

COMMONWEALTH OF MASSACHUSETTS

SUFFOLK, ss.

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**JULIE HANCOCK<sup>1</sup> and others<sup>2</sup>** )  
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 vs. )  
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**DAVID P. DRISCOLL<sup>3</sup> and others<sup>4</sup>** )  
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**SUPERIOR COURT  
CIVIL ACTION  
NO. 02-2978**

**and**

**SUPREME JUDICIAL COURT  
FOR SUFFOLK COUNTY  
SJ-1990-0128**

**REPORT**

<sup>1</sup> By her father and next friend, Maurice Hancock.

<sup>2</sup> Emily White, by her next friend, Richard White; Delane Leahey, by her father and next friend, John J. Leahey; Brian Curley, by his next friend, Jayne Curley; Shannon Donnelly, by her next friend, Erin Donnelly; Timothy Jansson, by his next friend, Mary Ellen Jansson; Stephen Duffy, Jr., by his next friend, Stephen Duffy; Graham Smith-Shepley, by his next friend, Cheryl Smith-Shepley; Sydney Lee Chandler, by her next friend, Carol T. Chandler; Morgan Leigh Swindle, by her next friend Kim Swindle; Edward P. Damon and Leah Damon, by their next friend, Edward Damon; John Robert Blackwell, by his next friend, Penelope J. Blackwell; Maurice Buntin and Chad Buntin, by their next friend, Frank Buntin; Kelly Devine, by her next friend, Wendy Devine; Tyler Emery, by his next friend, Kathy Emery; Kelly Maguire, by her next friend, Robert Maguire; Michael Quist, by his next friend, Patricia Quist; Iliana Cruz-Marden, by her next friend, Holly Marden-Cruz.

<sup>3</sup> In his official capacity as Commissioner of Education and in his official capacity as Secretary and CEO to the Massachusetts Board of Education.

<sup>4</sup> James A. Peyser, in his official capacity as Chairman, Massachusetts Board of Education; Henry M. Thomas III, in his official capacity as Vice Chairman of the Massachusetts Board of Education; and Roberta R. Schaefer. Judith I. Gill, William K. Irwin, Jr., Abigail M. Thernstrom, J. Richard Crowley, and Jeffrey DeFlavio, in their official capacities as members of the Massachusetts Board of Education.

## **INTRODUCTION**

This case has been referred to the Superior Court by a single justice of the Supreme Judicial Court (Greaney, J.). While it now has a Superior Court docket number from 2002, it is in fact the remedy phase of two cases that respectively commenced in 1978 and 1989 and were later consolidated in the Supreme Judicial Court for Suffolk County. See *McDuffy v. Secretary of the Executive Office of Education*, 415 Mass. 545 (1993) (*McDuffy*).<sup>5</sup> At issue here is the plaintiffs' request for a remedy for what they consider to be the Commonwealth's continued failure to provide them with the level and quality of education required by the Massachusetts Constitution.<sup>6</sup>

## **BACKGROUND**

### **I. THE *McDUFFY* CASES AND DECISION**

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<sup>5</sup> The two cases consolidated into what is known as *McDuffy* were *Jami McDuffy & others v. Secretary of the Executive Office of Education & others*, filed in 1978, and *Jordan Levy & others v. The Governor & others*, filed in 1989.

<sup>6</sup> It is of some interest that the lead plaintiff in the *McDuffy* case, Jami McDuffy, was a student in the Brockton, Massachusetts, school system when the case was filed, and at least at the time the remedy trial began in 2003, was herself a teacher in the Brockton school system.

The two original *McDuffy* cases were brought by sixteen and nine students, respectively, in a total of twenty different cities and towns of the Commonwealth. They sought a declaration that the Commonwealth had not fulfilled its duty to give them the education that was required by Part II, c. 5, § 2, of the Massachusetts Constitution, and that the Commonwealth’s entire school financing scheme violated that provision as well as arts. 1 and 10 of the Massachusetts Declaration of Rights. In December 1992, a single justice reserved and reported both cases without decision to the full court on an agreed record consisting of 546 stipulations of agreed facts and a joint appendix containing six volumes of documents.

The court issued its decision in *McDuffy* on June 15, 1993. The court confined its consideration to the question whether “the constitutional language of Part II, c. 5 § 2, is merely hortatory or aspirational, or imposes instead a constitutional duty on the Commonwealth to ensure the education of its children in the public schools.” *Id.* at 550-551.<sup>7</sup> Following a review of the history of public education in Massachusetts and the intention of the framers of the “education clause” in the Constitution, Part II, c. 5, § 2, the court ruled as follows:

“ . . . What emerges from this review is that the words [“duty” and “cherish” in c. 5, § 2] are not merely aspirational or hortatory, but obligatory. What emerges also

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<sup>7</sup> Part II, c. 5, § 2 of the Massachusetts Constitution provides in relevant part as follows:

*“Wisdom and knowledge, as well as virtue, diffused generally among the body of the people, being necessary for the preservation of their rights and liberties; and as these depend on spreading the opportunities and advantages of education in the various parts of the country, and among the different orders of the people, it shall be the duty of legislatures and magistrates, in all future periods of this Commonwealth, to cherish the interests of literature and the sciences, and all seminaries of them; especially the university at Cambridge, public schools and grammar schools in the towns . . . .”*

*McDuffy*, 415 Mass. 545, 559-560 (1993)(emphasis in original).

is that the Commonwealth has a duty to provide an education for *all* its children, rich and poor, in every city and town of the Commonwealth at the public school level, and that this duty is designed not only to serve the interests of the children, but more fundamentally, to prepare them to participate as free citizens in a free State to meet the needs and interests of a republican government, namely the Commonwealth of Massachusetts.

“This duty lies squarely on the executive (magistrates) and legislative (Legislatures) branches of this Commonwealth. That local control and fiscal support has been placed in greater or lesser measure through our history on local governments does not dilute the validity of this conclusion. While it is clearly within the power of the Commonwealth to delegate some of the implementation of the duty to local governments, such power does not include a right to abdicate the obligation imposed on magistrates and Legislatures placed on them by the Constitution.”

*Id.* at 606 (emphasis in original). The court went on to conclude that, on the record before it, the plaintiffs had proved that the Commonwealth had failed to meet its obligation:

“We need not conclude that equal expenditure per pupil is mandated or required, although it is clear that financial disparities exist in regard to education in the various communities. It is also clear, however, that fiscal support, or the lack of it, has a significant impact on the quality of education each child may receive. Additionally, the record shows clearly that, while the present statutory and financial schemes purport to provide equal educational opportunity in the public schools for every child, rich or poor, the reality is that children in the less affluent communities (or in the less affluent parts of them) are not receiving their constitutional entitlement of education as intended and mandated by the framers of the Constitution.

. . . .

“. . . The bleak portrait of the plaintiffs’ schools and those they typify . . . leads us to conclude that the Commonwealth has failed to fulfil its obligation.”

*Id.* at 614, 617 (footnote omitted).

Finally, the court addressed the issue of remedy. It declined to find any legislative provision for school funding unconstitutional. Rather, it set out guidelines concerning the capabilities that an educated child must have, and “presume[d] . . . that the Commonwealth will fulfil its responsibility with respect to defining the specifics and the appropriate means to provide the constitutionally-required education.” *Id.* at 619 n. 92. The court stated:

“The crux of the Commonwealth’s duty lies in its obligation to educate all of its children. As has been done by the courts of some of our sister States, we shall articulate broad guidelines and assume that the Commonwealth will fulfil its duty to remedy the constitutional violations that we have identified. The guidelines set forth by the Supreme Court of Kentucky fairly reflect our view of the matter and are consistent with the judicial pronouncements found in other decisions. An educated child must possess ‘at least the seven following capabilities: (i) sufficient oral and written communication skills to enable students to function in a complex and rapidly changing civilization; (ii) sufficient knowledge of economic, social, and political systems to enable students to make informed choices; (iii) sufficient understanding of governmental processes to enable the student to understand the issues that affect his or her community, state, and nation; (iv) sufficient self-knowledge and knowledge of his or her mental and physical wellness; (v) sufficient grounding in the arts to enable each student to appreciate his or her cultural and historical heritage; (vi) sufficient training or preparation for advanced training in either academic or vocational fields so as to enable each child to choose and pursue life work intelligently; and (vii) sufficient level of academic or vocational skills to enable public school students to compete favorably with their counterparts in surrounding states, in academics or in the job market.’ *Rose v. Council for Better Educ., Inc.*, 790 S.W.2d 186, 212 (Ky. 1989).

“These guidelines accord with our Constitution’s emphasis on educating our children to become free citizens on whom the Commonwealth may rely to meet its needs and to further its interests. . . .

“The content of the duty to educate which the Constitution places on the Commonwealth necessarily will evolve together with our society. Our Constitution, and its education clause, must be interpreted ‘in accordance with the demands of modern society or it will be in constant danger of becoming atrophied and, in fact, may even lose its original meaning.’ *Seattle Sch. Dist. No. 1 v. State*, 90 Wash. 2d 476, 516 (1978) . . . .

“Thus, we leave it to the magistrates and the Legislatures to define the precise nature of the task which they face in fulfilling their constitutional duty to educate our children today, and in the future.”

*Id.* at 618-620 (footnote omitted). The decision’s concluding paragraph states:

“These cases are remanded to the county court for entry of a judgment declaring that the provisions of Part II, c. 5, § 2, of the Massachusetts Constitution impose an enforceable duty on the magistrates [executive] and Legislatures [Legislature] of this Commonwealth to provide education in the public schools for the children there enrolled, whether they be rich or poor and without regard to the fiscal capacity of the community or district in which such children live. It shall be declared

also that the constitutional duty is not being currently fulfilled by the Commonwealth. Additionally, while local governments may be required, in part, to support public schools, it is the responsibility of the Commonwealth to take such steps as may be required in each instance effectively to devise a plan and sources of funds sufficient to meet the constitutional mandate. No present statutory enactment is to be declared unconstitutional, but the single justice may, in his or her discretion, retain jurisdiction to determine whether, within a reasonable time, appropriate legislative action has been taken.”

*Id.* at 621.

## **II. THE PRESENT PROCEEDINGS**

Three days after the *McDuffy* decision was issued, the Governor signed into law as an emergency act St. 1993, c. 71, which rewrote many of the major statutes governing the State’s role in public school education. This legislation, known as the Education Reform Act, is described below. Presumably as a result of its passage, the *McDuffy* plaintiffs did not pursue at that time any requests for additional or remedial relief.

Six years later, in late 1999, the plaintiffs filed a motion for further relief with the single justice. Following his consideration and resolution of various motions on issues relating to remedy and discovery, the single justice entered an order of reference on June 29, 2002, to the Superior Court. In particular, the order refers the case to me as the judge in the Superior Court assigned to hear the matter, and provides in relevant part:

“[The judge] shall establish a tracking order, preside over discovery issues, hear the parties and their witnesses, and thereafter make findings of fact and such recommendations as the specially assigned justice considers material to the within complaint. At the conclusion of these proceedings in the Superior Court, the matter shall be referred back to the Clerk’s Office for the Supreme Judicial Court for Suffolk County.”

From July 2002 until June 12, 2003, counsel for the parties conducted discovery and appeared

periodically before me on issues relating to case management, discovery, and the nature and scope of the trial. The nineteen plaintiffs attend schools in nineteen different school districts. In light of this large number, the decision was made to proceed to trial by focusing the factual evidence on a group of districts fewer than the total, and the plaintiffs ultimately selected four: Brockton, Lowell, Springfield, and Winchendon (referred to collectively hereafter as “the focus districts” or “the four focus districts”).<sup>8</sup> In addition, the plaintiffs offered limited amounts of evidence concerning essentially three other districts - - Brookline, Concord/Carlisle and Wellesley - - all of which had been presented as “comparison districts” in the original *McDuffy* proceedings. See *McDuffy*, 415 Mass. at 555. The defendants were offered the opportunity to select one or more different school districts on which to present factual evidence for other comparison purposes, but they chose not to do so. However, the

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<sup>8</sup> There are two points about the focus districts to be stated at the outset: (1) in contrast to the original proceedings in *McDuffy* (see 415 Mass. at 553-554, 615), there is no agreement among the parties at this juncture that the four districts of Brockton, Lowell, Springfield, and Winchendon are representative or typical of all the nineteen districts in which the plaintiffs attend schools; and (2) the plaintiff students attending schools in the other fifteen districts have not waived their claims. In effect, the trial that took place was one considering separate claims or issues pursuant to Mass. R. Civ. P. 42(b). There was agreement that a trial on these separate claims would permit the case to be tried and then referred back to the Supreme Judicial Court within a more expeditious timetable, and that the decision of the Supreme Judicial Court would guide and greatly assist the parties in determining how to proceed with the claims of the remaining plaintiffs.

understanding was that expert witnesses called by both the plaintiffs and defendants would be entitled to offer opinions that might reach beyond the four focus districts, with the question of the relevance of those opinions left open.

Trial commenced on June 12, 2003, and concluded in January of 2004. There were 114 witnesses who testified and over 1,000 exhibits. The evidence presented by the plaintiffs centered principally on three issues: (1) their claim that students in the four focus districts are not receiving the level of education to which they are entitled under the Massachusetts Constitution;<sup>9</sup> (2) some of the asserted causes of the claimed failure, and (3) remedial measures to be considered. The defendants presented some evidence seeking to refute the claim of inadequate education in the focus districts, but primarily sought to show more generally that since the *McDuffy* decision and the passage of the ERA, the Commonwealth, principally through the Department of Education (the department), has developed and is implementing an “exemplary” educational system in Massachusetts.

The parties filed proposed findings in February 2004. At the same time, a number of organizations and individuals filed helpful briefs as amici curiae. Briefs were filed by the following: Massachusetts Urban School Superintendents; League of Women Voters of Massachusetts; Massachusetts Alliance for the Arts, *et al.*; Centro Latino De Chelsea, *et al.*; Massachusetts Association of School Committees, *et al.*; Massachusetts Business Alliance for Education; Strategies for Children, Inc. and the Early Education for All Campaign; Lawyers’ Committee for Civil Rights, *et*

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<sup>9</sup> The court in *McDuffy* declined to use the adjective “adequate” to describe the constitutional mandate imposed on the Commonwealth with respect to public school education, noting that “the words ‘adequate’ and ‘education’ can be viewed as redundant as well as contradictory.” *McDuffy*, 415 Mass. at 551 n. 8. The parties, however, continue to use the term, and I do as well. I do so simply as a shorthand reference to the level of education that the Commonwealth has a duty to provide to all public school children under Part II, c. 5, § 2, of the



*al.*; Dr. Andrew M. Reschovsky; Jonathan Kozol; Massachusetts Health Council, Inc., *et al.*; Jewish Alliance for Law and Social Action, *et al.*; and Civil Rights Project at Harvard University.<sup>10</sup>

### **III. THE EDUCATION REFORM ACT: SUMMARY OF KEY CHANGES**

The Education Reform Act (ERA), St. 1993, c. 71, changed dramatically the manner in which public school elementary and secondary education is funded in Massachusetts, and changed almost as dramatically the role that the Commonwealth plays in public school education. These changes are codified principally in G. L. c. 69, §§ 1 through 1L, G. L. c. 70, and various provisions of G. L. c. 71. The changes of particular relevance to this case are summarized below.

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Massachusetts Constitution.

<sup>10</sup> Some of the amici included adjudicative facts in their briefs that were not included in the trial record, and as a result, I have not considered this information. Others focused on issues, such as the performance gap that exists among certain racial and ethnic minority groups of students, which were also not a direct focus at trial except in relation to MCAS scores.

### **A. School Finance**

At the heart of the ERA is the statute's provisions dealing with school finance and funding. In 1993 public schools were funded – as they are today – from local, State and Federal sources. See *McDuffy*, 415 Mass. at 611. The principal source of local funds was the property tax. *Id.* While State aid was intended to be distributed in a way that would equalize educational opportunity and decrease reliance on local property taxes, for many years before 1993, this formula was not in fact used. *Id.* at 613. Other legislation provided for equalization grants, but these were cut substantially in the years just before 1993. *Id.* at 613-614.

The ERA creates a new system for funding public school education in G. L. c. 70 (Chapter 70). See St. 1993, c. 71, § 32. The law establishes a complex and detailed set of definitions and formulae to be used, but at its core it rests on the establishment of a “foundation budget” for every school district: a budget developed from per pupil allowances for each of eighteen spending categories that range from teacher and staff salaries and benefits to maintenance expenses. See Chapter 70, § 2; see also *id.*, §§ 1, 3.<sup>11</sup> The foundation budget is designed to be the minimum

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<sup>11</sup> The foundation budget formula includes “factors” or weights for different categories of students – low income students, students in bilingual education programs, special education students. These factors are converted into a per pupil amount. The budget is constructed by calculating per pupil amounts for all the component categories and factors, and multiplying these per pupil amounts by the district’s “foundation enrollment” as measured in October of the year

spending level for a public school district for a particular year, and is described by the department as “the state’s estimate of the minimum amount needed in each district to provide an adequate educational program.” (See, e.g., ex. 5066).

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before the budget year. (For example, a school district’s FY02 foundation budget is computed by using its student enrollment figures as of October 1, 2000). The formula also includes an annual inflation adjustment, as well as a wage adjustment factor that seeks to compensate for different wage levels in different parts of the Commonwealth.

The ERA also provides a means to calculate what the minimum contribution of the local city or town to the school district's foundation budget must be, and requires the locality to appropriate that amount of money. See Chapter 70, § 6.<sup>12</sup> The determination of the local contribution is based in part on the equalized property valuation for the particular municipality as determined by the Department of Revenue. The underlying premise of the foundation budget system is that by whatever amount (if any) the minimum local contribution falls short of meeting the foundation budget amount for the year, the State, through Chapter 70 aid, will make up the difference. See Chapter 70, § 2.<sup>13</sup> Finally, while the foundation budget for each district is composed of discrete amounts allocated to each of the eighteen categories, the ERA specifically provides that "each school district may determine how to allocate any funds appropriated for the support of public schools without regard to the categories employed in calculating the foundation budget." See Chapter 70, § 8. The exception

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<sup>12</sup> If a city or town district falls short in its expenditures on public education for a particular year – that is, the district spends less than the amount it was required to appropriate as its local contribution – there are consequences to pay. In particular, if the municipal expenditure level is between 95% and 100% of the required net school spending for a particular year, the amount by which the expenditures fall below 100% is added on to increase the required net school spending figure for the following year. If the expenditure level is more than 5% below the required level of net school spending, the Commonwealth actually reduces the municipality's chapter 70 aid the following year. See Chapter 70, § 11.

<sup>13</sup> As even a brief perusal of Chapter 70, § 2, will demonstrate, there are many different factors, none of which is simply defined or subject to easy comprehension, that play a role in determining the required minimum local contribution for each school district, and again many difficult-to-define factors that go into determining what amount of Chapter 70 aid the district is entitled to receive from the State in a particular year. However, it is not necessary to unravel here the complexities in the Chapter 70 formula governing what portion of the total foundation budget the municipality is responsible for funding, and what portion is the State's responsibility. The plaintiffs do not appear to challenge this allocation formula. Rather, they claim that the overall foundation budget formula should include certain spending categories that it does not, and further that some of the spending categories which are included (e.g., special education expenses) are not adequately dealt with. These points are considered in the findings below.

has been professional development; the State has required a minimum expenditure for this purpose.<sup>14</sup>

**B. Responsibilities of the Commissioner and Board of Education**

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<sup>14</sup> In the current fiscal year, however, the State has given up mandating a minimum professional development amount to be spent by local districts, in light of budget constraints.

The ERA inserted G. L. c. 69, §§ 1A through 1K, into the General Laws. (St. 1993, c. 71, § 29). Sections 1A and 1B of c. 69 offer an overview of the increased responsibilities to be exercised by the commissioner of education (the commissioner) and the board of education (the board) under the reform educational scheme.<sup>15</sup> Thereafter, G.L. c. 69, § 1D, directs the board to “establish a set of statewide educational goals for all public elementary and secondary schools in the commonwealth” and to direct, through the commissioner, the development of academic standards “for the core subjects of mathematics, science and technology, history and social science, English, foreign

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<sup>15</sup>Section 1A requires that the commissioner, *inter alia*, analyze the “goals, needs and requirements of public early childhood, elementary, secondary and vocational-technical education in the commonwealth and recommend to the board comprehensive means to achieve a well-coordinated system of high achievement in public education . . .”; prepare a five year master plan “for public early childhood, elementary, secondary, and vocational-technical education in the commonwealth;” “assess the effectiveness and monitor the improvement of public schools in each district, including charter schools;” recommend to the board appropriate changes to the competency determination “to reflect evolving notions of vocational education;” appoint independent fact finding teams to assess the reasons for a school district’s underperformance under c. 69, §§ 1J and 1K; and assess prospects for school district improvement, supervise any receiver appointed for a school district that is deemed chronically underperforming under §§ 1J and 1K, and provide technical assistance to an underperforming or chronically underperforming school or school district. Section 1A has been further amended to require the commissioner to exercise oversight over the delivery of high quality special education evaluations and services by local school districts and charter schools, and monitor programs for limited English proficient students. *Id.* as amended by St. 2000, c. 159, § 135, and St. 2002, c. 218, § 1.

Section 1B broadly sets out the board’s duties and responsibilities in a complementary fashion to those of the commissioner that are listed in § 1A. Among other duties, it mandates that the board assume responsibility for establishing: policies for public school early childhood, elementary, secondary, and vocational school education; certification standards for all teachers, principals, and administrators for all such public schools; standards for declaring a school or school district as “underperforming” or “chronically underperforming;” minimum standards for all public school buildings; and maximum pupil-teacher ratios for classes in public elementary and secondary schools. In general, the section states that the board is to “carry out its responsibilities with a view toward increasing the accountability and effectiveness of public early childhood, elementary, secondary and vocational-technical schools and school districts for the performance of the students they serve.” Amendments to G. L. c. 69, § 1B, that were enacted after the ERA

languages and the arts” that are to “clearly set forth the skills, competencies and knowledge expected to be possessed by all students at the conclusion of individual grades or clusters of grades.”

Section 1D of c. 69 goes on to provide that the academic standards to be prepared by the commissioner and the board must include criteria for three separate determinations or certificates relating to academic achievement. The most well known of these is the “competency determination” for all tenth graders that is to be a condition of high school graduation, and is to test the student on competency “in the areas of mathematics, science and technology, history and social science, foreign languages, and English based on the academic standards and related curriculum frameworks. . . .”<sup>16</sup>

Under G.L. c. 69, § 1E, the board is to direct the commissioner to draw up curriculum frameworks in the core subjects covered by the academic standards in § 1D. The board is also charged with establishing standards for vocational technical education. G. L. c. 69, § 1F.

In addition to setting standards for schools and students, the ERA directs the board to establish a system to evaluate annually the performance of both school districts and individual

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are not summarized here.

<sup>16</sup>The other two are a “certificate of mastery” that is to be based on a determination that the recipient has shown mastery of the skills, competencies and knowledge that are possessed by accomplished graduates of the best high school level programs in the world; and a “certificate of occupational proficiency” showing the recipient has demonstrated a comparable mastery of the skills, competencies and knowledge that are possessed by similarly aged students entering a trade or profession from the best education systems in the world. G. L. c. 69, § 1D.

schools, based on student performance outcomes tied to the board’s academic standards and curriculum frameworks. The stated goals of these assessments are to measure student outcomes and to improve the effectiveness of the curriculum and the teaching being provided. G. L. c. 69, § 1I. When a school fails to improve the academic performance of its students, as measured by the assessments under § 1I, the commissioner may refer the school for review to determine whether it is “underperforming.” Schools that are found to be underperforming must develop and present to the board within six months a remedial plan for improvement, and if the school does not show significant improvement in two years, the board may declare it to be chronically underperforming, which leads to the immediate dismissal of the principal and appointment of a new principal by the superintendent. G. L. c. 69, § 1J. When the board finds a school district to have failed to improve the performance of its students, the board may declare the district chronically underperforming and designate a receiver for the district who is to report directly to the commissioner. G. L. c. 69, § 1K.

**C. Teachers**



The ERA changed teacher certification standards and operating procedures. It instituted a certification or licensure test for new teachers. The test consists of two parts: a test on writing, communication and literacy, and a subject matter content test. See G.L. c. 71, § 38G (as amended by the ERA). In addition, all new teachers must hold a bachelor's degree from an accredited college with a major course in the arts or sciences appropriate to the teacher's instructional field (i.e., not simply education). The ERA provides for essentially three categories of teacher licensure or certification: a "preliminary license," an "initial license," and a "professional license" in the nomenclature used by the board. See G.L. c. 71, § 48G; 603 Code Mass. Regs. § 7.02.<sup>17</sup> To qualify for a preliminary license, a person must pass the Massachusetts Test for Education Licensure (MTEL) and have the requisite bachelor's degree as just described. See G.L. c. 71, § 38G; 603 Code Mass. Regs. § 7.04(2)(a). An initial license requires a bachelor's degree and a passing score on the MTEL exam, plus participation in courses in a supervised practice. G.L. c. 71, § 38; 603 Code Mass. Regs. 7.04(2)(b).

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<sup>17</sup> The regulations governing teacher certification have been promulgated fairly recently. Nevertheless, it seems appropriate to cite them here because they essentially implement the new teacher certification provisions of the ERA.

The professional license or “standard educator certificate” is the final stage of licensure. See G.L. c. 71, § 38G; 603 Code Mass. Regs. § 7.04(2)(c). As the ERA has been implemented by the department, a teacher is eligible for this third stage after at least three years as a certified teacher, and upon completion of an induction program, 50 hours of mentored experience, and one or more of several types of prescribed professional development activities and programs or master’s program. See 603 Code Mass. Regs. § 7.04(2)(c).<sup>18</sup> In contrast to the situation before the ERA when a teacher essentially could acquire life-time certification, the professional license is good for five years, at which point the teacher must apply for recertification. To achieve recertification, the teacher must earn a certain number of professional development points (PDPs), through courses or other activities, based on an individual professional development plan approved by the teacher’s principal. See G. L. c. 71, § 38Q (added by the ERA); 603 Code Mass. Regs. §§ 44.03(1), (2) and 44.03(3).<sup>19</sup> A teacher may earn PDPs by passing content-specific tests approved by the board. 603 Code Mass. Regs. §44.03(3.) A teacher who does not renew his or her license cannot be employed by a public school district until the license is renewed, unless the board grants a waiver. *Id.* at § 44.08(4).

The ERA also increased the powers of principals and superintendents, transferring from school committees to principals the power to dismiss or demote a teacher, subject to the approval of

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<sup>18</sup> The ERA had a grandfather provision: teaching certificates granted by the board before October 1, 1994, were designated standard educator certificates (i.e., professional licenses) without any further work on the part of the teacher. However, these teachers are still subject to the five-year recertification requirement of the ERA discussed below. See G. L. c. 71, § 38G.

<sup>19</sup> Section 38Q requires that every school district adopt, implement and update annually a professional development plan that covers all principals and other professional staff in the district in addition to the teachers. The “plan shall include training in the teaching of new curriculum frameworks and other skills required for the effective implementation of this act, including participatory decision making, and parent and community involvement.” *Id.*

the superintendent (see G. L. c. 71, § 42, as amended by the ERA, St. 1993, c. 71, § 44), and making superintendents responsible for developing systems of evaluation for all teachers, principals, and other administrators within their system. See G. L. c. 71, § 38 (as amended by the ERA).

## **FINDINGS OF FACT**

### **IV. THE COMMONWEALTH'S IMPLEMENTATION OF EDUCATION REFORM SINCE 1993**

#### **A. The Commonwealth's Increased Financial Contributions to Local School Districts**

The ERA was enacted in June 1993 with an emergency preamble, and its funding provisions were first implemented in FY 1994. At that time, many school districts were spending well below the amount of their respective foundation budgets. Full funding of the foundation budgets did not occur immediately, but was targeted by the Legislature to be phased in over seven years, with local districts being held to a "standard of effort" to help close the gap between the foundation budget and annual expenditures. The Commonwealth met this target. As of FY00, every operating school district in Massachusetts was spending at or above its foundation budget level on public school education.

In FY93, the total amount spent on public education K through 12 was approximately \$3.6 billion; in FY02, the total was approximately \$10.1 billion. There has been an average increase in spending, therefore, of about 12% per year. Of the total spending in FY02, approximately 39% has come from the State, 55% has come from local revenues, and 5% from Federal sources.<sup>20</sup> The total

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<sup>20</sup>These are State averages. The ratio of local to State spending depends very much on the district. Under the ERA's foundation budget formula, property rich towns like Wellesley may contribute 90% of the monies spent on the public schools and the State may contribute 10%; in a

State aid to public school education in FY93 was approximately \$1.6 billion, and in FY02, it was about \$4 billion.

Over the ten years between 1993 and 2003, the Commonwealth has spent about \$30.8 billion in State funds on public school education. At present, Chapter 70 accounts for about 80% of this total. The rest comes through grants and other State aid programs. ( Ex. 5066).

The high point for State educational aid was in FY02. There was a decline in FY03, and another, larger reduction in FY04, totaling about 5 ½ %.

## 2. Development of the Curriculum Frameworks

As indicated above, the ERA mandated the development of curriculum frameworks in the “core subjects” of English, mathematics, history and social science, science and technology, foreign languages, and the arts. G. L. c. 69, § 1E (inserted by St. 1993, c. 71, § 29). The curriculum frameworks are to “present broad pedagogical approaches and strategies for assisting students in the development of the skills, competencies and knowledge called for by the standards . . . .” *Id.*

Beginning in January of 1996, the board began the process of adopting curriculum frameworks in all the “core” subjects set out in the ERA -- English language arts, mathematics, science and technology, history and social science, foreign languages, and the arts -- as well as in health. All of the initial frameworks have been substantially revised since they were first released, and in some instances more than once. The current versions of curriculum frameworks were adopted during the period from August 1999 (foreign languages) to August 2003 (history and social science).

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city like Springfield – and indeed, in all the four focus districts – the State currently contributes well over 70% of the total funds.

Each of the curriculum frameworks sets out a comprehensive curriculum guide for pre-kindergarten through twelfth grade.

The curriculum frameworks are discussed more fully below.

**C. Development of MCAS**

The Massachusetts Comprehensive Assessment System (MCAS) was developed in response to the ERA's mandates that a system of student assessments be created and a "competency determination" be made a high school graduation requirement. The ERA calls for the competency determination to "be based on the academic standards and curriculum frameworks for tenth graders in the areas of mathematics, science and technology, history and social science, foreign languages, and English . . . ." G. L. c. 69, § 1D. To date, however, the board has chosen to confine the competency determination to two subjects, mathematics and English language arts (ELA), and to base it on the MCAS tests in those subjects.<sup>21</sup> The commissioner has proposed a schedule for incorporating MCAS tests in science and technology and history/social science into the competency determination. (Ex. 1090). If the schedule is followed, the science and technology MCAS test would be made operational in 2006, and included in the competency determination in 2007 (class of 2009). The United States history MCAS test would be made operational in 2008, and included in the competency determination in 2009 (class of 2011). (Ex. 1090). There is no schedule for adding foreign languages to the competency determination.

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<sup>21</sup>Other litigants have challenged these choices of the board, as well as other aspects of the MCAS tests. See *Student No. 9 v. Board of Educ.*, 440 Mass. 752 (2004). The plaintiff students in this case, however, do not raise any issues about the MCAS test. Accordingly, I do not make any findings on these topics. The description of MCAS in the text at this point is included to help fill in the picture of what has transpired since *McDuffy*, and specifically, what the board and the department have done to implement the ERA.

MCAS tests were administered for the first time in May of 1998. The subject matters tested and the grades in which MCAS tests are administered have changed a number of times between 1998 and today, but at present, MCAS tests are administered in the following grades and subjects: third grade – reading; fourth grade – ELA and mathematics; fifth grade – science and technology; sixth grade – mathematics; seventh grade – ELA; eighth grade – mathematics, science and technology; tenth grade – ELA and mathematics.

The MCAS tests are scored on a scale of 200 to 280. There are four performance categories: “Advanced,” “Proficient,” “Needs Improvement,” and “Warning” or “Failing.” In order to satisfy the high school competency determination at the present time, a student must achieve a score on both the tenth grade ELA and mathematics tests of at least 220, which means at least at the Needs Improvement level. The board intends to raise the passing score over time to Proficient, and in fact must do so by no later than 2014 to comply with the requirements of the Federal No Child Left Behind Act (NCLB, or “the NCLB law”).

#### 4. Teachers

The department’s teacher licensure regulations, developed and promulgated in response to the significant changes in teacher qualification requirements imposed by the ERA, have been briefly referred to above. They are designed in part to link the educational requirements that new teachers must meet with the contents of the Massachusetts curriculum frameworks, and to enhance the quality and subject matter mastery of teachers. The MTEL examination and these regulations are among the most rigorous teacher qualification programs in the United States. The department also regulates teacher preparation programs offered by colleges and universities in the Commonwealth.

The department has initiated efforts to recruit new teachers, particularly in areas in which

there are shortages, such as middle and high school science and mathematics, as well as special education and foreign languages. The Massachusetts Institute for New Teachers (MINT) program seeks to attract highly qualified college graduates, including individuals seeking to change careers mid-stream, by offering an accelerated teacher training program over seven weeks in the summer.<sup>22</sup> The program has operated since 1999, and has had some success in attracting teachers to these content areas, approximately 400 teachers recruited by the fall of 2003. However, the department does not track the MINT program teachers, and accordingly the questions that appear to exist about the success of these teachers, initially and over time, about whether they stay in teaching and if so, where – urban school systems or the suburbs – cannot be answered.

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<sup>22</sup> There was some mention during the testimony of Dr. Sandra Stotsky, a former employee of the department, that the MINT program may be changing into a one year college-based program rather than an accelerated program during the summer months.

## E. The Accountability System<sup>23</sup>

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<sup>23</sup> The Federal No Child Left Behind Act of 2001 (NCLB), signed into law in January 2002, imposes a broad variety of reporting and accountability requirements on States receiving Federal monies for public education programs and teacher training, including funds under Title I of the Elementary and Secondary Education Act of 1965 (Title I), which provides school districts or individual schools (or both) that have substantial enrollments of high poverty children with extra resources to help improve instruction for poor and minority children.

**Appendix A** to this report contains a very brief summary of some of the NCLB requirements since, as indicated in the text in this section and elsewhere, the NCLB has a direct impact on the way in which the department implements the school and district accountability system called for by the ERA. In addition, the NCLB is important because it brings under its wing a number of separate Federal education programs, including Title I, and has become a principal vehicle for Federal education grants to the States, both entitlement grants such as Title I (entitlement based on levels of poverty), and competitive grants.



The board first adopted regulations to govern the ERA-mandated school and district accountability system in 1998.<sup>24</sup> It has separate review systems for schools and for districts: the department performs the reviews of individual schools, and the Office of Educational Quality and Accountability (EQA) performs the reviews of school districts. The EQA was created in 2000. (See G. L. c. 15, § 55A, as amended by St. 2000, c.384, § 4.) It is a separate agency within the department, but not subject to its control. Rather, the EQA reports to the Educational Management and Audit Council (EMAC), a separate agency from the department or the board. See *id.* Nevertheless, at the time of trial, James Peyser was both the chairman of the board and the head of EMAC.

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<sup>24</sup> See 603 Code Mass. Regs. § 2.00 *et seq.*

The accountability system implemented by the department operates on a two-year performance rating cycle that is tied to MCAS scores. Originally, the department was rating school and district performance according to a model that called for all students to achieve a level of Proficient on the English language arts and math MCAS tests by 2020. The Federal NCLB law, however, requires students in each school and district to achieve proficiency (as measured by the MCAS tests) by 2014, and also requires that each State have a single, unified system of accountability for both Federal and State purposes. Accordingly, the Massachusetts accountability system has been changed in some respects to comply with Federal requirements. One of these changes is that 2014 is now the target year for achieving proficiency in ELA and math. Another is that the accountability system must report on student performance not just in the aggregate but by specific population subgroups. These subgroups include students receiving special education services, students with limited English proficiency (LEP),<sup>25</sup> and minority (e.g., African American, Hispanic, Asian/Pacific Islander) students.

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<sup>25</sup> Centro Latin de Chelsea and the other amici that joined with it in filing a brief amicus curiae point out that the term “English language learners” is often used interchangeably with the term “limited English proficiency,” but is preferable because it is more positive. I appreciate the comment, but have generally used the term “limited English proficiency” in this report because it is the term used in most of not all the department’s reports, NCLB -related reports and similar types of documents.

## **1. School Accountability System**

The school accountability system has three phases: school performance ratings that are done at the end of every two-year rating cycle, with a mid-cycle report in the intervening year;<sup>26</sup> a school panel review; and, for schools determined by the commissioner and the board to be underperforming, a fact finding review.

Every public school in the Commonwealth receives a school performance rating by the department at the end of the two-year rating cycle. The first rating cycle, Cycle I, covered the years 1999 and 2000, and was based on ELA, math and science MCAS test results for those years, using the 1998 MCAS results as the baseline. Cycle II covered 2001 and 2002, with 2000 as the base year. The MCAS data used to perform the ratings were for only ELA and math, not science. (See ex. 5112). When tests in science and U.S. history have been implemented and enough data are available, they will be added to the school performance rating system. Cycle III will cover 2003 and 2004, and the ratings will be issued in the fall of 2004. (See ex. 1062).

The school performance rating system describes performance in relation to the goal of all students attaining the Proficient or Advanced level on MCAS scores by 2014. It looks at both where actual performance in terms of MCAS scores is in terms of a statewide performance target, and also at improvement – that is, where is the school in relation to a “target” level of improvement in the

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<sup>26</sup> The mid-cycle report has been added to comply with NCLB’s requirement for annual assessments. It provides a determination of “adequate yearly progress” for each school and district, as required by NCLB. It does not contain descriptive performance or improvement ratings.

MCAS scores for that school or district. The possible performance ratings include “very high,” “high,” “moderate,” “low,” “very low,” and “critically low.” For Cycle II, the State performance target for ELA was set at a number that corresponded to the low end of the “moderate” range, and the performance target for math was set at a number corresponding to the “very low” category. The improvement ratings include “above target,” “on target,” “improved below target,” “no change,” and “declined.” The “target” in question is determined by calculating what amount of MCAS score improvement must be made in each rating cycle so that the school will achieve proficiency by 2014. (See ex. 5112; 1062).

The purpose of the school performance ratings – beyond the fact that some form of assessment is required by NCLB – is to permit the department to assess underperformance and where there may be a need for State intervention, and also to look for districts that have experienced distinct improvement in student performance and that can help disseminate information about successful strategies; the latter are designated as “compass schools.” Schools with the lowest level of performance ratings and those with improvement ratings that either declined or showed no change may be referred for school panel review by the department to determine whether they are “underperforming.” However, in part because of a lack of resources, the department performs relatively few school panel reviews every year – only in the “most extreme” cases, according to Juliane Dow, the associate commissioner for accountability and targeted assistance within the department. Thus, in 2001, the department identified between 100 and 200 schools as candidates for “underperforming” designation because of MCAS performance that had been rated “critically low” or “very low.” Of all these schools, the department performed school panel reviews of twelve during

2001, and twelve during 2002. (Ex. 5117).<sup>27</sup> For schools that are performing poorly but have not reached the “extreme” level, the department expects that the school district itself will conduct a review and seek to deal with the problem(s).

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<sup>27</sup> The department performed eight school panel reviews in 2000, which appears to have been the first year that such reviews were conducted. (See ex. 5117).

Dow states that schools with the lowest performance ratings are given top priority in the form of district and State support and assistance, which can include eligibility for State and Federal school support funds,<sup>28</sup> and training by State or district school support specialists in relation to curriculum, instructional practices, and program evaluations.<sup>29</sup> It also includes assistance in the form of performance improvement planning according to a “performance improvement mapping” methodology that the department developed in 2001. The process assists schools in looking at student performance data and figuring out ways to address improvement problems. To date the process has not been evaluated formally – it is considered too new – but in the view of the department, it is very helpful in guiding and educating school administrators in the process of developing an adequate, documented, school improvement plan.

Under the NCLB law, a school that fails to make “adequate yearly progress” (AYP)<sup>30</sup> for two years in a row is “identified for improvement,” and a school that fails to make AYP for five years in a row is identified for “corrective action.” When a school is identified for corrective action, the district must document what changes it has made or intends to make to improve performance, and the school

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<sup>28</sup> These appear to include Federal funds for consolidated planning assistance; the department seeks with such grants to concentrate on districts that appear to need extra help in determining what their problems are. The department witness mentioned Winchendon as an example of such a district, but I am not clear whether Winchendon has in fact received a consolidated planning assistance grant.

<sup>29</sup> School support specialists are individuals who have been trained by the department to offer support in improvement planning for schools identified for improvement in particular districts. Starting in 2002, the department provided grant funding to the ten largest school districts in the state for school support specialists. These districts include three of the four focus districts: Brockton, Lowell and Springfield.

<sup>30</sup> This refers to “adequate yearly progress” towards the goal of achieving proficiency in ELA and math by all students in the school by 2014.

also becomes a candidate for school panel review. In 2003, as a result of the interim school rating process, the department identified 208 schools that had failed to make AYP for two consecutive years, 103 that had failed to make AYP for four consecutive years, and 38 schools were identified for corrective action because they had failed to make AYP for the five prior years. Of all these schools, the department performed only fourteen school panel reviews in 2003. (See ex. 5117).

The school panel review process involves a review conducted by a team of five to nine persons, who include a department employee, a consultant, and practicing educators. They receive training on the school they will visit, review data, and conduct an on-site visit, usually for two days, where they speak with school and district leaders, visit classrooms, look at the school facilities, etc. The panel is to answer the questions whether the school has a sound plan for improving student performance, and whether conditions are in place to support the successful implementation of such a plan. The panel prepares a report of its visit that the school principal has a chance to review for factual accuracy, and then it is submitted to the commissioner. The commissioner determines from the report whether the school should be found to be underperforming, which means in substance that he has determined the school does not have the capacity to improve.

If a school is determined to be underperforming, the department schedules a factfinding review to determine the causes of poor performance. This is the third and final stage of the school accountability system. It involves a longer on-site review process than the school panel review, one in which the team focuses on curriculum and instruction, school climate, and school management and leadership. The factfinding review team produces a report that contains recommendations about ways the school might correct weaknesses.

Underperforming schools are required to develop and submit to the department school

improvement plans within six months of the underperforming designation. G. L. c. 69, § 1J; 603 Code Mass. Regs. § 2.03(6). These plans are subject to approval by the board. Once approved, the school and the district of which it is a part have 24 months to implement the plan. If an underperforming school does not show significant improvement in student performance within those 24 months, the board may declare the school to be “chronically underperforming” and then is to intervene and specify corrective action. G. L. c. 69, § 1J; 603 Code Mass. Regs. § 2.03(8), (9). The commissioner testified that the department was at the point of finding some schools “chronically underperforming,” but there was no evidence that it had yet done so.

## **2. District Accountability System**

School district accountability is the responsibility of EQA. Like the school accountability system, the district system has three stages, called “tiers” by the EQA. Tier I consists of an annual review of student MCAS data, attendance and enrollment data for every public school district in the Commonwealth. EQA looks at three or four years of data for each district to determine whether it is meeting State performance expectations for all its students, including each subgroup of student (e.g., special education, LEP, racial and ethnic minority). In particular, it focuses on how the district is achieving overall, and by group (equity of achievement); on whether the district is improving over time, and the equity of improvement; and on whether all students are participating in MCAS. Tier I review was first conducted in 2001.

EQA ranks the districts based on the Tier I reviews, and makes recommendations to EMAC concerning districts that should undergo Tier II review. In selecting the districts that will be reviewed, EQA selects 60% of the districts from those districts with MCAS performance ratings (by the department) of “low,” “very low” or “critically low,” 20% from those districts with performance



ratings of “high” or “very high,” and 20% chosen at random. The executive director of EQA, Dr. Joseph Rappa, states that the agency’s focus is on district management and governance, leadership and how the district performs.

The Tier II review involves a site visit of three days, after the examiner team has been given a great deal of data about the district. The team conducts the review by applying 12 standards and 89 indicators. (See ex. 5142A). These focus on topics such as student assessment, curriculum, professional development, organizational leadership, and budget process. After completing the site visit, the team prepares a report that rates the district according to the standards. This is submitted to EMAC after the district has an opportunity to comment on it. EMAC may accept the report without comment, accept it with a statement of concerns, place the district “on watch” and consequently subject to monitoring by EQA, or recommend to the board that the district be designated as underperforming. (Only the board may declare or designate underperformance.) If the board does determine that a district should be declared underperforming – as it did with Winchendon and Holyoke in November 2003 – then EQA performs a Tier III review.

The Tier III review process is the counterpart to the factfinding review process that the department undertakes with schools that have been determined to be underperforming. It calls for a longer site visit than the Tier II review, and has even more standards and indicators. (See ex. 5142B). The goal is to try to find out factually what is happening in the district, and to make recommendations that will inform the intervention efforts by the department.

EQA contemplates that an underperforming district will have a period of two to four years to improve, with the help of the department’s intervention. Under G. L. c. 69, § 1K, if a district remains underperforming after that time, the board may declare it “chronically underperforming” and appoint

a receiver to take over the district. This has not been done to date with any district.

The EQA began to operate in 2001. As of the end of FY03, there were seventeen completed Tier II district reviews and two completed Tier III reviews (other than some pilot combined Tier II and Tier III reviews for which some districts – including Lowell – volunteered). By December 2003, EQA had completed thirteen Tier II reviews in FY04, and its director anticipated that eighteen more such reviews would be completed by the end of the fiscal year. The director stated he thought EQA would be performing 60 Tier II reviews by FY05, with the goal of conducting such a review of every district in the Commonwealth every six years. Without substantially more funding than the agency has, it is difficult to see how this will be possible.<sup>31</sup>

According to the department, the school and district accountability system it has developed is one of the first in the United States.

## **F. Some Highlights of Education Reform Since 1993**

### **1. Greater Equalization of Funding**

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<sup>31</sup> For FY04, EQA sought \$4 million for funding, but received \$1.3 million (which was one-half of a total \$2.6 million appropriation for school accountability programs conducted by both the department and EQA).

One of the significant effects of the ERA's foundation budget has been that spending gaps between districts based on property wealth have been reduced or even reversed. The correlation between a district's median family income and spending has also been reduced. Thus, with respect to property values, the top quartile of districts by property value was spending 38% more per pupil than the lowest quartile in 1993, while in 2003, the percentage difference had been reduced to 18%, although when the K through 12 spending is examined, the difference in spending between high property value and low property value districts is 19%. (Ex. 5157). As for median income, it is still the case that the top quartile of districts defined by median income is spending more per pupil than the lowest quartile, but comparing 1993 and 2003, the difference between them has fallen from 27% to 7%. (Ex. 5157; see also ex. 5340).<sup>32</sup> Moreover, if one compares high and low poverty districts as determined by percentage of children in the district who are eligible for free or reduced price lunch, the per pupil expenditure for the lowest poverty quartile was \$8,144 in 2002, and the per pupil expenditure for the highest poverty quartile was \$8,504, or 4% higher. This is a reversal from 1993, when the per pupil expenditure in the lowest poverty quartile was \$5,607, and in the highest poverty quartile was \$5,317, or 5% lower. (Ex. 5158; see also ex. 5341).<sup>33</sup>

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<sup>32</sup> This is calculated by dividing the district's net school spending by its foundation enrollment.

<sup>33</sup> The defendants introduced more detailed evidence than is covered in the text to show the equalization effects of the ERA's school financing system, and evidence to demonstrate that since 1993, Massachusetts has done far better than most States in the quest for more equity in per pupil expenditures between rich and poor districts. (See, e.g., ex. 5442, 5443). They also introduced a number of exhibits and accompanying testimony to show that between 1993 and 2002, Massachusetts had increased its per pupil spending to achieve a level that is fifth in the nation (ex. 5346, 5352), and has increased spending in high poverty districts more than any other State. (Ex. 5353). These are unquestionably noteworthy achievements on the part of the Commonwealth. Nevertheless, the issue here is not spending equity but educational adequacy: whether the plaintiff students are receiving an education in their respective public school districts

## 2. MCAS

By October 2003, and after six testing opportunities, 95% of the graduating class of 2003 had passed the grade 10 English language arts and mathematics MCAS tests that form the competency determination necessary for graduation. Within this total number, population subgroups had greatly improved their passage rates: 80% of students with disabilities passed, as did 82% of limited English proficient students, 86% of African-American students, and 83% of Hispanic students.

Of the nearly 70,000 students taking the grade 10 MCAS test for the first time in the spring of 2003, a total of 75% passed both the ELA and math tests on their first try, 89% passed the ELA test on the first try, and 80% passed the math test on the first try. Of the total number who passed both tests on the first try, 52% of African-American students passed, an increase from 37% in 2001; and 44% of Hispanic students passed, up from 29% in 2001. (Ex. 5109).

At all grade levels taking the MCAS tests in the spring of 2003, more students scored in the proficient and advanced categories than previously. Of the third grade students taking the reading MCAS test for that grade, 94% passed the test (i.e., received a score of proficient or needs improvement), and 63% of that group scored proficient, which is the top level for that test. (Ex. 5109).

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that complies with the requirements of the Massachusetts Constitution. Comparisons with other States in terms of spending equity and levels of per pupil expenditure are interesting, but the defendants have failed to show how they are relevant to the resolution of this case.

### **3. NAEP**

The National Assessment of Educational Progress (NAEP) is an assessment system administered by the United States Department of Education's National Center of Education Statistics (NCES). Beginning in 1990, NAEP began assessing, or testing, at the State level. At that point, participation by the states in the assessment system was voluntary. Massachusetts has participated since 1990. The NAEP State component tests a sample of fourth and eighth grade students primarily in English and mathematics, although NAEP administered a science assessment in 1996 and 2000, and a writing assessment in 1998 and 2002. Under the NCLB law, beginning in 2003, all States receiving Title I funding must participate every two years in the NAEP state assessments in reading and math at grades 4 and 8, and each school district receiving Title I funding that is selected by NAEP for testing must also participate. (See ex. 5472).

In 2002, approximately 5,800 fourth and eighth grade public school students from 111 schools in Massachusetts participated in the NAEP writing assessment, and the same number participated in the NAEP reading assessment. On the writing assessment, at the grade 4 level, the average scaled score for Massachusetts students was lower than Connecticut but higher than all other participating States and jurisdictions, and the percentage of Massachusetts students scoring at the proficient level, 44%, was above the national average of 27%. At the grade 8 level, the Massachusetts students scored higher than students in 41 other States and about the same as the five highest performing States and jurisdictions. The percentage of eighth grade students in Massachusetts scoring at the proficient level was 42% in 2002, up from 31% in 1998, and higher than the 2002 national average of 30%. (See ex. 5417).

As for the reading assessment, in 2002 the fourth grade average scaled score for

Massachusetts was the highest of any participating State or jurisdiction in the country, and 47% of the students scored at proficient or above, up from 35% in 1998 and 36% in 1992 (before the ERA), and far above the 2002 national average of 30%. The eighth grade students scored better than students in 32 other States and jurisdictions, but scored approximately the same as in 1998, with approximately the same percentage of proficient scores (39% in 2002 and 38% in 1998). (See ex. 5416).

In 2003, a total of 8,166 Massachusetts students in grades 4 and 8 were assessed in reading, and 8,272 were assessed in mathematics; the students came from 165 schools at grade 4 and 131 schools at grade 8. In reading, at the grade 4 level, Massachusetts tied for first place with four other States, and in grade 8, Massachusetts tied for first place with two other states. In math, in grade 4, Massachusetts tied for first place with nine other States, and tied for second place with eight other States in grade 8. However, fourth grade students scored significantly lower in reading in 2003 than in 2002, and the percentage scoring at proficient dropped from 47% to 40%. Reading scores for eighth grade students did not change significantly. In mathematics, both fourth and eighth grade students scored higher in 2003 than in 2000 and 2002, the most recent previous NAEP State mathematics assessment for fourth and eighth grades, respectively. The number of fourth grade students in Massachusetts scoring at the proficient level or above was 41% in 2003, 31% in 2000, and 23% in 1992; the national average in 2003 was 31%. As for eighth grade Massachusetts students, 43% scored at proficient or above in 2003, compared to 39% in 2002, and a national 2003 average of 30%. (See ex. 5472).

## V. THE PUBLIC SCHOOL EDUCATION PROGRAMS IN THE FOUR FOCUS DISTRICTS

### 1. Introduction: The Applicable Standards

#### 1. *McDuffy's* Guidelines and Seven Capabilities

The *McDuffy* case articulated what it described as “broad guidelines” to define the Commonwealth’s “obligation to educate all of its children.” These guidelines are quoted above, but they are repeated here because they form the core standard against which the educational program in each of the focus districts is to be measured.

The guidelines are as follows:

“An educated child must possess ‘at least the seven following capabilities: (i) sufficient oral and written communication skills to enable students to function in a complex and rapidly changing civilization; (ii) sufficient knowledge of economic, social, and political systems to enable students to make informed choices; (iii) sufficient understanding of governmental processes to enable the student to understand the issues that affect his or her community, state, and nation; (iv) sufficient self-knowledge and knowledge of his or her mental and physical wellness; (v) sufficient grounding in the arts to enable each student to appreciate his or her cultural and historical heritage; (vi) sufficient training or preparation for advanced training in either academic or vocational fields so as to enable each child to choose and pursue life work intelligently; and (vii) sufficient level of academic or vocational skills to enable public school students to compete favorably with their counterparts in surrounding states, in academics or in the job market.’”

*McDuffy*, 415 Mass. at 618, quoting *Rose v. Council for Better Educ., Inc.*, 790 S.W.2d 186, 212 (Ky. 1989).

#### 2. The Massachusetts Curriculum Frameworks

After providing these guidelines, the court in *McDuffy* further stated that it would follow the example of other States by declaring the nature of the Commonwealth's duty to educate and leaving it to the State to flesh out the details of that duty: "We shall presume at this time that the Commonwealth will fulfil its responsibility with respect to defining the specifics and the appropriate means to provide the constitutionally required education." *Id.* at 619 n. 92. During the period of litigation leading up to the remedy phase trial, the issue of how the Commonwealth was defining those specifics arose. The defendants declined to offer a definition of what they considered the constitutionally required minimum level of education. In light of the defendants' representations about the central role played by the Massachusetts curriculum frameworks in other settings, however, and in the absence of further guidance from the defendants on the constitutional standard, I determined that they would not be permitted at the trial to define or offer evidence of a minimum educational standard that was less comprehensive than that provided by the frameworks.<sup>34</sup> As discussed in the next paragraph, the trial evidence supports the view that indeed the defendants do view the curriculum frameworks as the vehicle the Commonwealth has chosen to carry out its constitutional obligation. The frameworks thus become the second component of the norm that needs to be used in assessing the education offered in the focus districts. Nevertheless, it is important to emphasize that I do not treat the curriculum frameworks themselves as constitutionally required. Rather, they represent the specific way the Commonwealth has chosen, at this point in time, to explicate the responsibility imposed upon it by Part II, c. 5, § 2 of the Constitution. The Commonwealth may choose to modify its approach in the future, and may choose to discontinue any use of the frameworks at all. However, in this case, they define, in part, the governing standard.

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<sup>34</sup> See Second Trial Management Order dated March 12, 2003, ¶ 2.



The curriculum frameworks were uniformly described by witnesses for all parties to be of excellent quality, focusing on knowledge and skills that students need to acquire. The board's chairman, James Peyser, views the frameworks as intending to implement much of the constitutional requirement for an education that will equip children with the capabilities called for by *McDuffy*.<sup>35</sup> Other witnesses agreed. For example, Mark McQuillan, the deputy commissioner of education, testified at trial that the curriculum frameworks were adopted for the purpose of carrying out the Commonwealth's responsibility to provide children with the seven *McDuffy* capabilities. Robert Schwartz, a former education adviser to the Governor and former president of Achieve, Inc.,<sup>36</sup> testified that the Massachusetts curriculum frameworks articulate a level of knowledge that students need if they are to achieve the *McDuffy* capabilities. He considers the frameworks to be rigorous but reasonable, two necessary qualities for good standards. I accept these opinions.

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<sup>35</sup> Mr. Peyser does not consider the curriculum frameworks to implement the vocational education aspects of the *McDuffy* capabilities. (Peyser testimony, 11/17/03, pp. 51-53).

<sup>36</sup> Achieve, Inc., is a nonprofit organization that was established in 1997 by State governors and executives of several large businesses to assist with standards-based education reform efforts in the States.

As previously stated, there are seven curriculum frameworks, covering the following subject areas: English language arts; mathematics; science and technology; history and social science; foreign languages; the arts; and health. **Appendix B** to this report sets out a summary of the contents of each curriculum framework.<sup>37</sup> In light of the central role played by the curriculum frameworks, a brief review of all except foreign languages follows. Included here as well is a short discussion of school libraries, although no framework exists to cover them.

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<sup>37</sup> The summaries illustrate that indeed the frameworks do correspond to the seven *McDuffy* capabilities and give them definition.

a. English Language Arts

Marilyn Adams, an educational psychologist who is an expert in reading, testified that the 2001 English language arts curriculum framework is of exceptional quality, and is essential because oral and written communication skills are a fundamental building block for acquiring all of the *McDuffy* capabilities. She focused specifically on the “beginning reading” strand of the framework, which she identified as very critical to the acquisition of successful reading skills. The strand requires for implementation recently published, research-based materials such as basal readers, decodable books, phonemic awareness materials, and manipulatives; these current materials are, in her view, necessary for effective teaching of reading. Dr. Adams testified that virtually every healthy child can learn to read if given appropriate instruction and supports, but that “the acquisition of English language arts skills is unforgivingly developmental.” (Adams testimony, 9/26/03 p. 103). A child must acquire skills in stages, and must master earlier stages before going on to master more advanced skills. For children who are not successful in learning to read by the end of third grade, it is “extremely difficult” to bring them to grade level without extensive help. (Adams testimony, 9/26/03, p. 112). There was no contrary evidence.

b. Mathematics

The current mathematics curriculum framework, adopted by the board in 2000, is, according to the plaintiffs’ expert in mathematics, Margaret Bonderew, a world class document,

deserving the outstanding professional reviews it has received.<sup>38</sup> It is centered on the idea that the goal is for students to understand mathematics conceptually and actually use it in their lives; the teaching of mathematics in the past has been seen as involving the teaching of a set of rules and procedures that is of questionable use beyond school.

There are at least four important points about the mathematics curriculum framework. The first is that the framework emphasizes the reality that technology is critical to the study of mathematics. Computers and calculators are easily able to perform certain functions that in the past students had to learn to do themselves; since this is so, if these tools are available, the students are able to move on to other aspects of the mathematics discipline. The framework contemplates that tools such as graphing calculators will be available beginning in the eighth grade, and are necessary to solve certain types of problems at that level. Second, to teach mathematics well, and perhaps more so at the elementary levels, access to manipulatives – e.g., base 10 blocks, pattern blocks, cubes, etc. – is necessary. These types of materials are woven throughout the curriculum framework, and they are very important. (See ex. 172, 174). Third, as the framework indicates, it is necessary to have math teachers who are knowledgeable in the subject matter of the discipline because it is directly tied to students' ability to succeed. Teachers at all levels, including the elementary level, need to have content knowledge much deeper than has traditionally been the case. Certification at the middle and high school levels plays an important role, because certification requires the teacher to have taken

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<sup>38</sup>Achieve, Inc., also endorsed the quality of the math curriculum framework, although it had some suggestions about making it stronger, or more rigorous, in certain respects. (See ex. 5153).

courses that lead to a deeper understanding of mathematical concepts, rather than just rules and procedures. Fourth, the curriculum framework addresses and helps to advance many if not most of the seven *McDuffy* capabilities: communication skills; students' understanding -- through the strand on statistics and probability, and emphasis on the use and interpretation of data -- of economic, social and political systems so as to make informed choices; acquisition of sufficient training to prepare for advanced academic or vocational pursuits; and ability to compete successfully on a national level.

c. Science

The current science and technology curriculum framework, revised in 2001, contains four strands: earth and space science; life science (biology); chemistry and physics; and technology. The plaintiffs' science expert, Dr. Gerald Abegg, stated that the framework concerns appropriate scientific knowledge that students should have, both in the guiding principles and then broken down in the strands. Technology is addressed in two separate ways. Substantively, the technology strand concerns applied science, which teaches students how to apply scientific information to day-to-day events and activities. In addition, technology is used significantly in teaching science -- for gathering data, analyzing data, etc. -- in all four of the strands.

One of the principal themes of the science and technology framework is the importance of hands-on activities and experiments -- experiential learning -- in the teaching of science. The framework sets out in detail the kinds of materials and supplies needed at each level of school: elementary, middle, and high school.

I question whether every material and piece of equipment listed in the science/technology curriculum framework is necessary to the provision of instruction in the sciences adequate to implement the framework itself or the *McDuffy* capabilities. However, I do accept the general

proposition that in order adequately to teach science disciplines to public school students in conformity with these standards, some appropriate materials and equipment for experiments and properly functioning laboratories must be available.

d. History/Social Science

The history/social science curriculum framework is very new, achieving final formal approval in August 2003. There was not much evidence presented concerning the quality or contents of this framework. The plaintiffs' expert witness in this field, Steven Cohen, testified to the importance of computers to the study of history because of the types of information that may be obtained on the Internet and software products; some of this information is simply not available from any other source. Moreover, computer research resources may have a capacity to make the subject come alive in a way that print materials cannot, and a significant challenge for history teachers at the K through 12 level is to make the subject compelling for their students.

e. The Arts

The plaintiffs' arts expert, Jonathan Rappaport,<sup>39</sup> as well as one of the focus district superintendents and various teachers all testified that engagement in the arts is a means of keeping at risk students in school, and that the arts can provide positive school experiences for children who have few. There is also a body of research, referenced in the Massachusetts arts curriculum framework (see ex. 2, appendix C), indicating that a higher percentage of students involved in music and other arts programs scored better on some tests, and participation in arts programs appeared to make a more significant difference to students coming from low income backgrounds than those from higher income families. There was simply no evidence presented to dispute that having a strong arts program is a key component of a good school system.

Like the other curriculum frameworks, the Massachusetts arts framework is excellent. It covers four "domains:" visual arts, music, theater, and dance. Integrated within it is the importance of technology, a point also made by at least two witnesses (Jonathan Rappaport, and Ellen Schneeflock, the high school visual arts teacher at Winchendon's middle/high school) that computers play an increasingly large role in the arts, whether it is computer-assisted design (CAD) or graphic design (connected to visual art), music composition, theater lighting and sound, or dance choreography.

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<sup>39</sup>Jonathan Rappaport is the arts coordinator for the Worcester Public Schools, and has been a music teacher for 34 years.

f. Health

The current health curriculum framework, adopted in 1999, is considered by the plaintiffs' health education expert, Dr. Joyce Fetro, to be one of the best if not the best in the nation. It provides comprehensive guidance to school systems to design their health curricula, and it emphasizes what research has shown, namely, that simply providing information is not enough; the curriculum must also include performance-based and skills-based components.

The evidence showed complete agreement on all sides with the proposition that health education is extremely important. It is also specifically mentioned as one of the *McDuffy* capabilities. Students need information about risk behaviors, and they need to learn skills to refuse to engage in them. In addition, as noted by the Massachusetts health curriculum framework, good health is linked to better academic performance, and participation in health education programs can lead to increased cognitive development and awareness, better school attendance, higher graduation rates, better goal-setting and better decision making skills. (See ex. 5, pp. 1-3). Dr. Fetro was persuasive that while as with most fields, the best education follows a scope and sequence, beginning with simple concepts and building on them, perhaps the most critical age for students to receive health education is in middle school. Many health risk behaviors, such as unintentional and intentional injuries, bad dietary practices, smoking, alcohol, drugs, sexual activity leading to sexually transmitted diseases or pregnancy, and suicide ideation, are often initiated in the middle school years or in some instances even younger.<sup>40</sup> Dr. Fetro also testified, based on national studies, that for health education to be effective in changing students' health practices, a minimum of 40 to 50 hours of instruction per year is

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<sup>40</sup> Dr. Fetro cited in support of her opinion the youth risk behavior survey that is conducted by the United States Centers for Disease Control every other year, a survey in which Massachusetts participates.



necessary. There was no contrary opinion offered.

g. Libraries

While there is no curriculum framework that deals with libraries per se, as the plaintiffs' expert, Dr. Carolyn Markuson, stated, libraries are critical to implementation of virtually all the frameworks and more generally to the delivery of an adequate education in today's information-based society. The commissioner has also publicly emphasized the great importance of strong school libraries, and the strong link between school libraries and student achievement. (Ex. 1074). The curriculum frameworks describe and require inquiry-based, problem-solving curricula, and libraries should supply a source of rich information for students to explore as well as the means to support disciplines, such as science, that are very much based on current information and inquiries.

I am persuaded by Dr. Markuson's testimony that public school libraries need to be professionally run, because a library in a school is an instructional program in and of itself.<sup>41</sup> School libraries also need to be well stocked in terms of reasonably current print collections, and consistently maintained in the sense of keeping these materials up to date. Finally, they need adequate computer resources such as workstations, Internet connections and software to service the students who use the library.

The plaintiffs introduced the 1997 and 2002 standards adopted and published by the Massachusetts School Library Media Association (MSLMA), a professional association of school librarians – or in current parlance, “library media specialists.” (Ex. 21, 22). These set out detailed standards relating to, *inter alia*, the size of print collections that a school library should have, gauged

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<sup>41</sup> As Dr. Markuson said, we do not permit second grades to be conducted solely by an aide; a certified teacher is a necessary component. The same is true of libraries.

by the size of the student body; the currency of the library materials – e.g., one standard states that 70 % of the print collection should have a copyright date no earlier than ten years before the current date; the number of computer workstations the library should have, which is tied to the maximum class size using the library plus two more (e.g., if the maximum class size in the school is 24, the library should have 26 work stations); and the number of librarians and library aides that are necessary to run a school library, again dependent on the number of students in the school.<sup>42</sup>

At least the 1997 version of these standards appears on the department’s website as guidelines, although the department has never formally adopted or approved them. Although Dr. Markuson opined that the MSLMA standards reflect the amount of library resources necessary for a school district to be able to implement the curriculum frameworks and equip children with the *McDuffy* capabilities, I am not in a position to make such a precise or definite resource finding. However, the general points emphasized by the MSLMA standards – the need for and importance of having reasonably current print materials in sufficient quantity, adequate Internet-connected, fully functioning computers, and adequate professional staff – are not in dispute.

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<sup>42</sup> The 2002 MSLMA standards (ex. 22) stated that library expenses should be at least 6 1/2% of the books and supplies line item of the Chapter 70 foundation budget.

## **B. Summary of Findings and Conclusions About the Four Focus Districts**

### **1. The Brockton School District**

Brockton is the fourth largest school district in the Commonwealth. In the 2002-2003 school year, there were 16,700 students attending the Brockton public schools, and there were 1,440 teachers. The student population is racially and ethnically quite mixed: approximately 45% African American, 40% white, 12% Hispanic, and 3% Asian. Brockton has a special education enrollment of 12.5%, lower than the State average, and a 7.2% enrollment of students with limited English proficiency, slightly above the State average. It is a poor, urban district: almost 63% of the students are eligible for free or reduced price lunch, almost 40% more than the statewide average, and in terms of median household income, the city is ranked 323 out of 351. The evidence shows that Brockton appears to have a good administrative team in place, and its superintendent, Joseph Bage, is held in high regard by the commissioner.

In terms of funding, Brockton's actual net school spending more than doubled between 1993 and 2003, from close to \$56 million to \$143.5 million. In FY04, however, its budget was reduced by over \$10 million, and the contribution of Chapter 70 aid also went down by \$6 million, approximately 5%. The result of these reductions is that Brockton has had to cut 48 certified staff positions and 27 non-certified staff such as paraprofessionals.

Brockton has a public school preschool program, but it reaches few more than 10% of the district's three and four year old children; it was estimated that 25-30% of children entering kindergarten were not ready for the academic program even of that year. Similarly, the district's ability to offer full day kindergarten to more children is constrained by lack of funds and space. In the opinion of its superintendent, Brockton needs to be able to offer full day pre-K and kindergarten

programs for many more children so that they can become school-ready by first grade.

In the elementary grades and up, the district has had some success in its efforts to focus with consistency on critical issues of student learning and improvement in English language arts and mathematics, particularly in English. The department's designation of Brockton High School as a compass school supports the point, as do the improved Iowa test scores in the elementary and middle school grades. There has also been extensive professional development in reading and writing for elementary and junior high school teachers. Both the English language arts and mathematics programs in Brockton appear to be aligned with the State's curriculum frameworks in these two subjects.

However, 29% of all high school English classes and 41% of all high school math classes have over 30 students, 27% of the math teachers in the high school lack appropriate certification, and there are not enough essential tools such as graphing calculators for the math program, nor are teachers trained in how to use them. In foreign languages, there is no program at all until junior high school, and 42% of the junior high school foreign language teachers are not appropriately certified. The science curriculum is outdated and unaligned with the 2001 curriculum framework, which is particularly troubling since the Massachusetts competency determination is going to include science and technology (in the form of MCAS tests) by 2007. Again, large percentages of the science teachers (approximately 20% in the high school and 40% in the junior high schools) are not appropriately certified in science and science classes are large. In addition, the labs in the junior high schools are ill-equipped and those in the high school have too many students to use them appropriately and safely. In history, there is an emphasis on teaching United States history – perhaps a function of the fact that U.S. history will be the focus of the history/social science MCAS test that

will be part of the competency determination – but 68 % of the U.S. history classes have 30 or more students.

Further, while the curricula for Brockton’s health and fine arts programs seem to be of high quality and aligned with the appropriate curriculum frameworks, these subjects are not offered with enough frequency or in enough duration to students in the elementary and junior high schools to permit full implementation of the frameworks, and the subjects are electives in high school. Brockton’s school libraries generally have outdated print collections, and insufficient books of interest to the district’s students. There are also not enough computers in the library with Internet access for student research, and indeed, not enough computers for the students in the district as a whole; the department has deemed Brockton a “high needs” district in relation to technology.

Brockton’s special education program has suffered from limitations on staff, space, and professional development. It generally cannot offer effective behavioral interventions to students before referral for special education services, especially in the junior high schools and high school; it is not able to conduct timely evaluations for special education students, and its counselors have too many children to serve. The staff inadequacies in these areas are worse for students with limited English proficiency, as bilingual psychologists and counselors are in short supply. Brockton’s capacity to educate students with disabilities in the least restrictive environment is also quite limited, as is the district’s ability to offer these students meaningful access to the regular education curriculum: inadequate materials and little or no professional development for special education staff in new content areas (e.g., new math and reading programs) impede progress. Finally, in a number of schools, there is a lack of appropriate space to provide special education services.

Finally, Brockton’s MCAS scores reflect a district with a long way to go in terms of student

proficiency. There has been substantial progress, especially in English language arts, but it is also true that in 2003, 48% of the tenth graders scored Needs Improvement or Failing on the tenth grade MCAS test in English language arts, and 62% of the fourth grade students did so. On the 2002 eighth grade history MCAS test, 98% of the students scored Needs Improvement or Failing, and on the 2003 science MCAS tests, 90% of the grade 8 students and 77% of the grade 5 students had such scores. Moreover, there are differences between MCAS scores for Brockton's regular education students on the one hand, and its special education, LEP, low income, and racial/ethnic minority students on the other: the latter subgroups do substantially worse. Presumably based on the district's MCAS scores and his agency's related analysis of district proficiency, Dr. Joseph Rappa, the director of the Office of Educational Quality Assurance (EQA) and in charge of the Statewide district assessment and accountability program, testified that Brockton has been one of the 20 lowest performing school districts in the Commonwealth since 1998.

In relation to the other three focus districts, Brockton does appear to have an educational program that offers more positives than any of the others. Nevertheless, the evidence concerning Brockton considered as a whole leads to the conclusion that the school district is not currently able to give all its children an educational program that conforms to the Massachusetts curriculum frameworks or one that provides the children with the capabilities called for by the Massachusetts Constitution as interpreted in *McDuffy*.<sup>43</sup> Brockton is not meeting the Commonwealth's

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<sup>43</sup> To repeat and paraphrase, *McDuffy* calls for students in the public schools to acquire: (1) sufficient oral and written communication skills to function successfully in a complex and changing world; (2) and (3) knowledge and understanding of economic, social and political systems and issues to enable them to make informed choices and participate in the polity as an informed citizen; (4) knowledge of issues relating to their physical and mental health; (5) a meaningful grounding in the arts and culture; (6) and (7) sufficient training or sufficient preparation for advanced training in academics or vocational fields to permit them to compete

constitutional responsibility.

## **2. The Lowell School District**

There were approximately 15,500 students attending the Lowell public schools in 2002-2003, and 1,130 teachers in the district. Like Brockton, it has a diverse student population, but with its own special ethnic makeup: 44% white, 30% Asian, 20% Hispanic, and 5.4% African American. Also like Brockton, its special education students represent 12.5% of its student population, compared to 15.2% statewide, but it has a very high LEP enrollment of 14.3% compared to 5.3% for the State. These are primarily students of Cambodian and Laotian refugee background. Almost 67% of the district's students were eligible for free or reduced price lunch, far more than twice the state average. Lowell's median household income in 1999 was \$39,192, ranking it 339 out of 351 cities and towns.

Again like Brockton, Lowell's net school spending more than doubled between 1993 and 2003, from approximately \$61 million to \$136 million; student enrollment increased only about 25%. Lowell's foundation budget for FY04 is \$130.5 million, and its required net school spending is 100% of this figure. The Chapter 70 aid contribution this fiscal year is down by 5.4% since FY03. Between FY02 and FY04, Lowell has experienced a net loss of \$2.6 million, and has lost 234 positions in the public schools, 12% of the positions existing in FY02. The City of Lowell has consistently spent less than 100% of the required net school spending on the public schools, although it does usually spend 95% of this amount. In the opinion of Lowell's superintendent, Dr. Karla Brooks Baehr, Lowell's foundation budget has not been adequate to provide its students with the

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favorably in academics or the job market. *McDuffy*, 415 Mass. at 618-619.

seven capabilities set out in *McDuffy* in any year since she came to Lowell in 2000. Dr. Baehr is viewed by the commissioner and deputy commissioner as a strong, effective administrator.

Lowell has a high quality public school preschool program and good early childhood education programs generally – they have won awards – but these programs, and the public school preschool program in particular, cannot serve all the children who need it. A little over 10% of the preschool population of three and four year olds attends the public school preschool program; overall, 45% of children in the city attend some form of center based preschool program. Testing of kindergarten students performed by the district in 2001 and 2002 indicated that many of the children who had not attended preschool had significant delays in pre-reading, print and number concepts, and at the end of the kindergarten year were already behind where they should be for entering first grade. Lowell does offer full day kindergarten to all students in the public schools, and the program is aligned with the curriculum frameworks.

There are many new or renovated school facilities in Lowell that house the vast majority of its students. But as the descriptions of the Morey Elementary School and Daley Middle School reveal, there are still schools with inadequate and overcrowded facilities. There are also schools with not enough teachers, insufficient instruction – students at Morey receive no instruction in health, for example – and outdated texts and materials. The inadequate number of teachers for students with limited English proficiency is a particular problem.

Lowell has made English language arts instruction at the elementary school level a priority, seeking to improve the MCAS scores of its students substantially. Nonetheless, its early grade curriculum in ELA is not aligned with the curriculum framework because its elementary school readers as well as reading materials are outdated. Lowell’s superintendent states that the district does



not have the funds to purchase the necessary materials. Lowell High School has 30-40% of its students who are English language learners and arrive there reading below grade level, but the high school does not have a formal reading program, and its reading materials are outdated and inadequate to accommodate the many different reading levels of the students. English classes in the high school include 45 classes with 25 to 29 students, and 21 classes with 30 to 34 students.

The mathematics program is standards-based for K through 5 and in the middle schools, but only 32% of the middle school math teachers are appropriately certified in the fields; approximately 40% are certified for grades 7 and 8. In the high school, most of the math curriculum is not aligned with the math curriculum framework. The district's remediation programs for English language arts and math, which served between 2,000 and 3,000 students each summer from 2000 through 2003, is in danger of extinction, since the State grant money for MCAS remediation programs was drastically cut in FY04.

Lowell's science program is aligned with the science curriculum framework in the elementary grades, and many schools have a good program, but supplies, equipment and the capacity to offer experiential learning are very limited. In the middle school, outdated books and materials prevail, and classes are overcrowded. While the high school has a wide array of science course offerings, the classes are too large, especially for labs. Approximately 75% of the science teachers are appropriately certified in their field, leaving a substantial number who are not. In history or social studies, only 47% of the middle school teachers in this field are appropriately certified at present. Lowell's history/social studies program is aligned with the new curriculum framework in this area, but history classes, particularly at the high school level, are large, and the district's school libraries are not adequate to support the curriculum. Foreign language programs are almost entirely confined to the

high school, and while five different languages are offered, there is a dearth of certified teachers.

It appears that the health program, while possessing excellent curriculum guidelines, is a neglected subject at the elementary and middle school levels, even though the student population is greatly in need of health education. Similarly, the district's arts program has excellent features, but its capacity to reach all or most students is restricted by the district's increased focus on mathematics and ELA.

Lowell has made progress in expanding its computer capacity, but budget cuts have forced a reduction in technology support specialists. The same is true of libraries: each elementary school now shares a librarian with another school. In many school libraries, print materials are quite old, and there are insufficient numbers of computers to meet student research needs effectively.

Special education in Lowell has been the subject of a coordinated program review by the department in 2000, and of a separate review commissioned by the Lowell School Committee in 2002. The department found that Lowell had an effective special education assessment plan. The School Committee's commissioned study concluded that Lowell has a solid infrastructure for identifying and educating children with disabilities, but needs to improve the educational outcomes for students with special needs. The MCAS passage rates for Lowell's students with disabilities reflect the need for such improvement. The rates are substantially lower in all subjects and at all grade levels than those of regular education students.

With respect to professional development, Lowell teachers do not have any professional development days mandated by their collective bargaining contract, but the school system does provide district-wide professional development; the new math curriculum in the elementary and middle school grades has been a focus recently. There are literacy coaches in the elementary schools,

and instructional specialists to assist teachers in the middle schools. New teachers participate in an induction program and meet in groups with an assigned mentor.

The student dropout rate in Lowell in 2002-2003 was 9.9%, almost three times the statewide average.

On MCAS scores, Lowell, like Brockton, has shown a consistent rise in score levels over time. Nevertheless, in 2003, on the tenth grade English language arts MCAS test, 46% of the students scored at the Needs Improvement or Failing level, and 66% of the tenth graders had similar scores on the math test; in the fourth grade in 2003, 71% of the students scored at the Needs Improvement or Warning/Failing level on the ELA test, and 80% had such scores on the math test. As for science, 87% of the eighth grade students taking the MCAS science test in 2003 scored at the Needs Improvement or Warning/Failing level, as did 78% of the fifth grade students. In history in 2002, 95% of the eighth grade students had scores of Needs Improvement or Warning/Failing on the MCAS test. As for students with special needs, low income students and LEP students, the gap between their MCAS scores and those of regular education students is very large.

There are difficulties the district has which one must place at the feet of the district and the city of Lowell. The city is persistent in its unwillingness to provide its schools with a greater percentage of the required net school funding amount, and it appears to have a practice of charging the school department with levels and types of expenses that may well be excessive and inappropriate.

As for the school district, it is distressing that in negotiating contracts with Lowell teachers, the district is not willing or able to secure a commitment for teacher participation in any days at all of professional development. The central question, however, is whether all the public school students of Lowell are receiving the level of education that the Commonwealth is required to provide. On the

record presented, the answer is that Lowell's students are not. The Lowell school district is not able to implement the Massachusetts curriculum frameworks in a manner that reaches all public school children, and is not equipping them with the capabilities set out in *McDuffy*.

### **3. The Springfield School District**

Springfield is one of the largest school districts in the Commonwealth, with 26,594 students enrolled in the 2002-2003 school year. There were 2,639 teachers in 2002. The largest single group of students was Hispanic, 47.2% of the student population. In addition, 28.5% of the students were African American, 21.8% white, 2.4% Asian, and 0.2% Native American. Of the total student population, 19.2% were special education students, and 71.2% were eligible for free or reduced price lunch (compared to 26.2% statewide). Springfield's median household income in 1999 was \$30,417, ranking it 344 out of 351.

The required NSS in the district almost doubled between 1993 and 2003, from \$126.2 million to \$236.4 million, while enrollment increased about 20%. Chapter 70 aid more than doubled during this period. Nevertheless, and despite a slight increase in funding between FY02 and FY03, the district still had to cut in FY03, among other staff, 85 teacher positions and 30-35 paraprofessional positions; it was also required to freeze or eliminate other expenditures. The FY04 budget is slightly lower than FY03, and as of June 2003, the superintendent anticipated a \$2 million budget shortfall in FY 04, requiring the elimination of up to 115 additional teacher positions as well as counselors, psychologists, paraprofessional and assistant principals.

The superintendent of the Springfield public schools, Dr. Joseph Burke, has been in the position since 2001. The commissioner and deputy commissioner regard him highly as an administrator. In the superintendent's opinion, taking into account all of the financial resources

available to Springfield, including grants, the district does not currently have enough funds to implement fully the curriculum frameworks or provide the seven *McDuffy* capabilities to students in any individual school.

The district has an excellent public school preschool program that served 781 children in 2000-2001 – the last year of available data. This represents less than 30% of the three and four year old population in the district. Springfield does not have the financial resources available to offer public school preschool to every eligible student, or to implement fully the pre-K curriculum frameworks in the existing programs it does have. There are a considerable number of kindergarten and first grade classes with more than 25 students, numbers that make implementation of the curriculum frameworks in those grades problematic.

The 31 elementary schools in Springfield encompass an enormous variation in quality. These schools include some that are among the top performing in the State, or at least in urban districts, with inspired principals and a culture of high student achievement. The department has designated four of these schools as compass schools. At the same time, there are approximately six elementary schools that have been designated by the department as underperforming because of distressing MCAS scores in ELA, math, or both, and two middle schools that were in sufficiently poor shape that they were the subjects of school panel reviews by the department. School leadership and the capacity of the principal and faculty to instill a culture of student achievement were important reasons cited by the superintendent for the stark performance differences seen among these two groups of schools.

Of the six middle schools in Springfield, two have been the subject of school panel reviews by the department, and one of them was declared underperforming in April 2003. Detailed evidence about a third middle school, Forest Park was presented. It is 106 years old, and overcrowded.

Among the spaces used for teaching its 930 students are coat rooms, locker rooms and the basement. It has no science or language lab, and twelve microscopes for the entire school.

Reading and English language arts at the early elementary school level are the major focal points of the district's resource allocation. Nevertheless, the elementary schools show enormous differences in levels of success with the ELA and literacy programs, from very high to very low. Many students in the fifth grade and up are reading as much as two and one-half years below grade level. Implementation of the ELA curriculum framework in the middle schools and the high schools is inconsistent.

The Springfield mathematics curriculum is aligned with the most recent math curriculum framework. However, this framework requires quite a fundamental change in the way math has traditionally been taught, emphasizing inquiry and problem solving, and many math teachers lack the experience and skill to do this. In the 2002-2003 school year, there were only two math resource teachers to work on new teaching methods and content with the 1,000 elementary school teachers who are involved in teaching math, and two more to work with middle and high school math teachers, who number over 100. (In June of 2003, the district had posted job listings for eleven new math resource teachers to work in the middle and high schools.) Apart from teaching skills, there are not enough tools and supplies at all grade levels – e.g., manipulatives in the younger grades, graphing calculators in the middle and high schools – to teach the necessary curriculum effectively in any event.

Lack of appropriate certification in mathematics among teachers is a problem. In the middle schools, 21 of 62 math teachers are not appropriately certified in their field; the same is true of 15 out of 72 high school math teachers. Class size for math classes varies, but at the high school level it tends to be quite large, up to 28-30 students in introductory high school math courses such as algebra

and geometry.

Springfield's history and social science program suffers from the district's perceived need to emphasize ELA and math. In the elementary grades, teachers are supposed to teach social studies as an integral part of the curriculum, but whether or not the subject is offered depends often on whether the particular school is underperforming in math and English language arts. The same is essentially true in the middle schools. In addition, the middle schools do not have some basic equipment and materials such as maps and atlases, and these schools' computer resources for social studies research and materials vary widely. Class sizes also vary. Some middle schools have as many as 34 students in a social studies class, and there are U.S. history classes in the high schools with 20-30 students; some other high school classes have only six or seven students.

The history program in Springfield has been set back in its ability to align with the new State curriculum framework because the district purchased textbooks based on an earlier version of the frameworks, which provided for a different sequencing of history courses within the K-12 program. Having done so, Springfield now has textbooks it cannot effectively use, and the expenditure has limited the district's capacity to purchase new books for the current framework.

In science, again the curriculum is aligned on paper with the science framework, but up to half the elementary schools do not have an elementary science teacher, and the middle schools lack properly certified science teachers – 13 of 51 do not hold the appropriate certification in the field. There are also not enough textbooks for all students, requiring them to share books and preventing them from taking books home to do homework. According to Superintendent Burke, the percentage of inappropriately certified science as well as math teachers in the district has increased over the years, as qualified teachers retire and the district feels the effects of a national shortage of qualified

science teachers. Lab facilities in the middle schools are not always available or are very ill-equipped, or both. In Springfield's high schools, ten out of 70 science teachers lack appropriate certification in their field, and the same problem of overcrowded labs exists, as does the problem of out-of-date science textbooks and equipment. For the district as a whole, the science supply budget is only \$2 per student, an amount that has been constant for fifteen or more years, and it is insufficient to implement the experientially-based science and technology curriculum framework.

Springfield's arts program is critically limited, with only 31 music teachers and 27 art teachers for a school population of over 26,000 students, and almost no other type of offerings in the arts (e.g., drama, dance) at all. Obviously, the program is not aligned with the State arts curriculum framework. Too many children can go through the Springfield schools never having taken any classes in any of the arts: the district's director of the arts estimates that half of the graduating class of 2003 in Springfield went through K through 12 without any arts instruction at all.

Similarly, the health and physical education program is both unaligned with the curriculum framework and very restricted in its scope. Most elementary schools have one health/physical education teacher, but about five of the schools do not. Throughout the elementary schools, the actual amount of health education that is offered varies, and some schools have substantial space and resource problems that affect the program. In the middle schools, students receive a total of approximately ten weeks of health instruction during their three middle school years. Students at the high school level are required to have one-half a credit in health education to graduate. The limited exposure to health classes exists in spite of the fact that Springfield's students exhibit serious health issues, from alcohol and drug abuse, high obesity rates, large percentages of sexually active middle school students, and students who are HIV positive or living with adults who are HIV positive. The



director of health education in the district believes that the district is not implementing and cannot implement effectively the health curriculum framework.

As is true of many aspects of Springfield's educational program, the district's school libraries vary in their quality. Those in schools recently built or renovated have reasonable print collections because of funds from the school building assistance program; other school libraries are in terrible shape, and one middle school has a library in name only. The schools receive between 0 and \$500 annually to maintain their libraries, an amount that is wholly inadequate to maintain on-line subscriptions, purchase new texts and provide materials for the research assignments contemplated by the curriculum frameworks.

Springfield's technology program also covers a wide range in terms of the availability of computers and Internet connectivity. The district's overall ratio of students to computers (4:1) is above the State benchmark, but this is an overall average, and does not account for the fact that many older schools do not meet the benchmark of five students per computer. Less than 60% of the classrooms in Springfield are Internet-connected, although the State benchmarks called for 100% connectivity by 2003. The number of Springfield's technology teachers and instructors, responsible both for teaching students and assisting teachers in terms of technology professional development and integrating technology into their curricula, do not meet the benchmarks either.

The problems and challenges described here that affect the regular education program K through 12 are tied in part to a lack of resources, **but the effects of resource limitations are** most compellingly presented by the Roger L. Putnam Vocational Technical High School in Springfield, a high school with 1,442 students in 2001, 30% of whom received special education services. The facility is completely outdated and not well equipped, and the academic program is spotty in quality,

with extremely low performance by its students on MCAS tests. In 2002, the department declared Putnam an underperforming school, the first high school in the Commonwealth to earn that distinction. The academic program is seriously underfunded. As for the vocational program at Putnam, a 2002 audit review by the department resulted in the decertification of at least one vocational area, electronics, and near decertification in others such as culinary and hotel management. After the review, the department did not approve Putnam's program in a single vocational area, and most were put on warning status. One of the recurring weaknesses in the programs is a lack of modern, computerized equipment and computer programs that are necessary for training students to compete for jobs in the covered industries. The district and the city of Springfield may have cast a blind eye towards the facility and resource needs of the vocational educational program at Putnam for some years in the past. In any event, at the present time, it appears that Springfield is simply unable to meet these needs, to the attending students' great detriment.

Springfield's school population includes 19.4% who are in special education programs. Timely referrals for special education evaluations and preparation of individual education plans are made difficult because of a lack of school psychologists, particularly psychologists who speak Spanish to work with Springfield's growing Hispanic student population. Further, as the department found, Springfield lacks appropriate space for special education services. The district has recently laid off 45 special education teachers, which has created an additional problem of special education classes exceeding the mandated ratios.

The district has difficulty educating all its special education students in the least restrictive environment and providing access to the regular education curriculum. This question of effective access to the regular education curriculum is related in part to the absence of enough professional

development for special education teachers and of support for general education teachers who teach students with disabilities in “inclusion” classes. Springfield has 31 out of 118 middle school special education teachers and 43 out of 127 high school special education teachers who do not hold the appropriate certifications in their field. Although the department’s review in 2001 concluded Springfield was successful in aligning the special education curriculum to the curriculum frameworks, this determination is belied by the performance of the special education students in the district on the MCAS tests. The special education students’ scores lag far behind their regular education peers. In the class of 2003, for example, 80% of the students with disabilities failed the MCAS math or ELA test, although some of this number ultimately graduated by achieving a competency determination through the appeals process.

Of Springfield’s 2,639 public school teachers, 12% were not licensed at all as of 2002. The district hired 75 new teachers for 2003-2004, fewer than normal. Like all the focus districts, Springfield has the most difficulty filling positions in mathematics, science and special education, plus bilingual teachers and certified library media specialists.

Springfield has an extensive professional development program for its teachers. The teachers’ contract mandates five days of professional development right before the beginning of the school year, with a variety of professional development courses and workshops being offered then. In recent years, much of the professional development offered by the district has focused on literacy and mathematics. The superintendent generally believes the professional development program in the district is reasonably successful; the director of professional development disagrees in the sense that she feels more coaching and “embedded” professional development are necessary in order to prepare teachers better to deliver the curriculum frameworks effectively.

The district has a serious problem of student dropout. Superintendent Burke estimates that approximately 60% of students who begin ninth grade do not graduate “on time.” The department reports that Springfield’s dropout rate was 8% in 2000-2001, compared to a rate of 3.5% for the State. Springfield does have at least three alternative high school programs for students who have trouble with the regular education program.

Springfield’s MCAS scores have improved some in the period from 1998 to 2003, but still, 70% and 82% of tenth graders had a score of Needs Improvement or Failing on the MCAS ELA and math tests, respectively; in fourth grade, these percentages were 68% (ELA) and 80% (math). In science, 94% of grade 8 students in 2003 scored in the Needs Improvement or Warning/Failing range, and 72% of grade 5 students did so. On the 2002 history MCAS test for grade 8, a full 99% of the students had scores of Needs Improvement or Warning/Failing. As in the other focus districts, there was a large discrepancy between the performance of regular education students and those with special needs, LEP, or low income.

Based on all the findings about Springfield’s educational program summarized here and set forth in greater detail below, I conclude that Springfield is not providing all its public school students with the level of education described in the curriculum frameworks or a level that allows these children to achieve the seven *McDuffy* capabilities called for by the Massachusetts Constitution.

At the same time, I note as a matter of puzzlement and concern that the evidence about the Springfield public schools – especially the elementary schools – reveals such great disparities in performance and quality. This variation within the same district, shown not to be particularly related to funding,<sup>44</sup> indicates unaddressed problems of management and leadership that impede the district’s

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<sup>44</sup>Problems of local educational leadership, of course, are no less the ultimate responsibility

capacity to improve the education it provides its children. The historical neglect of the vocational high school suggests another aspect of weak or at least misguided leadership that requires correction.

#### **4. The Winchendon School District**

Winchendon is a small town in northern Worcester County. Its public school enrollment in 2002-2003 was 1,896; there were approximately 170 teachers. Public school students in Winchendon include very few minority or LEP students. In the 2002-2003 school year, 94.6% of the students were white, 2.6% Hispanic, and 1.5% African American; the district reported no children with limited English proficiency, but a special education population of 18.9%, higher than the State average. The percentage of students reported for that year to be eligible for free or reduced price lunch was 23.6%, a little below the statewide average of 26.2%. The town's median household income was \$43,750, ranking it 289 out of 351 cities and towns, and its equalized property value per capita ranks it 346 out of 351.

The superintendent of the Winchendon public schools is Dr. Robert O'Meara, who has held that position since August 2002. Winchendon has four school buildings that house a preschool program, grades K through 3, grades 4 through 6, and grades 7 through 12, respectively. When Dr. O'Meara arrived, principals of three out of the four school programs had recently resigned. By the time the 2002-2003 school year began, approximately one month after Dr. O'Meara's arrival, there

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of the State than funding formulas. The department has certainly reviewed the disparately performing Springfield elementary schools, but the evidence in this case suggests that solutions to the problems are not yet in existence and perhaps not yet in sight. The students continue to attend inadequate schools.

were two new principals in two of the schools, and a third was reassigned from the upper elementary school to the lower elementary school and preschool program. In 2003, based on their assessment of Winchendon's performance in 1999-2002 (the years right before Dr. O'Meara's arrival), the board declared Winchendon to be an underperforming school district, one of only two so declared districts in the Commonwealth.

Between 1993 and 2003, Winchendon's net school spending more than doubled, from approximately \$5.78 million to almost \$14 million. The Chapter 70 contribution grew over this period from \$3.35 million to \$10.4 million. In FY04, Winchendon's foundation budget is \$13.1 million, with a Chapter 70 contribution of approximately \$9.5 million, a decrease of 8.8% in Chapter 70 aid from the year before.

When he arrived at the beginning of the 2002-2003 school year, Superintendent O'Meara froze the school budget because it was clear that there would not be enough funds for the year. The foundation budget for FY04 is a level service budget that does not include any new positions or programs. The superintendent believes that Winchendon does not have the resources necessary to implement the curriculum frameworks or provide the town's students with the seven capabilities outlined in *McDuffy*.

Winchendon has a very good public school preschool program but there are not enough resources available to offer the program to anything close to the number of children who need it. The same is true of full day kindergarten. Both programs are filled by lottery, because there are far more students who wish to attend than can be accommodated. The public school preschool program, which enrolls in the range of 90 children out of 260 three and four year olds, is the only center-based program in the town. It is nationally accredited and receives high marks from the department,

particularly in connection with its special education services.

For English language arts, the two schools with elementary age students, Memorial and Toy Town, are not implementing the ELA framework, and are not even using a phonetics-based method of teaching reading, contrary to what appears to be the generally if not universally accepted standard in the field. Class sizes in first grade at Memorial were small in the 2002-2003 school year -- approximately 17 on average – but for the current year, it was projected that first grade classes on average would likely have between 23 and 27 students.

Toy Town, which has students in grades 4 through 6, is overcrowded. It has inadequate space and facilities to provide appropriate services to its special education students, a determination made by the department. The school district's administrative offices are housed at Toy Town, exacerbating the space problem. Class sizes at the school range from approximately 21 to 24 students. Its academic program has notable weaknesses. The mathematics program is not aligned with the math curriculum framework and the school's MCAS math scores are rated "very low" by the department; in fact, they declined between 2001 and 2002. This is due in part to the fact that the math textbook series that the district uses for K through 6 is seriously out of step with the State framework. Although Winchendon's administrators have recognized this problem since at least the beginning of the 2002-2003 school year, as of January 2004, the district still had not purchased a new textbook series. None of the other "core" academic subjects taught at Toy Town – e.g., ELA, social studies, science – is aligned with the appropriate curriculum frameworks either. In the science program, the absence of supplies restricts the type of "hands-on" or experiential science learning that the framework contemplates. While Toy Town has computers in every classroom, it has no certified computer teacher. Rather, the art teacher and the librarian each spend half their time teaching

computer classes, although neither is certified in the subject. One of the other detriments arising from this arrangement is that during the periods when the librarian is teaching computer classes, the school library must be closed because there is no paraprofessional or aide available.

Toy Town, with its 444-470 students, has one guidance counselor, and she is the only person available to provide counseling services to the students, although she has many other duties as well. The district's only social worker works full time at the middle/high school, and the two district psychologists are involved in testing children, not in providing services. There is a tremendous need for more student support services at Toy Town, and more programs to engage parents.

Winchendon as a district has a Title I program. The Title I funds available to the district have grown, but the number of teachers has decreased, presumably because of rising teacher salaries over time. Currently, there are four full-time Title I teachers, and two half time teachers. The program in the past provided services to at-risk students from K through 6, but at present, it operates in grades 1 through 3, and there is one Title I teacher who works at Toy Town for grades 4-6. Title I teachers offer intervention services for reading and a little mathematics. The program's effectiveness is limited by the absence of any form of testing the students' reading skills earlier than the third grade, and by the lack of supplies. The Winchendon Title I program used to offer summer early intervention programs for at risk students about to enter kindergarten as well as some after school programs. It no longer has funds to do so.

The Murdock Memorial Middle High School (MMHS) has students in grades 7 through 12. There were 796 students in these grades at the school during 2002-2003. The building is relatively new, and it has excellent facilities. However, the academic program offered is not excellent. For English language arts, the middle school program has no reading teachers, although many students



still have reading needs. In the high school, there are no electives at all, but there is one section of advanced placement English and honors classes. There are insufficient ELA textbooks, requiring classes to share novels and coordinate when a particular novel or other text will be taught. Some classes do not have enough books to permit students to take them home for homework.

The MMHS mathematics program is aligned to the 1998 curriculum framework, but has not been aligned to the radically different 2000 framework. No one has been charged with responsibility for curriculum alignment in math or in any other subject for the district. None of the current math teachers for grades 7 and 8 are certified in mathematics; they are certified as K through 8 generalists.

Science in grades 7 through 12 is also not aligned with the current science framework. One out of the three middle school science teachers is certified in the field. The middle school labs are physically adequate, but are missing necessary equipment (e.g., microscopes), supplies (e.g., dissection materials), and text books. At the high school level, there are five science teachers and five labs. As in other focus districts, the labs are built for 24 students, but classes sometimes have as many as 30 students, which presents safety issues, and limits what can be taught. There is no professional development offered for any science teachers. The foreign language program is not aligned with the appropriate curriculum framework either, and is taught in part by teachers who are not certified in the field.

Health at MMHS is taught by teachers who are certified in physical education, but not health, and at least one of these teachers has never even taken a health course. In the 2002-2003 school year, middle school students had health classes for 22 days out of the year; in 2003-2004, the number of classes has doubled to 45. This is still not enough time to cover the health curriculum framework. The high school students must take one semester of health as a graduation requirement. The district

uses a commercially prepared health curriculum that seems to cover much of the framework's topics, but the lack of teachers and time prevents full coverage of the framework at the high school level.

The arts program at the middle school includes art classes for one quarter of the year in grades 7 and 8. The music program is currently restricted to instrumental lessons that are elective, and extra-curricular chorus and band. There is no dance or theater. At the high school, art is an elective. There is one teacher, who teaches eight different courses during the year. She follows the State curriculum framework, but is not able to provide the technology component of the framework which includes areas such as computer assisted and graphic design. The fact of having only one art teacher limits the number of students who are able to take art courses. The high school had trouble filling a position for a music teacher, but ultimately did so after seven or eight months.

Winchendon has a fairly comprehensive athletic program at the middle/high school level. There is an athletic director and assistant director and many coaches for girls' and boys' teams in a number of different fall, winter, and spring sports. Winchendon school officials believe a competitive athletic program is a necessary component of middle and high school.

The special education program in Winchendon was the subject of a coordinated program review (CPR) by the department in the first half of 2003. The CPR report concluded that the district does not have enough staff to perform special education evaluations on a timely basis, that at Toy Town Elementary School, special education and Title I services are provided inappropriately in closet-size rooms or hallways, and that the open space configuration of the Memorial Elementary School made delivery of services nearly impossible at times.

The district has trouble providing students with disabilities with meaningful access to the regular education curriculum, at least at Toy Town Elementary School and at MMHS. One of the

major impediments is the fact that the regular education teachers are not adequately trained to deliver lessons to students with disabilities and different learning styles. At MMHS, it appears the regular education teachers resist including special education students in their classes, and the special education coordinator does not force the issue. In addition, textbooks and materials for special education students are outdated.

Winchendon spends quite an extraordinary amount of funds on out of district placement for some of its students with disabilities. Some portion of these expenditures is reimbursed by the State, but Winchendon must use other school funds to pay these costs, which restricts its capacity to deal with its regular education program.

Professional development in Winchendon is very limited. The focus in the past few years has been heavily on MCAS. While the superintendent indicated that teachers are strongly encouraged to take professional development courses outside the district offered by the department, there was no evidence that any teachers had done so. Historically, Winchendon has not sought available grant funds for professional development, but that may be changing to some degree.

The district has trouble filling vacant teacher positions with certified teachers in some areas, including science. In the fall of 2002, 11% of the teachers were either unlicensed or teaching out of field. The superintendent and others believe that one of the reasons for this is Winchendon's teacher salary level, which is among the lowest in the State. Winchendon also has gaps in other areas. There are, apparently, no funds to hire a curriculum coordinator, which may be a major reason that the district's program remains unaligned with so many of the State's curriculum frameworks. There are no department heads at the middle and high school levels, and no coordinator for mathematics in grades K through 6, positions that if filled, might provide some needed focus and direction to the

district's academic offerings. There are also insufficient numbers of social workers and school psychologists.

Like all the focus districts, Winchendon's reported dropout rate is substantially higher than the State average: 6% for the district compared to 3.5% for the State. Although there is no evidence that tracks individual students over time, one may reasonably infer from the numbers of students in the eighth, ninth and twelfth grades that students are dropping out of school at rates higher than many other communities.

As indicated, Winchendon has been declared an underperforming district by the board. This determination was based on the Tier I and Tier II evaluations completed by the Office of Educational Quality and Assurance (EQA) in 2003; the evaluations focused on the years from 1999-June 2002. The EQA concluded that Winchendon's combined proficiency index – computed from MCAS scores for the district – placed it as the 20<sup>th</sup> lowest performing academic school district in the Commonwealth; and that an examination of its MCAS math and ELA scores in 2002 indicated that for the district as a whole, for low income students and for special education students within the district, the MCAS scores were below State averages. For the three year period as a whole, Winchendon was among the 50 lowest performing districts in Massachusetts. Looking at more qualitative factors, the EQA determined that the district performed poorly in assessing and evaluating its students and their academic needs, that its curriculum and instruction were not aligned and constrained by fiscal instability in the district, that the district had suffered from leadership and governance lapses under its former superintendent, and that the budget planning and financial accounting systems were inadequate. The district did not disagree with the factual conclusions reached by the EQA.

Finally, the MCAS scores for Winchendon are very low, particularly for a non-urban system with a population that includes almost no minority or LEP students. The ELA scores show very little improvement over the years. In 2003, 64% of grade 10 students scored in the Needs Improvement or Failing categories on the MCAS English language arts test, and 62% of grade 4 students did so. In math, the actual failure rate went down significantly between 1998 and 2003, but in 2003, 73% of tenth graders still scored in the combined Needs Improvement or Failing category, and the same was true of fourth graders. In 2003, 83% of the grade 8 students were in the Needs Improvement or Warning/Failing category on the science MCAS test, and 56% of fifth graders were in the same predicament. In history for eighth grade students in 2002, 95% scored in the Needs Improvement or Warning/Failing categories. As is true in the other three focus districts, there are substantial gaps between the MCAS performance of special education or low income students and that of regular education students.

The specific findings about the Winchendon school district above indicate that the educational program offered by Winchendon does not currently provide all its public school students with a constitutionally adequate education. That is the critical conclusion. However, I feel compelled to add the following observations. The district has one of the lowest per pupil expenditure rates in the State, and clearly a lack of resources is a significant factor in the quality of Winchendon's program. At the same time, the passivity of many participants in the district's educational system is quite astounding. A few illustrations: the district has let critical aspects of the educational program – for example, alignment of the district's curricula with the State curriculum frameworks – lie fallow for too many years; it continues to use a series of mathematics text books in K through 6 that it has long recognized to be outdated and not aligned with the curriculum framework for math, even when the

district's administrators all acknowledge that the math MCAS scores for this age range are very troubling;<sup>45</sup> no teacher, it seems, takes advantage of free educational offerings by the department;<sup>46</sup>

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<sup>45</sup> As of the 2002-2003 school year, it appears there was virtually universal recognition by the Winchendon school administrators and teachers that the mathematics program and textbooks being used in kindergarten through at least sixth grade are resulting in the delivery of completely inadequate mathematics education to the students. After studying the issue of which multi-grade math text series to choose as a replacement for a year, the district finally made a selection – but not in time, I note, to have available at the start of the 2003-2004 school year, despite testimony from the Toy Town principal that this was the goal. Then a chance remark by the chairman of the board of education about the choice of text frightened the district away from following through with the actual placement of an order. The chairman's remark was not helpful, and it is also discouraging that when asked to explain the remark later, he seems to have ignored the request for months. But we are talking about a critical mathematics text here. Winchendon had done its research, believed in the quality of its selection, and, one would think, would have the strength to act on it in a timely manner for the benefit of its students. It did not do so. As of January 14, 2004, the purchase order remained on the superintendent's desk, while he waited in vain for some explanation from the board chairman about the meaning of his comment, delivered in October

and neither the district nor individual teachers have historically gone after grants, even in a grant rich field such as technology. It is impossible to disagree with the board's designation of the Winchendon school district as underperforming. At the same time, as I discuss below, the action of the Commonwealth in reducing the amount of Chapter 70 aid to Winchendon by 8.8% in FY04, knowing what it does about the inadequate education provided to its children, is cause for dismay.

### **C. The Brockton School District: Specific Findings**

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2003. As a result, the Winchendon children are still using the wholly inadequate text books more than a year after the problem was identified.

<sup>46</sup> I note here as well the example of the Spanish teacher who is not certified in the field, has no interest in being certified but continues to teach, pursues no professional development to speak of, and seems, in a word, unengaged. There is no evidence that this teacher was typical of teachers in Winchendon, and thus I do not include her in the catalogue of more systemic issues listed in the text above. However, her testimony about her job and the attitude she presented were disturbing.

Brockton is the fourth largest school system in the Commonwealth. In the 2002-2003 school year, 16,700 students attended the Brockton public schools, which was 94.2% of all students in Brockton. (Ex. 5224A). There was a major increase in enrollment in the early part of the last decade, but over the last few years, enrollment has evened out. Brockton has elementary schools for grades K through 6, junior high schools for grades 7 and 8, a high school for grades 9 through 12, the Phoenix Alternative School for students with behavioral difficulties, and the Ithaca school for special education. Brockton is a member of the Southeastern Regional Vocational Technical District. (Ex. 5224A). Approximately 500 Brockton students attend the Southeastern Regional Vocational Technical High School; these students are not included within the 16,700 students who attend Brockton public schools. There are 1,440 teachers in the Brockton school system.

Dr. Joseph Bage has been superintendent of the Brockton school district for five and one half years.<sup>47</sup> He is regarded by the department's commissioner, David Driscoll, and its deputy commissioner, Mark McQuillan, as a strong, effective superintendent.

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<sup>47</sup> Dr. Bage is retiring at the end of the current school year.



## **1. Demographic Information**

In the 2002-2003 school year, 44.7% of Brockton's students were African American, 39.5% were white, 11.9% were Hispanic, 3% were Asian and 0.9% were Native American; this compares to statewide rates of 8.8% African-American, 75.1% white, 11.2% Hispanic, 4.6% Asian and 0.3% Native American. (Ex. 5224A). In 2002-2003, Brockton had a special education enrollment of 12.5%, which was lower than the State average (15.2%), and an enrollment of students with limited English proficiency (LEP) of 7.2%, compared to 5.3% statewide. Almost 63% of Brockton students were eligible for free or reduced price lunch (FRL) in 2002-2003, compared to 26.2% of students statewide. (Ex. 5224A).

Brockton's per capita income in 1999 was \$17,163, ranking it 340 out of 351 municipalities in the State, and its median household income that year was \$46,235, ranking it 323 out of 351. The city's equalized valuation per capita in 2002 was \$46,637, ranking it 330 out of 351. (Ex. 1079).

## **2. School Funding**

Between 1993 and 2003, Brockton's required net school spending (NSS)<sup>48</sup> more than doubled, from approximately \$55.8 million to \$143.6 million,<sup>49</sup> while enrollment for this period increased about 23%, from 13,641 to 16,796. (Ex. 276). In FY93, Brockton's foundation budget was calculated to be \$78.8 million, with Chapter 70 aid of \$36.6 million. By 2001, Brockton's enrollment had grown by 3,160 students to 16,801, its foundation budget had increased to \$122.5

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<sup>48</sup> To recap: net school spending in Chapter 70 is defined to include all spending for public school education, including indirect municipal spending, but excludes capital expenditures and transportation, as well as grants. (See, e.g., ex. 5070).

<sup>49</sup> Most of the budget numbers in the sections containing the detailed findings about the four focus districts have been rounded.

million, and the Chapter 70 contribution was \$98 million. In FY02, enrollment declined slightly, but the foundation budget increased to approximately \$127 million, with a Chapter 70 contribution of \$112.7 million, a 15% increase. The required NSS in FY02 was \$138.1 million, and the actual NSS was \$133.6 million. (Ex. 5067B).

In FY03, Brockton's foundation budget increased to \$132.7 million, but the Chapter 70 contribution remained the same as the previous year. (Ex. 276, 5067B). The required NSS in FY03 was \$143.6 million, and the actual NSS was \$143.5 million. Brockton's foundation budget for FY04 is \$132.9 million, which is a reduction of over \$10 million from FY03; the Chapter 70 contribution is \$106.9 million (Ex. 5067B). This Chapter 70 aid contribution is approximately \$6 million below the previous year's, a reduction of about 5.1%.

Brockton’s foundation budget, on a per pupil basis, reflects the following:

	<b>Dollars per Pupil</b>			<b>Percentage of Foundation</b>		
	<u>Fdn Budget</u>	<u>Ch 70 Aid</u>	<u>Actual NSS Ch 70</u>	<u>Required NSS</u>	<u>Actual NSS</u>	
<b>FY 93</b>	\$5,799	\$2,684	\$4,090	46.4%	70.8%	70.8%
<b>FY 01</b>	\$7,293	\$5,833	\$7,456	80.0%	100.0%	102.2%
<b>FY 02</b>	\$7,607	\$6,748	\$8,000	88.7%	108.7%	105.2%
<b>FY 03</b>	\$7,901	\$6,710	\$8,540	84.9%	108.2%	108.1%
<b>FY 04</b>	\$8,013	\$6,445		80.4%	100.0%	

**Chapter 70 Aid as Percent of Actual NSS**

- FY 93:** 65.6%
- FY 01:** 80.0%
- FY 02:** 81.6%
- FY 03:** 78.5%
- FY 04:**

As a result of the reduction in its school budget for FY04, Brockton has had to cut 48 certified staff positions and 27 non-certified staff positions such as paraprofessionals. Furthermore, although Brockton included no funds in its FY04 budget for extraordinary maintenance, it had an unexpected \$2.1 million expense for mold remediation over the summer. (Ex. 274A). This expenditure has taken funds away from the educational program.

Brockton receives significant grant funding.<sup>50</sup> In FY01, the district received Federal and State

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<sup>50</sup> Grant funding is not included in the foundation budget. Grants are intended to supplement a district’s foundation budget, not to fill gaps in or supplant the foundation budget itself, which represents the “minimum amount needed in each district to provide an adequate educational program.” (Ex. 5066).

grants that totaled approximately \$17.7 million, in FY02, a total of \$18.9 million, and in FY03, a total of \$19.7 million. (Ex. 5202). However, Brockton's Federal entitlement grants have decreased between FY02 and FY03, and its State entitlement grants have also decreased over the last year. In FY03, for example, Brockton received a class size reduction grant of \$839,018, but the grant was completely eliminated for FY04. In addition, Brockton's MCAS remediation grant, the primary source of funding for its after school and summer programs, was reduced by 80% or \$960,000, and its grant for early childhood education was cut by approximately \$800,000. (Ex. 5202, pp. 38-39, 47-48).

Superintendent Joseph Bage testified that in his opinion, even at the height of funding in the last few years, Brockton lacked adequate resources to implement the curriculum frameworks and provide its students with the seven *McDuffy* capabilities, and the district continues to do so.

### **3. Preschool Program**

In 2000, according to the census, there were 2,943 three and four year olds in Brockton. In 2003, Brockton had a public school preschool program serving approximately 333-367 three and four year old students,<sup>51</sup> somewhat more than 10% of the total group. Approximately half of these students required special education services.

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<sup>51</sup> There was testimony from Brockton school administrators that the number of preschool students was 333 or 334; Brockton's FY03 End of Year Pupil and Financial Report (ex. 5059A) states there were 367 students enrolled in the preschool program.

Brockton has fifteen full-day kindergartens and has kept the kindergarten class size at eighteen to nineteen students per class. However, only 25% of all kindergarten-age children in Brockton are able to attend full-day public kindergarten. There are extensive waiting lists for full day kindergarten, and Brockton uses a lottery for the full day slots.<sup>52</sup> Kenneth Sennett, the senior director of pupil personnel services for the Brockton public schools, stated that in his opinion, approximately 25% to 30% of students entering kindergarten in Brockton are not ready for kindergarten academic instruction. There was no contrary evidence. Brockton does run a “K-plus” program for approximately 110 students who are not ready to enter the first grade and require a second year of kindergarten.

In the opinion of Superintendent Bage, Brockton needs to offer full day pre-kindergarten and full day kindergarten programs to its preschool-age and kindergarten-age children in order to make them ready for first grade and elementary school generally, but the district has neither the money nor the space to do so.

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<sup>52</sup> Brockton’s kindergarten enhancement grant from the State was decreased from \$366,000 in FY02 to \$322,080 in FY03. (Ex. 5202).

#### **4. Elementary Schools**

There are eighteen elementary school programs for grades K through 6 in Brockton, and sixteen elementary schools. (Ex. 280). The average class size in grades 1 through 3 is eighteen to nineteen students. At the Keith School, Brockton runs a “3-plus” program for approximately 110 students who are not ready to advance to the fourth grade. In the past few years, Brockton has used grant money to start a Saturday school program for second and third graders and to triple the number of gifted and talented programs at the elementary school level. Each elementary school has a reading resource specialist, and an instructional resource specialist to coach and model lessons for all teachers regardless of the subject matter, but with a focus on math.

Brockton administers the Iowa Basic Skills test, which measures reading, language and mathematics ability, to students in grades 2 through 8. Brockton elementary students consistently score above grade level in math, reading and language on this test. In 2003, Brockton’s second graders tested above grade level in math, reading and language in fourteen out of fifteen elementary schools, and Brockton’s third graders tested above grade level in math, reading and language in all fifteen schools. Overall, Brockton’s sixth graders were one year and one month ahead of the national average on the Iowa Basic Skills test in language, six months ahead of the national average in math, and equal to the national average in reading.

#### **5. Junior High Schools**

There are four junior high schools in Brockton, for seventh and eighth grades. The average class size in the junior high schools ranges from 26 to 30 students. Each junior high school has two instructional resource specialists to coach and model lessons for all teachers regardless of the subject matter.

Because of low performance on MCAS tests and other data showing performance issues, the department conducted a school panel review of East Junior High School, Brockton's largest junior high, in March of 2001. The panel report noted large class size as a problem at the school and concluded that the school needed further work to link its data analysis to student achievement. (Ex. 5128).

## **6. Brockton High School**

Brockton has one high school. In the 2002-2003 school year, Brockton High School enrolled 4,310 students; it is one of the largest high schools in the Commonwealth. (Ex. 5224A). The average class size at the high school is 26 or 27 students. The high school is divided into four houses, each of which has its own library and its own guidance department with three guidance counselors, an adjustment counselor, a bilingual counselor, and a guidance paraprofessional. Brockton High School has an auditorium, a planetarium that seats 40, a television production studio, a school store run by students taking business and marketing classes, a working bank branch run by students, a regulation-size swimming pool, and a fitness center with treadmills, weight machines and heart monitors. Brockton High School has not undergone any major renovations since it opened in 1970.<sup>53</sup>

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<sup>53</sup> Substantive discussion of the high school curriculum appears below.

## **7. English/Literacy Program**

Over the last few years, Brockton has had extensive professional development to help teachers in grades K-8 implement the John Collins writing system, which focuses on ways teachers can communicate with students about their writing. Each elementary school has a full-time reading resource teacher who works directly with students as well as providing coaching and other assistance to classroom teachers. In some schools, the reading resource teacher has to work with students out in the hall because of inadequate space. For the past three years, Brockton used early literacy grants to fund a full time staff member to assist the reading resource teachers in thirteen of the elementary schools and to establish literacy closets, collections of materials for teachers to use with the students. In the middle of the 2002-2003 school year, however, the Governor eliminated the early literacy grants. Brockton shifted funds in order to pay for the salaries for these staff members from its own local budget, foregoing other expenditures.

At the junior high school level, access to adequate English language arts materials is not uniform throughout all the schools, and some schools need more novels, fiction and nonfiction materials to fully implement the ELA curriculum framework. The junior high schools lack adequate materials for seventh and eighth grade students who read either below or above their grade level. In the past five years, Brockton has created three positions in each junior high school to assist students with reading.

The senior director of curriculum for the Brockton public schools, Jane Malatesta, opined that Brockton has made some significant strides in the ELA/literacy program at the high school level. For example, over the past two years, Brockton implemented a school-wide literacy initiative, training teachers in all disciplines to work with students to improve literacy and to require open-ended



responses. The department designated Brockton High School a compass school in 2002 because of large improvements in ELA tenth grade MCAS scores. (Ex. 5130). The department attributed Brockton High's MCAS success to the open response writing initiative, a shift from teacher-oriented to student-oriented classrooms, a strong curriculum, and district-wide detailed analysis of test data to assist schools in focusing their efforts. (Ex. 5130). However, in the current school year, 29% of all high school English classes have 30 or more students. (Ex. 289). Further, the class size for ELA remedial assistance currently averages 28 students, which Malatesta considers far too large.

### **8. Math Program**

Brockton has implemented a new standards based math program at the elementary school level, and a connected math project for grades 6, 7 and 8. Last year, all kindergarten, first grade and fifth grade teachers received intensive professional development in math, and Brockton hopes to give the same training to second, third and fourth grade teachers in the 2003-2004 school year. Last year, each of the elementary schools had a math consultant to help implement the new math program, but due to cuts in the local professional development budget, only half of the elementary schools retained the consultant for the current school year. However, Brockton used Title I money to fund four math coaches for the 2003-2004 school year who travel among the elementary schools and help implement the standards based math program. In addition, each elementary school has one instructional resource specialist responsible for all subjects other than reading, but heavily trained in math; these positions were created with grant and Title I funds.

Brockton was able to purchase the materials it needs for math instruction in grades K through 8, except that it did not purchase certain desirable computer software programs because it lacks the equipment and computer access necessary to utilize them. At the junior high school level, 35% of the

math teachers were not appropriately certified in middle school math in the 2002-2003 school year (ex. 279); in 2001, 50% of the junior high school math teachers were not appropriately certified. (Ex. 5218, 5219).<sup>54</sup> Brockton has difficulty attracting certified math teachers because there is a relatively small pool of candidates, and at least in the opinion of its administrators, Brockton cannot compete with the salaries offered in other communities. There is one math coach to assist all four junior high schools.

The high school course offerings in math are aligned with the State's mathematics curriculum framework. Brockton requires three semesters of math for graduation, and the high school offers advanced placement (AP), honors, college preparatory and academic preparatory classes. In 1999-2000, there were eleven students who took AP calculus; in 2001-2002, there were 21 students who took AP calculus.

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<sup>54</sup> The record contains conflicting information about the licensure and qualification status of teachers in Brockton and in other districts as well. Exhibit 279 was prepared by the Brockton school district as a summary of information for this trial, and it reflects percentages of "unlicensed" teachers in various fields at different levels of teaching. These percentages are different from the total numbers and percentages of teachers who are unlicensed and teaching out of field that are reflected on Brockton's "educator data chart," ex. 5208, that it submits to the department. The percentages reflected in both these exhibits are in turn different from the reported percentages of "highly qualified" teachers teaching subjects in core areas under NCLB – the latter are reported in Brockton's NCLB "report cards" sent out to parents in April 2003. I have difficulty making complete sense of these discrepancies, but I infer that the "highly qualified" numbers – Brockton reports in the report cards that over 96% of teachers in core subjects are licensed and "highly qualified" in the district – are as high as they are because at the present time, districts have been counting as "highly qualified" those teachers who are working towards licensure or content qualification – or so Superintendents Baehr from Lowell and O'Meara from Winchendon testified. (See note 84 below.) It is also the case that ex. 5208, the educator data chart, is reporting on teacher licensure for the district as a whole, while ex. 279 focuses on middle and high school teachers in specific subject areas. Finally, I infer that the percentages set forth in ex. 279 reflect teachers who are not appropriately licensed in the particular field that they are teaching – e.g., middle school math – rather than teachers without any license. This is what is represented in the text.

In the high school, 27% of the math teachers were not certified to teach high school math in 2002-2003 (ex. 279),<sup>55</sup> and in the current school year, 41% percent of high school math classes have 30 or more students. (Ex. 289). Brockton also lacks necessary technology and supports for the high school math program. It does not have enough computers to aid math instruction effectively. Further, while Malatesta indicated that at the end of the 2002-2003 school year Brockton was finally able to purchase 560 graphing calculators for its 4,000 high school students, most of the math teachers require training in the use of these calculators and that has not yet happened.

### **9. MCAS Remediation for English Language Arts and Mathematics**

Over the past several years, Brockton has received grants to offer remedial services to students who have failed – or who are at risk of failing – the ELA or math MCAS test, or both. In 2002-2003, high school students who failed the MCAS exam in English language arts were able to take three additional MCAS English classes a week, but because the grant money has been eliminated for 2003-2004, these extra classes are no longer offered.

Last year, Brockton High School used a competitive math grant to hire three new MCAS math teachers and two paraprofessionals, and offered a daily math review class for eleventh and twelfth grade students who failed the math MCAS, as well as an additional MCAS support math class three times a week. Brockton also offered Saturday and summer MCAS classes, kept its computer labs open after school with math online tutorials and teacher support, and offered after school math

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<sup>55</sup> An exhibit prepared by one of the defendants' experts, Dr. Michael Podgursky, from department data shows that in 2001, approximately 22 % of the Brockton High School math teachers lacked appropriate certification.

preparation instruction for ninth and tenth graders considered at risk to fail the MCAS. However, because grant funding has been cut, in school year 2003-2004, only seniors who failed the math MCAS will get the math review class every day, with juniors who failed MCAS getting it three times a week. The additional MCAS support class will not be available to juniors this year, and the after school and weekend classes have been discontinued.

### **10. History Program**

The high school history program now focuses on U.S. history because of the emphasis on that subject in the new history and social science curriculum framework. Some teachers who previously taught world history electives are going to have to teach U.S. history to accommodate this change in the program. Beginning this year, freshmen will take a full year of U.S. history, as will sophomores. Juniors will be able to take AP history and electives such as world history.

In the 2003-2004 school year, 68% of all high school social science classes have 30 or more students. (Ex. 229).

Last year, Brockton High School purchased a 30-station mobile computer cart for history and social studies for use by the 40 history and social studies teachers. In addition, the high school is halfway through phasing in a single instructional computer in each classroom. Each of the four high school libraries has eight computers, which are available for social studies research if the teacher takes the class there, although the number of students means that students will need to wait in line for a computer.

## **11. Science Program**

Brockton's science curriculum was last updated in 1998 and is not aligned with the State's 2001 science curriculum framework. Only the three newest elementary schools have appropriate space for using the hands-on method contemplated by the framework for teaching science. All of the elementary schools have science kits, but it varies among schools whether the kits are actually used or kept up to date, or both.

At the junior high school level, 43% of the science teachers are not licensed as middle school science teachers. (Ex. 279). All four junior high schools have science labs, but some science classes are taught in regular classrooms because of scheduling problems. In most of the science labs, the gas and water have been turned off for safety reasons because the equipment was not updated and appropriate emergency showers were never installed. Many of the junior high science classes have well over 25 students per class, which hinders effective science instruction.

At Brockton High School, 21% of the science teachers are not certified as high school science teachers. (Ex. 279). The high school has attempted to align its program better with the 2001 science curriculum framework by offering discrete classes in different strands of science, such as biology, chemistry, earth science and physics; classes in ecology, physiology, physics, modern science, astronomy and oceanography are also offered. Thirty-seven percent of all science classes have more than 30 students, but the science labs are designed to accommodate only 24 students at a time. Some courses such as chemistry were reduced from a full to a half-year class, and there is insufficient time to conduct all the appropriate experiments suggested by the curriculum framework. (Ex. 289).

## **12. Arts Program**

At the elementary school level, all students in grades 1 through 6 receive art instruction once a week for 30 minutes. Approximately one-third of the elementary schools lacks a separate art room, so the art teacher must take all of his supplies and equipment from one classroom to another. Malatesta believes that Brockton has an excellent elementary art program but 30 minutes a week is not really adequate instruction time.

All elementary school students also receive 30 minutes per week of music instruction with a music specialist, although some schools lack a music room. The elementary school program includes voluntary band and chorus for grades 4 and up, with instruction during the school day. The only dance instruction which occurs at the elementary school level is through the physical education program, and the only theater program consists of after-school activities.

Each junior high school has dedicated art and music rooms. Music and art instruction are required for all students in the seventh and eighth grade, in either a semester or a quarter format.

Brockton High School also has dedicated art and music rooms, but these subjects are electives. High school students who require remedial programs in reading or math often are unable to fit elective music and art classes into their schedules. The high school offers arts classes in fashion design, pottery, photography, advanced drawing and painting, creating with computer, dramatics, illustration, printmaking, and set design and technical theater. There is also an AP course in art, although not in art history. Brockton High's art students win more awards than students in any other public or private high school in the state. There is no dance instruction at the high school level.

## **13. Health/Physical Education**

Brockton's health curriculum is essentially aligned with the State's health curriculum framework. In kindergarten and first grade, health is taught by the regular classroom teacher. In grades 2 through 6, a certified health teacher provides 30 minutes of weekly instruction and the classroom teacher is supposed to provide an additional 30 minutes of weekly instruction, although that may not actually occur due to the district's view that teachers need to focus on math and English. Junior high students receive health instruction in both seventh and eighth grades.

Health is an elective in the high school, not a requirement. High school health classes include human relations and mental health, stress management, nutrition, health and psychology, and peers helping peers. These courses include instruction concerning human sexuality and AIDS.

One semester of physical education is a high school graduation requirement in Brockton, less than the State requirement. The number of high school physical education teachers has fallen over the last ten years, because as such teachers retire, the principal replaces them with math or English teachers to improve MCAS performance. Students who wish to take more than one semester of physical education may be allowed to if there is space in a class but last year, 1,000 students were turned down for additional classes. High school classes include swimming, aerobics, walking and jogging, weight training, tennis, basketball, soccer and softball. Brockton High School spends significant money on its athletics program in order to be a well-rounded school and to help keep students off the streets after school. The high school recently used a Federal grant to expand its fitness center to focus on life-long wellness and fitness.

#### **14. Foreign Language Program**

There is no formal foreign language instruction at the elementary school level, other than a two-way English-Spanish immersion program for grades 1 and 2 that is taught in one school. At the junior high level, three foreign languages are offered: Spanish, French and Latin. Each junior high school has one Spanish teacher, one French teacher and one Latin teacher. Students do not choose which language they take; rather, the principal makes assignments, with students at the top achievement level generally assigned to Latin. However, approximately half the students in each junior high school take remedial reading classes instead of foreign language classes. In the junior high schools, 42% of the foreign language teachers are not certified in the foreign language they teach. (Ex. 279).

Brockton High School offers Spanish, French and Latin as elective courses. Twenty-five percent of the foreign language teachers are not currently certified in the foreign languages they teach. (Ex. 279). Brockton High School used to offer Russian and German fairly recently, and Hebrew and Greek a long time ago, but these classes were eliminated as resources were prioritized.



## **15. Libraries**

Each of the elementary schools has its own library, each of the junior high schools has its own library, and Brockton High School has a collection divided by subject matter or theme into four libraries. Seven of the elementary school libraries have a certified library media specialist (librarian), but all the others are run by a paraprofessional with no certification. Each junior high school library has one certified library media specialist and no paraprofessionals, and Brockton High School has four certified library media specialists and three paraprofessionals for its four libraries. These staff resources are far below the levels recommended in the Massachusetts School Library Media Association (MSMLA) standards. The reason that certified library media specialists are important is that they are trained and familiar with the curriculum frameworks, and can therefore better assist students than the paraprofessionals who do not have a library degree and may have no familiarity with the frameworks.

Allan Jolly is the coordinator of library media programs for K through 12 in Brockton, and he has held that position for the past eleven years. He has had the school library collections electronically catalogued, and demonstrated reasonable familiarity with the collections at all school levels. According to Jolly, the print collections in all the libraries are very outdated. While the MSLMA recommends that 70% of a school's print collection have copyright dates within the past ten years, this is not true of any library in Brockton. At the high school, approximately 20% of the books are under ten years old; the majority of books have copyright dates in the 1960's and 1970's. The elementary and junior high schools also have similarly dated collections. (See ex. 282A). All the libraries need books that appeal to the students' interests, and also books that will allow them to do useful, relevant research. In addition, most of the school libraries' print collections are relatively

small.

Each elementary school and junior high school library has four Internet access computers available for research, which means that when a class comes to the library to do research, approximately one-third of the students can use computers, and two-thirds are not able to. There are only eight Internet access computers in each of the four high school libraries. Students often have to wait in line to do research.

In the 1970's, the citywide library budget for purchasing books was approximately \$250,000 per year, but in the 1980's, it was approximately \$40,000 per year. In FY03, Brockton spent \$163,000 for library books for the district. For the 2003-2004 school year, Brockton applied for a \$380,000 grant from the U.S. Department of Education for improving literacy through libraries, based on criteria such as poverty level. There was no evidence as to whether Brockton received this grant.

## **16. Technology**

The department has designated Brockton a high needs school district with respect to technology. (The same is true with respect to the other focus districts.) In the opinion of Superintendent Bage and Brockton's curriculum director Malatesta, for the past five years, Brockton has had inadequate funding to meet the system's technology needs for serving its 16,000 students. Brockton is slowly increasing student and teacher access to modern computer equipment and Internet access, school by school and grade by grade.

The department has published technology benchmarks for local school districts. (Ex. 20). One provides that by 2003, every district will have at least a 5:1 student to computer ratio of modern, fully-functioning, Internet-enabled computers; Brockton's ratio is 6.4 to 1. Another benchmark is

that by 2003, every school building will have a sufficient electrical system to support a local area network (LAN), and every classroom will have at least one computer with a high speed Internet connection. Twenty-two of Brockton's 25 schools lack adequate electrical capacity to meet this benchmark. By 2002, 68% of Brockton's classrooms were connected to the Internet, and only 40% of instructional computers were so connected. (See ex. 5165.) A third benchmark is that there be .5 full-time equivalent (FTE) staff person to support every 30 to 60 non-student users in integrating technology into the curriculum, and one FTE staff person to support every 100-200 computers. Brockton has .5 FTE staff to support every 360 non-student users and 1 FTE to support 621 computers. Another benchmark is that by 2003, at least 85% of staff will have participated in technology professional development; as of July of 2003, 65% to 70% of Brockton staff had participated in such training. (Ex. 288, 5224A).

All teachers in the elementary schools have one instructional computer, and all teachers in grades 4, 5 and 6 have Internet access. Teachers in grades K-3 only have Internet access in the classroom if they were able to obtain grant money for that purpose. Two of the junior high schools have wireless networks that give Internet access to all teachers. Each elementary and junior high school has a student computer lab, some of which were funded under Title I.

Brockton High School is half way through a program to place a single instructional computer in each classroom, although not all such computers have Internet access. In addition, each of the four high school libraries has eight computers which are available for research. The English department in the high school has three computer labs with 25 computers each for its 50 teachers and 4,000 students.

## 17. Special Education

In 2002-2003, 12.5% of all students in Brockton, almost 2,100 children, were special education students. (Ex. 5224A). (See note 73 below.) Brockton employs 130-140 special education teachers, 29 school adjustment counselors, 9 psychologists, 19 speech therapists, 3 occupational therapists, 2 occupational therapy assistants, 2 physical therapists, and 2 physical therapy assistants. Brockton runs the Ithaca School for approximately 60 students, grades 3 through 12, who are severely emotionally disturbed; the school has a full time clinical psychologist and psychiatric nurse. Brockton also runs the Phoenix Alternative Program, a separate school for students in junior high schools and the high school who have violated school discipline codes or are in danger of expulsion due to serious disciplinary violations or State law violations.

Brockton is unable to provide effective behavioral interventions prior to special education referral for students demonstrating behavioral problems. Brockton has offered some professional development training to teachers on how to manage student behavior and teach “pro-social” skills. In addition, the elementary schools have formalized programs such as assertive discipline, cooperative discipline, and responsive classrooms.<sup>56</sup> However, such formal programs do not exist at the junior

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<sup>56</sup> One elementary school, the Arnold School, has a behavior specialist: a certified school adjustment counselor/social worker who provides individual and small group instruction to the approximately 20% of elementary school students whose behavioral problems cannot be effectively managed by the classroom teacher, as well as professional development to teachers on behavior management. Sennett believes that every elementary school should have a behavioral specialist, because behavioral problems in his opinion are the primary reason for placing students in expensive out-of-district private school placements.

high and high school level. Brockton High School has difficulty providing pre-referral intervention because of limited staff. The special education staff at the high school must provide direct services to approximately 400 special education students and are not able to provide pre-referral interventions as well, and there is no time for in school professional development in this area.

Brockton is unable to conduct evaluations for special education referrals in a timely and efficient manner, due to inadequate professional staff. The district's nine school psychologists are insufficient in number to do this work, and in any event, Brockton was beginning the 2003-2004 school year with only eight of those positions filled. Last year, Brockton wrote 2,819 individual education plans (IEPs) and 354 "504 reports" dealing with certain disabilities. The school psychologists are too busy with evaluations, team meetings and reports to have time to counsel students, although there are school adjustment counselors to provide some counseling. Each elementary school has at least one school adjustment counselor, but each counselor has a caseload of 350 students, which exceeds the professional standard of one counselor for 225 students. The high school and junior high schools have a total of eighteen guidance counselors and four school adjustment counselors for well over 4,000 students. Guidance counselors focus on scheduling students, preparing them for work or college, and handling situational crises, but do not really deal with behavioral issues. Brockton has only six bilingual guidance counselors, although 7.2% of its 16,700 students – over 1,000 students – have limited English proficiency and 25% have English as their second language.

Brockton has difficulty conducting special education evaluations for children with limited English proficiency. Brockton has no bilingual psychologists and must conduct evaluations using an interpreter or try to obtain a psychologist from an agency, which rarely occurs. Brockton advertises

annually for a bilingual psychologist but often loses qualified candidates to other school systems which pay more.

The district has not been able adequately to educate children with disabilities in the least restrictive environment. At the elementary level, Brockton uses the dual certification model where a teacher who is certified in both regular and special education runs an inclusion class in which half the students are regular education students and half have IEPs. Four of the elementary schools have one inclusion class in each grade, for a total of 24 inclusion classrooms. The other elementary schools do not use the inclusion model because of space and staffing shortages; Brockton would need 33 additional teachers to do this. In addition, Brockton has several classes each year which do not meet the State class size standards for substantially separate and pull-out special education classes. In the 2002-2003 school year, Brockton had to eliminate five special education pull-out class teachers in the elementary schools.

In addition, the district's capacity to provide students with disabilities access to the regular education curriculum is limited. Materials for Brockton's new reading and math programs were not purchased for special education staff due to lack of funds and the special education staff did not receive professional development in the new programs. At the same time, regular education teachers have not been provided with sufficient professional development to assist students with learning disabilities.

Brockton also lacks appropriate building space to provide special education services. For example: in the Brookfield Elementary School, occupational and physical therapy is conducted in a partitioned area of a fourth grade classroom, creating privacy concerns; in the Hancock Elementary School, speech therapy is conducted in the hallway; at the West Junior High School, pull-out classes

are taught in former storage closets, and behavioral services are provided in another former storage closet; at the North Junior High School, the substantially separate classroom for learning disabled students is overcrowded, with little opportunity for work with individual students, and special education testing and evaluations are conducted in a former book supply closet; any pull-out special education class is taught in a partitioned area behind the stage in the auditorium, a noisy and crowded area.

Transition services for special education students, required by the Federal Individuals with Disabilities Education Act (IDEA), are limited. Brockton has only one staff member who works at the high school to supervise special education students in their workplace experiences during the school year, but not during weekends, vacations or the summer. Brockton currently has only twelve students working in the community, but there are approximately 100 students in the system who could benefit from such experience. There are few summer programs for those students in substantially separate classes who have extended year plans, and those that exist only run through July and are generally restricted to mornings.

Brockton received numerous special education grants in FY03, including its \$2.8 million allocation of Federal special education funds under P.L. 94-142, a \$112,506 special education grant for early childhood programs, a \$21,300 grant for mental health support, a \$30,000 grant for special education integration, a \$75,000 grant for autistic programs, \$150,000 for special education improvement, and \$477,000 for IDEA repair and renovation. (Ex. 5202). Brockton also received a \$156,159 grant for LEP support and a \$26,180 grant for language instruction. (Ex. 5202).

Nevertheless, taking into account all the funds for special education programs and staff that Brockton has, including grant funds, in Sennett's opinion, Brockton lacks the financial resources to

give children with special needs the seven *McDuffy* capabilities and to deliver to them the State curriculum frameworks.

### **18. Bilingual Education**

As previously stated, English is a second language for approximately 25% of Brockton's students, and 7.2% of students have limited English proficiency. Brockton's transitional bilingual education (TBE) classes serve Spanish, Portuguese, Cape Verdean, French and Haitian students. There are 88 bilingual teachers, all but 19 of whom are TBE or ESL certified.

In November of 1997, the department conducted a coordinated program review (CPR) of the Brockton school district, focusing on the district's implementation of special education and TBE requirements. (Ex. 5170). A five-member team from the department visited the Brockton schools for four days. (Ex. 5170). The CPR Report, issued on January 9, 1998, concluded that Brockton lacked adequate staff to interpret special education assessments in languages other than English, failed fully to describe the TBE program in correspondence to parents, failed to meet native language literacy to Cape Verdean and Haitian students, failed to provide bilingual students full access to vocational programs and special education evaluations, and failed to provide comparable facilities for the delivery of special education and TBE services. (Ex. 5170).<sup>57</sup>

Beginning in September of 2003, bilingual education in Brockton was to be restructured so that children in elementary school will enter a one year sheltered English immersion program. Brockton provided 37 hours of ESL methodology training to the new immersion teachers to teach them to use English as the primary vehicle of instruction. At the secondary level, Brockton is scheduled to have both immersion classes and one year of traditional TBE classes. Sennett opines

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<sup>57</sup> Brockton submitted its corrective action plan in February of 1998. (Ex. 5180, 5181).



that Brockton lacks the resources to properly train its teachers so that they can successfully receive bilingual students into their classrooms. Because LEP students are required to take the MCAS, Brockton has discontinued all of its bilingual computer classes and most of its bilingual health classes in order to increase math and English MCAS preparatory courses for bilingual students.<sup>58</sup>

## **19. Professional Development**

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<sup>58</sup> In the 2001-2002 school year, 49% of LEP students in Brockton failed the spring 2002 grade 4 ELA exam and 60% failed the grade 4 math exam; 64% of LEP students failed the grade 10 ELA exam and 75% failed the grade 10 math exam. (Ex. 65). In 2002-2003, the numbers of limited English proficient students who failed the MCAS exams increased: 60% of grade 4 students failed the ELA test and 66% failed the math; 79% of grade 10 students failed the ELA MCAS test, and 79 % failed the math as well. (Ex. 1154).

The performance of all Brockton students on the statewide MCAS tests is described below in the final section on Brockton. The performance of Brockton students with disabilities is summarized below in a separate section on special education in all four focus districts. These MCAS results for Brockton students with limited English proficiency are summarized here because not all the focus districts have LEP students, and those that do have different types of LEP students.

In Malatesta's opinion, Brockton has made great gains in providing professional development to its teachers. The district offered extensive professional development in implementing the new reading program, the K-12 John Collins writing system, and the math standards program. It also pays part of the cost for teachers to take designated courses offered by the department over the summer. Brockton provides assistance with recertification, induction programs for new teachers, and mentoring new teachers. Each new teacher gets a veteran teacher mentor to meet with before and after school and during common planning time, if any. Mentors may occasionally use their own preparation period during the day to go into a new teacher's classroom and coach or model lessons, but mentors are not given any release time to provide such assistance. Mentors are paid a stipend of \$1,500 per year.

Brockton has four teachers who are certified by the National Board of Professional Teaching Standards, and as a result, they may be assigned to mentor other teachers or offer professional development. Brockton encourages national certification by providing assistance with the application process and paying the \$300 fee. Brockton currently has three additional teachers working on national certification.

New teachers in Brockton are evaluated four to six times a year, and teachers with professional status are evaluated two to four times a year. The evaluation form contains six criteria of teacher competence. Teachers who receive a poor evaluation are placed on an action plan to help them improve. In March of 2003, there were five or six teachers who were rated "unsatisfactory" and recommended not to be re-employed. Those teachers either resigned or were not re-employed. Administrators in Brockton are evaluated twice a year.

Brockton's Chapter 70 professional development budget was reduced from \$1.25 million in

FY02 to \$688,653 in FY03. (Ex. 286).<sup>59</sup> In FY01, Brockton spent \$1.2 million on professional development, and in FY00, it spent approximately \$1 million. (Ex. 286). The professional development budget was reduced again for FY04. In particular, the budget allocates a certain amount of professional development funds per school or department roughly proportionate to the number of staff members for whom the professional development funds would be used; this aspect of the professional development budget was cut by approximately 60% for the 2003-2004 school year. (Ex. 286). Brockton also has funds available each year for which schools or departments can apply to do curriculum project work; this aspect of the professional development budget was cut by approximately 50% for the 2003-2004 school year.<sup>60</sup> Under their contract, teachers are able to take one teaching day a year to attend pre-approved workshops or seminars and be reimbursed for expenses. However, Brockton does not have adequate resources to fulfill all of the professional development requests that teachers make, and money for teacher reimbursement usually runs out two-thirds of the way through the school year.

## **20. Teachers and Teacher Openings**

In the 2002-2003 school year, approximately 10% of Brockton's teachers are not licensed in any field, and 6 % are teaching out of their field of licensure. (Ex. 5208; ex. 5217). According to the director of human resources for Brockton public schools, Kathleen Sirois, teachers who are not certified are taking steps to become licensed. Her view is that most of the teachers who

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<sup>59</sup> However, Brockton received a \$1.5 million Federal teacher quality grant in 2003.

<sup>60</sup> A third aspect of locally funded professional development in Brockton is the Challenge for Change program in which schools write proposals for large-scale change. In FY03, \$350,000 was budgeted for the program, but for FY04, it was only \$227,000, a reduction of approximately 33%. (Ex. 286).

are teaching out of field are middle school teachers who have an older “generalist” K-8 or 1-6 elementary certification, rather than a certification in a specific subject matter area.

According to Superintendent Bage, teacher salaries in Brockton start at approximately \$32,000, with the highest salary at approximately \$60,000. Brockton’s district profile published on the department’s website, however, states that in 2001, the average teacher’s salary was listed as \$57,398. (Ex. 5224A).

The 1996-1999 Brockton teachers’ contract granted a 9% across-the-board raise for all teachers over a two year period; the 1999-2002 contract granted a 9.5% across-the-board raise for all teachers over the three year period; and the 2002-2005 contract calls for a 10.5% across-the-board raise for all teachers over its three year term.<sup>61</sup>

In the 2002-2003 school year, approximately 60 teachers resigned voluntarily, usually to teach in another district which is closer to home or pays more, or for child care reasons. Brockton hired 104 teachers in the summer of 2002, 60% of whom lacked prior teaching experience. According to Kathleen Sirois, Brockton has the most difficulty filling special education positions and secondary school (i.e., junior high and high school) math and science positions. English has also become a critical shortage area at the junior high school and high school levels. In the summer of 2003, Brockton anticipated hiring 60 to 70 teachers. In July of 2003, Brockton had two special education positions open, and received 20 to 25 applicants, about half of whom were licensed. The district had

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<sup>61</sup> The 2002-2005 contracts with other school personnel including custodians, cafeteria workers, secretaries and paraprofessionals, granted 9% raises. The superintendent stated that the total cost to Brockton of all the raises for the 2003-2004 year will be \$6 million.

one high school earth science position open, with five applicants. It also had a middle school science opening, with ten to twelve applicants, two or three of whom were licensed. Brockton also had two middle school math openings, with 20 applicants, only half of whom were licensed. Brockton attends the major job fairs in Massachusetts and Rhode Island, as well as local recruitment events and the New England minority network recruitment event. Brockton does not offer signing bonuses or differential pay to attract qualified candidates to positions that are difficult to fill.

## **21. School Buildings in Brockton**

Brockton has many old school buildings that require repair, and schools at all levels are overcrowded, with every nook and cranny of space utilized, no matter how inappropriate. Classes are taught in basements, and remedial instruction and tutoring are often conducted in hallways.

In the last ten years, Brockton has built three new elementary schools, with 90% of the cost reimbursed by the State. Brockton currently has State approval to build one new junior high school and two more elementary schools, but the projects appear to be on hold because the State building assistance program is on hold.

## **22. Brockton's MCAS Results**

### **a. Class of 2003**

As of June 4, 2003, there were 817 seniors in the graduating class, with 699 students receiving diplomas in June and 30 receiving certificates of attainment indicating that they met all local graduation requirements but did not pass meet the competency determination because they failed the grade 10 MCAS test in ELA or math, or both. Following summer school and retesting, 90% of the class of 2003 received diplomas.

b. District MCAS Results for All Students

What follows is a summary of the MCAS performance of all students enrolled in the Brockton public schools by grade and subject matter tested for all the years between 1998 and 2003 that the particular subject was tested.

**1. Tenth Grade MCAS Results, Percentage of Students by Subject Matter and Performance Level**

<b>Grade 10 English Language Arts</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	2	2	6	14	21	20
Proficient	20	22	21	28	40	32
Needs Improvement	33	34	31	34	25	29
Warning/Failing	44	42	42	24	14	19

<b>Grade 10 Mathematics</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	1	2	5	8	9	13
Proficient	6	7	11	21	18	20
Needs Improvement	17	15	21	35	35	30
Warning/Failing	76	76	64	35	38	3

<b>Grade 10 Science and Technology<sup>62</sup></b>			
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>

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<sup>62</sup> Science and technology was a separate MCAS test for tenth grade students for the three years set out in the text, but the board then stopped testing tenth graders in this subject. The board anticipates including science and technology as a tenth grade test that is part of the competency determination in 2007. (Ex. 1090).

Advanced	0	1	0
Proficient	7	9	15
Needs Improvement	33	31	34
Warning/Failing	60	58	50

**2. Seventh and Eighth Grade MCAS Results, Percentage of Students by Grade, Subject Matter, and Performance Level**

<b>Grade 8 English Language Arts</b>				
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
Advanced	0	0	2	2
Proficient	33	32	36	44
Needs Improvement	44	45	39	39
Warning/Failing	22	23	23	14

<b>Grade 7 English Language Arts</b>			
<b>Performance Level</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	2	2	1
Proficient	29	36	35
Needs Improvement	46	44	49
Warning/Failing	24	19	15

<b>Grade 8 Mathematics</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	3	1	2	4	2	2
Proficient	11	7	10	14	12	11
Needs Improvement	18	25	21	34	32	28
Warning/Failing	69	67	67	48	54	59

<b>Grade 8 History</b>				
<b>Performance Level</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>
Advanced	0	0	0	0
Proficient	3	4	4	2
Needs Improvement	26	27	31	28
Warning/Failing	71	70	65	70

<b>Grade 8 Science and Technology</b>				
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2003</b>
Advanced	1	1	1	0
Proficient	11	7	13	10
Needs Improvement	27	18	21	30
Warning/Failing	62	74	65	60

**3. Fifth and Sixth Grade MCAS Results, Percentage of Students by Grade, Subject Matter, and Performance Level**

<b>Grade 6 Mathematics</b>			
<b>Performance Level</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	7	7	9
Proficient	16	22	18
Needs Improvement	31	32	36
Warning/Failing	46	39	37

<b>Grade 5 Science and Technology</b>	
<b>Performance Level</b>	<b>2003</b>



Advanced	6
Proficient	17
Needs Improvement	46
Warning/Failing	31

**4. Third and Fourth Grade MCAS Results, Percentage of Students by Grade, Subject Matter, and Performance Level**

<b>Grade 4 English Language Arts</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	0	0	0	3	3	3
Proficient	6	8	8	30	29	35
Needs Improvement	65	67	70	48	49	44
Warning/Failing	29	25	22	19	19	18

<b>Grade 4 Mathematics</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	4	6	5	5	4	5
Proficient	13	12	18	18	16	17
Needs Improvement	44	47	48	50	45	50
Warning/Failing	39	35	29	27	35	28

<b>Grade 3 English Language Arts</b>			
<b>Performance Level</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Proficient	36	42	42
Needs Improvement	50	44	43
Warning	14	14	15

(Ex. 5224A, Brockton).

c. Spring 2002 Fourth and Eighth Grade MCAS Results for Special Populations of Students

1. *Students with Disabilities and Limited English Proficiency, Percentage of Students by Grade, Subject Matter and Performance Level*

<b>Grade 4 English Language Arts</b>			
<b>Performance Level</b>	<b>Disabled</b>	<b>LEP</b>	<b>Regular<sup>63</sup></b>
Advanced	0	0	3
Proficient	7	29	32
Needs Improvement	38	23	52
Warning/Failing	55	49	13

<b>Grade 4 Mathematics</b>			
<b>Performance Level</b>	<b>Disabled</b>	<b>LEP</b>	<b>Regular</b>
Advanced	0	0	5
Proficient	5	6	18
Needs Improvement	36	34	46
Warning/Failing	59	60	30

<b>Grade 10 English Language Arts</b>			
<b>Performance Level</b>	<b>Disabled</b>	<b>LEP</b>	<b>Regular</b>
Advanced	0	0	23

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<sup>63</sup> The “regular” students category is comprised of all students who do not meet the definition of disabled or limited English proficiency (LEP).

Proficient	9	8	43
Needs Improvement	34	28	24
Warning/Failing	56	64	10

<b>Grade 10 Mathematics</b>			
<b>Performance Level</b>	<b>Disabled</b>	<b>LEP</b>	<b>Regular</b>
Advanced	0	0	10
Proficient	6	9	19
Needs Improvement	11	16	36
Warning/Failing	83	75	34

**2. Race/Ethnicity<sup>64</sup>, Percentage of Students by Grade, Subject Matter and Performance Level**

<b>Grade 4 English Language Arts</b>						
<b>Performance Level</b>	<b>AA</b>	<b>API</b>	<b>H</b>	<b>NA</b>	<b>W</b>	<b>M/O</b>
Advanced	1	8	0	0	5	2
Proficient	21	17	20	36	40	23
Needs Improvement	55	58	47	29	43	55
Warning/Failing	24	17	32	36	12	20

<b>Grade 4 Mathematics</b>
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<sup>64</sup> Students taking the test self-identified as African American/Black (AA), Asian or Pacific Islander (API), Hispanic (H), Native American (NA), White (W), or Mixed/Other (M/O). Note that the scores of Native American students in the tenth grade were not reported, to protect confidentiality.

<b>Performance Level</b>	<b>AA</b>	<b>API</b>	<b>H</b>	<b>NA</b>	<b>W</b>	<b>M/ O</b>
Advanced	1	13	2	0	8	3
Proficient	11	21	9	14	25	12
Needs Improvement	41	25	52	43	46	46
Warning/Failing	47	42	37	43	22	39

<b>Grade 10 English Language Arts</b>						
<b>Performance Level</b>	<b>AA</b>	<b>API</b>	<b>H</b>	<b>NA</b>	<b>W</b>	<b>M/ O</b>
Advanced	12	19	9		35	15
Proficient	34	37	47		41	46
Needs Improvement	35	37	26		17	24
Warning/Failing	20	7	19		7	16

<b>Grade 10 Mathematics</b>						
<b>Performance Level</b>	<b>AA</b>	<b>API</b>	<b>H</b>	<b>NA</b>	<b>W</b>	<b>M/ O</b>
Advanced	2	15	6		17	5
Proficient	10	30	12		26	17
Needs Improvement	34	30	41		36	34
Warning/Failing	53	26	41		21	45

**3. Low Income Students (Free or Reduced Price Lunch), Percentage of Students by Grade, Subject Matter and Performance Level<sup>65</sup>**

<b>Low Income Students</b>						

<sup>65</sup> No group is provided for comparison to the low income students.

Performance Level	Adv.	Prof.	N.I.	F/W
Grade 4 English Language Arts	1	22	53	24
Grade 4 Mathematics	2	12	45	42
Grade 10 English Language Arts	0	7	20	73
Grade 10 Mathematics	0	5	0	95

(Ex. 5232).

### **23. Brockton's SAT Scores**

Trial evidence included the average SAT scores of the Brockton seniors taking the tests in 1995 and 2000. The maximum score on each SAT test is 800. In 1995, the average verbal SAT score in Brockton was 464, and the average math score was 444, with a 60% participation rate. In 2000, the average verbal SAT score was 436, and the average math score was 434, with 66% of seniors participating. The scores thus went down after seven years of education reform, although it is true the participation rate in 2000 was slightly higher. (Ex. 5224A; 1072).

#### **D. The Lowell School District: Specific Findings**

In the 2002-2003 school year, 15,479 students attended the Lowell public schools, which was 88.2% of all students in Lowell. (Ex. 5224A). The present enrollment trend is level or a slight decline. Lowell has fourteen K through 4 elementary schools, two K through 8 schools, seven middle schools and one high school. (Ex. 5224A). Lowell also runs several alternative programs for students with behavioral issues, emotional issues, and cognitive disabilities. As of 2001, Lowell employed 1,130 teachers. (Ex. 253). Lowell is a member of the Greater Lowell Vocational Technical school district. (Ex. 5224A).

Dr. Karla Brooks Baehr has been superintendent of the Lowell school district since July of 2000. As is true of other focus district superintendents, she is viewed as a strong and effective leader

by the department's commissioner and deputy commissioner.

### **1. Demographic Information**

Lowell has a challenging and diverse student population. In the 2002-2003 school year, 44.0% of Lowell's students were white, 29.9% were Asian, 20.5% were Hispanic, 5.4% were African American, and 0.2% were Native American. This compares to statewide rates of 75.1% white, 4.6% Asian, 11.2% Hispanic, 8.8% African-American and 0.3% Native American. In 2002-2003, Lowell had a special education enrollment of 12.5%, compared to 15.2% statewide, and a LEP student enrollment of 14.3%, compared to 5.3% statewide. (Ex. 5224A). Lowell's LEP student enrollment is very high because its Asian population consists of predominantly Cambodian and Laotian refugees. Almost 67% of Lowell students were eligible for free or reduced price lunch in the 2002-2003 school year, compared to 26.2% of students statewide. (Ex. 5224A).

Lowell's per capita income in 1999 was \$17,557, ranking it 333 out of 351 municipalities in the State. Lowell's median household income that year was \$39,192, ranking it 339 out of 351, and its equalized valuation per capita was \$39,254, ranking it 339 out of 351. (Ex. 1079).

### **2. School Funding**

Between 1993 and 2003, Lowell's actual net school spending (NSS) per year more than doubled from almost \$61 million to \$136.2 million,<sup>66</sup> while enrollment for this period increased about 25% from 13,023 to 16,481. (Ex. 261, 5068B). The Chapter 70 contribution grew from \$35.4 million in FY93 to \$109.4 million in FY03. (Ex. 5068B).

In FY00, Lowell's Chapter 70 aid was reduced as a penalty for failing to spend at least 95%

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<sup>66</sup> As noted in connection with the specific findings about Brockton, the budget numbers here have been rounded.

of its required net school spending, that year. The city of Lowell consistently spends less than 100% of the required NSS, although usually it spends at least 95%. When the district spends between 95% and 100%, the difference between the percentage spent and 100% is added on to the following year's required NSS.

In FY03, Lowell's foundation budget was \$132.7 million. The required NSS in 2003 was \$141.6 million, and the actual NSS was at least budgeted to be \$136.2 million. (Ex. 5068B).

Lowell's foundation spending reached 100% in FY00 for the first time, meaning that required net school spending figure was equal to or greater than the foundation budget total. (Up until 2000, the required NSS was below the foundation budget.) The district's actual net school spending reached 104% of its foundation budget in FY02, but is projected to be 100% for FY04. (Ex. 261, 5068B). Lowell's FY04 foundation budget is \$130.5 million, with a Chapter 70 contribution of \$103.5 million, a net decrease of 5.4% over the FY03 Chapter 70 contribution of \$109.4 million. (Ex. 5068B).

In Superintendent Baehr's opinion, Lowell's foundation budget has not been sufficient to equip students with the seven *McDuffy* capabilities in any year since she became superintendent in 2000.

Lowell's foundation budget, on a per pupil basis, was and is as follows:

	<b>Dollars per Pupil</b>			<b>Percentage of Foundation</b>		
	<u>Fdn Budget</u>	<u>Ch 70 Aid</u>	<u>Actual NSS</u>	<u>Ch 70</u>	<u>Required NSS</u>	<u>Actual NSS</u>
<b>FY 93</b>	\$6061	\$2,718	\$4,682	44.9%	77.3%	77.3%
<b>FY 01</b>	\$7,442	\$5,806	\$7,694	78.0%	105.0%	103.4%
<b>FY 02</b>	\$7,877	\$6,656	\$8,198	84.5%	107.5%	104.1%

<b>FY 03</b>	\$8,055	\$6,639	\$8,265	82.4%	106.6%	102.6%
<b>FY 04</b>	\$8,154		\$6,466		79.3%	100.0%

**Chapter 70 Aid as Percent of Actual NSS**

- FY 93:** 58.1%
- FY 01:** 75.5%
- FY 02:** 81.2%
- FY 03:** 80.3%
- FY 04:**

According to Lowell’s director of finance and operations, Roger Lang, Lowell would need approximately \$8 million more dollars in FY04 to provide a level service budget from FY03: \$1.9 million for increases in health insurance costs, \$800,000 for special education tuition increases, \$800,000 for increased utility costs, \$600,000 for increased transportation costs, \$800,000 to cover early textbook purchases, \$200,000 for technology infrastructure cost increases, \$2 million for contractual teacher raises, and \$900,000 for other contractual staff raises.

In FY04, Lowell eliminated fifteen bilingual and English as a second language (ESL) positions, ten instructional technology positions, six librarian positions, seven elementary school science teacher positions, two middle school family/consumer science teacher positions, and several middle school technology education teacher positions. Lowell also eliminated local funding for three elementary school behavioral specialist positions, but as of the summer of 2003, it hoped to use grant funding to keep these positions. In addition, Lowell eliminated 32 regular education paraprofessional positions in the fourth grade and bilingual programs, ten clerical positions, twenty administrative positions, two assistant principal positions, and four other support positions. Lowell also eliminated transportation for non-special education preschool students, reduced transportation services at the elementary and middle schools, allocated almost no funds for textbook purchases, and eliminated



curriculum innovation programs such as the leadership academy and teaching mini-grants. In implementing the FY04 budget, including making these cuts just described, Superintendent Baehr set as priorities the following: preserving class size, improving student performance, and minimizing cuts at the high school, which is in the process of undergoing reaccreditation.

Lowell receives significant grant funding. The district received State and Federal grants totaling \$22.6 million in FY01, and totaling \$23.2 million in FY02. In FY03, Lowell received grants totaling \$23.3 million. (Ex. 5205). Between FY02 and FY04, Lowell's total Federal entitlement grants increased by \$3.8 million to a total of \$16.1 million in FY04. Also between FY02 and FY04, however, the district's entitlement grants from the State decreased by \$2.8 million, or 52%. For example, in FY04, Lowell lost all the State grant funds it had been receiving for class size reduction, \$838,000 in 2003 alone, although it still received Federal funds for class size reduction.

Between FY02 and FY04, Lowell's Chapter 70 aid decreased by \$5.9 million and its required local contribution increased by \$2.3 million. Overall, Lowell experienced a net loss of \$2.6 million over this two year period with respect to a level funded budget. In terms of providing level service, between FY02 and FY04, Lowell lost 234 positions, 12% of the positions it had in FY02.

In April and May of 2002, Lowell volunteered to undergo a full district review by the Office of Educational Quality and Accountability (EQA). (Ex. 5143).<sup>67</sup> The September 9, 2002, EQA report concluded that the city of Lowell's charges to the school department budget were not fully documented and appeared in many cases to be excessive, increasing from \$12.4 million in 1997 to \$19.5 million in 2002. (Ex. 5143). Lowell disputes this conclusion, and it does not appear that many changes in the charging system have been made. The EQA report further noted that Lowell's grants

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<sup>67</sup> This was a combined Tier II and Tier III review.

management was not centrally coordinated; the operating financial system was not clearly coordinated between the city and school department, compromising Lowell's ability to control and predict spending; and Lowell lacks an encumbrance system to control payroll, purchasing and spending. The report expressed concern that for the past several years, Lowell barely met its 95% minimum spending requirement. (Ex. 5143).

### **3. Preschool Program**

In 2002, there were approximately 3,522 children of preschool age in Lowell, with approximately 45% attending some center based preschool program. Lowell offers public school preschool to a total 465 students, and stops taking names for the waiting list as soon as the list reaches 100 children. As of the fall of 2003, the waiting list was still open for the 2003-2004 year because Lowell was forced to eliminate most preschool transportation due to lack of funds, and many parents who would otherwise enroll their children could not do so because they cannot provide their own transportation. Students are typically enrolled in public preschool by lottery, except for children with special needs, who automatically receive a slot.<sup>68</sup>

The teachers in Lowell's public school preschool are certified in early childhood education and many have a master's degree. In addition, all public preschool teachers in Lowell have received training in language and literacy benchmarks, reading aloud to students, and preschool math instruction. In contrast, about 20% to 30% of the teachers in community based centers have a

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<sup>68</sup>In 2002, in addition to the 465 students in public school preschool, 400 children attended Head Start programs in Lowell, 184 attended parochial preschool, and 590 attended community based childcare centers.

college degree, while approximately 60% of the teachers in the Head Start program have such a degree.

Screening that the district performed at the beginning of kindergarten indicated that 16% of students who had never attended preschool had significant delays in letter knowledge, phonetic awareness, print concepts, vocabulary development, and number concepts. In 2002, Lowell administered the “development reading assessment” (DRA) to kindergarten students who had just completed a full year of full day kindergarten. This test measures a child’s readiness to read, and a DRA score of 4 is appropriate for children entering first grade. Children who had attended public preschool on average scored 4.2 on the DRA, while those who never attended preschool averaged a score of 2.

Lowell has an early childhood coordinator who oversees programming for children in grades pre-K through 2 and administers the Community Partnership for Children (CPC) grant. Lowell’s CPC grant was \$2.9 million in FY02 and was reduced to \$2.2 million in FY03. In FY04, the grant has been further reduced to \$1.9 million. In September of 2002, Lowell received a \$861,000 Federal “early learning opportunities” grant to be received through February of 2004. In the summer of 2002, Lowell used funds from its CPC grant to offer a five week, part-day summer program for approximately 120 incoming kindergarten students who had never attended any form of preschool, but it lacked funds in the summer of 2003 to offer this program. Students in this summer program were disproportionately Cambodian.

Although Lowell has a high quality public school preschool program, the program is unable to serve all of the children in the city who need it.

#### **4. Kindergarten Program**

Lowell offers full day kindergarten for all children, and the kindergarten program is aligned with the State curriculum frameworks. In 2002, there were approximately 1,119 kindergarten students in Lowell, 10% of whom have already been diagnosed with special needs. Fifty-six percent of the kindergarten students come from homes in which English is not the first language, 60% are from low income families, and 30% have parents who did not graduate from high school.

In 2002, the average kindergarten class size in Lowell was 20 students with one teacher and one paraprofessional, but in 2003, class size was projected to increase to 22 students. In FY04, Lowell allocated its reduced Chapter 70 funds to increase funding for preschool and kindergarten personnel by 12.6% over FY03, funding two additional kindergarten teachers and keeping the levels of preschool teachers and paraprofessionals the same as FY03, at 16 and 9 respectively. (Ex. 258). Lowell's kindergarten grant, which funds teachers and paraprofessionals, was \$990,000 in FY02 but decreased to \$830,000 in FY04. (Ex. 5205).

Lowell offers focused professional development for its kindergarten teachers. In 2003, subject areas included child emotional and social development and program accreditation, Lowell's new math curriculum, and training involving sheltered English instruction for teaching students who do not speak English.

In March of 2003, Lowell's early childhood education department was cited by the Brown University Regional Educational Laboratory as an effective model of urban education collaboration. (Ex. 1049). In addition, Lowell's Community Partnerships Council received a 2001 Communities of Excellence award from the Federal interagency coordinating council, which includes the United States Department of Education, as a community coalition that collaborates exceptionally on services for

young children.

## **5. Elementary Schools**

Lowell has fourteen K-4 elementary schools and two K-8 schools. (Ex. 5224A). Because of limited space, Lowell has generally used its class size reduction (CSR) grants to increase teacher- student ratios at the elementary school level. Thus, where there is physical space to add a classroom, Lowell uses its CSR grant money to hire teachers for new classrooms, thereby reducing class size. Where no physical space is available to do this, the district uses grant money to hire additional teachers to work in several classrooms with smaller groups of students or to run pull-out groups, thereby increasing the teacher-student ratio but not affecting class size. In 2002, one first grade class was added at the Pawtucketville Elementary School, reducing class size below 20; one first grade class was added at the Washington Elementary School, reducing the class size below 20; and one first grade class was added at Morey Elementary School, reducing the class size below 20.

The plaintiffs presented detailed testimony about the Morey Elementary School, which serves 451 students in grades pre-K to 4.<sup>69</sup> In 2002, 78% of Morey's students were eligible for free or reduced price lunch and approximately 50% of Morey's students have English as a second language. Based on the development reading assessment (DRA) given in the fall of 2002, 82 out of Morey's 87 kindergarten students tested below grade level in reading, as did 72 of the school's 102 first graders, and 45 of the 81 second graders. Morey provides a reading recovery program for first graders in the lowest fifth of the class, which consists of one half hour of special reading instruction for 20 weeks.

Kindergarten class sizes at Morey currently average 21 students, while classes in first grade

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<sup>69</sup> I infer that Morey presents educational and programmatic issues that similarly arise in many of Lowell's other elementary schools.

average 22 students, and classes in grades 2 through 4 average 21 students. In 2001, Morey had four reading resource teachers, but in 2003, it only had two because of grant reductions. Morey also has one literacy specialist who is responsible for all of the curriculum in the school, not just the literacy curriculum, and is also responsible for mentoring the school's 30 teachers in their professional development.

The Morey School was built in 1889 with an addition in 1968; it is not handicapped accessible, has no working sprinkler system, and has a failing boiler system. The school uses its cafeteria as the gymnasium and students sometimes eat lunch in their classrooms, which has led to a problem with mice and cockroaches.

Morey, like all of Lowell's elementary schools, lacks a full time librarian. The school shares one library media specialist with another elementary school. Morey has two computers in each classroom and a mobile computer lab with 22 computers recently purchased with a grant. However, the school has unaddressed computer maintenance and repair needs because Lowell only has two computer technicians for the entire school district.

Students at Morey receive no health instruction. They do receive 45 minutes per week of art and 45 minutes per week of music. Morey shares an instructional technology specialist with another elementary school, so students at Morey receive one 40 minute period of technology instruction, which integrates math concepts as well, every two weeks. There is no separate social studies program at Morey because the school's math and literacy problems are so profound; teachers in K-4 try to incorporate history into their literacy instruction.

Teachers at Morey spend a significant amount of class time dealing with disruptive behavior, but the school does not have a professional development program in student behavior management.

In past years, Morey was able to provide an extended day program and summer school for third and fourth graders at risk of failing the MCAS, but these programs were eliminated for the 2003-2004 year due to lack of funding. In the summer of 2003, Morey's K through 2 teachers received three days of intensive math training to help implement the new math curriculum. In the 2003-2004 school year, all teachers at Morey are to receive professional development with respect to sheltered English instruction for English language learners.

## **6. Middle Schools**

There are seven middle schools in Lowell, which serve grades 5 through 8. (Ex. 5224A). The average class size at the middle school level is 28 to 30 students. In 2003, the James Sullivan Middle School was identified by the department for corrective action in math, which means that for purposes of the NCLB law, the school had failed to make adequate yearly progress in math for five consecutive years. (Ex. 1116). In March of 2003, the Bartlett Middle School was the subject of a school panel review by the department. (Ex. 5125). The panel review report found that Bartlett did not have a sound plan for improving student performance, and that the school's administration failed to use classroom observation and other assessment of instructional performance at the school as part of its accountability and improvement plan. (Ex. 5125).

The plaintiffs presented detailed testimony about the Daley Middle School as an example of the district's middle school progress and challenges.<sup>70</sup> Approximately 60% of the school's 920 students are minorities, primarily Khmer speaking children from Cambodia, but there are also small numbers of Laotian and Hispanic children. Approximately 65% of Daley's students are eligible for

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<sup>70</sup> Again, I infer that many of the programmatic problems at Daley are typical of Lowell's other middle schools.

free or reduced price lunch.

Daley was built in 1956, and most of the building is not air conditioned or properly ventilated. When the weather is warm, the computer lab is often closed because of the heat in the room from the 30 computers. The school lacks adequate space for its 920 students, so five portable classrooms are used in addition to the main building. These portable rooms take up half the space in the parking lot, which is also used as the recess yard. In addition, non-classroom spaces such as a copy room and a parent room are now used as classrooms, and closet space and copy room space is utilized for special education resource rooms. One assistant principal uses a former bathroom as his office, and the other uses the former mail room as an office.

The average class size at Daley is 27 or 28 students, but depending on the number of transfer students and other factors, in the past it has sometimes reached 30 to 36 students. For the 2003-2004 school year, Daley used Title I funds for four Title I teachers who pull out small groups of students with remedial needs and give them individual attention. There is a large range of reading abilities among Daley's middle school students, and Daley does not have adequate texts and supplementary materials to accommodate them, nor does it have specialized reading teachers to assist students. Students are able to take home English language arts textbooks but not reading books, although most classrooms have a reading corner with reading books for the students.

At the beginning of the 2003-2004 school year, Lowell was required by State law to eliminate its transitional bilingual program, but it has large numbers of limited English proficiency students. Daley has only two LEP or English language learner teachers and two paraprofessionals, who focus on assisting LEP students in the fifth and sixth grades with math and English. Daley principal Liam Skinner opines that Daley needs at least eight LEP teachers to assist its LEP students effectively, but



lacks the funding for such positions. Even with funding, Lowell has difficulty recruiting and retaining qualified LEP teachers.

Daley has eleven math teachers, only three of whom are certified. According to the Daley principal, like all schools in Lowell, it is very difficult for Daley to find certified math teachers. Most of the students entering Daley are not prepared to handle middle school math.

Daley does not have a health teacher. It tries to implement some areas of the health curriculum framework by having the gym teacher address hygiene issues, and having the family and consumer science teacher address some other framework topics. However, only fifth and seventh grade students take family and consumer science, and only for a quarter of the year.

Daley has one technology education teacher for the entire school, so each middle student receives a total of one-half year of technology instruction, which does not include the engineering component of the curriculum framework. The two science labs are used for eighth grade regular science classes, so the school's other science teachers cannot use them for experiments and lab activities for other grades. There is no budget for science equipment and little room to store such equipment. Through the RESEED program, retired scientists sometimes visit Daley and run demonstrations in the classroom. The history and social science books at Daley are very old, and teachers put together their own materials rather than rely on the texts.

Daley has a life skills program for approximately twelve to fourteen students who are mentally handicapped and have medical disabilities, and runs a separate classroom for students who are emotionally disturbed and have behavioral disorders. It is very difficult for the schools in Lowell, including Daley, to obtain qualified special education teachers, and the special education teachers at Daley often try to transfer into regular education classrooms. The Lowell school district does not

provide funds for social workers, but Daley hired one out of its Title I funds. Daley's guidance counselors handle the vast majority of the school's paperwork because there is only one clerical staff member for the entire school.

Daley lacks sufficient content based professional development for its teachers, particularly in math, where so few teachers are certified. Math teachers are given thirty minutes a week to meet together, as are the ELA teachers, although there are no formal department heads to run these meetings. None of the other departments has meetings. Teachers have only seventeen minutes of common planning time worked into their contract-based preparation time.

Daley's principal opines that Daley and the other middle schools in Lowell lack sufficient resources to effectively implement the State curriculum frameworks.

### **7. Lowell High School**

In the 2002-2003 school year, Lowell High School enrolled 3,795 students and employed 275 teachers. (Ex. 5224A). The high school is divided into five houses, each with students in grades 9 through 12, and each with a housemaster responsible for discipline and class management. Lowell High School includes several specialized academies, including communications, health and bioscience, fine arts, and engineering; each of these has 100 students. The high school also has the Latin Lyceum, a four year exam school for approximately 45 students. The high school contains 112 general classrooms, 16 computer labs, several science labs, 12 special needs rooms, 6 art rooms, 3 music rooms, a television studio, an auditorium, 2 culinary arts rooms and a restaurant, a gym and a pool, a student activity center, and a child care room.<sup>71</sup>

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<sup>71</sup>Substantive discussion of the high school curriculum appears below.

## **8. English/Literacy Program**

Lowell has an ELA coordinator who is responsible for the K-12 ELA curriculum, overseeing the ELA teachers, and analyzing MCAS ELA results. Lowell has made ELA instruction at the elementary school level its number one priority, with a goal of not just decreasing the number of students failing the MCAS ELA exam, but increasing the number of students who score in the ranges of Advanced or Proficient.

Although ELA is a priority, Lowell's K-8 reading series is outdated in light of NCLB requirements relating to scientifically based curricula. Moreover, it does not match well with the district's literacy initiative, because it is not differentiated enough as to reading levels. Several of the elementary school classrooms and most of the middle school classrooms lack classroom libraries with sufficient books of varied levels, genre and theme to meet the needs of diverse learners, especially English language learners. According to the plaintiffs' ELA expert, Dr. Marilyn Adams, the ELA curriculum for the early grades is not aligned with the State ELA curriculum framework and the basal readers being used are outdated. In the view of Superintendent Baehr, Lowell lacks the money to purchase the necessary additional reading and supplementary materials.

Lowell uses a "writing across the curriculum" program and has implemented the Collins Writing System at the middle and high school levels. These programs require teachers in all disciplines to teach writing skills through specific strategies. Only 33% of Lowell's middle school English teachers are certified as English teachers, but 75% of the middle school reading teachers are certified. (Ex. 266).

Lowell High School has many students who arrive there reading below grade level, including large numbers of LEP students. Approximately 30% to 40% of Lowell's high school students are

English language learners. Eighty-nine percent of English teachers at the high school are certified in that subject.

Lowell High School does not have a formal reading program or separate reading teachers, although several English teachers are certified in reading. The high school has a critical need for a reading program, but lacks the funds to create it.

Ninth grade English classes average 20 to 25 students. In the 2002-2003 school year, there were 45 English classes with enrollment of 25 to 29 students, 21 classes with enrollment of 30 to 34 students, and one class with enrollment of more than 35 students. (Ex. 265). Excluding freshmen, that year there were 673 students who received a grade in an English class with 30-34 students, and the honors English IV class had 35 students. (Ex. 264).

The English department's textbook budget was cut significantly for the 2003-2004 school year.<sup>72</sup> The high school lacks sufficient reading materials, including paperbacks and high interest materials, to accommodate its students' wide range of reading levels. The high school's core anthologies for each grade are twelve to fifteen years old and the teachers in the English department must share them.

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<sup>72</sup>The general supplies budget for textbooks, library books and supplies for the entire high school was cut from \$779,000 for 2002-2003 to \$417,000 for 2003-2004.

## 9. Mathematics Program

Lowell has a mathematics coordinator who is responsible for the K-12 math curriculum, overseeing the math teachers, and analyzing MCAS math results. Lowell is implementing a standards based K-5 math program that requires students to use manipulatives and multiple avenues for solving math problems, rather than focusing on textbook learning. All students in grades 3 through 8 receive at least one hour per day of math instruction. For the 2003-2004 school year, Lowell is using grant funds to pay a stipend to one teacher in each school to become a math lead teacher.

Only 32% of Lowell's middle school math teachers are certified in math. (Ex. 266).<sup>73</sup> Currently, the middle schools offer only one class of seventh grade pre-algebra for the brightest students, but are working toward algebra for all students. As in the elementary schools, Lowell is using grant funds in the 2003-2004 year to pay a stipend to one teacher in each school to become a math lead teacher. In some schools, the administrators have reallocated their Title I funds by eliminating a direct math teacher position and creating a full-time math resource teacher.

Students must take one year of math in order to graduate from Lowell High School. Seventy-six percent of the high school math teachers are certified in math. (Ex. 266). The high school lost one math teacher for the 2003-2004 year due to budget cuts. Most of the high school math curriculum is

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<sup>73</sup> Middle school includes grades 5 through 8, and it may be that the percentage of appropriately certified math teachers is so low because in grades 5 and 6 especially, teachers with elementary "generalist" licenses are teaching math. As of 2001, approximately 40% of Lowell's grade 7 and 8 math teachers were not appropriately certified in math. (Ex. 5218).

not aligned with the State curriculum framework. Lowell High School offers a “Stretch Algebra” two year algebra course for students who have difficulty in math. The high school also offers algebra (primarily in the ninth grade), algebra II, geometry, trigonometry, SAT prep advanced math, advanced math functions, calculus, analytic geometry, AP calculus and AP statistics. Most of the math classes in the high school have around 35 students, although some elective classes have only 20 to 25 students. In 2002-2003, there were 57 math classes with enrollment of 25 to 29 students, 38 classes with enrollment of 30 to 34 students, and 8 classes with enrollment of more than 35 students. (Ex. 265). That year 1,316 students received a final grade in a math class that had 30 to 34 students, and 177 students received a final grade in a class that had 35 or 36 students. (Ex. 264).

Lowell High school has a \$30,000 math budget for 3,800 students. The high school math department also has a small equipment budget of around \$950 to purchase non-textbook supplies such as graphing calculators, but this is insufficient to serve its students. The high school recently obtained a \$3,000 grant for the purchase of additional graphing calculators, but each teacher does not have a full class set. The school has 280 calculators for 3,800 students; it needs around 400 more calculators to afford reasonable sharing. The high school also lacks a sufficient numbers of protractors, and each math class has access to the computer lab only once every two weeks.

## **10. MCAS Remediation in ELA and Math**

In past years, Lowell has used State grant money to offer summer school programs for students in grades 1 through 8 who scored poorly on the MCAS and need help with reading and writing and math skills. This program served 2,819 students in the summer of 2000, 2,635 students in the summer of 2001, 2,701 students in the summer of 2002, and 1,958 students in the summer of 2003. (Ex. 268). In FY04, Lowell received no State grant money for summer school and it is unclear whether there will be money in FY05 that can be used as of July 1, 2004.

In the last few years, Lowell has used Federal grant money to provide extended school day programs for students who need extra time to learn reading, writing and math skills. Extended day programs served 2,500 students in FY02 and 3,800 students in FY03. In FY04, Lowell also received \$400,000 in State extended day grant funding. However, Superintendent Baehr anticipates a problem in FY05 when the Federal grant funding expires. In her opinion, almost 50% of Lowell's students should be participating in extended day programming.

Last year, Lowell High School used its MCAS class of 2003 support money to hire ten part-time tutors to assist students in English and math during the school day, and to provide before and after school tutoring for students who failed MCAS, as well as Saturday tutoring in math and English for all students. Lowell also used a small amount of its district funding to provide support English and support math classes for students who failed previous years of English or math and are therefore at high risk of failing the grade 10 MCAS.

## **11. History Program**

Only 47% of the social studies teachers in the middle schools are certified in social studies. (Ex. 266). In June of 2003, Lowell received a three year “Teachers of American History” Federal grant of \$961,000, which it is using to train approximately thirty history teachers in the fifth and eighth grades.

Lowell High School has aligned its history curriculum to the State curriculum framework, but lacks sufficient funds to purchase textbooks for all students to implement the new curriculum. Lowell recently used grant funds in connection with a local museum to purchase up- to-date maps for the schools.

The library collections at all schools are inadequate to support the social studies curriculum, and there is insufficient Internet access to compensate for this.

At Lowell High School, 96% of the social studies teachers are certified in social studies. (Ex. 266). High school students must take two years of United States history plus world history to graduate. Lowell High School offers classes in United States history, world history, psychology and sociology, as well as advanced placement United States history.

The high school also offers an American Studies program taught at the high honors level by a team of English and social studies teachers. Class size for core history classes such as U.S. history are in the low 30s, while electives such as psychology and sociology usually have close to 40 students.



## **12. Science Program**

Lowell's science curriculum guidelines are aligned with the State science curriculum framework. However, the delivery of the science curriculum is impeded by lack of adequate materials and, perhaps, pedagogy. Lowell has had to eliminate science specialists for grades K-2, which reduces the opportunities for experiential learning. In the middle schools, the science textbooks and resource books are increasingly outdated and do not contain hands-on learning projects such as experiments. In addition, many of the labs are being used as regular classrooms due to overcrowding.

Lowell High School has an inadequate amount of lab space and equipment to serve all its students, so only honors classes have a separate lab. There are only six lab rooms, and according to Lowell's superintendent, these have ventilation and other problems which would cost \$300,000 to remedy. Most of the science textbooks are ten years old and there is an inadequate number of microscopes.

The high school offers a wide range of science courses: biology, bioscience, chemistry, physics, anatomy and physiology, and engineering physics. There are honors courses in biology, chemistry and physics, all of which are classes with labs; there are also AP biology and AP physics courses. Most of the high school science classes have between 28 and 32 students, which poses safety problems when conducting experiments, since the labs are generally built to accommodate 24 students. In the 2002-2003 school year, there were 44 science classes with enrollment of 25 to 29 students, 11 classes with enrollment of 30 to 34 students, and 3 classes with enrollment of more than 35 students. (Ex. 265). That year, 314 students received a final grade in a science class that had 30 to 34 students, and 72 students received a final grade in a science class that had 36 students. (Ex. 264).

Lowell High School has a health and bioscience academy for 50 eleventh grade students and 50 twelfth grade students interested in pursuing a career in those fields. The core classes in the academy such as English and social studies are taught with a focus on their relevance to science.

Seventy-five percent of the science teachers at the high school are certified to teach science. (Ex. 266). Lowell High School lost one science teacher for the 2003-2004 school year due to budget cuts. The high school has difficulty attracting and retaining certified science teachers.

### **13. Fine Arts Program**

Lowell's arts curriculum is not fully aligned with the State arts curriculum framework.

In recent years, district resources have been focused on math and English, reducing the resources available for the arts. In FY03, the elementary and middle schools had a per pupil arts expenditure budget of \$1.63. About half of the K-8 teachers lack adequate physical space to teach art classes in an appropriate way.

The arts are electives at Lowell High School. There is a total of eight art teachers for all 3,800 students; approximately 35% of high school students receive some sort of arts instruction before graduating. The high school has one full time dance teacher and one dance teacher that the high school shares with the middle school across the street. Despite the resource limitations, Lowell High School has a broad array of offerings in the arts. These include dance I, dance II and advanced dance. Because dance classes are held on the stage in the auditorium, however, the number of students in the class is limited for safety reasons. The high school also has a band, a show choir, a concert chorus, and offers classes in basic and advanced music theory as well as instrumental classes including piano, electric keyboard and guitar. Studio art I and II, ceramics, sculpture, print making, photography and drawing are also offered. There is no drama instruction available during the school

day, but there is an after-school theater program run by a teacher who is paid a minimal stipend. In the 2002-2003 school year, the Massachusetts Alliance for Arts Education gave Lowell High School an award for best arts department in the State.

The high school has an arts academy for 50 eleventh and twelfth grade students, respectively, who are interested in pursuing a career in the arts. The high school also has a communications academy for 50 eleventh grade students and 50 twelfth grade students interested in pursuing a career in communications, in which the core classes are taught with a focus on communications. The communications academy includes television production and computer graphics, and students perform an externship in the community. Lowell High School runs a television station that is funded through a private grant restricted to that purpose.

#### **14. Health/Physical Education**

In Superintendent Baehr's opinion, Lowell's students have significant health issues relating to nutrition, domestic violence, and gangs. Its health curriculum guides are excellent, according to the plaintiffs' expert Joyce Fetro, and very consistent with the State health curriculum framework. However, there is very limited health instruction at the elementary school level. Any health instruction is built into the school day by the classroom teacher. At the middle schools, there are a few family and consumer science teachers who address some health issues, but nutrition and mental health issues are not taught.

Students must have two semesters of health and three semesters of physical education in order to graduate from Lowell High School. The high school has eight health teachers, and health class sizes are in the mid-30's or mid-40's. There is no uniform set of textbooks and teachers develop their own projects around the areas covered by the curriculum framework. The health department is

managed by the foreign language department head, who has no background in health. Nonetheless, in 2003, Lowell High School won the quality health education program award from the Massachusetts Association for Health Education, Recreation and Dance.

### **15. Foreign Language Program**

The only foreign language instruction offered at the elementary and middle school levels is a city-wide Spanish program, started in 2002-2003, which is offered at the McAuliffe Elementary School; this program then feeds into the Robinson Middle School.

Lowell High School does not have any foreign language graduation requirement. Lowell offers Spanish, French, Portuguese, Khmer and Latin, and until the 2003-2004 school year, taught Greek. In addition, there are conversational classes in Spanish and French.

Fifty-nine percent of the foreign language teachers at the high school are certified, but many of them teach classes outside their language of certification. (Ex. 266). The high school lost one Spanish teacher for the 2003-2004 year due to budget cuts. Class sizes in French I and Spanish I are in the 30's. In many foreign language classes, students are required to share books and cannot take the books home.

## **16. Libraries and Technology**

The school libraries in Lowell are in better shape than in other focus districts because Lowell has so many new and renovated schools, an event that under the Commonwealth's school building assistance program leads to the availability of State funds for creating and rebuilding school libraries. Moreover, a previous superintendent in Lowell apparently institutionalized the importance of school libraries. Nonetheless, there are limitations. For example, as previously mentioned, the elementary schools all share library media specialists (librarians). The library at Lowell High School, which serves almost 3,800 students, is staffed by just two full time library media specialists and two aides. Many of the school libraries have insufficient collections of current books and periodicals to be able to reach the students, and many lack computer resources so that students in the school can realistically use them for research purposes.

Lowell has a technology coordinator who is responsible for the technology curriculum for grades K-12 as well as for all hardware and software issues in the district. In the opinion of Superintendent Baehr, Lowell has made progress in meeting the department's technology benchmarks – Lowell's ratio of student to fully functioning Internet-enabled computer is now 5:43 to 1 – but the district will be moving backward in 2004 because of cuts in resources, including staff.

For FY04, Lowell eliminated its two district-wide technology support specialist positions. In the 2002-2003 school year, each elementary school had its own full time technology specialist, but for the 2003-2004 year, each elementary school has only one part time specialist, with one full time position shared between every two schools. There were also reductions in technology support staff at the middle school level, but each middle school is to have one full time technology teacher or specialist in 2003-2004.

Lowell High School has 800 computers but only two full-time technicians to service them. The high school has sixteen computer labs, each of which contains 25 to 30 computers. There are four full time technology specialists, down from five in 2003-2004. The library at Lowell High School is staffed by two full time library media specialists and two aides; it has a computer lab as well as 12 to 15 computers in the stacks for research, but this is an insufficient number to provide electronic media access to all 3,800 high school students. In the opinion of director of curriculum and instruction Wendy Jack, there is not sufficient access to computers throughout the high school to enable teachers to use technology as an instructional tool.

Lowell High School has an engineering and technology academy for 50 eleventh grade students and 50 twelfth grade students interested in pursuing a career in those fields. Core classes in the academy such as English and social studies are taught with a focus on their relevance to technology and engineering. Students can take classes such as computer assisted design, web design, robotics, PC servicing and hardware. The academy has a partnership with some engineering professors at the University of Massachusetts at Lowell, and students can do an externship at a local engineering firm.

## **17. Special Education**

In the 2002-2003 school year, 12.5% of Lowell's students were special education students. (Ex. 5224A).<sup>74</sup> In the 2003-2004 school year, Lowell has 153 special education teachers. Eighty-eight percent of the special education teachers at the middle school level are certified in special education, while 95% of special education teachers at the high school are so certified. (Ex. 266).

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<sup>74</sup> As previously stated, as in Brockton, this percentage is lower than the statewide average of over 15%, which is difficult to understand in light of the high percentage of children in poverty in both cities. No evidence was introduced at trial concerning the reason(s) for either

In April of 2000, the department conducted a coordinated program review (CPR) of the Lowell school district, during which a nine-member team visited the Lowell schools for five days. (Ex. 5171). The CPR report, issued in September of 2000, concluded that Lowell has a comprehensive and well-developed assessment system, although it does not always provide testing in students' native language. (Ex. 5171).<sup>75</sup> In the 2003-2004 year, Lowell has twelve psychologists to perform assessments to identify students in the district who need special education assessments. There is only one bilingual Spanish/English psychologist and no psychologist serving Lowell's large southeast Asian population. Students who speak Khmer or other languages must be evaluated with the assistance of an interpreter. The CPR report noted that not all IEP team meetings have someone present who is able to commit district resources. (Ex. 5171).

In the opinion of Janice Aidy, Lowell's special education administrator, Lowell lacks sufficient resources to provide effective behavioral interventions prior to special education referral. The district's psychologists do not observe students in classrooms, counsel students, formulate behavioral

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Lowell's or Brockton's lower-than-average special education population.

<sup>75</sup>Lowell submitted its action plan to the department on October 18, 2000, in response to the CPR report, with progress reports submitted on April 9, June 29 and July 2, 2001 and January 8, 2002. (Ex. 5182, 5187). The department conducted an onsite follow-up visit on May 13, 2003, and prepared a follow-up monitoring report on May 28, 2003. Lowell is required to submit a further corrective action plan to the department. (Ex. 5187). As this chronology illustrates, the corrective action plan process can be tortuous, extending over a number of years.

or clinical plans for students, or meet with parents. At the high school level, each guidance counselor has a caseload of 400 students. Lowell has eight social workers, one of whom works exclusively at the high school, and they provide mostly crisis intervention, not clinical support. Last year, Lowell used grant funds to implement a school wide behavioral intervention program at one elementary school, which was very expensive but significantly reduced the number of behavioral referrals. However, the district does not have the capacity to do this at all schools.

Many of Lowell's schools lack sufficient space to provide services in appropriate settings. For example, at the Morey Elementary School described previously, the social worker meets with students in a former closet, and special education evaluations are also performed in a closet area. Physical and occupational therapists work either in the classroom or out in the hallway. In the Sullivan Middle School, counseling, tutoring and small special education classes take place at tables in a hallway outside the library, space which lacks privacy.

The special education administrator also believes that Lowell has an unsatisfactory ability to educate students with disabilities in the least restrictive environment. Furthermore, there is not adequate access for special education students to the general education curriculum. There is insufficient professional development for regular education teachers to enable them effectively to teach students with disabilities and diverse learning styles. For example, Lowell High School has only two certified special education teachers who support some 300 inclusion teachers. And because there is not funding available for teacher release time, Lowell is unable to provide sufficient common planning time for regular and special education teachers to collaborate and develop instructional accommodations for individual students. The CPR report also found that Lowell does not provide adequate special education training to its paraprofessionals. (Ex. 5171).



Lowell has limited ability to provide transition and extended year services as required by the Federal Individuals with Disabilities Education Act (IDEA). Until last year, the high school had one vocational teacher who worked with special education students to identify work opportunities, but that individual left the school district and has not been replaced. Lowell does have a small grant funded, summer program, three and a half hours a day for five weeks, for approximately 125 of the district's most severely disabled students.

Finally, special education students in Lowell do not have education outcomes comparable to those of regular education students. The MCAS passage rates for these students are significantly lower in all subjects and at all grade levels than the passage rates for regular education students. (See discussion below).

In 2002, the Lowell School Committee paid \$90,000 to commission a special education study by an organization called DLI. Over the course of six months, DLI met with parents, teachers, administrators and school committee members, reviewed written documents, and examined the files and IEPs of 55 randomly selected special education students. (Ex. 1050). DLI noted that some parents interviewed were extremely pleased with the quality of the special education programming received by their children, while other parents interviewed had negative experiences with the system. DLI found that the teacher assistance teams were not consistently operating in all the schools, that more language and speech assistance was required, and that Lowell was underreporting the actual number of special education students, which affected its State and Federal reimbursements. DLI further found that Lowell's system of service delivery was not effective because the psychologists merely perform testing and do not have time to implement programming that has a positive impact on the students; it recommended that more school psychologists be hired. DLI concluded that Lowell

has a solid infrastructure for identifying and educating children with disabilities, but needs to focus attention on improving the educational outcome for those students. Its recommendation was that the special education program be reorganized to provide school-based special education teams to provide diagnostic and support services, coupled with centralized controls. DLI further recommended that Lowell provide more inclusion as a special education option and must provide professional development to its teachers to support inclusion. (Ex. 1050).

In the opinion of Lowell's director of special education, Lowell lacks sufficient resources from all available sources to provide its special needs students with the seven *McDuffy* capabilities. While there was evidence introduced concerning special education in Lowell that painted a somewhat different and perhaps brighter picture than Ms. Aidy, on the basis of the whole record, I agree that the education provided to students with disabilities in Lowell does not meet the *McDuffy* constitutional standard.

### **18. Professional Development**

As of 2001, Lowell employed 1,130 teachers. (Ex. 253). Lowell's district wide professional development budget in FY03 was \$807,325, exclusive of any State and Federal grants. The curriculum director gives each department \$3,000 for content-specific professional development, but this money is often used for activities such as rewriting curriculum guides, rather than to have all the teachers in one discipline meet and develop common strategies to improve instruction. In addition to district-wide professional development, in FY03, each school received \$15 per student for school based professional development. In FY03, Lowell received a Federal Title IIA professional development grant of \$1,579,000.

Lowell was a participant in the ten-year PALMS initiative, a statewide program to provide

professional development to help teachers implement the math and science curriculum frameworks. The district is currently providing extensive training to its elementary and middle school teachers with respect to the new standards based math program in K-5 and the connected math project in grades 6-8, including the use of manipulatives and graphing calculators. Teachers in grades K-8 will also receive math content training throughout the year so that by the end of 2004, all teachers will be able to implement the new program. In the opinion of Lowell's professional development coordinator, Lowell needs math coaches without classroom responsibilities in each school to help implement the standards based program, but does not have the funds to do this at present. Nonetheless, Lowell is taking steps to increase coaching and feedback in its professional development, such as using lead teachers in each school who are paid an additional \$3,600 stipend to work with other teachers by planning lessons, modeling lessons, co-teaching, or observing and providing feedback. Lowell also uses literacy specialists in the elementary schools and instructional specialists in the middle schools who do not have classroom responsibilities but work with other teachers. Each grade in the high school has one instructional specialist who supports teachers in classroom management and instruction.

In the 2003-2003 school year, teachers received professional development in the use of Lightspan, a web-based portal through which they can access lessons in different content areas to help them integrate technology into the curriculum, and in the use of various software programs.

In the absence of any contractually-mandated professional development days in Lowell, teachers may request to participate in external professional development activities during the school day if a substitute teacher is available and they have funding for the activity. Lowell uses some of its professional development money to hire substitute teachers so that all teachers in a particular grade at

an elementary or middle school can observe a model lesson, have coaching and mentoring, or have common planning time.

New teachers in Lowell participate in an induction program which assigns them a mentor, but mentoring takes place in group meetings throughout the year, with one mentor for numerous new teachers. There are not sufficient resources to have the mentors perform peer coaching for the new teachers. Lowell also has a district-wide mentoring program to help teachers gain certification. It has developed the program with the University of Massachusetts at Lowell, which allows teachers to take ten different courses, focused on practical classroom applications and urban education, leading to a master's degree.

### **19. Teachers**

Lowell's reported average teacher salary in 1997 was \$44,605, and in 2001 it was \$52,314. In 2003, all teachers in Lowell were given a raise of 6.5% over two years, as were administrators, paraprofessionals, clerks and building service employees.

## **20. School Buildings**

In 1989, Lowell undertook a \$200 million school construction and renovation project in which ten new elementary and middle schools were built, two elementary schools were renovated and expanded, and four middle schools and the high school were renovated. The Stoklosa Middle School is scheduled to open in August of 2004, and will serve 600 students. Lowell also has State approval to construct two more elementary schools in the next eight to ten years, but the school building assistance program is in suspension, and thus the fate of these projects is unknown. Ninety percent of students in Lowell attend a facility newly constructed or renovated in the last ten years. Nonetheless, there are significant issues of overcrowding in many of Lowell's elementary and middle schools, as well as the high school.

## **21. Dropouts**

The graduating class of 2003 at Lowell High School was significantly smaller than the class that began in the ninth grade in the fall of 1999. The Lowell school department records indicate there were 1,228 students who entered ninth grade at that time. In the fall of 2000, however, there were only 974 students entering the tenth grade, 254 fewer. As of the fall of 2001, there were 754 students enrolled in the eleventh grade, an additional drop of 220 students. A total of 747 students began the twelfth grade, and 650 students received a high school diploma in June of 2003. There is no proof that 578 students (the difference between 1,228 and 650) actually dropped out, as families move in and out of the district, students change schools, presumably some of these students were retained in a grade for a second year, and some of the students who were in the twelfth grade but did not pass the MCAS exams by June may have done so over the summer. Nonetheless, the substantially lower number does suggest that a fairly high number of students left school without graduating. The department reports that in 2002-2003, Lowell's dropout rate was 9.9%, compared to a statewide average of 3.5%. (Ex. 5224A, Lowell).

## **22. Lowell's MCAS Results**

### **a. Class of 2003**

As just indicated, in June 2003, there were 650 seniors who received diplomas from Lowell High School. By September 2003, after MCAS retests, 90 % of the Lowell High School class of 2003 had passed the MCAS, and achieved a competency determination. (Ex. 1069).

### **b. District MCAS Results for All Students**

What follows is a summary of the MCAS performance of all students enrolled in the Lowell public schools by grade and subject matter tested for all the years between 1998 and 2003 that the particular subject was tested.

**1. Tenth Grade MCAS Results, Percentage of Students by Subject Matter and Performance Level**

<b>Grade 10 English Language Arts</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	1	0	2	8	10	8
Proficient	22	20	20	28	34	35
Needs Improvement	41	38	33	37	31	35
Warning/Failing	36	42	46	28	25	21

<b>Grade 10 Mathematics</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	3	5	7	11	11	12
Proficient	11	11	17	21	17	22
Needs Improvement	22	23	23	35	33	30
Warning/Failing	64	61	54	32	39	36

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<sup>76</sup> Science and technology was a separate MCAS test for tenth grade students for the three years set out in the text, but the board then stopped testing tenth graders in this subject. The board anticipates including science and technology as a tenth grade test again in 2007. (Ex. 1090; Driscoll testimony, 10/27/03).

<b>Grade 10 Science and Technology<sup>76</sup></b>			
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
Advanced	0	0	1
Proficient	12	13	12
Needs Improvement	40	34	39
Warning/Failing	47	52	49

**2. Seventh and Eighth Grade MCAS Results, Percentage of Students by Grade, Subject Matter, and Performance Level**

<b>Grade 8 English Language Arts</b>				
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
Advanced	0	1	1	3
Proficient	27	29	37	42
Needs Improvement	41	43	38	37
Warning/Failing	32	27	24	17

<b>Grade 7 English Language Arts</b>			
<b>Performance Level</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	1	2	1
Proficient	31	37	40
Needs Improvement	42	43	44
Warning/Failing	26	17	15

<b>Grade 8 Mathematics</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	1	1	2	2	2	3
Proficient	8	6	9	11	12	12



Needs Improvement	19	25	23	29	32	28
Warning/Failing	72	67	66	57	54	57

<b>Grade 8 History</b>				
<b>Performance Level</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>
Advanced	0	1	0	0
Proficient	5	4	4	5
Needs Improvement	28	27	34	35
Warning/Failing	68	69	62	60

<b>Grade 8 Science and Technology</b>				
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2003</b>
Advanced	0	1	1	1
Proficient	8	8	12	11
Needs Improvement	22	18	21	33
Warning/Failing	70	73	65	54

**3. Fifth and Sixth Grade MCAS Results, Percentage of Students by Grade, Subject Matter, and Performance Level**

<b>Grade 6 Mathematics</b>			
<b>Performance Level</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	3	4	4
Proficient	10	13	13
Needs Improvement	27	26	31
Warning/Failing	60	57	51

<b>Grade 5 Science and Technology</b>
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<b>Performance Level</b>	<b>2003</b>
Advanced	5
Proficient	17
Needs Improvement	43
Warning/Failing	35

**4. Third and Fourth Grade MCAS Results, Percentage of Students by Grade, Subject Matter, and Performance Level**

<b>Grade 4 English Language Arts</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	0	0	0	1	2	3
Proficient	4	5	5	24	26	26
Needs Improvement	58	59	63	47	51	47
Warning/Failing	38	35	31	28	21	24

<b>Grade 4 Mathematics</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	2	3	2	2	2	5
Proficient	10	11	14	10	13	16
Needs Improvement	41	43	44	46	46	47
Warning/Failing	47	42	40	42	40	33

<b>Grade 3 English Language Arts</b>			
<b>Performance Level</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Proficient	34	43	38
Needs Improvement	51	44	43

Warning	15	12	19
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(Ex. 5224A, Lowell).

3. Spring 2002 Fourth and Eighth Grade MCAS Results for Special Populations of Students

1. *Students with Disabilities and Limited English Proficiency, Percentage of Students by Grade, Subject Matter and Performance Level*

<b>Grade 4 English Language Arts</b>			
<b>Performance Level</b>	<b>Disabled</b>	<b>LEP</b>	<b>Regular<sup>77</sup></b>
Advanced	0	0	2
Proficient	5	2	33
Needs Improvement	48	37	53
Warning/Failing	47	62	12

<b>Grade 4 Mathematics</b>			
<b>Performance Level</b>	<b>Disabled</b>	<b>LEP</b>	<b>Regular</b>
Advanced	1	0	3
Proficient	4	1	16
Needs Improvement	31	19	52
Warning/Failing	65	80	30

<b>Grade 10 English Language Arts</b>			

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<sup>77</sup> The “regular” students category is comprised of all students who do not meet the definition of disabled or limited English proficiency (LEP).

<b>Performance Level</b>	<b>Disabled</b>	<b>LEP</b>	<b>Regular</b>
Advanced	0	0	12
Proficient	10	6	40
Needs Improvement	20	30	32
Warning/Failing	71	65	17

<b>Grade 10 Mathematics</b>			
<b>Performance Level</b>	<b>Disabled</b>	<b>LEP</b>	<b>Regular</b>
Advanced	2	0	13
Proficient	2	5	20
Needs Improvement	9	34	35
Warning/Failing	88	61	32

**2. Race/Ethnicity<sup>78</sup>, Percentage of Students by Grade, Subject Matter and Performance Level**

<b>Grade 4 English Language Arts</b>						
<b>Performance Level</b>	<b>AA</b>	<b>API</b>	<b>H</b>	<b>NA</b>	<b>W</b>	<b>M/O</b>
Advanced	0	1	0		3	4
Proficient	26	24	16		34	26
Needs Improvement	59	52	49		50	53
Warning/Failing	16	23	35		13	18

<b>Grade 4 Mathematics</b>						
<b>Performance Level</b>	<b>AA</b>	<b>API</b>	<b>H</b>	<b>NA</b>	<b>W</b>	<b>M/</b>

<sup>78</sup> Students taking the test self-identified as African American/Black (AA), Asian or Pacific Islander (API), Hispanic (H), Native American (NA), White (W), or Mixed/Other (M/O). Note that the scores of the few Native American students were not reported, to protect confidentiality.

						<b>O</b>
Advanced	2	2	0		3	2
Proficient	3	10	6		18	18
Needs Improvement	57	46	36		50	39
Warning/Failing	38	41	57		29	42

<b>Grade 10 English Language Arts</b>						
<b>Performance Level</b>	<b>AA</b>	<b>API</b>	<b>H</b>	<b>NA</b>	<b>W</b>	<b>M/ O</b>
Advanced	8	5	5		20	6
Proficient	17	29	19		51	33
Needs Improvement	33	37	33		23	35
Warning/Failing	42	28	43		6	26

<b>Grade 10 Mathematics</b>						
<b>Performance Level</b>	<b>AA</b>	<b>API</b>	<b>H</b>	<b>NA</b>	<b>W</b>	<b>M/ O</b>
Advanced	5	9	1		18	12
Proficient	8	15	8		27	15
Needs Improvement	21	36	33		34	35
Warning/Failing	67	39	58		38	38

**3. Low Income Students (Free or Reduced Price Lunch), Percentage of Students by Grade, Subject Matter and Performance Level<sup>79</sup>**

<b>Low Income Students</b>				
<b>Performance Level</b>	<b>Adv.</b>	<b>Prof.</b>	<b>N.I.</b>	<b>F/W</b>

<sup>79</sup> No group is provided for comparison to the low income students.

Grade 4 English Language Arts	1	20	54	25
Grade 4 Mathematics	1	8	45	47
Grade 10 English Language Arts	10	35	31	24
Grade 10 Mathematics	11	18	34	38

(Ex. 5232).

### **23. Lowell's SAT Scores**

In 1995, the average verbal SAT score for Lowell High School seniors taking the test was 435, and the average math score was 442, with a 71% participation rate. In 2000, the average verbal SAT score had risen to 458, and the average math score had risen to 469, with a lower participation rate of 61%.

#### **E. Springfield School District: Specific Findings**

Springfield is a large urban school district, one of the largest in the Commonwealth. In the 2002-2003 school year, there were 26,594 students enrolled in Springfield, exclusive of charter schools. (Ex. 5224A). In 2002, 85.7% of Springfield students were enrolled in the public schools. (Ex. 5224A). The current enrollment trend is a slight annual increase of less than 1%. Springfield has one pre-K site, 31 elementary schools, one K-8 school, six middle schools, four academic high schools, one vocational high school, and four alternative high school programs. (Ex. 154, 228). Dr. Joseph Burke has been Superintendent of the Springfield school district since 2001. He is held in high regard by the commissioner. In the opinion of the deputy commissioner, Springfield is a well-managed and well-led district.

## 1. Demographic Information

In the 2002-2003 school year, 47.2% of Springfield's students were Hispanic, 28.5% were African American, 21.8% were white, 2.4% were Asian and 0.2% were Native American. (Ex. 5224A).<sup>80</sup> In the 2002-2003 school year, 10.2% of Springfield students had limited English proficiency, compared to 5.3% statewide. (Ex. 5224A). That year, approximately 19.2% of Springfield's students were special education students, compared to 15.2% statewide, and 71.2% of Springfield's students were eligible for free or reduced price lunch, compared to 26.2% statewide. (Ex. 5224A).

Springfield's per capita income in 1999 was \$15,232, ranking it 348 out of 351 municipalities in the State, and its median household income that year was \$30,417, ranking it 344 of 351. Springfield's equalized valuation per capita in 2002 was \$31,119, ranking it 350 out of 351. (Ex. 1079).

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<sup>80</sup>Again, in comparison, 11.2% of public school students in the State were Hispanic, 8.8% were African American, 75.1% were white, 4.6% Asian and 0.3% Native American. (Ex. 5224A).

## **2. School Funding**

Between 1993 and 2003, Springfield's required net school spending (NSS) almost doubled from \$126.2 million to \$236.4 million, while enrollment for this period increased about 20% from 23,086 to 28,699. Between FY93 and FY03, Springfield's Chapter 70 aid more than doubled from \$100.4 million to \$208.6 million. (Ex. 5069B). In FY02, Springfield's foundation budget was \$229.5 million, with a Chapter 70 contribution of \$206.6 million; the foundation budget and Chapter 70 contribution in FY03 thus increased somewhat. Springfield spent exactly 100% of the required NSS in 2003 because the city of Springfield did not make – and according to Superintendent Joseph Burke, as a practice does not make - more than the minimum required contribution.

Despite the slight funding increase between FY02 and FY03, the superintendent had to make what he deemed “extraordinary” staff reductions in order to get through the 2002-2003 school year, cutting 85 teacher positions, 30 to 35 paraprofessional positions, 10 nurses, and reducing food service personnel. In addition, he reduced the per student materials/supplies allocation by 25%, froze discretionary purchases, eliminated the DARE officer anti-drug program mid-year, and stopped non-grant funded professional development programs mid-year.

The FY04 budget is a little smaller than FY03, with somewhat less Chapter 70 aid and a lower required net school spending figure of \$234.56 million. (Ex. 156, 1063, 5069B).



Springfield's foundation budget, on a per pupil basis, was and is as follows:

	<b>Dollars per Pupil</b>			<b>Percentage of Foundation</b>		
	<b><u>Fdn Budget</u></b>	<b><u>Ch 70 Aid</u></b>	<b><u>Actual NSS</u></b>	<b><u>Ch 70</u></b>	<b><u>Required NSS</u></b>	<b><u>Actual NSS</u></b>
<b>FY 93</b>	\$6,274	\$4,351	\$5,467	69.4%	87.1%	79.6%
<b>FY 01</b>	\$7,770	\$6,805	\$7,787	87.6%	100.0%	100.2%
<b>FY 02</b>	\$8,103	\$7,292	\$8,270	90.0%	102.1%	102.1%
<b>FY 03</b>	\$8,238	\$7,269	\$8,242	88.2%	100.0%	100.0%
<b>FY 04</b>	\$8,182	\$7,269		88.9%	100.0%	

**Chapter 70 Aid as Percent of Actual NSS**

- FY 93:** 65.6%
- FY 01:** 80.0%
- FY 02:** 81.6%
- FY 03:** 78.5%
- FY 04:**

(Ex. 5069B).

In Superintendent Burke's opinion, this essentially level funded budget for FY04 is problematic because the school system has fixed cost increases for FY04 of approximately \$1.8 million for salary, \$1 million for fuel costs, \$2.5 million for special education out of district placements, and \$3 million for employee health care. In implementing the FY04 budget, to deal with the \$8 million in fixed costs plus the \$2 million budget shortfall, Burke anticipated in June 2003 that he would need to make additional cuts, including the elimination of 115 teacher positions, 20 counselors, 28 paraprofessionals, 6 assistant principals and 4 psychologists, and cutting professional development spending by \$400,000.

Over the past few years, Springfield has received significant assistance in the form of Federal

and State education grants. In grant year 2003, Springfield received State and Federal grants totaling \$40.6 million, an increase over past years. (Ex.5204A). In addition, Springfield has received \$7 million over three years in Federal magnet school funding.

Springfield's State entitlement grants have decreased in the past few years. For example, Springfield's Chapter 636 grant (desegregation funds) was \$1.8 million in FY02 and only \$26,817 in FY03. (Ex. 5204, 5204A). Springfield's class size reduction grant was around \$2 million in FY02, \$1.7 million in FY03 and was eliminated for FY04. (Ex. 5204, 5204A). Springfield's CPC grant for early childhood education programs has decreased 30% since 2001: the grant was \$3.4 million in FYF01, \$3.1 million in FY02 and \$2.9 million in FY03. (Ex. 5204, 5204A). Springfield's kindergarten enhancement grant was \$1.5 million in FY02 and \$1.4 million in FY03. (Ex. 5204, 5204A). On the other hand, Springfield's academic support grants, including MCAS remediation, summer school, and general academic support totaled \$978,725 in FY02 and \$2.25 million in FY03. There were, however, cuts in FY04.<sup>81</sup>

Springfield's Federal entitlement grants have increased over the past few years. Springfield's Title I grant to provide support and intervention for students at risk was \$10.4 million in FY01, \$11.9 million in FY02 and \$16.1 million in FY03. (Ex. 5204, 5204A). Springfield's Title V grant for innovative programs under NCLB was in \$373,927 in FY01, \$400,341 in FY02 and \$349,687 in FY03. (Ex. 5204).

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<sup>81</sup>State-wide, MCAS low scoring support grant funds were cut from \$50 million in FY03 to \$10 million in FY04, but there is no specific evidence concerning the amount of Springfield's MCAS support grant in FY04.

In Superintendent Burke's opinion, taking into account all of the State and Federal resources available to Springfield, the school system's budget in FY04 is inadequate to permit any of the city's public schools to implement fully the state curriculum frameworks or provide students with the seven *McDuffy* capabilities.

### **3. Preschool Program**

In 2000-2001, there were 781 children in public preschool programs; these children represent less than 30% of all the three and four year olds in Springfield. (Ex. 154). The preschool program is full day for some but not all the students enrolled in it. Springfield cannot afford to provide public school preschool education to all eligible students. Springfield also has not been able to implement fully the curriculum frameworks in its public preschool program for the children who do attend, largely because of a lack of money for resources such as books, markers, computer repairs, and take-home kits for parents.<sup>82</sup>

Springfield uses its CPC grant to provide preschool tuition for three and four year olds from working families who are deemed to be at risk based on factors such as low income. In the 2002-2003 school year, 602 preschoolers either had their daycare tuition subsidized or had a teacher paid through the CPC grant. The city also uses the grant to run the Island Pond Preschool, a public school

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<sup>82</sup> Springfield works with the five largest private preschool programs in the City to encourage such programs to use the public school preschool curriculum frameworks, so that more children entering public kindergarten will have the appropriate skills and knowledge. However, the resources are insufficient to allow Springfield to ensure that the community based preschool programs are implementing the curriculum frameworks.

preschool program, comprised of 37% special education students. The CPC grant funds in addition a comprehensive health team to help identify three and four year olds with special needs, and also funds professional development for early childhood teachers.

#### **4. Kindergarten Program**

In the 2002-2003 school year, Springfield provided full day kindergarten for 2,055 students. (Ex. 5224A). Last year, Springfield had eighteen kindergarten classrooms which had more than 25 students. In the opinion of Susan Catrone, the principal of the Island Pond preschool and Springfield's early childhood liaison, this is too large to implement properly the curriculum frameworks; there was no contrary evidence.

In the summer of 2000 and 2001, Springfield ran a two week kindergarten transition program from 9:00 a.m. to 1:00 p.m. in which 600 to 700 children were transported to their assigned kindergarten, fed lunch, familiarized themselves with the building and met staff. In 2002, the program was cut to one week, three hours a day instead of four, and in 2003, Springfield did not offer the program at all because of a lack of funds.

#### **5. Elementary Schools**

Springfield has 31 elementary schools and one K-8 school. (Ex. 5224A). The average K-3 class size in Springfield is 20 to 21 students, although in 2002-2003, there were 55 first grade classrooms with more than 20 students, 54 second grade classrooms with more than 20 students, and 64 third grade classrooms with more than 20 students. (Ex. 57, 58I).

The Springfield elementary schools exhibit a striking variation in quality. For example, in February of 2003, the Liberty Elementary School in Springfield was the subject of a school panel review by the department based on its quite dismal MCAS performance. (Ex. 5119). Liberty's

performance for 2001-2002 in ELA and math was rated “very low” on the department’s proficiency rating scale. In 1999, 10% of fourth graders at Liberty failed the ELA exam, in 2000, 28% failed, and in 2001, 30% failed; performance was rated “critically low.” In 1999, 23% of fourth graders at Liberty failed the math MCAS test, in 2000, 43% failed, and in 2001, 52% failed. (Ex. 5119). In 2002, the majority of students at Liberty were Hispanic, 80% of the students were low-income, and 50% were limited English proficient. All but four of the staff at Liberty are certified in the subjects which they teach. (Ex. 5119). On April 28, 2003, the commissioner deemed Liberty an underperforming school, noting that in 2002, 36% of students failed the Grade 4 ELA and 66% failed the Grade 4 math exam. (Ex. 5118). The commissioner found a shortage of sufficient financial and human resources, but also found the lack of (a) effective leadership, (b) productive communication between school administration and faculty, and (c) a positive school climate to be “significant barriers to improved student achievement” at Liberty. (Ex. 5118).

In February of 2003, the Gerena Community Elementary School in Springfield was also the subject of a school panel review by the department based on low MCAS performance. (Ex. 5121). Gerena’s performance for 2001-2002 in ELA was rated “very low,” and its performance in math was “critically low.”<sup>83</sup> As with Liberty, on April 28, 2003, the commissioner deemed Gerena an underperforming school. The commissioner noted a critical weakness in the principal’s capacity to improve instruction in the school, and insufficient oversight and support by school leadership. (Ex. 5120). Gerena has been identified for “corrective action” under NCLB, meaning it has failed to make adequate yearly progress towards proficiency for five consecutive years. (Ex. 1132). Between

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<sup>83</sup> In 2000, 36% of fourth graders at Gerena failed the ELA MCAS exam and 39% failed the math exam; in 2001, 48% failed the ELA test and 60% failed the math; and in 2002, 33% failed the ELA test and 53% failed the math. (Ex. 5491).

1999 and 2002, 65% of Gerena's students were Hispanic and 25% were African American. On average, 85% of the students were low income. Ninety-nine percent of the teachers are certified in the subjects which they teach. (Ex. 5121).

In April of 2003, the commissioner also designated a third elementary school, the Brightwood Elementary School, as underperforming and identified it for corrective action. (Ex. 1132, 5124). Further, the DeBerry Elementary School and Elias Brookings Elementary School have been identified for corrective action in math, and both the Washington Elementary School and the White Street Elementary Schools have been identified for corrective action in ELA. (Ex. 1132). The Homer Street Elementary School has been identified for corrective action in both math and ELA.

In contrast, in recent years, the department has recognized several elementary schools in Springfield as high performing schools that have exceeded expectations and achieved academic success, and has deemed them "compass schools" based on MCAS scores. For example, Glenwood Elementary School was named a compass school in 2003. Between 1999 and 2002, 50% of Glenwood students were Hispanic, 15% were African American and 33% were white. (Ex. 5236). Eighty percent of Glenwood students were low income, and 19.5% had limited English proficiency. (Ex. 5236). In the 2002-2003 school year, Glenwood had a special education enrollment of 9.5%. (Ex. 191, 5236). Ninety-seven percent of Glenwood's teachers are licensed and 97% of core academic classes are taught by "highly qualified"<sup>84</sup> teachers, compared to citywide percentages of

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<sup>84</sup>The definition of "highly qualified" in the NCLB law, set out in 20 U.S.C. § 7801(23), is not a model of clarity. The department has apparently sought to define the term for local school districts. Dr. Robert O'Meara, the superintendent of Winchendon, testified that "[t]he DOE has given us the definition in the training we've gone to on NCLB. They've indicated how a person is highly qualified. That would include, for example, if a math teacher took content courses, that would make the person highly qualified. If they took an art course, it probably would not. If they have in their professional development plan a goal to take content courses or a goal to get their

91% licensed and 82% “highly qualified.” (Ex. 191). In FY02, Glenwood spent \$5,144.38 per student, compared to the city average of \$5,690.94. (Ex. 159). The department’s “compass candidate report” concluded that Glenwood’s significant improvement in student performance was the result of a school-wide focus on literacy, including use of an extended literacy block, the reading recovery program and first steps writing program; use of sequencing guides for the math curriculum and monthly planbooks to supplement math instruction; use of student support “service” teams to support the needs of at risk students; and intensive use of assessment data to inform curriculum, instruction and professional development planning. (Ex. 5236). The department also noted that Glenwood has an inventive, forward thinking principal and a collaborative staff and school culture. (Ex. 5236).

Mary O. Pottenger Elementary School was also named a compass school in 2003. Between 1999 and 2002, 50% of Pottenger students were Hispanic, 25% were African-American and 25% were white; 80% were low income. (Ex. 5238). In the 2002-2003 school year, Pottenger had a

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master’s degree or a goal to take the math teacher’s test, all of those three things – any of those three things would –having that goal in there would make their plan right now ‘highly qualified.’ And when they complete that and they go for their next certification round, having done that they would be highly qualified.” (O’Meara testimony, 6/13/03, pp. 71-72.) The superintendent for Lowell, Karla Brooks Baehr, also testified on this subject, stating that “. . . the Massachusetts Department of Education, I think very wisely, indicated that if a teacher in their own professional development plan was going to make some progress in learning that content area, then they could be considered highly qualified for now.” (Baehr testimony, 8/20 /03, pp.97-98.)

special education enrollment of 11.8% and an LEP student enrollment of 10.1%. (Ex. 201). One hundred percent of Pottenger's teachers are licensed and 100% of core academic classes are taught by "highly qualified" teachers. (Ex. 201). In FY02, Pottenger spent only \$4,974.13 per student, compared to the city average of \$5,690.94. (Ex. 159). The department's compass candidate report concluded that Pottenger's significant improvement in student performance was the result of implementation of the principles of learning developed by the University of Pittsburgh, a school-wide emphasis on reading, reinforcement through professional development and common planning time, engagement of parents, and cooperation with higher education providers such as the University of Massachusetts and Boston College. (Ex. 5238).

Thomas Balliet Elementary School was named a compass school in 2002. In the 2002-2003 school year, Balliet had a special education enrollment of 7.5%, significantly lower than the district average. (Ex. 179). Balliet has no LEP students, compared to the city average of 10%. Ninety-six percent of Balliet's teachers are licensed and 96% of core academic classes are taught by "highly qualified" teachers. In FY02, Balliet spent \$5,479.27 per student, compared to the city average of \$5,690.94. (Ex. 159).<sup>85</sup>

According to Superintendent Burke, the wide variation in per student spending within the school district is caused by factors such as heavier concentrations of special education and bilingual programs, individual school aggressiveness in obtaining grants, and the seniority of the staff. Important attributes which all the elementary compass schools share are a strong faculty commitment

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<sup>85</sup> Finally, in 2001, Kensington Elementary School was named a compass school. In the 2002-2003 school year, Kensington had special education enrollment of 18.2%, close to the citywide average of 19.6%, and an LEP enrollment of 14.8%, compared to the citywide average of 10.2%. (Ex. 197, 1076). In FY02, Kensington spent \$6,855.73 per student, compared to the city average of \$5,690.94. (Ex. 159).



to student success, a focus on academic rigor, and excellent principals. Burke noted, however, that although these compass schools have attained high scores in math and English, they have not fully implemented the State curriculum frameworks in the arts, music or technology.

## **6. Middle Schools**

There are six middle schools in Springfield. (Ex. 5114). The plaintiffs presented detailed testimony concerning the Forest Park Middle School.<sup>86</sup> Forest Park Principal Carol Fazio testified that 15% of the school's 930 students have limited English proficiency, 23% of the students are special education students, and 70% of the students are eligible for free or reduced price lunch. The Forest Park school building is 106 years old, and classes are taught in the coat rooms, custodial area, supply rooms, locker rooms, and in the basement. Part of the auditorium is used for storage space and teacher offices. One teacher had a thick slate blackboard fall off the wall onto her desk, and the other blackboards in the building are similarly close to collapse. The school's library books are not up to date and there is no librarian. The school has no science or language lab, but has a computer lab with 30 computers and 12 laptops. There are only twelve microscopes for the entire school and only one set of class books for 300 students, so the students cannot take the books home. Each science classroom at Forest Park has one computer. The teachers spend their own money and time to get things done, including buying their own supplies.<sup>87</sup> Another teacher offers drama instruction to 25 students on her own time without any reimbursement.

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<sup>86</sup> I infer that many of the programmatic problems at Forest Park are typical of Springfield's other middle schools.

<sup>87</sup>For example, Paul Levesque, a science teacher at Forest Park, testified that he spent his own money to purchase a telescope, VCR, digital microscopes and fish tanks for his classroom. A music teacher who wanted to start a percussion class collected and brought in old paint buckets to use as drums.

Ninety-six percent of teachers at Forest Park are certified and 92% are “highly qualified.” There are two new teacher mentors for teachers in the school. The school does not have its own resource teacher for math or English, but district-wide resource teachers are available to visit.

Forest Park health teacher Annmarie Simons testified that she is the only health teacher for the entire school and that students receive health education in the sixth grade only. She lacks the resources or the time to fully implement all ten areas of the health curriculum framework.

Forest Park music teacher Patricia Murawski testified that her classes typically have 25 to 28 students, and that it is difficult to teach musical instruments in a class that large. The sixth graders get one half year of music instruction and one half year of art. However, sixth grade students who take remedial math or English get no music instruction at all because of scheduling conflicts. Seventh and eighth grade students get a full year of music, with instruction twice a week. There are up to ten special education students in each music class, but Murawski has no training in special education or special education staff member assisting her in the classroom. Murawski opines that there are inadequate resources at Forest Park to implement all five strands of the music curriculum framework.

Fazio opines that Forest Park lacks the resources to implement properly the Massachusetts curriculum frameworks. I credit this testimony.

In 2003, two of the six middle schools in Springfield, the John Duggan Middle School and the Elias Brookings Middle School, were subject to school panel reviews by the department. (Ex. 5122, 5127). The John Duggan Middle School was declared underperforming in April of 2003 and has been identified for corrective action. (Ex. 1132, 5123). In 2001, 79% of sixth graders at Duggan failed the math exam, and in 2002, 74% failed. (Ex. 5490). In 2001, 80% of eighth graders at Duggan failed the math exam, and in 2002, 75% failed. (Ex. 5490). A November 2003 report of the

department's fact finding review team concluded that the ELA and math curriculum instruction at Duggan is very uneven, not all classes have high expectations for student achievement, too much instructional time is wasted due to poor planning and ineffective teaching methods, and there is insufficient instructional leadership and supervision. (Ex. 5490). The team further concluded that Duggan lacks a clear vision and plan for improvement, has ineffective communication with respect to both staff and parents about improvement efforts, and fails fully to utilize available district resources for improvement planning. (Ex. 5490).<sup>88</sup>

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<sup>88</sup>The high school programs for different subject areas are described below in the sections relating to those subject areas, and Putnam Vocational Technical High School is discussed separately thereafter.

## **7. English/Literacy Program**

As described above, the elementary schools in Springfield reflect very different levels of success with their English language arts and literacy programs. The elementary schools use two hour blocks of time to teach literacy, spending a designated amount of time on individual areas such as writing, guided reading, speaking, listening and independent reading. Each elementary school has one reading resource teacher to provide support to the teachers. This “literacy block” was designed to ensure that all teachers are consistently teaching literacy skills. State literacy grants such as “Bay State Readers,” a program to provide reading support for grades K-3, were cut last year, but Springfield has been able to obtain Federal “Reading First” and “Early Reading First” funds.<sup>89</sup>

The director of English for the Springfield public schools, Tom Paleologopoulos, stated that a significant number of students in Springfield in the fifth grade and up read two and one-half or more years below grade level. There is only one district-wide middle school reading resource teacher to assist students who have fallen behind or who enter the system behind. The middle schools have implemented the “Read 180” program to assist those students who read two and one-half years below grade level. In the 2003-2004 school year, each middle school will have two classrooms with a “Reader/Writer Studio” classroom library. However, Springfield cannot afford to implement this program in every middle school classroom, or to hire the recommended coach for the program.

The middle and high school ELA teachers do not follow a unified curriculum in terms of the

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<sup>89</sup>For example, in 2003, Springfield received a \$845,000 K-5 literacy support grant, including Federal “Reading First” money. Preserving literacy programs is a high priority for Springfield.

scope and sequence of instruction. As a middle school teacher, Paleologopoulos is able to teach all of the standards in the English language arts curriculum framework except those that relate to media and Internet research and resources. I infer that not all his colleagues are as successful.

There is no district-wide high school reading resource teacher to assist students who have fallen behind or who enter the system behind. However, during the summer of 2003, the school district sought to hire an ELA coach for every school. Also in the 2003-2004 school year, the "Read 180" program will be implemented at Central High School and Putnam Vocational Technical High School. The other high schools have not allocated money for the purchase of "Read 180" materials and teacher training.

Paleologopoulos opines that ELA teachers in Springfield do not receive adequate in-classroom professional development and coaching. Springfield offers professional development in literacy through grants such as the "Success for All" reading grant. Springfield is not able to offer workshops to meet the needs of all of its teachers, who are at different levels of knowledge and experience and face different challenges in teaching diverse populations.<sup>90</sup>

Springfield assesses its students' ELA performance in grades 3 through 6 and 8 through 12. Paleologopoulos is the only one available to create the district assessments. Further, individual

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<sup>90</sup>Professional development ELA courses offered in August of 2003 included the "Reader/Writer Studio" training, a course on ELA and technology, "Library on a Shoestring" for librarians, "Reading at the High School Level," "Strategies and Skills for teaching High School Curriculum," "Reading Middle School Literature" and "The Short Story." (Fenton 8/6 pp. 115-116).

teachers score their own students' tests, so there is no uniformity of scoring. The district ELA assessments do not touch on all of the standards assessed by MCAS, although there is significant overlap. Teachers receive the district assessment results immediately and can focus on particular student weaknesses.

Paleologopoulos is of the view that the Springfield schools as a whole lack adequate resources to provide students with the communication, speaking, listening, writing, reading and media presentation skills required for the seven *McDuffy* capabilities.

### **8. Mathematics Program**

Linda Abbott is the director of mathematics for the Springfield schools. She states that Springfield's math curriculum is aligned with the November 2000 State curriculum framework and the 1989 national math standards. Every math teacher in Springfield receives materials concerning the curriculum framework; the scope and sequence of what is to be taught each month and what each student should know when; suggested resources; and time allocations. However, Springfield has difficulty implementing the math curriculum framework due to lack of certified staff and resources such as current textbooks, graphing calculators, overhead projectors, geometry models, three dimensional manipulatives, and computer software.

The math curriculum framework has dramatically changed the way math is taught, and many elementary school math teachers lack the experience to implement it successfully. In addition, some elementary school classrooms in Springfield lack enough tools and supplies such as manipulatives to teach math effectively in the way contemplated by the curriculum framework. During the 2002-2003 school year, Springfield had only two math resource teachers working with all the 1,000 elementary school teachers who teach math to elementary school students. These resource teachers are master

teachers who provide support for elementary math teachers by visiting the classroom and modeling lessons and conducting training sessions during professional development time. They cannot meet the needs of all of the elementary school teachers for assistance in teaching math, particularly because the most effective method is to provide coaching in the classroom.<sup>91</sup> Not all elementary schools have the most current math textbooks or enough textbooks for students to take home for homework assignments. Springfield tries to distribute resources equitably among schools, but is not able to do so because of the Commonwealth's method of funding school renovations. Through the state building assistance program, new and renovated schools are often fully equipped, but the older schools are not.

The middle and high schools all have math department heads who are also full-time math teachers. Springfield has only two math resource teachers working with over 100 middle and high school math teachers. Like the elementary school teachers, many of the middle and high school math teachers are not familiar with the teaching methods and use of tools required by the math curriculum framework. In 2003, Springfield posted job listings for eleven new math resource teachers to work in each of the middle and high schools in the 2003-2004 school year.

Of the 62 middle school math teachers, 21 teachers do not hold the appropriate certification and 23 teachers are not yet designated "highly qualified." (Ex. 227). Out of 72 high school math

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<sup>91</sup> As of June 2003, Springfield hoped to receive Title I funding to enable the district to have a math resource teacher in every elementary school in 2003-2004, and had posted job listings for 23 new math resource teachers: fifteen for underperforming schools and eight shared among the other elementary schools. There was no evidence as to whether Springfield was able to implement this plan.

teachers, 15 do not hold the appropriate certification and are not yet designated highly qualified. (Ex. 227). Springfield has difficulty attracting certified math teachers and also has difficulty retaining such teachers, which has an adverse impact on its ability to implement the math curriculum framework.

The high school math class size varies in Springfield, but tends to be quite large, up to 28-30 students, in introductory courses such as algebra and geometry. Large class size requires students to share necessary graphing calculators and prevents the effective use of cooperative groups to solve problems. Springfield has been unable to reduce class sizes, sometimes due to lack of building space, but primarily due to lack of funding and lack of certified math teachers.

A substantial amount of Springfield's math program is funded by grants, which presents challenges for planning. Five years ago, Springfield received a \$2.6 million National Science Foundation (NSF) grant, which enabled the schools to have teacher workshops throughout the year, particularly for new math teachers, involving substantive content, instruction, testing and assessment, and real-world application of concepts. The NSF grant also allowed Springfield to have a certified math teacher at every community center to assist students with after-school homework and provide summer enrichment programs in math. The grant had strict goals, including improving minority student performance in math, increasing female student participation in math, and improving ninth grade performance in algebra. Springfield received positive reports from NSF and had its funding extended for an additional year. As of the summer of 2003, Springfield hoped to receive a new NSF grant it had recently applied for in conjunction with the University of Massachusetts.

## **9. History Program**



The State history curriculum framework has changed twice in the last five years, with the current framework substantively approved in October of 2002. Because the current framework has changed which topics are taught in which grades, the Springfield schools lack age-appropriate textbooks aligned with the curriculum framework at the appropriate levels. For example, in 1997, world history was taught in tenth grade and the grade 10 history MCAS test focused on world history; as a result, Springfield purchased tenth grade world history textbooks. Under the current framework, however, world history is taught and tested in earlier grades, and U.S. history is taught in ninth or tenth grade and tested in the tenth grade. Springfield now has tenth grade level world history books it effectively cannot use. The State curriculum framework suggests five different pathways, outlining which subjects should be taught in which years, but also allows a district to make its own pathway, so long as three years of U.S. history are taught. Springfield has made up its own pathway for financial reasons relating to textbook purchases.

At the elementary school level, every teacher is supposed to teach social studies, but some schools teach it every day, while other schools provide almost no such instruction, depending largely on whether a particular school is underperforming in math or English and needs to focus resources there. There is inadequate funding for elementary level textbooks because resources are being focused on English.<sup>92</sup>

In the middle schools, students are supposed to receive 55 minutes of social studies per day, but not all do, depending on the teacher and the school. The middle schools lack basic materials and equipment such as atlases and maps, although the teachers try to create their own materials. In

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<sup>92</sup> However, Springfield recently obtained a professional development “Teaching American History” grant to develop curriculum materials for the elementary school teachers.

addition, the middle schools vary widely in terms of the computer resources available for social studies. The high schools have computers but no social studies software, and use of the Internet as the sole computer resource for history is considered inappropriate.

Social studies class size varies greatly, with some middle schools having 34 students per class, and some high schools having only six or seven students per class. History teacher James Morton testified that at the High School of Commerce, U.S. history classes have 20 to 30 students. In such large classes, teachers waste time on classroom management issues and have less time to devote to teaching content. Some of the history teachers do not have enough books for students to take home. The books are several years old but are considered up to date. There are four computers in each classroom plus a teacher's computer, but it is difficult to incorporate technology in such a large class. There is insufficient time to teach everything covered by the curriculum frameworks, so in U.S. history, the teachers generally cover reconstruction through the 1970's.

Professional development for history teachers is limited to the days required under the teachers' collective bargaining agreement. Last year at the elementary level, however, professional development focused on math and English and did not include any social studies, although the social studies director for the district ran four programs on Saturdays for 40 teachers. There are no history/social science resource teachers or content coaches in the system.

## 10. Science Program

In the opinion of the Springfield school system's director of science, Erline Provost, Springfield's science curriculum fully reflects the State science curriculum. Only half of the elementary schools have a separate science teacher; in the other schools, a regular classroom teacher is responsible for implementing the science curriculum. However, there are two resource science teachers for the elementary schools who work with the science teachers, model lessons, and help organize lesson plans and materials.

The middle schools have science department heads to support the science teachers. Of 51 middle school science teachers, 13 do not hold the appropriate certification and 14 are not yet designated "highly qualified." (Ex. 227). There are two resource science teachers for the middle schools to work hands-on with the science teachers, model lessons, and help organize lesson plans and materials. At the middle school level, there are not enough science textbooks, so teachers share books, students must share in class, and students cannot take books home. The State science curriculum framework contemplates instruction in a laboratory setting that contains access to water, flat top tables for experiments, electricity outlets, and a gas source of energy. However, of the six middle schools in Springfield, the four older ones lack science labs, and some of the labs that do exist lack running water or electrical outlets.<sup>93</sup>

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<sup>93</sup> For example, science teacher Mark Dulude testified that at the John F. Kennedy Middle School, the science lab has flat tables but no running water or electrical outlets, and there is one lab table in the front of the room with running water and gas vents, but the gas is inoperable. The entire school has only seven working microscopes for 750 students and only nine working scales.

There are no Bunsen burners, although the school has two hotplates available. In Dulude's opinion, the Kennedy Middle School lacks the necessary equipment to implement all the elements of the science curriculum framework such as life science, urban space science, physical science and technology. On the other hand, despite the lack of resources and the substandard lab facilities at his school, Forest Hill Middle School, science teacher Paul Levesque opines that his students

The science curriculum framework was promulgated in August of 2001, but many of the high school science textbooks are ten years old. In addition, the older schools do not have an adequate number of computers to implement the technology strand of the science curriculum framework.

At the High School of Commerce and Central High School, there are science, chemistry and physics labs, but they are not sufficient in number to serve the current student population. Accordingly, many of the science teachers do not have an assigned classroom but are “floaters” who move in and out of different classrooms at different times of the day, making instruction less efficient.

At the Science and Technology High School, which is a ten year old building, the computers are outdated. The Science and Technology High School does offer advanced placement classes in environmental science, biology and physics as well as classes in astronomy.

The National Science Teachers Association recommends 24 students per lab class in order to facilitate hands-on inquiry and sufficient teacher interaction, and maintain the safe use of equipment. At the middle school and high school levels combined, Springfield has 83 science classes with more than 24 students. Science teachers in the same school and even in different schools are required to share scientific equipment such as microscopes and digital scales so that students can have access to modern equipment. The science supply budget is only \$2 per student per year for consumables such

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get a good sixth grade science education in accordance with the State science curriculum framework. Levesque holds all his students to the highest expectations, from special education students to “our rocket scientist.” At trial, Levesque demonstrated a hovercraft that his students built out of a styrofoam tray, cups and an electric motor, a project designed to teach some of the principles of the science curriculum, particularly the technology and engineering strand.

as glass slides, lens paper, chemicals, batteries, and live materials. This dollar amount has been constant for at least fifteen years, and in Provost's opinion, is insufficient to implement the science curriculum framework.

At the high school level, ten of the 70 science teachers lack the appropriate certification and ten are not yet designated "highly qualified." (Ex. 227). According to Superintendent Burke, the percentage of uncertified math and science high school teachers has increased in recent years, largely because of the retirement of qualified teachers and a national shortage of new qualified teachers; another reason he gave is that Springfield pays its teachers less than contiguous communities that are competing for such teachers.

Science teachers have four intensive days of professional development, including general topics such as teaching strategies, curriculum implementation, and laboratory investigations. Provost has also offered professional development in response to specific needs revealed by district and MCAS assessments, such as content offerings in biotechnology, genetics, and microscale chemistry, and developing an elementary school curriculum for the solar system and weather. Over the past five years, Springfield has used part of the previously described \$2.6 million NSF grant to improve professional development for science teachers, support summer science activities, perform curriculum assessment, and enrich the high school physics program. In 2003, Springfield received a \$3.1 million teacher quality grant for professional development in math and science and to recruit highly qualified teachers. (Ex. 5204). Burke and Provost share the view, however, that the currently limited number of certified and highly qualified science teachers at the middle school and high school levels has an adverse impact on Springfield's ability to implement the curriculum frameworks.

## **11. Arts Program**

The State curriculum framework for the arts is divided into four categories: visual art, music, theater and dance. Springfield's arts curriculum, if it can be called that, is not aligned with the arts curriculum framework. There are only 31 music teachers in Springfield: seventeen at the elementary school level, eight at the middle school level and six at the high school level. (Ex. 169). Only thirteen of the 31 elementary schools have a music teacher, and not all students in those thirteen schools actually receive music instruction. There are 27 art teachers in Springfield: six at the elementary level, twelve at the middle school level, seven at the high school level, and two in the alternative schools. (Ex. 169). Only four out of 31 elementary schools have an art teacher, and again, even in those four schools, not all of the students actually receive art instruction. There are only four theater teachers in the entire school system, three at the middle school level and one at the high school level, and there are no dance teachers at all. (Ex. 169).

To illustrate the state of the arts: at the Balliet Elementary school, there is no art, music, theater or dance instruction; at the Beal Elementary school, there is one music teacher for 328 students, and the teacher does not have a music room but rather pushes her equipment from room to room on a cart; at the Bradley School, which was renovated eight years ago, a full complement of band and orchestra instruments was purchased but these are stored in the basement because the district lacks funds to hire an instrumental instructor; at the Brightwood Elementary School and the Lynch Elementary School, there is no art, music, theater or dance instruction, although the foreign language teacher at each school runs a chorus. (Ex. 169).

Because there is no graduation requirement relating to the arts, Springfield allows each individual school to decide whether it will offer instruction in the arts, and many schools forego the

arts because of limited resources and the need to focus on other academic areas. The district's director of the arts, Vera Baker, estimates that half of the students in the graduating class of 2003 went through twelve years of public school without any arts instruction at all.

Clearly, Springfield is not implementing the arts curriculum framework. Baker has calculated that Springfield would require a total of 249 teachers to provide "bare bones" music, art, dance and theater instruction to all students, based on a ratio of one teacher for every 400 students. (Ex. 168). The 61.5 arts teachers who were teaching in the district in the 2002-2003 school year do not come close. (Ex. 169). Rather, the teacher-student ratio is the following: 1:858 for music, 1:985 for visual art, 1:6,050 for theater, and none for dance, based on the total student population of the Springfield public schools of about 26,600.

## **12. Health and Physical Education**

Springfield's health curriculum is not completely aligned with the State health framework. Over the past ten years, the school system's health department budget has been funded by the Health Protection Fund (cigarette taxes). In 2003, however, there was no such funding available and the health department had no budget for instructional and programmatic expenditures.

Most of the elementary schools have one health/physical education teacher, but five or six schools do not; in these cases, the regular classroom teacher is responsible for health education. There are space and resource problems in at least some of the elementary schools. For example, in the DeBerry Elementary School, the health classes are taught in the women's shower room in the basement; there is no VCR, computer or overhead projector available in the room; and there are only three textbooks for the teacher to use, so she makes copies of materials for students. Students at DeBerry get only three months of health/physical education instruction per year; and the gymnasium

at DeBerry is also the auditorium and cafeteria. As a result, there are always students eating in the gymnasium during physical education classes.

Students receive a total of about ten weeks of health instruction during their three middle school years. One middle school, Van Sickle, has no health teacher. Most schools are unable to cover all twelve standards contained in the health curriculum framework.

Students are required to pass one half credit of health to graduate high school. The health teachers in the high schools are not able to cover all twelve standards contained in the framework.

Based on recent surveys, children in Springfield have numerous serious health issues, including alcohol and marijuana abuse, poor nutrition, high obesity rates, a large percentage of sexually active middle school age children, high teenage pregnancy rates and numerous students who are HIV positive or living with adults who are HIV positive. Director of Health, Physical Education and Family and Consumer Sciences Colleen Walsh is of the opinion that Springfield cannot adequately implement the health curriculum framework. From the evidence presented, I can come to no other conclusion.<sup>94</sup>

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<sup>94</sup>There was no substantive testimony presented about the foreign language program. Superintendent Burke testified generally that several years ago, Springfield decided to make foreign language a required subject for all students because it was to be tested on the MCAS exam, but that beginning in 2003-2004, the district was scaling back the foreign language program because of budget restrictions.



### **13. Libraries**

The plaintiffs' school library expert, Dr. Markuson, has spent significant time working with the Springfield school department on building or rebuilding a number of individual school library collections as part of school building or renovation projects; this work was done independently of the present case. I accept her opinion that the Springfield public school libraries include a number that have viable print collections and computer resources, although the materials by now are aging, but also include a number of schools that have "abysmal" libraries, and in one case, Forest Park elementary school, almost a non-existent library collection. The school libraries do not meet the MSLMA standards of books per students, and a full 87% of the libraries fall below the actual statewide average of 17.3 books per student. (Ex. 231). Many schools in Springfield have no funds for periodicals. Schools receive between 0 and \$500 per year to maintain their libraries including purchasing new text and maintaining on-line subscriptions, an insufficient amount to provide for the research skills contemplated by the curriculum frameworks.

### **14. Technology**

On average, Springfield has a 4:1 student to computer ratio, but it cannot move computers around to achieve equity because most of the district's computers were purchased with bond money for particular schools or with individual school grants. (Ex. 166, 226). While newer schools in Springfield have met the 5:1 student to computer ratio that the State technology benchmarks called for by 2003, many older schools have not. Twenty-four of the 31 elementary schools do not meet the 5:1 ratio, four out of six middle schools do not meet it, and four out of eight high schools do not meet it. (Ex. 163A). Springfield reported that by 2002, 57.66% of the classrooms had computers connected to the Internet, far below the 100% benchmark that the State set for 2003. (Ex. 5165; ex. 20). As is true of all the focus districts, Springfield has been designated by the department as a high needs district in terms of the number of computers and Internet connectivity.

Springfield has 28 instructional technology teachers and one assistant teacher, and fourteen computer and information technology teachers. In addition, Springfield has two technology integration instructors to serve the entire school system, one for elementary and middle school, and one for high school. These instructors assist teachers in the use of hardware as well as how to integrate technology into the classroom. Nonetheless, Springfield does not meet the department's technology benchmarks in terms of staff to assist teachers in integrating technology into the curriculum or technology professional development. (Ex. 163A).

In FY02, Springfield spent over \$3 million on technology related salaries, hardware, software, instruction, maintenance and networking. It received Federal and State grants totaling almost \$2 million, and additional Federal dollars from the Federal E-rate program, money raised by imposing a

small charge on all phone bills under the Telecommunications Act of 1996.<sup>95</sup> There are apparently no State funded technology grants. In the opinion of Superintendent Burke and Robert Hamel, the staff member who supervises technology for the school district, Springfield does not have sufficient funds or other resources to implement effectively the technology curriculum framework, even with all the grant money it has received.

### **15. Vocational Education**

The Roger L. Putnam Vocational Technical High School (Putnam) is Springfield's one vocational school. In 2001, Putnam had 1,442 students, and 30% of these students received special education services. (Ex. 5126). The school facility was built in 1938, and has not been kept up over the years. Physically, academically and programmatically, Putnam is a school in deep trouble.

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<sup>95</sup>The E-rate program is not a grant but rather, provides 80 to 90% discounts on Internet services for individual schools or school districts based on the percentage of free and reduced lunch students in the district. Springfield has used the E-rate program to upgrade the technology infrastructure in the schools, especially Central High School, and to purchase equipment. In January of 2003, Springfield submitted 28 applications for E-rate assistance, but by July of 2003, only one had been approved. In the FY04 budget, based on its history of applications, Springfield assumed that it would receive \$1.36 million in E-rate refunds. (Ex. 156). Springfield applies for E-rate discounts for every project for which it can afford the co-payment.

a. Academic Program

In March of 2002, the department conducted a school panel review of Putnam. (Ex. 5126). The panel report identified attendance as a major problem, with only a 76.2% attendance rate in 2000, and students missing an average of 42.8 days of school out of a total of 180, or 23.7%. (Ex. 5126). The report concluded that Putnam did not have an adequate plan in place for improving student performance, and expressed concern about the lack of coordination between the academic and vocational sides of the school. (Ex. 5126). The report also concluded that the current fiscal climate would make it nearly impossible to increase resources to provide necessary building improvements, updated books, supplies, technology and additional staffing. (Ex. 5126).

In the spring of 2002, the board declared Putnam an underperforming school based on its MCAS scores, the first high school in the State to be declared underperforming. (Ex. 5126). In 2002, 76% of Putnam's students failed the grade 10 English language arts MCAS exam and 91% failed the grade 10 Math exam. (Ex. 218).<sup>96</sup>

According to Putnam headmaster William Goodwin, over the last ten years, 60% of the students entering Putnam in the ninth grade read and calculate on a sixth grade or lower level. Putnam has implemented a preparatory program which is essentially set at a pre-ninth grade academic level, and it means that some students will take five years to graduate. Students are given intensive instruction in core subjects such as English, algebra and world history to enable them to understand the ninth grade curriculum the following year.

In the ninth and tenth grades, Putnam students spend 60% of their time on academics and

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<sup>96</sup>In 2001, 82% of Putnam students failed the grade 10 English language arts MCAS exam, and 89% failed the grade 10 math exam. (Ex. 218). In 2000, 95% of students failed the Grade 10 ELA exam, and 95% failed the Grade 10 Math exam (Ex. 5126).

40% on vocational training, while in eleventh and twelfth grades, they spend 50% on each. The schedule alternates one week of academics with one week of vocational instruction; however, in the ninth and tenth grades, the vocational week includes one daily period of math and one daily period of English. Putnam has also created remedial classes in reading and writing and algebra and geometry to give students the necessary skills to pass the MCAS exam.

Ninety-one percent of the teachers at Putnam are certified and 71% of core academic classes are taught by “highly qualified” teachers. (Ex. 218). Goodwin opines that the academic staff at Putnam have been “beaten down” over the last fifteen years by the difficulty of teaching at the school, and have lowered their expectations for the students. Putnam’s professional development concentrates on school-wide implementation of the Collins writing method, which uses focused correction activities to simplify the writing process for students. Putnam is also working on creating smaller learning communities in which students will be grouped into three broad vocational blocks: construction and design; transportation, communication and technology; or health, human services and hospitality. All students within a particular block will have the same teachers for English, math, science and social studies, and the academic teachers will meet regularly with the vocational teachers in that block to get to better understand and assist the students.

The academic facilities at Putnam are very poor. In one wing of the building, the classrooms have been created by the use of fabric dividers that are five and one-half feet tall. The science rooms - - six in number -- do not have much lab equipment at all. There are two electronic graduate scales and perhaps one microscope for the entire school, but no Bunsen burners or working gas. Until 2000, the school had only ten computers with Internet access, but recently Goodwin used Federal E-rate money to add a wireless Internet mobile lab with fifteen laptop computers. There are not enough

textbooks for students to have their own, so they must share in class and cannot take the textbooks home. The school cannot afford to purchase new U.S. history textbooks recommended by the history curriculum framework, so only teachers will have them.

Putnam's educational budget comes from the school department's regular budget. In each of the past three years, Putnam has received a \$75 per student allocation for academic supplies and materials, which comes to approximately \$108,000.<sup>97</sup> Last year, Putnam spent \$41,000 of that money to lease and service the school's seven copiers and provide toner, and \$40,000 for the bulk order of paper, pencils, pens, envelopes, etc. Several thousand dollars were spent on the library, and the remaining \$2,500 was spent on college materials and discretionary items such as fees for the National Honor Society. Putnam's department heads gave Goodwin a \$220,000 request for critical textbooks and supplies, but Putnam received only \$120,000 in additional funds from the superintendent as a result of its underperforming status.

b. Vocational Program

In December of 2002, the department performed an audit of Putnam under G.L. c. 74, the vocational education statute. As a result of this audit, the school's electronics service technician program was decertified, and Springfield will have to pay for the 50-60 students in the electronics program to receive electronics training elsewhere, if they wish to do so.<sup>98</sup>

The culinary program was almost decertified because the facilities are too small and not

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<sup>97</sup> William Goodwin, the headmaster of Putnam, testified the total for supplies and materials was \$87,000 per year. The evidence did not explain how that figure was calculated, because it is lower than \$75 per student.

<sup>98</sup>Such students could attend Dean Vocational Technical High School in Holyoke or Pathfinder Regional.

appropriately modern.<sup>99</sup> The hotel management program was also almost decertified because it lacks facilities that are a mock-up of a modern hotel and also lacks computer programs to help give students management skills, although students get some on-site training at a local Marriott hotel. The electrical program has obsolete motor control equipment, but recently received a grant in partnership with the Western Massachusetts Electric Company, which makes its training facilities available to Putnam students and provides personnel and resources. The metal fabrication program also has some old and some fairly new equipment, but there is no computerized equipment meeting the standard in the industry today. Putnam students are not able to compete favorably for metal fabrication jobs because of their lack of experience.

The nursing program has poor facilities, but the students are trained largely in the field, in local nursing homes and hospitals. The automechanics and autobody programs have facilities which are appropriate but poorly ventilated, causing air quality problems. The cosmetology program is one of the most successful programs.

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<sup>99</sup>It is necessary to walk through the kitchen to get to the Putnam Pride restaurant where students serve the food, and water leaks through the restaurant ceiling.

The result of the department's Chapter 74 audit was that none of Springfield's vocational programs were approved and most were put on warning status. A primary reason for lack of approval is that Putnam lacks the requisite contemporary technology in various industries to give its students the skills necessary to meet national industry standards and be competent to take an entry-level position in the workplace.<sup>100</sup>

In early 2003, Putnam developed a school improvement plan and a local plan addressing vocational improvement issues. (Ex. 1008). Because of the recency of this plan at the time of trial, I heard no evidence about the implementation or effect of this plan on the school or student performance.

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<sup>100</sup>Six vocational programs at Putnam have recently been eliminated or reconfigured because Springfield cannot afford to make the necessary changes to maintain certification. For example, the machine shop was closed because it is an electronically advanced heavy industry and the school's equipment dates back to the 1950's, and because the program requires strong math and science skills, which most Putnam students lack. Putnam's heating, ventilating and air conditioning ("HVAC") program was closed in 2002 because of insufficient funding to modernize the program, as the industry has become highly computerized. The horticultural program was closed because of difficulties with the greenhouse.



In Superintendent Burke's opinion, the problems at Putnam are largely related to lack of financial resources. He admits that there has been some historical neglect of the school on the part of the city and the school department. Putnam's vocational budget is funded by Federal "Perkins" money,<sup>101</sup> which allows spending on equipment and professional development but cannot be used for textbooks or small tools. In past years, most of the Perkins money was spent on teacher salaries rather than on upgrading equipment and the learning environment. In 2004, Putnam will receive \$663,000 in Perkins funds, which it intends to use for heavy equipment for the autobody, culinary and graphic arts programs.

## **16. Special Education**

In 2003, Springfield educated 5,411 special education students. In 2002-2003, 19.2-19.4 % of all students in Springfield were special education students. (Ex 5224A; ex. 228).

The department conducted a coordinated program review (CPR) of the Springfield school district in March of 2001, focusing on the district's implementation of State and Federal special education, civil rights, Title I and Transitional Bilingual Education requirements. (Ex. 5172). The CPR report, issued in October of 2001, concluded that Springfield was able to document the effective use of pre-referral teams and has appropriate assessment procedures and instruments in place to identify students with disabilities. (Ex. 5172). However, staff cuts since 2001 probably call the validity of this conclusion today into question.<sup>102</sup>

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<sup>101</sup>See the Carl D. Perkins Vocational and Technical Education Act of 1998, 20 U.S.C. § 2301 *et. seq.*

<sup>102</sup> For example, the schools use service teams composed of guidance counselors, school adjustment counselors (social workers), and teachers to develop strategies and interventions to help students learn without making a special education referral. Springfield has 91 service teams for the total school population of 26,600, and each school has at least one service team.

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However, Springfield laid off 19 of its 60 guidance and school adjustment counselors for the 2003-2004 school year. These staff reductions must have an impact on the effectiveness of the service teams.

The 2001 CPR report concluded that Springfield was not meeting the professional standard of having appropriate, timely and efficient special education referrals. (Ex. 5172). The report further concluded that due to insufficient staff, Springfield has difficulty meeting required time lines for determining eligibility and developing individual education plans (IEPs). (Ex. 5172). In the 2002-2003 school year, approximately 1,700 students were referred for special education evaluation. However, Springfield had only 22 school psychologists that year to conduct the initial assessment which leads to an IEP team meeting to determine eligibility for special education services; four of those 22 school psychologists were laid off for the 2003-2004 year. In the opinion of David Cruise, Springfield's executive director of human resources, the school district has a severe need for an increased number of school psychologists to perform assessment, testing and counseling. Cruise estimates that Springfield needs five to seven additional psychologists.

The problem is exacerbated by Springfield's difficulty in attracting and retaining bilingual psychologists to serve its increasing Hispanic population, and the lack of sufficient testing protocols in Spanish and other languages. There are only four Hispanic psychologists for a student population that is 47% Hispanic. In the opinion of Sandra Hill, the executive officer for special education for the district, a disproportionate number of Latino as well as African American boys are inappropriately referred for special education services, although Springfield has been working for several years with a private agency to correct this problem.

The 2001 CPR report noted that Springfield does not consistently maintain facilities that are conducive to learning, facilitate integration, and provide equal access and opportunity for special education students to achieve. (Ex. 5172). In the 2002-2003 school year, Springfield employed 475 special education teachers, but for 2003-2004, Springfield laid off 45 of these teachers, almost 10%

of the total special education teachers in the system. The department has specified that special education class size ratios should be eight students with one teacher, twelve students with one teacher and a paraprofessional, and sixteen students with one teacher and two paraprofessionals. In March of 2002, Springfield had 115 special education classrooms that exceeded these class size requirements. Even after hiring a few additional teachers and adjusting class schedules, Springfield still had 53 classes over the class size requirements. Due to lack of space in many schools, special education psychological assessments and tutoring sessions are conducted in hallways, while special education classes are taught in cramped basement spaces such as former storage areas.

Springfield uses an adaptive learning program for students at the elementary through high school levels in which special education students spend a significant part of their day in a separate special education classroom. Only 44% of special education students in Springfield spend less than 25% of their school day outside the regular education classroom,<sup>103</sup> compared to the statewide average of 65%. (Ex. 81B). Ideally each classroom would have both a regular and a special education teacher, but Springfield cannot afford to have more inclusion teachers in classrooms. In the

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<sup>103</sup> Spending less than 25% of the school day out of the regular classroom means that more than 75% of the time, the special education students are in the regular classroom. If 44% of the students follow this pattern, it signifies that 56% of the special education students spend more than 25% of their school time in separate classes - that is, outside the regular education classroom.

opinion of Sandra Hill and Superintendent Burke, Springfield lacks sufficient resources to educate more special education students in the least restrictive environment with access to the general curriculum.<sup>104</sup>

Superintendent Burke also stated that Springfield lacks the necessary professional development for special education teachers and the necessary support for general education teachers who teach students with disabilities. Of 118 middle school special education teachers, 31 do not hold the appropriate special education certification, while 57 are not yet designated “highly qualified;” out of 127 high school special education teachers, 43 lack the appropriate certification and 89 teachers are not yet designated highly qualified. (Ex. 227). Most special education teachers at the high school level are not certified in content areas such as chemistry, biology, and math.

Springfield offers special education training for both special education and regular teachers during the professional development days Springfield teachers must attend in August, but the district provides no in-classroom training or coaching. There is not enough common planning time in which regular and special education teachers can collaborate on how to best provide services to special education students. In addition, special education teachers lack the same access to materials that general teachers have. The schools cannot afford to buy enough special education materials such as workbooks, particularly because teachers need to have multiple grade level materials for students who, although they are in the same grade, function at different developmental levels.

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<sup>104</sup> Although the 2001 CPR Report concluded that Springfield was able to document the placement of students in the least restrictive environment, it also found that inappropriately restrictive placements were common for students with emotional disabilities. (Ex. 5172).

The 2001 CPR report concluded that Springfield has been very successful in aligning its special education curriculum with the curriculum frameworks. (Ex. 5172). Nonetheless, Springfield lacks sufficient resources to meet the commonly accepted goal of having educational outcomes for special education students (except for students with cognitive disabilities) comparable to those for regular education students. The Superintendent testified, without contradiction, that 80% of the special education students in the class of 2003 in Springfield, approximately 150 students, did not pass both the ELA and math MCAS tests and therefore did not qualify for a competency determination, although some were granted the determination through the appeals process. (Burke testimony, 6/17/03, pp. 90-91). In general, MCAS passage rates for special education students in Springfield, and all the other focus districts, lag far behind those of regular education students in all grades and in both math and English. In Superintendent Burke's opinion, which I credit, the high rate of MCAS failure for special education students shows that the special education curriculum is not being delivered effectively.<sup>105</sup>

The Superintendent is also of the opinion that a good number of students in Springfield with disabilities who are sent to expensive out-of-district placements go there because of the deficiencies in Springfield's delivery of special education services. Tuition for out-of-district special education programs rose from \$10.8 million in FY99 to an estimated \$16.8 million in FY03. For FY02, there was an \$11.4 million difference between the State reimbursement for out-of-district tuition and the actual expenditure, and Springfield had to take funds from other budget areas to make up the shortfall. More generally, in FY02, Springfield spent a total of approximately \$51 million on special

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<sup>105</sup> The number of inappropriately certified special education teachers in the district, described in the text above, may be related to the high MCAS failure rate as well.

education, but received only \$28 million from Chapter 70, IDEA and other Federal funds, and out-of-district reimbursements. The difference came out of Springfield's general education budget.<sup>106</sup>

### **17. Teachers and Teacher Openings**

In 2002, Springfield employed 2,639 teachers, 12% of whom were not licensed at all. (Ex. 5034). Two percent of all teachers taught out of their field, while 46 teachers taught out of their field for one or more periods a day. (Ex. 5034). Springfield's executive director of human resources, David Cruise, opines that most of the uncertified teachers are in the special education and bilingual areas, foreign language, math and science. These teachers have waivers from the department and are working toward certification. Cruise believes that most of the teachers teaching out of field are science teachers teaching math classes.

In the district profile for Springfield published on the department's website, the average teacher's salary in Springfield was reported as \$39,879 in 1997, and \$48,800 in 2001. (Ex. 52254A).

Springfield hired 75 new teachers for the 2003-2004 school year, fewer than normal. Springfield has the most difficulty filling positions for mathematics, science, special education teachers, bilingual teachers and certified librarians. Although Springfield has expanded its outreach program, and goes to colleges which conduct on-campus recruitment, it does not use incentive money to attract teachers.

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<sup>106</sup> Superintendent Burke estimated that in FY04, Springfield will spend approximately \$54 million on special education, but will only receive \$30.5 million in State and Federal funding. The district will pay the difference by not funding other areas like art, music and technology.

## **18. Professional Development**

Springfield has paid the \$300 application fee for twelve of its teachers to become nationally accredited by the Board of Professional Teachers Center. Springfield has two certification mentors to help teachers during the certification process. Uncertified teachers are required to make substantial annual progress toward certification. Teachers who are not certified within three years are laid off, as several teachers were in Spring of 2003. Springfield also dismissed three teachers for poor performance in 2002 and two or three in 2001.

The Springfield teachers' collective bargaining agreement mandates 35 hours or five days professional development training in August, before the start of the school year. A variety of professional development courses or workshops are offered at that time and at least to some extent, the teachers may choose what to take. Because of limited resources, Springfield has largely focused its professional development on literacy and math, and needs to increase professional training in social studies, science, health and art. In August of 2002, all teachers in Springfield received ten hours of professional development in reading and ten hours in math. Springfield's districtwide professional development plan in 2003 focused on implementation of the science plan, the pupil progression plan, the reading plan and the English language learner plan. Most teachers in Springfield take 20 hours of professional development a year in addition to the 35 contractually mandated hours. Teachers also get five hours of additional professional development a month, including faculty meetings, team meetings and parent conferences.

Springfield has 40 to 45 resource teachers who provide instructional support to teachers and model and demonstrate lessons. A resource teacher must be a certified teacher, have a master's degree, and have five or more years classroom teaching experience. Springfield provides significant



specialized training to the resource teachers, although some of them do their own course work in pursuing advanced degrees. Springfield also has several teacher specialists who focus on ELA and math and work throughout the school system in grades K-12 to help teachers improve instruction as needed.

New teachers in Springfield receive four days of State-mandated induction and a mentor, who does not necessarily teach in the same subject area. The teachers' collective bargaining agreement calls for all newer teachers to be observed and evaluated annually until they reach professional teacher status. Professional teachers are observed every other year in a comprehensive evaluation process, but principals may informally observe teachers at any time. The hundreds of paraprofessionals in the school district are evaluated annually for ten years, after which they are evaluated every other year. Cruise opined that Springfield has ensured that its teacher performance standards are aligned with State guidelines.

In Superintendent Burke's opinion, Springfield has a largely successful professional development program in terms of meeting the goals of offering opportunities for teachers to become certified and "highly qualified" under NCLB, and providing informational professional development for all teachers, particularly special education teachers. Director of professional development Mary Kate Fenton believes, however, that Springfield does not have the capacity to provide enough actual "embedded," on-site coaching and modeling for teachers, and without this, the district is not providing its teachers with the professional development they need to master the State curriculum frameworks and deliver them to students. In particular, she believes that Springfield cannot provide important on-site support for teachers to help them implement what they learn in professional development workshops, nor can it provide sufficient common planning time to enable teachers to

cooperate in implementing the curriculum framework and individualize instruction to students in need.

In the middle schools, teachers have one 42 minute period of team planning time a week as well as a daily individual planning period. At the high school level, staff members are able to meet as a team once a month.

### **19. School Buildings in Springfield**

There are significant issues of overcrowding in many of Springfield's elementary, middle and high schools. Further, Superintendent Burke testified that Springfield has major problems with respect to maintenance and repair of school buildings. In FY01, Springfield had a foundation budget of \$10.4 million for maintenance and \$6.8 million for extraordinary maintenance, but actually spent only \$9.5 million for maintenance and \$76,139 for extraordinary maintenance. (Ex. 155). According to Burke, one problem in Springfield is that the extraordinary maintenance funds are not under the direct control of the school department, but are controlled by the city's department of physical management. In addition, many buildings are subject to a local historical association review process, and if a project requires major renovations, it will implicate Federal accessibility laws, sometimes requiring millions of dollars of work to update.

Over the last ten years, Springfield has received \$131.2 million in school construction reimbursements from the department's school building assistance program. (Ex. 5196). Three new elementary schools, Boland, Glickman and Milton Bradley, have been built within this time period. Extensive renovations were performed on four other schools. The Commerce High School was renovated in 1998, and the High School of Science and Technology was built approximately ten years ago. No renovation has been done at Putnam Vocational Technical High School; the district has not sought any funds from the State's school building assistance program for this purpose.

## **20. Dropouts**

In 2003, there were an estimated 1,136 students in the twelfth grade. (Ex. 68). Superintendent Burke testified that with respect to the 2003 graduating class, approximately 1,000 students had officially left the system by June, either as dropouts or to enroll in GED programs or the military. Burke estimates that in general, approximately 60% of students who begin ninth grade do not graduate with their class four years later. The department reports Springfield's dropout rate for the 2000-2001 year as 8% compared to a statewide rate of 3.5%. (Ex. 5224A). In the opinion of Superintendent Burke, reducing the dropout rate is an important goal of the public schools, but Springfield is hampered by a lack of funds for truancy and attendance services, and lack of funds to provide special interest programs that keep children in school such as art, drama, dance and music. Springfield has failed to fund such programs because it has limited resources and has chosen for some years to fund foreign languages (which the district understood would be a tested MCAS subject), and to focus on full-day kindergarten. Moreover, the district has faced steady expansion in special education programs, which are required to be funded.

Springfield does have several alternative programs for students at risk of dropping out, such as the Bridge Academy, which serves 75 to 80 students with serious attendance problems and/or law enforcement involvement. Springfield High School is an alternative high school serving 200 students who do not have severe learning or behavioral problems but are not successful in regular high school.

Springfield also runs an alternative high school program at the Massachusetts Career Development Institute. In addition, the Springfield Academy serves children in grades K-12 with serious behavioral problems such as those who are fire setters or sex offenders.

Superintendent Burke testified that Springfield would like to provide extended day and

extended year programs to students at all grade levels to help prevent dropout, but lacks the resources to do so. Springfield is planning a program where entering ninth graders will start the school year in the summer, six weeks early, to gain instruction on the four core academic areas, study skills, and help adjusting to the high school environment. However, the city cannot afford such a program for second, third and sixth graders. In 2003, Springfield received six grants totaling \$1.5 million for summer and extended day programs offering tutoring and MCAS remediation. These have been substantially cut.

**21. Springfield’s MCAS Results**

a. Class of 2003

In 2003, there were an estimated 1,136 students in the twelfth grade. (Ex. 68). As of June, only 73% of these students had passed the MCAS exam and were eligible for a high school diploma. As of September of 2003, 77% of the class of 2003 had passed MCAS and achieved a competency determination; the statewide percentage was 95%. (Ex. 1069).

b. District MCAS Results for All Students

What follows is a summary of the MCAS performance of all students enrolled in the Springfield public schools by grade and subject matter tested for all the years between 1998 and 2003 that the particular subject was tested.

**1. Tenth Grade MCAS Results, Percentage of Students by Subject Matter and Performance Level**

<b>Grade 10 English Language Arts</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	1	0	1	3	4	5
Proficient	10	12	12	15	20	25

Needs Improvement	29	28	26	32	32	36
Warning/Failing	60	60	61	50	43	34

<b>Grade 10 Mathematics</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	1	1	3	2	3	5
Proficient	4	4	7	9	9	13
Needs Improvement	12	12	14	24	24	29
Warning/Failing	83	82	77	66	63	53

<b>Grade 10 Science and Technology<sup>107</sup></b>			
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
Advanced	0	0	0
Proficient	6	7	8
Needs Improvement	26	25	23
Warning/Failing	68	68	69

**2. Seventh and Eighth Grade MCAS Results, Percentage of Students by Grade, Subject Matter, and Performance Level**

<b>Grade 8 English Language Arts</b>				
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
Advanced	0	0	1	1
Proficient	24	22	29	32

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<sup>107</sup> Science and technology was a separate MCAS test for tenth grade students for the three years set out in the text, but the board then stopped testing tenth graders in this subject. The board anticipates including science and technology as a tenth grade test again in 2007. (Ex. 1090; Driscoll testimony, 10/27/03).

Needs Improvement	43	42	38	43
Warning/Failing	33	36	33	25

<b>Grade 7 English Language Arts</b>			
<b>Performance Level</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	1	2	1
Proficient	22	30	29
Needs Improvement	42	39	47
Warning/Failing	35	30	23

<b>Grade 8 Mathematics</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	1	0	1	2	1	1
Proficient	8	5	6	7	5	6
Needs Improvement	15	17	15	23	24	21
Warning/Failing	76	77	77	68	70	72

<b>Grade 8 History</b>				
<b>Performance Level</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>
Advanced	0	0	0	0
Proficient	1	1	1	1
Needs Improvement	12	18	22	19
Warning/Failing	87	79	77	80

<b>Grade 8 Science and Technology</b>				
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2003</b>
Advanced	0	1	1	0

Proficient	8	6	7	5
Needs Improvement	17	13	16	23
Warning/Failing	75	81	76	71

**3. Fifth and Sixth Grade MCAS Results, Percentage of Students by Grade, Subject Matter, and Performance Level**

<b>Grade 6 Mathematics</b>			
<b>Performance Level</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	2	1	2
Proficient	7	10	8
Needs Improvement	22	21	27
Warning/Failing	70	67	62

<b>Grade 5 Science and Technology</b>	
<b>Performance Level</b>	<b>2003</b>
Advanced	7
Proficient	20
Needs Improvement	39
Warning/Failing	33

**4. Third and Fourth Grade MCAS Results, Percentage of Students by Grade, Subject Matter, and Performance Level**

<b>Grade 4 English Language Arts</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	0	0	0	2	2	3
Proficient	7	7	7	26	29	29

Needs Improvement	62	66	69	48	47	46
Warning/Failing	31	27	24	24	22	22

<b>Grade 4 Mathematics</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	3	4	3	3	4	4
Proficient	12	12	16	12	15	17
Needs Improvement	43	45	48	47	43	46
Warning/Failing	42	39	33	38	38	34

<b>Grade 3 English Language Arts</b>			
<b>Performance Level</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Proficient	39	44	42
Needs Improvement	46	42	41
Warning	15	14	17

(Ex. 5224A, Springfield).

3. Spring 2002 Fourth and Eighth Grade MCAS Results for Special Populations of Students
  1. *Students with Disabilities and Limited English Proficiency, Percentage of Students by Grade, Subject Matter and Performance Level*

<b>Grade 4 English Language Arts</b>			
<b>Performance Level</b>	<b>Disabled</b>	<b>LEP</b>	<b>Regular<sup>108</sup></b>
Advanced	0	1	3

<sup>108</sup> The “regular” students category is comprised of all students who do not meet the definition of disabled or limited English proficiency (LEP).



Proficient	8	10	35
Needs Improvement	44	36	49
Warning/Failing	48	53	13

<b>Grade 4 Mathematics</b>			
<b>Performance Level</b>	<b>Disabled</b>	<b>LEP</b>	<b>Regular</b>
Advanced	0	0	5
Proficient	6	5	18
Needs Improvement	36	24	47
Warning/Failing	57	71	30

<b>Grade 10 English Language Arts</b>			
<b>Performance Level</b>	<b>Disabled</b>	<b>LEP</b>	<b>Regular</b>
Advanced	0	0	5
Proficient	3	41	22
Needs Improvement	20	24	34
Warning/Failing	76	35	39

<b>Grade 10 Mathematics</b>			
<b>Performance Level</b>	<b>Disabled</b>	<b>LEP</b>	<b>Regular</b>
Advanced	0	0	4
Proficient	3	6	10
Needs Improvement	8	41	26
Warning/Failing	89	53	60

**2. Race/Ethnicity<sup>109</sup>, Percentage of Students by Grade, Subject Matter and Performance Level**

<b>Grade 4 English Language Arts</b>						
<b>Performance Level</b>	<b>AA</b>	<b>API</b>	<b>H</b>	<b>NA</b>	<b>W</b>	<b>M/O</b>
Advanced	2	2	1		7	3
Proficient	27	46	19		45	35
Needs Improvement	53	46	48		39	53
Warning/Failing	19	6	31		9	9

<b>Grade 4 Mathematics</b>						
<b>Performance Level</b>	<b>AA</b>	<b>API</b>	<b>H</b>	<b>NA</b>	<b>W</b>	<b>M/O</b>
Advanced	2	6	1		10	6
Proficient	11	28	9		28	18
Needs Improvement	47	48	41		43	45
Warning/Failing	40	18	48		18	30

<b>Grade 10 English Language Arts</b>						
<b>Performance Level</b>	<b>AA</b>	<b>API</b>	<b>H</b>	<b>NA</b>	<b>W</b>	<b>M/O</b>
Advanced	3	4	1		11	7
Proficient	19	37	11		37	25

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<sup>109</sup> Students taking the test self-identified as African American/Black (AA), Asian or Pacific Islander (API), Hispanic (H), Native American (NA), White (W), or Mixed/Other (M/O). Note that the scores of Native American students were not reported, to protect confidentiality.

Needs Improvement	35	41	30		30	41
Warning/Failing	43	19	58		23	27

<b>Grade 10 Mathematics</b>						
<b>Performance Level</b>	<b>AA</b>	<b>API</b>	<b>H</b>	<b>NA</b>	<b>W</b>	<b>M/ O</b>
Advanced	2	13	1		9	5
Proficient	7	10	4		21	14
Needs Improvement	26	50	16		37	27
Warning/Failing	65	27	79		33	55

**3. Low Income Students (Free or Reduced Price Lunch), Percentage of Students by Grade, Subject Matter and Performance Level<sup>110</sup>**

<b>Low Income Students</b>				
<b>Performance Level</b>	<b>Adv.</b>	<b>Prof.</b>	<b>N.I.</b>	<b>F/W</b>
Grade 4 English Language Arts	2	26	48	24
Grade 4 Mathematics	3	12	44	41
Grade 10 English Language Arts	5	14	35	46
Grade 10 Mathematics	3	7	22	68

(Ex. 177).

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<sup>110</sup> No group is provided for comparison to the low income students.

## **22. Springfield's SAT Scores**

In 1995, the average verbal SAT score for Springfield high school seniors taking the test was 435, and the average math score was 440, with a 45% participation rate. In 2000, the average verbal SAT score was 439, and the average math score was 437, with 51% of seniors participating. (Ex. 5224A; 1072).

### **F. The Winchendon School District: Specific Findings**

Winchendon is a small town in northern Worcester County. It had a total public school enrollment of 1,896 in the 2002-2003 school year. (Ex. 5224A). Winchendon has a total of four schools: Marvin School, which houses a public school preschool program; Memorial Elementary School, for kindergarten through grade 3; Toy Town Elementary School, for grades 4 through 6; and Murdock Middle High School for grades 7 through 12. In 2002-2003, 93.6 % of Winchendon's school-aged children attended public schools. Winchendon is a member of the Montachusett Vocational Technical Regional School District.

## **1. Demographic Information**

Winchendon's school population includes very few minority students. Of the total student population in the 2002-2003 school year, 94.6 % were white, 2.6 % were Hispanic, 1.5 % were African American, 1.3 % were Asian, and 0.0% were Native American. Winchendon reports no children with limited English proficiency. Winchendon's special education student population was 18.9% in 2002-2003, compared to 15.2 % for the State as a whole. The percentage of students in the district who are reported to be eligible for free or reduced price lunch was 23.6 %, compared to a statewide average of 26.2%. However, Winchendon ranks in the lowest quartile of the State in terms of median family income, and, like the other focus districts, close to the bottom of every measure of wealth in the Commonwealth. In 1999, its per capita income was \$18,798, ranking Winchendon as 321 out of 351 cities and towns; its median household income was \$43,750, which was 289 out of 351; its median family income was \$50,086, which was 308 out of 351, and its equalized property value per capita placed it at the rank of 346 out of 351. (Ex. 1079).

## **2. School Funding**

Between 1993 and 2003, Winchendon's actual net school spending (NSS) almost tripled, from approximately \$5.78 million to almost \$14 million, while its enrollment over this period of time increased but certainly did not triple. As in all the focus districts, there has therefore been a real increase in funds available for Winchendon's schools over the last decade, and not simply an increase tied to enrollment.

In FY93, Winchendon's foundation budget was \$7.8 million, with a Chapter 70 contribution of \$3.3 million. By 2001, Winchendon's enrollment had grown by about 300 students to 1,856 and the foundation budget was \$11.4 million, with a Chapter 70 contribution of \$8.75 million. In FY02,

enrollment grew slightly, but the foundation budget grew by 12.6% to \$12.8 million, with a Chapter 70 contribution of \$10.4 million. The required NSS increased by 15.3 %, and the actual NSS was \$13.5 million, an increase of 12% from the previous year.

In FY03, Winchendon's foundation budget decreased slightly to \$12.67 million, with the same Chapter 70 contribution as in FY02. The required NSS in 2003 was \$14.4 million, and, as indicated above, the actual NSS was almost \$14 million. For FY04, Winchendon's foundation budget was \$13.1 million, with a Chapter 70 aid contribution of \$9.5 million, a decrease of 8.8%; the required NSS decreased to \$13.7 million. (Ex. 5065A). The actual NSS for FY04 is not known yet, but is expected to be at or around the foundation budget level.

When Winchendon's foundation budget is considered on a per pupil basis, the figures are as follows:

	<b>Dollars per Pupil</b>			<b>Percentage of Foundation</b>		
	<u>Fdn Budget</u>	<u>Ch 70 Aid</u>	<u>Actual NSS</u>	<u>Ch 70</u>	<u>Required NSS</u>	<u>Actual NSS</u>
<b>FY 93</b>	\$5,030	\$2,156	\$3,717	42.9%	73.9%	73.9%
<b>FY 01</b>	\$6,145	\$4,892	\$6,480	79.6%	105.4%	105.5%
<b>FY 02</b>	\$6,817	\$5,542	\$7,152	81.3%	107.9%	104.9%
<b>FY 03</b>	\$6,730	\$5,548	\$7,427	82.4%	113.7%	110.4%
<b>FY 04</b>	\$6,989	\$5,077		72.6%	100.0%	

**Chapter 70 Aid as Percent of Actual NSS**

- FY 93:** 58.0%
- FY 01:** 75.5%
- FY 02:** 77.5%
- FY 03:** 74.7%
- FY 04:**

In FY03, Winchendon received State and Federal grants totaling \$1.2 million. (Ex. 5203). These included a class size reduction grant of \$37,862, which allowed the district to hire additional staff and thereby reduce the size of its classes. All State class size reduction grants have been eliminated for the 2003-2004 year, but Winchendon may still receive a Federal class size reduction grant.

There are two sources of private funds available to Winchendon: the Murdock Trust Fund and the Robinson-Broadhurst Foundation. The Murdock Trust Fund money is used to order supplies in the district, but the trust stipulates that its funds are to be used for children ten or older. Accordingly, the Memorial School cannot use these funds, and is particularly hard hit with respect to supplies.

The growth in spending looks and is impressive, but it has not created either a well-funded or well-functioning school system in Winchendon. The superintendent of Winchendon, Dr. Robert O'Meara, began in that position in August 2002.<sup>111</sup> At that time, the principals of three of Winchendon's four schools had recently resigned or retired, and two assistant principals had resigned.

All the administrators who resigned took jobs in other Massachusetts school districts. Thus, one month before the 2002-2003 school year began, O'Meara put in place a new administrative team, with two new principals from outside the district, and one principal moving from Toy Town (grades 4 through 6) to Memorial and Marvin (pre-K through grade 3).

Superintendent O'Meara froze the 2002-2003 school budget in August 2002, at the outset of his tenure, because it was clear there would be insufficient funds to last the year. The local aid cuts made by the Governor in January 2003, often referred to in local budget documents as "9C cuts," reduced funds for the Winchendon schools further. Consequently, the school department did not fill certain positions such as a curriculum coordinator for the district, and a number of teaching positions. No new textbooks were ordered except for emergency replacements of damaged or missing books, and teachers had to buy supplies on their own. For the 2003-2004 school year, Winchendon's budget is in the neighborhood of \$14.11 million. This is a level service budget that does not include any new positions or programs. The budget contains no money for stipends to have teachers work on alignment of Winchendon's curricula with the State curriculum frameworks; little money for professional development and in particular, professional development concerning the curriculum

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<sup>111</sup> The deputy commissioner thinks highly of Superintendent O'Meara's capabilities as a superintendent; the commissioner does not know O'Meara well enough to have an opinion..



frameworks; no money for remedial services for students who are failing or at risk of failing the MCAS exam; no money to reduce some of the larger classes; and no money for foreign language programs.

The superintendent is of the opinion that Winchendon does not have adequate resources to meet the curriculum frameworks, or to equip its children with the seven *McDuffy* capabilities. He believes that Winchendon did not have these resources for the 2002-2003 school year, and will not have them for the 2003-2004 school year.

### **3. Preschool Program**

There are approximately 260 three and four year olds in Winchendon, but only 85 to 92<sup>112</sup> children are enrolled in the public preschool program at the Marvin School. Students are enrolled by a lottery system because there are more children who would enter the program than there are slots, and there is always a waiting list. In 2002, the waiting list was 72 students; in the early summer of 2003, the waiting list was 60, but the early childhood coordinator projected it would grow to a number closer to 80 by Labor Day. The waiting list would be even larger if the school system could better educate parents about the importance of early childhood education. The school is unable to enroll more preschool students because of a shortage of space and teachers.

Of the 87 students who did attend public preschool in 2002-2003, one child with special needs attended a special full day pre-K program, and the others attended a part-day program, two and one-half hours a day, three or four days a week. For two years beginning in 1999, Winchendon used State

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<sup>112</sup> The number depends on the year; at times the special needs of particular students may require a smaller class.

grants to fund a preschool “wrap around” program, a combination of structured preschool for part of the day and child care for the rest of the day, so that working families would be able to participate. The grant funds were cut, however, and Winchendon no longer operates this program.

The preschool program is funded in large part by Community Partnership for Children (CPC) grants from the State. These grants have been cut approximately 30% since 2001, and 20% were cut just in 2003. As a result of the 2003 cuts, the program had to eliminate all the professional development as well as materials and supplies from the grant. In light of the cumulative cuts, the coordinator took a teacher off the grant for FY04, and sought funding from the private Murdock Trust for this position for the year.

The public school preschool program offered by Winchendon is the only center-based child care program in the town. It is nationally accredited, and with respect to its special education services, received very high marks from the department in its coordinated program review. The program tries to keep a ratio of half special needs children and half regular education children in each classroom. Its teachers by definition have bachelor’s degrees, and they all hold degrees in special education. The lottery system described above applies only to the non-special needs children, because those with special needs must be guaranteed a place in the program.

The building in which the preschool program is offered was renovated within the last ten years, with assistance from the Massachusetts school building assistance program.

#### **4. Elementary Schools**

The Memorial School, which serves grades K-3, had 641 students in 2000-2001, 615 in 2002 and approximately 549 in 2003. (Ex. 127, 140). Approximately 21% of its students were classified as eligible for free or reduced price lunch (FRL) in 2002. The percentage of special education students with IEPs was 14.2%, compared to the district percentage of 18.9%. The school was built in the 1970's and has, in accordance with the trend at the time, large open classrooms. The trend has been discredited, but the open space remains. The classroom spaces are divided into pods, separated from each other by bookcases and low partitions, but it is very noisy with a significant potential for distraction.

The kindergarten has two full day programs and six half day programs. Entry into the full day kindergarten programs is by lottery because demand is greater than availability. The full day programs were made possible through grants from the department. Winchendon wants more full day kindergartens but lacks the resources and space to do this. About half the children who start kindergarten have not had any preschool. Many come from homes where they have had little experience with crayons, books, or any form of text. These children have no school readiness preparation.

In 2002-2003, there were approximately 17 students in each first grade class. For the 2003-2004 school year, the principal projected there would be 23 students, if Winchendon receives a class size reduction grant that would enable it to hire another teacher; otherwise the projection is for 27 students per class.<sup>113</sup>

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<sup>113</sup> If Winchendon was relying on State funded class size reduction grants, then it clearly did not receive one, since all class size reduction grants were eliminated by the State for FY04.

Memorial's English and reading program is not aligned with the State ELA framework. Superintendent O'Meara stated that Memorial has a "tremendous" need for more phonics to be used in the teaching of reading in the early grades, to align it to the ELA curriculum framework; I infer from this that despite the apparent recognition of the importance of phonics to the teaching of reading, many Memorial teachers do not incorporate them into the reading program.

There is no individual who is charged with supervising or coordinating the mathematics program at the elementary school level in Winchendon. Memorial School has insufficient money for math manipulatives and other consumable materials that are so important for the early grades, and teachers frequently buy their own materials.

According to the "school report card" that Memorial prepared and sent to parents and others in April 2003 as required by NCLB, 100% of Memorial's teachers were licensed, and 100% of its teachers in the core subjects of reading, English language arts and mathematics were "highly qualified" as the department permits that term to be defined. (See note 79 above). In addition, based on the third grade MCAS reading test scores, Memorial reported that it met its improvement targets for 2001 and 2002, so that it made "adequate yearly progress" under NCLB.

Toy Town School serves students in grades 4 through 6. Its enrollment was 492 students in 2000-2001, 469 students in 2002, and approximately 463 students in 2003 (Ex. 127, 141).<sup>114</sup> As of 2002, Toy Town reported that its percentage of FRL students was 31.1%, compared to 21% for

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<sup>114</sup> The student enrollment for 2002-2003 is taken from ex. 127, which is a count of students in all the Winchendon public schools as of the week beginning April 28, 2003. According to the superintendent, Winchendon prepares such a count every week. The principal of Toy Town, Maureen Ryan, however, testified that there were 444 students in the school in 2002-2003.

Memorial and 23.6% for the district itself.<sup>115</sup> The percentage of special education students with IEPs is 22.8%, compared to 18.9% for the district.

Toy Town is overcrowded, and it has inadequate spaces and facilities to deal with its special education students, a determination made by the department, and concurred in by Winchendon.

Class size at Toy Town generally ranges from approximately 21 to 24 students, although there are a few classes which have 17 or 18 students each. Toy Town received Federal grant money for class size reduction in the 2002-2003 year, but used it to hire a Title I teacher instead, in part because of need and in part because there was no physical space to add a classroom.

The academic program at Toy Town has serious weaknesses. According to the Winchendon superintendent and Toy Town's principal, the core academic subjects taught at Toy Town, including English language arts, social studies, science, and mathematics, are all unaligned with the relevant State curriculum frameworks. The school's MCAS scores for mathematics in particular are problematic; they are rated "very low" by the department, and in fact the rating declined from 2001 to 2002. This is due in part to the fact mentioned previously that the math text book series for K-6 are unaligned with the math curriculum framework and outdated. In the 2002-2003 school year, a committee of teachers and administrators researched the appropriate math text book to purchase, and

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<sup>115</sup> There was no real explanation for why Toy Town has such a larger percentage, but the principal opined that the school tries very hard to have eligible families sign up for free or reduced price lunch.

the district was going to seek funding for the purchase from the Murdock Trust.<sup>116</sup> As of early January 2004, however, no final decision had been made, and Toy Town presumably continues to use the admittedly outdated and inadequate text book.

The science offerings at Toy Town are limited, and the ability to purchase supplies for science, and especially for the type of hands-on science learning experiences contemplated by the science curriculum framework, is very limited. Toy Town has a grant of \$500 a year from the Mobil Corporation for science supplies, but this covers only one class. As a result, the different classes take turns with the supplies. Although there are computers in every classroom, Toy Town has no certified computer teacher. The art teacher and the librarian each spend half their time teaching computer classes, and neither is certified in the subject.

The library at Toy Town is staffed by a certified library teacher (library media specialist), but she spends two of the eight periods every day teaching computer skills. As just mentioned, she is not certified to do so; the only classes she has taken on computers are from the technology coordinator for Winchendon. When she is teaching computer skills, the library must be closed since there is no paraprofessional or aide. The Toy Town school library is far from fully stocked in terms of an adequate number of current titles and periodicals.

Toy Town has one guidance counselor for the entire school, all 444-470 students. The one social worker for the district works entirely at the middle high school, and there is no attendance

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<sup>116</sup>All the text books and educational supplies for the 02-03 and 03-04 school years are coming from private Murdock Trust or Robinson-Broadhurst Foundation grants, and not from Chapter 70 aid or local contributions.

officer. The two psychologists for the district are involved entirely in testing children, not in providing services. The single guidance counselor runs a student support team that tries to provide pre-special education referral services for every student needing such pre-referral services in the school. She is also the coordinator for the disability plans under the Federal disability law for every affected student, the homeless services coordinator for the four families who became homeless during the past year or so, and the person responsible generally for foster care students. She has no secretary or administrative support. Toy Town has an enormous need for more guidance counselors and student support services. There is also a need for services and resources to try to encourage more parental involvement with the school and with their children as students.

The school's playing fields contain wetlands areas, which has made it impossible to put in a basketball court and soccer field because there is no money for drainage. The entire bottom floor of the school is filled with mold, in part due to the wetlands and in part due to a decrepit heating/ventilation system that the school cannot afford to repair.

Toy Town's 2003 NCLB report card, which covers data from the 2001- 2002 school year, states that Toy Town did not make adequate yearly progress (AYP) for either the 2000-2001 or 2001-2002 school years in grade 4 ELA and mathematics. This means that Toy Town is classified as an "underperforming school" for purposes of NCLB. The report card also indicates that 97% of Toy Town's teachers are licensed, and 97% are "highly qualified" within the DOE's permitted definition of that term. (See note 84 above.)

## **5. Title I Program<sup>117</sup>**

Winchendon does not have any individually qualifying schools for purposes of Title I, but qualifies for Title I funds as a district. Although Title I grants must be applied for, they are an entitlement grant, not a competitive grant. Winchendon's Title I grant funds have grown over the past few years. In 1995, Winchendon received a Title I grant of \$202,000; in 2002, it was \$241,000; and in 2003, it was \$269,000. Winchendon has a Title I director who also serves as a Title I "reading recovery" program teacher at the Memorial School.<sup>118</sup>

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<sup>117</sup> Title I of the Elementary and Secondary Education Act of 1965 has been folded into NCLB. See 20 U.S.C. §§ 6301-6578. Title I in substance authorizes grants to individual schools with a large percentage of low income children, or to districts as a whole, again based on the percentages of low income children.

<sup>118</sup> Reading Recovery is a program for at risk children in the first grade. It offers one half hour a day of small group reading instruction for twenty weeks – half the school year. Winchendon has four trained Reading Recovery teachers who work collectively with a total of 32 children each year. The goal is to return these students, who are at the lowest reading level in the first grade, back to their class reading at or above grade level.



Currently, there are four full-time Title I teachers in Winchendon, and two who are half time. In the past, Winchendon had seven Title I teachers and offered Title I services from kindergarten through sixth grade, but at present the program operates in grades 1 through 3 at the Memorial School, with a Title I teacher added to Toy Town about halfway through the 2002-2003 school year.<sup>119</sup> The Title I teachers provide intervention for reading, and a little bit of mathematics.

The Title I program has real limitations due to limited funds. It is not entirely clear why Winchendon was able to provide Title I services to substantially more grades in the past than it can now, but presumably it is because the Title I grant monies have not increased at the same rate as teacher salaries and the cost of the materials used in the program. Title I teachers are certified teachers, paid according to the same pay scale as other teachers in Winchendon even though the funds may come from the Title I grant. In any event, the scope of the program has shrunk in terms of grades reached, and there is no question, based on the low MCAS scores at Toy Town, that intervention services are necessary. In addition, as the Title I director stated, to be most effective, the program needs to test children's reading at the beginning and end of the school year, to determine who should be receiving the intervention services and to test their effectiveness, but there are no funds to do so. The only early grade reading test Winchendon has is the third grade MCAS test. There are also insufficient funds to purchase manipulatives for the program.

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<sup>119</sup> Apparently the delay was due to the fact that it took a long time to find a qualified Title I teacher for the slot. The Title I teacher in Toy Town is in fact paid for by grant monies under another title of NCLB.

In order to preserve the number of teachers presently in the Title I program at Memorial, the Title I director gave up part of the stipend she receives for serving as director. There is no longer money available for professional development, including attendance at the annual conference sponsored by the department for Title I programs. While there are free summer content institutes offered by the department on reading and Title I issues, the Winchendon Title I director has never attended because she works during the summer at other jobs.<sup>120</sup> There is also no longer money available to offer early intervention programs during the summer for at risk students about to enter kindergarten, or any Title I after-school programs, although these programs have been offered in the past.

## **6. Middle and High School**

Grades 7 through 12 are at Murdock Memorial Middle High School (MMHS). In 2000-2001, there were 838 students in these grades; in 2001-2002, there were 812, and in 2002-2003, there were 796. In 2002, 21.2% of the students qualified for FRL, and 16.8% were special education students, compared to district percentages of 23.66% and 18.9%, respectively.

The MMHS school building was built approximately eight years ago, with funds from the Massachusetts school building assistance program. By all accounts, it is an attractive building with excellent facilities. There are nine science labs, a library, a gym, eight special education rooms, a cafeteria, an auditorium with a stage, health suites, a middle school main office and a high school main office, a conference room, two teacher rooms, and four or five computer labs.

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<sup>120</sup> There was no evidence as to whether other Title I teachers had ever attended a DOE summer content institute.

The English language arts program at the high school offers no electives at all. There is one section of AP English in grades 11 and 12, and also honors classes. In the middle school, a team teaching approach is used: students stay together and are taught by a team of core subject teachers for two years. There are no reading teachers at the middle school, although many students still have reading needs. Winchendon received a grant last year to assess middle school reading levels.

There are insufficient text books for ELA throughout MMHS, so that classes often have to share novels, for example, and coordinate when the novel will be taught in which class. In some classes, there are not enough books for all the students, and thus not enough books for the students to take home for homework.

With respect to mathematics, MMHS created a curriculum guide in the summer of 1998 based on the previous version of the mathematics curriculum framework. The curriculum framework changed radically in 2000, and MMHS has not realigned its curriculum to it because, the grade 7 through 12 math coordinator explained, the teachers have not been given adequate time to do the alignment work. In seventh and eighth grades, the math text books cover the necessary information, but no one has gone through them and sought to develop a scope and sequence tied to the curriculum framework.<sup>121</sup> No one has been charged with the responsibility for curriculum alignment generally in the district.

For the seventh and eighth grade teams, the 2002-2003 school year was the first in a long time

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<sup>121</sup> A little money in the summer of 2003, however, was going to be used to deal with issues of curriculum alignment for mathematics, but the 7 through 12 coordinator did not anticipate that the job could be anywhere near finished in light of the short time.

in which each team actually had two math teachers, one for each grade. In the past, the math teacher for one of the teams has been required to teach both grades. Part way through the 2002-2003 school year, however, one of the math teachers was reassigned to teach remedial MCAS math at the high school to students who were failing, but two math teachers were scheduled again for the 2003-2004 year. None of the current grade 7 and 8 math teachers are certified in mathematics. There was one teacher in the 2002-2003 school year who was certified in math, but that teacher left. The other three math teachers are certified as K through 8 “generalists.”

Winchendon has a set of 25 graphing calculators which it provides to students who take calculus and pre-calculus in the high school. There is no use of graphing calculators at the middle school level or even early high school. There is a math computer program, but the computer in question is generally used for MCAS review, and is therefore not usually available to the other teachers and their classes.

The mathematics coordinator believes that while strong students will in the end succeed, the MMHS math program is failing the average student and the student who is struggling. The school does not have the staff or remedial services that it needs, and it does not have an ability to test grade to grade for remediation purposes.

The science curriculum for grades 7 through 12 is not aligned with the science curriculum framework. It would take hundreds of hours to do the alignment; MMHS does not have funds available to pay teachers stipends to work on this project, either during the school year or over the summer. Although the science curriculum framework calls for hands-on learning, MMHS lacks sufficient money to purchase the amount of consumables necessary to make such a program work.

There are three teachers who teach middle school science, but only one is certified as a

science teacher. In the opinion of the middle school department head, salaries present a problem for retaining qualified science teachers, who have gone to other districts with higher salaries. There are four science labs for the middle school, which are physically adequate. However, equipment, supplies such as dissection materials and chemicals, and text books are lacking. There are insufficient numbers of microscopes for the middle school, with approximately ten students per microscope. The lack of funding for these items for the seventh and eighth grades has affected instruction. Because there is a lack of equipment and supplies, the teacher may give a lecture and demonstration rather than a hands-on lesson, skip the subject altogether, or buy the equipment herself. All the science classrooms have one computer, but for a class of 24-26 students, this is not enough.

There are five science teachers in the high school, and five labs. In addition, the music teacher teaches two physics classes. He is not certified in science, but is working on that certification. There is no lab available to him, and he teaches the physics classes in the music room. The labs themselves are built for 24 students, but there are science classes with 30 students. This creates safety issues for the labs and limits what can be taught. Insufficient numbers of staff make it very hard to meet the needs of students not headed for a four-year college. For a student interested in applying to a four year college, particularly a student interested in science, the science coordinator believes it is difficult to meet that student's needs for a range of courses. Nevertheless, there is an advanced placement biology course, and honors level chemistry and physics courses, as well as anatomy and other sciences.

There is no professional development devoted to science instruction. The department head for seventh and eighth grade science stated that the department's summer institutes are not applicable to what she teaches or what the high school teachers teach at MMHS; in any event, she has never

attended one of the summer institutes.

The foreign language program at MMHS is not aligned to the State's foreign language curriculum framework. MMHS offers a cultural exposure course in seventh and eighth grades for 45 days, but this actually has no formal foreign language component. Approximately 20 high achieving students in eighth grade, however, are offered the opportunity to take French or Spanish at a ninth grade level for that 45 day period. MMHS offers French and Spanish beginning in the ninth grade. Most students who take foreign language take two years. There are four years of French and Spanish offered, including honors, but no advanced placement. MMHS has four foreign language teachers, one for the middle school and three for the high school, and two language labs. At least one of the teachers, who was a witness, is not certified. She teaches Spanish at the high school level, but is certified in English. She has never taken any foreign language professional development course, nor does she plan to. She also has no plans to become certified to teach in Spanish, but there was no indication that she would not continue to teach the subject.

The health program at MMHS is very limited. MMHS has four teachers teaching health, all of whom are certified in physical education but not health. Indeed, the one health teacher who testified indicated that he had never taken a health course but rather, had learned by doing. In the 2002-2003 school year, students in seventh and eighth grades had health classes for 22 days out of the school year. In the 2003-2004 school year, due to a strong belief in the importance of health education on the part of the MMHS principal, middle school students will have 45 days of health classes per year. However, this is still not enough time to cover the curriculum framework. At the high school level, students must take one semester of health, for a total of 45 days. The class is 50 minutes in length, but there are only 35 minutes of instruction because the teachers have locker

room duty and cannot start the health classes on time. There is no text book, but Winchendon uses a commercially prepared health program called WAVE that apparently includes coverage of curriculum framework topics. Winchendon's students have serious health educational needs, but MMHS cannot teach all the strands of the health curriculum framework because of a lack of teachers and time.

MMHS has one guidance counselor for seventh and eighth grades, one for ninth and tenth, and one for eleventh and twelfth. The principal feels this is inadequate. There is also a school adjustment counselor who monitors the MCAS tests, does crisis interventions and provides other services.

The MMHS library has one library media specialist to serve approximately 800 students, and one library aide. There are 20 computers in the library, one of which is dedicated to the card catalogue, and 11 of which are available for student use. Students are able to access all books and materials at the library on line, and they also have available on line research. Although the library could use more computers for the students, its ability to purchase media equipment has been frozen for three years running. The library media specialist believes that the library resources are insufficient to support the curriculum frameworks, and that in fact, the library is losing ground in the effort to stay abreast and relevant to the frameworks.

## **7. Technology**

Winchendon does not meet the department's technology benchmarks, but it has come much closer over the past five years. For example, in relation to the benchmark stating that by the year 2003, every district should have at least a 5:1 student to computer ratio of modern, fully functioning, Internet-enabled computers and devices. Winchendon's ratio is 6.69:1, and 100% of the classroom computers have Internet access. This is an enormous improvement compared to 1998, when the student-to-computer ratio was 78.3:1, and only 3% of the classrooms had Internet access. (Ex. 5167; 5165). Without any upgrading of existing computers, however, the ratio of students to fully functioning, Internet-enabled computers will increase. The computers in the middle high school are already seven years old.

Winchendon does not have a technology support person. It has about 450 computers, but no one who is there to keep them running, and the district must use contract services when computers need repair. Winchendon does have one person who supports faculty and staff in achieving technology competency and integrating technology into the curriculum. Although the benchmarks call for having access to the Internet available outside school hours, Winchendon is limited in its capacity to do this because it does not have the staff to keep the schools and computer labs open.

Winchendon receives a technology entitlement grant every year, the purpose of which is to provide teacher training to integrate technology into the curriculum. The technology coordinator estimates that approximately 15% of Winchendon's teachers are integrating technology into their curricula, but 80% of teachers do not use computer technology at all. In 2001-2002, Winchendon spent \$14,000 on professional development dealing with integration. However, this amount was insufficient, as was a grant procured during the 2002-2003 year. There are other private grant



programs dealing with professional development for integration of technology into the curriculum, but Winchendon failed to submit applications for any competitive technology grants during FY01, FY02 or FY03. In FY04, Winchendon did apply for a technology enhancement competitive grant, which would award \$200,000 over two years. At the time of trial, it was not known whether Winchendon received this grant.

### **8. Arts Program**

Winchendon does not have a coordinator for the arts. The district offers no theater to speak of, and no dance at all. Winchendon has four arts teachers for the entire district: one for kindergarten through third grade; one for fourth through sixth; one for seventh and eighth, and one for the high school. At Memorial Elementary School (K-3), the students have one 40 minute period of art every six days; at Toy Town (4 through 6), the students have 45 minutes of art weekly.

At the middle school, students have art classes for one quarter of the year in both seventh and eighth grades, one hour per day for 45 days. At the high school, art is an elective. There is one art teacher there, who is certified and highly qualified by any definition. She teaches eight different courses during the year, and believes she follows the State arts curriculum framework fairly successfully, except that she does not have the necessary technology to provide that part of the curriculum. This means that students do not learn anything about computer-assisted design or graphic design, which are two important fields for employment in the arts. The absence of more art teachers is a resource issue, and means that not all students who would take art are able to do so. There is no professional development offered by Winchendon for art, but the high school teacher takes courses on her own.

There is one music teacher at Memorial, and one at Toy Town. The teachers at least are able

to introduce the strands of the music curriculum framework, although there is not enough time for the students to master any of the material. The music text books are very old. In the middle school and high school, the music program is extremely limited. In the middle school, there was a general music class offered at the beginning of the 2002-2003 school year, but the teacher withdrew and was not replaced for months. When the new teacher arrived, it seems he only offers instrumental lessons (and teaches physics). There is no music class offered, only chorus and band, which are elective extra-curricular activities. Accordingly, a student may go from seventh through twelfth grades without any exposure to music.

### **9. Athletics Program**

Winchendon has a fairly comprehensive athletic program for a district its size. There is a director and an assistant director of athletics who share a \$10,000 stipend for their work in the athletic program. The director is the assistant principal of Toy Town, and the assistant director is one of the MMHS physical education/health teachers. In addition to the two directors, there are approximately 37 to 40 coaches and assistant coaches for the girls' and boys' teams in a variety of fall, winter and spring sports. The coaches and assistant coaches also receive small stipends for their work. The budget for the coaches involved in the athletic program is \$95,000.<sup>122</sup> In FY03, this expense was paid for by a grant from the Robinson-Broadhurst Foundation. The costs were not included in the district's net school spending budget funded by Chapter 70 funds and local contribution. Foundation funds were not available for this purpose in FY04, and the expense was included in Winchendon's budget for MMHS, along with associated costs of police/EMT service, "athletic official" salaries and custodial overtime.

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<sup>122</sup> As should be obvious, the athletic program described here concerns competitive sports

Winchendon school officials believe that a viable competitive sports program is a necessary component of its middle and high school program, and an integral part of the educational experience. It teaches the students accountability, dedication, commitment, and leadership, and, for a good number of students, provides a reason to stay in school. I accept this view.

## **10. Special Education**

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that represent extra-curricular activity, not the physical education programs offered as part of the regular curriculum at each of Winchendon schools.

The department recently conducted a coordinated program review (CPR) of the special education program offered by Winchendon, as well as of some other Federally funded programs including Title I services designed to assist low income children at risk of failing to perform. The review was conducted in the first half of 2003, and included a visit by an evaluation team to the district for a week in February, when team members met with teachers, paraprofessionals, parents, administrators, and students. The CPR report concluded, and Winchendon school officials agree, that throughout the district, Winchendon does not have the requisite staff to perform special education evaluations in a timely manner.<sup>123</sup> The CPR report further found that at MMHS, the basic classes for the Pathways program and students with learning difficulties are not aligned with the curriculum frameworks. The CPR report noted that at Toy Town elementary school, special education services as well as Title I services are provided inappropriately in a school hallway or closet-size resource room. At Memorial elementary school, distractions arising from the open space configuration of the building were found to make the delivery of special education services at times nearly impossible. Special education services there are often provided right outside the bathrooms because that is the only area available.

Through the 2002-2003 school year, students received special education and special Title I services in “pull-out” spaces that were located in halls and in the basement because of a lack of space. As a result of the CPR report’s criticism of these pull-out spaces, in the 2003-2004 year, all such

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<sup>123</sup> With the younger children, Winchendon also lacks sufficient staff to form pre-referral teams that could identify and offer support to deal with potential problems with reading or behavior, as a step before a child is referred to special education services.

services will be provided within the classrooms since there is no other space available. This will be noisy and distracting, and in the experience of Toy Town's principal, does not work well.

The district's administrative offices are located at Toy Town, including the superintendent's office, the district special education office, technology office, the office of the staff member in charge of grants and MCAS remediation, and the business manager. The presence of these administrators obviously contributes to the lack of space for students and for special education services. The superintendent testified that he is seeking to move the administrative offices, but there is no evidence that he has been able to.

At Toy Town, the school seeks to place special education students in the least restrictive environment, and does so. The quality of instruction in the inclusion classrooms is a different matter. According to the principal, it would be improved greatly with more staff and more training of regular education teachers on how to deliver lessons to children with different learning styles.

At MMHS, there are roughly 70 students with IEPs. There are four special education teachers, and the special education coordinator also spends about half of her time teaching. As at Toy Town, one of the major problems at MMHS is that the regular education teachers are not trained to teach students with special educational needs and may resist doing so. According to the MMHS special education coordinator, professional development for regular education teachers about teaching special education students, and professional development for special education teachers on content, are both non-existent,<sup>124</sup> and common planning time for regular and special education teachers is virtually so. I infer from the special education coordinator's testimony that she does not

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<sup>124</sup> The special education coordinator and a number of other teachers testified that at the present time, most of the professional development offered by Winchendon relates to MCAS and writing across the curriculum.

press these issues with her colleagues, for whatever reason. Still, MMHS has some inclusion classes, some taught by a special education teacher, but that teacher often does not have sufficient background in the content area. In addition, textbooks and materials are outdated, but the coordinator did not request any new materials for the 2003-2004 school year.

At the middle and high school levels, there is in the superintendent's opinion a need for alternative education programs for children with emotional and behavioral problems, which the district is trying to address during the 2003-2004 school year.

The total special education expenditures included in Winchendon's actual NSS for the 2002-2003 school year came to approximately \$4.2 million out of a total expenditure of almost \$14 million; for FY02, the expenditures were approximately \$3.9 million. The anticipated total special education expenditures for FY04 are \$4.7 million out of anticipated total expenditures around \$13.5 million. The State has historically reimbursed local districts for some portion of their private residential tuition costs for special education students, and this year has embarked on a new reimbursement scheme. Nevertheless, Winchendon has to use other school funds, including Chapter 70 funds, to pay the special education costs and special education private tuition in particular, since the latter represents a contractual obligation of the district. Its ability to increase or even maintain spending on the regular education program is therefore jeopardized.

## **11. Professional Development**

Winchendon appears to have very limited professional development for its teachers. The superintendent testified that the district “vigorously” encourages its teachers to take the summer content institutes that the department offers, but none of the several Winchendon witnesses who were teachers or coordinators had been to one of these institutes, and there was no evidence as to whether any teachers in the system had ever attended. The content institutes are free, but no teacher receives any stipend for attending. There are also competitive grants available relating to teacher professional development for which Winchendon historically has not applied, although its new staff director of MCAS remediation and grants may be doing so at present.

With respect to professional development for teachers in special education, the superintendent and administrators have recognized the need for training both regular education teachers and special education teachers, yet Winchendon did not apply for an empowering special educators as leaders grant in the 2002-2003 year.

There is no peer coaching for teachers at Memorial or Toy Town, although in earlier years, some of the elementary teachers were trained to do peer coaching. The problem is that there is no money for substitute teachers to permit such coaching to go on. Toy Town does have, however, a new teacher induction program, and also has mentors for new teachers. The district pays a mentor a stipend of \$500 the first year, and \$250 the second year for beginning teachers. The mentor and mentee set their own schedules for meeting and program.

## 12. Teachers and Professional Staff

There are approximately 170 teachers in the Winchendon school system. For the 2000-2001 school year, the average teacher's salary was \$38,957, compared to an average teacher's salary for the State of \$48,649. (Ex. 4424). In the 2002-2003 school year, the teachers received a step increase pursuant to their collective bargaining contract, but no base salary increase.

The superintendent and some of the coordinators believe there are staffing needs at MMHS. At the high school, it took seven or eight months to fill a music teacher position, and a science teacher position was open for most or all of the 2002-2003 year, requiring the school to fill for the year with three or four long term substitutes who were not certified in science. The district has had trouble filling positions that are vacant, and in particular, difficulty finding certified or highly qualified teachers in several areas, including science. The superintendent and several other witnesses testified that this is due to the district's salary scale, which is among the lowest in the State, and also low in relation to surrounding communities.

According to evidence submitted by the defendants, in fall of 2002, 11% of the teachers in Winchendon were either unlicensed or teaching out of field, 75% of grade 7 and 8 math teachers lacked appropriate certification in 2001 (ex. 5218),<sup>125</sup> and approximately 20% of the grade 9-12 math teachers lacked appropriate certification that year. (Ex. 5221).

In terms of other professionals, Winchendon has some substantial gaps. At the time Dr. O'Meara started, a person he described as the curriculum coordinator for Winchendon had just left.<sup>126</sup>

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<sup>125</sup> As indicated above, by the end of the 2002-2003 school year, none of the grade 7 and 8 math teachers were certified in mathematics.

<sup>126</sup> There is a question whether the person to whom Dr. O'Meara was referring was actually a curriculum coordinator. In 2003, evaluators from the Education Quality Assessment



She was not replaced in the 2002-2003 school year, because of the lack of funds to hire someone for the job. It appears that Winchendon still has not been able to hire a curriculum coordinator because of lack of funds.<sup>127</sup>

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staff conducted an evaluation of the Winchendon public schools that covered the years 1999-2002. (See ex. 5420A). One of the findings was that during this time period, Winchendon “lacked a formal staff position responsible for district-wide curriculum articulation.” (*Id.*).

<sup>127</sup> As has been indicated previously, much of Winchendon’s curriculum from kindergarten through high school is not aligned with the State’s curriculum frameworks. There was evidence that the lack of resources – presumably in the form of salary for a curriculum coordinator as well as stipends for the teachers or administrators who would work on the project of aligning particular curricula to the frameworks – was behind the failure to align. This appears to be true at present in part, but it also appears that during the three or four years that the former curriculum coordinator was working in the Winchendon school system, no alignment work was completed or perhaps even initiated, and there was no explanation for this fact.

Winchendon also lacks advisors and department heads at all the middle and high school levels because of lack of funding. There is, as mentioned, no coordinator for mathematics in K through grade 6. At Toy Town Elementary School, there are children who are not coming to school because of family problems; an attendance office and social worker or school home counselor are needed. There is only one school psychologist for the two elementary schools, serving approximately 1,000 students.<sup>128</sup> Because of the inadequate number, Winchendon is usually unable to perform timely evaluations for special education, a point noted in the department's CPR of the special education program. Staff to offer remedial reading and remedial math services at Memorial and Toy Town are also lacking. There is no certified technology instructor in the system.

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<sup>128</sup> There is a second psychologist who services MMHS.

### **13. Dropouts**

According to information reported by the department, in 2002 Winchendon had a dropout rate of 6%, compared to the State average of 3.5%. In the 2002-2003 school year, there were 163 students in the eighth grade, 143 in the ninth, and 100 in the twelfth. Winchendon graduated approximately 99 students in June 2003. Clearly these student numbers reflect different students at a single point in time, and not a picture of one cohort of the same students moving through the system over time. Still, the numbers do suggest that children may be dropping out of school after the eighth grade and during high school. Superintendent O'Meara sees in this phenomenon that Winchendon has trouble retaining students because the high school in particular has very limited offerings, and students drop out, join the military, or to some extent, go to other schools. I am not able to test the accuracy of this opinion, but it does seem that students are leaving school early at rates higher than in many communities. Winchendon used to have a truant officer who would work with students in order to persuade them not to drop out, but this position was cut in the budget at some point in the past.<sup>129</sup>

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<sup>129</sup> In the 2002-2003 school year, the schools were supposed to have town grant funds available to hire an attendance officer, but an internal dispute between the town manager and the police department prevented this from happening. The dispute may now have been resolved, and Winchendon may have a grant-funded attendance officer in the current school year.

## 14. Winchendon's MCAS Results

### a. Class of 2003

As of June 2003, there were approximately 100 seniors in the graduating class. (Ex. 127). According to a report of the department, by September 2003, 94% of Winchendon's class of 2003 had achieved the competency determination.

### b. District MCAS Results for All Students

What follows is a summary of the MCAS performance of all students enrolled in the Winchendon public schools by grade and subject matter tested for all the years between 1998 and 2003 that the particular subject was tested.

#### 1. *Tenth Grade MCAS Results, Percentage of Students by Subject Matter and Performance Level*

<b>Grade 10 English Language Arts</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	0	1	4	5	11	8
Proficient	31	36	30	41	48	28
Needs Improvement	47	35	23	39	27	43
Warning/Failing	21	28	44	15	14	21

<b>Grade 10 Mathematics</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	3	2	4	7	11	6
Proficient	14	12	14	34	22	21
Needs Improvement	28	19	23	28	35	39
Warning/Failing	56	67	59	31	32	34

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<b>Grade 10 Science and Technology<sup>130</sup></b>			
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
Advanced	1	3	1
Proficient	13	18	17
Needs Improvement	52	41	36
Warning/Failing	34	38	46

**2. Seventh and Eighth Grade MCAS Results, Percentage of Students by Grade, Subject Matter, and Performance Level**

<b>Grade 8 English Language Arts</b>				
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
Advanced	1	2	0	3
Proficient	44	49	52	49
Needs Improvement	38	35	29	33
Warning/Failing	17	14	18	15

<b>Grade 7 English Language Arts</b>			
<b>Performance Level</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	0	2	0
Proficient	30	50	55
Needs Improvement	54	38	36

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<sup>130</sup> Science and technology was a separate MCAS test for tenth grade students for the three years set out in the text, but the board then stopped testing tenth graders in this subject. The board anticipates including science and technology as a tenth grade test again in 2007. (Ex. 1090; Driscoll testimony, 10/27/03).

Warning/Failing	16	10	9
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<b>Grade 8 Mathematics</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	1	1	4	3	2	2
Proficient	12	15	19	17	12	23
Needs Improvement	31	41	27	40	36	29
Warning/Failing	56	43	50	41	51	46

<b>Grade 8 History</b>				
<b>Performance Level</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>
Advanced	0	0	0	0
Proficient	6	3	3	5
Needs Improvement	42	40	41	37
Warning/Failing	52	57	57	58

<b>Grade 8 Science and Technology</b>				
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2003</b>
Advanced	1	2	1	1
Proficient	14	16	27	17
Needs Improvement	32	38	31	48
Warning/Failing	53	44	42	35

**3. Fifth and Sixth Grade MCAS Results, Percentage of Students by Grade, Subject Matter, and Performance Level**

<b>Grade 6 Mathematics</b>			
<b>Performance Level</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>

Advanced	10	4	11
Proficient	18	19	20
Needs Improvement	39	39	44
Warning/Failing	34	38	25

<b>Grade 5 Science and Technology</b>	
<b>Performance Level</b>	<b>2003</b>
Advanced	12
Proficient	32
Needs Improvement	45
Warning/Failing	11

**4. Third and Fourth Grade MCAS Results, Percentage of Students by Grade, Subject Matter, and Performance Level**

<b>Grade 4 English Language Arts</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	0	0	0	2	1	4
Proficient	9	9	2	27	31	34
Needs Improvement	77	78	82	58	53	54
Warning/Failing	13	13	16	14	14	8

<b>Grade 4 Mathematics</b>						
<b>Performance Level</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Advanced	7	5	3	3	5	1
Proficient	23	21	12	10	11	25
Needs Improvement	56	55	59	54	54	50

Warning/Failing	14	19	26	33	31	23
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<b>Grade 3 English Language Arts</b>			
<b>Performance Level</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Proficient	63	65	55
Needs Improvement	27	26	36
Warning	10	9	9

(Ex. 5224A, Winchendon)

c. Spring 2002 Fourth and Eighth Grade MCAS Results for Special Populations of Students

1. *Students with Disabilities and Limited English Proficiency, Percentage of Students by Grade, Subject Matter and Performance Level*

<b>Grade 4 English Language Arts</b>			
<b>Performance Level</b>	<b>Disabled</b>	<b>LEP</b>	<b>Regular<sup>131</sup></b>
Advanced	0	0	1
Proficient	0	0	35
Needs Improvement	44	0	54
Warning/Failing	56	0	10

<b>Grade 4 Mathematics</b>			
<b>Performance Level</b>	<b>Disabled</b>	<b>LEP</b>	<b>Regular</b>
Advanced	0	0	5

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<sup>131</sup> The “regular” students category is comprised of all students who do not meet the definition of disabled or limited English proficiency (LEP). Note that Winchendon reported having no students with LEP.



Proficient	0	0	12
Needs Improvement	38	0	55
Warning/Failing	63	0	27

<b>Grade 10 English Language Arts</b>			
<b>Performance Level</b>	<b>Disabled</b>	<b>LEP</b>	<b>Regular</b>
Advanced	0	0	13
Proficient	0	0	55
Needs Improvement	25	0	27
Warning/Failing	75	0	5

<b>Grade 10 Mathematics</b>			
<b>Performance Level</b>	<b>Disabled</b>	<b>LEP</b>	<b>Regular</b>
Advanced	0	0	13
Proficient	7	0	24
Needs Improvement	7	0	39
Warning/Failing	87	0	24

**2. Race/Ethnicity<sup>132</sup>, Percentage of Students by Grade, Subject Matter and Performance Level**

<b>Grade 4 English Language Arts</b>
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<sup>132</sup> Students taking the test self-identified as African American/Black (AA), Asian or Pacific Islander (API), Hispanic (H), Native American (NA), White (W), or Mixed/Other (M/O). Note that, for the fourth grade students, the scores of African American/Black students, Hispanic students, and Native American students were not reported, to protect confidentiality, and this district reported having no Asian or Pacific Islander students. Also note that, for the tenth grade students, the scores of all students but White students were not reported for ELA and the scores of all student but White and Mixed or Other were not reported for Math, to protect confidentiality.

<b>Performance Level</b>	<b>AA</b>	<b>API</b>	<b>H</b>	<b>NA</b>	<b>W</b>	<b>M/ O</b>
Advanced		0			1	5
Proficient		0			32	32
Needs Improvement		0			54	53
Warning/Failing		0			13	11

<b>Grade 4 Mathematics</b>						
<b>Performance Level</b>	<b>AA</b>	<b>API</b>	<b>H</b>	<b>NA</b>	<b>W</b>	<b>M/ O</b>
Advanced		0			5	5
Proficient		0			13	0
Needs Improvement		0			52	79
Warning/Failing		0			30	16

<b>Grade 10 English Language Arts</b>						
<b>Performance Level</b>	<b>AA</b>	<b>API</b>	<b>H</b>	<b>NA</b>	<b>W</b>	<b>M/ O</b>
Advanced					12	
Proficient					47	
Needs Improvement					27	
Warning/Failing					15	

<b>Grade 10 Mathematics</b>						
<b>Performance Level</b>	<b>AA</b>	<b>API</b>	<b>H</b>	<b>NA</b>	<b>W</b>	<b>M/ O</b>
Advanced					13	0
Proficient					25	20

Needs Improvement					32	40
Warning/Failing					30	40

**3. *Low Income Students (Free or Reduced Price Lunch), Percentage of Students by Grade, Subject Matter and Performance Level***<sup>133</sup>

<b>Low Income Students</b>				
Performance Level	<b>Adv.</b>	<b>Prof.</b>	<b>N.I.</b>	<b>F/W</b>
Grade 4 English Language Arts	2	16	53	28
Grade 4 Mathematics	2	2	55	41
Grade 10 English Language Arts	5	29	19	48
Grade 10 Mathematics	8	8	25	58

(Ex. 5232).

**15. Winchendon's SAT Scores**

In 1995, the average verbal SAT score of Winchendon's high school seniors was 513, and the average math score was 494, with a 58% participation rate. In 2000, the average verbal SAT score was 502, and the average math score was 491, with 57% of seniors participating. (Ex. 5224A, Winchendon).

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<sup>133</sup> No group is provided for comparison to the low income students.

16. Winchendon School District Examination by the Office of Educational Quality and Accountability

The Office of Educational Quality and Accountability (EQA) performed an examination of the Winchendon school district in 2003, focusing on the school years from September 1999 through June 2002. The review consisted of analysis of Winchendon's MCAS results during those years, and a week-long visit to the district by a team of evaluators. The EQA issued its examination report in October 2003. (Ex. 5420A).

Based on its review of Winchendon's MCAS scores and its combined proficiency indices, the EQA concluded in its report that Winchendon during 1999-2002 was one of the 50 lowest performing school systems in Massachusetts. In particular, the EQA found:

- Winchendon's combined proficiency index (CPI) of 64.4, based on 2002 MCAS results, placed it as the 20<sup>th</sup> lowest performing academic school district in the Commonwealth; the State's average for the CPI was 74.3 in 2002. The ELA proficiency index was 75.3, and math was 53.4, while the State averages were 81.6 and 67.0 respectively;
- On the 2002 MCAS tests, 52.5% of Winchendon's students on the ELA test and 79.8% of the students on the math test, scored in the Needs Improvement and Warning/Failing categories. These scores were 12.3 percentage points in ELA and 19.4 percentage points in math more than the State average percentages for Needs Improvement and Warning/Failing;
- Again on the 2002 MCAS tests, 61.2% of regular education students and 97.6% of special education students scored in the Needs Improvement and Warning/Failing categories. These are 16.8 and 14.7 percentage points above the State's average percentages in the Needs Improvement and Warning/Failing scores for these student subgroups. With respect to low income students, 78.8% of such students scored in the Needs Improvement and Warning/Failing, which is slightly more than the State's average percentage for these students, although only by 2.6 percentage points;
- Finally, on the 2002 MCAS tests, the low income and special education students scored between 13 and 30.5 proficiency index (PI) points below the district's average PI.

(Ex. 5420A).

The report also includes findings concerning five domains related to the administration and management of the district: assessment and evaluation; curriculum and instruction; student academic and support services; leadership and governance; and business and finance. Among the findings made were the following:

- assessment and evaluation: the examiners found that the district had sources of information that could have provided data to assess student progress but did not use it to make decisions related to improved student achievement, including improved curricula or improvements to instructional practices. There was also a finding that Winchendon did not consistently evaluate staff and faculty;
- curriculum and instruction: there was no staff position formally responsible for district-wide curriculum articulation. The ELA and mathematics curricula were not completely aligned with the curriculum frameworks. Curriculum development was constrained by the instability of the district's finances. The district lacked a professional development program based on student assessment results and educational research;
- student academic and support services: the examiners found the district did provide services in ELA and math for those who were not meeting grade level expectations, but these programs were not evaluated to assess effectiveness. The district was not addressing student attendance problems effectively, and did not make a concerted effort to involve parents;
- leadership and governance: there were findings about the former superintendent's lack of leadership and the voids it created;<sup>134</sup>
- business and finance: the evaluators found there was no systematic budget planning and development process, and there was inadequate accounting and financial reporting procedures.

(Ex. 5420A).

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<sup>134</sup> The current superintendent, Robert O'Meara, did not start in Winchendon until August 2002, that is, the beginning of the 2002-2003 school year, which was the year after the period covered in the EQA audit.

This report was first sent to Winchendon and then provided to the commissioner and the board. Winchendon submitted a response to the report, but the district did not disagree with the factual conclusions reached by the EQA team; rather, its response was directed to steps the district reported as having taken since 2002 to address the issues the EQA had cited. (Ex. 1091, 1091A). Nonetheless, the board voted in November 2003 to declare the Winchendon school district an “underperforming” district. As a consequence, a fact finding team from EQA was to return to Winchendon in February 2004 to investigate further the causes of the underperforming, and Winchendon, with technical assistance from the department, must develop a remedial plan within six months of the declaration of underperformance.

#### **G. Conclusion**

Based on the specific findings relating to each focus district, I conclude that in Brockton, Lowell, Springfield, and Winchendon, the public school education programs provided to all the children who are enrolled there do not meet the requirements of Part II, c. 5, § 2, of the Massachusetts Constitution. None of the four districts is implementing the Massachusetts curriculum frameworks in a way that can reach all of the children, and none of the districts is equipping all its students with the capabilities outlined in the *McDuffy* decision.

## **VI. THE FOCUS DISTRICTS AND THE “COMPARISON” DISTRICTS**

### **A. Introduction**

Section V of this report considered the focus districts separately. As stated immediately above, I have concluded that in each district, the public school students are not being provided the level of education to which they are entitled and which the Commonwealth has a duty to provide. This section considers the focus districts as a group in relation to the State as a whole and to the “comparison” districts of Brookline, Concord/Carlisle, and Wellesley, in the context of objective measures of educational performance that the department uses to evaluate schools and school districts. The focus districts fare consistently much worse than the comparison districts and the State average for all districts on every measure.

### **B. Measures of Educational Performance**

There are a number of objective criteria that the department and the EQA use as indicators of the quality of educational programs. These include MCAS scores, dropout rates, retention rates, on-time graduation rates, SAT scores, and post-graduation plans of high school seniors. (See, e.g., ex. 5142A).

#### **1. MCAS Scores**

MCAS scores are intended to do more than determine whether a public school student will be entitled to graduate from high school with a diploma. As discussed previously, they are also at

the center of the State's accountability system for school districts and individual schools.<sup>135</sup> The ELA and math MCAS scores form the basis for the annual school and district evaluations required by NCLB, and are the foundation of the department's determination, mandated by NCLB, of whether the particular school has made "adequate yearly progress." (See ex. 1062; 5112, fourth page).

The defendants presented evidence concerning the high quality of the MCAS tests in ELA and mathematics.<sup>136</sup> There was no contrary evidence, and I have no basis in this case on which to disagree that these tests focus on the types of skills (e.g., critical thinking, competent writing ability) and content area knowledge that are very important for students to master. Moreover, the plaintiffs have not offered any challenge to the department's and board's reliance on students' MCAS scores as the guiding criterion for determinations of school and district performance. Accordingly, I accept the proposition that the MCAS scores from the four focus districts offer a relevant and useful indication

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<sup>135</sup> To summarize previous findings: The department evaluates or rates individual schools' MCAS performance on the English language arts and mathematics tests on a two-year cycle every even year, with a mid-cycle review on the odd year (see ex. 5112), and the EQA conducts its first-level (Tier I) review of all school districts by focusing on the ELA and math MCAS scores. (See replacement ex. 5142A, p. 1).

<sup>136</sup> See generally Nellhaus testimony, 12/19/03; Schwartz testimony, 12/9/03; ex. 5153, 5154.



of whether the educational program being provided to their students is at least minimally adequate, at least with respect to English language arts and mathematics, although it is important to remember that at the present time, the passing score for the MCAS tests is defined as Needs Improvement, not Proficient.<sup>137</sup>

The charts set out below include MCAS test scores for English language arts and mathematics in grades 4 and 10. They compare the focus districts with each other, with the comparison districts and with the State for the two most recent years of MCAS testing, 2002 and 2003. While MCAS scores in the focus districts generally improved in 2003 over 2002, they were significantly lower than those in the comparison districts and all are also lower than the State averages.

**MCAS LANGUAGE ARTS TEST SCORES: SPRING 2002  
PERCENTAGE OF STUDENTS AT EACH PERFORMANCE LEVEL**

DISTRICT	GRADE	% ADVANCED	% PROFICIENT	% NEEDS	% WARNING/
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<sup>137</sup> See Peyser testimony, 11/17/03, p. 15. As previously discussed, there is an intention on the part of the department and the board to raise the passing level to proficient at some time in the future (Driscoll testimony, 10/27/03, pp. 69-70), and indeed the NCLB mandates that all students be performing at the proficient level by 2014.

				<b>IMPROVEMENT</b>	<b>FAILING</b>
<b>BROCKTON</b>	Grade 4 Grade 10	3 21	29 40	49 25	19 14
<b>LOWELL</b>	Grade 4 Grade 10	2 10	26 34	51 31	21 24
<b>SPRINGFIELD</b>	Grade 4 Grade 10	2 4	29 20	47 32	22 41
<b>WINCHENDON</b>	Grade 4 Grade 10	1 11	31 48	53 27	14 11
<b>BROOKLINE</b>	Grade 4 Grade 10	12 33	57 44	26 15	5 5
<b>CONCORD</b>	Grade 4 Grade 10	20	61	16	2
<b>CONCORD-CARLISLE</b>	Grade 4 Grade 10	51	40	8	1
<b>WELLESLEY</b>	Grade 4 Grade 10	18 46	61 45	18 7	3 2
<b>STATE</b>	Grade 4 Grade 10	8 19	46 40	37 27	10 13

**MCAS MATHEMATICS TEST SCORES: SPRING 2002  
PERCENTAGE OF STUDENTS AT EACH PERFORMANCE LEVEL**

<b>DISTRICT</b>	<b>GRADE</b>	<b>% ADVANCED</b>	<b>% PROFICIENT</b>	<b>% NEEDS IMPROVEMENT</b>	<b>% WARNING/ FAILING</b>
<b>BROCKTON</b>	Grade 4 Grade 10	4 9	16 18	45 35	35 38
<b>LOWELL</b>	Grade 4 Grade 10	2 11	13 17	46 33	40 38
<b>SPRINGFIELD</b>	Grade 4 Grade 10	4 3	15 9	43 24	38 61
<b>WINCHENDON</b>	Grade 4 Grade 10	5 11	11 22	54 35	30 30
<b>BROOKLINE</b>	Grade 4 Grade 10	22 42	34 27	33 18	11 9
<b>CONCORD</b>	Grade 4 Grade 10	27	43	27	2
<b>CONCORD-CARLISLE</b>	Grade 4 Grade 10	58	24	14	3
<b>WELLESLEY</b>	Grade 4 Grade 10	33 51	43 30	20 15	5 4
<b>STATE</b>	Grade 4 Grade 10	12 20	27 24	42 31	19 25

**MCAS LANGUAGE ARTS TEST SCORES: SPRING 2003  
PERCENTAGE OF STUDENTS AT EACH PERFORMANCE LEVEL**

<b>DISTRICT</b>	<b>GRADE</b>	<b>% ADVANCED</b>	<b>% PROFICIENT</b>	<b>% NEEDS IMPROVEMENT</b>	<b>% WARNING/ FAILING</b>
<b>BROCKTON</b>	Grade 4	3	35	44	18
	Grade 10	20	32	29	18
<b>LOWELL</b>	Grade 4	3	26	47	25
	Grade 10	8	35	35	22
<b>SPRINGFIELD</b>	Grade 4	3	29	46	22
	Grade 10	5	25	36	29
<b>WINCHENDON</b>	Grade 4	4	34	54	8
	Grade 10	8	28	43	20
<b>BROOKLINE</b>	Grade 4	19	50	24	8
	Grade 10	37	44	15	4
<b>CONCORD</b>	Grade 4	25	53	20	2
	Grade 10				
<b>CONCORD-CARLISLE</b>	Grade 4				
	Grade 10	49	40	10	1
<b>WELLESLEY</b>	Grade 4	28	54	17	1
	Grade 10	48	42	9	1
<b>STATE</b>	Grade 4	10	45	34	10
	Grade 10	20	41	28	11

**MCAS MATHEMATICS TEST SCORES: SPRING 2003  
PERCENTAGE OF STUDENTS AT EACH PERFORMANCE LEVEL**

<b>DISTRICT</b>	<b>GRADE</b>	<b>% ADVANCED</b>	<b>% PROFICIENT</b>	<b>% NEEDS IMPROVEMENT</b>	<b>% WARNING/ FAILING</b>
<b>BROCKTON</b>	Grade 4	5	17	50	28
	Grade 10	13	20	30	35
<b>LOWELL</b>	Grade 4	5	16	47	33
	Grade 10	12	22	30	36
<b>SPRINGFIELD</b>	Grade 4	4	17	46	34
	Grade 10	5	13	29	47
<b>WINCHENDON</b>	Grade 4	1	25	50	23
	Grade 10	6	21	39	32
<b>BROOKLINE</b>	Grade 4	22	33	34	11
	Grade 10	48	28	17	8
<b>CONCORD</b>	Grade 4	30	35	29	5
	Grade 10				
<b>CONCORD-CARLISLE</b>	Grade 4				
	Grade 10	50	30	17	3
<b>WELLESLEY</b>	Grade 4	32	36	28	4
	Grade 10	62	21	13	4
<b>STATE</b>	Grade 4	12	28	43	16
	Grade 10	24	27	28	20

**2. Cycle Performance Ratings**

The department’s cycle performance ratings for each district and each school represent another indicator of educational program performance by schools and school districts. By definition, they are closely related to the MCAS scores just reviewed, since the ratings are based on these scores. As previously discussed, these ratings include both a performance score and an improvement score; each is calculated by a formula that sets bi-annual targets to achieve 100% proficiency for the students in the district by the year 2014. (See ex. 5112; ex. 1062). They also include a determination by the department, based on the performance and improvement ratings, whether each school has made “adequate yearly progress” (AYP) towards this proficiency goal.

The Cycle II performance ratings for the four focus districts – covering 2001 and 2002 –

indicate the following: in Brockton, all schools except two of the elementary schools made AYP in both ELA and mathematics; in Lowell, three elementary or middle schools did not make AYP in ELA, twelve elementary or middle schools did not make AYP in math, and the high school made AYP in both ELA and math. With respect to Springfield, twelve elementary or middle schools and one high school did not make AYP in ELA; thirteen elementary or middle schools and one high school did not make AYP in math; and eight schools did not make AYP in either subject. Finally, in Winchendon, it appears that Toy Town Elementary did not make AYP in English or math, and the middle school program did not make AYP in math, but the high school program made AYP in both subjects. (Ex. 5114).

In 2003, the department's Cycle III mid-cycle review included for the first time a district rating for all students and then ratings for special student groups, including limited English proficiency, special education, low income (i.e., eligible for free or reduced price lunch [FRL]), African American, Hispanic and Asian/Pacific Islander. (See ex. 1062). This mid-cycle review showed the following.

- Brockton in the aggregate did not meet the State performance target in ELA for 2003, but ultimately made AYP because its overall improvement rate was sufficient; the district did not make AYP in ELA in the subgroups of LEP students, special education students, Hispanic or Native American students. (Ex. 1116). In mathematics, Brockton did not make AYP overall in 2003. Of the population subgroups, the LEP students, special education students, FRL students, and Hispanic students did not make AYP. (*Id.*).
- In Lowell, the district did not make AYP in the aggregate in ELA. Of the subgroups, special education, FRL, African American, and Hispanic students did not make AYP; white students and Asian students did. (Ex, 1116). For mathematics, the district in the aggregate made AYP, but the subgroups of special education, FRL, African American, and Hispanic students did not. (*Id.*).
- For Springfield, the district did not make AYP in the aggregate in either ELA or math, and no student subgroup made AYP, except for white students in both subjects.

(Ex. 1116).

- Finally, in Winchendon, the district in the aggregate made AYP in both subjects, but for both ELA and mathematics, special education and FRL students did not do so.<sup>138</sup> (Ex. 1116).

A consequence of a school's failing to make AYP for five consecutive years is that the school is identified for "corrective action" by the department. Based on the Cycle II school performance ratings, and the schools' prior performance, 38 schools were identified for "corrective action" statewide. Of these 38, one was in Lowell and ten were in Springfield. (Ex. 1132). As previously noted, based in part on its school performance ratings for 1999 through 2002, Winchendon was determined by the board to be an "underperforming" district in November 2003, one of two in the State.

As would be expected from the MCAS scores, there are no schools in any of the comparison districts on the list of schools identified for corrective action in the Cycle III mid-cycle review. No school in any of these districts has ever been "identified for improvement" for purposes of NCLB, or subject to a school panel review by the department for underperformance.

### **3. Dropout Rates**

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<sup>138</sup> Winchendon does not have sufficient LEP, African American, Asian or Hispanic students to measure results. (Ex. 1116).

One of the Commonwealth's experts, Dr. Caroline Hoxby, testified at length about the fact that over the long term, what matters is the level of skills a person has, not whether he or she has received a high school diploma. Dr. Hoxby sought to prove this point by showing that if one compared individuals with and without a high school diploma and controlled for differences in skill levels, the difference in income levels and other measurements disappeared in relatively short order after the age of high school graduation. (Hoxby testimony, 11/7/03, pp. 31- 53; ex. 5360-5365). The plaintiffs presented evidence on the earnings differentials between high school graduates and high school dropouts that suggested there is in fact a long-term difference between the two groups.<sup>139</sup> Even if one accepts for the sake of argument Dr. Hoxby's thesis, it leads nowhere: no one, including the defense, is suggesting that dropping out of school is a good idea. Indeed, Dr. Hoxby expressly denied such an opinion; rather, her view is that what the data show is that students should be worrying about acquiring the skills that the schools should be offering. (Hoxby testimony, 11/7/03, pp. 60-61).

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<sup>139</sup> Dr. Richard Murnane, who testified on behalf of the plaintiffs, presented data and opinions that the median annual earnings of earners between the ages of 24 and 34 reflect that non-high school graduates earn 70-72% of high school graduates. (Murnane testimony, 9/26/03, p. 16; ex. 90).

I accept the commissioner's opinion that a young person's chance of later success in life is helped with a high school diploma, and that it is hard for children to learn if they are not in school. (Driscoll testimony, 10/31/03, p. 18). To the extent, as Dr. Hoxby stated, that students drop out of school because they do not have the skills they need to continue deriving benefits from school, dropout rates would appear very important because they serve as a signal that the education being provided is not sufficient to keep the child engaged and enrolled. Finally, the disagreement between experts about the economic value of a high school diploma by itself may be ultimately irrelevant or at least secondary: the evidence shows without any dispute that what increasingly matters in the United States in terms of earning and employment prospects is a college degree, and especially a bachelor's degree. (See ex. 90).<sup>140</sup> It seems quite obvious that students who do not graduate from high school are not likely to have an opportunity to attend college.<sup>141</sup>

The dropout rates for the focus districts are all substantially higher than the dropout rates for the comparison districts, and with some exceptions before 1999, have all been higher than for the State as a whole. The department's data, the most recent data included in the record, show the following:

#### **District Annual Dropout Rates (Adjusted<sup>142</sup>)**

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<sup>140</sup> This exhibit, prepared and explained by Dr. Murnane, sets out data from the Bureau of the Census' Current Population Survey indicating that in 2000, the median annual earnings of a person between 24 and 34 with a bachelor's degree was 155% (for males) and 190% (for females) of a person in that age bracket with a high school diploma or GED.

<sup>141</sup> Dr. Hoxby suggested that going on to college was possible if a student acquired a GED, but there was no evidence about how many GED holders enroll in or complete any type of college program.

<sup>142</sup> These rates are adjusted in the sense that if a student drops out during a year but returns to school by October 1 of the following year, the student is not classified as a dropout.



	1993	1994	1995	1996	1997	1998	1999	2000	2001
<b>Focus</b>									
Brockton	9.0%	8.3%	8.4%	7.3%	5.7%	3.6%	4.2%	5.8%	5.7%
Lowell	3.1%	3.3%	2.8%	2.6 %	3.1 %	8.2%	9.4%	11.6%	9.8%
Springfield	10.2%	6.6%	12.0%	3.0%	5.0%	4.9%	7.2%	6.0%	8.0%
Winchendon	5.4%	6.2%	6.0%	2.3%	3.2%	3.1%	5.7%	4.3 %	6.0%
<b>Comparison</b>									
Brookline	0.5%	0.5%	0.4%	0.1%	0.1%	0.1%	0.4%	0.3%	0.3%
Concord/Carlisle	0.1%	0.2%	0.3%	0.3%	0.2%	0.4%	0.0%	0.3%	0.3%
Wellesley	0.1%	0.7%	0.4%	0.7%	0.1%	0.7%	0.4%	0.2%	0.5%
<b>State</b>	3.5%	3.7%	3.6%	3.4%	3.4%	3.6%	3.5%	3.5%	3.5%

(Ex. 75.)<sup>143</sup>

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<sup>143</sup> The department's projected four-year dropout rates for the four focus districts are substantially higher than the annual dropout rates in the text. For the class of 2003, for example,

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the department projected a four year dropout rate (that is, ninth through twelfth grades for that class) as follows: Brockton – 20%; Lowell – 37%; Springfield – 21%; Winchendon – 17%. For the class of 2004, the four year projections are as follows: Brockton – 20%; Lowell – 33%; Springfield – 28%; Winchendon – 21%. (Ex. 75). The projections for the comparison districts are much lower: for Brookline, Concord-Carlisle and Wellesley, the four year dropout rates for both 2003 and 2004 were 1% with one exception (Wellesley’s projected rate for 2004 was 2%). (Ex. 75). It must be remembered, however, that these are projections and rough ones at that, not a reflection of actual experience. By their nature, they should not be relied on too heavily.

The commissioner also testified that high school dropout rates are disproportionately high in urban areas and among racial and ethnic minorities. (Driscoll testimony, 10/31/03, p. 17). Brockton, Lowell and Springfield are all urban districts with high percentages of racial or ethnic minorities or both among their student populations.

#### **4. Graduation Rates**

One of the plaintiffs' experts, Dr. Walter Haney, presented evidence of his calculations of student on-time graduation rates (i.e., the percentage of students who graduated from high school four years after completing the eighth grade, or within three years after ninth grade). The department does not yet publish data about on-time graduation rates *per se*, although it does publish information about percentages of the students enrolled in a particular ninth grade class who graduate three years later. (Ex. 1113). These data show that the statewide average percentage of ninth grade students who graduate three years later has been about 75% to 76% from the class of 1999 through the class of 2002. (Ex. 1113).

Looking at the same categories of data for the four focus districts, Dr. Haney calculated the following graduation rates for the focus districts, based on the ninth grade enrollments for the class of 2002<sup>144</sup> and the number of students who graduated in 2002: (1) in Brockton, 75.8% of the 1998-1999 ninth grade enrollment graduated in 2002 (ex. 66); (2) in Lowell, 59.0% of the 98-99 ninth grade enrollment graduated in 2002 (ex. 67); (3) in Springfield, 47.8% of the 98-99 ninth grade enrollment graduated in 2002 (ex. 68); and in Winchendon, the percentage was 57.8% (ex. 69). The comparable percentages for the comparison districts of Brookline, Concord-Carlisle and Wellesley were 99.8%,

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<sup>144</sup> The ninth grade enrollments for the class of 2002 would be the students enrolled in ninth grade during 1998-1999.

93.7% and 100.9%, respectively. (Ex. 70, 71, 72). As the department’s witnesses pointed out, these figures do not represent wholly accurate on-time graduation rates for an identified group of students, because students transfer in and out of a particular school between ninth and twelfth grade. However, there was no evidence that student mobility in the focus districts is extraordinarily higher than in the comparison districts. I interpret these figures as a somewhat rough estimate of on-time graduation rates, and note the wide discrepancy between the graduation percentages for the focus districts on the one hand and the comparison districts on the other, as well as the discrepancy between the percentages for all the focus districts except Brockton, and the State.

**5. SAT Scores and Participation**

The rate at which students take the SAT test and the scores received are other benchmarks the department considers in evaluating the quality of a school district’s academic program. (See ex. 235; 5142A). The latest scores introduced in evidence were for 2000, and the other year offered was 1995.

The evidence shows that in the focus districts, the average SAT verbal and math scores for 1995 and 2000, as well as participation rates, were significantly lower than those in the comparison districts, and lower than the State average.

<b>Brockton</b>	<b>1995</b>	<b>2000</b>
Verbal	464	436
Math	444	434
Participation Rate	60%	66%

<b>Lowell</b>	<b>1995</b>	<b>2000</b>
Verbal	435	458
Math	440	437
Participation Rate	71%	61%

<b>Springfield</b>	<b>1995</b>	<b>2000</b>

<b>Winchendon</b>	<b>1995</b>	<b>2000</b>

Verbal	435	439
Math	440	437
Participation Rate	45%	51%

Verbal	513	502
Math	494	491
Participation Rate	58%	57%

<b>Brookline</b>	<b>1995</b>	<b>2000</b>
Verbal	529	555
Math	566	584
Participation Rate	88%	93%

<b>Concord/Carlisle</b>	<b>1995</b>	<b>2000</b>
Verbal	597	580
Math	601	611
Participation Rate		100%

<b>Wellesley</b>	<b>1995</b>	<b>2000</b>
Verbal	593	599
Math	584	595
Participation Rate	96%	98%

<b>State Average</b>	<b>1996</b>	<b>2000</b>
Verbal	507	511
Math	504	513
Participation Rate	78%	78%

(Ex. 1072; ex. 239A).

## 6. Post-Graduation Plans of High School Seniors

The department collects information from the districts concerning the reported post-graduation plans of high school seniors. The data show:

	1997			2002		
	<u>2-Yr College</u>	<u>4-Yr College</u>	<u>Work</u>	<u>2-Yr College</u>	<u>4-Yr College</u>	<u>Work</u>
Brockton	27%	50%	15%	40%	37%	15%
Lowell	27%	51%	12%	31%	41%	11%
Springfield	42%	27%	19%	37%	26%	11%
Winchendon	29%	21%	37%	41%	34%	19%
Brookline	6%	76%	9%	6%	79%	6%
Concord/ Carlisle	0%	90%	3%	3%	91%	1%
Wellesley	2%	86%	6%	2%	89%	2%
State	19%	53%	17%	20%	52%	13%

(Ex. 79; see ex. 5462 for department's report on plans of high school graduates, class of 2001).

### C. Conclusion

The department considers the criteria just described as indicators of the quality of preparation students are receiving for post-secondary employment or education, and "responsible citizenship."

(Ex. 235, p. 4). It does so as part of a means of answering what it appropriately terms a:

**“Key Question:** Do the instructional programs provided by the district's schools in each core subject area, at each grade level, meet the educational needs of all students and result in steadily improving student achievement?”

(Ex. 235, p. 1 [emphasis in original]). What all the data summarized above demonstrate is that the answer must be no. While it is certainly true that MCAS scores in the focus districts have improved,

these four districts' scores are still much lower than the State average, not to speak of the comparison districts. As for the other criteria discussed – dropout data, retention rates, graduation rates, SAT scores, post-secondary school plans – with few exceptions, the four focus districts have not improved at all, and if one concentrates particularly on the last five years, when one would expect at least to begin seeing the impact of ERA investments, there are almost no exceptions. Dropout rates in the focus districts in these years are not decreasing, are higher than the State as a whole, and are substantially higher than the comparison districts. Lowell, in particular, has a virulent dropout problem. Except for Brockton, on-time graduation rates are below the State average, which is itself quite low (at 75-76%), and far below the comparison districts. SAT scores in the focus districts are flat, and frighteningly low, if one considers the importance of college education for future success; again they are lower than the State averages as well as notably lower than the comparison districts. With one exception, post-graduate plans in terms of plans to attend college, and a four-year college in particular (which have actually dropped significantly), have not improved and once more fall below the State and the comparison districts.<sup>145</sup>

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<sup>145</sup> Winchendon is an exception: the percentage of seniors reporting plans to go to college increased from 1997 to 1992. It bears noting, however, that the reported plans of high school seniors is a fuzzy indicator at best. There is no evidence that follow up work is done to determine whether the reported post-graduate plans of the seniors were carried out, or whether those indicating a plan to attend a college graduated. (See, e.g., ex. 5462, a September 2003 department publication entitled “Plans of High School Graduates: Class of 2001” at p. 1: “It is

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important to note that the data [summarized in the report] represent the intentions of high school graduates and may not reflect what students actually do after graduating from high school.” [emphasis in original]).



In the past ten years the Commonwealth has adopted a standards based approach to public school education. As a result, there are now a set of objective criteria or measures that may be used to assess the quality of education being provided. The department and the board use them, and clearly other observers may as well. I find that the student assessment data just summarized support the findings set out above that the plaintiff students in the four focus districts are not receiving an adequate education within the meaning of *McDuffy*.

## **VII. COMMON PROBLEMS OF THE FOCUS DISTRICTS**

### **A. Funding**

#### **1. Introduction**

The adequacy or inadequacy of funding for the public school programs in the focus districts is a crucial issue; it was a centerpiece of the case presented by the plaintiffs at trial.<sup>146</sup> This section presents findings about the issue of funding adequacy in the four focus districts.

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<sup>146</sup> The position the defendants took at trial and appear to take in their post-trial submissions is that the funding levels in the focus districts are adequate, and therefore, the Commonwealth's responsibilities are at an end. This is manifestly not what *McDuffy* holds. The ultimate responsibility to provide an adequate education lies with the Commonwealth; its obligations are not satisfied simply by providing State funding to local districts that need it. Nevertheless, the point may not be necessary to make here, because I am persuaded by the evidence that in fact, the funding levels for public school education in the focus districts is inadequate.

A great deal of evidence was presented by expert witnesses for the plaintiffs and the defendants on this subject. The plaintiffs offered two expert witnesses, John Myers and Dr. Deborah Verstegen, each of whom studied and evaluated the funding adequacy in the focus districts through the use of a different analytical model, a “successful schools” model in the case of Mr. Myers and a “professional judgment” model in the case of Dr. Verstegen. The defendants presented a number of witnesses, including Dr. Edward Moscovitch and Dr. Robert Costrell, who criticized the methodologies used and results reached by Myers and Verstegen, and one witness, Dr. James Smith, who presented his own “professional judgment” model and study.

In my view, the studies performed by Myers, Verstegen and Smith are flawed, and do not offer persuasive evidence on the question of current funding adequacy in the four focus districts or the Commonwealth as a whole. A more useful, although general, way of looking at funding adequacy/inadequacy, a method also advanced by the plaintiffs, is the relationship between a district’s actual net school spending (NSS) and its foundation budget, or more precisely, the ratio of the district’s NSS to its foundation budget.<sup>147</sup> Beyond these analytical models and the results obtained from their use, there was persuasive evidence presented that (1) in a number of respects, the foundation budget formula fails to reflect the real costs of educating all the varied types of children in the Commonwealth’s public schools; (2) as a result, districts like the focus districts, that are not able to spend much more than their foundation budget levels on education, are not receiving adequate funding to provide the constitutional minimum of an adequate education; and (3) the funding inadequacies have been exacerbated by profound cuts in public school education funding by the

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<sup>147</sup> The defendants’ witness Edward Moscovitch presented a fourth mode of analysis for the funding question, which he called a “value added” approach. It is discussed below.

Commonwealth in the last two years.

## **2. Models to Evaluate Funding Adequacy**

### **a. Successful Schools Model**

The theory behind John Myers' successful schools model is that by identifying high performing school districts in terms of a particular State's performance standards and distilling what these districts spend for their core regular educational program on a per pupil basis, one can arrive at a base per pupil spending figure that represents the base cost of providing an adequate educational program, defined as one able to meet or exceed that State's performance standards. This base per pupil figure can then be used to determine the necessary per pupil expenditure for an actual district by using that district's actual numbers of students and by making weighted adjustments to take into account the number of students who fit into specific populations such as LEP, low-income, special education, etc.

Myers identified the 75 school districts that scored "high" or "very high" with respect to performance in the department's Cycle II performance ratings covering 2001-2002.<sup>148</sup> Myers then identified the "base spending" for the regular education day program for each of the districts by taking the total school population and the spending figures, and backing out categories such as transportation, food service, special education, bilingual education, etc., to come up with a per pupil number representing the isolated cost for the average day student in a regular education classroom, and to eliminate costs that are not associated directly with the educational program for those students.

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<sup>148</sup> As Myers pointed out, his use of the Cycle II performance ratings as a way of identifying high performing districts results in a modified version of the true successful schools model because the performance ratings only consider performance in ELA and math, whereas the State's curriculum frameworks – and *McDuffy* – include more subjects than these.

Myers did this for the 75 districts, and weighted the results to reflect the relative sizes of the districts. He arrived at a base per pupil cost of \$6,985. Myers then adjusted the base figure for each of the focus districts by adding back in estimated costs for the particular district's actual number of special education students, bilingual students, and FRL (low income) students. To adjust for each of these special groups of students, he used identified weights to reflect the higher costs that are involved.<sup>149</sup>

Using this method, Myers arrived at a necessary per pupil expenditure level for each focus district, and compared it to the district's actual per pupil expenditure level. The result was that for each of these districts, there was a positive gap between the actual per pupil spending level and the calculated "necessary" level, ranging from \$3,536 per pupil for Winchendon to \$1,189 per pupil for Brockton. The four-district group average gap was \$2,295 per pupil, or a 22.5% difference between "actual" and "necessary" spending.

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<sup>149</sup> The weight for low income students was .5, meaning 50% of the base per pupil expenditure was added to the base on a per pupil basis for the actual number of FRL students. The other weights used were .25 for LEP students, and .9 for special education students. Myers testified that these weights were within the range that education finance researchers and experts use and consider acceptable, and there was no contrary evidence. Accordingly, I accept the use of these weights.

The successful school district model has been used in other States as a method of arriving at the appropriate per pupil educational cost, and the conceptual framework has a superficial logic to it. I am persuaded, however, that the way Myers dealt with undistributed costs relating to educational programming was not wholly accurate, and this would affect his calculation of the base per pupil cost. More fundamentally, I am troubled by the apparent fact that if one were to compute the “necessary” per pupil cost for all 75 of Myers’ “successful” districts according to his methodology – that is, adjust the base per pupil cost by each district’s actual student population and add weights back in for the special populations – two-thirds of them are not spending the “necessary” amounts on a per pupil basis. (Costrell testimony, 11/13/03, pp. 19-26; ex. 5425-5427). Moreover, if one applies Myers’ methodology for determining the base spending figure to the four focus districts in order to calculate what their actual “base” spending figures are – rather than using the “base” of \$6,985 that Myers derived from the 75 successful districts – one discovers that three of the four districts (all except Winchendon) already have “base” spending levels above the 75 successful districts.<sup>150</sup> This would seem to suggest either that the “necessary” per pupil expenditure level for these districts should be substantially above Myers’ own calculations, or each of the focus districts has a base spending figure that is too high. In light of these considerations, I am not persuaded that Myers’ study in itself is helpful in determining whether or the extent to which the focus districts are not receiving adequate funding for their educational programs.

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<sup>150</sup> Using actual expenditures, Brockton’s “base” per pupil spending figure would be \$8,063, Lowell’s would be \$7,986, and Springfield’s would be \$7,499. (Ex. 1020; Berne testimony, 6/27/03, p. 81; see ex. 5435). Winchendon’s would be \$4,856 (ex. 1020; ex. 5435), which is substantially below Myers’ “base” figure for the 75 successful districts.

b. Professional Judgment Model

Use of the professional judgment model to estimate the necessary cost of an adequate public school education is a method that appears to be accepted by school finance experts. Indeed, as Dr. Moscovitch's testimony made clear, the foundation budget formula embedded in the ERA was derived in principal part through a somewhat informal use of the professional judgment model. (Moscovitch testimony, 11/3/03, pp. 26-27).<sup>151</sup>

(i) Dr. Versteegen's Study

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<sup>151</sup> According to Dr. Moscovitch, five school superintendents from Massachusetts school districts met with him at some point in the early 1990's and the group essentially debated and devised the categories and expenditure levels that in the group's judgment would be needed to provide an adequate education. These determinations then found their way into the design of the ERA's foundation budget formula.

The professional judgment study conducted by Dr. Verstegen, who is a recognized expert in this field, involved the use of eleven different panels of educators: a panel of school-based teachers and administrators in each of the four focus districts plus Fitchburg; a district-wide panel in each of these five districts; and one statewide “expert” panel to review the findings of the other two panels and attach prices to the resources that were identified. The panel members were provided information about all seven of the Massachusetts curriculum frameworks, the State Constitution, and the seven capabilities identified in the *McDuffy* opinion as the sources for defining educational adequacy in Massachusetts. Each panel was then asked to determine the necessary resources for delivering the required education for the size of district in which they worked – that is, small (Winchendon), medium (Fitchburg) or large (Brockton, Lowell, Springfield). The school-based panels undertook the exercise first, and their work was then reviewed by the district-wide panels, which also added on district-based resource needs. The expert panel thereafter reviewed all the panel reports for consistency, and also to assign costs. In considering resources, the panels were asked to consider a number of types of programs, including full-day kindergarten, extended school time (afterschool and summer programs), gifted and talented student programs, and libraries, but not programs such as preschool, or items such as transportation costs or debt service.

Dr. Verstegen’s professional judgment study concluded that for each of the focus districts, there is a very significant gap between what was identified by the study as the “necessary” per pupil cost and the district’s actual per pupil cost, and that the “necessary” per pupil cost for three of the four districts exceeded \$13,000. Thus, for Brockton, the gap was \$4,130 (\$12,423 “necessary” minus \$8,293 actual); for Lowell, the gap was \$4,567 (\$13,243 “necessary” minus \$8,676 actual); for Springfield, it was \$5,678 (\$13,937 minus \$8,259); and for Winchendon, it was \$7,953 (\$13,967

minus \$6,013).

A review of the study (ex. 35) suggests that the resource needs identified represent to some extent a wish list of resources that teachers and administrators would like to have if they were creating an ideal school with no need to think about cost at all.<sup>152</sup> Moreover, while I agree with the plaintiffs that it is very useful to have Massachusetts educators as panel members because they are familiar with the curriculum frameworks and the types of resources necessary to implement them, the context in which this study was conducted – a lawsuit involving funding issues for the very districts in which the panel members teach and work – gives one pause about its total objectivity.<sup>153</sup>

In sum, I do not find the results of Dr. Verstegen’s study helpful in assessing the adequacy of

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<sup>152</sup> In this regard, as the defendants’ witness Dr. Robert Costrell pointed out, if Dr. Verstegen’s professional judgment model is applied to the comparison districts of Brookline, Concord/ Concord-Carlisle, and Wellesley, it appears that none of the three is spending enough to provide an adequate education. Dr. Costrell could identify only five school districts in the Commonwealth that are spending at a level that would be considered appropriate according to the Verstegen model (see ex. 5449), and none of the five is included in Myers’ 75 “successful school” districts.

<sup>153</sup> I am not suggesting that the panel members were failing to use their “professional judgment” in good faith when they were participating in the study; the record here would not support such a conclusion. But the litigation context may have contributed to the wish list aspect of this professional judgment study.



funding in the four focus districts.

(ii). Dr. Smith's Study

The professional judgment study conducted by the defendants' expert, Dr. James Smith, fares no better. Dr. Smith is also a recognized expert in the field of education finance, and like Dr. Verstegen as well as a number of other expert witnesses called by both sides in this case, he has worked on school finance models in a number of States. In Massachusetts, he designed his professional judgment study to determine whether the four focus districts have enough financial resources to enable them to provide an adequate education according to the requirements of State law. He used thirteen panel members, only three of whom were from Massachusetts; the remaining ten were all from different States. The panel members were provided with a sheet setting out the purpose clause in G. L. c. 69, § 1, and a summary of the standards included in the English language arts and mathematics curriculum frameworks. The members were asked to consider these as defining the Massachusetts educational requirements (see ex. 5101); they were not provided with any information about the additional Massachusetts curriculum frameworks in other subjects, or with information about the *McDuffy* decision and its articulation of necessary student capabilities. The panel was asked to design instructional programs for elementary, middle and high schools using three different levels of resources: (1) the FY01 per-pupil spending of Winchendon, the lowest-spending of the four focus districts; (2) the FY01 weighted average per pupil spending in all four focus districts; and (3) the FY01 per pupil spending in Springfield, the district with the most low-income and minority students. The panel members then designed what they deemed comprehensive educational programs within these three budgetary assumptions. The panel members expressed strong confidence in the validity of the programs they designed under resource levels (2) and (3) listed above, but far less confidence in the program designed under the lowest resource level in (1).

An essential component of Dr. Smith's study was the set of assumptions that he provided to

his professional judgment panel members. The set included the assumptions that (1) all school facilities were adequate, (2) there were adequate levels of supplies and materials, including technology in each district, (3) funding for special education was adequate in each district, and (4) teacher salaries were also adequate. The findings I make in this case dispute at least three of these assumptions – adequacy of facilities, adequacy of supplies, materials and technology, and particularly adequacy of special education funding in each of the focus districts. In addition, the plaintiffs have at least raised important questions about the adequacy of teacher salaries. Since I consider most of Dr. Smith’s assumptions to be factually erroneous, and since they lie at the foundation of his professional judgment study, I cannot and do not find the study’s results persuasive.<sup>154</sup> Accordingly, I conclude the study does not offer useful guidance with respect to the issue of the adequacy of the districts’ funding levels.<sup>155</sup>

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<sup>154</sup> The instruction to the panel members that the Massachusetts education requirements were confined to those set out in the ELA and math curriculum frameworks is also problematic.

<sup>155</sup> Somewhat related to Dr. Smith’s study was the evidence presented by Dr. James Guthrie, who works with Dr. Smith as a principal in an entity called Management Analysis and Planning (MAP). Dr. Guthrie visited a total of twelve schools in Lowell and Springfield from April 14-17, 2003, in preparation for testifying about the adequacy of facilities and the educational program potential in the focus districts. He did not assess educational quality per se, but focused more on space and facilities, and concluded that he did not observe one school where a student would not be able to get a good educational opportunity. He commented on numbers of empty classrooms in some schools, and poor use of space for pull-out sessions in others. Given the limited nature of his visits to these schools, I do not find that they provide persuasive evidence about the adequacy of the education being offered in Lowell or Springfield.

c. Comparison of Net School Spending and Foundation Budget

As indicated near the beginning of this report, there is no question that the foundation budget reflects the determination by the Commonwealth, speaking through the department, of the minimum amount each district needs in order to provide its public school children with an adequate education. Every witness from the department agreed with this proposition, and it is stated on all the school district reports published by the department. Accordingly, it makes sense to examine the actual spending levels of districts in relation to the foundation budget. In my view, this comparison of net school spending (NSS) to foundation budget for individual districts offers a more helpful, if rough, insight into the question of funding adequacy than the two funding models just reviewed.

In Brockton, Lowell, Springfield and Winchendon, the ratio between actual NSS and foundation budget has ranged from a low of 100% (Springfield, FY01) to 110% (Winchendon, FY03) for the last three fiscal years:

<b>NET SCHOOL SPENDING VS. FOUNDATION BUDGET, FY01</b>			
<b>District</b>	<b>Foundation Budget</b>	<b>Actual Net School Spending</b>	<b>NSS/FB</b>
Brockton	122,533,043	125,269,140	102.2%
Lowell	121,859,164	125,977,313	103.4%
Springfield	215,084,294	215,560,811	100.2%
Winchendon	11,405,224	12,027,738	105.5%
<b>Group Total</b>	470,881,725	478,835,002	101.7%
<b>State Total</b>	6,349,115,355	7,344,378,526	115.7%

<b>NET SCHOOL SPENDING VS. FOUNDATION BUDGET, FY02</b>			

<b>District</b>	<b>Foundation Budget</b>	<b>Actual Net School Spending</b>	<b>NSS/FB</b>
Brockton	127,047,226	133,621,037	105.2%
Lowell	129,497,748	134,771,233	104.1%
Springfield	229,544,141	234,299,099	102.1%
Winchendon	12,843,670	13,474,131	104.9%
<b>Group Total</b>	498,932,785	516,165,500	103.5%
<b>State Total</b>	6,739,035,894	7,850,826,080	116.5%

<b>NET SCHOOL SPENDING VS. FOUNDATION BUDGET, FY03</b>			
<b>District</b>	<b>Foundation Budget</b>	<b>Budgeted Net School Spending</b>	<b>NSS/FB</b>
Brockton	132,701,278	143,507,116	108.1%
Lowell	132,753,346	136,349,683	102.7%
Springfield	236,411,782	236,523,248	100.0%
Winchendon	12,666,056	13,977,672	110.4%
<b>Group Average</b>	514,532,462	530,357,719	103.1%
<b>State Average</b>	6,942,909,844	8,146,526,667	117.3%

(Ex. 41B; replacement ex. 5067, 5068, 5069, 5070). There seems to be agreement that in the current year, FY04, the required NSS in each district is at 100% of the foundation budget (replacement ex. 5067B, 5068B, 5069B, 5070B), and I infer that no one assumes the actual NSS in any of the four districts will exceed this figure in any meaningful way, if at all.

The ratio of NSS to foundation budget in each of the comparison districts of Brookline, Concord/Concord-Carlisle, and Wellesley, is very different:

<b>NET SCHOOL SPENDING VS. FOUNDATION BUDGET, FY01</b>
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<b>District</b>	<b>Foundation Budget</b>	<b>Actual Net School Spending</b>	<b>NSS/FB</b>
Brookline	37,083,450	58,770,743	158.5%
Concord (k-8)	12,019,895	18,209,947	151.5%
Concord-Carlisle (9-12)	6,573,125	11,584,895	176.2%
Wellesley	23,230,458	35,797,485	154.1%
<b>Group Average</b>	90,843,605	145,697,101	160.4%
<b>State Average</b>	6,349,115,355	7,344,378,526	115.7%

<b>NET SCHOOL SPENDING VS. FOUNDATION BUDGET, FY02</b>			
<b>District</b>	<b>Foundation Budget</b>	<b>Actual Net School Spending</b>	<b>NSS/FB</b>
Brookline	40,299,169	60,690,262	150.6%
Concord (k-8)	12,633,392	20,378,778	161.3%
Concord-Carlisle (9-12)	7,350,283	12,530,850	170.5%
Wellesley	24,570,405	38,810,493	158.0%
<b>Group Average</b>	97,679,704	162,903,325	157.8%
<b>State Average</b>	6,739,035,894	7,850,826,080	116.5%

<b>NET SCHOOL SPENDING VS. FOUNDATION BUDGET, FY03</b>			
<b>District</b>	<b>Foundation Budget</b>	<b>Budgeted Net School Spending</b>	<b>NSS/FB</b>
Brookline	40,423,277	62,401,724	154.4%
Concord (k-8)	12,721,986	21,825,770	171.6%
Concord-Carlisle (9-12)	8,036,949	13,670,862	170.1%
Wellesley	26,282,301	41,780,704	159.0%
<b>Group Average</b>	101,012,230	173,252,390	161.4%

<b>State Average</b>	6,942,909,844	8,146,526,667	117.3%
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(Ex. 41D.)

It is true that the comparison districts have historically devoted a great deal of resources to education, see *McDuffy*, 415 Mass. at 617, and one cannot assume that the amount these districts actually choose to spend on their schools reflects an objective assessment of the minimum necessary for a constitutionally adequate education. Nevertheless, it is instructive that if one takes the 75 districts identified by John Myers as having the highest proficiency indices based on MCAS scores in the department’s Cycle II school ratings, the average ratio of NSS to foundation budget for that group in FY01 through FY03 was around 130% or a little higher. (Ex. 5444; ex. 41C).<sup>156</sup> Moreover, the NSS/foundation budget ratio average for the State as a whole during these years ranged from 115.7% (FY 01) to 117.3% (FY 03) – all above the ratios for the focus districts. I find these differences to provide material support to the plaintiffs’ contention that the foundation budgets in their districts are not adequate to provide the education that they are entitled to receive.

Dr. Robert Costrell, the Commonwealth’s chief economist and a witness for the defendants, testified that, based on multivariate regression analyses he performed to study the relationship between the NSS to foundation budget ratio and student MCAS performance reflected in the department’s Cycle II ratings, when one controlled for median income of the district, the somewhat

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<sup>156</sup> The defendants’ witness Dr. Robert Costrell indicated that in FY02, the mean or average of the NSS/foundation budget ratio for the Myers “successful” school districts was 130%, and for the 45 K through 12 districts among these 75, the average NSS/foundation budget ratio was 129%. (See ex. 5444; 5445). An exhibit prepared by the plaintiffs from department data reached very similar conclusions, indicating that the average NSS/foundation budget ratio for the 75 Myers “successful” districts was 130.4% in FY 02, 129.5% in FY01, and 132.7% in FY03. (Ex. 41C).

weak positive relationship between NSS/foundation budget and Cycle II performance disappeared. (Costrell testimony, 11/14/03 at pp. 86-99; ex. 5448B- 5448E). He concluded from this analysis that what really determines student performance is district median income, and that once districts are spending at 100% of the foundation budget level, there is no statistical evidence that spending increases will improve student performance. (Costrell, 11/14/03, pp. 89-97, 104).

The plaintiffs assert that these regression analyses are not reliable because they are based on insufficiently precise student-level data; i.e., a district's median income does not tell one enough about the actual income level of the students in the public schools, their status (e.g., LEP, special education), their mother's educational level,<sup>157</sup> etc. These may be limitations affecting the weight of the analysis, but perhaps more significant is the fact that Dr. Costrell's inquiry did not touch on the fundamental issue to be decided. Dr. Costrell testified that he did not have an opinion on whether the foundation budget is adequate to enable districts to provide the education called for in the State's curriculum frameworks or the *McDuffy* capabilities. (Costrell, 11/14/03, p. 105). There are a good number of witnesses who testified for the defendants who believe the answer to this question is or may well be no, and who point to discrete areas that definitely need more funding. (These are discussed below). Dr. Costrell was performing a form of mathematical or statistical study. In the end, I do not believe his regressions invalidate the point that in the real world, the school districts that are performing well are spending substantially more than their foundation budgets call for, and indeed the average spending by all the public school districts in the Commonwealth is well above the foundation budget level. In light of this reality, it is difficult not to conclude that the minimum

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<sup>157</sup> Many witnesses at the trial on both sides spoke to the significance of the educational level achieved by a student's mother as a determinant and predictor of the student's own educational performance.



“adequate” funding level for every school district in Massachusetts lies above the current foundation budget formula amount, although it is obviously not possible to identify the point of adequacy by simply by examining and comparing different districts’ NSS/foundation budget ratios.

d. Value Added Analysis

Another witness for the defendants, Dr. Edward Moscovitch, testified about analyses he performed in which he took department data about student enrollments in every operating school district, and classified all the students by the following demographic characteristics: race or ethnicity (white, Asian, mixed, other, Native, black, Hispanic), limited English proficiency, poor (defined by eligibility for free or reduced price lunch), and not poor. (Ex. 5375). He then calculated a statewide average proficiency score, using the department's method of measuring proficiency through MCAS scores, for each of these demographic subgroups – for example, for the subgroups of Asian students in poverty with limited English, Asian students in poverty with adequate English language skills, Asian students not in poverty with limited English, and Asian students not in poverty with adequate English skills. (Moscovitch testimony, 11/3/03, pp. 103-116; ex. 5375). Next, for every school district in Massachusetts he calculated an expected proficiency score, based on the average score for the number of students in the district's school population in each of the demographic subgroups he had identified. (Moscovitch, 11/3/03, pp. 126-135, ex. 5376). Dr. Moscovitch defined as the particular school's or the district's educational "value added" any positive difference between the actual proficiency index for the particular school or the district and the proficiency index that would be expected if each student scored at the average score of his or her demographic group. In other words, if the school's or district's proficiency index is above the expected score that is derived from assuming every student is scoring at the average of his or her gender, race, ethnicity, poverty, and language status, Dr. Moscovitch considered this positive difference to be attributable to the value provided by the school's or district's educational program. (Moscovitch, 11/3/03, pp. 121-126).

Dr. Moscovitch used his "value added" approach to compare "value added" for particular

districts to their per pupil spending. (Ex. 5378). He concluded from this comparison that there is generally no positive relation between spending and performance. (Moscovitch, 11/3/03, p. 151; ex. 5378). In particular, Winchendon has an extremely low “value-added” score compared to other districts spending the same amount per pupil, and Brockton, Lowell, and Springfield also have lower “value added” scores than other districts with the same level of per pupil spending. (Ex. 5378). If one makes poverty measured by FRL student status the point of focus, Dr. Moscovitch is of the view that for the high poverty districts (where 40% or more of the students qualified for free or reduced price lunch), there is simply no relationship between “value added” and spending. (Moscovitch, 11/3/03, pp. 162-163; ex. 5379).<sup>158</sup>

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<sup>158</sup> Dr. Moscovitch drew a contrast between high poverty districts and low poverty districts. In the latter, he stated that there is some relationship between spending and performance – that is, there is a causal connection between high spending and high performance in low poverty schools.

I do not find this analysis to offer much assistance in resolving the funding issues in this case. First, with respect to the concept of “value added” being ascribed to a school or school district based on the MCAS scores of students in the chosen demographic categories, one has no knowledge of how long the students being tested in a particular school or district were enrolled there. This seems a highly relevant piece of information to the question of the school’s or district’s “value added.” Nor does one know what percent of the students qualify as students with disabilities or the nature of the disabilities at issue, which again would affect student scores.<sup>159</sup> More fundamentally, however, I fail to see how a comparative analysis of students’ MCAS proficiency scores in a district relative to the average proficiency scores for students of the same defined demographic mix tells one anything very meaningful about the actual quality of the education being offered.<sup>160</sup> If the point is simply that the greater expenditure of money by itself does not necessarily translate into better student performance, it is a point I accept, based on the evidence in this case. But I cannot go beyond this general proposition.<sup>161</sup>

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<sup>159</sup> The plaintiffs point to other pieces of specific information about the students that would be important in assessing the “value added” of the schools, such as the actual family income and the mother’s educational level. I agree these data would be useful, but their absence by themselves does not in my view invalidate the mode of analysis.

<sup>160</sup> If one were to assume hypothetically that a particular demographic group statewide – e.g., Hispanic, low income students with limited English proficiency – has a very low average proficiency score, the fact that students within this demographic profile in a particular district do somewhat better than the average does not necessarily mean that their schools are providing an education program that fulfills the *McDuffy* capabilities or implements all the State’s curriculum frameworks.

<sup>161</sup> Dr. Moscovitch also testified about certain categories of costs that he thought needed to be added into the foundation budget formula, and certain increases of costs – special education and vocational special education – that are presently in the formula but which should be increased. (Moscovitch, 11/4/03, pp. 37, 65-67, 94-95). These points are discussed below.

### 3. Problems With the Existing Foundation Budget Formula

As earlier outlined, the foundation budget for each district is determined through use of a formula that includes eighteen (or nineteen<sup>162</sup>) separate categories of school expenditures. In substance or effect, the formula calls for certain additions to the budget to account for, *inter alia*, the particular district's population of low income students (measured by FRL student numbers) and students in transitional bilingual education programs. In addition, the formula is adjusted in a different way to reflect in some measure the higher costs of special education in the regular day program, vocational education programs, and out-of-district private programs. The budget is further adjusted for inflation. The basic foundation budget formula was developed in connection with the passage of the ERA. Although there have been discrete adjustments to certain factors since then, it remains essentially the same as it was in 1993.

Quite apart from the general point that high performing school districts spend on average 130% above their foundation budgets, there was persuasive evidence that in important ways, the foundation budget formula does not currently provide adequate funding for public school education. This evidence included the following.

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<sup>162</sup>Department witnesses differed on the number.

a. Special Education

The lack of adequate funding for special education programs is discussed in connection with each of the focus districts, and is further discussed in detail below. I will not repeat what is stated there. I simply note that I am persuaded by the special education evidence from the districts and agree with the wide variety of witnesses, including experts for the defendants (e.g., Edward Moscovitch) as well as the commissioner and the associate commissioner of education for school finance and district support, that the foundation budget formula is inadequate in relation to special education programs, even with the 2002 increase in the original special education enrollment factor from 3.5% to 3.75%, and the increase in the vocational education special education factor from 4.5% to 4.75%.

b. Curriculum Frameworks

The foundation budget formula was created long before the department and the board promulgated – and repromulgated – curriculum frameworks in the legislatively identified “core subjects” of ELA, mathematics, history/social science, science/technology, foreign languages, and the arts, plus health. It is undisputed that neither the department nor the board has ever undertaken to evaluate the adequacy of the foundation budget formula in light of these frameworks and has no plans to do so. According to the commissioner, there is no need to engage in such a review because, in substance, the foundation budget and the call for curriculum frameworks both derive from the ERA, and therefore the budget formula must have contemplated the frameworks, particularly in light of the fact that the ERA contemplated substantially more funding being added into the mix over the seven years scheduled for all school districts to reach foundation level. (Driscoll testimony, 10/27/03, pp. 135-137).

I do not accept the commissioner's reasoning. As discussed above, the current curriculum frameworks are recognized as defining truly comprehensive educational programs in each of the subject areas, and they call for a wide variety of resources – materials, supplies, equipment – in order effectively to implement the experiential, problem-solving type of learning that they seek to provide. It took the department and the board many years and many tries to develop these curriculum frameworks – they are all substantially revised from the original versions, and the last of them, history/social science, was not formally completed until 2003. It is not reasonable to assume that the foundation budget formula, developed between 1991 and 1993, did or could have contemplated the costs associated with implementing these frameworks.<sup>163</sup> I am persuaded by one of the witnesses called by the defendants, S. Paul Reville, who testified that the original foundation budget formula was established by asking a select number of superintendents what it would cost to provide an adequate education, but the inquiry was made in a context where no set of educational goals existed; and that now, with the existence of a “highly articulated” set of educational goals - the curriculum frameworks – it is necessary to review the foundation budget formula to make sure it is aligned and constructed in a way that will allow school districts to implement the goals the Commonwealth has set. (Reville testimony, 12/18/03; see ex. 1153). It is, of course, theoretically possible that this inquiry will lead to a conclusion that no additional funds are necessary to implement fully the frameworks. Based on the evidence presented concerning the focus districts' educational programs, however, this seems a doubtful proposition, to be sure. Nevertheless, there is no way to know this

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<sup>163</sup> Jeffrey Wulfson, the associate commissioner of education for school finance and support, acknowledged that the department has not figured out whether the foundation budget is adequate to ensure student achievement outside of the areas of ELA and math. (Wulfson testimony, 10/28/03).

essential fact if the inquiry is never pursued.

c. Teachers

Teacher salaries are the largest component of school districts' foundation budgets. As of 2001, the statewide average expenditure for teachers was 129.7%, higher than the amount allocated to this category in the foundation budget formula, and apparently it has been above the foundation budget amount since 1996. (See ex. 5224; Hatch testimony, 10/30/03, p. 214). In the comparison districts, the 2001 expenditures on teacher salaries showed the following: Brookline's total expenditure was 178% of the amount presumptively allocated for teacher salaries in the Brookline foundation budget formula; Concord's teaching salary expenditure for grades K through 8 was 187% above the amount allocated in its foundation budget formula; Concord-Carlisle's teaching salary expenditure for grades 9 through 12 was 154% above the amount allocated in its foundation budget formula; and Wellesley's teaching salary expenditure was 187% above the foundation budget allocation. (Ex. 239A.)<sup>164</sup> The associate commissioner of education for school finance and support agreed that the foundation budget consistently underestimates the actual expenditures on teachers' salaries that are made by districts. (See Wulfson testimony, 10/28/03, p. 135). The inescapable conclusion one must draw from this fact is that the formula does not adequately cover the budget's largest category of expenditure.

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<sup>164</sup> In contrast, in the four focus districts, with the exception of Winchendon, teaching salary expenditures were generally much closer to the amount presumptively allocated to this expenditure category in the formula. Thus Brockton's 2001 teaching salary expenditure was 101% of the amount allocated in its foundation budget, Lowell's was 111% of the foundation budget allocation, Springfield's was 101% of the foundation budget allocation, and Winchendon's was 126% of the foundation budget allocation. One needs to view these budget figures against the backdrop of student performance in the focus districts as compared to the comparison districts and the state; when this is done, the figures may well do more to support the point made by the plaintiffs, namely, that their teaching salaries are at too low a level to attract and retain highly



d. Bilingual Education/Limited English Proficiency

The foundation budget formula originally recognized students in transitional bilingual education (TBE) programs as a category of student, in addition to special education and low income students, for whom school districts should receive additional funds.<sup>165</sup> At least since 2001, it has been suggested that this definition was too narrow, because there were many students whose first language is not English and who have difficulty with English, but who were not enrolled in TBE programs. Beginning in FY05, the department states it will use “limited English proficiency” as the qualifying definition for determining the number of students who should be counted for calculating the bilingual education factor. The department anticipates that this change will increase significantly the foundation budgets of districts with high percentages of LEP students (see Wulfson testimony, 10/28/01, p. 31; Hatch testimony, 10/29/03), but the point obviously cannot be confirmed at the present time.<sup>166</sup>

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qualified teachers, than they do to support a determination that the foundation budget formula adequately deals with the category of teachers’ salaries.

<sup>165</sup> The way that the department actually computes the foundation budget for school districts is by translating or converting each factor in the foundation budget formula into a per pupil cost. Thus for students in TBE programs, the department adds on approximately \$1,400 for

e. Determinations of the Foundation Budget Review Commission

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each such student in the particular district. (See Wulfson testimony, 10/28/03, pp. 28-29, 30-31.)

<sup>166</sup> Whether or not to increase the foundation budget formula's low income factor has been a source of debate in recent years. It is discussed in connection with the recommendations of the Massachusetts Foundation Budget Review Commission and other recommendations below. (See subsections (e) and (f) in this section).

The ERA provided for the creation of a foundation budget review commission “to review the way in which foundation budgets are calculated and to make recommendations to the general court regarding such changes in the formula as may be appropriate.” G. L. c. 70, § 4 (inserted by St. 1993, c. 71, § 32).<sup>167</sup> There have been two foundation budget review commissions appointed since the passage of the ERA; the most recent commission was appointed and made its report in 2001. The 2001 foundation budget review commission studied the adequacy of the foundation formula, and concluded that in a number of respects it was inadequate and needed to be increased. In particular, the commission concluded with respect to adequacy that:

- the special education factor needed to be increased over a period of time;
- the class size assumption of the foundation formula for elementary grades – which is a 22:1 student teacher ratio for K through 5 – should be redefined to provide for a 15:1 ratio over a period of years. In addition, the class size foundation budget assumption for middle school – a 25:1 student teacher ratio – should be gradually reduced to 22:1, with the priority for reduction on grades K through 3;
- the low income factor needed to be increased (but the commission did not specify by how much);<sup>168</sup>

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<sup>167</sup> General Laws c. 70, § 4, establishing the Foundation Budget Review Commission, has been amended since the passage of the ERA, most recently in 2000. See St. 2000, c. 159, § 139. In its most recent iteration, the section itself defines the membership of the commission, and provides that it report its recommendations to the Legislature every two years. For the commission to operate, however, it must be funded. The FY01 budget included monies for the commission, but there has been no appropriation since then.

<sup>168</sup> The low income factor in the foundation budget formula in effect adds in three teachers for every 100 low income students; the theory underlying the factor is that smaller class sizes are needed to help deal effectively with the educational needs of low income students. I understand that the department, in determining a district’s foundation budget, translates the low income factor into a per pupil cost (as it does for students in TBE programs, described above). The low income factor per pupil addition is currently a sum between \$2,100 and \$2,500 for every low income student counted in the district. (Wulfson testimony, 10/28/03, pp. 29-30).

The commissioner testified at first that he did not disagree with the foundation budget review commission’s conclusion that the low income factor should be increased (Driscoll testimony, 10/27/03, p. 162), but almost immediately appeared to change his mind, testifying that

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he could not say the low income factor should be increased because he did not have the details necessary to form such a judgment (although he is the commissioner of education for the State and must deal with foundation budget issues on a consistent basis). (*Id.*, pp. 163-164).

Quite apart from an increase in the low income factor, there is an adjustment to the method of counting low income students that could and should be made in this area. For every school district's foundation budget, the number of low-income students is determined by using the number of students in the district who are eligible for free or reduced price lunch and who sign up for the program as of October 1 of the prior fiscal year (i.e., October 1, 2000 for the FY02 foundation budget). The department has long recognized (since 1999 according to one department witness) that at least for high school students, this method of counting FRL-eligible students probably results in undercounting, because many high school students do not fill out the sign-up forms for the program, whether because of perceived stigma or otherwise. The associate commissioner for school finance and support testified that probably by FY06, the department intends to make an administrative adjustment in this area, so that if a family signs up one child for the FRL program -- presumably an elementary school child -- the department will include every other child in that family who is enrolled in a public school in that district as an FRL-eligible student regardless of whether there is a school lunch form for that particular child; in other words, the department will calculate FRL-eligibility on a family basis. I fail to understand why it has taken and will take the department more than five years to make this adjustment to alleviate an undercounting problem everyone appears to acknowledge. Presumably the lack of an individual student data system has been a factor here, but the department has been implementing an individual student data base (SIMS) since 2002.

- foundation enrollment should be computed differently to reflect more quickly the impact of growing enrollments in the foundation budget formula;
- full day kindergarten programs focusing on high risk students should be implemented (and included in the foundation budget); and
- a technology factor should be added to the budget.

(Ex. 234, p. i-3, pp.1-5, and Table 3).

Except for a partial implementation of the foundation budget review commission's recommendation concerning the special education enrollment factor increase, its recommendations have not been adopted. The significant point here, however, is that the commission – a legislatively created body with a broad membership that included representatives of organizations having deep knowledge and experience in the area<sup>169</sup> – reached the determination in 2001 that the foundation

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<sup>169</sup> Pursuant to G. L. c. 70, § 4 (as amended by St. 2000, c. 159), the membership of the commission includes legislative chairs of the joint committee on education, arts and humanities (to serve as commission co-chairs); other leaders of the House of Representatives and Senate (or their designees); the governor (or his designee); the commissioner of education; the chair of the education reform review commission (another reviewing body established by the ERA, see St. 1993, c. 71, § 79); and one member from each of the following organizations: the Massachusetts Municipal Association; Massachusetts Business Alliance for Education; Massachusetts Association of School Committees; Massachusetts Superintendents Association; Massachusetts Teachers Association, Massachusetts Federation of Teachers; League of Women Voters of Massachusetts; Massachusetts Association for Vocational Administrators; and the Massachusetts Association of Regional Schools.

budget was failing to provide necessary funding in several key respects. Certainly the record in this case provides no grounds to suggest that the years since 2001 have shown the commission's determinations were incorrect. In fact, the opposite is true.

f. Other Changes to the Formula

The defendants' witness Edward Moscovitch, apparently the principal architect of the original foundation budget formula, testified that in his opinion, the formula needs to be changed to add several factors relating to building better professional competency and better local leadership capacity; these would include factors to account for the costs of mentor teachers, literacy coaches, diagnostic testing, and paying teachers to take on more leadership roles in the school. Such changes, in Dr. Moscovitch's opinion, would increase the Chapter 70 budget by about 5% to 7%. He also stated that the special education factor for regular day programs needed to be increased to 4% or 4.5%, and the special education factor for vocational education programs should be increased to somewhere between 7 and 10%; the low income factor in the formula should be increased; and if it were up to him, he would implement a formal preschool education program, with an addition to the formula to reflect the program's implementation. (Moscovitch testimony, 11/04/03, pp. 65-67, 69, 79, 83-84, 89, 94-95). The trial record supports the need for such changes.

#### **4. Reductions in State Funding**

The high water mark of State funding for public school education programs was in FY02. The next two fiscal years saw reductions, and those in FY04 were substantial. The budget plan for school districts in FY04 was that Chapter 70 aid would be cut by 20% unless a reduction of that size would place the district below its foundation budget level; in that case, the cut in Chapter 70 aid would be modified to ensure the district could meet its foundation budget. Apparently, 154 districts in the Commonwealth absorbed the full 20% cut. The focus districts were not in a position to do so and still reach their foundation budget amounts. Accordingly, Brockton's Chapter 70 aid was cut by 5.1%, Lowell's was cut by 5.4%, Springfield's was cut by 0.1%, and Winchendon's was cut by 8.8%. (Hatch testimony, 10/29/03).

In addition to the reductions in Chapter 70 aid, several significant grant programs were drastically cut in FY04:

- Class size reduction grants – used by the four focus districts (and many others) to hire additional teachers and thereby permit more and smaller classes – were eliminated entirely; in both FY03 and FY02, \$18 million was available for class size reduction grants statewide;
- MCAS remediation grants were reduced from \$50 million in both FY03 and FY02 to \$10 million for FY04. These are the funds used by the focus and other districts to provide MCAS tutoring, extra classes, etc. All witnesses who were asked about the subject acknowledged that these funds played a critical role in helping students improve and ultimately pass the MCAS tests in order to join the 2003 graduating class;
- Grants for public school preschool and other early childhood education programs were also greatly cut, for the third year in a row. Thus these grant funds went from a high of \$114.5 million in FY01 to \$103.4 million in FY02, to \$94.6 million in FY03, and finally, down to \$74.6 million in FY04;
- Early literacy grants for early reading programs were also cut by two-thirds, from \$18.3 million in FY03 to \$3.8 million in FY04.

Grants in all of these areas have tended over the years to buffer school districts, including the focus districts, against funding insufficiencies in their own foundation budgets. The evidence in this case shows that for the focus districts at least, the steep reductions in (in one case, the elimination of) these grant funds have had a deeply negative impact on their ability to provide adequate educational programs. This has been particularly true for children who are at risk of failure, or in the case of the MCAS remediation funds, who are actually failing: the programs that all of these grants have funded are designed in particular to meet the needs of such children.

## 5. Conclusion

The specific findings about each of the focus districts reflect that in each district, there are aspects of the educational program that suffer or fail because of a lack of resources. The findings in this section, dealing with structural funding issues that affect all of the focus districts (among others), supports and reinforces these findings. In sum, I conclude that contrary to its intended purpose, the foundation budget formula does not presently provide sufficient funds to the focus districts to permit them to implement the curriculum frameworks or equip their students with the capabilities outlined in *McDuffy*.<sup>170</sup> Nor is there any other source of State funds filling the gap; instead, the Commonwealth has diminished its use of grants to supplement the foundation budget in selected but critical areas.<sup>171</sup>

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<sup>170</sup> In light of the forceful evidence of underfunding for these districts, I find quite astonishing the commissioner of education's testimony that in his view the foundation budget formula yields adequate funding for the Commonwealth's school districts, including presumably the four focus districts. (See Driscoll testimony, 10/27/03, pp. 135-139, 155-156, 171-176).

<sup>171</sup> It is of particular concern that Winchendon, determined by the department and the board to be underperforming, should have its Chapter 70 funds cut by as much as 8.8% in the last year, and its State grants cut as well. I do not find that Winchendon's sorry educational status can be attributed solely to lack of funding, but additional funding is clearly needed, well beyond



This conclusion does not mean, however, that increases in the foundation budget formula or the infusion of funding from some other source would by themselves solve the problem of an inadequate educational program in the focus districts. There appears to be a real need to enhance the capacity of these districts generally (and Winchendon in particular) to administer the educational program in a way that uses and learns from student performance data, promotes and improves teaching competency, and demonstrates managerial competence as well as, one hopes, leadership.

## **B. Special Education**

### **1. Areas of Concern**

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restoration of the ill-considered cuts.

The findings about the four focus districts reveal a number of common areas of concern in the provision of special education services to children with disabilities.<sup>172</sup> The first is that all of the focus districts have difficulty in performing timely evaluations of, and development of IEPs for, children referred for special education evaluations, a problem caused in significant part by the lack of school psychologists and other professionals to perform the necessary evaluations, especially psychologists able to evaluate children whose first language is not English. Second, all the focus districts lack appropriate space to provide special education services for those children who spend most of their day in the regular education classrooms. Third, the focus districts fail to educate students with disabilities in the least restrictive environments, and more particularly, fail to provide these students with meaningful access to the regular education curriculum in regular education classrooms. Closely connected with this last concern are two additional important problems, one of which is the absence of meaningful professional development for regular education teachers on strategies and methods for teaching children with disabilities in the “inclusion” classrooms, and professional development for special education teachers on the subject matter content areas that children with disabilities need to learn. The other is the lack of sufficient personnel – both special education teachers and perhaps particularly paraprofessionals – who are needed to support and assist the children with disabilities in regular education classrooms. These problems were identified by those providing special education in the four districts, by their superintendents, and to some extent by the department itself through the coordinated program review process.

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<sup>172</sup>Throughout this report, for the sake of consistency, I have adopted the practice of the department in equating “disabilities” with “special education needs.” However, the imprecision of assuming, tacitly, that all children with disabilities *ipso facto* have special education needs deserves note.

## 2. MCAS Gap Between Regular and Special Education Students

The MCAS scores of students with disabilities in the four focus districts are a telling reflection of the existence of the problems described above. Passage rates for these students lag far behind those of regular education students. In addition, the passage rates in the four focus districts are significantly lower than the passage rates for special education students in the comparison districts.

**Percentage of regular and special education students passing  
by subject and select grades: 2002:**

	<b>ELA Grade 4</b>	<b>ELA Grade 10</b>	<b>Math Grade 4</b>	<b>Math Grade 8</b>	<b>Math Grade 10</b>
<b>Brockton</b>					
Regular Ed.	87	90	69	49	65
Special Ed.	45	42	41	16	17
<b>Lowell</b>					
Regular Ed.	88	83	71	56	68
Special Ed.	52	32	34	10	10
<b>Springfield</b>					
Regular Ed.	87	61	70	38	40
Special Ed.	51	33	42	6	11
<b>Winchendon</b>					
Regular Ed.	90	95	72	61	76
Special Ed.	44	25	38	14	14
<b>State</b>					
Regular Ed.	95	91	87	75	80
Special Ed.	69	58	58	28	38
<b>Brookline</b>					
Regular Ed.	97	97	93	88	93
Special Ed.	91	75	75	60	65
<b>Wellesley</b>					
Regular Ed.	100	100	98	98	97
Special Ed.	85	70	80	56	80

(Ex. 1153).

**Percentage of regular and special education students passing  
by subject and select grades: 2003**

	<b>ELA Grade 4</b>	<b>ELA Grade 10</b>	<b>Math Grade 4</b>	<b>Math Grade 8</b>	<b>Math Grade 10</b>
<b>Brockton</b>					
Regular Ed.	91	90	80	46	73
Special Ed.	56	50	48	13	23
<b>Lowell</b>					
Regular Ed.	87	86	78	53	67
Special Ed.	44	48	35	10	25
<b>Springfield</b>					
Regular Ed.	88	76	75	37	54
Special Ed.	51	28	45	8	15
<b>Winchendon</b>					
Regular Ed.	94	91	83	70	77
Special Ed.	85	24	50	10	12
<b>State</b>					
Regular Ed.	95	93	90	76	85
Special Ed.	73	67	62	29	50
<b>Brookline</b>					
Regular Ed.	97	99	94	95	95
Special Ed.	82	92	74	53	79
<b>Wellesley</b>					
Regular Ed.	99	101	99	99	99
Special Ed.	93	94	81	70	82

(Ex. 1154).

The defendants point out that with respect to the class of 2003, 80% of students with disabilities in the Commonwealth ultimately satisfied the competency determination for graduation, either by passing the ELA and math MCAS tests, through the appeal process, or, for a limited number, through alternative assessments. (Ex. 1069, p. 8). This is indeed a great achievement. But

this result does not speak to the inadequacies in the special education programs offered to special education students in the four districts. First, except for Springfield – which presents the opposite picture from the State as a whole <sup>173</sup> – there is no evidence as to how the focus districts’ special education students in the class of 2003 did with respect to the competency determination; the 80% pass rate is a statewide figure. Second, the fact that after six testing opportunities an impressive number of students with disabilities have passed the MCAS test is not necessarily a convincing sign that the educational programs they were offered were adequate; it may simply mean that the students received useful help in learning how to take the tests.

I accept the opinion of every educator and expert witness who touched on the subject, whether for the plaintiffs or the defendants, that except for those with cognitive disabilities, all students with disabilities are capable of learning the information included in the State curriculum frameworks and of performing at the same level as their regular education peers, provided they receive adequate supports. The superintendents of the four focus districts, the districts’ special education directors and teachers who testified, and the plaintiffs’ expert, Dr. Hehir, all share the opinion that the students with non-cognitive disabilities in their districts are not receiving the education that they need to learn what the State’s curriculum frameworks prescribe, nor are they being equipped with the seven *McDuffy* capabilities. Based on the evidence, I share this conclusion. I also conclude from the evidence that the reasons for the failures in the special education programs in each of these districts is tied in part to a lack of resources, whether in the form of adequate staff, enough space, or the financial ability to provide constructive professional development for both

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<sup>173</sup> In Springfield, 80% of the students with disabilities in the class of 2003 did not achieve a passing score on at least one of the tenth grade MCAS tests.

regular education and special education teachers.<sup>174</sup>

### **3. Per-Pupil Spending on Special Education**

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<sup>174</sup> I do not mean to suggest that lack of resources is the only cause of the failures in the special education programs. Among other indications, the Coordinated Program Review reports in evidence point to a number of problems that may well not be related to resources.

With respect to resources, the plaintiffs point out that the comparison districts of Brookline, Concord/Carlisle, and Wellesley spend more per pupil for students with disabilities than do the focus districts. (See ex. 46, 80). For example, in FY01, the average per pupil expenditure for special education students was \$12,403 in the focus districts<sup>175</sup> and \$15,985 in the comparison districts.<sup>176</sup> The plaintiffs also stress the undeniable fact that the MCAS scores of the special education students in the comparison districts are far better than the scores of the focus district special education students. (See ex. 1153, 1154; chart above in this section).

These differences in per pupil expenditures and MCAS scores, by themselves, do not prove that the four focus districts have inadequate amounts of money for their special education students. Moreover, I note that the State average per pupil expenditure for special education in FY 2000 was \$11,311 (see ex. 46), and \$12,416 in FY 2001 (see ex. 5224A); these are both lower than the corresponding per pupil expenditure figures for all of the focus districts except Winchendon. In

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<sup>175</sup>Specifically, the FY01 per pupil special education expenditure in Brockton was \$12,989; Lowell was \$13,324; Springfield was \$13,662; and Winchendon was \$9,638. The FY00 per pupil special education expenditure in Brockton was \$11,516; Lowell was \$12,577; Springfield was \$11,450; and Winchendon was \$8,712. (Ex. 46)

<sup>176</sup>Specifically, the FY01 per pupil special education in Brookline was \$15,254; Concord/Carlisle was \$19,246; and Wellesley was \$13,456. (Ex. 80). The FY00 per pupil special education expenditure in Brookline was \$14,311; Concord/Carlisle was \$19,566; and Wellesley was \$13,048. (Ex. 46).

addition, while the MCAS warning/failing rates of the students with disabilities in the comparison districts are very low in comparison to the students in the four focus districts, it is also true that these special education rates are quite a bit higher than the warning/failing rates of the regular education students in those communities. (See ex. 1153, 1154; chart above in this section). In other words, a gap, albeit generally a smaller gap, exists in the comparison districts between scores of regular education students and those of special education students, just as it does in the focus districts.

The comparative evidence thus has limitations. Overall, however, it is consistent with the conclusions that I have drawn from the evidence about each of the focus districts, namely, that their special education programs are inadequate, and that lack of sufficient resources are an important reason.

#### **4. The Special Education Component of the Foundation Budget**



The foundation budget formula currently seeks to account for the higher costs that special education programs entail by building in the assumptions that (1) 3.75% of a school district's foundation student enrollment in a district are students receiving special education services within the district, (2) 4.75% of the total foundation student enrollment in vocational education programs will be receiving special education services in the district, and (3) 1% of the foundation student enrollment will be receiving special education in tuition-based programs outside the district. (Chapter 70, § 2, as amended by St. 2002, c. 184, § 76). The formula adds dollars to various categories of expenditures to reflect these assumptions. According to Marcia Mittnacht, the director of special education services in the department, the foundation budget is also premised on the assumption that students receiving services within the district will be receiving special education services for, on average, 25% of their school time. Accordingly, by using a factor of 3.75%, the formula assumes that 15% of students will be receiving special education – on a part-time basis.<sup>177</sup> (Mittnacht testimony, 11/19/03, pp. 18-20). In fact, the statewide average percentage of special education students per district in 2002-2003 was 15.2% (see ex. 5224A), and the department believes it appropriate that no more than 1% of students should receive services in private residential placements outside the district. Therefore, the defendants claim, there is or should be adequate funding available in the foundation budget formula for special education services.

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<sup>177</sup> 3.75% divided by 25% equals 15%.

As the findings above show, however, this is simply not the case. Even though two of the four focus districts, Brockton and Lowell, have special education student percentages below the State average, each with 12.5% in 2002-2003, these districts do not have the staff, facilities, or educational and professional resources necessary to serve adequately all their special education students. In Springfield and Winchendon, where the percentages of students with special needs is above the State averages, 19% and 18.9% respectively in 2002-2003, the same is also true. As many witnesses, including the commissioner of education, testified, the foundation budget formula has understated and continues to understate the costs of special education. (Driscoll testimony, 10/27/03, pp. 250-251; see ex. 1061, p. 3). These costs have increased dramatically over the last ten or so years, at a far greater rate than costs for regular education. This point is illustrated by the following statistics: between FY89 and FY00, per pupil expenditures in Massachusetts rose 13.2%, but during that time, increased costs for special education rose 30%, and bilingual education costs rose 26%, while average regular-day per pupil expenditures rose by 8%. (2002 Annual Report of the Massachusetts Education Reform Commission, Ex. 238, p. v.<sup>178</sup> See also ex. 11, “The Rising Costs of Special Education in Massachusetts: Causes and Effects” (2001), pp. 186-194).<sup>179</sup> Moreover, as stated by the commissioner, the costs have risen disproportionately among children in poverty. (Driscoll testimony, 10/27/03, p. 250). The four focus districts are among the very poorest in the

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<sup>178</sup> The Massachusetts Education Reform Commission is an agency established as part of the ERA. See St. 1993, c. 71, § 79.

<sup>179</sup> A number of witnesses agreed that among the significant reasons for these special education cost increases are advancements in medical knowledge with the result that more children with severe disabilities are surviving that ever before and entering public school systems; the increased de-institutionalization of children with special needs; and the increases of children living in poverty, which brings about increased special needs. (See ex. 11, pp. 200-205; Driscoll testimony, 10/27/03, pp. 232-233; Moscovitch testimony, 11/04/03).

Commonwealth, and all except Winchendon have percentages of FRL students above the State average.<sup>180</sup>

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<sup>180</sup> The superintendent and many other witnesses from Winchendon testified to the large numbers of foster children enrolled in the district, but they offered no specific numbers. Joseph Rappa, the executive director of the EQA, testified that in conducting its Tier II review of Winchendon in 2003, the EQA found there were 23 foster children placed in the Winchendon public schools. While there was evidence that foster children with special needs can create significant special education costs for the host school district (see ex. 11, pp. 203-204), I am unable to conclude on this record how much, if any, of Winchendon's special education financial burden is tied to foster children.

The evidence also demonstrates that in two of the focus districts, the cost of out-of-district tuition for special needs children whose IEP calls for a residential setting is enormous, and far above the formula allocation set out in the foundation budget – in 2002-2003, more than 400% above.<sup>181</sup> Since tuitions for out-of-district placements are governed by contract and must be paid to ensure that the children involved will be permitted to stay and be served, the four districts must use monies that the foundation budget formula assumes would be available for other aspects of their educational programs to satisfy the contractual obligations. The point is not that the districts should be paying exactly what the foundation budget allocation assumes for every discrete item listed in the budget. It is rather that the foundation budget total undisputedly represents what the State has concluded is an appropriate amount to provide all the district's students with an adequate education, and when a significant category of expense is much higher than the figure the foundation budget formula assumes, clearly one must doubt whether the overall budget can meet the district's total educational needs.

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<sup>181</sup> Thus, in Springfield in 2000-2001, the out-of-district tuition was 358% of the foundation budget formula allocation; in 2002-2003, it was 404.9% of the allocation. (Ex. 5224A, 5063A). In Winchendon, the percentages were 391% in 2001-2002, and 444% in 2002-2003. (Ex. 5224A, 5065A). The percentages were much less in Brockton and Lowell: in 2000-2001 in both districts, the out-of-district tuition was 114% of the foundation budget formula allocation, and in 2002-2003, it was 120.4% in Brockton and 127.7% in Lowell. (Ex. 5224A, 5059A, 5061A). This was below the statewide average which in 2000-2001 was 279% of the foundation budget allocation.

The Commonwealth has tried in different ways to help districts with the financial burden imposed by out-of-district tuitions, and more recently, high cost special education programs for children with severe special needs. Through FY03, the department administered a “50-50” program under which the Commonwealth reimbursed school districts for half the cost of out-of-district tuition payments, subject to appropriation (which was generally never enough to cover the program’s theoretical funding commitment). Recently, a new reimbursement program, called the “circuit breaker” has been enacted. See St. 2003, c. 26, §§ 216-217. The legislation provides that subject to appropriation, the Commonwealth will reimburse districts for 75% of the cost of special education placements to the extent that the cost exceeds four times the statewide average foundation per pupil amount, which means at present that the cost needs to exceed about \$29,000. The circuit breaker program applies to special education programs that are both in-district and out-of district, and thus has a much greater reach, because there are relatively few children who are enrolled in out-of-district residential or other programs. In particular, the director of special education services for the department testified that the 50-50 program covered about 1,300 students statewide, and that the projection for coverage under the circuit breaker is 10,000 students. In FY04, however, the Legislature did not fully fund the circuit breaker program, and the department is making quarterly payments to eligible districts based on the assumption that the appropriation will be enough to cover 35% of the qualifying costs, rather than the full 75%. (See ex. 1096, 1096A, 1096B and 1096C).

With respect to the four focus districts, each will receive more funds under the circuit breaker program than it did under the 50-50 program; for all except Brockton, substantially more.<sup>182</sup> But it is

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<sup>182</sup> The department projects that Winchendon will receive \$736,344, covering 33 students in FY04, compared to \$452,151, covering five students in FY03 under the 50-50 program; Springfield will receive \$3,185,622 under the circuit breaker, covering 368 students, compared to

also the case that the expanded coverage supplied by the circuit breaker program in 2004 will still leave the four districts with unreimbursed costs for their most expensive special education placements.<sup>183</sup>

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\$1,214,549 in FY 03, covering 21 students; Lowell will receive \$1,429,183, covering 112 students in FY04, compared to \$813,194, covering 13 students in FY03 under the 50-50 program; and Brockton will receive \$1,293,362 for 105 students under the circuit breaker, having received \$1,255,756 for 23 students in FY03 under the 50-50 program. (See ex. 1096A, B; Mittnacht testimony, 11/19/03, pp. 27-29).

<sup>183</sup> The circuit breaker by design would not cover 100 % of these costs even if fully funded. The program reflects a judgment that less than the full amount should be reimbursed to avoid encouraging districts to place children in special education programs that may be more restrictive than appropriate – e.g, a private residential or day program solely for children with disabilities. I have no basis on which to question the validity of this policy determination by the Legislature. (Nor do I have a basis to question the similarly motivated but more general policy judgment that special education should be funded by assumed percentages of special education children, rather than using an actual student count.) With the circuit breaker system covering only 35% of the most expensive special education program costs, however, each of the districts must pay from other sources the unreimbursed costs. In FY04, these are estimated to be \$1.37 million for Winchendon, \$5.9 million for Springfield, \$2.6 million for Lowell, and \$2.4 million for Brockton. (Ex. 1096E).

### **C. Attracting Qualified Teachers**

The quality of teachers makes a critical difference in terms of raising student achievement. (Driscoll testimony, 10/27/03, p. 211; see Stotsky testimony, 12/4/03, p. 66). Criteria by which to judge teacher quality include the teacher's verbal ability, level of substantive knowledge in the field he or she teaches, capacity to make content available to students at different levels, and knowledge of teaching methods. (Darling-Hammond testimony, 9/22/03, pp. 24-27). In this regard, the new Massachusetts teacher certification test, known as MTEL, has relatively high standards, testing candidates' verbal and writing skills, and also their content and pedagogical knowledge. It thus appears to focus on the types of skills and knowledge that teachers need. The requirement for recertification every five years with the associated obligation on teachers to carry out a professional development plan, broadens and strengthens the mandate to improve teacher quality.

The four focus districts, however, have a higher percentage of unlicensed teachers and administrators than the State average. (Ex. 300D, 300E; 5208; 5034; 5035, 5217; see ex. 5023F).<sup>184</sup> They also have a higher percentage of teachers teaching out of the field in which they are licensed. (Ex. 300F; see ex. 5023G). The percentages of teachers who are not licensed in mathematics, science, and foreign languages are particularly significant. (See ex. 227, 266, 279, 5218).

Student test scores also provide an important source of information about the quality of

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<sup>184</sup> In Winchendon, for example, one-third of its administrators (three of nine) are not licensed, and 11 ½ % of its teachers are not licensed or are teaching out of field. (Ex. 5035, 5217). In Brockton, around 10% of its teachers and 12% of its administrators are not licensed at all. (Ex. 5208). All of Springfield's administrators are licensed, but 12% of its teachers are not licensed at all. (Ex. 5034) Ninety percent of its paraprofessionals (589 out of 653) do not meet the Federal NCLB definition of "highly qualified," which currently means that they need to have a high school diploma or its equivalent, and by 2006 they must have two years of higher education or meet a very rigorous experience test. (Ex. 5034.)

teachers. (See Stotsky testimony, 12/4/03, p. 69). As indicated above, the MCAS scores for the focus districts are distinctly below the State's average scores and, clearly, the scores of the comparison districts.<sup>185</sup>

Conflicting evidence was presented concerning teacher salaries in the focus districts and in Massachusetts generally. Predictably, the plaintiffs offered evidence supporting the view that all of the focus districts have great trouble attracting and retaining teachers, particularly in math, science and special education, in large part because of low salaries. The defendants, in turn, offered evidence to support the position that Massachusetts teachers have very high salaries relative to the rest of the country, and the four focus districts in particular have adequate salaries. Indeed, the defendants even contend that in Brockton and Lowell, the teachers' salaries are too high: if these districts had not agreed to increase their teachers' salaries as much as they did in 2003, their budget gap problems would have been solved in whole or in part. (Defendants' proposed findings of fact, pp. 349, 354).

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<sup>185</sup> The plaintiffs presented evidence showing that generally, school districts with larger percentages of students eligible for FRL and of minority students also have higher percentages of unlicensed administrators, unlicensed teachers, teachers teaching out of field, and paraprofessionals who are not "highly qualified." (Ex. 301A-301D, 302A-302D). There is no question that low income students and minority students generally score lower on the MCAS tests.



I do not find the evidence about teacher salaries wholly persuasive on either side.<sup>186</sup> I accept the general point made by experts for the plaintiffs, Dr. Darling-Hammond and Dr. Murnane, that salary levels have an important impact on the career decisions of teachers: whether they enter the field and stay in it. However, while I accept the testimony of the administrators and some teachers in the four focus districts concerning the losses of some teachers to other, higher-paying districts, considered in total this evidence was in my view too anecdotal and vague to permit a firm conclusion that the districts are unable to attract and keep qualified teachers because of salary levels.<sup>187</sup> At the same time, the evidence presented by defense expert Dr. Michael Podgursky, comparing his view of Massachusetts teacher salaries to salary levels of other States, is by itself largely irrelevant because there is no evidence about the educational programs in those other States, and little about their cost of living. I also consider Dr. Podgursky's evidence of comparable hourly wages of teachers to other types of employment somewhat misleading as well as fairly irrelevant.

Witnesses for all parties appear to agree that there is a serious shortage of qualified mathematics, science and special education teachers in Massachusetts and in the United States generally. Moreover, the department recognizes that the Commonwealth faces the prospect of a major shortage of teachers generally in the future, and that this is a problem that calls for the dedication of substantial monies to attract qualified individuals to the field. (McQuillan testimony, 6/12/03, p. 77; 11/19/03, p. 172). There is also apparent agreement that the focus districts, with high percentages of students in poverty, present special challenges in attracting qualified teachers because

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<sup>186</sup> However, I do find completely unpersuasive the defendants' suggestion that teachers in some of the districts may be overpaid.

<sup>187</sup> I note that the human resources administrators from the focus districts did not offer much if any support for the proposition that teachers were leaving because of low salary levels.

of the relatively greater challenges that teaching in these districts presents. (See, e.g., McQuillan, 6/12/03, pp. 78-79; Murnane, 9/26/03, pp. 69, 71). On the other hand, it appears that in at least in Brockton, for each of the math and science teacher openings in recent years, there were a reasonable number of applicants, and these included a good number who were licensed. (Sirois testimony, 7/15/03, ex. 1143Bpp. 14-15, 31; ex. 5493). In Lowell, there was at least one licensed applicant for every opening. (Ex. 5495).

The salary levels of the teachers in the focus districts are generally lower than those in the comparison districts.<sup>188</sup> As the findings on funding set forth above indicate, it is also true that the foundation budget has perennially underestimated the actual cost of teacher salaries across the State. Higher salary levels for teachers in the four focus districts may well be necessary if they are to be able to hire and keep qualified teachers, but I am not able to make specific findings on this subject with any reasonable degree of certainty. I do observe, however, that a number of witnesses expressed the opinion that offering differential salaries to teachers depending on the subject matter they were teaching – e.g., offering higher salaries to math and science and special education teachers, in recognition of the difficulty of attracting qualified persons in these fields to enter the teaching profession – would be a constructive and appropriate way to improve a district’s ability to hire competent teachers in these fields. The evidence also indicates that at least in some of the focus

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<sup>188</sup> In 2001, the average teacher’s salary in Springfield was \$48,880, in Brockton it was \$57,398, in Lowell it was \$52,314, and in Winchendon, it was \$38,957. (Ex. 5224A). In Brookline, the 2001 average teacher’s salary was \$59,022, in Concord, it was \$57,253, in Concord-Carlisle, it was \$59,168, and in Wellesley, it was \$54,281. (Ex. 239A).

districts, the absence or at negligible presence of mandatory professional development days in the teacher contracts is detrimental to improving performance.

#### **D. Facilities**

Administrators and teachers in each focus district testified about problems in certain schools that relate to the conditions of the buildings, the space available, and the useable space available. There are photographs in evidence, presented by each side, that offer competing views of— on the plaintiffs’ side – overcrowded, sorry facilities, and – on the defendants’ side – handsome, bright classrooms, buildings and space. (See ex. 51, 1144). The findings above reveal, however, that all the focus districts have difficulties caused by facility problems, particularly for their special education programs and services and lab sciences, as well as health classes and classes the arts. In addition, all four of the districts are constrained in their capacity to offer preschool programs because of inadequate space, and at least some of them have similar restrictions on their ability to add additional K-3 classes in order to reduce class sizes.

The department administers the Commonwealth’s school building assistance (SBA) program. This program provides State reimbursement for both new school buildings and renovations to existing buildings; the reimbursement rates are generous, ranging from 50% to 90%, usually over a twenty year period.<sup>189</sup> In the past ten years, all of the focus districts have had school building projects funded by the SBA program. At the time of trial, the program was apparently on hold as far as any approvals for new projects are concerned, because of a lack of funding. It further appears that all of the focus districts except Winchendon have department-approved school building projects on the waiting list.

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<sup>189</sup> Springfield, Brockton, and Lowell are reimbursed at the 90% rate; Winchendon is reimbursed at a rate of 87%.

There was no indication at the time of trial as to when the hold on new projects would be lifted. The chairman of the board stated in 2003 that if the freeze on school building funds were not lifted and a solution to the funding problem resolved during that year, the program would be in what he called “melt down.” (Peysner testimony, 11/17/03, pp. 76-77; Ex. 1073). No evidence was presented of a solution.

## **VIII. REMEDIAL ISSUES**

### **A. Early Childhood Education**

#### **1. Introduction**

The plaintiffs presented evidence concerning preschool programs in the focus districts as well as expert testimony and evidence on the value of early childhood education; funding for preschool programs is an element of remedial relief they seek. The defendants initially made, and presumably continue to make, an objection to the inclusion of preschool education as an issue in this case; they have argued that *McDuffy* does not concern itself with anything but traditional public school education, which the defendants appear to view as kindergarten through twelfth grade. This objection is not well founded.

The court in *McDuffy* stated repeatedly that “. . . the Commonwealth has a duty to provide an education for *all* its children, rich and poor, in every city and town of the Commonwealth at the public school level . . . .” 415 Mass. at 606 (emphasis in original); see *id.* at 618, 621. Two points should be made. First, the constitutional obligation applies to education at the “public school level,” but the Constitution does not define the boundaries of that “level”; by statute, it is up to the board to

establish the mandatory ages of school attendance. See G. L. c. 69, § 1B.<sup>190</sup> In each of the focus districts, the public school system offers a preschool program. Moreover, each of the curriculum frameworks adopted by the board has a pre-kindergarten component, and to a limited extent, public school preschool programs are included as part of the foundation budget. These actions indicate that the Commonwealth does in fact include preschool programs as part of the education prescribed at “the public school level.”

Second, the core of the constitutional obligation defined in *McDuffy* is the duty to educate “all” children in order to prepare them to be informed, participating citizens in our republican society. 415 Mass. at 606, 619-620. As discussed below, the evidence presented has demonstrated that if high quality preschool programs are not provided, the Commonwealth will not be in a position to fulfill its obligation to educate *all* the children in the four focus districts, because at least some of these children start out so far behind, a situation exacerbated by the lack of adequate early childhood education. If the constitutionally mandated educational program does not begin until they are five or six, such children may well receive little benefit from it.

## **2. The Value of Early Childhood Education**

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<sup>190</sup> The board by regulation requires that every child must attend school no later than the calendar year in which he or she turns six, see 603 Code Mass. Regs. § 8.02. The board has also mandated that every school district have a kindergarten class. 603 Code Mass. Regs. § 8.01.

Two propositions were proffered at trial that were undisputed and indeed affirmatively supported by every witness who spoke to the issue, whether on behalf of the plaintiffs or defendants. The first is that high quality early childhood education for three and four year old children can make a significant, positive difference in terms of improving a child's school performance and ability to learn and benefit from school thereafter. The second is that this point holds particularly true for children who are at risk for school failure, whether because of poverty, learning disabilities, or limited English proficiency.<sup>191</sup>

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<sup>191</sup> See Marshall testimony, 7/2/03, pp. 165-166, and ex. 114, pp. iv, 40; ex. 115, p. 3; Barnett testimony, 7/3/03, pp. 73-89, 115-119, and ex. 107; McCartney testimony, 8/19/03, pp. 105 *et seq.*; Peyser testimony, 11/17/03, pp. 71-72; Driscoll testimony, 10/31/03, pp. 5-6, 14; McQuillan testimony, 6/12/03, p. 79, 11/19/03, pp. 173, 175; Schaefer testimony, 11/24/03, pp. 144-147; Moscovitch testimony, 11/4/03, pp. 85-86; Reville testimony, 12/18/03, pp. 182-184, and ex. 1053, p. 6.

The uncontradicted trial evidence reveals that in the field of early childhood education, there are a great number of research-based and experimental studies demonstrating the benefits of high quality programming for young children at risk, benefits that in the shorter term include improving the children's school readiness, socialization skills and school performance. High quality early childhood education has longer-term advantages as well, including increased high school graduation rates, increased college attendance rates, better employment, and less involvement with any criminal or juvenile justice system. (See Barnett testimony, 7/3/03, pp. 74-75, 78-80, 82-96).<sup>192</sup>

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<sup>192</sup>Dr. Steve Barnett, a professor of economics and policy at the Graduate School of Education, Rutgers University, and the director of the National Institute for Early Education Research (an initiative of the Charitable Trusts), credibly testified, *inter alia*, about three longitudinal studies to note here: the High/Scope Perry PreSchool study that began in Ypsilanti, Michigan in the 1960's, the Abecedarian Study in Chapel Hill, North Carolina, that began in the 1970's, and the Chicago Child-Parent Centers Study that began in the 1980's. The High/Scope Perry Preschool study involved low-income children some of whom were randomly assigned to a high quality half-day pre-school program and some not, all between approximately 1962 and 1967. The entire group has been continuously tracked since then. The Abecedarian Study was an experimental study involving a randomized trial of children from low-income families, some of whom were randomly assigned to attend a high quality preschool and childcare program, and the rest of whom were not. The randomly assigned children went to a year-round program that integrated education and childcare, beginning at about six weeks of age and extending until kindergarten. All the children were thereafter followed as they progressed through school, and they also continue to be followed by researchers. The Chicago study involved three and some four-year-old children living in low-income neighborhoods of Chicago that were similar to one another; some of the children attended a high quality half-day pre-school program, and the others did not. The two groups of children were then followed as they progressed through the Chicago public schools by tracking their school test scores, attendance, grade retention, whether or not they failed, whether or not they graduated, as well as some information about abuse/neglect and crime/delinquency. The students, now in their 20's, continue to be followed at the present time. (Barnett testimony, 7/3/03, pp. 74-77).

What the data from these different studies show is that high school graduation rates were significantly higher for the groups that had attended pre-school than for their respective control groups, the percentage of students in special education programs was smaller, fewer students repeated grades and conversely, more students achieved on-time high school graduation; a greater percentage of students attended four year colleges (Abecedarian: 36 % vs. 13%); the percentage of students involved in the juvenile justice system was smaller (Chicago study), and the

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percentage of adults arrested was smaller (High/Scope Perry study). (See generally ex. 107). According to Dr. Barnett, the percentage differences are “highly statistically significant.” (Barnett testimony, 7/3/03, p. 84). (Dr. Barnett was speaking of the Chicago study at this juncture, but I understand his opinion to be that the differences he spoke about in all three studies between the students who had been in a high quality preschool and those who had not were significant ones). The percentage differentials in, e.g., high school graduation rates are not identical across these studies, but the results are all consistent with each other, an important point given that the studies are looking at children over decades, and from different environments (urban vs. suburban) and different areas of the country.



The quality of the early childhood education matters, and insofar as school readiness skills are concerned, at least by four years of age, there is an advantage to the child from being in a center-based program. (McCartney testimony, 8/19/03, pp. 106-107; see Driscoll testimony, 10/31/03, p. 14). According to Dr. Kathleen McCartney, children who are in families at the Federal poverty threshold or near poverty score significantly higher in terms of school readiness if they are in higher quality child care settings, than their low-income counterparts who are in lower-quality child care settings or no child care at all. (McCartney testimony, 8/19/03, pp. 24-28; ex. 110A). The same general pattern is seen with respect to the measures of receptive language (language comprehension) and expressive language (child's use of words); that is, higher quality child care offers low income children a statistically significant advantage over low income children who have lower quality child care or none. In sum, "the effect of high quality childcare buffers children against the effects of poverty . . . ." (McCartney testimony, 8/19/03, p. 32; see generally *id.* pp.29-35).<sup>193</sup> When children come from more economically advantaged families, the difference in school readiness in relation to the quality of child care diminishes or disappears. (*Id.*, pp. 27-28).

### **3. Components of a Quality Preschool Program**

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<sup>193</sup> Because this is so, the availability of quality public preschool programs, especially for children in low income areas and children with language backgrounds other than English, are critical. This was one of the important recommendations of the National Academy of Sciences' published study, "Preventing Reading Difficulties in Young Children"(1998).

High quality child care or early childhood education programs have a number of attributes that bear a causal relationship to their quality, including well educated teachers, adequate compensation for teachers, small classes, strong supervision, and high standards for learning and teaching. Of these, the educational preparation of the teacher is the key ingredient.<sup>194</sup> All teachers in public school preschool programs by definition must have a baccalaureate degree because they are public school teachers; the same is not required at present of teachers in the community-based programs. Elisabeth Schaefer, the administrator of early learning services for the department, agrees that it is going to take significant funding, not currently available, to enable the community-based early childhood education programs to pay the salaries that will be necessary to hire and retain teachers with college degrees.<sup>195</sup>

At the present time, the department estimates that statewide, the percentage of children attending preschool programs where the primary teacher has a bachelor's or master's degree in education is 39%. In Springfield, the department estimates the comparable percentage of children is 35%, in Brockton, it is 23%, in Lowell, it is 25%, and in Winchendon, it is 31%. In the comparison

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<sup>194</sup> See Barnett testimony, 7/3/03., pp. 110-113; Schaefer testimony, 11/24/03, pp. 148, 153; ex. 107. See also the board's Early Childhood Program Standards (ex. 5150A), p. 5: "The higher qualifications for teachers [in community programs providing care and education to three and four year old children] . . . is based on research showing that teacher training and qualifications are the best indicators of program quality"; Marshall testimony, 7/2/03, pp.67-68 ("we conducted a regression analysis to look at the extent to which the level of teacher education was related with quality in the community study and found it was a significant predictor of quality" p.67).

<sup>195</sup> Schaefer testimony, 11/24/03, p 152. See also the board's Early Childhood Program Standards (ex. 5150A), p. 5: "Currently, teachers in child care and Head Start programs are not paid sufficiently to attract and retain professionals with degrees. Higher standards will require that teachers be paid higher salaries and that funding will need to be provided for the financial supports and other resources to allow programs to meet these standards."

districts, according to the department, the comparable percentage of Brookline children in programs where the primary teacher has a B.A. or M.A. is 66%, the percentage is also 66% in Concord, and it is 45% in Wellesley. (Ex. 1105).

#### **4. Public Versus Community-Based Private Preschool Programs**

The department has funded recent studies of early child care and education in the Commonwealth. To date, two reports have been published based on the findings of the research team conducting the study: “The Cost and Quality of Full Day, Year-round Early Care and Education in Massachusetts: Preschool Classrooms” (2001)(ex. 114), and “Early Care and Education in Massachusetts Public School Preschool Classrooms” (2002)(ex. 115). The principal investigator was Dr. Nancy Marshall, associate director of the Center for Research on Women at Wellesley College. In the first study of full day, year round, community-based child care programs, the study concluded that programs serving moderate to high income families and children had higher scores than those serving low income children on the “structural” and “process” criteria being used to measure quality. (Ex. 114, p. 37).<sup>196</sup>

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<sup>196</sup> In this study, the researchers evaluated a random sample of 90 centers from around the State that are licensed by the Commonwealth’s Office for Childcare Services (OCCS). The researchers’ investigation included a review of “structural” characteristics such as teacher educational level, number of children in a class and child/staff ratio, and also evaluations of “process” characteristics, such the quality of space and furnishings, the nature and frequency of activities involving the children in use of language and reasoning skills, activities in general, social interactions between children and teachers and among children, program structure, and interactions between parents and staff. The process characteristics were scored by a scale recognized in the field called Early Childhood Evaluation Rating Scale (ECERS). The rating scale has subscales with multiple items for consideration, and it establishes benchmark scores for the reviewers to use. In the scoring system, 1 signifies “inadequate,” 3 means “minimal,” 5 means “good,” and 7 signifies “excellent.”

Dr. Nancy Marshall, the principal investigator on this study, was a witness at trial. She testified persuasively that the most important of the subscales in terms of how well children will

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do later on, and in terms of connecting with the Massachusetts curriculum frameworks and the seven capabilities set out in the *McDuffy* case, are the language-reasoning subscale and the social interactions subscale, as well as the total scale because it captures the others. (Testimony of Nancy Marshall, 7/2/03, pp. 31-38). The study showed that with respect to the language-reasoning subscale, 22% of the programs serving predominantly low income children (that is, centers where at least 75% of the children come from families with income below \$30,000 per year [ex. 114, p. 36]) reached the “good” benchmark, whereas 49% of the programs serving moderate to high income children were rated as “good.” For social interaction 58% of the low income centers scored “good,” and 92% of the moderate/high income centers did. (Ex. 114, p. 37). For language-reasoning, the low income centers serving low income children include 16% rated as inadequate, 54% rated as minimal +, and 22% rated as good. For all the centers on the language-reasoning subscale, 70% of those serving low income children and 75% of centers serving low/moderate income children did not meet the “good” benchmark, compared to 51% of the centers serving moderate to high income children. (Ex. 114, p. 39). For the social interaction subscale, 58% of the centers serving low income children met the “good” benchmark, and 92% of the centers serving moderate to high income children met it. However, 40% of the centers serving low income children scored only at the “minimal” or “minimal +” benchmark. (*Id.*) For total ECERS scores, 36% of the centers serving low income children scored “good,” compared to 57% of the centers serving moderate to high income children.

In the study of the public school preschool programs, “Early Care and Education in Massachusetts Public School and Preschool Classrooms,” the team of researchers performed a review of structural characteristics and process characteristics similar to the review of community based programs.<sup>197</sup> The study concluded that 70% of the classrooms met the “good” benchmark on a total ECERS score, compared to 45% of the community-based program classrooms. And on the two important subscales of language-reasoning and social interactions (see note 196 above), 74% of the public school preschool classrooms met the “good” benchmark on language-reasoning (compared to 35% of the community-based programs), and 87% of the public school classrooms did so on the social interaction benchmark (compared to 72%). Significantly, the study also concluded that there was no difference in quality of program depending on whether the public school preschool program’s children were predominantly from low-income or high-income families. (Ex. 115, pp. 28, 29, 34-35; Marshall testimony, 7/2/03, p. 69).

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<sup>197</sup> The study was of a random sample of public school preschool classrooms, most of which were part-day, and the majority of which were part-week; on average, sessions operated for 14.32 hours per week. Most of the sample were inclusive classrooms, that is, included a mixture of children with special needs and regular education children. In summary, the study concluded that the total average ECERS-R score for the sample was 5.25 (compared to a total average of 4.94 for the private, community-based programs), with average scores on each of the subscales exceeding those for the community-based programs except for space and furnishings and program structure.

It is estimated that of all the three and four year olds in Massachusetts, 13% are in public school preschool programs, and 61% are in community-based centers; of all the children in early childhood education programs, public and private, 18% are in public school preschool programs, and 75% are in community-based centers.<sup>198</sup> (Ex. 116). The department works to encourage all preschool programs that receive support through the Community Partnership for Children grant program, community-based as well as public school preschool programs, to seek national accreditation, a signal of a quality program. The department reports that 772 early childhood programs in Massachusetts are accredited by the National Association of Education of Young Children, which is more than any other State, but there is no information as to how many of these 772 are public school preschool programs and how many are community-based private programs. What is clear is that generally, the great majority of preschool children who are receiving preschool education at all are receiving it outside of public school programs. And it is also clear that in the community-based venue, the educational level of the teachers is generally lower, the range of quality is much greater, and the chances that a child will be enrolled in a high quality program diminish quite substantially depending on the family's income level. As all witnesses who testified on this topic appeared to agree, outside of the public school programs, the children who most need a high quality preschool educational program are at the greatest risk of not being enrolled in one.

## **5. Statewide Efforts to Provide Quality Early Childhood Education**

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<sup>198</sup> The remaining 7% appears to reflect children who are enrolled in the Federal Head Start program. (See Marshall testimony, 7/2/03, p. 60).

The Commonwealth provides regulatory oversight and funding for a variety of early childhood programs and services, through grants awarded and implemented by the department, and through programs, services and tuition scholarships provided by the Office for Child Care Services (OCCS). Public school preschool programs, which are for children aged 2.9 to five years old – but principally deal with three and four year olds -- are under the department’s regulatory jurisdiction as integral parts of local districts’ public school systems. Community-based group day care programs and family day care programs are licensed and regulated by OCCS.

The department provides funds for early childhood programs and services primarily through Community Partnership for Children (CPC) program grants. The CPC program is locally based, and to qualify for CPC funding, a locality must form a local council with a membership made up primarily of people who provide or are involved with child care services or programs at the local level. There are currently 168 community partnerships in the Commonwealth, operating in 336 of the 351 cities and towns, including the four focus districts.

The CPC funds are used in part for the public school preschool programs, but also for providing scholarships to individual children attending private child care programs in the community (i.e., the programs that are licensed and regulated by OCCS); over 21,000 children in FY02 received at least partial scholarship assistance through CPC funds.<sup>199</sup> Any program for three and four year old

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<sup>199</sup> The focus of this section is on programs and services for preschool children, primarily three and four year olds. The department funds other grant programs dealing with young children, such as the Massachusetts Family Network (MFN), which covers children (and their families) from prenatal to age three, offering assistance with parenting issues, the ability to stimulate children, and social issues. (See ex. 5484). Lowell and Springfield have had programs receiving MFN funds. Additional programs include a parent-child home program, and an early childhood mental health project, and an early childhood curriculum and IEP project. OCCS obviously also deals with infants, toddlers and children under the age of three.

children that receives any CPC funds (e.g., through as little as one student scholarship) is required to comply with all the teacher qualification and programmatic requirements set by the board's new "Early Childhood Program Standards for Three- and Four-Year-Olds." (Ex. 5150A). These standards are commendably rigorous. With respect to teachers, they will require by 2014 that teachers have a bachelor's degree. In addition, as of the fall of 2003, the community day care programs using CPC funds must follow the board's new early childhood program standards just referred to (ex. 5150A) and its "Guidelines for Preschool Learning Experiences" (ex. 5150B), which are based on the approved Massachusetts pre-K curriculum frameworks in every content area. Early childhood programs receiving CPC funds must use these guidelines in planning and developing their program curricula. These programs must also comply with regulations governing teacher pupil ratios, class size, physical environment, and training for providers.

As discussed in the findings on funding adequacy above, the funds available for the CPC program have been substantially cut in the last three years, as have the funds for OCCS. CPC funds have gone from a high in FY01 of \$104 million, to \$96.4 million in FY02, to \$84.6 million in FY03, and then to \$68.6 million in FY04.<sup>200</sup> These cuts reflect a 33% decrease in the early childhood program funds devoted to the CPC and MFN programs since FY01, and a 13% decrease in just the past year. (Schaefer testimony, pp. 156-157). While it is true that the CPC program is about six times bigger than it was ten years ago, Elisabeth Schaefer, who supervises all preschool programs and

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<sup>200</sup> These figures are taken from the department's brochure or "fact sheet" about the CPC program (ex. 5485). There is another exhibit in evidence, ex. 1057, that shows the funding for various department grant programs, including the CPC program, and provides different funding numbers. The reason for the discrepancy is that the State line item that covers the CPC program also includes funding for the MFN grant program described above in note 199. The funding numbers on ex. 1057 reflect the entire line item, and are therefore higher than the numbers for the CPC program by itself.



services for the department, agreed that even when funding was at its peak, the Commonwealth was not able to provide quality early childhood education programs for all children at risk. The director of OCCS stated the same view, namely, that the Commonwealth has not achieved the goal of providing all low income children at risk with the opportunity for early childhood education.<sup>201</sup>

## 6. Preschool in the Focus Districts

In the four focus districts, there were varying numbers and percentage figures introduced into evidence concerning how many three and four year old children are in preschool programs of any kind (as opposed to family day care or at home).<sup>202</sup> I am unaware of any evidence, however, that disputes the following percentages:

- Springfield: public school preschool enrollment was 36.7% of kindergarten enrollment (755: 2055);
- Brockton: the public school preschool enrollment was 27.2% of the kindergarten enrollment (334: 1226);
- Lowell: the public school preschool enrollment was 36.3% of the kindergarten enrollment (409:1128);
- Winchendon: public school preschool enrollment was 56.2% of kindergarten enrollment (86:153).

(Ex. 120A).<sup>203</sup>

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<sup>201</sup> The director spoke of currently having 19,000 low income children still on the OCCS waiting list for early childhood programs, and that she would focus on these children especially at a time of limited resources, because prioritizing for the most needy is important. (Testimony of Ardith Wieworka, 11/25/03, pp. 140-141).

<sup>202</sup> See, e.g., ex. 103 (chart based on the 2000 census data); ex. 1105 (chart of early childhood education indicators prepared by the department, but not yet finalized by the time of trial); ex. 120A (chart showing number of children enrolled in public school preschool programs in four focus districts).

<sup>203</sup> I understand these figures to relate to the preschool and kindergarten enrollments in

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the same year – which I believe was 2001-2002 – and thus they do not represent the same children. However, on the assumption that class sizes do not show large variations in a single year, I find this to serve as a useful estimate of the percentage of kindergarten students who have been in the public school preschool system.

There was also evidence that the kindergarten students in at least three of the four focus districts, Springfield, Brockton, and Lowell, score significantly lower than the national average and particularly lower than kindergarten students in the comparison districts of Concord and Wellesley in terms of receptive vocabulary acquisition, which is a key indicator of communication abilities and in particular, school and reading readiness.<sup>204</sup> In fact, approximately 25% of the kindergarten students

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<sup>204</sup> The plaintiffs conducted a study by administering the Peabody Picture Vocabulary Test (PPVT) to a sample of 100 children in each of the districts of Brockton, Lowell, Springfield and Winchendon as well as Concord and Wellesley. The PPVT test itself is a recognized test that measures receptive vocabulary: it is used as an assessment tool for one or more Federal early reading programs, and it has been the subject of peer-reviewed articles. ( See Barnett testimony, 7/3/03, pp. 19-22; Marshall testimony, 7/2/03, pp. 92-94). The defendants are very critical of the way the plaintiffs' test was administered, contending that the plaintiffs' method of selecting schools in each district did not lead to a valid representative sample of the district's children in terms of critical demographics; that the plaintiffs did not obtain the consent of every child who was tested; that the test only measures one criterion of school readiness, which is not enough; and

in Brockton and Lowell and close to 40% of the Springfield kindergarten students tested more than one standard deviation below the norm (see ex. 105), which is a sign of children who are at a considerable risk of school failure because they are already so far behind at the starting gate. (Barnett testimony, 7/3/03, pp. 54-55).

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that no information was obtained about whether or where the children tested had participated in preschool programs, as well as other variables, such as the mother's educational level. I find persuasive the explanations provided by Drs. Marshall and Barnett concerning the school selection, sample size, and consent issues (Marshall testimony, 7/2/03, pp. 90-106, 142-157; Barnett testimony, 7/3/03, pp. 24-39; 175-183), and do not accept the defendants' conclusion that these make the PPVT study unreliable. However, I agree with the defendants that the lack of information about prior preschool experiences, in particular, is troubling, because it calls into question the relevance of the study to resolve the issue of whether a quality preschool education can make a critical difference to the ability of children at risk to succeed in school. Nevertheless, the PPVT study does show that kindergarten students in Brockton, Lowell, and particularly Springfield are dangerously behind where they should be in terms of reading readiness and capacity to achieve and benefit from the K through 12 educational program they are embarking on, and this problem cries out for a remedy.

In sum, what the evidence shows is that in the four focus districts, and especially the three large, urban ones: (1) a significant percent of children start the existing K through 12 program well behind where they should and need to be; (2) there is a consensus among researchers and others, including the department, that high quality preschool educational programs offer a means of providing the kinds of supports and experiences that can help children enter school in a much more ready state, with a far greater opportunity for positive achievement in school (and thereafter);<sup>205</sup> (3) the Commonwealth has taken important and impressive steps in its grant and regulatory programs to improve the quality of preschool programs in both private, community-based and public school

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<sup>205</sup> According to Dr. Barnett, very good preschool programs can raise childrens' scores on a test such as the PPVT test by as much as a standard deviation. (Barnett testimony, 7/3/03, p. 70). He explained the point more colloquially as follows: "Well, what was really happening was that the kids are coming in so far behind that they would begin a cycle of poor performance, discouragement, lack of motivation, misbehavior that set them on a downward spiral. Whereas if they had entered school as preschool prepared, at least some of them, much better equipped to succeed, then you set off a different pattern which was, you know, I'm good at school, I'm doing well, I'm being told I'm doing well at school, so now I'm more motivated, so now I behave better, and I'm being rewarded for those things. So I try harder, I work harder, my parents . . . notice I'm doing well in school and they have higher expectations. And over the course of my educational career, now I'm not failing, I'm not being held back, I'm not dropping out of school. And it's that whole logic of – of being – of creating a difference between being behind from the start versus getting kids up to the starting line . . ." (*Id.* at pp. 65-66).

settings (and to some extent in Head Start also); but (4) the quality of the community-based programs is simply not as high or as consistent as the public school preschool programs and is significantly lower in programs serving predominantly low-income children; and (5) large cuts in the Commonwealth's various early childhood program grant programs only serve to make the ability of the community-based programs to achieve or maintain a high quality more tenuous.

The public school preschool programs in the four focus districts have been shown to be of high quality, but they cannot accommodate all the children who seek to come, or who would most benefit from being enrolled. They simply do not have the resources to do so, both in terms of paying for the increased staffing and other programmatic needs that an expanded program would entail, and in terms of having sufficient facility space. There are many children in the focus districts who need the quality of a preschool program that the public school provides if they are to have a chance at succeeding in school thereafter.

## **B. Class Size Reduction**

### **1. The Benefits of Small Class Size in the Early Grades**

The plaintiffs presented expert testimony and supporting evidence that smaller classes – fewer than 20 students – in grades K through 3 have a positive impact on student performance both in those grades and continuing beyond through high school, with the benefits increasing the longer the student stays in small classes during those four early years of school. This was the opinion stated principally by the plaintiffs’ expert Dr. Jeremy Finn. For the most part he based his views on the results of Project STAR (Student/Teacher Achievement Ratio), a study or experiment carried out in Tennessee public schools between 1985 and 1989.<sup>206</sup> Project STAR involved an experiment where, beginning in the 1985-1986 school year, kindergarten students and kindergarten teachers in participating schools were randomly assigned to one of three groups: a group of small classes, with 13 to 17 students per teacher; a group of “regular” classes with 22 to 25 students per teachers; and a group of the same size regular classes in which the teacher was assisted by an aide. Students participating in the study were to remain in the same size classes as their initial assignment for the entire study period – through the third grade. Approximately 12,000 students in 80 different Tennessee schools participated in the study over the four years. Because of its size and its randomized design, the study is considered to be the best experimental class size study done to date, and it shows a positive effect on student outcomes associated with smaller class size in the early years. This is a view shared by many educational experts, and testified to not only by the plaintiffs’

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<sup>206</sup> Dr. Finn testified his opinions were also based on a significant amount of research he and others have conducted and reported on since the Project STAR study that is described immediately below in the text. Three of these articles by Alan B. Krueger and Diane M. Whitmore of Princeton University, are included in the literature evidence: A.B. Krueger, “Experimental Estimates of Education Production Functions,” *Quarterly Journal of Economics*, May 1999 (ex. 1112/331); A.B. Krueger and D.M. Whitmore, “The Effects of Attending a Small Class in the Early Grades on College-Test Taking and Middle School Test Results: Evidence from Project Star,” *The Economics Journal*, January 2001 (ex. 332); A.B. Krueger and D.M. Whitmore, “Would Smaller Classes Help Close the Black-White Achievement Gap?” (ex. 333).

experts Dr. Jeremy Finn and Dr. Alan Krueger, but also by a number of the defendants' experts, including Dr. Lawrence Picus, Dr. James Guthrie, and Andrew Benson.<sup>207</sup>

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<sup>207</sup> See *Campaign for Fiscal Equity v. New York*, 187 Misc.2d 1, 51-53 (2001), *aff'd*, 100 N.Y.2d 893, 911-912 (2003). The New York Supreme Court trial judge found – based in major part on the Project STAR study and the testimony of Dr. Finn – that smaller classes with a maximum of 18-20 students in younger grades affect student outcomes. The Court of Appeals affirmed this finding, again referencing the STAR study.



The Project STAR study showed that students who attended the small kindergarten classes tested better on achievement tests after the first year, and continued to improve during the next years, especially if they were able to stay in the small classes through the third grade. In particular, longitudinal studies of the participating students beyond the time of the experiment demonstrated a lower dropout rate among those STAR students who were in the smaller classes, and larger numbers of students taking the SAT or ACT tests – prerequisites for most four-year college admissions. It is also noteworthy that the participation in a smaller class produced a larger benefit to urban, minority children and low income children than it did for white and non-poverty children. Finally, the study showed that regular classes with an aide had no positive effect on student performance: student performance in these regular classes appeared to be the same as for students in regular size classes without an aide.<sup>208</sup>

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<sup>208</sup> One of the defendants’ experts, Dr. Caroline Hoxby, criticized the Project STAR study on a number of fronts. She expressed doubt about the degree to which it was truly randomized; she also expressed concern that the STAR study’s positive results were the product of the “Hawthorne” effect rather than smaller classes. (The Hawthorne effect refers to the phenomenon that a person who is participating in an experiment may behave differently than he or she otherwise would, solely because the person is part of the experiment. Where the Hawthorne effect is in play, it may be difficult or impossible to tell whether the outcomes being observed are the result of the variable being tested – in this instance, smaller class size – or simply the fact that the study is going on. Dr. Hoxby stated, however, that the Hawthorne effect could neither be tested for nor measured). She also opined that in any event, the statistically small benefit shown by the STAR project to flow from smaller classes was not worth the financial cost of hiring many more teachers to lower class size.

I am not persuaded by Dr. Hoxby’s testimony. I agree with Dr. Krueger that Dr. Hoxby’s discussion of the statistical significance of the improved outcomes measured somewhat misleadingly diminished the positive results, that her discussion of the Hawthorne effect seemed at times confounding, and that there are strong reasons to believe the Hawthorne effect does not explain the STAR results. But more importantly, I am impressed by the fact that not only the plaintiffs’ but the defendants’ experts rely on the STAR project as support for the position that smaller classes in early grades do matter. This is also the view that the United States Department of Education has taken, it seems based in part on STAR, and it is also a position the department

## 2. Class Size in the Focus Districts

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has taken – at least as indicated by its awarding of class size reduction grants until the funding was cut by the Legislature in FY 04. Finally, it is a position embedded in the foundation budget formula itself. The low income factor in the formula in effect builds in three additional teachers for every 100 low income students, to permit smaller class sizes and thereby, presumably, improve the ability to teach these children.

The foundation budget formula assumes a class size of 22 students for regular education classes K through 5. No district is obliged to abide by this assumption, and may choose to allocate its resources to have more (or fewer) teachers and classes in the lower elementary grades. Dr. Finn undertook to collect data about actual class size for the K through 3 classes in each of the four focus districts as well as the comparison districts of Brookline, Concord and Wellesley. The class size counts were from February through April, 2003. He excluded from the count classes of very small numbers – e.g., two, three, seven – on the assumption that these were substantially separate special education classes. However, he included in the count inclusion classes containing a mix of regular education and special education students, which are sometimes intentionally made small because of the needs of the special education students. The results of this field research were the following: Springfield had an average class size for kindergarten of 21.64 students, 19.86 students for first grade, 20.40 for second grade, and 21.63 for third grade; Brockton had on average the smallest class sizes for K through 3 of any of the focus and comparison districts - the average class size for each of the four years was under 19 students, and in none of the years was there any class with more than 22 students; Lowell had an average kindergarten class size of 20.88, first grade class size of 21.13, second grade class size of 20.98, and third grade class size of 21.05; and Winchendon had an average class size of 21 students for kindergarten, 17.17 for first grade, 18.14 for second grade, and 19.86 for third grade. (Ex. 58I). These averages are very similar to the averages of the comparison districts for the four grades. (See ex. 58F). However, the averages mask the fact that in Springfield, there were fifteen kindergarten classes, seven first grades, six second grades and 22 third grades with 26 or more students. (Ex.55). As Dr. Finn testified, a class with 26-30 students by any

measure is overcrowded.<sup>209</sup> It is also a fact that as of the current school year, 2003-2004, there are no more State grants for class size reduction; there is no way of knowing whether this cut in funding has affected the class sizes in each of the four focus districts.<sup>210</sup>

### **C. Remediation Programs**

Another area in which there was reasonably uniform agreement among all witnesses on both sides of this case is that many at risk children need additional services beyond the regular school day offerings in order to achieve educational success. These would include extended day programs; extended year programs to support school year learning and prevent regression; tutoring in general; and MCAS remediation and support programs in particular.<sup>211</sup>

In the focus districts, the evidence and findings above indicate that most of the summer, Saturday, and extended day programs for pre-kindergarten and transition students and for students at risk of failing MCAS tests have been eliminated or cut substantially, and MCAS support for high school students who have failed the tests has been significantly reduced. This is not surprising, given

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<sup>209</sup> Lowell had one kindergarten, one first grade, two second grade and two third grade classes with 26 or more students. (Ex. 55). Dr. Finn found no classes in Brockton or Winchendon with this many students. I note, however, that there is in evidence a student count by class for a week in February 2003 from the Memorial School in Winchendon – which only has students in K through 3 – showing one class with 32 students, one with 31, and two with 27. (Ex. 5326). I am not able to explain the discrepancy between Dr. Finn’s numbers and the Memorial School’s own count, but if the latter is correct, Winchendon does have some very large classes in K through 3.

<sup>210</sup>The exception is Winchendon. The principal of Memorial School stated that if no class size reduction funds were received, the first grade classes would have 27 students. See p. 197 and n.107 above.

<sup>211</sup> See Reville testimony, 12/18/03, pp. 179, 182-183; ex. 1053, p. 6; Guthrie testimony, 12/10/03, pp. 175-176; 2001 Annual Report, Massachusetts Education Reform Commission, ex. 238A, pp. 6, 53; Schwartz testimony, 12/9/03, pp. 75-76, 89-90; Picus testimony, 11/18/03, pp. 76-77; Driscoll testimony, 10/27/03, p. 190; Peyser, 11/17/03, pp. 54-55.

that the funding for MCAS remediation was cut from \$50 million in FY03 to \$10 million in FY04. In short, none of these districts has the resources to provide what both parties see as necessary remediation programs or services except to a core of high school students who have failed MCAS and are in grave danger of not being able to graduate.

## **FINAL CONCLUSIONS AND RECOMMENDATIONS**

The Commonwealth, and the department, have accomplished much over the past ten years in terms of investing enormous amounts of new money in local educational programs, ensuring a far greater degree of equitable spending between rich and poor school districts, and redesigning in some fundamental ways the entire public school educational program. When one looks at the State as a whole, there have been some impressive results in terms of improvement in overall student performance. Nevertheless, the factual record establishes that the schools attended by the plaintiff children are not currently implementing the Massachusetts curriculum frameworks for all students, and are not currently equipping all students with the *McDuffy* capabilities. This point may be best illustrated graphically in the areas of English language arts and mathematics, which are the primary subjects of the MCAS tests, but it is perhaps even more strongly made in relation to the other critical areas of study that the *McDuffy* capabilities and the curriculum frameworks encompass: history, science, health, the arts, and foreign languages. The inadequacies of the educational program provided in the four focus districts are many and deep. Most worrisome is the fact, reflected in all the MCAS scores, that for children with learning disabilities, children with limited English proficiency, racial and ethnic minority children, and those from low-income homes, the inadequacies are even more profound.

If this court accepts the findings stated above and the resulting conclusions, it remains to be determined what follows.

At the end of the *McDuffy* decision, the court remanded the case to the single justice and stated that the single justice might “retain jurisdiction to determine whether, within a reasonable time, appropriate legislative action has been taken.” *McDuffy*, 415 Mass. at 621. The defendants have argued in this remedy phase that even if some of the focus districts are struggling, clearly “appropriate legislative action” has indeed been taken by the Commonwealth. This is evidenced by the ERA as well as additional education reform measures enacted by the Legislature since 1993, all of which, the defendants state, the Commonwealth has implemented with diligence and effectiveness over the past ten years. Accordingly, in the defendants’ view, the proper resolution of this case is to deny the plaintiffs’ motion for further relief, and dismiss their complaint. The plaintiffs, on the other hand, contend that the evidence plainly establishes they are not receiving an adequate education because the schools and school districts they attend do not have sufficient resources to provide it. They propose that the court appoint a “21<sup>st</sup> Century Foundation Budget Commission” under the supervision of the court. They further propose that the court direct the commission to develop, subject to the court’s approval, a new foundation budget that provides sufficient resources to allow the focus districts to provide an adequate education that meets constitutional standards.

I recommend against accepting the defendants’ suggestion of no remedial relief.<sup>212</sup> The

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<sup>212</sup> I do not believe the defendants’ position on the question of relief is based entirely on the court’s reference in the final sentence of *McDuffy* to “appropriate *legislative* action” (emphasis supplied), but to the extent that it may be, the quoted phrase must be considered in light of the relief the plaintiffs in *McDuffy* were then seeking.

The final sentence of *McDuffy* reads: “No present statutory enactment is to be declared unconstitutional, but the single justice may, in his or her discretion, retain jurisdiction to determine

defendants' argument is essentially two-fold. They first contend that the struggles being experienced

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whether, within a reasonable time, appropriate legislative action has been taken.” 415 Mass. at 621. The plaintiffs had requested in *McDuffy* that the court declare unconstitutional all the Commonwealth's educational finance statutes. See 415 Mass. at 550. The court stated that it would “decline the invitation to engage in such a blunderbuss approach,” and would rather confine itself to the determination of whether the Constitution imposed a duty on the Commonwealth to provide an education to the children in public schools. *Id.* at 550-551. It went on to determine that the Commonwealth does have such a duty under the Constitution, and further to conclude that the Commonwealth was not then meeting that duty. The court granted declaratory relief, including a declaration that it was “the responsibility of the Commonwealth to take such steps as may be required in each instance effectively to devise a plan and sources of funds sufficient to meet the constitutional mandate.” *Id.* at 621. In this context, it seems reasonably clear that the court's final sentence was a restatement of its earlier-announced intention not to grant at that time the plaintiffs' request for a declaration that the school finance laws were unconstitutional. I do not read this language as signaling a determination that if the plaintiffs were to establish that even with “appropriate legislative action” being taken, they still were not being provided a constitutionally adequate level of education in their schools, no remedy is available.

Even if this court were to disagree that further remedial relief is in order, dismissal of the complaint would be inappropriate: the court has already granted the plaintiffs declaratory relief.

by certain school districts, including presumably the focus districts, are not related to inadequate resources but rather, reflect a lack of leadership and managerial capacity. Second, they contend that the Commonwealth is dealing with the capacity issues through the school and district accountability system it has put into place. This system includes not only the coordinated program reviews and school panel reviews conducted by the department but the parallel district reviews conducted by EQA – each of which contemplates analysis, targeted assistance for improved planning, use of data and improved programs, monitoring, and, if there is no marked improvement, the possibility of more drastic action and greater intervention by the Commonwealth.

I have found that capacity problems are a cause of the inadequate education being provided to the plaintiffs, but inadequate financial resources are a very important and independent cause. Moreover, apart from the issue of funding, the difficulty with the defendants' solution is that the system they depend on to improve the capacities of schools and districts is not currently adequate to do the job. Since approximately 1980, the department's staff has been reduced by more than half – from over 1,000 employees to a number less than 400. At the same time, under the ERA, the department's responsibilities have multiplied and intensified in critical ways. In terms of reviewing school district performance, in the three years since the department developed the school accountability system, it has been able to conduct school panel reviews in only twelve to fourteen schools each year, although the annual pool of schools demonstrating "low" or "critically low" performance is in the hundreds.<sup>213</sup> The department states that with respect to most failing schools, it

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<sup>213</sup> In the fall of 2003, the department identified 208 schools that were not on track to have their students achieve proficiency in ELA and math by 2014, but this number may itself be artificially low, because apparently it does not include high schools. If high schools are included, according to the commissioner, the number of schools would be around 350. (Driscoll testimony, 10/27/03.)



relies on the districts in which the schools are located to assist in the development of an adequate school improvement plan, but there was no evidence that such reliance is justified. Moreover, even when the department, or the EQA, does conduct an on-site factfinding review and analysis of a particular school or district, if a declaration of underperforming status ensues, the time period for achieving improvement appears to extend at least over two years, at which point, if it is deemed unsuccessful, another correction process comes into play. In the meantime, the plaintiff children in the failing schools continue to suffer. Despite the commissioner's protests to the contrary, as more than one witness testifying for the defendants observed, it seems plain that the department (including the EQA within it) does not presently have enough staff and resources to do the job it is expected and required to do.<sup>214</sup> In other words, the department's own lack of capacity impedes its ability effectively to help the local districts with theirs.

The plaintiffs have a right under the Massachusetts Constitution to an education that will equip them in a number of ways to be in a position to fulfill their responsibilities and enjoy their rights as productive, participating citizens in a republican government. *McDuffy*, 415 Mass. at 618-620. The duty to educate evolves with society, as the court recognized in *McDuffy*. *Id.* at 620. As the evidence showed, it becomes more and more apparent that in the United States today, individuals

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<sup>214</sup> There is a suggestion in the 2001 Annual Report of the Massachusetts Education Review Commission (ex. 238A) that the department's approach to working with local school districts on accountability issues has led to distrust on the part of local educators that is impeding reform. (See ex. 238A, pp. 6, 44-48.) No other evidence was presented on this point, and I do not make any findings concerning it.

need to receive an education that will enable them to pursue degrees beyond high school or at least excellent, technologically competent, vocational education. In the focus districts, too many students currently are not receiving what they need to be able to pursue these paths. The commissioner has set the date of 2014 for students in the Commonwealth to become “proficient” in ELA and math; there is no timetable for proficiency in other areas of study. The associate commissioner of education for school finance and support suggested that it may not be fair to begin assessing whether the current system of education reform embodied in the ERA is successful until all districts in the Commonwealth have operated at least 100 % of their foundation budget for a full cycle of kindergarten through twelfth grade– the year 2012. In the context of this litigation, and eleven years after the *McDuffy* decision, that timetable is just too long.

In light of the findings in this report, I conclude the plaintiffs are entitled to remedial relief from this court. The trial just completed dealt factually with only four of the districts in which the plaintiffs reside, and the defendants have not agreed to any finding of typicality. Nevertheless, on the basis of the testimony of expert witnesses for both plaintiffs and defendants and the evidence presented from the department’s records, I am reasonably certain that the problems and challenges existing in the four focus districts repeat themselves in all or most of the school districts where the other plaintiffs reside.<sup>215</sup> Accordingly, an order of remedial relief that concerns only the plaintiffs in

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<sup>215</sup> As one or more of the department’s officials conceded, the performance of school districts with significant clusters of low income children has generally not increased in a way that closes the gap between them and the State averages. (See, e.g., Wulfson testimony, 10/28/03, p. 109).

the four focus districts would provide valuable guidance for the rest.

In the last twenty years, courts in several States have struggled with the question of remedy after reaching a conclusion that the particular State was not meeting its State constitutional obligation regarding public school education.<sup>216</sup> I recommend that the court follow the path that the New York Court of Appeals has recently chosen in a case concerning the adequacy of education provided in the New York City public schools. See *Campaign for Fiscal Equity, Inc. v. New York*, 100 N.Y. 2d 893, 928-932 (2003). Translated into this case, the relief would be an order directing the State defendants to: (1) ascertain the actual cost of providing the level of education in each of the focus school districts that permits all children in the district's public schools the opportunity to acquire the capabilities outlined in *McDuffy* -- a directive that means, at present, the actual cost of implementing all seven of the Massachusetts curriculum frameworks in a manner appropriate for all the school district's children; (2) determine the costs associated with measures, to be carried out by the department working with the local school district administrations, that will provide meaningful improvement in the capacity of these local districts to carry out an effective implementation of the necessary

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<sup>216</sup> There are many decisions that address this question, and different jurisdictions have resolved the court involvement versus court abstention debate in drastically different ways. For the view that the constitutional mandate of separation of powers precludes the court from forcing implementation of necessary changes to the educational system, see *Opinion of the Justices*, 624 So.2d 107, 147, 156, 162 (Ala. 1993); *ex parte James*, 713 So.2d 869, 882, 886 (Ala. 1997), S.C., 836 So.2d 813, 819 (Ala. 2002). In contrast, the New Jersey court appointed a special master to study what measures were necessary to achieve the constitutionally mandated education, adopted the master's detailed policy recommendations, and then ordered the state department of education to implement those specific recommendations. See *Robinson v. Cahill*, 306 A.2d 65, 66 (N.J.), *cert. denied*, 423 U.S. 913 (1975); S.C., 355 A.2d 129, 139 (1976); S.C., 358 A.2d 457, 459-460 (1976); *Abbott v. Burke*, 495 A.2d 376, 383, 393 (N.J. 1985); S.C., 575 A.2d 359, 407-409 (1990); S.C., 643 A.2d 575, 578 (1994); S.C., 693 A.2d 417, 443-444 (1997); S.C., 710 A.2d 450, 460, 473-474 (1998); S.C., 748 A.2d 82, 88 (2000); S.C., 790 A.2d 842, 849-858 (2002).

educational program; and (3) implement whatever funding and administrative changes result from the determinations made in (1) and (2).<sup>217</sup> This order would be directed to the State defendants to accomplish because *McDuffy* expressly holds that the Commonwealth, not the local districts, is ultimately responsible “to devise a plan and sources of funds sufficient to meet the constitutional mandate.” 415 Mass. at 621.

Further, I recommend that the court give a definite, but limited, period of time for the defendants to carry out this order and report back to the court with a plan and timetable for implementation, perhaps six months. I also recommend, as in New York, that the court continue to retain jurisdiction over the case to allow the court, or a single justice, or a judge of the Superior Court, to monitor the remedial process and provide whatever direction may be appropriate.

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<sup>217</sup> The plaintiffs seek a somewhat different version of the first recommendation, but not the second. I add the second recommendation because, as stated in several occasions in the findings, I agree with the defendants and a number of their witnesses (for example, Paul Reville, Edward Moscovitch), that independent of resources, the capacity of the focus districts to deliver an educational program that has the necessary quality and comprehensiveness is a central issue that must be dealt with. I note that in February 2004, a task force appointed by the Governor issued a report with recommendations addressing this topic. See *Partners in Progress: A Framework for Raising Student Achievement in Under-Performing School Districts, Report and Recommendations of the Governor’s Task Force on State Intervention in Under-Performing Districts* (February 25, 2004). These recommendations deserve careful consideration.

The plaintiffs, joined by all the amici, seek the appointment of a commission, with a membership to be determined by the court, to carry out the determination of costs described in (1) above. This seems too intrusive into the prerogatives of the department and State officials charged with responsibility over education. It may be that appointment of a special master would be helpful, but this also may be unnecessary, at least as a formal matter, in the first instance. Cf. *Lakeview School Dist. No. 25 v. Huckabee*, \_\_\_\_ S.W.3d \_\_\_\_ (2004)(per curiam), 2004 WL 101641 (Ark. Jan. 22, 2004)(recalling mandate in case that found Arkansas educational finance system violated equal protection clause, and announcing that court would appoint special master because of State's apparent noncompliance with original mandate). However, and as a final comment regarding continuing jurisdiction, I do believe that some continuing link between the court and the department is necessary. The link could serve to satisfy the court that progress toward achievement of the goals of its order is an active, high priority in a department which unquestionably is carrying heavy general responsibilities with insufficient staff.<sup>218</sup>

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<sup>218</sup> This link could be as little as a monthly or other regular appearance and report by representatives of the defendant officials to the designated justice or judge, or something more involved, including the appointment of a special master to work with the parties on the remedial issues.

Finally, I recommend that in fashioning the order described above, the court provide some guidance concerning programmatic areas that either must be covered in terms of cost determinations, or at least should be considered for coverage. In the category of “must be covered” for determination of cost, I would recommend, for reasons indicated above: (1) special education, including the cost of comprehensive professional development for all regular education as well as special education teachers who teach students with disabilities; (2) all seven of the curriculum frameworks – including specifically health and the arts as well as foreign languages;<sup>219</sup> (3) adequate school facilities;<sup>220</sup> and (4) the cost of a public school preschool program for three and four year old children that would be offered free of charge at least to those who are unable to pay. This program would be required to cover at least all children at risk, meaning low-income children (who may be defined by eligibility for free or reduced price lunch), children with disabilities, and children with limited English proficiency.<sup>221</sup>

As is presently the case, this program would require certified teachers, and would be designed to

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<sup>219</sup> What should be accomplished is a determination of the additional cost, if any, associated with implementation of the seven curriculum frameworks.

<sup>220</sup> I note that the school building assistance program is currently the subject of ongoing review, analysis and negotiations in the Legislature.

<sup>221</sup> For reasons discussed in the findings above, I conclude that the only way to give many children in these categories a realistic opportunity to acquire the education for which the Massachusetts Constitution provides is to offer them a quality preschool program and thus

implement the Massachusetts curriculum frameworks at the pre-K level.

In the category of “should be considered” for a determination of cost, I recommend at least the following: (1) several categories presently included in the foundation budget – for example, teaching salaries, the low income factor, and the “bilingual education” factor – the question of course being whether these factors should be increased in the budget formula and, if so, by how much; (2) inclusion in the foundation budget of the various factors recommended by witnesses in this case (who were primarily witnesses for the defendants) such as a technology factor, teacher coaches, school leadership, etc.; (3) implementation of a class size system of under 20 for at least pre-kindergarten through third grade; (4) provision of adequately stocked, computer-equipped, and staffed school libraries; and (4) institution of regular, established (as opposed to episodic) remedial programs for children at risk of failing, such as remedial tutoring, extended day, extended year programs, or a combination of them.

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provision for such a program must be mandated.

Respectfully submitted,

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Margot Botsford  
Justice of the Superior Court

Dated: April 26, 2004