
***Promoting Good
Schools Through Wise
Spending***



**Executive Summary
Massachusetts Education Assessment Model Rankings**

The Beacon Hill Institute at Suffolk University in Boston focuses on federal, state and local economic policies as they affect citizens and businesses. The institute conducts research and educational programs to provide timely, concise and readable analyses that help voters, policymakers and opinion leaders understand today's leading public policy issues.

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I. EXECUTIVE SUMMARY

The Massachusetts Department of Education is rating public schools in the Commonwealth according to the performance of their students on MCAS tests over the past three years. Schools are being rated along a scale from 1 (very high) to 6 (critically low).

This follows November's release of the 2000 MCAS results, which showed incremental but disappointing improvement over the 1999 results. The apparent goal is to challenge poorly-rated districts to improve their performance.

Laudable as this goal is, the new rating system will likely create more frustration than improvement. This is because it gives no consideration to widely divergent but highly important socioeconomic factors with which schools and communities must contend.

The new rating system fails to offer a useful way to assess the performance of school administrators and teachers. To serve as an assessment tool, the rating system should take into account socioeconomic factors, as well as past performance on standardized tests and other factors over which schools have no control. Otherwise, schools with low ratings but good administrators and teachers will be falsely perceived as doing a poor job of teaching their students.

This is a primary finding of a two-year Beacon Hill Institute study, entitled *Promoting Good Schools Through Wise Spending*. The study was motivated by the Massachusetts Education Reform Act of 1993, under which the state instituted the Massachusetts Comprehensive Assessment System (MCAS) for the purpose of measuring and improving the performance of schools and of students. The MCAS tests, given each year in English, Mathematics and Science to 4th, 8th and 10th graders, replaced the older Massachusetts Educational Assessment Program (MEAP) tests.

BHI developed a model to identify and assess the importance of factors that both explain and help predict the performance of Massachusetts schools. The BHI Massachusetts Education Assessment Model is a sophisticated value-added statistical model that relates key explanatory variables to each of four performance measures, ranging from Failing to Advanced. The model explains a school district's performance in terms of its prior performance, changes in policy variables, including spending, and current socioeconomic factors.

Concerning spending, it is important to distinguish *changes* in spending from *levels* of spending, in assessing the importance of spending to school performance. Both wealthy school districts and low-income school districts can maintain high levels of spending, the former out of their own resources and the latter out of state aid. But because wealthy school districts typically exhibit higher levels of performance than low-income districts, it is impossible, from this

information alone, to determine the role of spending in determining the performance of either. A model that compares spending levels with performance is inconclusive with respect to the question whether spending improves performance.

A *value-added* model, on the other hand, overcomes this problem by showing how changes in policy variables add value to — which is to say, improve upon — school performance. A value-added model makes it possible to determine whether increases in spending improve performance.

The release of the 2000 MCAS scores confirmed the Massachusetts Education Assessment Model's ability to predict school performance. What we found is that, while the state is unable to improve school performance by spending *more*; it could improve school performance by spending *more wisely*. While our findings are for Massachusetts, they have profound implications for policy makers everywhere who are under pressure to improve the performance of public schools.

By applying the BHI Massachusetts Education Assessment Model to the most up-to-date (through 1998) state data, we were able to determine whether and how increased spending under the act has, along with other explanatory variables, affected the performance of Massachusetts school districts on 1998 MCAS tests. Our analysis encompassed nine cases, one for each subject (English, Mathematics and Science) and for each grade level (4th, 8th and 10th). The explanatory variables are:

(1) *policy variables*

- the percentage change in per-pupil spending over the period 1994-1998;
- the percentage change in student-teacher ratios over the period 1994-1998; and
- the number of students per computer.

(2) *socioeconomic variables*

- crime rates;
- the percentage of workers who are professionals or managers;
- the percentage of households headed by single females; and
- whether the district was in an urban area or not.

(3) *choice variables*

- the percentage of students in charter schools;
- the percentage of students in school districts who are sent through the METCO program (which places minority students from the Boston schools in neighboring districts); and
- the percentage of students who are in public schools.

(4) *previous performance, as measured by 1994 MEAP scores.*

Findings

We found that Education Reform led to a substantial rise in per-pupil spending and a noticeable decline in student-teacher ratios. The rise in spending was found to yield almost no improvement in school performance, while, as we show, the decline in student-teacher ratios had mixed effects. What stands out, though, is the overwhelming importance of factors that are beyond the immediate reach of education policy makers. Whatever new efforts the public sector might make, to the end of improving current school performance, that performance depends and will continue to depend heavily on its past performance and the socioeconomic character of the community.

Policy Variables

In order to sharpen our estimates of the effects of changes in student-teacher ratios, we distinguished between schools that had a history of high academic performance and schools that had a history of low academic performance, depending on whether the district fell in the top or the bottom half of all districts on the 1994 MEAP tests.

Our principal findings for the policy variables are:

- (1) In and of itself, increases in spending generally do not improve school performance. In our analysis, increases in spending over the period 1994-98 did not have a significant effect on performance in 5 out of 9 cases (4th grade English and Mathematics, 8th grade Mathematics and Science and 10th grade Mathematics). Increases in spending worsened performance in three of the remaining cases (8th grade English and 10th grade English and Science) and improved performance in only one (4th grade Science). Increases in spending showed no effect on school dropout rates.
- (2) Smaller classes helped some schools but not others. On average, student-teacher ratios, which serve as a proxy for class size, decreased over the period 1994-98. Our study showed that, while reductions in the student-teacher ratio improved the performance of historically low-performing schools at the 4th and 10th grade level, reductions in that ratio had no effect on performance at historically high-performing schools at the 4th grade level. Additionally, and perhaps surprisingly, reducing the student-teacher ratio worsened performance at the 8th and 10th grade levels for high-performing schools.
- (3) More computers help older, but not younger, students do better. We found that increases in the number of computers per student (reductions in the number of students per computer) improved school performance for 8th and 10th graders but had no effect on school performance for 4th graders.

Socioeconomic Variables

Our findings are consistent with those of most other studies:

- (1) School performance rises with the percentage of workers in the district who are professionals or managers, although the relationship is weaker for 4th graders than for 8th and 10th graders.

- (2) School performance falls as the crime rate rises, though by much more for 10th graders than for 4th or 8th graders.
- (3) School performance generally falls with the incidence of single-parent households, though by more for 4th and 8th than for 10th graders.
- (4) Urbanized school districts register lower performance than other school districts.

Choice Variables

Massachusetts offers choice to public school students principally in two ways: (1) permitting them to attend charter schools organized outside the framework of the district schools and (2) permitting minority Boston school students to attend schools in other host districts. There is interest in how charter schools affect the performance of district schools, whether charter schools outperform district schools and whether the presence of METCO students adversely affects the performance of host schools. We find:

- (1) There is some evidence that charter schools spur district schools to do better. The performance of district-school 4th graders in Mathematics and Science improved with the percentage of students in charter schools. There is no similar effect, however, for 8th and 10th graders. There is no significant difference between the performance of charter schools and of other public schools located in the same district.
- (2) The presence of students from the METCO program has for the most part no effect on the performance of host schools.
- (3) There is strong evidence that performance improves with the fraction of students who attend public schools, suggesting that the decision to choose private over public schooling pulls down public school test results.

Policy Implications

Our examination of public school performance in Massachusetts permits us to draw certain inferences for education policy in Massachusetts and in other states. What matters most for the current performance of a school district is its past performance and the socioeconomic character of the district. We cannot make schools perform better just by spending more money on them.

Indeed, for all of the money that Massachusetts has spent in the name of education reform, that policy has failed in its principal goal — to make schools perform better. In addition to the foregoing statistics, a simple test confirms this.

Consider the 50% of Massachusetts schools that underwent the highest percentage increase in per-pupil expenditures between 1994 and 1998. Table 1 shows, for each MCAS grade and subject field, how these top-spending districts performed relative to all schools. Each number provides a measure of how these school districts performed relative to the mean for all school

districts.¹ The fact that each number is negative in 1994 helps explain why these districts were targeted for the highest spending increases. The fact that the numbers show little change over the ensuing period suggests that increased spending did little to improve performance.

Table 1
Mean Test Scores for the 50% of Districts with the Highest Increase in Spending

Year	Subject	1994	1998	2000
Grade 4	English	-0.149	-0.258	-0.207 {PRIVATE }
	Mathematics	-0.172	-0.219	-0.209
	Science	-0.166	-0.193	-0.168
Grade 8	English	-0.036	-0.067	-0.107
	Mathematics	-0.027	-0.073	-0.087
	Science	-0.069	-0.084	-0.131
Grade 10	English	-0.059	-0.100	-0.022
	Mathematics	-0.101	-0.130	-0.110
	Science	-0.065	-0.074	-0.046

On the other hand, we have learned how the state can spend more wisely on education. It turns out that the demand for more education funding under the mantra of smaller classes misses the point. Yes, smaller classes matter, but only for districts that have performed poorly in the past.

We cannot improve performance merely by spending more. But we can improve performance, especially for 4th and 10th graders, by shifting funds to districts that have performed poorly in the past, thus decreasing their class size.

We find that increased class size for good districts would actually improve the performance of 8th and 10th graders without harming 4th graders in those districts.

This suggests a win-win proposition, whereby nearly all students gain by shifting resources to low-performing districts.

Studies in the education literature on the effect of class size on performance support our findings. Research indicates many variables, including age level of students, instructional method, student behavior and subject matter, affect this relationship.

Smaller classes matter, but only for districts that have performed poorly in the past.

¹MEAP scores for 1994 and MCAS scores for 1998 and 2000 were standardized to provide a mean of zero and a variance of 1 for all districts. The numbers in the table are means for the selected districts. A negative number indicates that the mean for the selected districts was below the mean for all districts.

Some agreement can be found in the literature that smaller classes do tend to benefit younger students, especially in math and reading. Smaller classes can also improve performance of students who face economic or educational disadvantages, such as the socioeconomic hurdles to be overcome at historically poor-performing schools. At the high-school level, however, there is consensus that class size has little influence on performance for general knowledge subjects.²

Table 2 shows how this proposed shifting of resources could work. Suppose the state shifted funds from high to low-performing districts in such a way as to bring about a 10-percentage-point increase in the student-teacher ratio for the former and a 10-percentage-point decrease in the student-teacher ratio for the latter. Then we see that performance, measured by the fraction of students getting good (Advanced or Proficient) scores, would rise in every category except those for 8th graders from low-performing districts.

For example, the fraction of students registering good performance would rise by 6.99% (from 15.613% to 16.704%) for 4th grade English in low-performing districts and by 2.42% for 8th grade English in high-performing districts. In only one instance (8th grade English in low-performing schools), would this strategy have the opposite of the intended result.

Table 2:
Effect of a 10-Percentage-Point Reduction in the Student-Teacher Ratio for Low-Performing Districts Coupled with a 10-Percentage Point Increase for High-Performing Districts

GRADE	{PRIVATE }SUBJECT	Percentage Change in Fraction Registering Good Performance	
		Low-Performing Districts	High-Performing Districts
Grade 4	English	6.99	NA
	Mathematics	2.21	NA
	Science	2.56	NA
Grade 8	English	-1.22	2.42
	Mathematics	NA	3.12
	Science	NA	3.50
Grade 10	English	3.35	2.47
	Mathematics	2.48	2.32
	Science	0.07	5.17

Concerning school choice, it appears, as noted, that, while charter schools may not outperform district schools, they do spur district schools to improve performance in the lower grades. Also, there is no basis for the often-expressed worry that METCO students pull down test scores for host schools.

² Ellis, Thomas I. *ERIC digest*, No. 11. Educational Resources Information Center. Eugene, Ohio. *What*

Learning from the Model

The model permits us to show how an individual district can improve its performance by changing a given policy variable, for example, class size. It also permits us to learn what individual school districts do correctly — and what they do incorrectly — in managing their schools. Education officials, as seen, are inclined to rate schools according to raw data from standardized tests. But, insofar as test scores depend heavily on socioeconomic variables and on other variables beyond a district's control, this does not represent a fair test of its management skills.

Because of the strength of the Massachusetts Education Assessment Model in predicting school performance at a high level of accuracy, we can draw inferences about a school's management skills if we find that its actual test results deviate substantially from its predicted test results. Districts that outperform the model can be studied with a view toward learning what they are doing right in managing their schools. Districts that underperform the model can be studied for what they are doing wrong.

Consider the Everett school district. A rating system based on 1998 MCAS raw scores would rank Everett 4th graders 130th out of 216, substantially below, say, Sudbury, which ranked 13th. In fact, however, Everett did a far better job teaching its students than Sudbury, when socioeconomic and other factors are taken into account. Everett ranked 5th out of 216 in terms of its success in exceeding its predicted performance, while Sudbury ranked 188th.

Districts that outperform the model can be studied with a view toward learning what they are doing right.

Conclusion

Three principal conclusions follow from this study. First, school ratings based on raw MCAS scores do not provide a useful indicator of the performance of school administrators and teachers. This is because the raw scores do not account for socioeconomic and other factors that enter heavily into the determination of school performance but that are not controllable by the schools themselves. The BHI Massachusetts Education Assessment Model provides a superior method of rating schools insofar as it shows how well or poorly a school performs relative to what we would predict, given the various factors beyond the school's control that determine performance. A rating system based on these principles provides insights to the relevant question of what schools are doing right and what they are doing wrong.

Research Says About Class Size. Washington D.C.: National Education Association, February, 1986.

Second, the Massachusetts Education Assessment Model shows that school performance depends, not on how much government spends on schools, but mainly on underlying socioeconomic factors and on past performance. Certain policy variables, such as class size and the availability of educational choice sometimes also matter.

Third, the state could bring about substantial improvements in performance by shifting funds from high to low-performing schools. It is possible to improve overall school performance by reducing class size in low performing schools even as we increase class size in high performing schools. This suggests that the appropriate policy is not to spend more, but to spend more wisely.

Guide to reading Tables 4 - 6

Because the BHI Massachusetts Education Assessment Model does a good job at predicting school performance, schools that perform substantially better (or worse) than predicted by the model are worth studying for the good (or bad) example they provide. We therefore provide a ranking of school districts according to whether and to what extent their actual performance exceeds their predicted performance.

Table 4 lists schools according to their combined English, Mathematics and Science rankings for each grade level in the good (G) category (Advance or Proficient), with schools with lower numbers, i.e. a rank close to 1, outperforming schools with higher ones. If a school district is ranked close to 1, then that particular district's actual proportion of students in the good (G) category is substantially higher than that predicted by the model. We see, for example, that for 4th graders, the Sutton school district did the best job (with a 1 ranking) of outperforming the model and that the Chesterfield Goshen Regional district did the worst job (with a 215 ranking) of measuring up to what the model predicted.

Table 5 provides a second ranking, reflecting a district's success in reducing the fraction of students doing poorly, i.e. falling in the Poor (P) or Failing category. The closer to 1 that a district is ranked, the more successful it was in keeping the fraction of students who perform poorly below what the model predicted for that district. Thus, of all districts, the Everett district did the best job of reducing poor performance for 4th graders.

Finally in Table 6, we list districts alphabetically, providing the G and P rankings for each district. Again, for both categories, the closer the rank is to 1 the better the district performed.

Table 4: District Rankings for Achieving Good Performance (G)

Rank based on the model*	Grade 4		Grade 8		Grade 10	
	School District	Rank based on actual scores	School District	Rank based on actual scores	School District	Rank based on actual scores
1	Sutton	53	Nantucket	52	Stoneham	28
2	Clinton	82	Medway	9	Norton	26
3	Eastham	47	Clinton	78	Hadley	43
4	Hadley	27	Wellesley	2	Shrewsbury	21
5	Everett	130	Hamilton Wenham	5	Bourne	90
6	Oxford	83	Dighton Rehoboth	49	Provincetown	149
7	Monson	41	Hadley	60	Grafton	34
8	Lynnfield	8	Hanover	39	Harwich	37
9	Tyngsborough	74	Sandwich	33	Norwell	8
10	Methuen	112	Stoneham	46	Tyngsborough	115
11	Lenox	15	Central Berkshire	42	Gill Montague	130
12	North Brookfield	78	Methuen	127	Westborough	15
13	Southbridge	143	Lee	72	Dennis Yarmouth	84
14	Shrewsbury	25	Tyngsborough	57	North Adams	106
15	Medfield	6	East Longmeadow	55	Amherst-Pelham	10
16	Spencer East Brookfield	108	Milford	106	Hanover	38
17	Holbrook	115	Middleborough	108	Mendon Upton	56
18	Tewksbury	85	North Reading	14	Chelsea	214
19	West Bridgewater	63	Medford	136	Southbridge	143
20	North Attleborough	65	Hingham	19	North Brookfield	65
21	Franklin	28	Norwell	25	Webster	165
22	Southwick Tolland	98	Carver	141	Mansfield	81
23	Mansfield	80	Swampscott	31	Ayer	120
24	Walpole	32	Beverly	54	Hingham	25
25	Southborough	24	Hull	145	Bridgewater Raynham	80
26	Lee	113	Gloucester	140	Northborough/Southboro	5
27	Foxborough	45	Barnstable	79	Malden	158
28	Hatfield	89	Northampton	67	Pittsfield	150
29	Grafton	61	Leominster	146	Needham	14
30	Wachusett Reg.	26	Quincy	110	Sharon	13
31	Lexington	4	Arlington	37	Braintree	68
32	Mendon Upton	17	Greenfield	152	Reading	30
33	Westford	9	Chelsea	189	Nauset	45
34	Cambridge	163	Concord	4	Gloucester	153
35	Springfield	205	New Bedford	188	Belchertown	62
36	Littleton	22	North Attleborough	83	Greenfield	147
37	East Longmeadow	14	Attleboro	153	Westwood	2
38	Holyoke	214	Silver Lake	89	Cohasset	7
39	Norwood	36	Pittsfield	149	South Hadley	112
40	Easton	52	Amesbury	93	Ware	203
41	North Reading	11	Groton Dunstable	22	Sandwich	55
42	Dartmouth	134	Worcester	179	Milford	107
43	Chelsea	212	Amherst-Pelham	32	Lenox	4
44	Wellesley	7	Ralph C Mahar	139	Worcester	194

(Table 4 cont.)

Rank based on the model*	Grade 4		Grade 8		Grade 10	
	School District	Rank based on actual scores	School District	Rank based on actual scores	School District	Rank based on actual scores
45	Worcester	167	Everett	168	Medfield	1
46	Lowell	202	Marshfield	90	East Longmeadow	74
47	Gloucester	123	Norton	80	Wellesley	16
48	Rockland	132	Rockport	43	Ashland	39
49	Newton	5	Newton	8	Lee	78
50	Northbridge	129	Tewksbury	120	Nantucket	101
51	Leominster	154	Belchertown	82	Mohawk Trail	70
52	Woburn	60	Cambridge	133	Silver Lake	94
53	Norfolk	42	Lynnfield	38	Natick	42
54	Carlisle	2	Shrewsbury	51	Dartmouth	148
55	Attleboro	153	Harvard	6	Belmont	9
56	Plymouth	66	Mansfield	87	Hamilton Wenham	33
57	Framingham	69	Nauset	86	Dudley Charlton Regional	97
58	Pittsfield	131	Maynard	81	Dracut	139
59	West Springfield	187	Easton	62	Auburn	59
60	Winthrop	106	Braintree	71	Millbury	71
61	Scituate	37	East Bridgewater	88	Northbridge	111
62	Dighton Rehoboth	92	Fitchburg	184	Everett	201
63	Ayer	120	Longmeadow	20	Amesbury	95
64	Canton	49	Westford	26	Milton	52
65	Braintree	95	Holyoke	194	Masconomet	32
66	Brockton	209	Bedford	18	Adams Cheshire	123
67	Pentucket Regional	62	Grafton	58	Stoughton	126
68	Hopedale	75	Berkley	128	Wayland	3
69	Norwell	29	Springfield	191	Franklin	83
70	Marshfield	43	Uxbridge	122	Medway	44
71	Harwich	99	Ludlow	118	Nashoba	23
72	Westfield	155	Needham	30	Northampton	103
73	Berkshire Hills	100	Carlisle	1	Acton-Boxborough	11
74	Winchester	3	Saugus	112	Duxbury	27
75	Milford	128	Lawrence	193	Palmer	154
76	Provincetown	171	Franklin	76	Groton Dunstable	31
77	Weymouth	107	King Philip	66	Central Berkshire	73
78	Abington	91	Lynn	183	Billerica	87
79	Falmouth	105	Weston	3	Gardner	160
80	Quincy	172	Abington	144	Winchester	20
81	Wilmington	84	Quabbin	97	New Bedford	212
82	Ludlow	156	Adams Cheshire	135	Danvers	131
83	Webster	194	Plymouth	109	Old Rochester	76
84	Arlington	64	Whitman Hanson	104	Waltham	151
85	Carver	169	Foxborough	63	West Springfield	190
86	Greenfield	189	Fairhaven	160	Attleboro	183
87	Barnstable	137	Brockton	187	Lynn	213
88	Harvard	1	Dennis Yarmouth	111	Athol Royalston	163

(Table 4 cont.)

Rank based on the model*	Grade 4		Grade 8		Grade 10	
	School District	Rank based on actual scores	School District	Rank based on actual scores	School District	Rank based on actual scores
89	Dedham	109	Westborough	27	Wilmington	156
90	Blackstone Millville	59	Spencer East Brookfield	96	Pioneer Valley Reg.	118
91	Fall River	207	Boston	186	Marlborough	79
92	Natick	38	Falmouth	116	Boston	211
93	Sharon	19	West Boylston	44	Scituate	41
94	Westwood	31	Ayer	170	Fall River	216
95	Sandwich	72	Gill Montague	130	Southern Berkshire	114
96	Fitchburg	203	Winchester	16	Holbrook	176
97	North Middlesex	94	Westwood	23	Lowell	206
98	Berkley	124	Lexington	7	King Philip	96
99	Acushnet	170	Malden	171	Quincy	164
100	Belmont	18	Avon	156	Newton	18
101	Beverly	93	Reading	28	North Reading	48
102	Central Berkshire	102	Mendon Upton	35	Woburn	105
103	Needham	12	Danvers	92	Chicopee	208
104	Gateway	147	Mohawk Trail	121	Fitchburg	205
105	Swampscott	67	North Adams	181	Martha s Vineyard	92
106	Brookline	23	Chicopee	182	Dedham	116
107	Northampton	116	Bourne	138	Walpole	75
108	Athol Royalston	184	Brookline	13	Norwood	109
109	Waltham	148	Woburn	64	Hampden Wilbraham	77
110	Burlington	76	Ware	174	Bedford	35
111	Boston	216	Blackstone Millville	158	Barnstable	155
112	Billerica	111	Swansea	95	Holyoke	218
113	Andover	33	Harwich	119	Hopkinton	50
114	Lawrence	215	Berlin-Boylston	41	Dighton Rehoboth	89
115	Winchendon	186	Burlington	77	Middleborough	161
116	Fairhaven	178	Rockland	161	Ludlow	179
117	Acton	10	Dover-Sherborn	10	Beverly	136
118	Auburn	68	Athol Royalston	167	Lexington	6
119	Bourne	138	Tantasqua	94	Brookline	24
120	Saugus	126	North Andover	61	Frontier	98
121	Milton	55	Andover	12	North Andover	58
122	Gill Montague	188	Triton	142	Rockport	69
123	Duxbury	30	Acton-Boxborough	24	Revere	209
124	Orange	159	Duxbury	50	Swansea	124
125	Chicopee	204	Sudbury	11	Weymouth	159
126	Somerville	198	Waltham	157	Clinton	167
127	Pioneer Valley Reg.	168	Easthampton	150	Andover	29
128	Millbury	165	Southbridge	173	Triton	146
129	Revere	197	Holliston	40	Framingham	93
130	Hamilton Wenham	21	Southborough	21	Lawrence	219
131	Marlborough	117	Norwood	56	Wachusett Reg.	49
132	Wakefield	88	Pentucket Regional	70	Springfield	220

(Table 4 cont.)

Rank based on the model*	Grade 4		Grade 8		Grade 10	
	School District	Rank based on actual scores	School District	Rank based on actual scores	School District	Rank based on actual scores
133	Middleborough	176	Natick	59	Canton	91
134	Boxborough	35	Taunton	178	Agawam	127
135	Belchertown	135	Southwick Tolland	143	Oxford	166
136	Lynn	213	Haverhill	164	Avon	184
137	Danvers	110	Winthrop	100	Hatfield	40
138	Taunton	173	Somerville	169	Tewksbury	137
139	Quabbin	97	Medfield	17	Plymouth	138
140	Dennis Yarmouth	160	Agawam	123	Brockton	215
141	Northborough	20	Somerset	147	Wakefield	72
142	Medford	192	Chelmsford	53	Maynard	102
143	Stoughton	73	Lincoln	34	West Boylston	66
144	Triton	146	Old Rochester	84	Abington	175
145	Hanover	77	Wayland	15	Holliston	61
146	Georgetown	90	Lunenburg	75	Hull	185
147	Peabody	140	Marlborough	117	Georgetown	99
148	Haverhill	199	Berkshire Hills	102	Burlington	85
149	Palmer	180	Stoughton	155	Methuen	198
150	Gardner	195	Shirley	98	Salem	162
151	Westborough	51	Fall River	192	Leominster	181
152	Hudson	104	Northbridge	159	Monson	100
153	West Boylston	44	Weymouth	131	Medford	204
154	Reading	54	Westfield	165	Falmouth	157
155	Medway	86	North Middlesex	85	West Bridgewater	173
156	Dudley Charlton Regional	142	Acushnet	154	Marshfield	119
157	Uxbridge	103	Belmont	29	Dover-Sherborn	12
158	North Adams	201	Hopkinton	36	Freetown-Lakeville	117
159	Concord	16	Wilmington	124	Pentucket Regional	53
160	Leicester	114	Peabody	125	Ralph C Mahar	178
161	Avon	164	West Springfield	166	Chatham	125
162	Ashland	136	Sharon	45	Spencer East Brookfield	129
163	Hopkinton	58	South Hadley	129	Arlington	82
164	Amesbury	151	Walpole	65	Whitman Hanson	134
165	Maynard	158	Westport Community	137	East Bridgewater	145
166	Wareham	179	Lowell	190	Concord-Carlisle	19
167	Malden	191	Southern Berkshire	113	Blackstone Millville	189
168	Groton Dunstable	46	Wachusett Reg.	47	Tantasqua	122
169	Topsfield	48	Dedham	91	Lynnfield	51
170	Chelmsford	70	Ashland	74	Rockland	177
171	Stoneham	119	Scituate	48	Westfield	182
172	Bellingham	122	Dartmouth	148	Easton	110
173	Cohasset	40	Oxford	180	Chelmsford	64
174	New Bedford	206	Dracut	162	Somerville	202
175	Westport Community	133	Palmer	172	Hampshire	57
176	Agawam	127	Billerica	114	Fairhaven	217

(Table 4 cont.)

Rank based on the model*	Grade 4		Grade 8		Grade 10	
	School District	Rank based on actual scores	School District	Rank based on actual scores	School District	Rank based on actual scores
177	Hull	125	Salem	176	Haverhill	195
178	Melrose	81	Gardner	175	Easthampton	180
179	Southern Berkshire	144	Freetown-Lakeville	134	Hudson	144
180	Somerset	139	Revere	185	Westport Community	169
181	Dracut	145	Framingham	126	Ashburnham Westminster	121
182	Norton	150	Millis	69	Berlin-Boylston	54
183	Nantucket	183	Wareham	177	Millis	108
184	Hingham	56	Auburn	73	Manchester	47
185	Quaboag Regional	161	Hudson	132	Cambridge	140
186	Rockport	87	Watertown	103	Foxborough	86
187	North Andover	101	Milton	68	Weston	22
188	Sudbury	13	Wakefield	115	Quabbin	128
189	Holliston	96	Ashburnham Westminster	105	North Attleborough	171
190	Whitman Hanson	162	Melrose	99	Berkshire Hills	133
191	Ware	211	Gateway	163	Uxbridge	170
192	Douglas	121	Canton	101	Quaboag Regional	168
193	Wayland	39	Mount Greylock	107	Harvard	17
194	Salem	175	Leicester	151	Peabody	193
195	Hawlemont	166			Longmeadow	46
196	Watertown	181			Southwick Tolland	199
197	Randolph	193			North Middlesex	88
198	Lincoln	50			Sutton	152
199	Bedford	57			Hopedale	135
200	Ashburnham Westminster	141			Mount Greylock	60
201	Lunenburg	157			Douglas	172
202	Longmeadow	79			Saugus	197
203	Weston	34			Taunton	210
204	Swansea	182			Winchendon	192
205	Essex	174			Wareham	186
206	Chatham	149			Melrose	113
207	Mashpee	185			Carver	187
208	South Hadley	190			Leicester	142
209	East Bridgewater	196			Winthrop	188
210	Millis	152			Westford	63
211	Adams Cheshire	210			Lunenburg	104
212	Narragansett	200			Randolph	200
213	Nahant	118			Littleton	67
214	Manchester	71			Lincoln-Sudbury	36
215	Shirley	177			Watertown	132
216	Chesterfield Goshen Reg.	208			Bellingham	174
217					Somerset	196
218					Narragansett	191
219					Swampscott	141
220					Gateway	207

*Ranked according to the difference between actual and predicted scores.

Table 5: District Rankings for Reducing Poor Performance (P)

Rank based on the model*	GRADE 4		GRADE 8		GRADE 10	
	School District	Rank based on actual scores	School District	Rank based on actual scores	School District	Rank based on actual scores
1	Everett	115	Nantucket	26	Provincetown	76
2	Holyoke	215	Hull	119	Webster	151
3	Sutton	17	Methuen	128	Chelsea	209
4	Chelsea	212	Lee	68	Gill Montague	90
5	Eastham	12	Hadley	54	Ware	143
6	Oxford	48	Carver	125	Tyngsborough	60
7	Methuen	109	Central Berkshire	30	Hadley	23
8	Fairhaven	93	Dighton Rehoboth	42	Shrewsbury	18
9	Clinton	134	Belchertown	55	Stoneham	44
10	Spencer East Brookfield	96	Hanover	35	Bridgewater Raynham	70
11	North Brookfield	54	Everett	159	Grafton	9
12	Northbridge	82	Gloucester	130	Harwich	28
13	Avon	33	Medford	136	Norton	29
14	Lee	76	Milford	107	Pittsfield	166
15	Carver	119	Hamilton Wenham	1	Bourne	101
16	Tyngsborough	77	East Longmeadow	51	Gloucester	155
17	Tewksbury	53	New Bedford	184	Lee	53
18	Acushnet	122	Middleborough	118	Hanover	47
19	Rockland	105	Tyngsborough	58	Worcester	199
20	Holbrook	136	Greenfield	140	North Adams	167
21	Hatfield	59	Chelsea	189	Dennis Yarmouth	89
22	Ayer	103	Tewksbury	102	East Longmeadow	59
23	Springfield	205	Harwich	76	Sharon	2
24	Dartmouth	124	Norton	72	Westborough	10
25	Hadley	55	Clinton	106	Malden	187
26	Winthrop	73	Stoneham	50	Mansfield	75
27	North Attleborough	66	Attleboro	147	Northbridge	115
28	Walpole	18	Northampton	65	Oxford	133
29	Easton	32	Abington	114	Millbury	78
30	Scituate	3	Silver Lake	83	Mohawk Trail	46
31	Marshfield	6	Maynard	73	Sandwich	49
32	Provincetown	155	Ware	163	Mendon Upton	61
33	Monson	81	Avon	132	Greenfield	164
34	Shrewsbury	13	Medway	14	Everett	203
35	Wilmington	29	North Reading	11	North Brookfield	104
36	Berkley	95	Beverly	53	Avon	132
37	Lenox	21	Sandwich	39	Reading	25
38	Mendon Upton	5	Grafton	47	Norwell	14
39	Dedham	74	Berkley	115	Pioneer Valley Reg.	91
40	Lynnfield	11	Fairhaven	145	Belchertown	56
41	Orange	133	Rockport	38	Rockport	26
42	Franklin	27	North Attleborough	85	Needham	6
43	Southborough	19	Longmeadow	7	Lenox	1
44	Hawlemont	86	Amesbury	95	Nauset	37

(Table 5 cont.)

Rank based on the model*	GRADE 4		GRADE 8		GRADE 10	
	School District	Rank based on actual scores	School District	Rank based on actual scores	School District	Rank based on actual scores
45	Abington	63	Leominster	151	Medway	19
46	Southbridge	190	Ayer	160	Nantucket	116
47	Pentucket Regional	44	Westborough	10	Central Berkshire	69
48	Medfield	4	Barnstable	91	Palmer	135
49	Ludlow	140	Norwell	23	Hingham	30
50	Gloucester	129	Shrewsbury	46	Milford	117
51	Waltham	116	Quabbin	86	Northborough-Southboro	11
52	Wachusett Reg.	28	Holyoke	194	Masconomet	8
53	Foxborough	56	Pittsfield	149	South Hadley	82
54	Holliston	24	Lawrence	193	Waltham	146
55	Norwood	36	Westford	19	Dracut	134
56	Littleton	10	West Boylston	37	Amesbury	81
57	Marlborough	94	Acushnet	116	Hopkinton	16
58	East Longmeadow	14	Wellesley	4	Clinton	163
59	North Reading	9	Easton	69	Old Rochester	57
60	Nahant	15	Quincy	131	Braintree	107
61	Leicester	78	Lynnfield	45	Athol Royalston	160
62	Hamilton Wenham	7	Groton Dunstable	20	East Bridgewater	108
63	Plymouth	72	Harvard	6	Dartmouth	139
64	Westford	16	Marshfield	100	Groton Dunstable	15
65	Sandwich	51	East Bridgewater	94	Dudley Charlton Regional	93
66	Webster	189	Adams Cheshire	129	Bedford	7
67	Southwick Tolland	131	Ludlow	123	Amherst-Pelham	38
68	Boxborough	20	Lunenburg	60	Milton	48
69	Medway	46	Mendon Upton	29	Westwood	4
70	Blackstone Millville	62	Lincoln	18	Danvers	105
71	Quabbin	80	Woburn	56	Silver Lake	106
72	Canton	52	Franklin	79	Duxbury	21
73	West Bridgewater	108	Hingham	28	Woburn	86
74	Milton	37	Whitman Hanson	103	Medfield	5
75	Winchester	2	Mohawk Trail	109	Ayer	162
76	Wakefield	71	Walpole	43	Ashland	40
77	Quincy	160	Saugus	120	Wilmington	123
78	Attleboro	159	Needham	32	Georgetown	68
79	Duxbury	23	Pentucket Regional	66	Wellesley	13
80	North Adams	188	Burlington	75	Cohasset	17
81	Harvard	1	Duxbury	41	Agawam	128
82	Burlington	69	Medfield	8	Tewksbury	125
83	Andover	31	Swampscott	49	West Boylston	33
84	Beverly	88	Berkshire Hills	81	Southbridge	191
85	Maynard	128	Newton	12	West Springfield	192
86	Milford	137	Weston	2	West Bridgewater	129
87	Whitman Hanson	111	Ralph C Mahar	148	Natick	65

(Table 5 cont.)

Rank based on the model*	GRADE 4		GRADE 8		GRADE 10	
	School District	Rank based on actual scores	School District	Rank based on actual scores	School District	Rank based on actual scores
88	Norwell	35	Concord	5	Billerica	95
89	West Boylston	30	King Philip	74	Hamilton Wenham	36
90	Norfolk	68	Braintree	87	Fall River	214
91	Hopkinton	42	Malden	171	Rockland	145
92	Greenfield	183	Arlington	59	Wayland	3
93	Bellingham	100	Chicopee	175	Monson	71
94	Westport Community	101	Swansea	93	Lynn	213
95	Carlisle	8	Bedford	21	Franklin	85
96	Dighton Rehoboth	107	Tantasqua	89	Hatfield	45
97	Winchendon	170	Plymouth	117	Walpole	73
98	Saugus	121	Sudbury	9	Attleborough	186
99	Bourne	132	Westport Community	99	Chatham	84
100	Uxbridge	91	Agawam	110	Adams Cheshire	147
101	Braintree	110	Southwick Tolland	121	North Reading	55
102	Fall River	204	Southborough	16	New Bedford	212
103	Harwich	112	Mansfield	111	Marshfield	98
104	Natick	60	North Andover	62	Holyoke	216
105	Worcester	184	Uxbridge	138	Southern Berkshire	87
106	Reading	47	Nauset	105	Burlington	79
107	Hanover	75	Hopkinton	31	Auburn	83
108	Lexington	22	Waltham	150	Hampden Wilbraham	67
109	Mansfield	125	Amherst-Pelham	48	Pentucket Regional	51
110	Billerica	118	Dover-Sherborn	13	Abington	165
111	Georgetown	92	Westwood	27	Hull	159
112	Belchertown	126	Danvers	97	Quincy	177
113	Somerville	181	Lexington	15	Nashoba	43
114	Hopedale	98	Reading	33	Spencer East Brookfield	110
115	Newton	25	Scituate	36	Hudson	103
116	Taunton	162	Carlisle	3	Northampton	127
117	Cohasset	34	Peabody	108	Wakefield	80
118	Woburn	99	Winchester	22	Quaboag Regional	158
119	Stoughton	79	North Adams	177	North Attleborough	150
120	Belmont	39	Shirley	82	Belmont	32
121	Groton Dunstable	43	Gill Montague	139	Frontier	96
122	Swampscott	89	Blackstone Millville	157	Ralph C Mahar	149
123	Wellesley	38	Cambridge	158	Lowell	210
124	Dudley Charlton Regional	135	Norwood	61	Brookline	39
125	Palmer	161	North Middlesex	78	Weymouth	156
126	Hingham	61	Holliston	44	Canton	102
127	North Andover	83	Foxborough	77	Scituate	52
128	Westborough	70	Wilmington	113	Lexington	12
129	Arlington	97	Wayland	17	Stoughton	137
130	Agawam	114	Fitchburg	186	Winchester	27
131	North Middlesex	113	Springfield	192	King Philip	99

(Table 5 cont.)

Rank based on the model*	GRADE 4		GRADE 8		GRADE 10	
	School District	Rank based on actual scores	School District	Rank based on actual scores	School District	Rank based on actual scores
132	Sudbury	26	South Hadley	104	Dover-Sherborn	20
133	Westwood	64	Brookline	24	Swansea	119
134	Athol Royalston	180	Dracut	141	Middleborough	169
135	Leominster	175	Gateway	127	Beverly	141
136	Brockton	211	Berlin-Boylston	52	Hampshire	50
137	Pittsfield	158	Fall River	187	Norwood	113
138	Topsfield	65	Millis	64	Fitchburg	207
139	Needham	49	Andover	25	Tantasqua	112
140	Millbury	157	Old Rochester	84	Easthampton	161
141	Acton	40	Spencer East Brookfield	122	Holbrook	179
142	Chelmsford	85	Belmont	34	Acton-Boxborough	24
143	Sharon	58	Southern Berkshire	98	Chelmsford	54
144	Northborough	45	Rockland	162	Andover	41
145	Triton	144	Natick	71	Dighton Rehoboth	126
146	Middleborough	169	Lynn	185	Revere	208
147	Wayland	41	Dennis Yarmouth	137	Plymouth	142
148	Framingham	117	Worcester	183	Triton	154
149	Weymouth	138	Brockton	188	Medford	205
150	Stoneham	123	Wachusett Reg.	57	North Andover	77
151	Rockport	90	Winthrop	124	Hopedale	94
152	Manchester	50	Weymouth	134	Chicopee	211
153	Falmouth	141	Bourne	155	Barnstable	172
154	Hudson	120	Chelmsford	67	Methuen	198
155	Danvers	130	Acton-Boxborough	40	Lawrence	219
156	Barnstable	153	Milton	70	Haverhill	184
157	Lowell	208	Falmouth	142	Southwick Tolland	174
158	Auburn	104	Watertown	92	Douglas	157
159	Concord	67	Ashburnham Westminster	88	Wachusett Reg.	66
160	Weston	57	Sharon	63	Springfield	220
161	Pioneer Valley Reg.	172	Dedham	96	Ashburnham Westminster	100
162	Amesbury	151	Somerville	170	Holliston	63
163	Peabody	146	Stoughton	152	Newton	42
164	Central Berkshire	139	Athol Royalston	174	Fairhaven	201
165	Medford	178	Auburn	80	Blackstone Millville	171
166	Westfield	176	Westfield	166	Concord-Carlisle	31
167	Bedford	87	Triton	156	Framingham	121
168	Quaboag Regional	145	Haverhill	168	Westfield	182
169	Lincoln	84	Ashland	90	Gardner	183
170	Gateway	163	Dartmouth	144	Easton	109
171	Northampton	147	Northbridge	161	Marlborough	136
172	Chicopee	202	Taunton	179	Harvard	22
173	Somerset	148	Easthampton	164	Berlin-Boylston	64
174	Gardner	192	Southbridge	178	North Middlesex	88
175	Brookline	102	West Springfield	167	Whitman Hanson	140

(Table 5 cont.)

Rank based on the model*	GRADE 4		GRADE 8		GRADE 10	
	School District	Rank based on actual scores	School District	Rank based on actual scores	School District	Rank based on actual scores
176	Dracut	150	Billerica	133	Lynnfield	74
177	Hull	143	Canton	101	Westford	62
178	Longmeadow	106	Wakefield	126	Longmeadow	58
179	Ashburnham Westminster	142	Gardner	173	Weston	34
180	Revere	194	Freetown-Lakeville	143	Manchester	72
181	Lawrence	214	Melrose	112	Freetown-Lakeville	148
182	Melrose	127	Boston	191	Arlington	111
183	Malden	186	Oxford	176	Lincoln-Sudbury	35
184	Berkshire Hills	154	Palmer	172	Leicester	120
185	Grafton	152	Marlborough	153	Uxbridge	170
186	Ashland	156	Revere	182	Lunenburg	122
187	Haverhill	196	Lowell	190	Sutton	168
188	West Springfield	199	Framingham	154	Martha s Vineyard	138
189	Wareham	185	Somerset	169	Somerville	206
190	Randolph	174	Wareham	180	Peabody	181
191	Douglas	149	Leicester	135	Maynard	144
192	Dennis Yarmouth	177	Salem	181	Falmouth	178
193	Norton	166	Hudson	165	Melrose	114
194	Essex	168	Mount Greylock	146	Winchendon	176
195	East Bridgewater	167	°	°	Boston	218
196	Salem	173	°	°	Dedham	152
197	Lunenburg	165	°	°	Berkshire Hills	131
198	Watertown	182	°	°	Watertown	118
199	Ware	203	°	°	Quabbin	153
200	Fitchburg	206	°	°	Brockton	217
201	Chatham	164	°	°	Ludlow	197
202	Cambridge	200	°	°	Wareham	193
203	Mashpee	187	°	°	Foxborough	124
204	Shirley	171	°	°	Salem	196
205	Southern Berkshire	191	°	°	Saugus	188
206	South Hadley	193	°	°	Leominster	204
207	Millis	179	°	°	Mount Greylock	97
208	Adams Cheshire	197	°	°	Bellingham	175
209	Swansea	195	°	°	Littleton	92
210	New Bedford	207	°	°	Millis	130
211	Lynn	213	°	°	Winthrop	180
212	Boston	216	°	°	Westport Community	190
213	Nantucket	201	°	°	Cambridge	185
214	Narragansett	198	°	°	Carver	195
215	Gill Montague	210	°	°	Randolph	200
216	Chesterfield Goshen Reg.	209	°	°	Gateway	189
217	°	°	°	°	Narragansett	194
218					Taunton	215
219					Somerset	202
220	°	°	°	°	Swampscott	173

*Ranked according to the difference between predicted and actual scores.

Table 6: Districts Listed Alphabetically According to Good and Poor Performance

NAME	GRADE 4		GRADE 8		GRADE 10	
	Rank (G)	Rank (P)	Rank (G)	Rank (P)	Rank (G)	Rank (P)
Abington	78	45	80	29	144	110
Acton	117	141				
Acton-Boxborough			123	155	73	142
Acushnet	99	18	156	57		
Adams Cheshire	211	208	82	66	66	100
Agawam	176	130	140	100	134	81
Amesbury	164	162	40	44	63	56
Amherst-Pelham			43	109	15	67
Andover	113	83	121	139	127	144
Arlington	84	129	31	92	163	182
Ashland	162	186	170	169	48	76
Ashburnham Westminster	200	179	189	159	181	161
Athol Royalston	108	134	118	164	88	61
Attleboro	55	78	37	27	86	98
Auburn	118	158	184	165	59	107
Avon	161	13	100	33	136	36
Ayer	63	22	94	46	23	75
Barnstable	87	156	27	48	111	153
Bedford	199	167	66	95	110	66
Belchertown	135	112	51	9	35	40
Bellingham	172	93			216	208
Belmont	100	120	157	142	55	120
Berkley	98	36	68	39		
Berkshire Hills	73	184	148	84	190	197
Berlin-Boylston			114	136	182	173
Beverly	101	84	24	36	117	135
Billerica	112	110	176	176	78	88
Blackstone Millville	90	70	111	122	167	165
Boston	111	212	91	182	92	195
Bourne	119	99	107	153	5	15
Boxborough	134	68				
Braintree	65	101	60	90	31	60
Bridgewater Raynham					25	10
Brockton	66	136	87	149	140	200
Brookline	106	175	108	133	119	124
Burlington	110	82	115	80	148	106
Cambridge	34	202	52	123	185	213
Canton	64	72	192	177	133	126
Carlisle	54	95	73	116		
Carver	85	15	22	6	207	214
Central Berkshire	102	164	11	7	77	47
Chatham	206	201			161	99
Chelmsford	170	142	142	154	173	143
Chelsea	43	4	33	21	18	3
Chesterfield Goshen Reg.	216	216				
Chicopee	125	172	106	93	103	152
Clinton	2	9	3	25	126	58
Cohasset	173	117			38	80
Concord	159	159	34	88		
Concord-Carlisle					166	166

(Table 6 cont.)

NAME	GRADE 4		GRADE 8		GRADE 10	
	Rank (G)	Rank (P)	Rank (G)	Rank (P)	Rank (G)	Rank (P)
Danvers	137	155	103	112	82	70
Dartmouth	42	24	172	170	54	63
Dedham	89	39	169	161	106	196
Dennis Yarmouth	140	192	88	147	13	21
Dighton Rehoboth	62	96	6	8	114	145
Douglas	192	191			201	158
Dover-Sherborn			117	110	157	132
Dracut	181	176	174	134	58	55
Dudley Charlton Regional	156	124			57	65
Duxbury	123	79	124	81	74	72
East Bridgewater	209	195	61	65	165	62
East Longmeadow	37	58	15	16	46	22
Eastham	3	5				
Easthampton			127	173	178	140
Easton	40	29	59	59	172	170
Essex	205	194				
Everett	5	1	45	11	62	34
Fairhaven	116	8	86	40	176	164
Fall River	91	102	151	137	94	90
Falmouth	79	153	92	157	154	192
Fitchburg	96	200	62	130	104	138
Foxborough	27	53	85	127	186	203
Framingham	57	148	181	188	129	167
Franklin	21	42	76	72	69	95
Freetown-Lakeville			179	180	158	181
Frontier					120	121
Gardner	150	174	178	179	79	169
Gateway	104	170	191	135	220	216
Georgetown	146	111			147	78
Gill Montague	122	215	95	121	11	4
Gloucester	47	50	26	12	34	16
Grafton	29	185	67	38	7	11
Greenfield	86	92	32	20	36	32
Groton Dunstable	168	121	41	62	76	64
Hadley	4	25	7	5	3	7
Hamilton Wenham	130	62	5	15	56	89
Hampden Wilbraham					109	108
Hampshire					175	136
Hanover	145	107	8	10	16	18
Harvard	88	81	55	63	193	172
Harwich	71	103	113	23	8	12
Hatfield	28	21			137	96
Haverhill	148	187	136	168	177	156
Hawlemont	195	44				
Hingham	184	126	20	73	24	49
Holbrook	17	20			96	141
Holliston	189	54	129	126	145	162
Holyoke	38	2	65	52	112	104
Hopedale	68	114			199	151
Hopkinton	163	91	158	107	113	57

(Table 6 cont.)

NAME	GRADE 4		GRADE 8		GRADE 10	
	Rank (G)	Rank (P)	Rank (G)	Rank (P)	Rank (G)	Rank (P)
Hudson	152	154	185	193	179	115
Hull	177	177	25	2	146	111
King Philip			77	89	98	131
Lawrence	114	181	75	54	130	155
Lee	26	14	13	4	49	17
Leicester	160	61	194	191	208	184
Lenox	11	37			43	43
Leominster	51	135	29	45	151	206
Lexington	31	108	98	113	118	128
Lincoln	198	169	143	70		
Lincoln-Sudbury					214	183
Littleton	36	56			213	209
Longmeadow	202	178	63	43	195	178
Lowell	46	157	166	187	97	123
Ludlow	82	49	71	67	116	201
Lunenburg	201	197	146	68	211	186
Lynn	136	211	78	146	87	94
Lynnfield	8	40	53	61	169	176
Malden	167	183	99	91	27	25
Manchester	214	152			184	180
Mansfield	23	109	56	103	22	26
Marlborough	131	57	147	185	91	171
Marshfield	70	31	46	64	156	103
Martha s Vineyard					105	188
Masconomet					65	52
Mashpee	207	203				
Maynard	165	85	58	31	142	191
Medfield	15	48	139	82	45	74
Medford	142	165	19	13	153	149
Medway	155	69	2	34	70	45
Melrose	178	182	190	181	206	193
Mendon Upton	32	38	102	69	17	33
Methuen	10	7	12	3	149	154
Middleborough	133	146	17	18	115	134
Milford	75	86	16	14	42	50
Millbury	128	140			60	29
Millis	210	207	182	138	183	210
Milton	121	74	187	156	64	68
Mohawk Trail			104	75	51	30
Monson	7	34			152	93
Mount Greylock			193	194	200	207
Nahant	213	60				
Nantucket	183	213	1	1	50	46
Narragansett	212	214			218	217
Nashoba					71	113
Natick	92	104	133	145	53	87
Nauset			57	106	33	44
Needham	103	139	72	78	29	42
New Bedford	174	210	35	17	81	102
Newton	49	115	49	85	100	163

(Table 6 cont.)

NAME	GRADE 4		GRADE 8		GRADE 10	
	Rank (G)	Rank (P)	Rank (G)	Rank (P)	Rank (G)	Rank (P)
Norfolk	53	90				
North Adams	158	80	105	119	14	20
North Andover	187	127	120	104	121	150
North Attleborough	20	27	36	42	189	119
North Brookfield	12	11			20	35
North Middlesex	97	131	155	125	197	174
North Reading	41	59	18	35	101	101
Northampton	107	171	28	28	72	116
Northboro-Southboro					26	51
Northborough	141	144				
Northbridge	50	12	152	171	61	27
Norton	182	193	47	24	2	13
Norwell	69	88	21	49	9	38
Norwood	39	55	131	124	108	137
Old Rochester			144	140	83	59
Orange	124	41				
Oxford	6	6	173	183	135	28
Palmer	149	125	175	184	75	48
Peabody	147	163	160	117	194	190
Pentucket Regional	67	47	132	79	159	109
Pioneer Valley Reg.	127	161			90	39
Pittsfield	58	137	39	53	28	14
Plymouth	56	63	83	97	139	147
Provincetown	76	32			6	1
Quabbin	139	71	81	51	188	199
Quaboag Regional	185	168			192	118
Quincy	80	77	30	60	99	112
Ralph C Mahar			44	87	160	122
Randolph	197	190			212	215
Reading	154	105	101	114	32	37
Revere	129	180	180	186	123	146
Rockland	48	19	116	144	170	91
Rockport	186	151	48	41	122	41
Salem	194	196	177	192	150	204
Sandwich	95	64	9	37	41	31
Saugus	120	98	74	77	202	205
Scituate	61	30	171	115	93	127
Sharon	93	143	162	160	30	23
Shirley	215	204	150	120		
Shrewsbury	14	33	54	50	4	8
Silver Lake			38	30	52	71
Somerset	180	173	141	189	217	219
Somerville	126	113	138	162	174	189
South Hadley	208	206	163	132	39	53
Southborough	25	43	130	102		
Southbridge	13	46	128	174	19	84
Southern Berkshire	179	205	167	143	95	105
Southwick Tolland	22	67	135	101	196	157
Spencer East Brookfield	16	10	90	141	162	114
Springfield	35	23	69	131	132	160

(Table 6 cont.)

NAME	GRADE 4		GRADE 8		GRADE 10	
	Rank (G)	Rank (P)	Rank (G)	Rank (P)	Rank (G)	Rank (P)
Stoneham	171	150	10	26	1	9
Stoughton	143	119	149	163	67	129
Sudbury	188	132	125	98		
Sutton	1	3			198	187
Swampscott	105	122	23	83	219	220
Swansea	204	209	112	94	124	133
Tantasqua			119	96	168	139
Taunton	138	116	134	172	203	218
Tewksbury	18	17	50	22	138	82
Topsfield	169	138				
Triton	144	145	122	167	128	148
Tyngsborough	9	16	14	19	10	6
Uxbridge	157	100	70	105	191	185
Wachusett Reg.	30	52	168	150	131	159
Wakefield	132	76	188	178	141	117
Walpole	24	28	164	76	107	97
Waltham	109	51	126	108	84	54
Ware	191	199	110	32	40	5
Wareham	166	189	183	190	205	202
Watertown	196	198	186	158	215	198
Wayland	193	147	145	129	68	92
Webster	83	66			21	2
Wellesley	44	123	4	58	47	79
West Boylston	153	89	93	56	143	83
West Bridgewater	19	73			155	86
West Springfield	59	188	161	175	85	85
Westborough	151	128	89	47	12	24
Westfield	72	166	154	166	171	168
Westford	33	65	64	55	210	177
Weston	203	160	79	86	187	179
Westport Community	175	94	165	99	180	212
Westwood	94	133	97	111	37	69
Weymouth	77	149	153	152	125	125
Whitman Hanson	190	87	84	74	164	175
Wilmington	81	35	159	128	89	77
Winchendon	115	97			204	194
Winchester	74	75	96	118	80	130
Winthrop	60	26	137	151	209	211
Woburn	52	118	109	71	102	73
Worcester	45	106	42	148	44	19