

***FRAMINGHAM PUBLIC
SCHOOLS***

BENCHMARKING STUDY

Final Report

***November 2005
The Abrahams Group***

November 11, 2005

Dr. Christopher H. Martes
Superintendent
Framingham Public Schools
Jonathan Maynard Building
14 Vernon Street, Suite 201
Framingham, MA 01701

Dear Dr. Martes:

The Abrahams Group has completed our work to conduct a benchmarking study consistent with our November 2004 proposal and contract. This letter transmits our final report.

We are pleased to have assisted the Framingham Public Schools on this important and challenging project.

Sincerely yours,

THE ABRAHAMS GROUP

Mark D. Abrahams, CPA, President
Shelley Metzenbaum, Ph.D.
Meghan McNally

Attachment

**FRAMINGHAM PUBLIC SCHOOLS
BENCHMARKING STUDY
EXECUTIVE SUMMARY**

Framingham Public Schools contracted with The Abrahams Group to answer the question: “Do our schools operate in a cost-effective manner?” The Abrahams Group worked closely with a Working Group consisting of School Committee members and representatives from various Town Committees and Town Meeting members to identify performance (effectiveness), cost, and demographic indicators of interest to serve as the basis for the comparison. Throughout the process, analyses have been compiled to inform current and future community decision-making. This packet summarizes the project’s background and objectives, overall findings and methodology, and compiles the detailed analyses behind the report findings. This compilation should serve as a valuable resource to the Framingham School Committee and community now and in the future.

BACKGROUND AND OBJECTIVES

Framingham Town Meeting passed a resolution asking the Board of Selectmen and the School Committee to develop a benchmarking implementation plan. The benchmarking process as defined by the Town consists of four tasks:

1. **Define the overall service objectives for each department.** The School department’s mission and goals for 2003-04 and 2004-05 were utilized in this study.
2. **Define effectiveness (i.e., quality/outcomes) and cost measures.** The School Department defined effectiveness as grade 4 and 10 MCAS scores – proficient and above proficient (three year averages, 2002 – 2004), and percentage of seniors planning to enter four-year colleges (2004). 2004 cost per pupil was used as the cost measure.
3. **Identify “comparable” communities in Massachusetts that have achieved the highest levels of cost/effectiveness by:**
 - a. **Defining the major demographic factors that affect comparability of effectiveness measures across communities.** Three demographic variables (median family income, percent low-income students, and percent limited English proficient students) were chosen to assess the impact of demographic characteristics on performance. They were chosen based on prior research that suggested that these demographic characteristics strongly influenced performance outcome levels (Appendix E), and community interest and experience. The analysis performed by The Abrahams Group and accepted by the Working Group and the School Committee suggested that two of the variables (median family income and percent low-income students) were highly correlated to educational outcomes (i.e. effectiveness), while the third demographic variable, percentage limited English proficient (LEP) students, correlated only modestly with effectiveness. We believe that LEP provides useful additional perspective for Framingham in particular, thus LEP is also included in the analyses in the Appendices.

variables. The Town expressed an interest in defining performance in ways that went beyond test results and college plans, but the lack of common indicators for other outcomes of interest precluded benchmarking on other outcomes of interest at this time.

Based upon prior research and community interest and experience, we selected three demographic variables (median family income, percent low-income students, and percent limited English proficient students) to assess the impact of demographic characteristics on performance. Prior research suggested that these demographic characteristics strongly influence performance outcome levels in the state (Appendix E). Further analysis suggested that two of the variables (median family income and percent low-income students) were highly correlated to educational outcomes, i.e. effectiveness. (Correlation analysis may overstate the effect of a variable when it links to other variables that may also influence performance, such as parents' education. Project scope and data availability did not allow for testing all possible explanatory variables. We are comfortable that the two variables selected are key demographic indicators.)

A more detailed set of tables and analyses accompany this chart (Appendix A.) These tables use the median family income and percent low-income students to identify demographic peer communities and show their performance relative to demographic characteristics. The tables also list communities whose demographic characteristics would have predicted lower outcomes than Framingham, but which, in fact, had higher performance scores. These communities may be worth further study to confirm and understand their higher performance to determine if it offers Framingham useful ideas.

Costs

Figure B shows how Framingham's 2004 per pupil expenditures, with and without grant dollars, compare to those of its demographic peers. This information is presented as scatter diagrams (simple correlations) with Framingham appearing as the big (red) dot and other communities appearing as smaller (blue) diamonds. Framingham's costs are in the higher range relative to its demographic peers. Instructional costs and indirect services appear to account for much of the cost differential. Appendix B provides more detailed expenditure and revenue tables, showing details for Framingham and its demographic peers, as well as a chart describing what costs are contained in each expenditure category. We considered the need to make adjustments to account for cost-of-living variations across communities, but found that these variations did not substantially change the findings regarding relative costs (see Appendix B, Table 1A.)

Next Steps

Does the Town of Framingham want to probe further to find ways to maintain and improve school performance and to control costs? Some possible questions for future consideration are:

- Are there lessons that can be learned from communities that "outperformed" Framingham despite having similar demographic characteristics or characteristics that would have predicted a lower performance?

- Are there ways to cut costs without compromising performance? A “drill-down” analysis may provide some insights to these answers that reveal ways to cut costs without compromising the performance Framingham has achieved.
- Does Framingham want to look more closely at individual school performance to identify opportunities for improvement?
- Does Framingham want to reach out to other communities in Massachusetts to build a system that will allow this sort of an analysis on an ongoing basis?

Report Structure

This report presents an executive summary of the Framingham Public Schools’ Benchmarking Project supported by various figures and appendices. The following figures and appendices were presented to and discussed with the School Committee and the Working Group during the course of the project. Where not otherwise noted, data are from the U.S. Census and Massachusetts Department of Education.

- Figure A (scatter diagram): “Outcomes x Demographics” presents correlations of the three outcomes and the three demographic variables. There are nine scattergrams correlating the outcomes to the demographic variables. These are labeled Figure A-1 through Figure A-9.
- Figure B (scatter diagram): “Outcomes x Costs” presents correlations between per pupil expenditures and the three outcomes. There are six scattergrams correlating the costs to the outcomes. These are labeled Figure B-1 through Figure B-6.
- Appendix A: Detailed Outcomes x Demographic Tables with supporting analysis. This appendix presents the detailed analysis of outcomes correlated with the demographic variables and presents a list of peer communities or districts with performance stronger than Framingham’s. These tables are summarized in Figure A.
- Appendix B: Detailed Cost Tables, including expenditure category definitions. Appendix B consists of five tables. Appendix B, Table 1A presents the adjusted cost data.
- Appendix C: Working Group. This appendix presents the names and affiliation of the Working Group members.
- Appendix D: Demographic Peers. This appendix presents the list of selected benchmark communities, those with demographic characteristics similar to Framingham, sorted in alphabetical order (D1) and sorted by median family income and percent low-income students (D2).
- Appendix E: This appendix presents several rankings of Massachusetts school systems produced by others. The Abrahams Group did not undertake a methodological analysis of the assumptions used to produce the rankings. We used the studies primarily to identify potentially relevant community demographic characteristics for the benchmarking analysis. A brief description of each study is presented in Appendix E. These studies include the Boston Globe (E1), Chen Ferguson (E2), Boston Magazine (E3), the Beacon Hill Institute (E4), and the Kruger Analysis (E5).

Figure A: Scatterplots of Outcome Variables and Demographic Characteristics, all Massachusetts Schools

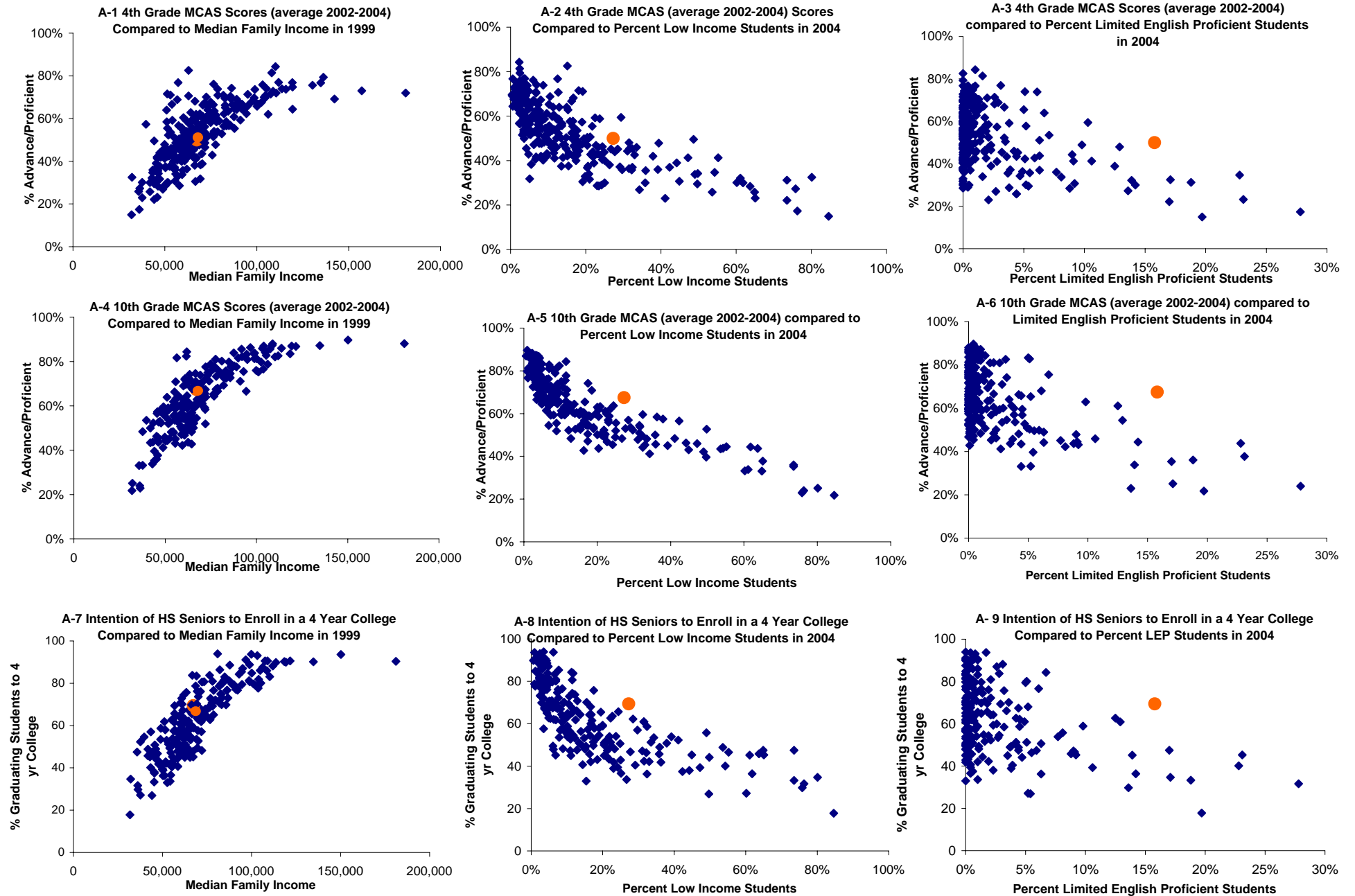
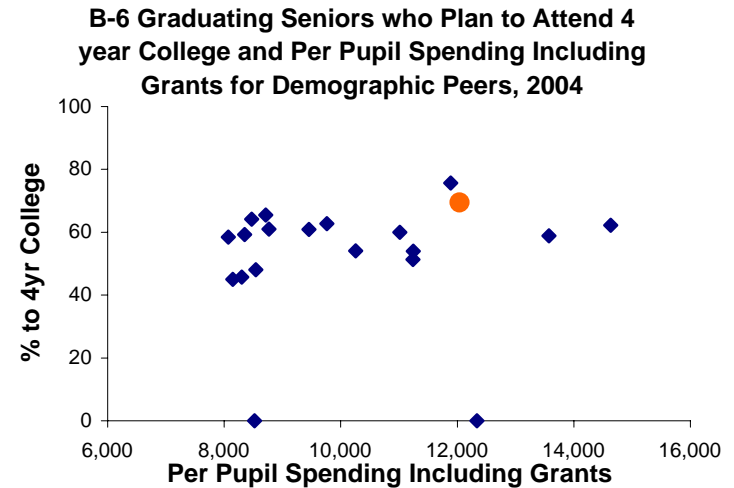
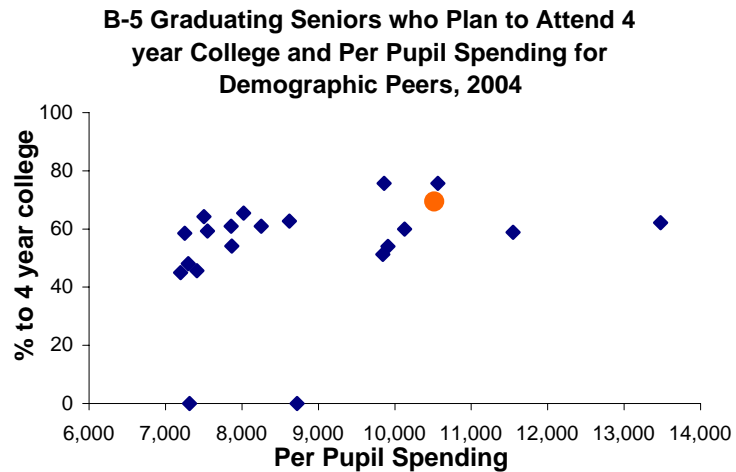
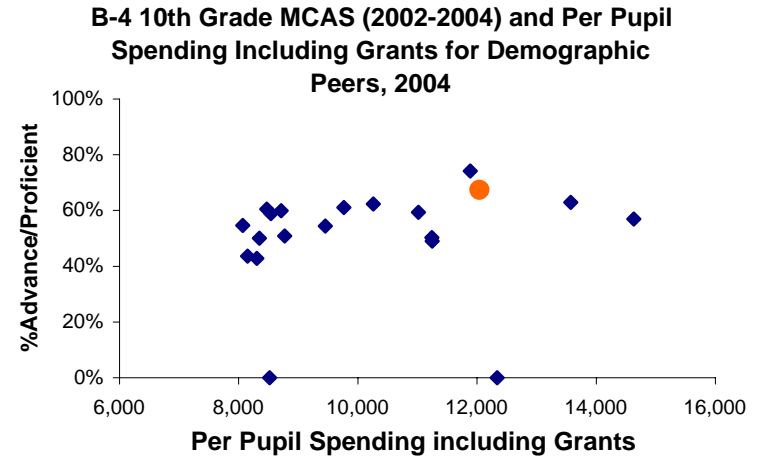
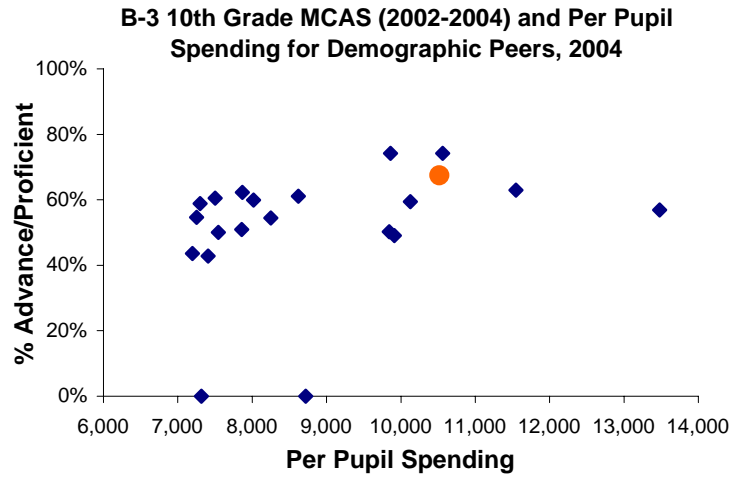
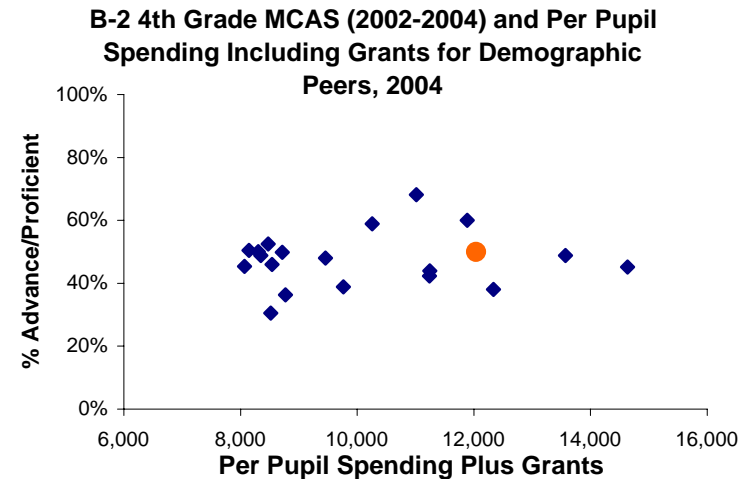
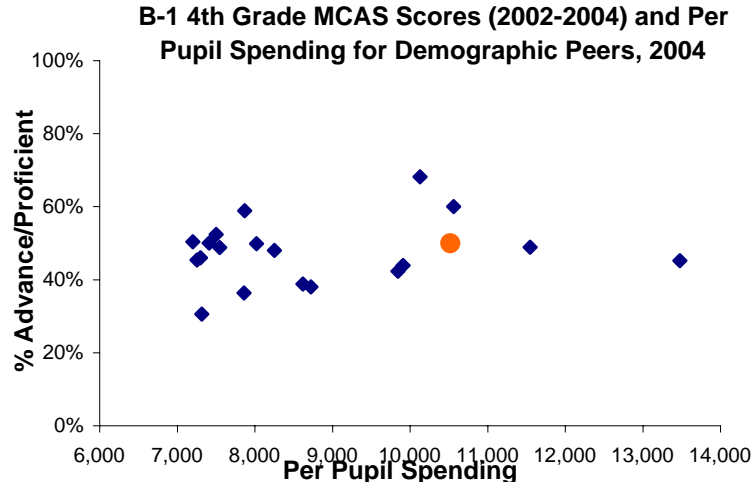


Figure B: Scatterplots of Outcome Variables and Per Pupil Spending with and without Grant Spending for Framingham and Demographic Peers.

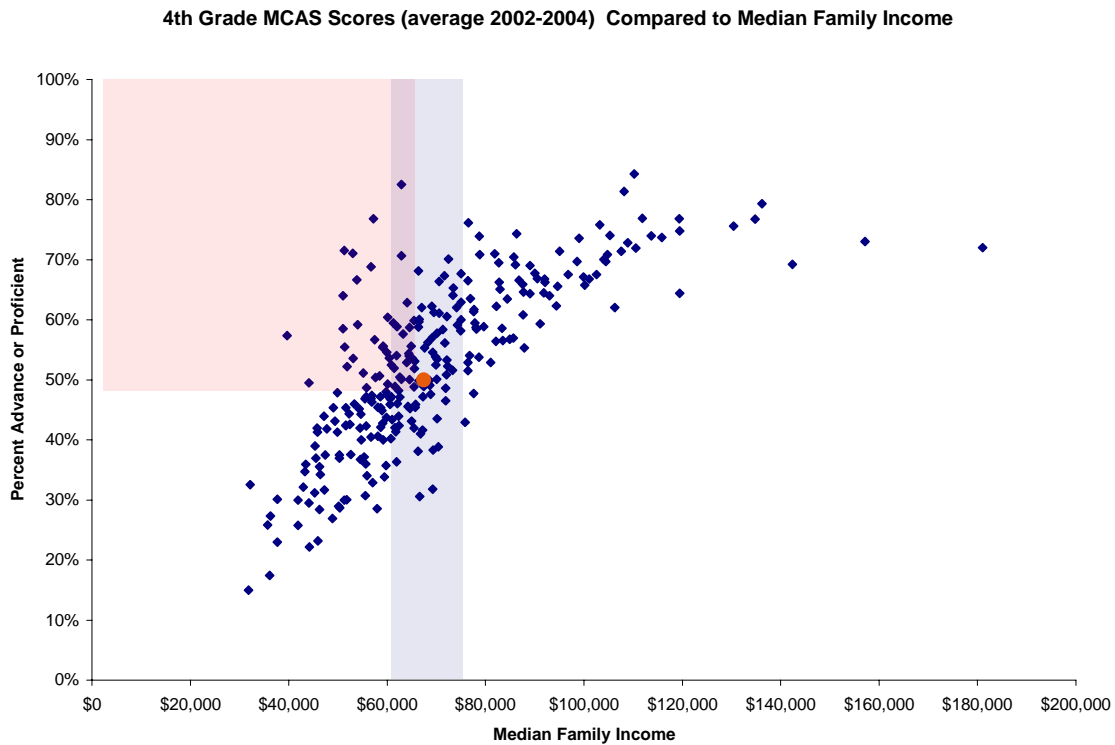


Appendix A: Detailed Outcomes Versus Demographic Tables with Supporting Analysis

I. MCAS 4th Grade Percent Proficient and Advanced (Framingham = 50 percent proficient and advanced)

A. Median Family Income

We compared Framingham to the 20 communities with the most similar median family income levels. Of those 21 communities including Framingham, Framingham has the 11th highest three-year-average 4th grade percent-proficient-and-advanced MCAS score.



We also identified school systems that have a lower median family income than Framingham but higher three-year-average 4th-grade MCAS scores. There are approximately 50 school systems in that category. However, 27 of them are west of Springfield and Northampton, or on the Cape and Islands (highlighted in italics in Tables 1 and 2.)

The 22 schools that are east of Springfield and not on the Cape are schools with which Framingham might want to benchmark to see what they are doing in terms of educational approaches worth replicating. They are also good candidates for cost comparison.

Table 1: Framingham and 20 Comparison Schools based on Median Family Income and Ranked by 4th Grade MCAS Score*

Rank	School District	MCAS Scores	Median Family Income
1	Woburn	68.2%	\$66,364
2	West Boylston	62.2%	\$69,100
3	Rochester	62.0%	\$67,031
4	<i>Sandwich</i>	60.1%	\$66,553
5	<i>Whately</i>	59.6%	\$66,488
6	Grafton	58.8%	\$66,396
7	North Middlesex	57.0%	\$69,147
8	Mattapoissett	56.2%	\$68,246
9	<i>Williamstown</i>	55.3%	\$67,589
10	Rockport	54.6%	\$69,263
11	Framingham	50.0%	\$67,420
12	<i>Hopedale</i>	49.9%	\$68,571
13	Beverly	49.8%	\$66,486
14	Plainville	49.1%	\$68,640
15	Watertown	48.9%	\$67,441
16	Abington	47.6%	\$68,826
17	<i>East Bridgewater</i>	47.2%	\$67,307
18	Douglas	41.6%	\$67,210
19	<i>Nantucket</i>	41.0%	\$66,786
20	Berkley	31.8%	\$69,222
21	<i>Westhampton</i>	30.6%	\$66,625

Table 2: Comparison of Schools with Lower Median Family Income and Higher 4th Grade MCAS Scores than Framingham *

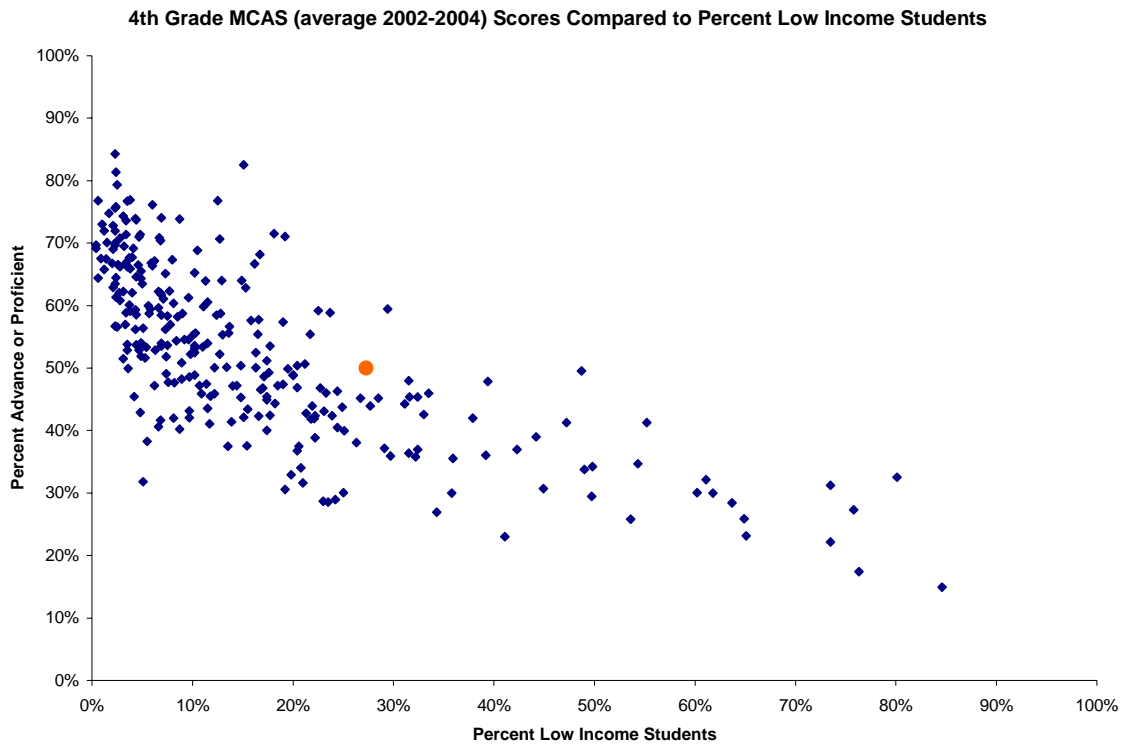
	MCAS Scores	Median Family Income
<i>Conway</i>	82.5%	\$62,917
<i>Brewster</i>	76.8%	\$57,174
<i>Eastham</i>	71.5%	\$51,269
<i>Sunderland</i>	71.1%	\$53,021
<i>Orleans</i>	70.7%	\$62,909
<i>Chatham</i>	68.8%	\$56,750
Woburn	68.2%	\$66,364
<i>Oak Bluffs</i>	66.7%	\$53,841
<i>Wellfleet</i>	64.0%	\$50,990
Weymouth	62.8%	\$64,083
Rochester	62.0%	\$67,031
Somerset	60.4%	\$60,067
<i>Sandwich</i>	60.1%	\$66,553
Whitman-Hanson	59.9%	\$65,466
<i>Whately</i>	59.6%	\$66,488
Amherst	59.5%	\$61,237
<i>Barnstable</i>	59.2%	\$54,026
Ayer	58.9%	\$61,968
Grafton	58.8%	\$66,396
<i>Southwick-Tolland</i>	58.7%	\$64,512
<i>Harwich</i>	58.5%	\$51,070
Plymouth	57.7%	\$63,266
<i>Provincetown</i>	57.4%	\$39,679
<i>Falmouth</i>	56.7%	\$57,422
<i>Granville</i>	55.6%	\$59,219
<i>Deerfield</i>	55.6%	\$64,909
<i>Truro</i>	55.4%	\$51,389
<i>Agawam</i>	55.4%	\$59,088
Brimfield	54.6%	\$59,943
Dudley-Charlton Reg	54.3%	\$64,375
<i>Hadley</i>	54.0%	\$61,897
Sturbridge	54.0%	\$64,455
West Bridgewater	53.6%	\$64,815
Dartmouth	53.6%	\$60,401
Kingston	53.5%	\$65,101
<i>Tisbury</i>	53.5%	\$53,051
Dracut	53.1%	\$65,633
Lunenburg	52.9%	\$63,981
Auburn	52.5%	\$60,805
<i>Lanesborough</i>	52.2%	\$51,887
<i>Lenox</i>	51.9%	\$61,413
Shutesbury	51.9%	\$65,521
<i>Edgartown</i>	51.1%	\$55,153
Gloucester	50.6%	\$58,459
Holbrook	50.4%	\$62,532
Granby	50.4%	\$57,632
Amesbury	50.1%	\$62,875
Westport	50.1%	\$64,568
Framingham	50.0%	\$67,420

* Schools that are west of Springfield/Northampton and on the Cape and Islands are in italics

B. Percent Low Income

We compared Framingham to the 20 communities with the most similar percentage of enrolled students who are eligible for free or reduced price lunch, receive Transitional Aid to Families benefits or are eligible for food stamps. Of those 21 communities including Framingham, Framingham has the third highest three-year-average 4th grade percent-proficient-and-advanced MCAS score. **Ayer** and **Amherst** were the only two communities in this category with a higher percentage of students in the proficient and advanced categories for the three-year period, 58.9 percent and 59.5 percent respectively. See Table 3 for the list of 21 comparison schools.

Amherst is the only community in the state with a higher percentage of low-income families than Framingham that had a higher three-year-average 4th-grade MCAS scores.



Several communities with more families having low incomes than does Framingham had a three-year average of 45 percent or higher of 4th-grade students scoring advanced or proficient, close to Framingham's fifty percent. These communities are: **Waltham, Mohawk Trail, Clinton, Hawlemont, Dennis-Yarmouth, Quincy, and Orange.**

Table 3: Framingham and 20 Comparison Schools based on Percentage of Enrolled Students who are Low Income and Ranked by 4th Grade MCAS Score

Rank	School District	MCAS Scores	Percent Low Income Students
1	Amherst	59.5%	29.4%
2	<i>Ayer</i>	58.9%	23.7%
3	Framingham	50.0%	27.3%
4	Quincy	48.0%	31.5%
5	Northampton	46.3%	24.4%
6	<i>Mohawk Trail</i>	45.4%	31.6%
7	Waltham	45.2%	28.5%
8	Easthampton	45.1%	26.7%
9	Leominster	44.3%	31.1%
10	Gardner	43.9%	27.7%
11	Methuen	43.8%	24.9%
12	Wales	42.4%	23.9%
13	New Salem-Wendell	40.5%	24.4%
14	<i>Gateway</i>	40.0%	25.1%
15	Shirley	38.1%	26.3%
16	<i>Westfield</i>	37.2%	29.1%
17	Randolph	36.4%	31.5%
18	<i>Adams-Cheshire</i>	35.9%	29.7%
19	Haverhill	35.8%	32.2%
20	North Brookfield	30.0%	25.0%
21	Winchendon	29.0%	24.2%

Table 4: Comparison of Schools with More Low Income Students and Higher 4th Grade MCAS Scores than Framingham

School District	MCAS Scores	Percent Low Income Students
Amherst	59.5%	29.4%
Framingham	50.0%	27.3%
Orange	49.5%	48.7%
Quincy	48.0%	31.5%
Hawlemont	47.9%	39.4%
Clinton	46.0%	33.5%
Mohawk Trail	45.4%	31.6%
Dennis-Yarmouth	45.4%	32.4%
Waltham	45.2%	28.5%

C. Limited English Proficiency

We compared Framingham to the 17 communities with the most similar percentage of LEP students. Of those 18 communities including Framingham, Framingham has the 2nd highest three-year-average 4th grade percent-proficient-and-advanced MCAS score. Amherst had a stronger performance, but it only has 10 percent LEP students. All 17 communities are near or east of Springfield.

Three communities with a similar percentage of LEP students (greater than 10 percent) than Framingham had a three-year average of 40 percent or higher of 4th-grade students scoring advanced or proficient compared to Framingham's 50 percent. These communities are: **Amherst** (59.5%), **Everett** (41.3 %) and **Quincy** (48.0%). See Tables 5 and 6 for a full list of schools.

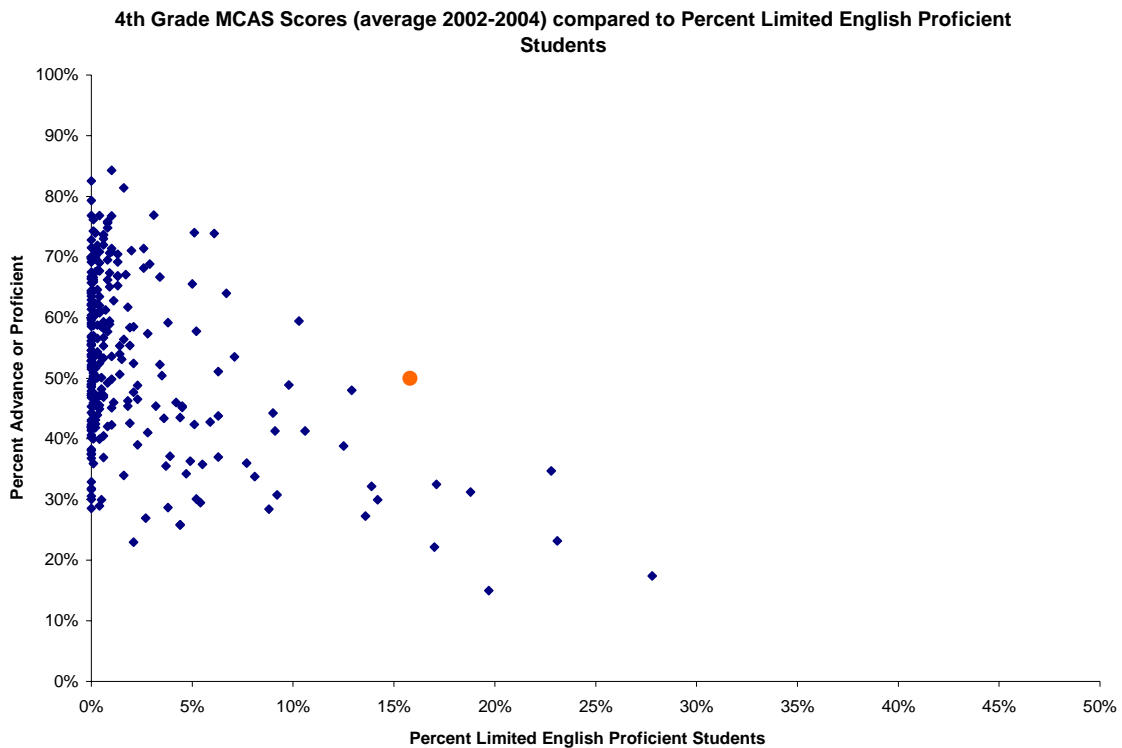


Table 5: Rank of Framingham and 17 Comparison Schools based on Percentage of Enrolled Students who are Limited English Proficient and Ranked by 4th Grade MCAS Score

Rank	School District	MCAS Scores	Percent LEP
1	Amherst	59.5%	10.3%
2	Framingham	50.0%	15.8%
3	Watertown	48.9%	9.8%
4	Quincy	48.0%	12.9%
5	Revere	41.3%	9.1%
6	Everett	41.3%	10.6%
7	Marlborough	38.8%	12.5%
8	Fitchburg	34.7%	22.8%
9	Chelsea	32.5%	17.1%
10	Worcester	32.2%	13.9%
11	Lynn	31.2%	18.8%
12	Malden	30.7%	9.2%
13	Somerville	30.0%	14.2%
14	Springfield	27.3%	13.6%
15	Lowell	23.2%	23.1%
16	Boston	22.1%	17.0%
17	Holyoke	17.4%	27.8%
18	Lawrence	15.0%	19.7%

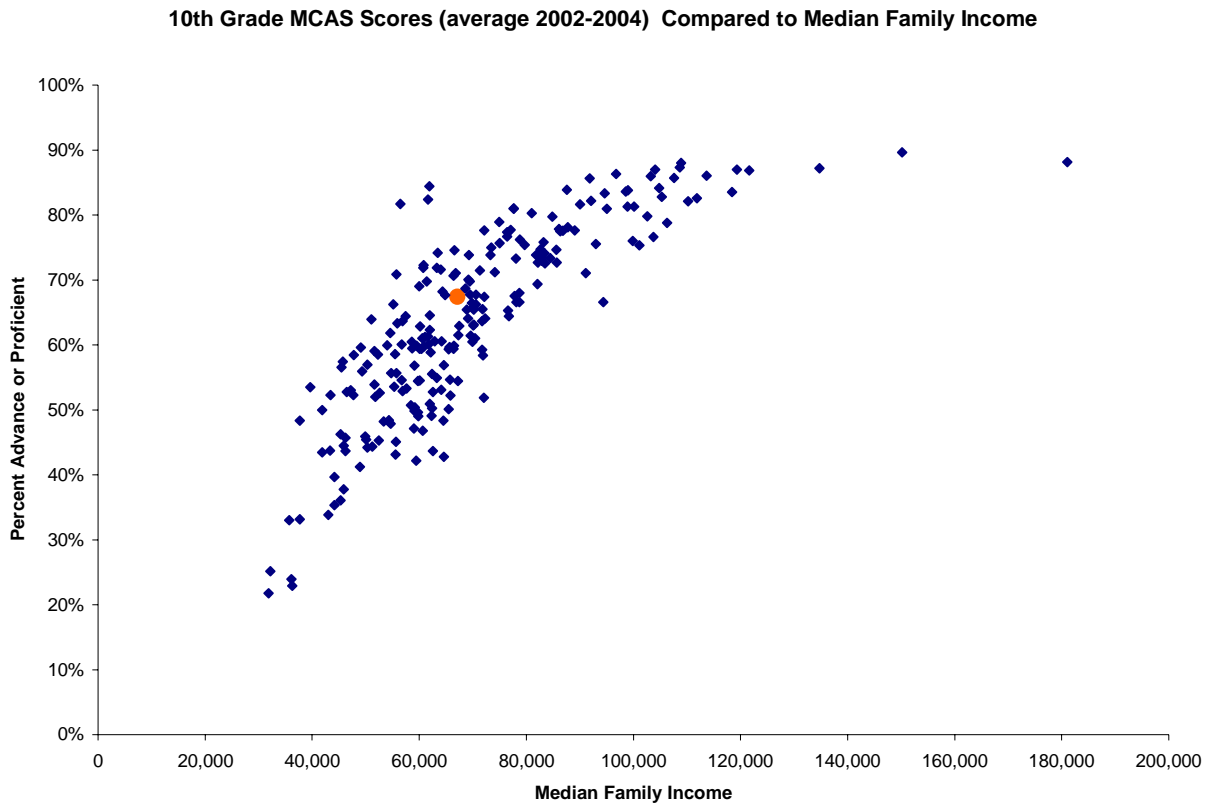
Table 6: Comparison of Schools with More LEP Students and Higher 4th Grade MCAS Scores than Framingham

School District	MCAS Scores	Percent LEP
Framingham	50.0%	15.8%
Amherst	59.5%	10.3%
Quincy	48.0%	12.9%
Everett	41.3%	10.6%

II. MCAS 10th Grade Percent Proficient and Advanced (Framingham = 67.5 percent proficient and advanced)

A. Median Family Income

We compared Framingham to the 20 communities, including the regional schools, with the most similar median family income levels. Of those 21 communities including Framingham, it has the 9th highest three-year-average 10th grade percent-proficient and advanced MCAS score. (See Table 7.)



We also identified school systems that have a lower median family income than Framingham but higher three-year-average 10th-grade MCAS scores. There are 16 communities in that category. (See Table 8) 6 of which are west of Springfield and Northampton or on the Cape and Islands. These are schools with which Framingham might want to benchmark to see what they are doing in terms of curriculum worth replicating. They are also good candidates for cost comparison.

Table 7: Rank of Framingham and 20 Comparison Schools Selected using Median Family Income and Ranked based on 10th Grade MCAS Scores

Rank	District	MCAS Scores	Median Family Income
1	<i>Sandwich</i>	74.6%	\$66,553
2	Rockport	73.9%	\$69,263
3	<i>Nantucket</i>	71.0%	\$66,786
4	Grafton	70.6%	\$66,396
5	North Middlesex	70.0%	\$69,147
6	North Attleborough	69.8%	\$69,461
7	Hopedale	68.7%	\$68,571
8	Old Rochester	67.8%	\$69,494
9	Framingham	67.5%	\$67,420
10	Dighton-Rehoboth	66.5%	\$69,823
11	Abington	65.4%	\$68,826
12	West Boylston	64.1%	\$69,100
13	Watertown	62.9%	\$67,441
14	East Bridgewater	61.5%	\$67,307
15	Silver Lake	61.4%	\$69,624
16	Beverly	59.9%	\$66,486
17	Dracut	59.6%	\$65,633
18	Woburn	59.4%	\$66,364
19	Winthrop	54.6%	\$65,696
20	Douglas	54.5%	\$67,210
21	Saugus	52.2%	\$65,782

Table 8: Comparison of Schools with Lower Median Family Income and Higher 10th Grade MCAS Scores than Framingham

District	MCAS Scores	Median Family Income
<i>Central Berkshire</i>	70.9%	\$55,731
<i>Nauset</i>	81.7%	\$56,436
Quabbin	69.0%	\$60,015
Ashburnham-Westminster	71.9%	\$60,760
Belchertown	72.3%	\$60,830
<i>Lenox</i>	69.7%	\$61,413
Hatfield	82.4%	\$61,607
Hadley	84.4%	\$61,897
<i>Frontier</i>	71.9%	\$63,311
Amherst-Pelham	74.2%	\$63,420
Lunenburg	71.6%	\$63,981
Dudley-Charlton Reg	68.2%	\$64,375
West Bridgewater	67.7%	\$64,815
Grafton	70.6%	\$66,396
<i>Sandwich</i>	74.6%	\$66,553
<i>Nantucket</i>	71.0%	\$66,786
Framingham	67.5%	\$67,420

B. Percent Low Income

We compared Framingham to the 20 communities with the most similar percentage of enrolled students who are eligible for free or reduced price lunch, receives Transitional Aid to Families benefits or are eligible for food stamps. Of those 21 communities including Framingham, Framingham has the third highest three-year-average 4th grade percent-proficient-and-advanced MCAS score.

No school in Massachusetts with the same percentage or more of low income students outperforms Framingham. Several communities with more families having low incomes than does Framingham had a three-year average of 55 percent or higher of 10th-grade students scoring advanced or proficient, close to Framingham's 67.5 percent. These communities are: **Ware, Waltham, Wareham, Ralph C. Mahar, and Dennis-Yarmouth.**

10th Grade MCAS (average 2002-2004) compared to Percent Low Income Students

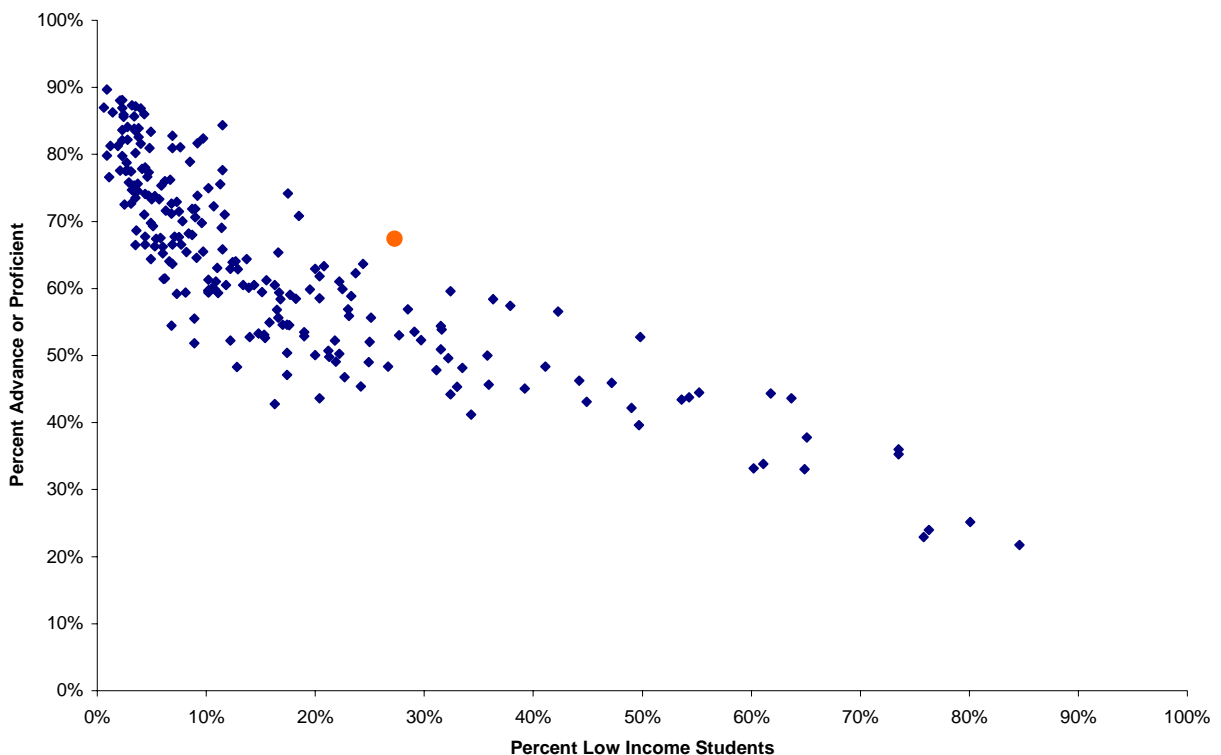


Table 9: Rank of Framingham and 20 Comparison Schools Selected using Percent Low Income Students and Ranked based on 10th Grade MCAS Scores

Rank	School District	MCAS Scores	Percent Low Income Students
1	Framingham	67.5%	27.3%
2	Northampton	63.7%	24.4%
3	Ayer	62.3%	23.7%
4	<i>Dennis-Yarmouth</i>	<i>59.6%</i>	<i>32.4%</i>
5	<i>Northbridge</i>	<i>58.9%</i>	<i>23.3%</i>
6	<i>Lee</i>	<i>56.9%</i>	<i>23.0%</i>
7	Waltham	56.9%	28.5%
8	Palmer	55.9%	23.1%
9	<i>Gateway</i>	<i>55.6%</i>	<i>25.1%</i>
10	Quincy	54.4%	31.5%
11	<i>Mohawk Trail</i>	<i>53.9%</i>	<i>31.6%</i>
12	<i>Westfield</i>	<i>53.5%</i>	<i>29.1%</i>
13	Gardner	53.0%	27.7%
14	<i>Adams-Cheshire</i>	<i>52.3%</i>	<i>29.7%</i>
15	North Brookfield	52.0%	25.0%
16	Randolph	50.9%	31.5%
17	Haverhill	49.6%	32.2%
18	Methuen	49.0%	24.9%
19	Easthampton	48.4%	26.7%
20	Leominster	47.9%	31.1%
21	Winchendon	45.4%	24.2%

Table 10: Comparison of Schools with More Low Income Students and Higher 10th Grade MCAS Scores than Framingham

School District	MCAS Scores	Percent Low Income Students
Framingham	67.5%	27.3%
<i>Dennis-Yarmouth</i>	<i>59.6%</i>	<i>32.4%</i>
Ralph C. Mahar	58.4%	36.3%
Wareham	57.4%	37.9%
Waltham	56.9%	28.5%
Ware	56.6%	42.3%

C. Limited English Proficiency

We compared Framingham to 17 communities with the most similar percentage of LEP students. Of those 17 communities including Framingham, Framingham has the highest three-year-average 10th grade percent-proficient-and-advanced MCAS score. All 17 communities are in and around Springfield and east of Springfield.

No community with a higher percentage of LEP students outperformed Framingham measured by the three-year average of 10th grade students scoring advanced or proficient on the MCAS. See Tables 10 and 11 for a full list of schools.

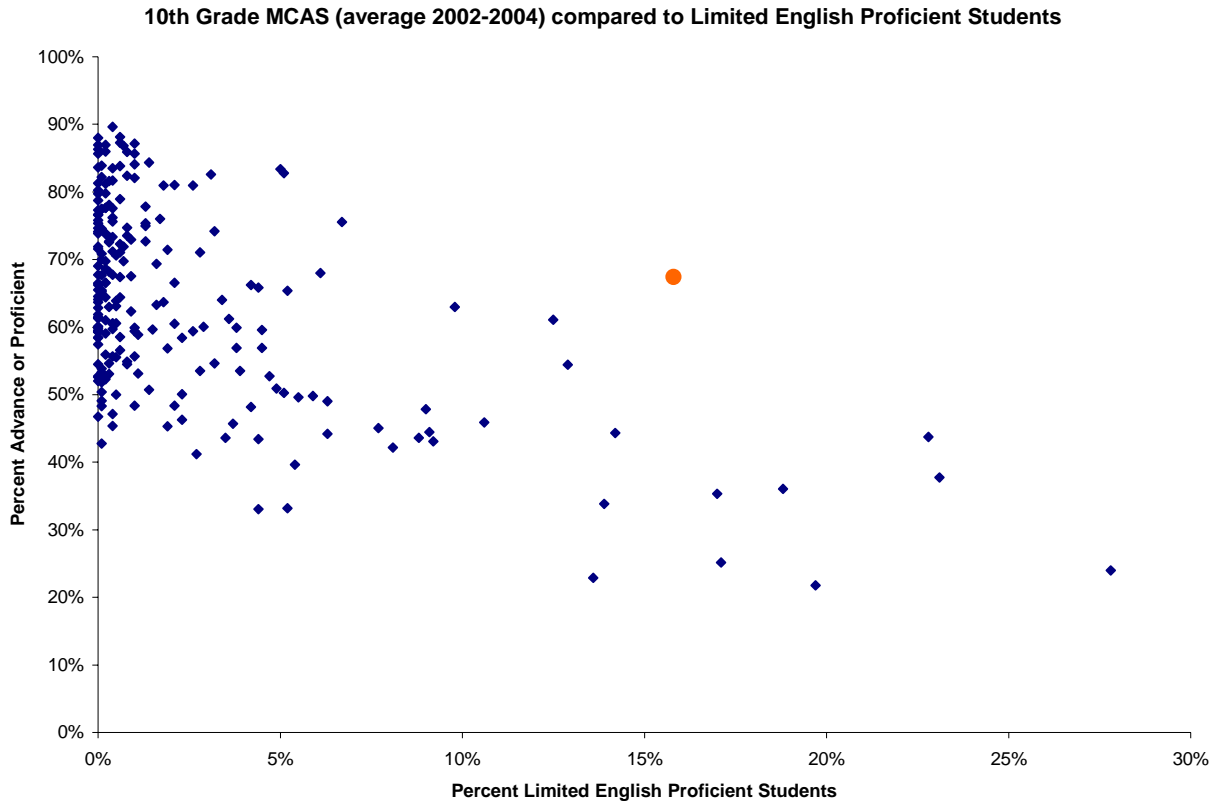


Table 11: Rank of Framingham and 17 Comparison Schools Selected using Percent Limited English Proficient Students and Ranked based on 10th Grade MCAS Scores

Rank	School District	MCAS Scores	LEP Students
1	Framingham	67.5%	15.8%
2	Watertown	62.9%	9.8%
3	Marlborough	61.1%	12.5%
4	Quincy	54.4%	12.9%
5	Leominster	47.9%	9.0%
6	Everett	45.9%	10.6%
7	Revere	44.5%	9.1%
8	Somerville	44.4%	14.2%
9	Fitchburg	43.7%	22.8%
10	Malden	43.1%	9.2%
11	Lowell	37.7%	23.1%
12	Lynn	36.0%	18.8%
13	Boston	35.3%	17.0%
14	Worcester	33.8%	13.9%
15	Chelsea	25.1%	17.1%
16	Holyoke	24.0%	27.8%
17	Springfield	22.9%	13.6%
18	Lawrence	21.8%	19.7%

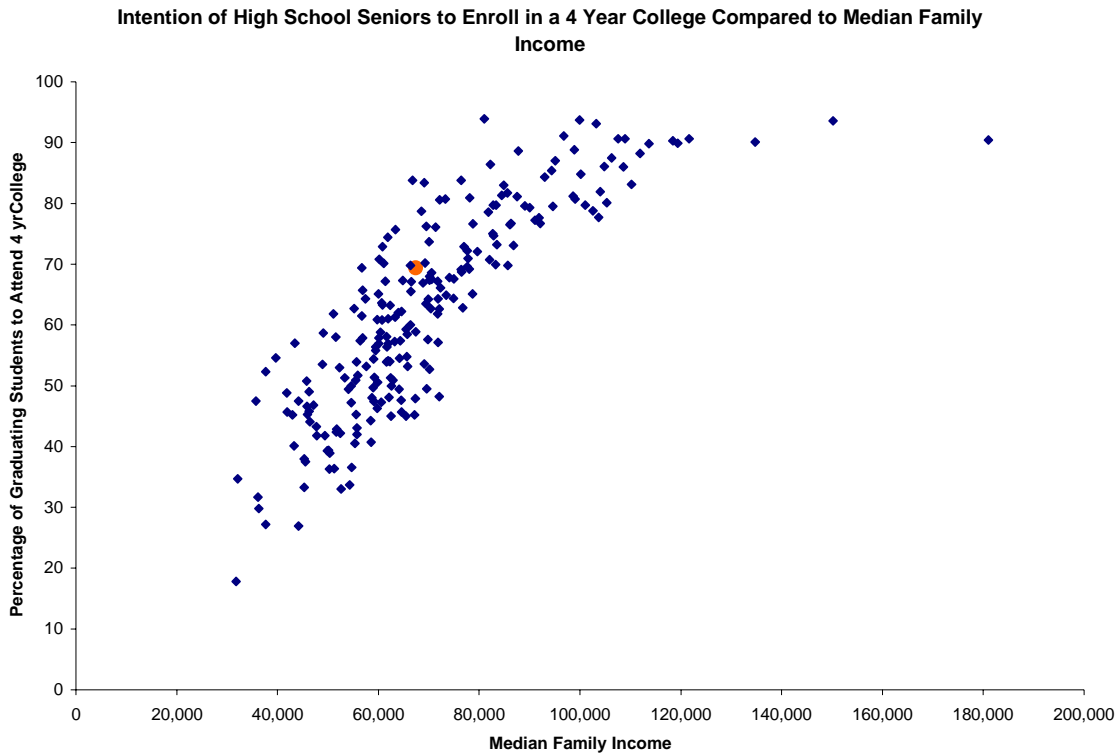
Table 12: Comparison of Schools with More LEP Students and Higher 10th Grade MCAS Scores than Framingham

District	MCAS Scores	LEP Students
Framingham	67.5%	15.8%

III. Intention of Graduating Seniors to Attend 4 Year College (Framingham = 38.7 percent)

A. Median Family Income

We compared Framingham to the 20 communities with the most similar median family income levels. Of those 21 communities including Framingham, Framingham has the 7th highest percent of graduating seniors who plan to attend a four year college.



We also identified school systems that have a lower median family income than Framingham but higher percentage of graduating seniors who plan to attend a four year college. There are approximately 7 school systems in that category. (highlighted in Table 14.)

The 22 schools that are east of Springfield and not on the Cape are schools with which Framingham might want to benchmark to see what they are doing in terms of educational approaches worth replicating. They are also good candidates for cost comparison.

Table 13: Framingham and 20 Comparison Schools Based on Median Family Income and Ranked using Percent of Graduating Seniors Who Plan to attend a 4 year College

Rank	School District	Four Year College	Median Family Income
1	Nantucket	83.80	\$66,786
2	West Boylston	83.40	\$69,100
3	Hopedale	78.70	\$68,571
4	Uxbridge	73.70	\$70,068
5	Rockport	70.20	\$69,263
6	Grafton	69.80	\$66,396
7	Framingham	69.40	\$67,420
8	Sandwich	67.10	\$66,553
9	Abington	66.90	\$68,826
10	Beverly	65.50	\$66,486
11	Stoughton	64.20	\$69,942
12	North Attleborough	63.50	\$69,461
13	Woburn	60.00	\$66,364
14	Watertown	58.90	\$67,441
15	Winthrop	58.50	\$65,696
16	Dighton-Rehoboth	57.60	\$69,823
17	Dracut	54.80	\$65,633
18	North Middlesex	53.60	\$69,147
19	Saugus	53.20	\$65,782
20	East Bridgewater	47.90	\$67,307
21	Douglas	45.20	\$67,210

Table 14: Comparison of Schools with Lower Median Family Income and Higher Percentage of Graduating Seniors Who Plan to attend a 4 Year College than Framingham

School District	Four Year College	Median Family Income
Nantucket	83.80	\$66,786
Amherst-Pelham	75.70	\$63,420
Hadley	74.40	\$61,897
Belchertown	72.90	\$60,830
Mount Greylock	70.80	\$60,196
Milford	70.10	\$61,029
Grafton	69.80	\$66,396
Framingham	69.40	\$67,420

B. Percent Low Income

We compared Framingham to the 20 communities with the most similar percentage of enrolled students who are eligible for free or reduced price lunch, receive Transitional Aid to Families benefits or are eligible for food stamps. Of those 21 communities including Framingham, Framingham has the highest percentage of graduating seniors who plan to attend a four year college.

There are no communities in the state with a higher percentage of low-income families than Framingham that had a higher percent of graduating seniors who plan to attend a four year college. The Waltham, Randolph and Quincy school districts also have a higher percentage of low income students and a similar rate of graduating students who plan to attend a 4 year college. (see tables 15 and 16 for a full list of schools.)

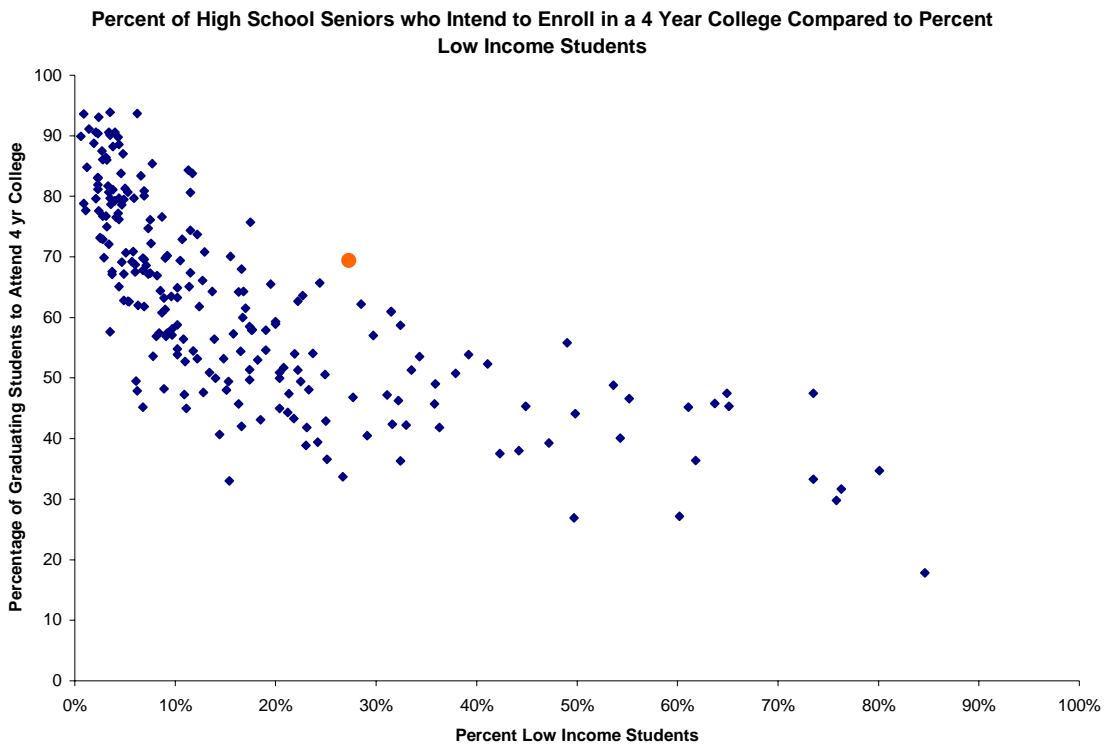


Table 15: Framingham and 20 Comparison Schools based on Percentage of Enrolled Students who are Low Income and Ranked using Graduating Students who Plan to Attend 4 Year College

Rank	School District	Four Year College	Percent Low Income
1	Framingham	69.40	27.3%
2	Northampton	65.70	24.4%
3	Waltham	62.20	28.5%
4	Randolph	61.00	31.5%
5	Quincy	60.90	31.5%
6	Adams-Cheshire	57.00	29.7%
7	Ayer	54.10	23.7%
8	Methuen	50.60	24.9%
9	Leominster	47.20	31.1%
10	Gardner	46.80	27.7%
11	Haverhill	46.30	32.2%
12	North Brookfield	42.90	25.0%
13	Mohawk Trail	42.40	31.6%
14	Westfield	40.50	29.1%
15	Winchendon	39.40	24.2%
16	Gateway	36.60	25.1%
17	Easthampton	33.70	26.7%
18	Northbridge	27.90	23.3%
19	Dennis-Yarmouth	26.70	32.4%
20	Palmer	14.20	23.1%
21	Lee	12.60	23.0%

Table 16: Comparison of Schools with More Low Income Students and Graduating Students who Plan to Attend 4 Year College than Framingham

School District	Four Year College	Percent Low Income
Framingham	69.40	27.3%
Waltham	62.20	28.5%
Randolph	61.00	31.5%
Quincy	60.90	31.5%

C. Limited English Proficiency

We compared Framingham to the 20 communities with the most similar percentage of LEP students. Of those 21 communities including Framingham, Framingham has the highest percentage of graduating seniors who plan to attend a four year college.

Compared to schools with more LEP students, Framingham outperforms all of them using percentage of graduating seniors who plan to attend a four year college. See Tables 17 and 18 for a full list of schools.

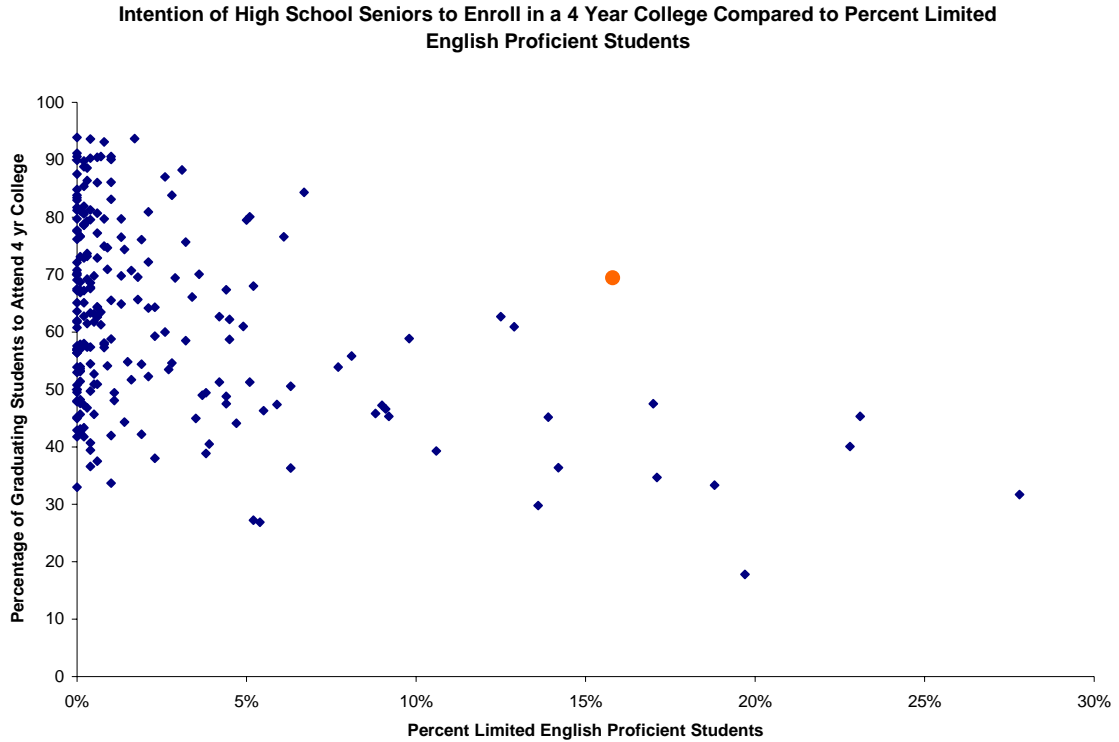


Table 17: Rank of Framingham and 20 Comparison Schools based on Percentage of Enrolled Students who are Limited English Proficient Ranked by Percentage of Graduating Seniors who Plan to Attend 4 yr College

Rank	School District	Four Year College	LEP Students
1	Framingham	69.40	15.8%
2	Marlborough	62.70	12.5%
3	Quincy	60.90	12.9%
4	Watertown	58.90	9.8%
5	Boston	47.50	17.0%
6	Revere	46.60	9.1%
7	Malden	45.30	9.2%
8	Lowell	45.30	23.1%
9	Worcester	45.20	13.9%
10	Fitchburg	40.10	22.8%
11	Everett	39.30	10.6%
12	Somerville	36.40	14.2%
13	Chelsea	34.70	17.1%
14	Lynn	33.30	18.8%
15	Holyoke	31.70	27.8%
16	Springfield	29.80	13.6%
17	Lawrence	17.80	19.7%

Table 18: Comparison of Schools with More Low Income Students and Higher Percentage of Graduating Seniors who Plan to Attend 4 yr Colleges than Framingham

School District	Four Year College	LEP Students
Framingham	69.40	15.8%
Boston	47.50	17.0%
Lowell	45.30	23.1%
Fitchburg	40.10	22.8%
Chelsea	34.70	17.1%
Lynn	33.30	18.8%
Holyoke	31.70	27.8%
Lawrence	17.80	19.7%

Summary Table “Vertical Slice” Communities Higher than Framingham in Selected Outcomes Scores

U.S. 91 and East (Springfield and East), without Cape and Islands

(Vertical slice refers to communities similar in demographics on selected indicator. They line up vertically in approximately the same spot on the X-axis. See Table 1, blue-shaded area.)

	MCAS 4th	MCAS 10th	4 Yr. College
Median Family Income	Grafton Mattapoisett North Middlesex Rochester Rockport West Boylston Woburn	Grafton Hopedale North Attleborough North Middlesex Old Rochester Rockport	West Boylston Hopedale Uxbridge Rockport Grafton
Low Income	Amherst Ayer		
LEP	Amherst		

Benchmark nominees? Communities in table above combined into one list.
Communities with a number in parentheses appear that many times in the table above.

1. Abington
2. Amherst (2)
3. Ayer
4. Gardner
5. Grafton (3)
6. Haverhill
7. Hopedale (2)
8. Leominster
9. Mattapoisett
10. North Attleborough
11. North Middlesex (2)
12. Old Rochester (2)
13. Quincy
14. Randolph
15. Rochester
16. Rockport (3)
17. Uxbridge
18. Waltham
19. Watertown (2)
20. West Boylston (3)
21. Winthrop
22. Woburn

**Summary Table “Vertical Slice” Communities Higher than Framingham in Selected
Outcomes Scores
West of 91 and Cape and Islands**

	MCAS 4 th	MCAS 10 th	4-Yr. College
Median Family Income	<i>Sandwich Whately Williamstown</i>	<i>Nantucket Sandwich</i>	<i>Nantucket</i>
Low Income			
LEP			

1. *Adams-Cheshire*
2. *Dennis-Yarmouth*
3. *Mohawk Trail*
4. *Westfield*
5. *Nantucket (3)*
6. *Sandwich (2)*
7. *Whately*
8. *Williamstown*

**Summary Table “Strong-Performing Quadrant” Communities
U.S. 91 and East (Springfield and East), without Cape and Islands**

(Strong-Performing Quadrant communities refers to communities similar to or lower demographics on selected indicator, but with stronger performance. They line up vertically in approximately the same spot on the X-axis. See Table 1, red-shaded area.)

	MCAS 4th	MCAS 10th	4- Yr. College
Median Family Income	Amesbury Amherst Auburn Ayer Brimfield Dartmouth Dracut Dudley-Charlton Gloucester Grafton Granby Hadley Holbrook Kingston Lunenburg Plymouth Rochester Shutesbury Somerset Sturbridge West Bridgewater Westport Weymouth Whitman-Hanson Woburn	Amherst-Pelham Ashburnham- Westminster Belchertown Dudley-Charlton Grafton Hadley Hatfield Lunenburg Quabbin West Bridgewater	Amherst- Pelham Hadley Belchertown Milford Grafton
Low Income	Amherst		
LEP			

Benchmark nominees? Communities in table above combined into one list.

Communities with a number in parentheses appear that many times in the table above.

- | | | |
|-----------------------------------|-------------------|--------------------------|
| 1. Abington | 14. Grafton (3) | 29. Rochester |
| 2. Amesbury | 15. Granby | 30. Rockport |
| 3. Amherst/Amherst-
Pelham (4) | 16. Hadley (3) | 31. Shutesbury |
| 4. Ashburnham-
Westminster | 17. Hatfield | 32. Somerset |
| 5. Auburn | 18. Haverhill | 33. Sturbridge |
| 6. Ayer | 19. Holbrook | 34. Waltham |
| 7. Belchertown (2) | 20. Kingston | 35. Watertown (2) |
| 8. Brimfield | 21. Leominster | 36. West Boylston |
| 9. Dartmouth | 22. Lunenburg (2) | 37. West Bridgewater (2) |
| 10. Dracut | 23. Milford | 38. Westport |
| 11. Dudley-Charlton (2) | 24. Old Rochester | 39. Weymouth |
| 12. Gardner | 25. Plymouth | 40. Whitman-Hanson |
| 13. Gloucester | 26. Quabbin | 41. Winthrop |
| | 27. Quincy | 42. Woburn |
| | 28. Randolph | |

Summary Table “Strong-Performing Quadrant” Communities Higher than Framingham in Selected Outcomes Scores West of 91 and Cape and Islands

	<i>MCAS 4th</i>	<i>MCAS 10th</i>	<i>4- Yr College</i>
Median Family Income	<i>Conway Brewster Eastham Sunderland Orleans Chatham Oak Bluffs Wellfleet Sandwich Whately Barnstable Southwick- Tolland Harwich Provincetown Falmouth Granville Deerfield Truro Agawam Tisbury Lanesborough Lenox Edgartown</i>	<i>Central Berkshire Nauset Lenox Frontier Sandwich Nantucket</i>	<i>Nantucket Mount Greylock</i>
Low Income	<i>Ayer</i>		
LEP			

Communities in table above combined into one list. Communities with a number in parentheses appear that many times in the table above.

- | | | |
|----------------------|------------------------|-----------------------|
| 1. Adams-Cheshire | 13. Frontier | 25. Provincetown |
| 2. Agawam | 14. Granville | 26. Sandwich (2) |
| 3. Ayer | 15. Hadley | 27. Southwick-Tolland |
| 4. Barnstable | 16. Harwich | 28. Sunderland |
| 5. Brewster | 17. Lanesborough | 29. Tisbury |
| 6. Central Berkshire | 18. Lenox (2) | 30. Truro |
| 7. Chatham | 19. Martha’s Vineyard | 31. Wellfleet |
| 8. Conway | 20. Mount Greylock (2) | 32. Whately |
| 9. Deerfield | 21. Nantucket (3) | |
| 10. Eastham | 22. Nauset | |
| 11. Edgartown | 23. Oak Bluffs | |
| 12. Falmouth (2) | 24. Orleans | |

Vertical Slice Crosswalk with Strong Performing Quadrant

STRAW PROPOSAL BENCHMARK NOMINEES: Vertical -Slice (Similar Demographics and Stronger Outcome Performance)	Strong-Performing Quadrant (Stronger Performing and Weaker Demographic Characteristics)
<p>1. Abington</p> <p>2. Amherst/Amherst-Pelham (2)</p> <p>3. Ayer</p> <p>4. Grafton (2)</p> <p>5. Hopedale</p> <p>6. Mattapoisett</p> <p>7. North Attleborough</p> <p>8. North Middlesex (2)</p> <p>9. Old Rochester (2)</p> <p>10. Randolph</p> <p>11. Rochester</p> <p>12. Rockport</p>	<p>1. Abington</p> <p>2. Amesbury</p> <p>3. Amherst/Amherst-Pelham (2)</p> <p>4. Ashburnham-Westminster</p> <p>5. Auburn</p> <p>6. Ayer</p> <p>7. Belchertown</p> <p>8. Brimfield</p> <p>9. Dartmouth</p> <p>10. Dracut</p> <p>11. Dudley-Charlton (2)</p> <p>12. Gloucester</p> <p>13. Grafton (2)</p> <p>14. Granby</p> <p>15. Hadley</p> <p>16. Hatfield</p> <p>17. Holbrook</p> <p>18. Kingston</p> <p>19. Lunenburg (2)</p> <p>20. Milford</p> <p>21. Old Rochester</p> <p>22. Plymouth</p> <p>23. Quabbin</p> <p>24. Randolph</p> <p>25. Rochester</p> <p>26. Rockport</p> <p>27. Shutesbury</p> <p>28. Somerset</p>

13. Uxbridge 14. Waltham 15. Watertown (2) 16. West Boylston (2)	29. Sturbridge 30. Waltham 31. Watertown (2) 32. West Boylston 33. West Bridgewater (2) 34. Westport 35. Weymouth 36. Whitman-Hanson 37. Winthrop 38. Woburn
17. Winthrop 18. Woburn	

Framingham Public Schools
Benchmarking Study

Appendix-B Table 1: Summary Outcome, Demographic, and Per Pupil Spending Data for Demographic and Size Peers

District	Outcome Variables			Demographic Variables			Spending Total	Student Total	Per Pupil Spending
	4th Grade MCAS	10th Grade MCAS	Graduating Seniors To College	Median Family Income	Low Income Students	Limited English Proficient Students			
Amherst-Pelham	60.0%	74.2%	75.70	63,420	17.5%	3.2%	38,088,732	3,606	10,562
Ayer	58.9%	62.3%	54.10	61,968	23.7%	0.9%	10,765,068	1,368	7,869
Beverly	49.8%	59.9%	65.50	66,486	19.5%	1.0%	36,814,255	4,591	8,020
Framingham	50.0%	67.4%	69.40	67,420	27.3%	15.8%	84,615,693	8,045	10,518
Holbrook	50.4%	43.6%	45.00	62,532	20.4%	3.5%	10,174,103	1,413	7,198
Hull	43.9%	49.1%	54.00	62,294	21.9%	0.1%	12,566,079	1,268	9,910
Marlborough	38.8%	61.1%	62.70	70,385	22.2%	12.5%	42,237,658	4,901	8,619
Medford	42.3%	50.3%	51.30	62,409	22.2%	5.1%	47,828,732	4,859	9,844
Northbridge	46.0%	58.9%	48.10	62,095	23.3%	1.1%	18,179,667	2,491	7,298
Peabody	48.8%	50.1%	59.30	65,483	20.0%	2.3%	50,254,995	6,659	7,547
Quincy	48.0%	54.4%	60.90	59,735	31.5%	12.9%	72,916,194	8,837	8,251
Randolph	36.4%	50.9%	61.00	61,942	31.5%	4.9%	29,757,265	3,786	7,860
Shirley	38.1%			66,250	26.3%	0.0%	6,353,877	729	8,721
Stoughton	52.4%	60.5%	64.20	69,942	16.3%	2.1%	29,938,280	3,991	7,502
Waltham	45.2%	56.9%	62.20	64,595	28.5%	4.5%	63,020,718	4,676	13,478
Watertown	48.9%	62.9%	58.90	67,441	20.0%	9.8%	28,118,533	2,435	11,548
Westhampton	30.6%			66,625	19.2%	0.0%	1,084,166	148	7,316
Westport	50.1%	42.8%	45.70	64,568	16.3%	0.1%	13,855,867	1,870	7,409
Winthrop	45.4%	54.6%	58.50	65,696	17.4%	3.2%	15,415,955	2,126	7,252
Woburn	68.2%	59.4%	60.00	66,364	16.7%	2.6%	47,116,485	4,652	10,128
<i>Per Pupil Expenditure Data for Schools Similar in Size to Framingham (roughly 7,000 to 12,000 pupils)</i>									
<i>Chicopee</i>	<i>29.5%</i>	<i>39.6%</i>	<i>26.90</i>	<i>44,136</i>	<i>49.7%</i>	<i>5.4%</i>	<i>60,808,195</i>	<i>7,392</i>	<i>8,226</i>
<i>Fall River</i>	<i>30.1%</i>	<i>33.2%</i>	<i>27.20</i>	<i>37,671</i>	<i>60.2%</i>	<i>5.2%</i>	<i>92,261,529</i>	<i>11,606</i>	<i>7,950</i>
<i>Haverhill</i>	<i>35.8%</i>	<i>49.6%</i>	<i>46.30</i>	<i>59,772</i>	<i>32.2%</i>	<i>5.5%</i>	<i>59,760,294</i>	<i>8,083</i>	
<i>Holyoke</i>	<i>17.4%</i>	<i>24.0%</i>	<i>31.70</i>	<i>36,130</i>	<i>76.3%</i>	<i>27.8%</i>	<i>69,873,247</i>	<i>7,078</i>	<i>9,872</i>
<i>Lawrence</i>	<i>15.0%</i>	<i>21.8%</i>	<i>17.80</i>	<i>31,809</i>	<i>84.6%</i>	<i>19.7%</i>	<i>101,526,372</i>	<i>12,336</i>	<i>8,230</i>
<i>Methuen</i>	<i>43.8%</i>	<i>49.0%</i>	<i>50.60</i>	<i>59,831</i>	<i>24.9%</i>	<i>6.3%</i>	<i>49,618,238</i>	<i>7,211</i>	<i>6,881</i>
<i>Newton</i>	<i>74.0%</i>	<i>82.8%</i>	<i>80.10</i>	<i>105,289</i>	<i>6.9%</i>	<i>5.1%</i>	<i>128,942,287</i>	<i>11,281</i>	<i>11,431</i>
<i>Plymouth</i>	<i>57.7%</i>	<i>54.9%</i>	<i>57.30</i>	<i>63,266</i>	<i>15.8%</i>	<i>0.8%</i>	<i>69,050,027</i>	<i>8,734</i>	<i>7,906</i>
<i>Taunton</i>	<i>42.6%</i>	<i>45.3%</i>	<i>42.20</i>	<i>52,433</i>	<i>33.0%</i>	<i>1.9%</i>	<i>61,743,616</i>	<i>8,413</i>	<i>7,339</i>

Framingham Public Schools
Benchmarking Study

Appendix-B Table 1A: Summary Per Pupil Spending Data by Student Category for Demographic and Size Peers

District	Total		Regular Day		SPED		Per Pupil Spending				COLA Adjusted			
			Total	Rank	Total	Rank	Total	Rank	Bilingual	Occupational	Total	Rank	Factor	
Amherst-Pelham	10,562	18	8,459	15	31,181	20	7,635	7	-	-	-	100	10,562	18
Ayer	7,869	9	7,049	10	15,527	14	-	-	-	-	-	102.6	7,670	9
Beverly	8,020	10	6,791	9	13,437	7	5,179	4	-	-	-	103	7,786	10
Framingham	10,518	17	8,998	17	13,047	6	10,524	8	-	-	-	104.4	10,075	17
Holbrook	7,198	1	5,358	1	14,556	10	-	-	-	-	-	102.2	7,043	1
Hull	9,910	15	9,925	19	18,329	18	-	-	2,247	1	-	100.7	9,841	16
Marlborough	8,619	12	7,111	11	12,924	5	4,320	3	-	-	-	104.9	8,216	12
Medford	9,844	14	7,300	13	14,652	11	13,692	10	16,997	5	-	102.9	9,567	14
Northbridge	7,298	3	6,111	4	15,979	15	-	-	-	-	-	100	7,298	3
Peabody	7,547	7	6,517	8	11,400	1	-	-	3,313	2	-	102.3	7,377	6
Quincy	8,251	11	8,250	14	14,177	9	2,151	1	6,121	3	-	103.5	7,972	11
Randolph	7,860	8	6,101	3	13,876	8	6,395	6	-	-	-	102.5	7,668	8
Shirley	8,721	13	7,285	12	15,189	12	-	-	-	-	-	103	8,467	13
Stoughton	7,502	6	6,481	7	11,539	2	3,622	2	-	-	-	102.4	7,326	5
Waltham	13,478	20	11,406	20	18,315	17	11,570	9	8,855	4	-	105.9	12,727	20
Watertown	11,548	19	9,805	18	19,172	19	5,653	5	-	-	-	103.3	11,179	19
Westhampton	7,316	4	6,151	5	15,253	13	-	-	-	-	-	100	7,316	4
Westport	7,409	5	6,246	6	12,150	3	-	-	-	-	-	100	7,409	7
Winthrop	7,252	2	5,933	2	12,158	4	-	-	-	-	-	100.7	7,202	2
Woburn	10,128	16	8,765	16	17,444	16	-	-	-	-	-	103.7	9,767	15

Per Pupil Expenditure Data for Schools Similar in Size to Framingham (roughly 7,000 to 12,000 pupils)

Chicopee	8,226	6,704	15,589	-	6,461
Fall River	7,950	6,785	14,648	-	3,832
Haverhill		6,096	11,950	-	-
Holyoke	9,872	7,778	12,704	-	15,019
Lawrence	8,230	7,000	14,315	-	-
Methuen	6,881	5,907	12,985	-	1,786
Newton	11,431	9,065	20,517	-	10,889
Plymouth	7,906	6,667	13,271	-	10,809
Taunton	7,339	6,346	11,791	-	2,590

Framingham Public Schools
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Appendix-B Table 2: Per Pupil Spending Categories

District	Spending Total	Student Total ¹	Per Pupil Spending	Rank	Instruction			Transportation ²		
					Total	Per Pupil	Rank	Total	Per Pupil	Rank
Amherst-Pelham	38,088,732	3,606	10,562	15	23,218,687	6,439	16	1,227,208	340	19
Ayer	10,765,068	1,368	7,869	9	5,982,930	4,373	5	472,857	346	14
Beverly	36,814,255	4,591	8,020	10	21,373,210	4,656	8	1,153,001	251	7
Framingham	84,615,693	8,045	10,518	18	46,880,899	5,827	18	4,358,726	542	18
Hollbrook	10,174,103	1,413	7,198	1	5,567,909	3,939	1	440,050	311	12
Hull	12,566,079	1,268	9,910	16	6,272,940	4,947	12	583,302	460	16
Marlborough	42,237,658	4,901	8,619	12	26,061,270	5,318	15	1,100,786	225	6
Medford	47,828,732	4,859	9,844	14	28,013,678	5,766	17	1,378,834	284	10
Northbridge	18,179,667	2,491	7,298	3	10,643,131	4,273	2	850,724	342	13
Peabody	50,254,995	6,659	7,547	7	28,636,209	4,301	3	2,903,908	436	15
Quincy	72,916,194	8,837	8,251	11	41,332,585	4,677	9	0	0	1
Randolph	29,757,265	3,786	7,860	8	17,999,690	4,755	10	1,166,156	308	11
Shirley	6,353,877	729	8,721	13	3,612,986	4,959	13	439,597	603	20
Stoughton	29,938,280	3,991	7,502	6	19,432,152	4,869	11	821,147	206	5
Waltham	63,020,718	4,676	13,478	20	30,800,532	6,587	19	2,423,885	518	17
Watertown	28,118,533	2,435	11,548	19	17,183,603	7,057	20	644,545	265	8
Westhampton	1,084,166	148	7,316	4	653,146	4,407	6	23,740	160	4
Westport	13,855,867	1,870	7,409	5	8,116,366	4,340	4	1,140,635	610	21
Winthrop	15,415,955	2,126	7,252	2	9,775,297	4,599	7	288,043	136	3
Woburn	47,116,485	4,652	10,128	17	24,281,341	5,219	14	1,318,118	283	9

¹ Includes all pupils enrolled in local schools, even non-residents who attend on a tuitioned-in basis. This measure does not count children being educated outside the district. Tuition, regional district spending, and other payments for out-of district p

² Transportation expenditures exclude the cost of transporting regular education, English language learners, and occupational day students outside the district as well as other programs.

³ Tuition payments and regional assessments are not included in the per pupil expenditure total.

Framingham Public Schools
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Appendix-B Table 2 Con't

District	Pupil Services			Indirect Services			Tuition ³			Total ³
	Total	Per Pupil	Rank	Total	Per Pupil	Rank	Total	Per Pupil	Rank	
Amherst-Pelham	3,446,159	956	15	10,196,678	2,828	14	205,490	57	7	38,088,732
Ayer	912,043	667	9	3,397,238	2,483	10	413,865	303	16	10,765,068
Beverly	2,872,971	626	6	11,415,074	2,487	11	1,659,184	361	19	36,814,255
Framingham	5,347,188	665	8	28,028,880	3,484	19	417,875	52	6	84,615,693
Holbrook	833,437	590	4	3,332,707	2,358	9	445,351	315	17	10,174,103
Hull	1,972,698	1,556	21	3,737,139	2,947	15	767,045	605	21	12,566,079
Marlborough	3,738,535	763	13	11,337,066	2,313	8	737,547	151	11	42,237,658
Medford	2,976,105	613	5	15,460,115	3,182	17	120,435	25	4	47,828,732
Northbridge	1,814,723	729	11	4,871,089	1,955	4	274,445	110	10	18,179,667
Peabody	3,320,601	499	2	15,394,277	2,312	7	32,105	5	1	50,254,995
Quincy	7,678,963	869	14	23,904,646	2,705	13	1,506,240	170	13	72,916,194
Randolph	2,373,969	627	7	8,217,450	2,171	6	1,264,643	334	18	29,757,265
Shirley	341,686	469	1	1,959,608	2,690	12	164,896	226	14	6,353,877
Stoughton	2,762,498	692	10	6,922,483	1,735	2	363,886	91	8	29,938,280
Waltham	4,737,823	1,013	17	25,058,478	5,359	21	1,341,340	287	15	63,020,718
Watertown	2,467,558	1,013	18	7,822,827	3,213	18	1,223,211	502	20	28,118,533
Westhampton	143,685	970	16	263,595	1,779	3	1,871	13	2	1,084,166
Westport	1,412,040	755	12	3,186,826	1,704	1	24,772	13	3	13,855,867
Winthrop	1,072,164	504	3	4,280,451	2,014	5	360,493	170	12	15,415,955
Woburn	5,022,943	1,080	20	16,494,083	3,545	20	497,405	107	9	47,116,485

Appendix-B Table 2 Con't

District	Grant Spending			Per Pupil Spending Plus Grants		
	Total	Per Pupil	Rank	Total	Per Pupil	Rank
Amherst-Pelham	4,780,422	1,326	17	42,869,154	11,888	16
Ayer	3,267,314	2,388	19	14,032,382	10,258	12
Beverly	3,183,355	693	1	39,997,610	8,713	8
Framingham	12,265,271	1,525	16	96,880,964	12,042	17
Holbrook	1,339,372	948	7	11,513,476	8,146	2
Hull	1,692,168	1,335	14	14,258,247	11,245	15
Marlborough	5,606,722	1,144	9	47,844,379	9,763	11
Medford	6,780,781	1,396	15	54,609,513	11,240	14
Northbridge	3,097,485	1,243	13	21,277,152	8,542	7
Peabody	5,334,678	801	2	55,589,673	8,348	4
Quincy	10,632,170	1,203	12	83,548,364	9,454	10
Randolph	3,441,376	909	6	33,198,641	8,769	9
Shirley	2,635,575	3,617	20	8,989,452	12,338	18
Stoughton	3,872,802	970	8	33,811,082	8,472	5
Waltham	5,393,382	1,153	10	68,414,100	14,632	20
Watertown	4,929,804	2,025	18	33,048,337	13,572	19
Westhampton	178,219	1,203	11	1,262,385	8,518	6
Westport	1,671,640	894	5	15,527,507	8,303	3
Winthrop	1,737,063	817	3	17,153,018	8,069	1
Woburn	4,131,067	888	4	51,247,553	11,016	13

Appendix-B Table 3: Per Pupil Revenues and Expenditures from Grants, Revolving and Special Funds

Grant, Revolving and Special Fund Revenues Per Pupil

District	Federal Grants	State Grants	School Lunch Receipts	Athletic Receipts	Private Grants	Tuition Receipts- School Choice	Tuition Receipts- Other	Other Local Receipts	Total Revenues	Rank
Amherst-Pelham	530	146	272	43	54	202	36	34	1,317	6
Ayer	148	142	110	10	0	364	344	164	3,377	1
Beverly	576	49	333	33	0	120	0	182	1,017	10
Framingham	1,433	592	534	54	32	0	291	482	1,532	4
Holbrook	164	10	106	35	3	0	0	19	857	17
Hull	269	97	88	0	14	0	0	38	1,441	5
Marlborough	746	50	338	13	22	0	95	97	1,002	11
Medford	702	340	180	18	68	0	14	16	993	12
Northbridge	264	118	207	22	0	130	101	12	1,235	7
Peabody	688	221	440	42	0	0	85	37	820	18
Quincy	1,772	163	533	44	3	0	169	189	1,172	8
Randolph	425	21	344	5	3	0	35	144	931	14
Shirley	86	60	62	0	5	128	139	8	2,419	2
Stoughton	417	83	334	28	2	0	44	132	940	13
Waltham	799	115	404	11	53	0	14	66	1,128	9
Watertown	558	191	217	42	69	0	90	209	2,039	3
Westhampton	10	0	7	0	0	0	12	0	701	20
Westport	184	26	153	23	0	25	30	19	887	16
Winthrop	255	71	99	55	0	53	0	0	905	15
Woburn	523	96	382	11	0	0	0	0	785	19

Framingham Public Schools
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Appendix-B Table 3 Con't

Grant, Revolving and Special Fund Expenditures Per Pupil

District	Federal Grants	State Grants	School Lunch	Athletic Fund	Private Grants and Gifts	School Choice and other Tuition	Other Local Receipts	Circuit Breaker	Total Expenditures	Rank
Amherst-Pelham	503	139	281	38	69	257	37	12	1,326	5
Ayer	112	142	107	0	0	544	0	30	2,389	2
Beverly	522	30	34	0	0	120	176	0	694	20
Framingham	1,360	646	527	55	33	218	431	130	1,467	4
Holbrook	160	9	116	5	3	0	33	46	831	16
Hull	334	24	88	0	14	0	0	10	1,308	6
Marlborough	641	51	300	0	18	94	71	380	865	15
Medford	735	308	181	37	79	14	333	194	1,252	7
Northbridge	247	77	94	0	0	149	268	24	1,208	8
Peabody	688	221	453	36	0	0	0	80	758	19
Quincy	1,593	171	511	38	3	0	323	308	1,078	11
Randolph	398	47	331	0	11	0	144	70	887	14
Shirley	82	59	62	0	39	383	53	52	3,360	1
Stoughton	407	82	319	33	3	34	155	40	934	12
Waltham	813	87	364	18	23	11	89	89	1,085	10
Watertown	510	226	222	49	76	1	187	97	1,881	3
Westhampton	12	14	7	0	0	0	16	0	1,203	9
Westport	185	26	152	24	0	60	16	0	894	13
Winthrop	248	68	113	52	0	0	0	0	817	17
Woburn	528	107	393	0	0	0	0	117	797	18

Framingham Public Schools
Benchmarking Study

Appendix-B Table 4: Per Pupil Expenditure

Per pupil expenditures are compiled by the DOE based on function codes. Combinations of DOE functional expenditures for Administration (1000), Instructional (2000), Pupil Services (3000), Maintenance (4000), and Employee Benefits (5000) are included. No part of Civic Activities/Recreation (6000), Asset Acquisition/Improvement (7000), Long Term Debt (8000), or Choice Tuition/Regional Assessment (9000) are included in the calculation of Per Pupil Expenditures.

Instruction

Instruction includes total instructional costs in the 2000 DOE function codes. It also includes the cost of providing school choice instruction (instruction to non-resident students).

Curriculum Directors (Supervisory) (2110)	Non-Clerical Paraprofs./Instructional Assistants (2330)	Other Instructional Services (2440)
Department Heads (Non-Supervisory) (2120)	Librarians and Media Center Directors (2340)	Classroom Instructional Technology (2451)
School Leadership-Building (2210)	Professional Development Leadership (2351)	Other Instructional Hardware (2453)
Curriculum Leaders/Department Heads-Building Level (2220)	Teacher/Instructional Staff-Professional Days (2353)	Instructional Software (2455)
Building Technology (2250)	Substitutes for Instructional Staff at Prof. Development (2355)	Guidance Counselors and Adjustment Counselors (2710)
Teachers, Classroom (2305)	Prof. Development Stipends, Providers and Expenses (2357)	Testing and Assessment (2720)
Teachers, Specialists (2310)	Textbooks and Related Software/Media/Materials (2410)	Psychological Services (2800)
Instructional Coordinators and Team Leaders (2315)	Other Instructional Materials (2415)	
Medical/ Therapeutic Services (2320)	Instructional Equipment (2420)	
Substitute Teachers (2325)	General Supplies (2430)	

Transportation

Transportation (3300) costs are calculated by taking the cost of transporting regular day, special education, limited english language speaking students, and occupational day students who travel to and from school within the district and to and from regular pre-school. These transportation costs exclude the cost of transporting regular education, English language learners, and occupational students day students outside the district as well as other programs.

Framingham Public Schools
Benchmarking Study

Appendix-B Table 4 Con't
Pupil Services

Expenditures under pupil services includes primarily the 3000 function codes **other than transportation**. The specific funding categories are below and include undistributed expenditures, expenditures by the municipality, spending on School Choice, and circuit breaker spending.

<i>Total Undistributed</i>	<i>School Choice Total Pupil Services</i>	<i>Circuit Breaker</i>
Medical/Health Services (3200)	Attendance and Parent Liaison Services (3100)	Attendance and Parent Liaison Services (3100)
Food Services (3400)	Medical/Health Services (3200)	Medical/Health Services (3200)
Athletics (3510)	Food Services (3400)	Food Services (3400)
Other Student Body Activities (3520)	Athletics (3510)	Athletics (3510)
School Security (3600)	Other Student Body Activities (3520)	Other Student Body Activities (3520)
	School Security (3600)	School Security (3600)
 <i>Municipal</i>		
Librarians and Media Center Directors (2340)		
Other Instructional Materials (2415)		
Medical/Health Services (3200)		
School Security (3600)		

Indirect Services

These services include all of the expenditure coded in the 1000, 4000 and 5000 function codes except for Short Term Interest BAN'S. Specifically, this includes the total spending in 1000, 4000, and 5000 categories (see below) and the indirect and direct costs associated with the School Choice program and circuit breaker expenditures.

<i>1000</i>	<i>4000</i>	<i>5000</i>
School Committee (1110)	Custodial Services (4110)	Employer Retirement Contributions (5100)
Superintendent (1210)	Heating of Buildings (4120)	Insurance for Active Employees (5200)
Assistant Superintendents (1220)	Utility Services (4130)	Insurance for Retired School Employees (5250)
Other District-Wide Administration (1230)	Maintenance of Grounds (4210)	Other Non-Employee Insurance (5260)
Business and Finance (1410)	Maintenance of Buildings (4220)	Rental Lease of Equipment (5300)
Human Resources and Benefits (1420)	Building Security System (4225)	Rental Lease of Buildings (5350)
Legal Service For School Committee (1430)	Maintenance of Equipment (4230)	Short Term Interest RAN's (5400)
Legal Settlements (1435)	Extraordinary Maintenance (4300)	Other Fixed Charges (5500)
District-wide Information Mgmt and Tech (1450)	Networking and Telecommunications (4400)	
	Technology Maintenance (4450)	

APPENDIX C

FRAMINGHAM PUBLIC SCHOOLS BENCHMARKING STUDY WORKING GROUP

<u>Name</u>	<u>Affiliation</u>
Barry Bograd	Finance Committee Member
Eugene Brundage	Finance Committee Member
Barry Kling*	Ways and Means Committee Member
Steven Kruger*	Town Meeting Member
Andy Limeri*	Standing Committee on Education Committee Member
David Miles	School Committee Member
Cesar Monzon	School Committee Member

* denotes Town Meeting member

Appendix D 1: Benchmark Communities with Demographic Characteristics in Alphabetical Order

	Median Family Income	Low Income Students	Limited English Proficient Students
Amherst-Pelham	63,420	17.5%	3.2%
Ayer	61,968	23.7%	0.9%
Beverly	66,486	19.5%	1.0%
Framingham	67,420	27.3%	15.8%
Holbrook	62,532	20.4%	3.5%
Hull	62,294	21.9%	0.1%
Marlborough	70,385	22.2%	12.5%
Medford	62,409	22.2%	5.1%
Northbridge	62,095	23.3%	1.1%
Peabody	65,483	20.0%	2.3%
Quincy	59,735	31.5%	12.9%
Randolph	61,942	31.5%	4.9%
Shirley	66,250	26.3%	0.0%
Stoughton	69,942	16.3%	2.1%
Waltham	64,595	28.5%	4.5%
Watertown	67,441	20.0%	9.8%
Westhampton	66,625	19.2%	0.0%
Westport	64,568	16.3%	0.1%
Winthrop	65,696	17.4%	3.2%
Woburn	66,364	16.7%	2.6%

Appendix D2: Benchmark Communities Sorted by Median Family Income and Percent Low Income Students.

Median Income Sort		Low Income Sort		
	Median Family Income	Low Income Students	Limited English Proficient Students	
Quincy	59,735	Quincy	31.5%	12.9%
Randolph	61,942	Randolph	31.5%	4.9%
Ayer	61,968	Waltham	28.5%	4.5%
Northbridge	62,095	Framingham	27.3%	15.8%
Hull	62,294	Shirley	26.3%	0.0%
Medford	62,409	Ayer	23.7%	0.9%
Holbrook	62,532	Northbridge	23.3%	1.1%
Amherst-Pelham	63,420	Marlborough	22.2%	12.5%
Westport	64,568	Medford	22.2%	5.1%
Waltham	64,595	Hull	21.9%	0.1%
Peabody	65,483	Holbrook	20.4%	3.5%
Winthrop	65,696	Peabody	20.0%	2.3%
Shirley	66,250	Watertown	20.0%	9.8%
Woburn	66,364	Beverly	19.5%	1.0%
Beverly	66,486	Westhampton	19.2%	0.0%
Westhampton	66,625	Amherst-Pelham	17.5%	3.2%
Framingham	67,420	Winthrop	17.4%	3.2%
Watertown	67,441	Woburn	16.7%	2.6%
Stoughton	69,942	Stoughton	16.3%	2.1%
Marlborough	70,385	Westport	16.3%	0.1%

Appendix E1

MCAS Scores and Ranks without Adjustments for Socio-Economic Characteristics.

The Abrahams Group did not undertake a careful methodological analysis of the assumptions in the following studies. We used these studies primarily to identify potentially relevant community demographic characteristics for the benchmarking analysis. A brief description of the studies is included here, showing the independent variables each study identified, including policy variables. A set of tables is also provided showing how each study ranked Framingham, each using its own value-added ranking method. Several studies included policy variables as predictors of value-added outcomes. Since the policy variables in the studies are key cost factors, which was the focal point for this analysis, and since the methodology for predicting value-added was not completely transparent, The Abrahams Group and the community considered but opted against using the value-added analysis generated by these studies as an outcome indicator.

Boston Globe

The Boston Globed ranked schools on the percentage of students reaching proficient or better by combining the "advanced" and "proficient" students into a single figure for each test, then by figuring an average rank for all tests

(as Reported by the Boston Globe at <http://www.boston.com/education/mcas/scores2004/0100.htm> accessed March 1, 2005)

Overall District Rankings		Average rank on all tests	Median % proficient and advanced
Framingham	Rank		
2003	95 of 210		
2004	227 of 373	172 of 298	57%

2002 Individual School Results

	Grade/ Subject	Students tested	% Advanced	% Proficient	% Needs improving	% Failed (tested)	% Failed (absent)	Scaled score	Rank
Framingham HS	10th English	451	22	48	20	9	1	245	125 of 341
	10th Math	454	30	31	24	16	0	243	88 of 341

Middle Schools

Cameron	6th Math	208	4	25	28	43	0	227	449 of 608
	7th English	216	5	55	34	6	0	240	277 of 457
Fuller	6th Math	212	16	26	27	30	0	237	223 of 608
	7th English	257	14	56	24	6	0	246	122 of 457
	8th Math	298	8	26	30	37	0	232	203 of 451
	8th History	295	1	12	48	39	0	226	154 of 451
Walsh	6th Math	211	12	32	31	26	0	235	276 of 608
	7th English	229	10	63	24	3	0	245	150 of 457
	8th Math	300	14	26	36	23	0	235	149 of 451
	8th History	299	2	13	51	34	0	226	154 of 451

The Abrahams Group

Elementary Schools	Grade/ Subject	Students tested	% Advanced	% Proficient	% Needs improving	% Failed (tested)	% Failed (absent)	Scaled score	Rank
Barbieri	3rd English	87	--	47	32	21	0	30 (1)	592 of 1,081
	4th English	79	6	35	41	18	0	238	588 of 1,035
	4th Math	79	10	11	47	32	0	232	677 of 1,035
Brophy	3rd English	84	--	64	31	5	0	30 (1)	592 of 1,081
	4th English	84	8	56	29	7	0	242	382 of 1,035
	4th Math	89	13	27	46	13	0	237	462 of 1,035
Charlotte A. Dunning	3rd English	84	--	65	29	6	0	30 (1)	592 of 1,081
	4th English	72	6	68	22	4	0	244	275 of 1,035
	4th Math	72	18	38	39	6	0	242	235 of 1,035
Hemenway	3rd English	91	--	82	15	2	0	33 (1)	181 of 1,081
	4th English	67	18	40	30	12	0	242	382 of 1,035
	4th Math	69	14	33	36	16	0	240	322 of 1,035
Juniper Hill	3rd English	67	--	57	39	3	1	28 (1)	769 of 1,081
	4th English	60	13	38	37	12	0	240	479 of 1,035
	4th Math	66	12	30	45	12	0	237	462 of 1,035
Mary E. Stapleton	3rd English	42	--	69	29	2	0	32 (1)	317 of 1,081
	4th English	77	10	60	17	12	1	244	275 of 1,035
	4th Math	77	16	30	38	17	0	240	322 of 1,035
Miriam F. McCarthy	3rd English	90	--	63	26	11	0	30 (1)	592 of 1,081
	4th English	93	6	37	40	17	0	236	682 of 1,035
	4th Math	94	7	19	45	29	0	231	713 of 1,035
Potter Road	3rd English	46	--	46	41	13	0	27 (1)	821 of 1,081
	4th English	66	12	47	35	6	0	243	331 of 1,035
	4th Math	66	8	33	45	14	0	237	462 of 1,035
Woodrow Wilson	3rd English	71	--	77	23	0	0	32 (1)	317 of 1,081
	4th English	63	0	46	44	10	0	236	682 of 1,035
	4th Math	64	5	20	59	16	0	232	677 of 1,035

Appendix E2 School District Performance under MCAS¹ Chen Ferguson

Using scores from **1998, 1999 and 2000**, the Chen Ferguson Analysis ranks **226 school districts** based on how well the school system performed relative to how it would be expected to perform on MCAS, given a set socioeconomic variables (see table below).

Rank

- 1 Amherst Pelham
- 2 Lenox
- 3 Harvard
- 4 Westborough
- 5 Belmont

- 37 Chelsea
- 38 Franklin
- 39 Dennis Yarmouth
- 40 Hanover
- 41 Westwood
- 42 Framingham**
- 43 Springfield
- 44 East Longmeadow
- 45 Provincetown
- 46 Natick
- ⁴Analys Southbridge

Chen Ferguson uses **four socioeconomic variables** to estimate MCAS scores:

1. Percent of a community that is African American
2. Per capita income
3. Percent of households that are two parent
4. Percent of people living in a community that receive TAFDC.

¹ *New England Journal of Public Policy*, Spring/Summer 2002, pp. 78-144 (http://www.mccormack.umb.edu/dean/docs/Chen-Ferguson_All.pdf)

Appendix E3 Top Schools in Massachusetts² Boston Magazine

Boston Magazine ranked **151 school districts** based on socioeconomic variables and 2002-2003 MCAS scores

Rank

- 1 Weston
- 2 Wellesley
- 3 Manchester-Essex
- 4 Newton South
- 5 Lincoln-Sudbury

- 63 Wakefield Memorial
- 64 Woburn
- 65 Rockport
- 66 Waltham
- 67 Dedham
- 68 Framingham**
- 69 Cohasset
- 70 North Andover
- 71 Medway
- 72 Mansfield

⁴Analyst: Norwood

The Boston Magazine ranked schools based on:

1. Median home price
2. Residential tax rate
3. Enrollment
4. Cost per pupil
5. SAT scores and participation
6. Dropout rate
7. Average teacher salary
8. Classrooms with internet
9. Students per computer
10. Tenth grade MCAS scores
11. Student/teacher ratio
12. Postgraduate plans

² "The Best High Schools: Public Versus Private." Boston Magazine. 2004.
(http://www.bostonmagazine.com/documents/publications/public_rank.pdf)

Appendix E4

Promoting Good Schools through Wise Spending³

The Beacon Hill Institute

The Beacon Hill Institute ranks school districts by grade level using the **1998 MCAS** to determine how well the school system performed relative to how it would be expected to perform on MCAS, given a set socioeconomic and policy variables.

Schools ranked by the difference between the predicted proportion of students with "advance" or "proficient" scores and actual MCAS scores.

Grade 4: Rank of 216 districts	Grade 8: Rank of 194 districts	Grade 10: Rank of 220 districts
1 Sutton	1 Nantucket	1 Stoneham
2 Clinton	2 Medway	2 Norton
3 Eastham	3 Clinton	3 Hadley
4 Hadley	4 Wellesley	4 Shrewsbury
5 Everett	5 Hamilton Wenham	5 Bourne
52 Woburn	176 Billerica	124 Swansea
53 Norfolk	177 Salem	125 Weymouth
54 Carlisle	178 Gardner	126 Clinton
55 Attleboro	179 Freetown-Lakeville	127 Andover
56 Plymouth	180 Revere	128 Triton
57 Framingham	181 Framingham	129 Framingham
58 Pittsfield	182 Millis	130 Lawrence
59 West Springfield	183 Wareham	131 Wachusett Regional
Town Met Winthrop	184 Auburn	132 Springfield
61 Scituate	185 Hudson	133 Canton
62 Dighton Rehoboth	186 Watertown	134 Agawam

The BHI analysis uses the following variables:

Policy Variables:

- 1) Per pupil spending
- 2) Student teacher ratio
- 3) Number of students per computer

Socioeconomic Variables:

- 1) Crime rates
- 2) Number of workers who are professionals or managers
- 3) Number of single female headed households
- 4) Location of district (urban v. rural)

Choice Variables

- 1) Students in charter schools
- 2) Students involved in METCO program attending a school
- 3) Proportion of students in public schools

Previous performance as measured by 1994 MAEP

Schools ranked by the difference between the proportion of students who scored "poor" or "failing" compared to actual MCAS performance.

Grade 4: Rank of 216 districts	Grade 8: Rank of 194 districts	Grade 10: Rank of 220 districts
1 Everett	1 Nantucket	1 Provincetown
2 Holyoke	2 Hull	2 Webster
3 Sutton	3 Methuen	3 Chelsea
4 Chelsea	4 Lee	4 Gill Montague
5 Eastham	5 Hadley	5 Ware
143 Sharon	183 Oxford	162 Holliston
144 Northborough	184 Palmer	163 Newton
145 Triton	185 Marlborough	164 Fairhaven
146 Middleborough	186 Revere	165 Blackstone Millville
147 Wayland	187 Lowell	166 Concord-Carlisle
148 Framingham	188 Framingham	167 Framingham
149 Weymouth	189 Somerset	168 Westfield
150 Stoneham	190 Wareham	169 Gardner
151 Rockport	191 Leicester	170 Easton
152 Manchester	192 Salem	171 Marlborough
153 Falmouth	193 Hudson	172 Harvard

³Beacon Hill Institute at Suffolk University, 2001 (<http://www.beaconhill.org/BHISudies/EdStudyexecsum111.pdf>)

Appendix E5

Efforts to Adjust for Socio-Economic Explanatory Variables

Kruger Analysis⁴

The Kruger Analysis ranks the **45 school districts** within I-495 based on a ratio of the actual **2003 MCAS** score to the expected MCAS score given **median family income**. The MCAS measure Kruger uses average proportion of students who scored "advance" and "proficient" on the 10 MCAS tests administered in 2003

Rank

1	Wellesley
2	North Reading
3	Woburn
4	Arlington
5	Braintree
6	Plymouth
7	Watertown
8	Melrose
9	Medway
10	Revere
11	Framingham
12	Walpole
13	Holliston
14	Quincy
15	Billerica

⁴Analysis conducted by Steve Kruger, Town Meeting member, Framingham, MA, 2004