/broker.exe) (1999-2000).

<sup>13</sup> In 1999, there were 59 MINT graduates. In 2001, there were 220.

<sup>14</sup> Annual salaries were converted to 2001 dollars using the U.S. Department of Labor's Consumer Price Index for the Northeastern region.

FIGURE 1.16: 2001 ADJUSTED AVERAGE TEACHER SALARIES BY DISTRICT CATEGORY



More specifically, in 1993, the wealthiest districts' average teacher salary (in 2001 dollars) was \$49,226, while the middle category of districts, which had the lowest average teacher salary, paid \$42,857. Thus, the gap was \$6,369. The gap between average salaries in the wealthiest and poorest districts was \$4,606. Stated a different way, in 1993 the teachers in the lowest-paying group of districts earned 87 cents for every dollar paid to their peers in the highest-paying group.

By 2000, the gap between the highest-paying category of districts and the lowest had narrowed to \$3,442 (in 2001 dollars) and the gap between salaries in the highest-income and lowest-income districts had narrowed to \$1,083 (in 2001 dollars). Teachers in the lowest-paying districts were earning 93 cents for every dollar paid to their peers in the highest-paying group.

Part I. THE CONTEXT FOR EDUCATION REFORM

The gaps have narrowed because average teacher salaries have changed in different ways in districts at different income levels. The highest-income districts' average teacher salary actually declined slightly between 1993 and 2000, while the other districts' average salaries rose. Average salaries rose the most in the lowest-income districts. The middle and medium-low income districts were paying the lowest average salaries in 1993, and despite increases, continued to pay the lowest average salaries in 2000.

Differences in average salaries across districts and district types do not necessarily mean that there are differences in the districts' pay scales. The salary differentials could also be the result of differences in teachers' levels of education (those with more degrees generally earn more money) or years of service in the district types.

***How do Massachusetts teacher salaries compare to those of other states?***

According to a report released by the American Federation of Teachers (American Federation of Teachers, 2002, Table I-1), Massachusetts' average teacher salary ranks eleventh in the U.S.. Looking at neighboring states, average teacher pay in Massachusetts is less than that of Connecticut, New York, and Rhode Island, but more than that of New Hampshire, Vermont, and Maine.

Massachusetts' average starting salary for teachers with a B.A. degree ranks tenth in the U.S., behind New York and Connecticut but ahead of Rhode Island, Vermont, New Hampshire, and Maine (American Federation of Teachers, 2002, Table III-1).<sup>15</sup>

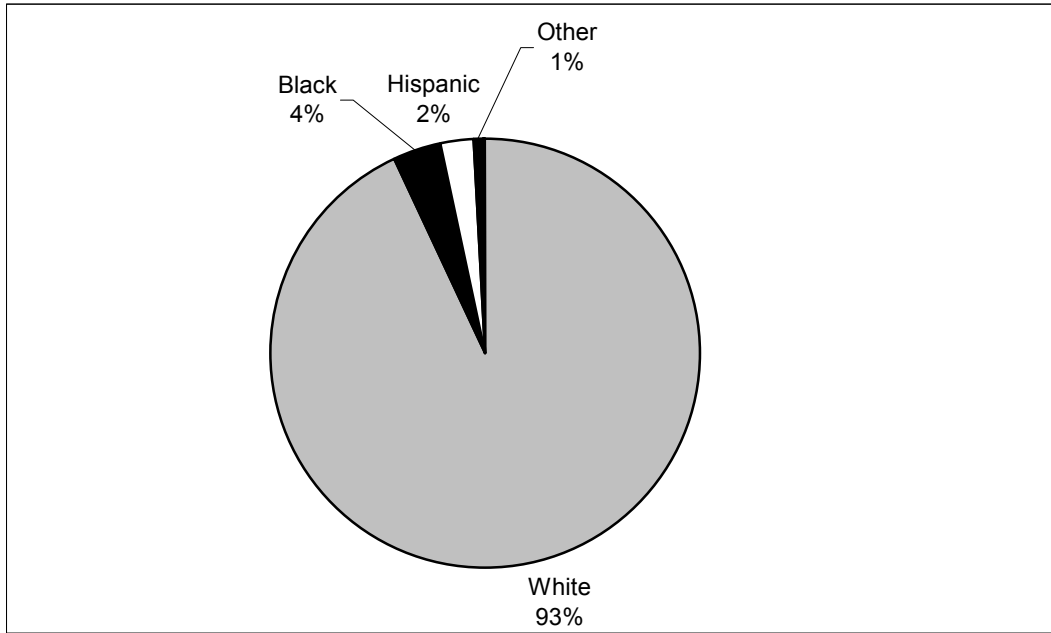
***What is the racial and ethnic composition of the Massachusetts teacher workforce? How does it compare with the racial and ethnic composition of the student population?***

The "typical" Massachusetts public school teacher is a white woman. As of 2001, the Massachusetts teacher workforce was about 93% white, a proportion which has dropped only slightly since 1995. A large majority of the state's teachers (72%) are women. This proportion has increased slightly since 1995, when 70.0% of teachers were women.

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<sup>15</sup> American Federation of Teachers (2002). AFT Survey and Analysis of Teacher Salary Trends 2001. Online: [http://www.aft.org/convention/download/01survey\\_tables.pdf](http://www.aft.org/convention/download/01survey_tables.pdf).

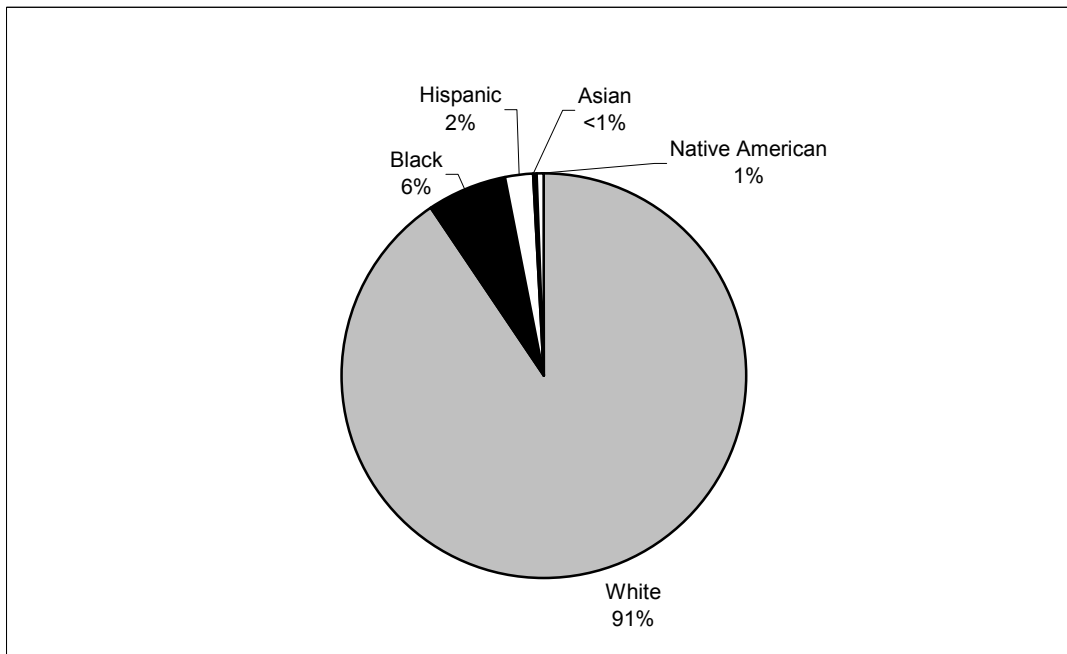
FIGURE 1.17: ETHNIC COMPOSITION OF MASSACHUSETTS PUBLIC SCHOOL TEACHERS, FY 01



The teacher work force is “whiter” than the student population, which is less than 80% white (77% in 2000). There have been slight increases since 1995 in the proportion of the state’s teachers who are black, Latino, Asian-American, or Native American.

Like the teacher workforce, the overwhelming majority of Massachusetts principals are white.

FIGURE 1.18: RACE & ETHNICITY OF PRINCIPALS, 2001



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The proportion of principals who are white has decreased slightly since 1991, when over 97% of Massachusetts principals were white.

In 2001, 54.6% of principals were men. This is a significant decrease since 1991, when 73.1% were men. The state’s “typical” principal is still a white man, but the numbers of women of all races who are principals has increased. White women have made the largest gains.

**3. Students**

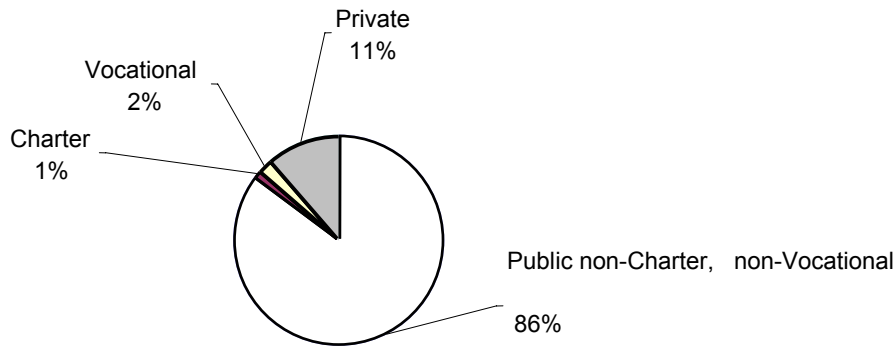
*How many students are there in Massachusetts?*

As of 2000, about 1.1 million students were enrolled in Massachusetts schools.

*What types of schools do they attend?*

Of these students, the overwhelming majority (about 935,000) attended non-vocational, non-charter public schools. Vocational schools enrolled 25,467, and charter schools enrolled 12,518. The remaining 124,795 attended private schools.

**FIGURE 1.19: SCHOOL ENROLLMENT IN MASSACHUSETTS, 2000**



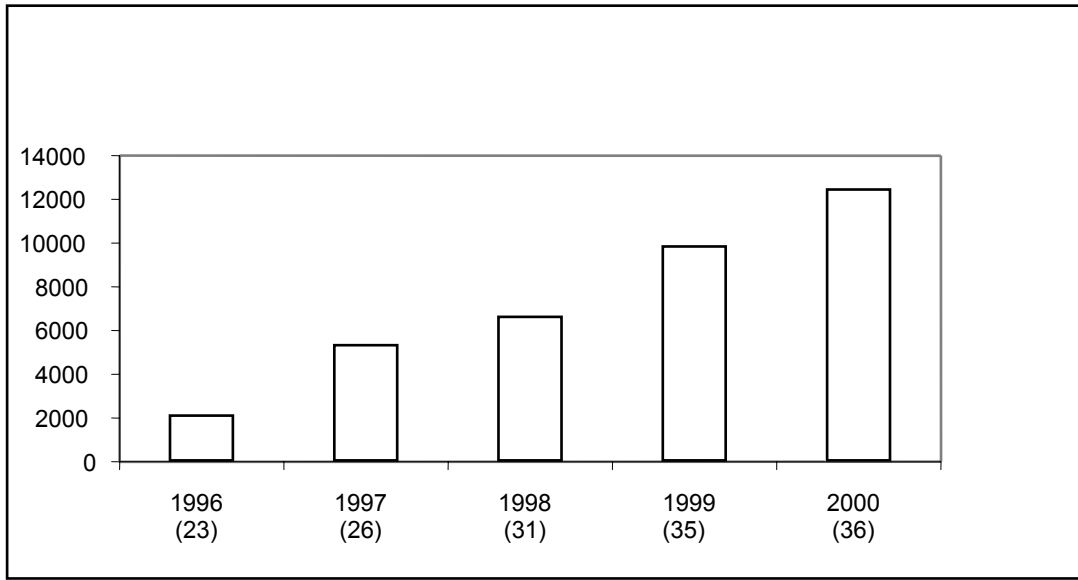
*What have been the trends in public, private, charter, and vocational school enrollments?*

Since 1990, total public school enrollment has grown. In 1990, about 800,000 students were enrolled in Massachusetts public schools. However, public school enrollment is lower than it was during the mid-1970s. There were about 1.2 million Massachusetts public school students in 1974.<sup>16</sup>

Charter school enrollments have grown since 1996, as the number of charter schools has also increased.

<sup>16</sup> Source for 1990 and 1974 enrollment figures: Massachusetts Board of Education and Massachusetts Department of Education, *Annual Report 1999*, p. 74.

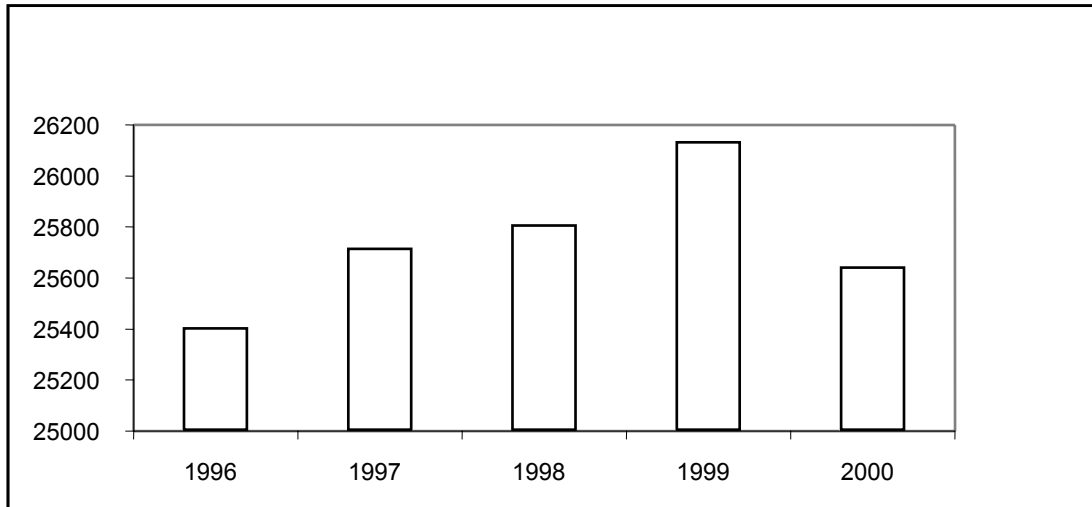
FIGURE 1.20: ENROLLMENT IN MASSACHUSETTS CHARTER SCHOOLS, 1996-2000



*Note: Numbers in parentheses indicate the number of charter schools.*

Vocational school enrollment grew between 1996 and 1999, but dropped off in 2000.

FIGURE 1.21: ENROLLMENT IN MASSACHUSETTS VOCATIONAL SCHOOLS, 1996-2000

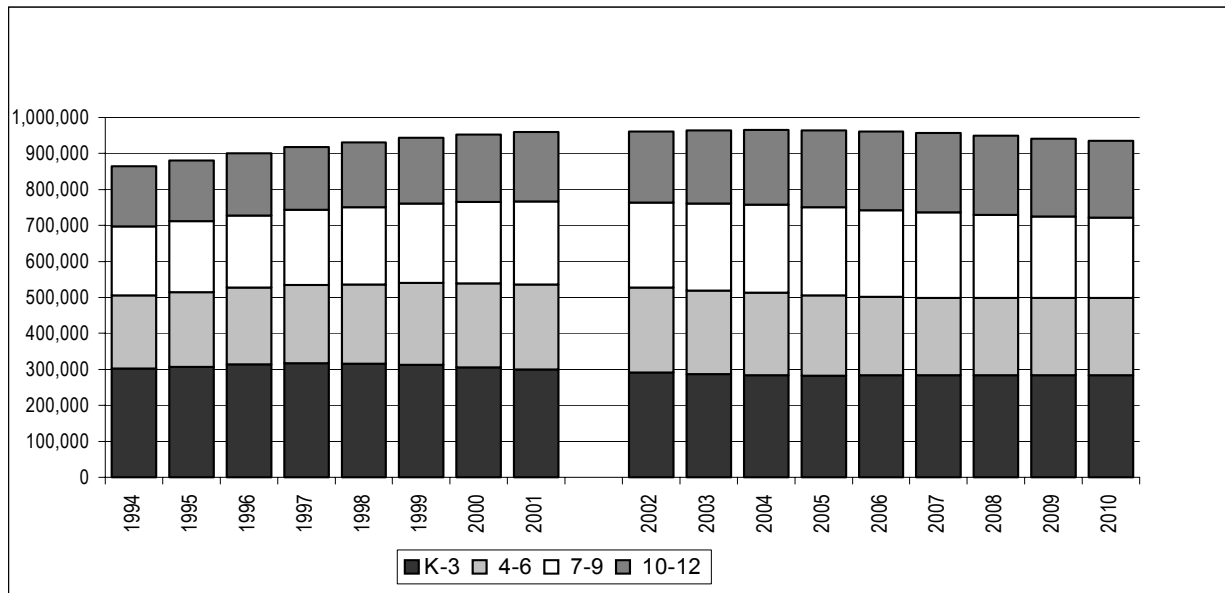


Trend data on private school enrollment was not available; instead, we have figures only for 1997 and 2000. Based on these figures, enrollment appears to have fallen slightly from 127,165 to 124,795.

*How has the distribution of students by grade changed over the past few years? In other words, is there a “boom” or a “bust” coming for any grade levels?*

A large cohort of students began kindergarten in 1996 and has created a “bump” in enrollment in subsequent grades as it moves through the system. Smaller classes have followed this larger cohort. In 1996, 1997, and 1998, the first grade was the largest statewide; in 1999 and 2000, kindergarten was the smallest of the grades for which enrollment was mandatory for most students. Grade 3 was the largest in 1999, and Grade 4 was the largest in 2000. In each of the years for which data are available, the later high school grades are the smallest, in large part because some students drop out of school. The legal school-leaving age in Massachusetts is sixteen.

**FIGURE 1.22: PAST AND PROJECTED ENROLLMENT: 1994-2010 MASSACHUSETTS K-12 STATE TOTALS**



We can draw three conclusions about whether there is a “boom” or “bust” of students coming through Massachusetts public schools. First, enrollment in most grades grew from 1994 to 2001. Second, the largest cohort of students was in 4<sup>th</sup> – 6<sup>th</sup> grades in 2000 and is now presumably entering the middle school grades. Third, enrollment increases appear to be slowing. Indeed, the National Center for Education Statistics has predicted that enrollment growth in Massachusetts will peak in the 2004 fiscal year and then remain stable.<sup>17</sup> The Massachusetts Board of Education’s 2001 Annual Report projects that enrollment will decline between 2004 and 2010 to roughly the same number of students who were in the public schools in the late 1990s.

<sup>17</sup> Source: U.S. Department of Education, Digest of Education Statistics, *Common Core of Data and State Public Elementary and Secondary Enrollment Model*. Online: [http://nces.ed.gov/pubs2001/proj01/tables/table04\\_1.asp](http://nces.ed.gov/pubs2001/proj01/tables/table04_1.asp) and [http://nces.ed.gov/pubs2001/proj01/tables/table04\\_2.asp](http://nces.ed.gov/pubs2001/proj01/tables/table04_2.asp).

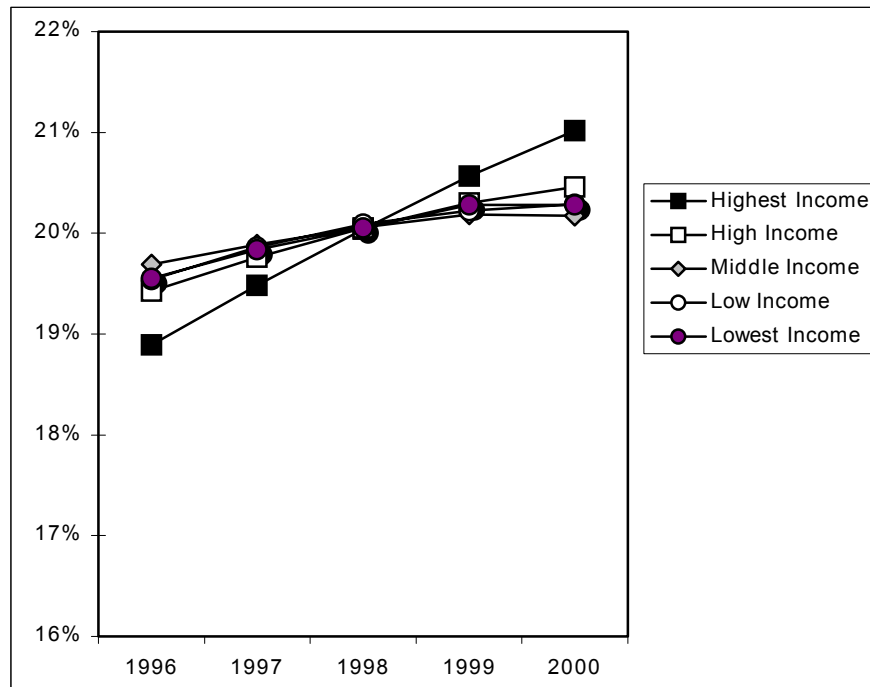
*Where are public school enrollments increasing or declining fastest?*

The Massachusetts Department of Education classifies municipalities' enrollment trends between 1993 and 1999 as "decreasing," "low-growth," "average growth," "above average growth," and "high growth." The average-growth districts saw their enrollments increase by between ten and twenty percent. According to the Department of Education, 29% of the state's communities fell into this category, with an additional 29% in the low-growth category. Most of the high-growth and above-average-growth communities are in the northern and western I-495 corridor in the Boston suburbs. However, several cities, such as Springfield, Chelsea, and Everett, had high growth, as did Nantucket and two of the towns on Martha's Vineyard. The below-average-growth and declining-enrollment communities are clustered on the South Shore and in the central and western parts of the state.

*What proportion of public school students are enrolled in low-income districts?*

As of 2000, one-fifth of the state's students were enrolled in districts where 50% or more of the students were eligible for free or reduced-price meals. Two-fifths were in districts where 25% or less of the students were eligible for free or reduced-price meals, with the remainder in between. The highest-income districts have experienced the most growth in student populations since 1996.

**FIGURE 1.23: PROPORTION OF STUDENTS IN MASSACHUSETTS DISTRICTS BY DISTRICT INCOME CATEGORY, 1996-2000**



***What are the racial and ethnic characteristics of the public school population?***

As of 2000, 77% of students were white, 10% Hispanic, 9% African-American, 4% Asian, and less than 1% Native American.

***How has the racial and ethnic composition of the school population changed over time?***

Since 1996, there has not been much change. In 1996, 79% were white, 9% Hispanic, 8% African-American, 4% Asian, and less than 1% Native American.

***How are students in each racial/ethnic group distributed across districts at different income levels?***

The distribution of white, African-American, Hispanic, Asian, and Native American students across the highest-income, high-income, middle-income, low-income, and lowest-income districts has remained fairly stable since 1996. Overall, white students are disproportionately likely to be in high-income or highest-income districts, while students of color are disproportionately likely to be in low-income or lowest-income districts.

About 49% of white students attend school in highest-income or high-income districts, about 25% in middle-income districts, and about 26% in low-income and lowest-income districts.

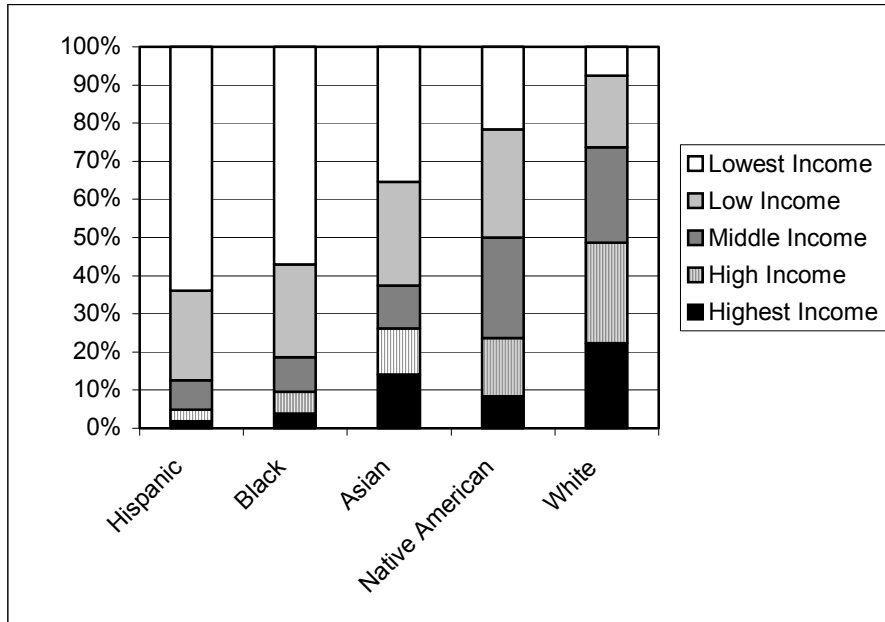
The pattern for African-American students is starkly different from that of whites. Where whites are clustered in the highest-income and high-income districts, African-Americans are clustered in the low-income and lowest-income districts. Over half of African-American students are in the state's lowest-income districts, and slightly more than 80% of African-American students are in the low-income and lowest-income districts combined. An additional 9% are in middle-income districts, and slightly less than 10% are in the high-income and highest-income districts.

The pattern for Hispanic students basically parallels that of African-Americans. About 80% are enrolled in the low-income and lowest-income districts, about 8% in middle-income districts, and about 10% in the high-income and highest-income districts.

Asian-American students are somewhat more evenly distributed among districts at different income levels than are the other racial and ethnic groups, although they are disproportionately likely to be in the low-income or lowest-income districts.

About half of the state's Native American students are in the lowest-income and low-income districts, although many of them are also in middle-income districts. This group's distribution has been the most variable since 1996, probably because the total population of Native Americans is small and thus can be affected by movements of only a few students.

FIGURE 1.24: DISTRIBUTION OF STUDENT RACE/ETHNICITY BY DISTRICT INCOME



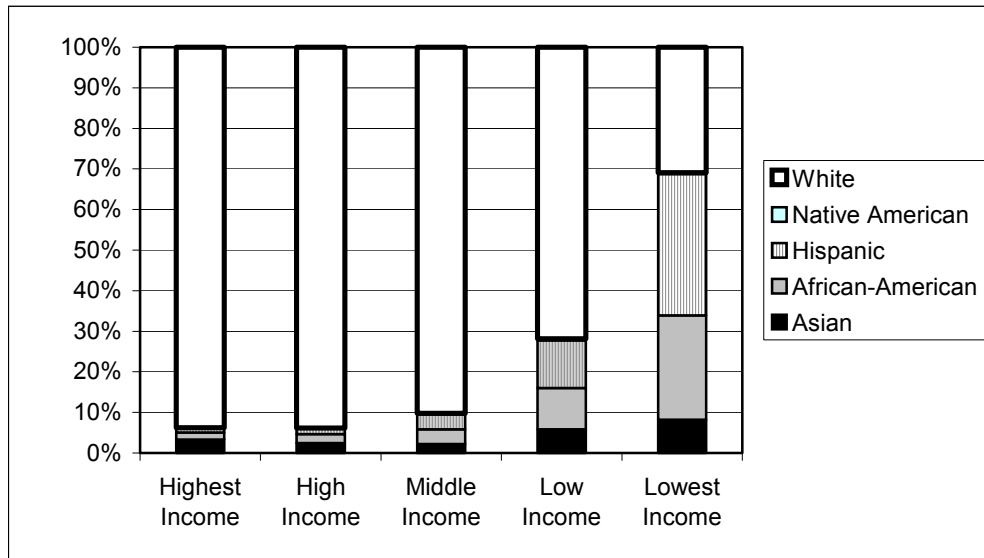
*What are the racial/ethnic characteristics of districts at each income level?*

Statewide, because students of different racial and ethnic groups are unevenly distributed across districts at different income levels, the higher-income districts are overwhelmingly populated by white students, and the lowest-income districts consist overwhelmingly of students of color.

Since 1996, the state’s total public school student population has consistently been about 77% white, 10% Hispanic, 9% African-American, 4% Asian, and less than 1% Native American.

By contrast, in both highest-income and high-income districts, about 95% of students are white. In middle-income districts, about 90% of students are white.

FIGURE 1.25: COMPOSITION OF DISTRICT INCOME CATEGORIES BY RACE/ETHNICITY



Because white students make up such a large share of the state’s total enrollment, they also account for a majority of low-income district students and about 30% of lowest-income district students. Although most students of color are in the poorer districts, many of the students in such districts are in fact white. Thus, it is inaccurate to assume that all white students are relatively well-off.

However, it is true that the state’s lowest-income districts enroll a large proportion of its students of color. This is the only category of districts for which white students are not the largest racial group.

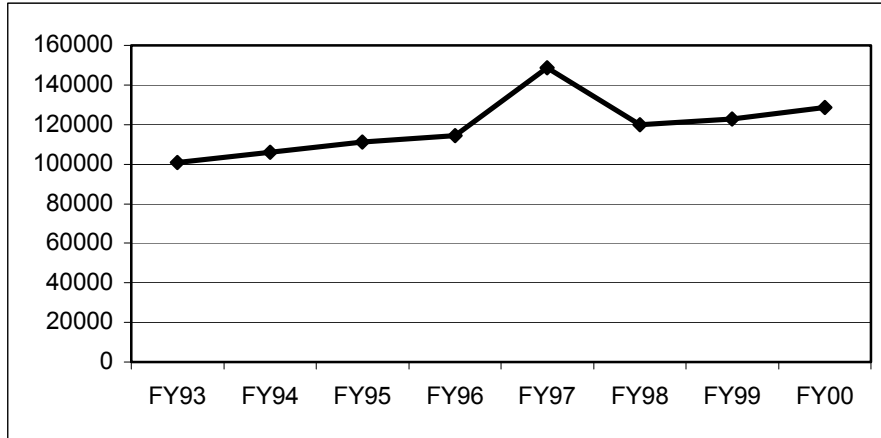
***What proportion of public school students have a first language other than English?***

Since 1990, the proportion of state households in which only English is spoken has declined from 85% to 81%. Households speaking at least some Spanish have increased from 4% to 6%, and households speaking an Asian language at least sometimes have increased from 2% to 3%.

In 1993, 100,947 Massachusetts public school students had a language other than English as their first language. The absolute number of students whose first language was not English (in this report, abbreviated FLNE) had grown to 128,555 by 2000. Students whose first language is not English are not necessarily classified as Limited English Proficient (LEP), since they may be fluent in English. We have used the data on FLNE students here because historical data on LEP students are not available.

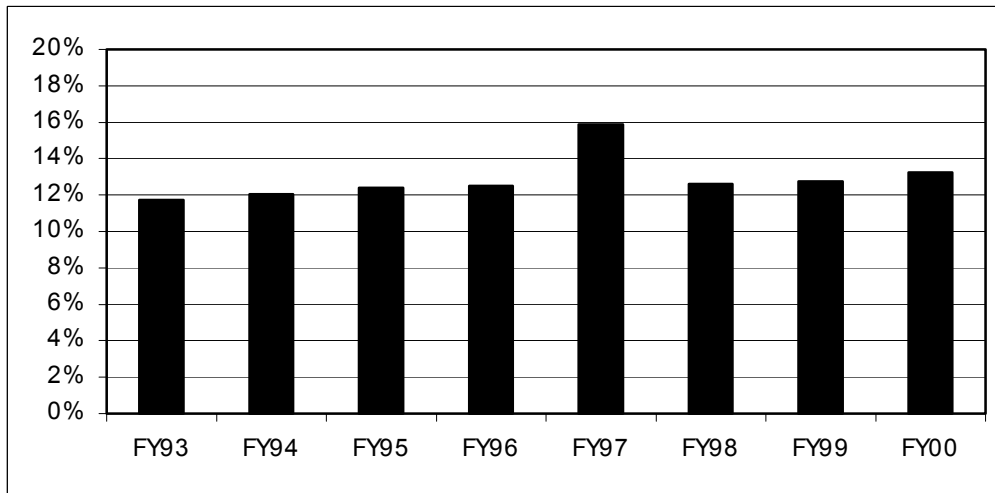
Part I. THE CONTEXT FOR EDUCATION REFORM

**FIGURE 1.26: NUMBER OF STUDENTS WHOSE FIRST LANGUAGE IS NOT ENGLISH, 1993-2000**



However, since the overall public school enrollment also grew during those years, the percentage of FLNE students in the public schools increased only from 11.7% in 1993 to 13.2% in 2000.

**FIGURE 1.27: PERCENT OF PUBLIC SCHOOL STUDENTS WHOSE FIRST LANGUAGE IS NOT ENGLISH**

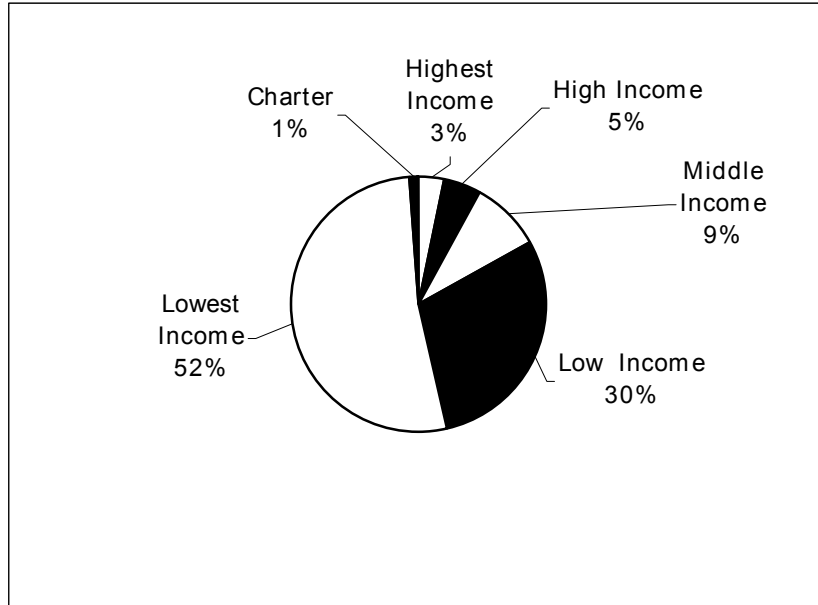


Both the absolute number and percentage of FLNE students were notably higher in 1997 than in any other year during the Education Reform period.

Part I. THE CONTEXT FOR EDUCATION REFORM

Looking across the state as a whole, we can see that students whose first language is not English are concentrated in the lowest-income and low-income districts.

**FIGURE 1.28: PERCENT OF STUDENTS WHOSE FIRST LANGUAGE IS NOT ENGLISH, BY DISTRICT INCOME, 2000**



***Where do limited-English-proficient (LEP) students attend school?***

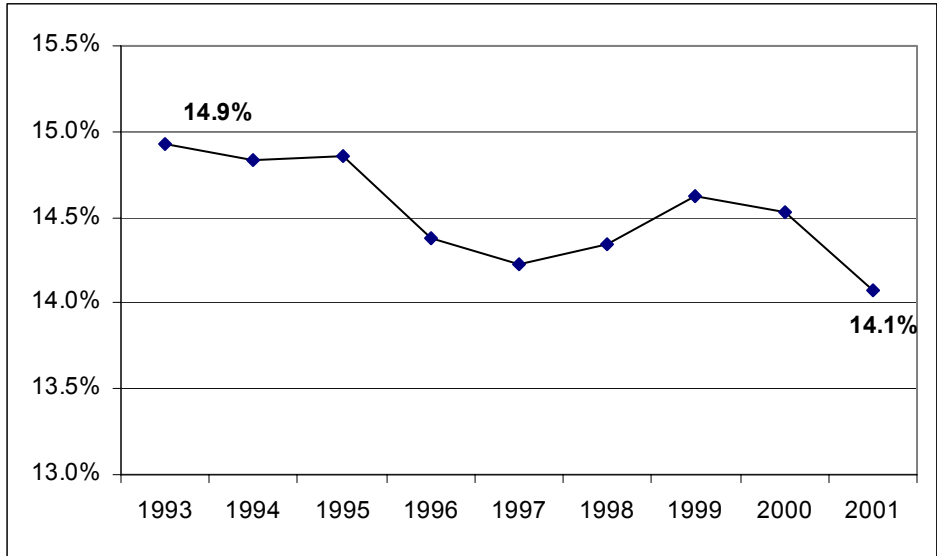
Limited-English-proficient students are concentrated in a relatively small number of the state’s districts. According to 1998 data, only 12 districts had student populations that were more than 10% LEP. Nearly all of these districts were urban (Lawrence, Holyoke, Chelsea, Boston, Lowell, Lynn, Somerville, Framingham, Springfield, Salem, Brookline, and Fitchburg). The twelve districts with the next-highest proportions of LEP students (Brockton, South Hadley, Worcester, Revere, Everett, Cambridge, Malden, Randolph, New Bedford, Watertown, Chicopee, and Methuen) also tended to be cities, but a few were not. All of the rest of the state’s districts have an LEP proportion of 5% or less.<sup>18</sup> The concentration of LEP students in a relatively small number of districts means that the challenge of meeting these students’ needs is not evenly spread across the state’s communities.

<sup>18</sup> Thanks to Robert Gaudet of the University of Massachusetts Donahue Institute, who provided these rankings.

*What proportion of Massachusetts students receive special education services?*

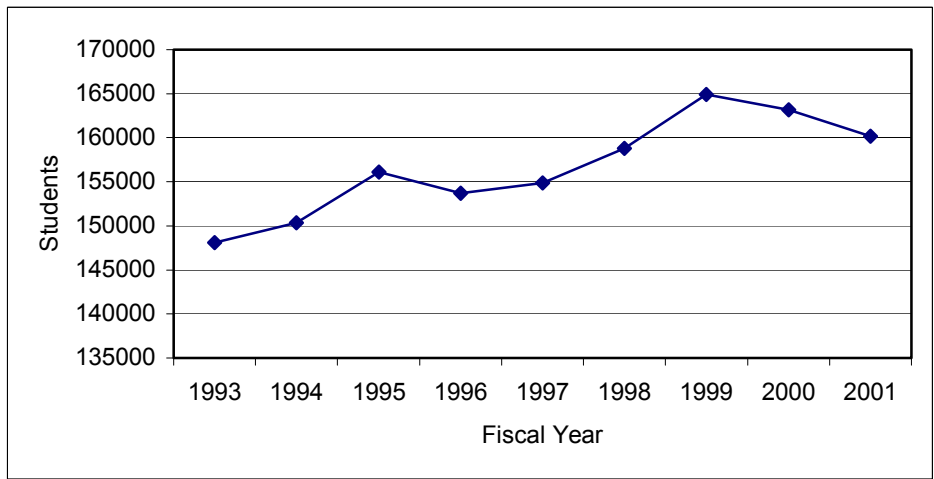
When the Education Reform Act was passed in 1993, about 15% of Massachusetts students were identified as needing special education services. By 2001, this percentage had fallen to about 14%.

**FIGURE 1.29: PERCENT OF STUDENTS RECEIVING SPECIAL EDUCATION SERVICES**



However, since the overall public school enrollment was increasing during this time, the absolute number of special education students actually increased between 1993 to 2000 before dropping slightly in 2001.

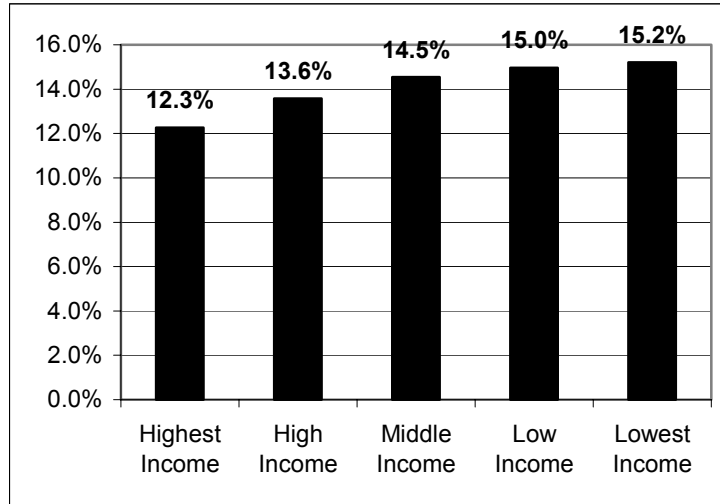
**FIGURE 1.30: NUMBER OF STUDENTS RECEIVING SPECIAL EDUCATION SERVICES**



*How are students in special education distributed across districts?*

Figure 1.31 shows that districts in the two lowest income categories have the largest percentage of their students in special education programs. The lowest-income, low-income, and middle-income districts all have more special education students, in percentage terms, than the state average.

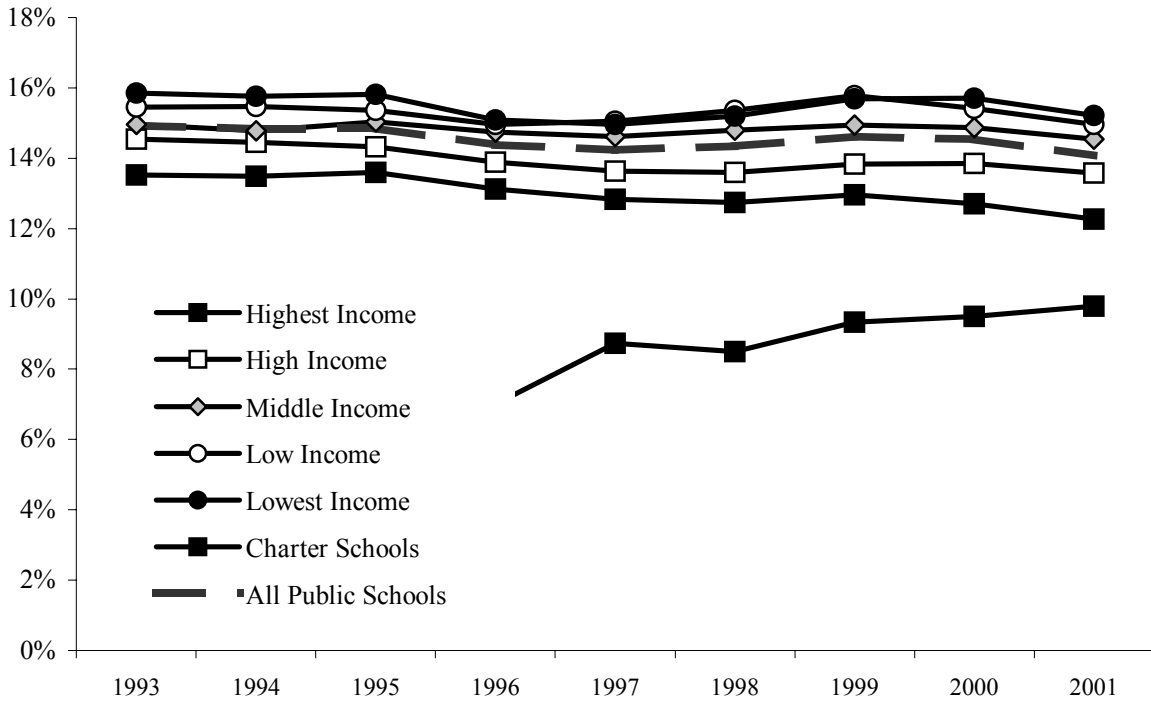
**FIGURE 1.31: PERCENT OF STUDENTS IN EACH DISTRICT CATEGORY IN SPECIAL EDUCATION , 2001**



Part I. THE CONTEXT FOR EDUCATION REFORM

However, the trends over time in the proportion of students in each category of district who need special education services have been roughly the same. Charter schools have smaller proportions of students in special education than do any of the district categories, with 10.4% of students on Individual Education Plans (IEPs), as compared to the state average of 14.1% of students on IEP's.

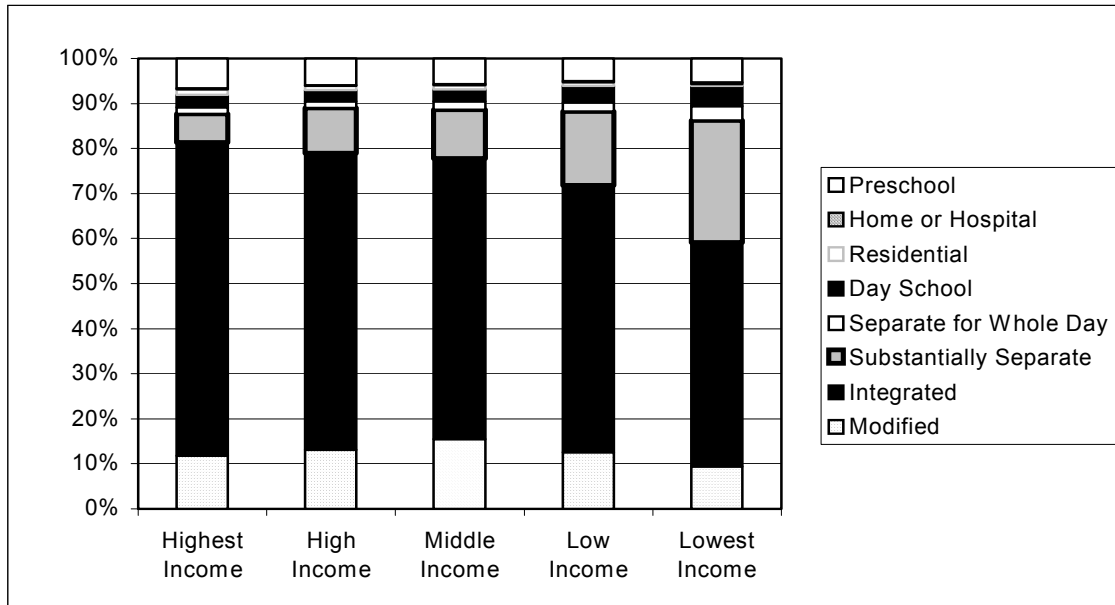
FIGURE 1.32: DISTRIBUTION OF SPECIAL EDUCATION STUDENTS ACROSS DISTRICTS



Part I. THE CONTEXT FOR EDUCATION REFORM

The composition of the special education population<sup>19</sup> also differs in the various district categories. The lowest-income districts have the greatest proportion of students who are in “substantially separate” special education programs (meaning they spend almost all of their school time in a special education classroom). The highest-income districts have the largest proportion of students in integrated special education, in which children are in regular classrooms and spend no more than 25% of their time receiving special education services.

**FIGURE 1.33: COMPOSITION OF SPECIAL EDUCATION STUDENT POPULATIONS IN EACH DISTRICT CATEGORY, 2001**

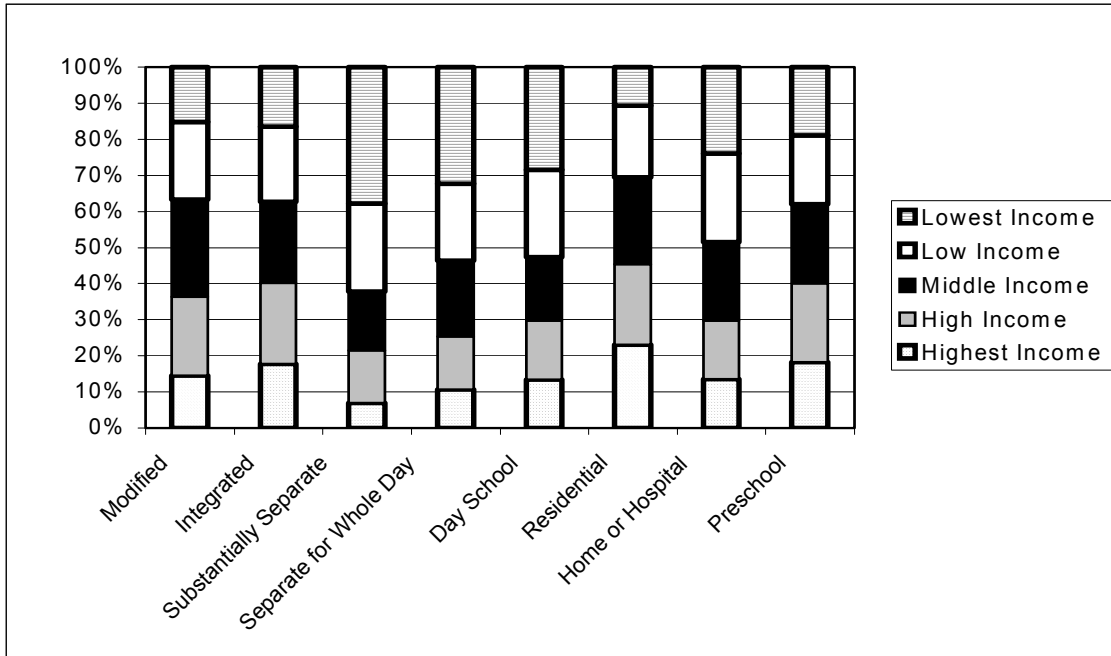


<sup>19</sup> The categories used here are the same ones used by the Massachusetts Department of Education. “Modified” corresponds with 502.1, “Integrated,” with 502.2, “Substantially Separate” with 502.4, “Separate for Whole Day” with 502.4i, “Day School” with 502.5, “Residential” with 502.6, “Home or Hospital” with 502.7, and “Preschool” with 502.8. Category 502.3, for students spending 25% to 60% of the time outside the regular question, appears from DOE data not to have been in use in FY 2001.

Part I. THE CONTEXT FOR EDUCATION REFORM

Looking at how students in the various categories of special education are distributed across districts, we see that the largest groups of students in substantially separate, separate for whole day, and day school placements are in the lowest-income school districts.

**FIGURE 1.34: DISTRIBUTION OF CATEGORIES OF SPECIAL EDUCATION STUDENTS BY DISTRICT INCOME, 2001**



*How many Massachusetts students are in Title I programs?*

Title I is a Federal program (the name refers to Title I of the Elementary and Secondary Education Act of 1965, most recently reauthorized in 2001 as the No Child Left Behind Act) intended to help disadvantaged children meet high academic performance standards. Schools with more than 40% poor children use the funds to carry out whole-school programs. In schools with less than 40% poor children, including private schools, individual students are referred for services.

In 2000-2001, about two hundred thousand Massachusetts students (slightly less than a fifth of the total population) received services under the federal Title I compensatory education program. This represents an increase since 1996-97, but a slight drop compared with 1999-2000. District-level data on Title I enrollment were not available.

**FIGURE 1.36: STATEWIDE TITLE I ENROLLMENT IN MASSACHUSETTS PUBLIC SCHOOLS**

