



An Evaluation of the Commonwealth Pilot Schools Initiative

Analysis of School-Level MCAS Results

An analysis of school-level MCAS trends at Commonwealth Pilot schools relative to underperforming schools with the same grade configuration

September 2010



Introduction

The Commonwealth Pilot Schools Initiative (the Initiative) was a Massachusetts Department of Elementary and Secondary Education (ESE) whole school reform initiative active in the Commonwealth from school years 2007-2008 (SY08) through 2009-2010 (SY10). Intended to introduce substantive reform into schools struggling with persistently low student achievement, the Initiative comprised five schools in two cohorts. Each school had been in underperforming status for four years or more prior to its entry into the Initiative.

The present report makes use of school-level Massachusetts Comprehensive Assessment System (MCAS) results to identify trends in achievement and growth at Commonwealth Pilot schools and compares those to trends at other underperforming schools in the Commonwealth. It was prepared by the UMass Donahue Institute (UMDI), which served as statewide evaluator for the Initiative.

The Commonwealth Pilot Schools Model

In November 2006, four schools identified as candidates for designation as “chronically underperforming” schools were invited by the Massachusetts Board of Elementary and Secondary Education (the Board) to convert to Commonwealth Pilot status. Following what was characterized as a rapid school design planning process, the schools—Academy Middle School in Fitchburg, John J. Duggan Middle School in Springfield, Roger L. Putnam Vocational High School in Springfield, and The English High School in Boston—reopened as Commonwealth Pilots in fall 2007. A fifth school, Homer Street Elementary School, also in Springfield, joined the Initiative the following year as the sole member of its second cohort.

The Initiative was patterned on a model in place in the Boston Public Schools (BPS) and based on the philosophy that if “schools are provided maximum control over their resources... school engagement and performance will improve.”¹ Program guidelines specified that Commonwealth Pilot schools would receive increased flexibility in five operational areas: (1) staffing and hiring, (2) school schedule and calendar, (3) curriculum and assessment, (4) governance, and (5) budget. Schools received implementation support from the Center for Collaborative Education (CCE)—an organization that has served as coordinator and advocate for the Boston Pilot Schools—as well as targeted assistance grants from ESE.

In March 2010, ESE announced that the Initiative would be phased out at the end of SY10 when new regulations regarding the designation of schools for intervention and turnaround took effect. The four schools participating in the Initiative at the time of its phase-out are expected to continue their ongoing reform through the state’s new accountability and assistance framework. The fifth school, Academy Middle School, was closed at the end of the 2008-2009 school year. Under the new framework, the two schools that had shown recent increases in MCAS performance were designated Level 3. The other two schools will continue their turnaround efforts as part of a group of 35 Level 4 schools identified for intensive intervention and turnaround over the next three years. These schools were designated as such as a result of low performance on MCAS tests over the previous four years and lack of evidence of substantial improvement over that time.

Purpose of This Report

Under the direction of ESE, the UMass Donahue Institute designed and implemented a comprehensive formative and summative evaluation of the Initiative from August 2007 to September 2010. In its first and second years, the evaluation collected and reported a range of data regarding the Initiative’s implementation and initial outcomes at

¹Massachusetts Department of Elementary and Secondary Education. 2007 *Guidelines for Commonwealth Pilot Schools Option*.

each participating school, which were analyzed and presented in a series of interim evaluation reports and briefings for ESE. In its third and final year, the evaluation's central question pertained to the extent to which student achievement at participating schools improved during their tenure in the Initiative.

That question is the subject of the present report, which uses school-level MCAS results to identify trends in student achievement and growth at Commonwealth Pilot schools. MCAS results from the year prior to each school's entry into the Initiative—SY07 for the Initiative's first cohort and SY08 for its second—are used as baseline results against which post-intervention performance is compared. This analysis also compares observed trends at Commonwealth Pilot schools to those at similarly underperforming schools that did not participate in the Initiative. The purpose of this secondary analysis is to identify the extent to which observed trends in MCAS performance differ from those at a cohort of similar schools, a necessary condition if these trends are to be considered a possible outcome of a school's conversion.

It should be noted that leaders and staff at some Commonwealth Pilots have cautioned that given the magnitude of the whole school reform process and the ongoing nature of the reform, significant changes in achievement results may not yet be fully manifest. Participating schools spent a maximum of three years in the Initiative, and two schools—one from the Initiative's second cohort and one from its first—participated for only two years. Evidence collected through the evaluation indicates that while substantial progress was made with regard to the development of new structures and capacities, many intended changes to curriculum, instruction, and assessment were still in the process of being implemented when the Initiative was phased out.

For an expanded view of findings related to implementation and preliminary outcomes, please consult the research publications website of ESE's Office of Strategic Planning, Research, and Evaluation (<http://www.doe.mass.edu/research/reports/topic.html>). Included under the "Commonwealth Pilot Schools" heading is a series of interim evaluation products, including annual reports and a policy brief detailing implementation progress and lessons learned.

Achievement and Growth Trends at Commonwealth Pilot Schools

This section uses school-level measures of student achievement and student growth to identify trends in MCAS performance at Commonwealth Pilot schools in the years following conversion. The primary measures of achievement used are the school's Composite Performance Indices (CPI) in English language arts (ELA) and mathematics. These indices, which range from 0 to 100, summarize overall achievement and illustrate progress toward proficiency. Additional context is provided through the use of median student growth percentile (SGP) scores. These scores, which range from 0 to 99, supply a measure of students' growth in achievement relative to their academic peers (i.e. students with a similar performance profile on their most recent prior MCAS tests in the same subject). The expected median SGP for a school is 50. Schools with a median SGP that is substantially above this level are those at which students demonstrated greater progress and gained ground relative to their academic peers.

Throughout this report a school's first, second, and third years of Commonwealth Pilot implementation are discussed as Year 1, Year 2, and Year 3, respectively. To the extent possible MCAS results from the year prior to the school's entry into the Initiative are used as baselines to assess progress. Because the Initiative comprised two cohorts entering in consecutive years, the school years reflected in these implementation periods differ. For the Initiative's first cohort, Year 1 through Year 3 reflects the period SY08 through SY10, with a pre-conversion baseline year of SY07. For the school in the Initiative's second cohort, which did not experience a Year 3, Year 1 through Year 2 reflects the period SY09 through SY10. The baseline year for the school is SY08.

English Language Arts Performance

An analysis of ELA MCAS trends (Table 1) shows that Commonwealth Pilot schools entered the Initiative with CPI for all tested grades ranging from *Very Low* (Homer) to *Moderate* (Academy).² During their tenure in the Initiative, three of the five schools experienced increases in their ELA CPI. These increases, which ranged from 4.9 CPI points (The English) to 9.4 CPI points (Duggan), caused each of the three schools to increase from the *Low* range to the *Moderate* range. At the two remaining schools (Academy and Homer), ELA CPI decreased steadily over the course of the Initiative. Both schools participated in the Initiative for only two years—Academy as a result of its closure by the Fitchburg Public School district and Homer as the result of the Initiative's phase-out and transition to the state's new accountability framework.

Table 1: Overall ELA CPI at Commonwealth Pilot Schools

Cohort 1	Baseline	Year 1	Year 2	Year 3	Change (from Baseline)
Academy Middle School, Fitchburg	70.8	68.1	66.8	n/a	-4.0
Duggan Middle School, Springfield	62.2	68.4	74.0	71.6	9.4
Putnam V-T High School, Springfield	68.0	77.3	77.4	75.5	7.5
The English High, Boston	68.2	68.9	72.7	73.1	4.9

Cohort 2	Baseline	Year 1	Year 2	Year 3	Change (from Baseline)
Homer Street Elementary, Springfield	58.2	56.3	51.9	n/a	-6.3

Source: ESE Information Services. MCAS Performance Results for SY07 through SY10 (Cohort 1) and SY08 through SY10 (Cohort 2). Change is relative to baseline and reflects the mostly recently available data, Year 3 for Duggan, Putnam and English and Year 2 for Academy and Homer.

² ESE has established six ratings used to classify performance using CPI, which are used throughout this report. These ratings are *Very High* (90 to 100), *High* (80 to 89.9), *Moderate* (70 to 79.9), *Low* (60 to 69.9), *Very Low* (40 to 59.9), and *Critically Low* (0 to 39.9)

Data regarding student growth are available beginning in SY08 for elementary and middle schools and beginning in SY09 for high schools. As a result, the only Commonwealth Pilot for which SGP data extend back to the school's pre-conversion year is Homer Street. That school's median SGP in ELA—in the *Low* range prior to its entry into the Initiative—fell by approximately 5.5 points, such that it remained in the *Low* range as of its final year in the Initiative.³ ESE guidance advises that changes in median SGP of less than 10 points are not considered educationally meaningful, and as such, this trend is noteworthy only insofar as it fails to demonstrate progress.

With regard to other schools, trends in ELA growth were similarly flat when considered in light of the 10-point threshold. The most notable change was observed at The English, where the median SGP increased 7.0 points between Years 2 and 3 (from 32 to 39).⁴ The period in which this increase was observed (Year 2 to Year 3) marked the school's transition to a new three-year turnaround plan with an explicit focus on targeted literacy gains in its first year. At the three remaining school, SGP trends were essentially unchanged. Although Duggan saw its median SGP increase by five points in Year 2, a modest decrease in Year 3 caused its overall growth over the period to be fairly unremarkable (2.5 points). Academy experienced a slight decline (2.0 points) in its SGP, such that it remained in the *Low* range at the time of its closure, and no change was observed at Putnam, whose median SGP remains in the *Moderate* range.

Table 2: Median ELA Student Growth Percentile (SGP) at Commonwealth Pilot Schools

Cohort 1	Baseline	Year 1	Year 2	Year 3	Change
Academy Middle School, Fitchburg	n/a	28.0	26.0	n/a	-2.0
Duggan Middle School, Springfield	n/a	39.0	44.0	41.5	2.5
Putnam V-T High School, Springfield	n/a	n/a	40.0	40.0	0.0
The English High, Boston	n/a	n/a	32.0	39.0	7.0
Cohort 2	Baseline	Year 1	Year 2	Year 3	Change (from Baseline)
Homer Street Elementary, Springfield	27.5	22.0	22.0	n/a	-5.5

Source: ESE Information Services. MCAS Performance Results for SY07 through SY10 (Cohort 1) and SY08 through SY10 (Cohort 2). The change column reflects the change over the entire period for which data are available, namely, Year 1 to Year 2 (Academy), Year 1 to Year 3 (Duggan), Year 2 to Year 3 (Putnam and The English), or Baseline to Year 2 (Homer).

Mathematics Performance

With regard to mathematics, schools entered the Initiative with CPI ranging from *Low* (Putnam and The English) to *Critically Low* (Duggan). Following conversion, one school (Duggan) experienced consistently positive growth in its mathematics CPI, although its performance in the subject remains in the *Very Low* performance range in light of its low baseline score. CPI at two other schools (Homer and Academy) fell consistently and remained flat at another (The English). The fifth school (Putnam), which had already shown dramatic progress in mathematics prior to entry into the Initiative, continued its positive trend into Year 1 before experiencing decline in Years 2 and 3.

³ The expected median SGP for a school is 50. Because differences in SGP of less than 10 points are not considered educationally meaningful, ESE classifies scores in the range of 40 to 60 (10 points above and 10 points below the expected SGP) as *Moderate*. Scores in the 20-point band above and below the *Moderate* level are considered *High* and *Low*, respectively; scores in highest and lowest 20-point bands are considered *Very High* and *Very Low*.

⁴ It should be noted that median SGP scores at The English include a relatively low proportion of its MCAS-eligible population (34% in Year 2 and 50% in Year 3). This is likely attributable to large number of students without a grade 8 MCAS record from two years prior as a result of in-grade retention and/or entry or re-entry into the Massachusetts public school system from out-of-state or private schools, such that SGP scores could not be calculated for these students. In fact, as reported in previous Commonwealth Pilot reports and briefings, as a result of downsizing initiated because of the Initiative, a large proportion of the school's grade 9 students in Year 1 (SY08) were retained in-grade from the previous year. Students from this group reflect the school's grade 10 MCAS population.

Table 3: Overall Mathematics CPI at Commonwealth Pilot Schools

Cohort 1	Baseline	Year 1	Year 2	Year 3	Change (from Baseline)
Academy Middle School, Fitchburg	51.9	46.6	49.2	n/a	-2.7
Duggan Middle School, Springfield	32.1	36.3	43.6	48.7	16.6
Putnam V-T High School, Springfield	61.4	70.0	66.6	64.5	3.1
The English High, Boston	65.7	66.5	66.4	66.6	0.9
Cohort 2	Baseline	Year 1	Year 2	Year 3	Change (from Baseline)
Homer Street Elementary, Springfield	51.9	50.6	43.6	n/a	-8.3

Source: ESE Information Services. MCAS Performance Results for SY07 through SY10 (Cohort 1) and SY08 through SY10 (Cohort 2). Change is relative to baseline and reflects the mostly recently available data, Year 3 for Duggan, Putnam and English and Year 2 for Academy and Homer.

Table 4 presents median student growth percentile scores for each of the schools. As with ELA SGP scores, Homer Street is the only school for which scores reflect both pre- and post-conversion results. The school's median SGP in mathematics remained relatively flat, falling slightly in each of the two years following conversion. Because changes in median SGP of less than 10 points are not considered educationally meaningful, these declines are not particularly notable.

With regard to the other schools, SGP results were positive at the two middle schools, both of which left the Initiative—Academy through closure and Duggan through the Initiative's phase-out—with markedly higher median SGP results. Duggan experienced a particularly large gain in mathematics growth in its Year 2 (20.5 points), but its median SGP regressed substantially in Year 3 (11.5 points), diminishing its overall gain to a figure just shy of the 10-point threshold. In both cases, however, schools exited the Initiative with SGP scores for mathematics in the *Low* range.

In the high schools, growth trends in mathematics were generally negative. Putnam's median SGP in the subject fell by 9 points to the low end of the *Moderate* range. The English's median SGP fell 2.5 points, such that it remains at the high margin of the *Low* range.

Table 4: Median Mathematics Student Growth Percentile (SGP) at Commonwealth Pilot Schools

Cohort 1	Baseline	Year 1	Year 2	Year 3	Change
Academy Middle School, Fitchburg	n/a	23.0	34.0	n/a	11.0
Duggan Middle School, Springfield	n/a	19.0	39.5	28.0	9.0
Putnam V-T High School, Springfield	n/a	n/a	51.0	42.0	-9.0
The English High, Boston	n/a	n/a	39.5	37.0	-2.5
Cohort 2	Baseline	Year 1	Year 2	Year 3	Change (from Baseline)
Homer Street Elementary, Springfield	28.0	26.0	24.5	n/a	-3.5

Source: ESE Information Services. MCAS Performance Results for SY07 through SY10 (Cohort 1) and SY08 through SY10 (Cohort 2). The change column reflects the change over the entire period for which data are available, namely, Year 1 to Year 2 (Academy), Year 1 to Year 3 (Duggan), Year 2 to Year 3 (Putnam and The English), or Baseline to Year 2 (Homer).

Progress Relative to Peer Schools

To understand the extent to which changes in MCAS performance at Commonwealth Pilot schools constitute progress beyond what might have been expected for a school not participating in the Initiative, observed trends at these schools must be compared to those at similar schools. This section describes the selection of a group of comparison schools for each Commonwealth Pilot, as well as the results of an analysis of trends at participating schools in light of those at its comparison group.

Overall, when set in the context of trends at other underperforming schools, progress was unremarkable at all but one school. Duggan Middle School—which entered the Initiative with ELA and mathematics CPI among the lowest in the Commonwealth—made substantial progress relative to its comparison group. As a result of its relative progress, the gap between Duggan and other underperforming schools narrowed considerably, although the school’s mathematics CPI continues to lag behind those at its comparison schools. Trends begun during the Initiative would need to continue for an extended period in order for Duggan to move out of the ranks of underperforming schools.

Selection of Comparison Schools

The Commonwealth Pilot Schools Initiative targeted schools with low student achievement for improvement and turnaround. As such, an appropriate comparison group for each Commonwealth Pilot comprises schools with a similar grade-configuration and MCAS performance profile at the time of program entry; that is, schools that might also have been candidates for intervention and turnaround. Because measures of student growth are not available prior to SY08, the selection of comparison schools relied primarily on measures of achievement, specifically a school’s CPI in ELA and mathematics for all grades tested.

Grade Configuration

To begin the process of selecting comparison schools for each Commonwealth Pilot, researchers used ESE-provided enrollment data to identify schools with the same grade-level configuration as Commonwealth Pilots in their year of program entry. Charter schools and those known to be alternative programs were excluded from consideration, while high schools were separated into vocational and comprehensive programs. Table 5 shows the number of schools identified as potential comparison schools for each Commonwealth Pilot based on this first screen.

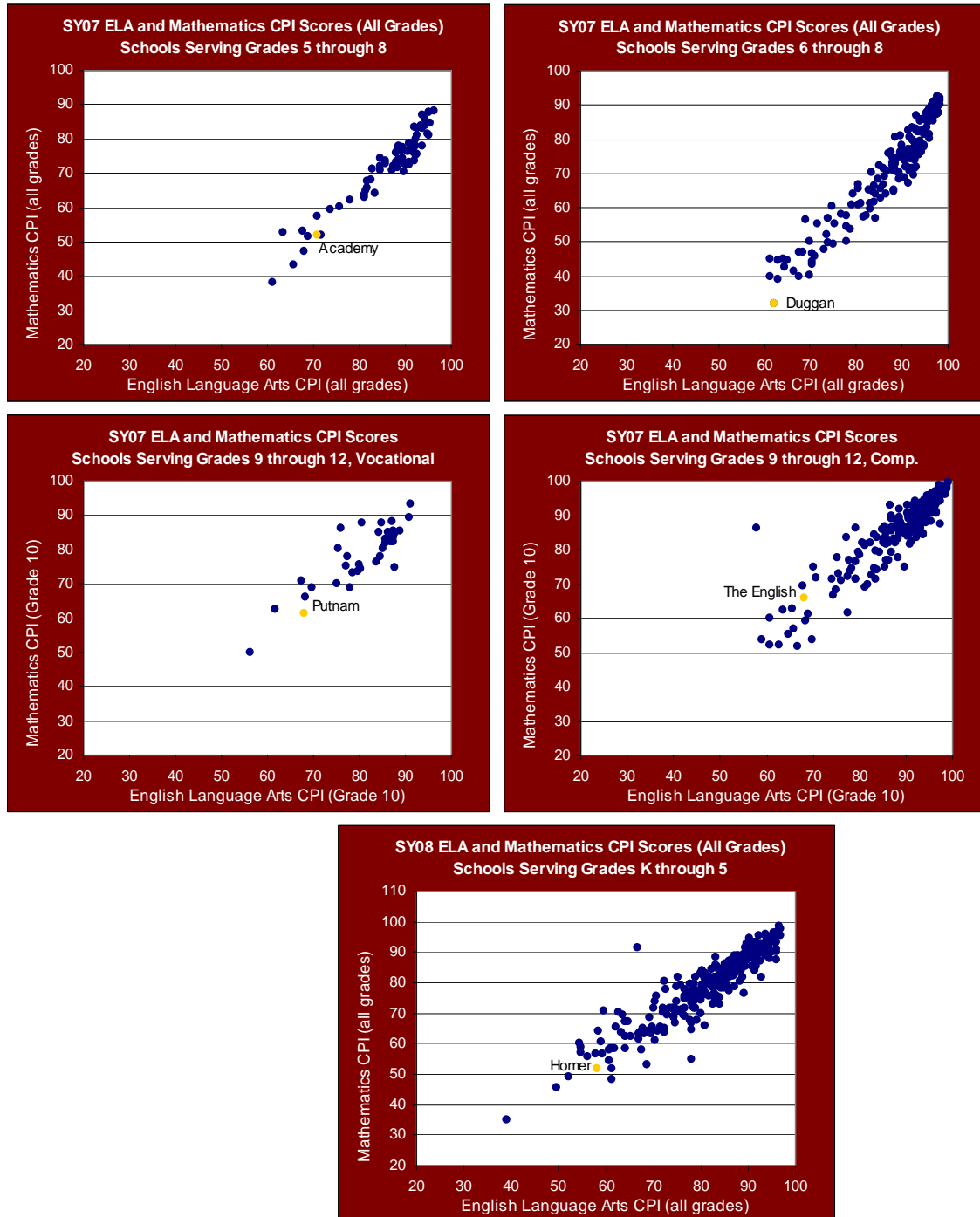
Table 5: Number of Schools with the Grade-Level Configuration as a Commonwealth Pilot in the Baseline Year

Cohort 1	Grade Levels Served	Number of Other Schools at Configuration
Academy Middle School, Fitchburg	5 to 8	71
Duggan Middle School, Springfield	6 to 8	175
Putnam V-T High School, Springfield	9 to 12 (Vocational)	35
The English High, Boston	9 to 12 (Comprehensive)	230
Cohort 2	Grade Levels Served	Number of Other Schools at Configuration
Homer Street Elementary, Springfield	K to 5	310

Source: UMDI Analysis of ESE-provided Enrollment data for SY07 (Cohort 1) and SY08 (Cohort 2). The selection excluded charter and alternative schools.

Figure 1 shows scatter plots of CPI for each Commonwealth Pilot at the time of program entry relative to schools with the same grade-level configuration. Schools in the upper right-hand portion of the cluster are those that scored relatively highly on both tests, while schools in the lower left-hand portion of the cluster represent those that struggled with student achievement in both subjects. Not surprisingly, Commonwealth Pilot schools tended to fall in the lower left-hand corner of the cluster.

Figure 1: Commonwealth Pilot Schools' Baseline CPI (All Grades) Relative to Same Grade Configuration Schools



Source: UMDI Analysis of ESE-provided School-Level MCAS Results, SY07 (Cohort 1) and SY08 (Cohort 2). The selection excluded charter schools and alternative programs.

Performance Profile

As Figure 1 shows, most schools within each grade-level configuration tended to cluster in the middle to upper portion of the plots and, as such, did not provide a good counterfactual for a turnaround school, such as a Commonwealth Pilot. However, no obvious cutoff point was apparent between low and moderate performers at any of the studied grade-level configurations. Without a clear cutoff for selection, researchers opted to select as comparison schools those in the lowest quartile of performers at the same grade-level configuration. This produced a group of schools with comparatively low performance while also generating large enough comparison group sizes to ensure that observed trends were unlikely to be the result of unique variation at any one school.

Table 6 shows the number of schools with CPI in both ELA and mathematics that were in the bottom quartile of schools with their respective grade configuration groupings. Given that the analysis requires tracking performance over time, potential comparison schools that had closed or changed configuration as of 2010 were excluded from the analysis. For example, of the 39 possible comparison schools for Duggan, 10 had closed or changed their grade configuration by the end of the comparison period, leaving 29 schools in the comparison group. After accounting for these changes, the total number of comparison schools ranged from 6 (Putnam) to 48 (Homer).

Table 6: Comparison Group Sizes

Cohort 1	Grade Levels Served	Schools at Configuration at Baseline	Schools in the Lowest Quartile	Closed or Changed Configuration	Number of Comparison Schools
Academy Middle School, Fitchburg	5 to 8	71	16	2	14
Duggan Middle School, Springfield	6 to 8	175	39	10	29
Putnam V-T High School, Springfield	9 to 12 (Vocational)	35	6	0	6
The English High, Boston	9 to 12 (Comprehensive)	230	46	6	40

Cohort 2	Grade Levels Served	Schools at Configuration at Baseline	Schools in the Lowest Quartile	Closed or Changed Configuration	Number of Comparison Schools
Homer Street Elementary, Springfield	K to 5	310	64	16	48

Source: UMDI Analysis of ESE-provided Enrollment data from the Baseline Year (SY07 for Cohort 1 Commonwealth Pilot and comparison schools, SY08 for Cohort 2). Schools were considered to have closed or changed configuration if they did so prior to the end of the comparison period, which was SY10, except for Academy, which closed in SY09 prior to the conclusion of the Initiative.

Table 7 shows the SY07 ELA and mathematics CPI for each Commonwealth Pilot relative to the average CPI score of schools in the comparison group. CPI in both subjects at Academy and Putnam appear to be relatively consistent with the average CPI of schools in their respective comparison groups. Scores at Duggan, The English, and Homer were somewhat lower than those of their comparison groups. Upon entry into the Initiative, each of the three schools had CPI that were lower than those at most other underperforming schools with the same grade-level configuration. Duggan entered the Initiative with particularly low CPI. Duggan's SY07 Mathematics CPI score was the lowest in the Commonwealth, and its ELA CPI was lower than at all but two grade 6 through 8 schools.

Table 7: CPI at Commonwealth Pilots Relative to Average CPI at Comparison Schools

Cohort 1	Baseline (SY07) ELA CPI			Baseline (SY07) Mathematics CPI		
	School	Comp.	Difference	School	Comp.	Difference
Academy Middle School, Fitchburg	70.8	73.2	-2.4	51.9	56.3	-4.4
Duggan Middle School, Springfield	62.2	74.2	-12.0	32.1	52.2	-20.1
Putnam V-T High School, Springfield	68.0	66.5	1.5	61.4	64.8	-3.4
The English High, Boston	68.2	76.7	-8.5	65.7	72.1	-6.4

Cohort 2	Baseline (SY08) ELA CPI			Baseline (SY08) Mathematics CPI		
	School	Comp.	Difference	School	Comp.	Difference
Homer Street Elementary, Springfield	58.2	66.6	-8.4	51.9	64.2	-12.3

Source: UMDI Analysis of ESE-provided MCAS data for SY07 (Cohort 1) and SY08 (Cohort 2). Comparison group figures reflect the average CPI among comparison schools.

The method used to select comparison groups allows changes in MCAS achievement and growth at Commonwealth Pilots to be discussed within a context of observed trends at other underperforming schools. However, it should be noted that this analysis was unable to account for student profile. There are two primary reasons for this. First, in some cases, the identification of schools with both a similar MCAS performance profile and similar low income and limited English proficiency rates—the two demographic characteristics shown to have the greatest influence on student outcomes—produced severely limited comparison group sizes. As such, this analysis prioritized prior MCAS performance as the more relevant selection criteria. Further, changes in demographics within Commonwealth Pilot schools made it impossible to identify schools with similar demographic characteristics at all points of comparison. For example, Duggan’s population of limited English proficient (LEP) students decreased substantially over the course of its participation in the Initiative, while LEP rates at The English grew. Given these two factors, student-level analyses would be needed to adequately control for changes in the demographic profile of students over the course of the Initiative.

For comparative purposes, Table 8 shows low-income and LEP rates at Commonwealth Pilots relative to the average among comparison group schools. Not surprisingly, given the demonstrated correlation between demography and MCAS performance, most schools were fairly well-matched in terms of low-income rates at the time of program entry. However, The English and Homer Street displayed markedly higher low-income rates than were typical at comparison schools. LEP rates at two schools also differed substantially from those at their comparison groups. Relatively few high schools in Massachusetts had an LEP rate comparable to that at The English, and the school’s LEP rate has actually increased to 31% during its tenure in the Initiative. On the other end of the spectrum, the LEP rate was notably lower at Academy than at its peer schools.

Table 8: Low-income and LEP Rates at Commonwealth Pilots Relative to Average CPI at Comparison Schools

Cohort 1	SY07 Low Income Rates (%)			SY07 LEP Rates (%)		
	School	Comp.	Difference	School	Comp.	Difference
Academy Middle School, Fitchburg	77.1	75.0	2.1	19.5	7.1	12.4
Duggan Middle School, Springfield	81.1	75.6	5.5	10.8	15.6	-4.8
Putnam V-T High School, Springfield	69.4	62.2	7.2	11.3	10.7	0.6
The English High, Boston	69.0	56.4	12.6	9.6	24.3	-14.7

Cohort 2	SY08 Low Income Rates (%)			SY08 LEP Rates (%)		
	School	Comp.	Difference	School	Comp.	Difference
Homer Street Elementary, Springfield	93.6	69.4	24.2	16.1	13.9	2.2

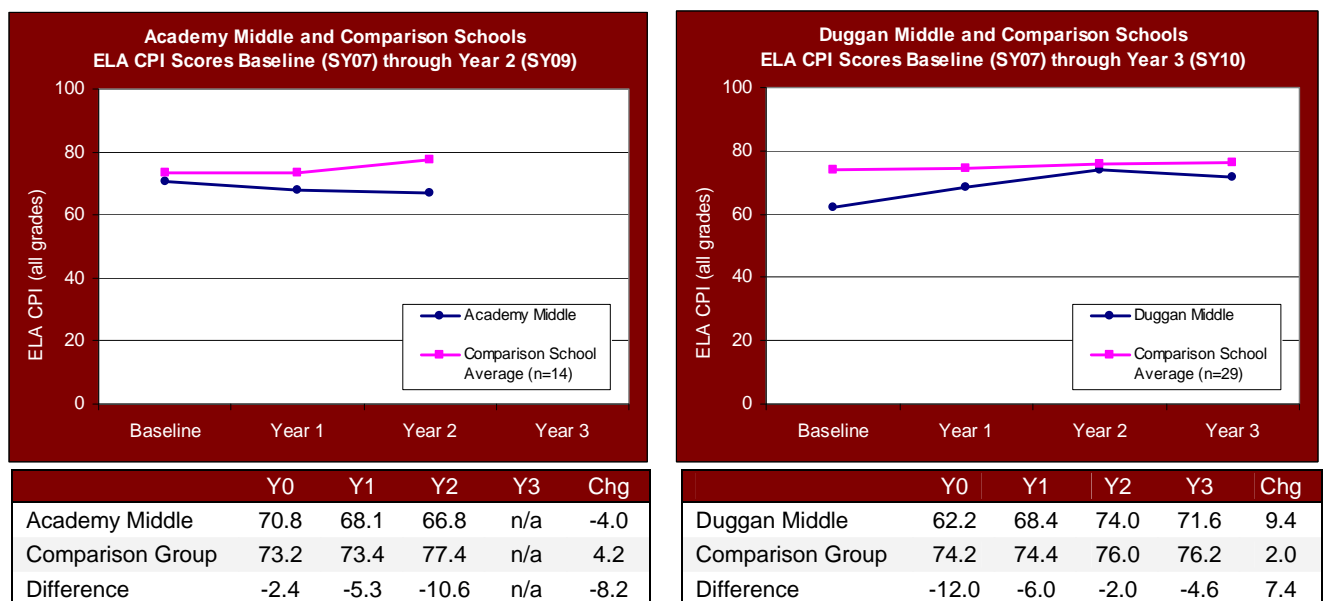
Source: UMDI Analysis of ESE-provided MCAS data for SY07 (Cohort 1) and SY08 (Cohort 2).

ELA Performance Trends Relative to Comparison Schools

Figure 2 displays observed trends in ELA CPI at the two middle schools relative to those of their comparison schools. Academy entered the Initiative with an ELA CPI that was within 3 points of the average ELA CPI at comparison schools. However, during the two years it participated in the Initiative, the school lost ground by approximately 4.2 CPI points, whereas schools in the comparison group saw their CPI increase by roughly the same margin, such that a 10.6 point deficit was observed relative to its comparison schools.

Duggan, which began the Initiative substantially behind even the state’s lowest performing middle schools, increased its CPI by 9.4 points, while schools in its comparison group tended to experience only slight gains, on average (2.0 points). This three-year CPI gain reflects improvement in Years 1 and 2 but a slight decrease in Year 3. Despite this regress, during its tenure in the Initiative, Duggan made substantial progress in narrowing the gap between it and other low performing middle schools. However, even this improvement has not been sufficient to move the school out of the lowest quartile of performers.

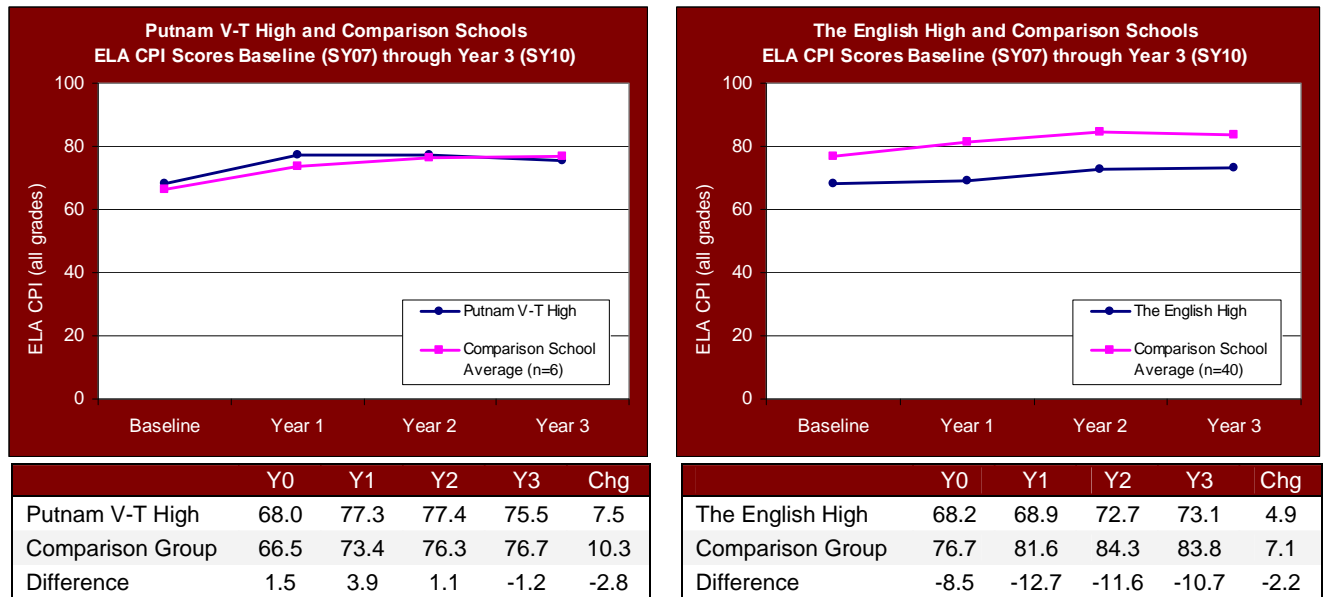
Figure 2: ELA CPI Trends at Middle Schools Relative to Comparison Schools (Cohort 1)



Source: UMDI Analysis of ESE-provided MCAS Performance Data for SY07 through SY10.

At the high schools, post-conversion increases in ELA CPI are somewhat unremarkable when compared to those at comparison schools. The English’s CPI increased by 4.9 points, but the average increase at comparison schools was 7.1 points, and Putnam’s CPI increased 7.5 points, compared to an average increase of 10.3 points at its comparison schools. As a result, by the end of the period both Putnam, which began the period with a CPI on par with its comparison group, and The English lost ground relative to comparison schools.

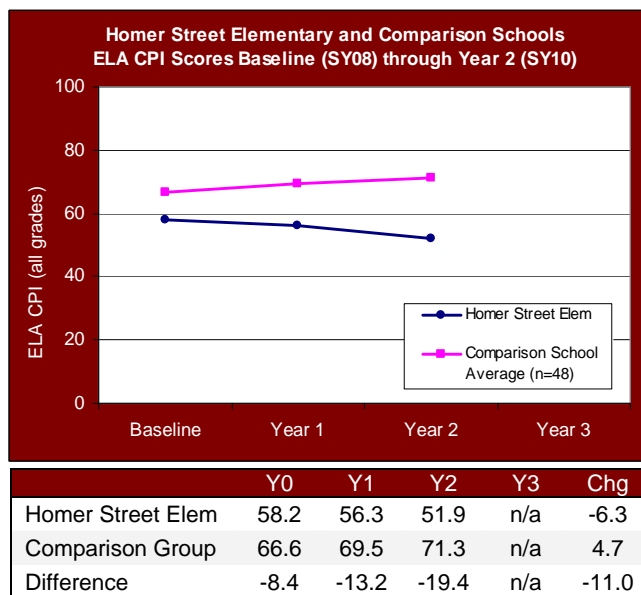
Figure 3: ELA CPI Trends at High Schools Relative to Comparison Schools (Cohort 1)



Source: UMDI Analysis of ESE-provided MCAS Performance Data for SY07 through SY10.

Figure 4 shows observed trends in CPI at Homer Street relative to those at other struggling K through 5 elementary schools. As this figure shows, Homer entered the Initiative with ELA CPI substantially below the typical CPI in its comparison schools. During its two years as a Commonwealth Pilot, Homer’s CPI fell 6.3 points, while schools in its comparison group experienced an increase of 4.7 points on average, increasing the overall gap in performance between Homer and its comparison group from 8.4 points to 19.4 points.

Figure 4: ELA CPI Trends at Elementary Schools Relative to Comparison Schools (Cohort 2)



Source: UMDI Analysis of ESE-provided MCAS Performance Data for SY08 through SY10.

Trends in schools’ median SGP in ELA relative to comparison schools are presented in Table 9, which show little evidence of relative progress within Commonwealth Pilot schools. One noteworthy change can be found at The English, which improved its median SGP by 7 points, while median SGP results among comparison schools remained flat on average. In fact, The English’s one-year change in median SGP from Year 2 to Year 3 is greater

than that observed at all but 10 of its 40 comparison schools. Academy’s decrease in median ELA SGP is also somewhat notable because decreases were observed at only 3 of Academy’s 14 comparison schools. Although decreases were also observed at Homer, nearly half of its comparison schools also saw decreases.

Table 9: Median ELA Student Growth Percentile (SGP) Trends at Commonwealth Pilots Relative to Comparison Schools

Cohort 1	Baseline		Year 1		Year 2		Year 3		Change	
	School	Comp	School	Comp	School	Comp	School	Comp	School	Comp
Academy Middle School	n/a	n/a	28.0	45.8	26.0	51.7	n/a	n/a	-2.0	5.9
Duggan Middle School	n/a	n/a	39.0	43.8	44.0	46.4	41.5	45.9	2.5	2.0
Putnam V-T High School	n/a	n/a	n/a	n/a	40.0	37.8	40.0	40.8	0.0	3.0
The English High	n/a	n/a	n/a	n/a	32.0	44.0	39.0	43.9	7.0	-0.1

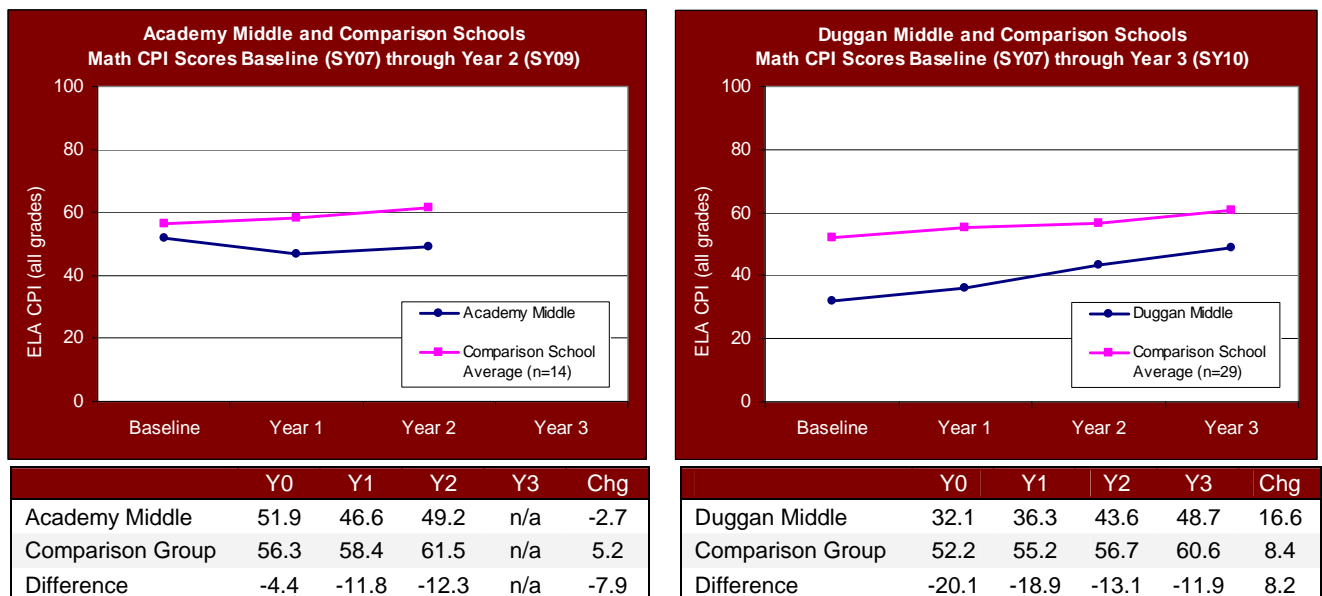
Cohort 2	Baseline		Year 1		Year 2		Year 3		Change	
	School	Comp.	School	Comp.	School	Comp.	School	Comp.	School	Comp.
Homer Street Elementary	27.5	42.3	22.0	43.1	22.0	43.2	n/a	n/a	-5.5	0.9

Source: UMDI Analysis of ESE-provided MCAS Performance Data for SY07 through SY10 (Cohort 1) and SY08 through SY10 (Cohort 2).

Mathematics Performance

Figure 5 shows achievement trends in mathematics at the two middle schools relative to those of their comparison schools. Between SY07 and SY09, Academy’s CPI in the subject fell, while the average CPI at comparison schools increased by approximately 5.2 points. Duggan, which began the Initiative with a mathematics CPI that was 20 points below that of its comparison group, experienced an increase in its CPI that was almost twice the increase observed at comparison schools (16.6 compared to 8.4). However, given the school’s extremely low baseline upon entry into the Initiative, its CPI continues to be approximately 13 points lower than the average among other lower performing schools in the state.

Figure 5: Mathematics CPI Trends at Commonwealth Pilots Relative to Comparison Group Schools (Cohort 1)

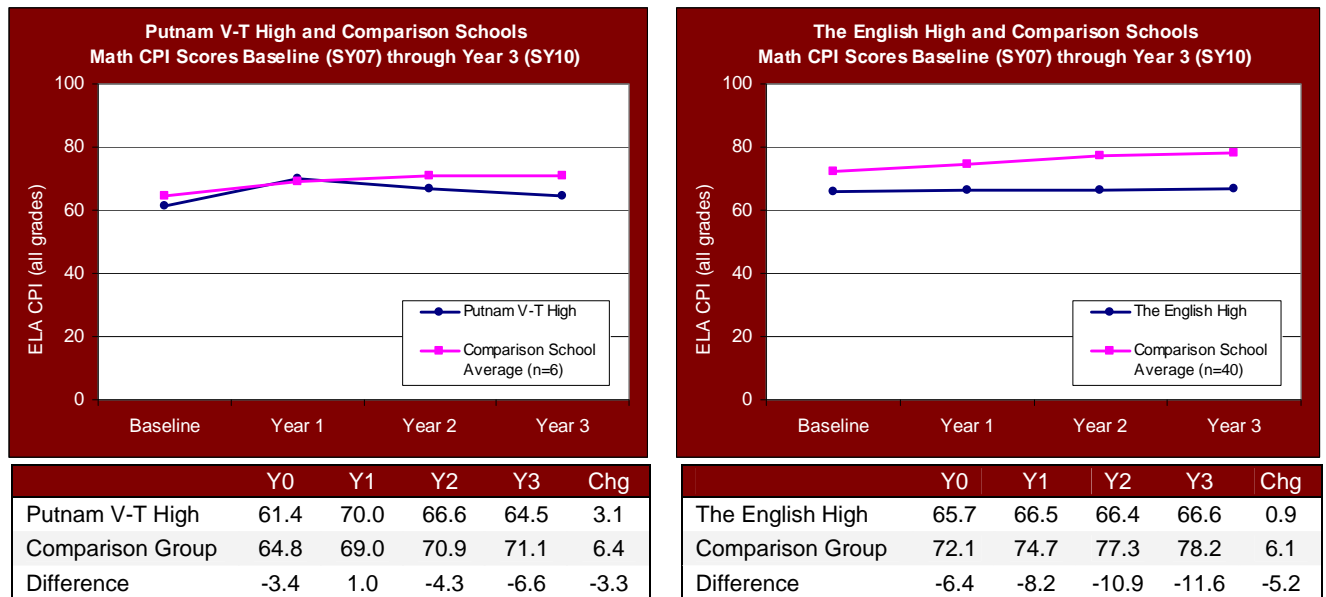


Source: UMDI Analysis of ESE-provided MCAS Performance Data for SY08 through SY10.

Mathematics achievement trends at the high schools are shown in Figure 6. Overall, CPI at both schools improved over the period but to a lower extent than was typical among comparison schools. The English’s CPI was virtually flat, improving only 0.9 points, while comparison schools improved by 6.1 points on average. Schools in

Putnam’s comparison group made steady progress over the three-year period; Putnam’s gain is attributable almost entirely to a one-year increase in Year 1, which was moderated by decreases in each of Years 2 and 3.

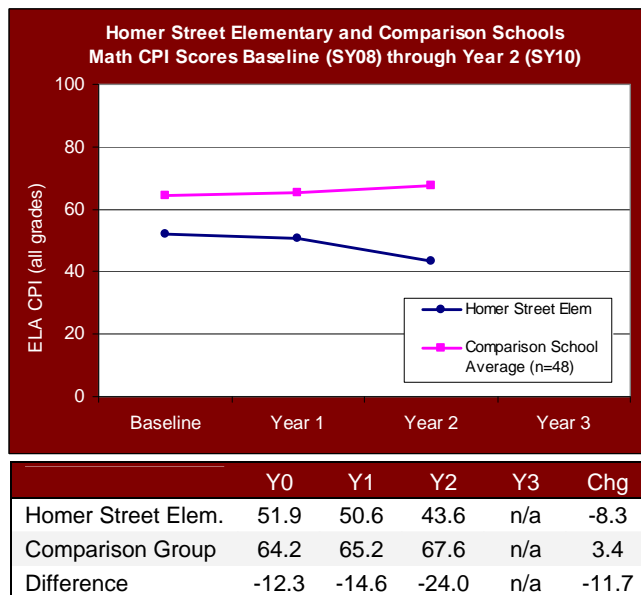
Figure 6: Mathematics CPI Trends at Commonwealth Pilots Relative to Comparison Group Schools



Source: UMDI Analysis of ESE-provided MCAS Performance Data for SY08 through SY10.

Figure 7 shows mathematics CPI trends at Homer Street Elementary relative to its comparison group. Homer lost ground in each of its two years in the Initiative, particularly its final year, in which its CPI fell by 7 points. Over the same period, CPI at comparison schools increased steadily, resulting in a widening of the gap between Homer and its comparison schools from 12 points to 24 CPI points.

Figure 7: Mathematics CPI Trends at Elementary Schools Relative to Comparison Schools (Cohort 2)



Source: UMDI Analysis of ESE-provided MCAS Performance Data for SY08 through SY10.

Finally, mathematics SGP trends are shown in Table 10. The median mathematics SGP score at Academy increased to a much larger extent that was typical among comparison schools, whereas at Putnam, the median SGP fell to a much larger extent. In fact, Academy's increase was larger than that observed at all but one of its comparison schools, and Putnam's decrease was the largest among its comparison schools. Although Duggan saw improvement in its mathematics median SGP in its Year Two (SY09) that exceeded improvement at any of its comparison schools, a decrease in the measure the following year left the school with a net increase only slightly higher than was typical among comparison schools over the two-year period. Changes at The English and Homer were unremarkable.

Table 10: Median Mathematics Student Growth Percentile (SGP) at Commonwealth Pilots Relative to Comparison Schools

Cohort 1	Baseline		Year 1		Year 2		Year 3		Change	
	School	Comp.	School	Comp.	School	Comp.	School	Comp.	School	Comp.
Academy Middle School	n/a	n/a	23.0	44.3	34.0	46.4	n/a	n/a	11.0	2.2
Duggan Middle School	n/a	n/a	19.0	43.3	39.5	43.9	28.0	48.3	9.0	5.0
Putnam V-T High School	n/a	n/a	n/a	n/a	51.0	43.3	42.0	42.2	-9.0	-1.2
The English High	n/a	n/a	n/a	n/a	39.5	45.6	37.0	46.7	-2.5	1.2

Cohort 2	Baseline		Year 1		Year 2		Year 3		Change	
	School	Comp.	School	Comp.	School	Comp.	School	Comp.	School	Comp.
Homer Street Elementary	28.0	43.7	26.0	44.6	24.5	47.2	n/a	n/a	-3.5	3.4

Source: UMDI Analysis of ESE-provided MCAS Performance Data for SY07 through SY10 (Cohort 1) and SY08 through SY10 (Cohort 2).