

**PUBLIC
EDUCATION
FUNDING IN
MASSACHUSETTS:
PUTTING CHARTER
SCHOOLS IN
CONTEXT**

September 2016



Massachusetts Taxpayers Foundation

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Key Takeaways

- ❖ *A cornerstone principle of the education reform law is that every student should receive an adequately financed education regardless of the resources available in the community in which they reside and that this money should follow the student to whichever public school the student chooses to attend.*
- ❖ *Charter schools are one of a number of public school options available to students within the state's \$12.67 billion school finance system.*
- ❖ *Like other public schools, charter schools receive their funding based on the individual characteristics of attending students. Because of this, charter school funding is proportionate to the number of charter school students.*
- ❖ *In FY 2016, 3.9 percent of public students attended charter schools and 3.9 percent of public school funds went to charter schools.*
- ❖ *Charter school funding is unique in that the state is required to reimburse districts that send students to charter schools for a share of the funding associated with those students. As a result a student attending a charter school can be more financially favorable to the sending district than other public school attendance options such as regional vocational schools or school choice.*
- ❖ *Charter schools are concentrated in low performing districts. More than 60 percent of charter school students come from just 10 school districts. For the vast majority of school districts in the Commonwealth, attendance at charter schools is low enough that that it has very little impact on the school budget.*
- ❖ *In the districts with the largest share of charter school students, charter school tuition has not had a predictable impact on the per-pupil spending for students who stay in the district. In some districts, non-charter school per-pupil spending has grown at a faster rate than charter student spending, while in other districts the reverse is true.*
- ❖ *In all cases, however, charter school spending in those districts has remained proportional to charter school enrollment and non-charter school spending has grown in spite of increased charter enrollment.*

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How Do Charter Schools Affect District Funding?

Part 1. Introduction

In the ongoing debate over public charter schools in Massachusetts, much attention has focused on the impact of them on traditional public school funding. The financial implications of charter school growth, an appropriate consideration in the expansion debate, must be understood in the context of the state's larger education funding system, of which public charter schools are a part. Because charter schools fit within that funding system, this broader perspective is necessary for examining how charter funding compares to the funding of other school types and how charter school enrollment growth has affected spending on district schools.

This paper provides an overview of education finance in Massachusetts and examines how that system accounts for situations where students choose not to attend their hometown district school but select another public option. A core element of that system is the principle that each student in Massachusetts is entitled to an adequate level of education funding each year, and that this funding amount should follow that student to whichever public school he or she chooses to attend – whether it be a traditional district, vocational or charter school. This idea that the “money follows the student” is essential for understanding why charter schools are funded the way they are.

This paper will review then the actual impact of charter schools on a per-pupil basis on certain districts with large numbers of charter students, and use a sampling of additional district types to examine how the state's school funding system accommodates very different economic and educational realities in different municipalities throughout the state.

Part 2. School Finance Overview

Public education spending for grades one through 12 is the second largest use of tax dollars in Massachusetts (behind only MassHealth). It has grown by more than \$2 billion since the 2010-2011 school year and totaled \$12.67 billion in the 2015-2016 school year.¹ It is no wonder then that the system that determines how those funds are spent is complex. In order to distribute this large amount of money equitably, the formula needs to account for different types of students who are attending different types of schools and coming from communities with varying abilities to pay. However, despite this complexity, the basic principles that form the foundation of this education finance system are relatively straightforward:

- Use per-pupil spending as the primary building block of education finance;
- Determine an appropriate amount of spending per student depending on his or her unique characteristics;
- Fairly allocate that spending amount between the state and the student's home community; and
- Ensure that each student's spending follows that student to the school he or she attends.

The School Finance Overview that follows expands upon each of these principles to offer an understandable framework of how public schools are funded and how charter schools fit into that framework.

¹ Figure includes state and local contributions. Department of Elementary and Secondary Education Chapter 70 District Profile (<http://www.doe.mass.edu/finance/chapter70/profile.xlsm>)

The Foundation Budget (Chapter 70) – the State’s Education Funding Formula

The education formula the state uses to establish spending requirements by district is often called the Chapter 70 formula. The name refers to the chapter of Massachusetts General Laws that laid out the funding formula included in the state’s 1993 comprehensive education reform law. While individual components of the formula have changed over time, the basic tenets of Chapter 70 have remained the same:

- To ensure an appropriate level of education spending for all students in the state; and
- To determine a fair and predictable way for the state and municipal government to share these education costs.

The extent to which the Chapter 70 formula has achieved these goals is subject to debate, but through the Commonwealth’s continued commitment and faithful implementation, state and local education spending has increased by \$8.4 billion since 1993.

Chapter 70 – How Much to Spend

A primary purpose of the Chapter 70 formula is to establish an appropriate level of annual education spending – a Foundation Budget – for each school district that reflects the actual cost of educating its unique student body. Each district’s Foundation Budget is calculated based on the individual characteristics of each student in the district.

The Foundation Budget takes a “ground up” approach. It begins with 10 separate categories of education expenditure that are outlined in Table 1.² Each of these categories has a per-pupil spending amount that is determined by the following student characteristics:

- Grade level
- English proficiency
- Family income
- Education type (vocational or traditional)

Using this method, the Chapter 70 formula theoretically creates a mini-Foundation Budget for each student that is then aggregated to form the school district’s Foundation Budget.³ To illustrate this, consider the following examples:

² The Department of Elementary and Secondary Education considers Special Education Tuition as the 11th Foundation Budget category. Because that category is not based on actual enrollment we have not included it.

³ The data included in this report is from the 2015-2016 school year because it is the most recent year for which complete data is available. Going forward, the method for determining family income for purposes of the Chapter 70 formula will change. It used to be based on a child’s eligibility for free or reduced-price lunch programs but that federal standard has been altered. An interim measure has been put in place for the 2016-2017 school year, pending determination of a more permanent methodology.

Table 1. Per-Pupil Foundation Budget Comparison

	Student 1	Student 2
	Student characteristics	
Grade	12	5
Low-income	Yes	No
Limited English Proficient (LEP)	Yes	No
	Foundation Budget costs	
Administration cost	\$364.80	\$364.80
Instructional leadership	\$658.87	\$658.87
Classroom & specialist teachers	\$6,603.39	\$2,658.60
Other teaching services	\$619.58	\$557.78
Professional development	\$221.65	\$129.61
Instructional materials & equipment	\$437.27	\$437.27
Guidance & psychological	\$292.63	\$292.63
Pupil services	\$131.19	\$214.28
Operations & maintenance	\$1,555.52	\$909.52
Employee benefits & fixed charges	\$1,227.21	\$719.02
Total	\$12,112.11	\$6,942.38

In the example above, the two students differ in grade level as well as family income and English proficiency. These variances result in a Foundation Budget difference of more than \$5,000 between Student 1 and Student 2. Given that student demographics are a primary determinant of a district's budget, the number of variations and the myriad combinations that ensue can yield wide budget differences among districts with similar enrollment numbers. For this reason, it is essential to determine an accurate per-pupil amount.

Unlike the other characteristics, budgeting for special education services does not use actual student data. Instead, the Foundation Budget calculates special education costs based on an assumed uniform percentage of students in each district requiring special education services.⁴

The aggregation of these per-pupil education costs, plus assumed special education costs, creates a district's Foundation Budget.

Enrollment

Because per-pupil spending is the building block of the Foundation Budget, figuring out each district's enrollment is a critically important step. While the enrollment calculation is straightforward, it can be complicated by the need to account for numerous instances where students choose to attend a public school other than their hometown academic district – most commonly a regional vocational school, a different academic school district through the School Choice program or a public charter school. In each case, the

⁴ State support for actual special education costs is largely provided through a separate "Circuit Breaker" program, which reimburses extraordinary costs.

Chapter 70 formula dictates that the money follows the student, but different methodologies are used to allow for that, as described in a subsequent section.

These enrollment issues illustrate the imperfect manner by which the Foundation Budget process attempts to adjust for the different types of students who attend that particular district's school system. In order to ensure that per-pupil education funding follows students to their schools of choice, further adjustments are sometimes necessary.

Chapter 70 – Who Pays

Establishing appropriate per-pupil education spending levels is only part of what the Chapter 70 formula does. The formula also determines how much of a district's Foundation Budget should be provided by communities in the school district and how much should be paid by the state. Since the inception of Education Reform, when the state's share of funding comprised 28.5 percent of the statewide Foundation Budget, the state's share has steadily increased. In fact, increasing the state's share of education spending in Massachusetts has been one of the biggest legacies of Education Reform. In FY 2016, state aid makes up 44.7 percent of the Foundation Budget. Determining a fair split of Foundation Budget costs between the state and local communities has been a constant source of debate and discussion since the advent of Chapter 70 and the system for assigning those costs has changed over time.

When Education Reform began, local contributions bore little relation to a municipality's ability to pay. In fact, the state required communities to maintain or increase local education spending in order to prevent municipalities from substantially reducing their local contributions as the amount of state aid increased which would have negated the benefit of the additional state aid. Only limited adjustments were made to account for the differences in municipal wealth, perpetuating the differences in local contributions and the underlying inequities in the system.

In 2006, the state created "target contribution levels" for each community as a way to address this issue. The target contributions, which are updated each year, are based solely on a community's ability to pay (as determined by property values and income) rather than solely on the prior year's contribution adjusted for growth. For communities whose preliminary contributions deviate significantly from the target contribution level – either above or below – the department alters their required contribution to move them closer to their targets.

Public K-12 education is unique among public services in that funding is a mix of local and state dollars. Education Reform is premised on the notion that establishing a fair and predictable local education spending requirement is important for cities and towns and should be based on each municipality's ability to contribute. In recognition of the vast disparities that exist among municipalities in their ability to support public education locally, the distribution of state monies had to be done in a way that would narrow the gap by ensuring that every school district met minimum levels of education spending. In order to distribute state funds fairly, the formula used for distributing the state's portion of education spending is designed to account for these differences.

Each year, this process begins by looking at a community's contribution for the prior school year and adjusting for municipal economic growth. This calculation provides each town's preliminary contribution. In many cases, however, these contributions are out of line with a community's target share. In such cases, the state has typically reduced a community's required contribution by some percentage of the difference between the preliminary contribution and the target share.

Table 2. Chapter 70 Contribution Example

Fairhaven Required Contribution, FY 2016	
<i>FY 2016 Target Contribution</i>	<i>\$13,535,661</i>
FY 2015 Contribution	\$13,649,889
Municipal growth	3.25%
FY 2016 Preliminary contribution	\$14,093,510
Contribution reduction to move closer to target	-\$278,925
<i>FY 2016 Final Contribution</i>	<i>\$13,814,586</i>

Fairhaven is an example of the many communities that still contribute above their target contribution a decade after the most recent reforms. In FY 2016, all communities whose preliminary contribution exceeded their target contribution were allowed to reduce their preliminary contributions by 50 percent of this difference – \$278,925 in the case of Fairhaven.

Once the municipal contributions for a district are established, the next step is to determine the difference between those required contributions and a district’s Foundation Budget. That difference is paid by the state in the form of Foundation Aid. While the state is not required to hold a municipality harmless from one year to the next should Foundation Aid decline, the state has typically maintained the prior year’s level of support.

Other forms of Chapter 70 state aid, including additional funding distributed on a per-pupil basis, can then be added to the Foundation Aid amount. In each of the past five years, the state has ensured that each district receive additional state aid of between \$25 and \$55 per pupil.

Table 3. Additional Chapter 70 Per-Pupil Aid by Year

	Additional State Aid Per Pupil	Total New Per Pupil Aid (in millions)
FY 2013	\$40	\$13.8
FY 2014	\$25	\$10.2
FY 2015	\$25	\$11.6
FY 2016	\$25	\$14.2
FY 2017	\$55	\$32.7

Out-of-District Public School Students

Each year, thousands of students attend a public school outside of their home district to achieve their educational goals. Most commonly, these students attend regional vocational schools, a charter school or participate in School Choice. Each option offers unique opportunities to public school students.

Table 4. Charter, School Choice and Regional Vocational Enrollment

Year	Total Enrollment	Charter	School Choice	Regional Vocational	Total Non-District Students
FY 2007	951,287	20,476	10,345	24,401	55,222
FY 2008	949,580	22,438	10,790	24,788	58,016
FY 2009	944,224	23,380	11,300	24,798	59,478
FY 2010	940,985	24,550	11,806	24,806	61,162
FY 2011	938,333	25,471	12,195	25,275	62,942
FY 2012	937,307	26,840	12,892	25,547	65,280
FY 2013	934,763	28,682	13,366	25,661	67,709
FY 2014	938,083	31,235	13,930	26,024	71,188
FY 2015	940,831	33,892	14,856	26,481	75,228
FY 2016	942,120	36,420	15,636	26,854	78,910

Regional Vocational Schools – vocational programs offer students the ability to take a more applied approach to their high school education by specializing in a trade or professional field. While many large school districts offer vocational coursework themselves, most districts do not and instead are part of a regional vocational school.

School Choice – the state’s School Choice program allows traditional school districts to accept out-of-district students. In the 2015-2016 school year, almost 16,000 students participated in the program to attend districts that better fit their educational or recreational needs. No district is required to receive students through School Choice, but in the 2015-2016 school year 184 academic districts (57 percent) chose to do so to augment their education funding.

Charter Schools – charter schools are independent public schools that are overseen by the state Department of Elementary and Secondary Education and offer a variety of curriculum and instruction options for students. In FY 2016, 3.9 percent of public school students attended charter schools, while charter schools received 3.9 percent of all education spending.

In each case of these cases, the Chapter 70 formula has to account for these students’ choices by making adjustments to ensure that the money is appropriated to the school they attend. While the specific financing systems for vocational schools, charter schools and School Choice differ somewhat, they all are premised on the notion that the money should follow the student to the public school she or he attends.⁵

Regional Vocational School Funding

Regional vocational schools have their own Foundation Budget based on the characteristics of attending students and are included in the Chapter 70 formula just like other operating districts. The assumed costs

⁵ METCO, another program in which students attend public schools outside of their district, is another example. The 50-year-old METCO program, which is supported through state grants, enrolls some 3,300 students from Boston and Springfield in suburban schools. For purposes of Chapter 70, these students are enrolled in the receiving district, which receives the per-pupil spending amount for them.

of the components of the Foundation Budget are higher for vocational schools than they are for other district schools, as Table 5 illustrates.

Table 5. Academic v. Vocational Foundation Budget Category Spending

	Academic high school	Vocational high school	Difference
Administration cost	\$365	\$365	\$0
Instructional leadership	\$659	\$659	\$0
Classroom & specialist teachers	\$3,910	\$6,647	\$2,737
Other teaching services	\$464	\$464	\$0
Professional development	\$126	\$208	\$82
Instructional materials & equipment	\$700	\$1,224	\$525
Guidance & psychological	\$367	\$367	\$0
Pupil services	\$494	\$494	\$0
Operations & maintenance	\$882	\$1,650	\$769
Employee benefits & fixed charges	\$691	\$1,122	\$431
Total	\$8,657	\$13,200	\$4,543

Unlike the case of School Choice or charter schools, students attending regional vocational schools are not included in the Foundation Budget of their hometown academic school district. Instead, the regional vocational school has its own Foundation Budget, required local contribution and Chapter 70 aid. Each community belonging to the vocational school pays its share of that school's required local contribution.

School Choice

Students participating in School Choice are counted in their home school district's Foundation Budget. That district then pays tuition to the receiving school district. School Choice tuition is capped at the lesser of 75 percent of the sending district's per-pupil cost or \$5,000 – which means that School Choice tuition falls short of a student's Foundation Budget amount.⁶ In the case of any low-income students attending a School Choice school, the receiving district also receives the low-income Foundation Budget increment.

The underlying concept behind School Choice – allowing receiving districts to participate in the program if they have available space and it works for their budget – is reflected in the tuition system used to support the program. Unlike regional vocational and charter schools, School Choice students make up only a small percentage of the total students in their classroom; School Choice tuition provides the receiving district with a financial incentive to fill slots in a given grade that would otherwise go unfilled. In the 2015-2016 school year, School Choice students made up just 3.2 percent of the enrollment of receiving schools.

Charter School Funding

Unlike vocational schools, public charter schools do not have their own Foundation Budgets calculated through the Chapter 70 formula. Instead charter school tuition is determined through a separate process that begins with the Foundation Budget of each charter school student's hometown (sending) district.

Step 1. Calculating the Foundation Rate for Attending Students

All students attending charter schools are included in the Foundation Budget calculation for their sending district – this means that district's Foundation Budget and Chapter 70 aid reflect funding for students who are educated outside of the district.

⁶ The School Choice tuition cap is increased if a participating student receives special education services.

The primary component of charter school tuition is the amount of Foundation Budget spending established for each attending student. For each district sending students to a specific charter school, a total Foundation Budget for those students is calculated using the same Foundation Budget components described earlier, but excluding assumed costs related to out-of-district special education placements.⁷ This Foundation Budget is then divided by the number of district students attending that charter school to create a per-pupil Foundation rate.

Step 2. Calculating the Above Foundation Spending

The next step is determining how much the sending district spends above the Foundation Budget and adding that proportional amount to the Foundation rate. This ensures that all relevant education funding follows a student to the charter school. In most districts, actual education spending exceeds the Foundation Budget, so this can add a substantial amount to the charter tuition. The state Department of Elementary and Secondary Education (DESE) calculates the percentage of local education spending above the Foundation Budget and prorates the per-pupil tuition amount accordingly.

When calculating Above Foundation tuition, DESE excludes certain costs – such as retired teacher health care obligations – which may be included in a sending district’s required spending, but which are not relevant to charter schools.

Step 3. Including the Facilities Tuition Payment

Finally, an amount for facilities costs is calculated and included in the charter tuition rate. Facility capital costs for traditional school districts are not reflected in required spending amounts. Therefore, each year DESE calculates the statewide average for facilities costs per pupil and adds that amount to the charter tuition payment. This additional amount is provided because charter schools cannot participate in the state’s School Building Assistance (SBA) program, which is open to other public schools to finance capital renovations and expansions. In FY 2016, \$798 million in sales tax revenue was dedicated to the SBA program to help finance renovation and construction projects at public schools.

⁷ Out-of-district special education costs are not relevant to charter schools as these students are educated in specialist settings including private schools or regional special education collaboratives, with tuition provided by the sending school district.

Table 6. Charter School Tuition Calculation Example

Step 1 - Foundation Tuition	
District students attending charter school	10
Foundation budget amount for attending students	\$100,000
Foundation tuition amount	\$10,000
Step 2 - Above Foundation Tuition	
Total district spending	\$11,000,000
Total district Foundation Budget	\$10,000,000
Above Foundation spending rate	10%
Above Foundation tuition amount	\$1,000
Step 3 - Facilities Tuition	
Statewide average of facilities costs per student	\$893
Total Charter Tuition	\$11,893

The tuition a district pays for each student attending a charter school is then adjusted to reflect that student's individual characteristics (grade, family income, etc.) Through this process the charter tuition payment should align closely with the actual amount that the district would spend on a student if he or she remained in a district school, and that amount is sent to the charter school to cover those costs.

Charter Tuition Reimbursements

The existence of charter school tuition reimbursements, which mitigates the financial impact of charter school tuition for sending districts, makes charter school funding unique among the out-of-district options available to students. In fact, the state is statutorily required to reimburse sending districts for a portion of charter tuition for the first six years that a student attends a charter school.

Under the reimbursement formula, the sending district is reimbursed for all new tuition costs in the first year of increase and then 25 percent of that amount for the next five years, as outlined in Table 7.

Table 7. Charter School Tuition Reimbursement Example

Charter tuition	\$11,893
1st year reimbursement	\$11,893
2nd year reimbursement	\$2,973
3rd year reimbursement	\$2,973
4th year reimbursement	\$2,973
5th year reimbursement	\$2,973
6th year reimbursement	\$2,973

The state also reimburses school districts for the facilities tuition amount for each student. Historically, this reimbursement for the per-pupil facilities aid is paid before both the Foundation tuition and Above Foundation payments if the state appropriation is insufficient to cover all reimbursement costs.

The purpose of the charter reimbursement is to account for the fact that when a student leaves to attend a charter school, the savings accrued by the sending district may not equate exactly to the charter tuition amount due to fixed district costs. For example, a district may need to maintain the same number of teachers or incur the same utility costs whether or not a few students in a grade elect to attend charter school. By

contrast, a district would not receive any compensation if that student opted instead to attend an out-of-district vocational or School Choice program or a private school.

Historically, fully funding charter reimbursements has been a clear legislative priority. In each of the 10 years between FY 2005 and FY 2014, charter reimbursements were funded at 95 percent or more. However, in both FY 2015 and FY 2016, reimbursement levels were well short of full funding. In FY 2016, the state provided \$80.5 million in charter school reimbursements, which covered just over 60 percent of eligible costs. This amount fully reimbursed districts for facilities costs, but only covered 46 percent of other tuition eligible for reimbursement. The FY 2017 budget continues the recent trend of significantly underfunding the reimbursements.

In summary, students participating in School Choice or attending regional vocational or charter schools elect to leave their local academic school district but remain in the public school system. Therefore, the state's education funding system has to create a method to ensure that sufficient funding is available to provide these students with an adequate education. The funding systems outlined above are different in a number of important ways, but at their core share a focus on estimating education costs at the student level.

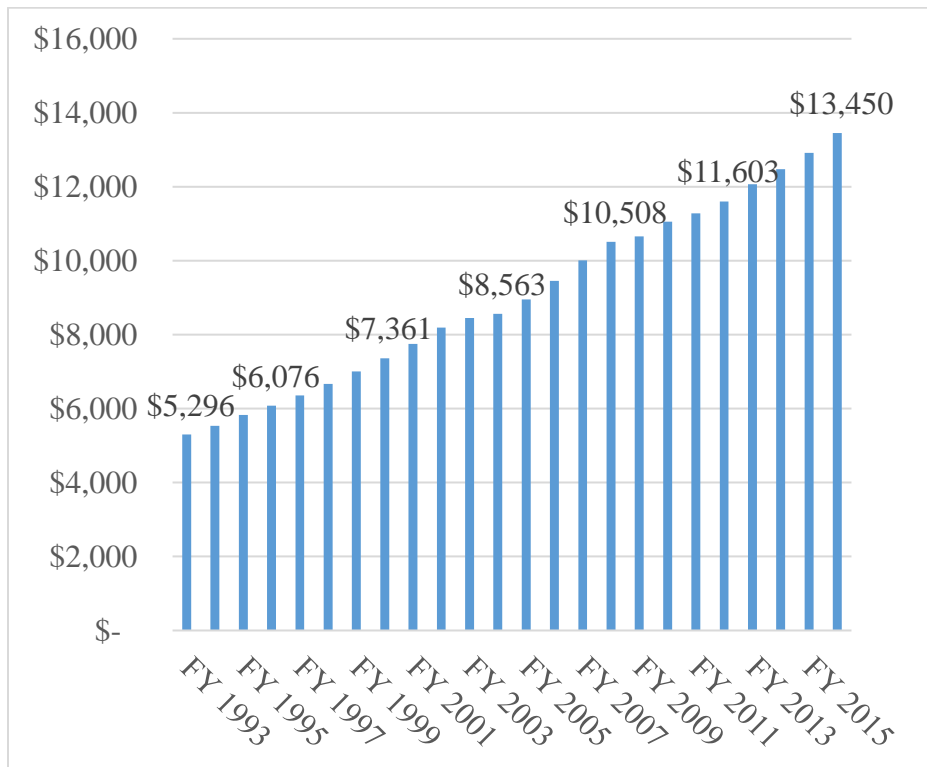
Table 8. Comparison of Charter School, School Choice and Regional Vocational School

	Charter	School Choice	Vocational
Total Funding	\$493,311,820	\$94,900,055	\$462,584,956
Reimbursement to sending districts	\$80,500,000	\$0	\$0
Participating students	36,420	15,636	26,854
Spending per student	13,545	6,069	17,226
Districts receiving students	71	184	26
Students per receiving school	513	77	1,033
Participating students as share of receiving enrollment	100.0%	3.2%	100.0%
Funded through Chapter 70 formula	No	No	Yes
Funded through tuition	Yes	Yes	No
Per-pupil funding subject to cap	No	Yes	No
Sending districts reimbursed for cost	Yes	No	No

Part 3. Education Finance and Per-Pupil Spending

Per-pupil spending has been the fundamental building block of education finance in Massachusetts since the inception of the state's education reform efforts in 1993. As Chart 1 shows, per-pupil spending in Massachusetts has increased each year since and now stands at \$13,450 per pupil.

Chart 1. Per Pupil Spending, FY 1993 – FY 2016



This sustained increase in education funding – per-pupil spending has increased 150 percent over the 23 years Education Reform has been in place – stands in stark contrast to cost growth and state budget growth over the same time period.

Table 9. Per Pupil Education Spending, FY 1993 v. FY 2015⁸

	Actual	Inflation Adjusted	Adjusted for Budget Growth (excluding MassHealth)
FY 1993	\$5,296	\$5,296	\$5,296
FY 2015	\$12,917	\$10,245	\$10,598

Table 9 looks at per-pupil spending if it had grown at the rate of inflation or at the same rate as state budget spending (excluding MassHealth) since FY 1993.⁹ It is clear that per-pupil spending growth has consistently outpaced inflation and spending growth in other areas of the budget and has remained a budget priority regardless of other fiscal challenges confronting the state.

While Massachusetts should be proud of its financial commitment to public education, looking at per-pupil spending at a statewide level masks the wide variation in per-pupil spending among the 322 school districts

⁸ Comparison does not include FY 2016 because final data necessary to calculate non-MassHealth spending is not yet available.

⁹ Inflation data used for this comparison can be found at: <https://fred.stlouisfed.org/series/A829RD3A086NBEA>

in the Commonwealth. There are two primary reasons for these district-to-district differences – student composition and local wealth.

The variation can be partially explained by the composition of the student population in each district. Because education spending requirements are based on per-pupil education costs and per-pupil costs are in turn based upon the characteristics of individual students (with higher costs assigned depending on grade level, English proficiency and income level), per-pupil spending requirements can vary substantially from student to student and district to district, as Table 10 illustrates.

Table 10. Comparison of Per-Pupil Foundation Spending by Type of Student

	Assumed per-pupil spending
High school student	\$8,657
High school student - limited English proficiency (LEP)	\$9,303
High school student - low-income	\$11,466
High school student - low-income & LEP	\$12,112

These differences in student makeup can have a large impact on per-pupil spending at a district level. For example, Lawrence’s student body is 91 percent low-income, and 31 percent of students have limited English proficiency (LEP). This demographic drives Lawrence’s required per-pupil spending to \$12,257. In Fairhaven, where just over one-third of the students are low income and fewer than 2 percent qualify as LEP, required per-pupil spending is considerably less at \$9,920.

The biggest determinant of per-pupil spending in a district, however, is not student demographic composition, but district wealth. The DESE per-pupil spending requirements shown in Table 11 establish *minimum* levels, but do not preclude a district from spending more. Not surprisingly, wealthier school districts tend to exceed minimum required spending levels, while low-income districts such as Lawrence tend to spend at or near the minimum spending requirements. Table 4 shows just how drastically these differences in local spending can impact per-pupil figures.

Table 11. Difference between Required and Actual Education Spending

	Lawrence	Fairhaven	Weston
Required spending per-pupil	\$12,257	\$9,920	\$9,435
Actual spending pe-pupil	\$12,259	\$10,738	\$20,266
<i>Difference</i>	\$2	\$818	\$10,831

Due to its student characteristics, Weston has the lowest required per-pupil spending of the three districts highlighted, but chooses to spend more than double that amount. Lawrence, on the other hand, spends just \$2 per pupil more than the required level, while Fairhaven falls in between. While Weston is an extreme example, many districts spend well above the state required minimum. In the 2015-2016 school year, education spending exceeded DESE requirements by more than 20 percent statewide. Because so many

districts choose to spend more than required on education, the relationship between student characteristics and per-pupil spending bears little resemblance in practice to the theoretical goal of Chapter 70 of equating per-pupil spending with student characteristics.

Per-pupil spending is the bedrock of the state’s education finance system and the most appropriate way to compare education spending over time and between districts. While not perfect, it is also the best means for examining how attendance at non-district schools, such as charter or vocational schools, has affected district school spending.

Part 4. The Impact of Charter Schools

This section explores in what ways charter schools have changed spending on non-charter school students in Massachusetts and whether that impact has been more or less than the impact of students attending a regional vocational school or participating in School Choice.

Charter School Funding vs. Regional Vocational and School Choice

Perhaps the best way to begin is to compare how different student enrollment choices theoretically impact education resources by assuming all other characteristics are identical. Our hypothetical example begins with three identical school districts comprised of just one grade – grade 9.¹⁰

Table 12. Example District Comparison 1

	District 1. Charter	District 2. Vocational	District 3. Choice
District type	Academic, K-12	Academic, K-12	Academic, K-12
Grade 9 Foundation enrollment	100	100	100
Foundation budget	\$875,384	\$875,384	\$875,384
Actual spending	\$919,153	\$919,153	\$919,153

Table 12 shows the 9th grade profile for three identical school districts.

We assume the following for each district:

- Two of the 9th graders qualify as limited English proficient under the Chapter 70 formula
- Three of the 9th graders qualify as low-income under the Chapter 70 formula
- Actual spending exceeds the Foundation Budget by 5 percent.

The scenario changes if five students in each district made different attendance decisions:

- District 1 – five attend charter school (one of which is limited English proficient and low-income)
- District 2 – five attend regional vocational school (one of which is limited English proficient and low-income)
- District 3 – five attend another academic district through School Choice (one of which is limited English proficient and low-income)

¹⁰ The example to follow is not intended to provide a realistic look at education and municipal budgeting at the local level. It’s important to note that in reality, while the state’s education finance system is built on a per-pupil basis, districts do not necessarily spend their resources in a similar manner. In our example, the spending on grade 9 is dealt with as zero sum: Each dollar that leaves the academic district when a student leaves is taken from spending in that district. In reality, that is not necessarily the case.¹⁰

In each district, the choices of these students will have a different impact on the grade 9 Foundation Budget:

Table 13. Example District Comparison 2

	District 1. Charter	District 2. Vocational	District 3. Choice
Grade 9 Foundation enrollment	100	95	100
Grade 9 Foundation budget	\$875,384	\$828,645	\$872,575
Grade 9 Actual Spending	\$919,153	\$870,077	\$916,204

In the case of District 1 and District 3, where five students chose to attend a charter school or participate in School Choice, the students are still counted in the sending district's Foundation enrollment but the receiving district must be paid tuition for those students. For District 2, with five students attending a regional vocational school, those students are no longer included in that district's Foundation enrollment and the Foundation Budget declines accordingly.

The Foundation Budgets for Districts 1 and 3 differ slightly because under School Choice, the receiving school district gets the benefit of the low-income increment of participating students. Thus District 3 no longer retains that component of the Foundation Budget associated with the low-income student participating in School Choice. In the case of charter schools, the low-income increment is included in the Foundation Budget of the sending district.

Now that each district's Foundation Budget is defined, Districts 1 and 3 must determine the proper out-of-district tuition payment and reimbursement amount:

Table 14. Example District Comparison 3.

	District 1. Charter	District 2. Vocational	District 3. Choice
<i>Pre-tuition spending</i>	<i>\$919,153</i>	<i>\$870,077</i>	<i>\$916,204</i>
Charter Foundation Rate Tuition	\$46,739	\$0	\$0
Charter Above Foundation Tuition	\$2,337	\$0	\$0
Charter Facilities Tuition	\$4,465	\$0	\$0
School Choice Tuition	\$0	\$0	\$25,000
Total Tuition	\$53,541	\$0	\$25,000
Tuition reimbursement	\$27,040	\$0	\$0
Grade 9 spending for remaining students	\$892,652	\$870,077	\$891,204

The charter tuition paid by District 1 far exceeds the School Choice tuition paid by District 3. However, District 1 is eligible for tuition reimbursement from the state. Table 14 estimates District 1's charter reimbursement based on 2015-2016 school year reimbursement levels (facilities aid is fully reimbursed while other costs are prorated at 46 percent).

In spite of the different processes to account for different student choices, the end results are remarkably similar. Actual spending for the 9th grade students remaining in the academic districts differs by approximately \$1,040 between District 1 and District 3. Due to the availability of charter tuition reimbursements, District 1 actually retains the highest level of spending for the remaining students.

The scenarios begin to diverge as the charter reimbursements phase out. District 1's funding declines to just below District 2's, while District 3 retains more dollars because School Choice tuition is not intended to cover the full cost of education. If charter reimbursements were fully funded, District 1 would receive more funding during the transition period, further easing its adjustment to the departure of charter enrollees.

The District Impact of Charter Schools

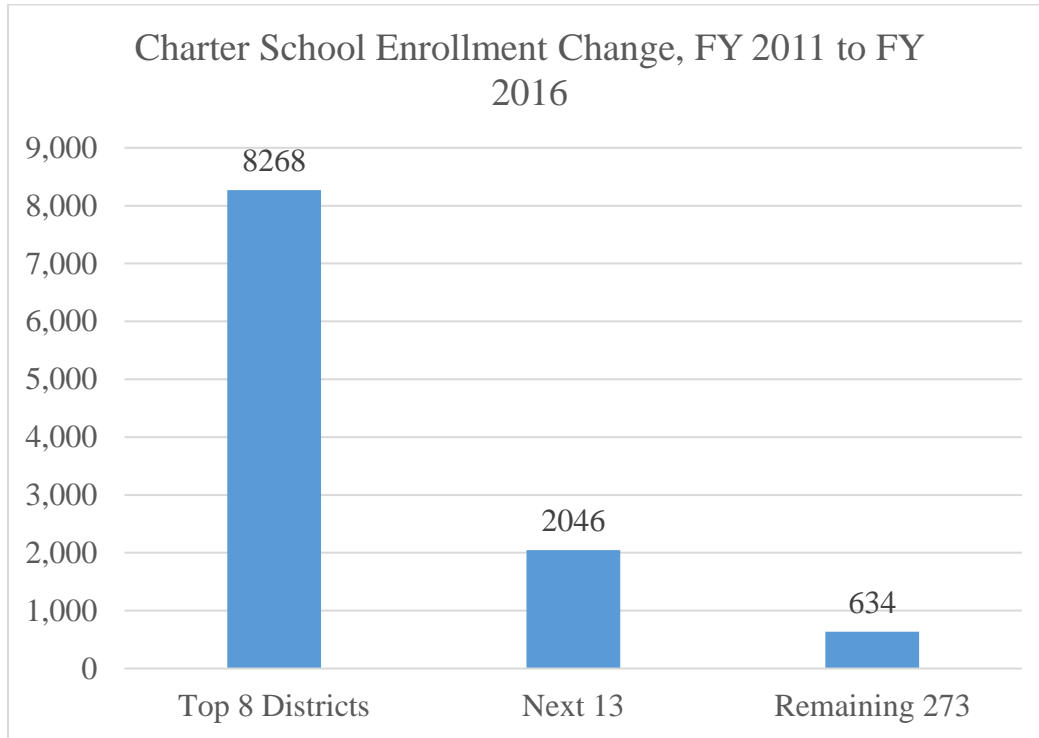
When measured on a per-student basis, a student attending a charter school has a very similar budget impact to a student attending a regional vocational school or participating in School Choice and that is by design. Funding is transferred to the receiving school on a per-pupil basis, just as Education Reform intended.

At the district level, unsurprisingly, charter schools have the biggest impact on districts with the largest number of charter students. Charter attendance is not evenly distributed among school districts. More than 60 percent of charter school students come from just 10 municipalities, while in more than half of all academic school districts, less than 1 percent of their student populations attend charter schools. Given this uneven impact of charter schools on districts, a further examination of how charter school funding impacts different kinds of school districts is warranted.

In the section to follow, we look at the impact of charter schools in three groups. The groups are organized by their charter school status since the last time the state increased the cap on charter school enrollment, FY 2011:

- The top eight – the eight school districts that account for 75 percent of charter school enrollment growth; and
- The next 13 – 13 districts that fall outside of the top eight, but have seen charter enrollment increases of 100 students or greater; and
- Remaining academic districts – charter school enrollment in these 273 districts has increased by fewer than 100 students.

Chart 2. Charter School Enrollment Changes since FY 2011



The Top Eight

Amendments to the education reform law enacted in 2010 increased charter enrollment limits for low-performing school districts. Since then, total charter school enrollment has increased by 10,949 students with the vast majority of these students (75.5 percent) concentrated in just eight school districts:

Table 15. Charter Enrollment Change FY 2011–FY 2016

Municipality	Charter Enrollment Change
Boston	3,978
Springfield	1,030
Lynn	712
Lawrence	593
Lowell	546
Chelsea	497
Fall River	486
New Bedford	425
Top 8 district total	8,268
All other districts	2,681

In order to look at the financial implications of recent increases in charter school enrollment, we focus our examination on these districts and conclude based on the data presented below that increasing charter school enrollment has not had a discernable impact on other education spending.

Charter School Impact on Per-Pupil Spending¹¹

Table 16. FY 2011 Education Data in the Top Eight

Municipality	Total Enrollment	Charter Enrollment	% Charter Enrollment	Charter Tuition as % of Spending	Charter Per-Pupil Spend	Non-Charter Per-Pupil Spend
Boston	60,248	5,273	8.8%	8.3%	\$12,952	\$13,667
Springfield	28,305	2,252	8.0%	7.4%	\$10,392	\$11,297
Lynn	13,902	494	3.6%	3.4%	\$10,831	\$11,230
Lawrence	13,217	906	6.9%	7.5%	\$12,211	\$11,153
Lowell	14,263	944	6.6%	6.7%	\$11,305	\$11,230
Chelsea	5,710	208	3.6%	3.6%	\$10,654	\$10,807
Fall River	10,608	711	6.7%	6.5%	\$10,471	\$10,844
New Bedford	12,736	479	3.8%	3.9%	\$10,975	\$10,578

In FY 2011, charter enrollment and charter tuition payments closely tracked in each of these districts.¹² In total, charter school students comprised 7.1 percent of total enrollment, while charter school tuition payments made up 7.0 percent of total education spending – a phenomenon that is consistent with the premise that spending follows the student. In terms of per-pupil spending, the difference between non-

¹¹ Net school spending and state aid figures presented in this paper for FY 2011 include federal stimulus aid that was used to offset reductions in state funding.

¹² Charter enrollment numbers are presented as whole numbers in chart 16, but actual enrollment, for the purposes of calculating tuition, is often carried out to several decimal places to account for students who begin attending or leave charter schools midway through the year. Charter per-pupil spending is calculated using decimals.

charter and charter students varied by district, but in general, per-pupil spending on charter and non-charter students tracked very closely.¹³

Since FY 2011, charter school enrollment in these eight districts increased by 8,268 or 73.4 percent, while tuition payments doubled.¹⁴

Table 17. FY 2016 Education Data in the Top Eight

Municipality	Total Enrollment	Charter Enrollment	% Charter Enrollment	Charter Tuition as % of Spending	Charter Per-Pupil Spend	Non-Charter Per-Pupil Spend
Boston	64,196	9,251	14.4%	13.9%	\$15,434	\$16,122
Springfield	28,970	3,283	11.3%	11.1%	\$11,675	\$11,953
Lynn	16,036	1,206	7.5%	7.6%	\$12,286	\$12,077
Lawrence	15,186	1,499	9.9%	10.4%	\$12,934	\$12,185
Lowell	15,300	1,490	9.7%	9.9%	\$12,291	\$12,035
Chelsea	6,924	705	10.2%	10.3%	\$12,552	\$12,402
Fall River	11,317	1,197	10.6%	10.0%	\$10,959	\$11,728
New Bedford	13,211	904	6.8%	7.3%	\$12,295	\$11,485

In spite of these sharp increases in charter enrollment and charter tuition, total education spending in these districts has not changed much. Each district's share of spending on charter tuition (11.6 percent) closely aligns with the share of students attending charter schools (11.4 percent). Similarly, per-pupil spending on both charter and non-charter students are essentially identical (\$12,553 for charter students and \$12,498 for non-charter students) although charter per-pupil spending has grown by 11.8 percent while non-charter per-pupil spending has grown by 10.1 percent.¹⁵

Comparing trends in these districts with districts with declining charter school enrollment provides additional insight. Between FY 2011 and FY 2016, charter school enrollment in Worcester, Fitchburg and

¹³ Differences between charter and non-charter per pupil spending are generally driven by individual student characteristics as well as the charter school facilities tuition. District financial support through the state's School Building Assistance program is not included in non-charter per-pupil spending, while facilities aid is included in charter school per-pupil figures.

¹⁴ Tuition has grown faster than enrollment primarily because per-pupil education spending grew between FY 2011 and FY 2016.

¹⁵ Non-charter per-pupil spending is calculated by dividing actual net school spending less charter tuition payments by non-charter enrollment. This method does not account separately for charter tuition reimbursements received by the district.

Greenfield has declined. In spite of this decline, non-charter per-pupil spending in these districts has grown by 8.6 percent – a slower rate of growth than the eight districts with the largest charter enrollment growth.

The rapid growth of charter enrollment in each of these districts does not appear to have had a negative impact on the per-pupil expenditures of non-charter school students because tuition increases have been in proportion to the growing share of the student population choosing to attend charter schools.

Charter School Impact on Enrollment, State Aid and Spending

Another way to consider the impact of charter school enrollment increases on the top eight sending districts is to look at how *total* non-charter enrollment, spending and education aid have changed over the last five years. Looking at these data – which are not provided on a per-pupil basis – gives a clearer picture of some of the ways that these districts differ, but again shows that non-charter education spending has continued to grow in each of the communities with high charter school enrollment.

Table 18. Changes in Enrollment, Spending and Aid, FY 2011–FY 2016 in the Top Eight

Municipality	Change in non-charter enrollment	Change in non-charter spending	Change in state aid (net of tuition)
Boston	(30)	\$134,492,067	-\$71,121,106
Springfield	(365)	\$12,715,863	\$23,749,366
Lynn	1,422	\$28,533,895	\$20,857,864
Lawrence	1,376	\$29,465,260	\$29,047,098
Lowell	491	\$16,632,210	\$8,595,697
Chelsea	717	\$17,665,730	\$12,888,125
Fall River	223	\$11,354,529	\$7,526,076
New Bedford	50	\$11,686,278	\$7,039,086

Comparing per-pupil spending and charter tuition as a share of total spending provided a consistent picture of the impact of charter expansion. All eight districts spend more on non-charter education than they did in FY 2011. What is distinct among these eight communities is the changes in their non-charter enrollment and its impact on overall district education spending.

Enrollment changes have varied drastically among these eight communities. In Boston and Springfield – the two largest districts of the eight – non-charter enrollment has declined over the last five years. In spite of no enrollment growth, both districts have continued to increase investment in non-charter education, although the increase in Springfield is far more modest (4.3 percent) than in Boston (17.9 percent). In Lawrence, Lynn and Chelsea, on the other hand, non-charter enrollment has grown by more than 10 percent in five years. As enrollment in these districts has grown, so has non-charter education spending, which has increased by 21.5 percent in Lawrence, 19 percent in Lynn and 29.7 percent in Chelsea.

During this period, there have been changes to the amount of state aid (minus charter tuition paid by the district) the districts have received since FY 2011, but those changes have more to do with the state’s or municipality’s fiscal circumstances than with charter schools. For example, state aid has dropped precipitously for the City of Boston. This decline partly stems from the state’s failure to fully fund charter school tuition reimbursements in recent years. In FY 2016, Boston’s tuition reimbursement was short of full funding by \$17 million; a similar shortfall exists in FY 2017 as well. But this factor accounts for only about a quarter of the drop in state aid.

Boston’s decline in net state aid is primarily due to the state’s Chapter 70 formula. The City is considered relatively wealthy under the formula due to its high property values and income. Boston’s equalized property values per capita rank in the top third of the state, ahead of communities like Milton and Acton. Under the formula, Boston is expected to pick up the majority of increases to the City’s Foundation Budget through its local contribution. Another contributing factor is that Boston has historically not met its target contribution level and has been required to increase its local share still more in recent years. These factors – Boston’s relative wealth, its plateauing enrollment and state budget cuts during the Great Recession – mean that Boston’s FY 2016 Chapter 70 aid is lower than it was in FY 2008.

The combination of factors that has hurt Boston in the Chapter 70 formula is not present in the other seven districts. Each of the other seven districts is considered low-income in the formula, which means that as the Foundation Budget increases, state aid picks up the majority of the new costs. With the exception of Springfield, the other districts are experiencing enrollment growth causing their Foundation Budgets to grow more quickly than Boston’s. In these districts, net state aid has grown by 14.2 percent since FY 2011, while total non-charter spending has grown by 15.7 percent.

The Next 13

A group of 13 municipalities has experienced charter enrollment increases of more than 100 since FY 2011. This middle-tier group accounts for 76.3 percent of growth outside the top eight districts, and 18.7 percent of total charter enrollment growth over that period.

What has been the effect of charter schools on them?

Marlborough may be seen as an approximation of the mythical “average Massachusetts community.” Although it has a city form of government and an industrial heritage, Marlborough has numerous suburban characteristics, including a median income that mirrors the state-wide average. Marlborough’s MCAS scores, while higher than in the most impacted districts, are average for the state. Examining the impact of charter schools in Marlborough, therefore, offers an example of the impact of charter enrollment in a more “typical” community.

Table 19. Impact of Charter Growth in Marlborough

	Total Enrollment	Charter Enrollment	% Charter Enrollment	Charter Tuition as % of Spending	Charter Per-Pupil Spend	Non-Charter Per-Pupil Spend
Marlborough 2011	4,789	252	5.3%	4.7%	\$10,794	\$12,222
Marlborough 2016	4,976	476	9.6%	7.8%	\$12,226	\$15,372

Marlborough’s charter enrollment nearly doubled between 2011 and 2016, rising by 224 students, while non-charter enrollment declined by 37 students. Marlborough has seen charter tuition take up a larger share

of its total education budget as charter enrollment has grown, but that share has not grown as quickly as in the most impacted urban districts.

Table 20. FY 2011–FY 2016 Comparison of Marlborough & New Bedford

	Increase in Charter Share of Enrollment	Increase in Charter Spending as Share of Budget
Marlborough	81.62%	65.80%
New Bedford	81.97%	87.12%

Charter share of *enrollment* has grown by very similar percentages in both Marlborough and New Bedford. However, there is a large difference between these two districts in terms of charter *tuition* as a share of total education spending. In New Bedford, charter tuition’s share of spending has grown by almost 90 percent over five years, while in Marlborough, charter tuition’s share of education spending has grown at a much smaller rate.

It is notable that Marlborough’s per-pupil spending on non-charter students does not appear to have been negatively affected by increasing charter tuition. In fact, since FY 2011, per-pupil spending on charter school students has increased by 13.3 percent whereas per-pupil spending on other students has grown by 25.8 percent over the same period.

Marlborough has had higher than average increases to charter enrollment and related increases to charter tuition, yet it is difficult to discern any negative consequences of these changes for non-charter school spending over the same time period.

Dracut, a small city, and Plymouth, a large town, provide two more examples in which a sizable share of students attends charter schools. However, Plymouth and Dracut differ substantially from Marlborough in terms of recent increases in Chapter 70 aid.

Table 21. Charter Enrollment and Chapter 70 Aid Comparison, Changes FY11-FY16

	Total Enrollment Change	Non Charter Enrollment Change	Charter Enrollment Change	C70 Change
Marlborough	187	-37	224	\$9,599,251
Dracut	-226	-369	143	\$43,344
Plymouth	-277	-490	213	\$804,803

Since FY 2011, Dracut and Plymouth’s Chapter 70 aid has been essentially flat, while at the same time Marlborough’s Chapter 70 aid has grown by 72 percent. This difference in state aid is due to enrollment – total enrollment in Marlborough has grown while in Dracut and Plymouth has fallen sharply – as well as the fact that Marlborough has received more state aid as its local contribution share has declined due to the 2006 reforms.

Table 22. Impact of Charter Enrollment Growth in Dracut & Plymouth

	Total Enrollment	Charter Enrollment	% Charter Enrollment	Charter Tuition as % Of Spending	Charter Per-Pupil Spend	Non-Charter Per-Pupil
Dracut 2011	4,099	51	1.3%	1.5%	\$10,708	\$8,942
Dracut 2016	3,873	195	5.0%	5.1%	\$10,447	\$10,206
Plymouth 2011	8,341	344	4.1%	3.7%	\$10,055	\$11,195
Plymouth 2016	8,064	557	6.9%	6.2%	\$12,278	\$13,812

In spite of these notable differences with Marlborough, Dracut and Plymouth have not seen charter tuition increases come at the expense of non-charter students. In both Plymouth and Dracut, non-charter per pupil spending has outpaced increases in charter school per-pupil spending. At the same time, charter school tuition continues to be proportionate to the number of charter school students in the district.

Remaining Academic Districts

For the remaining 273 academic districts, charter schools have a much smaller effect on enrollment or spending. Over the past five years, these districts have seen charter enrollment rise by only 634 students in total, less than six percent of the total growth. For almost two-thirds of these districts (186 out of 273 or 68.1 percent), fewer than 25 students attend charter schools. One third of these schools districts (107 district or 39.2 percent) have fewer than five students attend charters. Wellesley, a wealthy suburb with highly regarded district schools, is one such operating academic district with charter enrollments of fewer than five students.

Table 23. Impact of Charter Enrollment in Wellesley

	Total Enrollment	Charter Enrollment	Charter Tuition	Total Education Spending
Wellesley 2011	4,889	2	24,632	64,907,539
Wellesley 2016	5,081	1	17,104	81,027,686

In any material sense, charter school enrollment and tuition has no impact on education spending in Wellesley. Since 2011, per-pupil education spending in Wellesley has grown by 20.1 percent. That level of growth exceeds increased per-pupil spending in the eight urban districts with the most charter enrollment growth, but falls short of the 25.8 percent non-charter per-pupil spending increase in Marlborough over the same time period.

In summary, school districts across Massachusetts are affected differently by charter school enrollments – some significantly, most marginally or not at all. It is evident, and indeed intended, that charter expansion has been greatest in urban areas with lower-income populations and lower-performing district schools. What is not evident from an examination of aggregate funding levels over time is any resulting systematic financial disadvantage to district school students in any type of community. In this regard, the Chapter 70 budget formula is doing what it was designed to do – ensuring education revenues follow the student.

Part 5. Conclusion

Charter school enrollments, like all public school enrollments, are funded on a student-by-student basis under the Chapter 70 formula, which takes account of individual characteristics. For students' home districts, the approach and financial impact is generally similar for charter enrollees as for other "public-to-public" enrollments (vocational school and School Choice students), with variations tailored to the specific types of enrollment. The distinctive aspect of the charter school funding is the provision for transitional tuition reimbursement funding to ease the financial impact on the sending district; this provision has been underfunded by the Commonwealth in recent years.

Although the charter school provisions are currently a focus of attention, the other types of public-to-public enrollments have also been controversial. The initiation of inter-district School Choice set off intense debate statewide, and vocational school tuition, though a long-established part of the school finance landscape, has often been a source of tension at the local level.

Examination of school funding trends in districts affected by charter school enrollments does not suggest that charter schools are over-funded, that students in district schools are suffering a loss of support, or that the per-student funding of districts is trending negatively. Rather, per-student funding has increased quite steadily across the state, and the district-charter balance has been stable. This is true both for the most affected districts and for more average districts. Meanwhile, a great majority of Massachusetts school districts are barely affected, if at all, by the growth of charter schools.

It is important to close with a disclaimer that has been noted throughout this paper: This is a review of charter school funding under the Chapter 70 formula, which though real enough from a top-down perspective may appear hopelessly theoretical from the bottom up. A state funding formula and a district budget are related, but they are by no means the same thing. The districts most affected by charter enrollments tend to be poorer urban ones, their perennially tight-stretched resources made tauter by the impact of severe recession and parlous recovery on state contributions and local tax bases. Consolidating, realigning or moving programs – much less closing schools – is likely to be politically fraught. District budgets, heavily weighted toward personnel, may be extraordinarily difficult to cut (at least without severe damage) because of collective bargaining constraints and the fact that so many employees fulfill specialized professional roles. The analysis presented here is based on the principles embedded in the formula, and makes no attempt to address budgetary issues at the district level.