

POPULATION AND SPECIAL EDUCATION

OVERVIEW

July 2014

Executive Summary

The Population and Special Education and Task Force of the School Subcommittee of the Override Study Committee is charged with reviewing the operational, cost and revenue impacts and opportunities in the Special Education and “optional” (or “non-mandatory”) population areas of the School Department. While the provision of a ‘free and appropriate education’ (“FAPE”) to every school-aged resident is mandated by State law, the delivery of FAPE to children who are not considered ‘typically developing’ does involve programmatic choices that do have costs associated with them and that may offer opportunities for efficiencies or more accurate cost-sharing in the future. In addition, the Schools make other choices that bring non-resident students (METCO and Materials Fee) into the system and the Schools also offer certain programs and make certain operating decisions (full-day kindergarten, early education for typically developing children, provision of cost free space for extended day programs and after-hour building usage) that either impact resource demands for professionals, para-professionals and space or represent economic opportunities that could be more fully realized.

Each of these programs is highly valued by the community, each contributes to the programmatic excellence of the PSB and individually none would be singled out as a candidate for modification or change. In the context of the current budget environment and space constraints however, it is appropriate to at least identify any opportunity for revenue generation or expense and/or space reduction including whether the near-term modification of some of the most expensive programs is a viable and acceptable method to mitigate the size of an override that might otherwise be rejected by the voters. Modifying non-resident programs (even on a temporary basis), adjusting class size, changing assignment procedures and having the PSB follow its own policies are the only tools currently identified that could in combination have a substantial impact on space needs over the next five years. There are also meaningful changes to tuitions and other revenue opportunities that could be implemented as a means of minimizing the size of an override.

Non-Resident Populations: METCO and Materials fee are very expensive programs, as is the cost of educating resident children in Brookline. Along with the general growth of the resident population, they create additional demand for space throughout the school system (individually and combined). The programs are estimated to have short term cost impacts approximating \$11,000 per student and long-term cost impacts approaching \$15,000 per student after associated revenues. These net costs are essentially identical to the costs of educating resident children. Viewed on the basis of long-term marginal costs, the programs together represent a commitment of more than \$7million per year by the Town and the PSB.¹

Though many of the ideas and options for the schools being examined by the Task Force elicit strong emotions, it is clear that any changes to METCO, in particular, even if temporary or minor can be expected to be very controversial. Weighed against this are that the long-term financial costs, both capital and operating, the Town underwrites each year it participates in the METCO and Materials Fee programs do not appear to the majority of the Task Force to be widely understood by the residents and taxpayers of Brookline. The direct financial beneficiary of the Town’s economic commitment to METCO (and also the primary beneficiary of Materials Fee)

¹ See Appendix, The Economic Impact of Enrollment Growth of the Brookline Public Schools.

is the City of Boston, which does not have to incur the costs of educating the children enrolled in the programs. The majority of the Task Force also believe that public comments also highlight a view of overall economic and racial diversity in the PSB and Brookline different than actual statistics, and a view of METCO that appears to reflect more how the program was operated 40 years ago than how it is run today at least with respect to its enrollment practices. Public comment to date also clearly shows strong support for METCO and the goals of the program.

Faced with the reality of finite resources and limits on the Town's ability to increase them, all Town government resource allocation decisions necessarily represent choices. The economic resources allocated to the METCO and Materials Fee programs primarily benefit nonresident populations and result in fewer dollars being available to support other important activities and programs that benefit Brookline residents and taxpayers. For example, maintaining these nonresident programs at their present levels could be accomplished by accepting an increase in average class size overall, by scaling back on other PSB initiatives that are also considered important, or by raising various Town fees and taxes. The positive benefits of the nonresident programs -- both to residents and nonresidents -- must thus be evaluated against the negative consequences of whatever measures will be needed so as to enable the Town to continue to support these programs at their current levels.

Along with other tools at its disposal, options may exist for the Schools to modify either or both Materials Fee and METCO to help reduce enrollment pressure in the intermediate term without temporarily or permanently eliminating or causing long-term harm to either of these valued, and valuable, programs. Whatever the ultimate political judgments, the costs of these programs compared to potential savings must be fairly articulated for policy makers and, ultimately, for the voters who will finally decide on the economic and social trade-offs of any override proposals.

Special Education: The Special Education area of the PSB accounts for about 21% of the total school budget. Despite this rather substantial expense, the Task Force has not identified any meaningful opportunity to reduce costs or improve efficiencies and notes that the PSB seems to be doing an excellent job of transitioning the system in the face of ever increasing state and Federal mandates. While understanding that not all decisions can be reduced to dollars and cents, the Task Force does, however, believe that the PSB should and could do a more thorough job of comparing the explicit, and implicit, costs and benefits of certain choices it makes. Examples would include items such as incorporating the financial impact of space requirements and ensuring that analyses are done on a fully loaded cost basis.

Full-Day Kindergarten: With regard to Full Day Kindergarten, the PSB has options including charging for full-day kindergarten and offering fewer than five days of full day kindergarten. With respect to the former, though there is likely a positive revenue impact, the continued availability for the PSB to move toward its target Foundation budget outweighs the risk of achieving the participation needed to maximize revenue. Once the maximum Chapter 70 aid level is reached however, this is an option for the PSB to consider as it has done periodically in the recent past.

Revenue Opportunities and Other: The Task Force has identified several prospects for revenue enhancement for the PSB and the Town. These opportunities fall broadly into the areas of tuition increases and usage fees for

Town and School programs and properties. While many of the situations identified by the Task Force have either been targeted or identified already, the Task Force has concluded that both the PSB and the Town can and should be more aggressive with their approach to revenue generation from Brookline Early Education Program, Soule Recreation Center Education Program, after-school gymnasium and public space rentals and charges for use of public buildings by extended-day programs.

While there remains additional work to do to finalize financial projections and opportunities, the task force believes, at this juncture, that over the next five years, the PSB and the Town could generate as much as \$5million² from these ideas over and above what the programs currently generate.

² Ignores planned increases by the Schools and the Town for BEEP and Soule and also explicitly ignores likely annual increases for inflation and market competition.

NON-RESIDENT POPULATIONS

Overview

Non-resident populations in Brookline are comprised of three distinct groups. The first group is 'Materials Fee' children. These students are the children of employees of the Town of Brookline or the Schools of Brookline whose families do not reside in Brookline. The second group is comprised of children admitted under the Metropolitan Council For Educational Opportunity ("METCO") program and the third group are students, generally high school aged residents of other countries, who decide to enroll in the Brookline public schools for a period of time and who are not part of an exchange program. The vast majority of non-resident children are enrolled via the Materials Fee and METCO programs. Together, these two programs currently account for about 475 students or approximately 7.0% of the K-12 student population.

The Materials Fee program in Brookline was begun in the early 1980's as a recruitment and retention policy to respond to similar programs being instituted in other communities and because of severe financial difficulties facing Brookline that limited the Town's ability to offer wage increases. At the time an extremely controversial program, Materials Fee is today more ingrained in the community. While no empirical work has been conducted to evaluate its effectiveness it is viewed, at least by the PSB, as having accomplished the goals of attracting and retaining professional staff. The Brookline program is somewhat unique in that it includes all public employees, where most municipalities offer such programs only to some or all school employees. The Materials Fee program is effectively uncapped and has experienced a surge in participation. Long-run incremental costs are estimated at approximately \$14,000 per child, net of revenue received.³

METCO was established in the late 1960's by the Commonwealth as a means to address racial imbalance in Boston and Springfield and to help alleviate racial isolation in those communities that chose to participate in this voluntary desegregation program. Brookline has accepted METCO students since METCO's inception and has a current target population of 300. METCO is viewed as a vital part of the school system and valued for aiding in the diversity of the student population. Within the last 10 years, METCO's policies have changed with regard to who can participate and, over the past 20 years Brookline's student population has become more diverse. Funding for METCO comes from the Legislature and has been flat in nominal dollars and declined in real dollars for many years. METCO has long-term incremental costs estimated at approximately \$15,500 per child, net of revenue received.⁴

Because the students are not residents of the Town, the School Department has established specific policies governing the admission and placement of these children, (with certain distinctions made for each group mentioned above), that differ from those established for the resident population.

Non-Resident Students – Existing Policies

The School Department has formal rules governing the circumstances under which non-resident populations are supposed to be admitted into the PSB. These rules are seemingly explicit for Materials Fee students and, while

³ See Appendix, The Economic Impact of Enrollment Growth of the Brookline Public Schools.

⁴ See Appendix, The Economic Impact of Enrollment Growth of the Brookline Public Schools.

not explicit for METCO, the Massachusetts Department of Elementary and Secondary Education and METCO cite circumstances and conditions that inform the placement rules for children in METCO. As discussed in detail below, it does not appear that these guidelines are being followed by the PSB, likely due to philosophical and programmatic choices that to date have placed the value of continuing the programs ‘as-is’ ahead of the policy guidelines. Adherence to the policies could impact the number and timing of when non-resident children might be admitted and could have a meaningful impact on space demand and cost mitigation.

The existing written School Department⁵ and State Department of Education policies applicable to METCO and Materials Fee students contemplate that such students will be admitted only when space is available, and specifically when there are open seats in the relevant grade. With respect to non-Brookline students, the existing School Policies state: **All new non-resident** students will be admitted ... **on a space available basis** and will be charged full tuition” (except that part of tuition may be waived for METCO or children of non-resident employees, among others”)⁶. School Policies, §J.1.c.

The description of METCO on the Massachusetts Department of Elementary and Secondary Education website states: “METCO Inc. forwards the applicants' enrollment folder to school districts **with openings for the particular grade level needed**. Ultimately, placement decisions are based upon,” inter alia, “**district grade and seat availability ...**”⁷ Similarly, the School Department’s policies further state that new METCO students will be admitted “subject to the School Committee’s guidelines for class size and subject to the availability of funds for the METCO program.” School Policies §J.1.b.

With respect to Materials Fee students, in addition to the overarching policy that all new non-resident students will be admitted on a space-available basis, the existing School Department policies set up tiered eligibility when there is space available but it is limited, with first priority to tuition paying students in instances of limited space. School Policies §J.1.c.f.2. After such full tuition students, “Second priority shall be given to non-resident teachers in cases of limited space.” School Policies §J.1.c.f.3. Finally, “Non-Resident School and Town Employee’s Children” are “admitted on a space available basis after” full-tuition paying students and non-resident teachers’ children. School Policies, “Admissions Guidelines for Non-Resident Students (including METCO),” Section III.a.

The overarching policy that non-resident students should be on a space available basis (and thus not create the need for additional classrooms or personnel) is further confirmed by the policy that: “**All staffing will be done on the basis of tuition paying or resident students.**” School Policies §J.1.c.4.

Finally, the existing School Department policies state that for the children of non-resident employees (including teachers): “**The cost of special education services connected to Chapter 766 and any other Massachusetts or federal statute will have to be borne by the employee’s town or city of residence, or by the individual.**” School Policies §J.1.c.6.

⁵ The School Department policies can be found at http://www.brookline.k12.ma.us/index.php?option=com_content&view=article&id=61&Itemid=84

⁶ Current law precludes charging tuition except, in the case of children from foreign countries and, in the case of non-resident children, the cost of materials needed to provide such education. METCO funding is via state grant.

⁷ <http://www.doe.mass.edu/metco/faq.html?section=c>

Non-Resident Students – Implementation of Existing Policies

The School Department appears to be choosing to continue its existing enrollment practices instead of following the existing policies that non-resident students only be admitted on a space-available basis, when there are openings in the particular grade, and without increasing staffing. The School Department acknowledges that it admits such non-resident students *prior to* knowing the number of resident Brookline students that the Schools will be required to serve in the grade to which non-resident students are being admitted. The Schools provide early admission to non-resident students despite the fact that the Schools' own written policies provide for much later admission.

The "Admissions Guidelines for Non-Resident Students (including METCO)," set forth in the School Policies, provides that non-resident full-tuition paying students, teachers' children, and the children of non-teacher Town and School employees are all admitted on a "space available" basis and must all complete their applications no later than April 1. Full tuition-paying students⁸ will be notified no later than May 15, and must return their contracts no later than May 31. Admissions Guidelines, Section I. "Non-Resident Teacher's Children" "are admitted on a space available basis after full tuition-paying students" and such "**Applicants will be notified of their admission status no later than June 1,**" with contracts to be returned no later than June 15. Admissions Guidelines, Section II. "Non-Resident School and Town Employee's Children," other than teachers' children, are admitted "on a space available basis" after full tuition-paying and teachers' children; they are "notified of their admission status no later than June 20" and must return their contracts no later than June 30. Admissions Guidelines, Section III.

The current practice of the Schools accelerates the admission of non-resident students to times well before those called for in the Admissions Guidelines, making it essentially impossible to comply with the written "space available" policy.

As shown in Table 1 in each of the last three school years (2011-12, 2012-13, 2013-14) most METCO and Materials Fee students were notified of admission in February. For the 2011-12 School Year, the Schools had by **February** of 2011 accepted 45 METCO and Materials Fee students out of 442 total students registered at that point, despite the fact that 160 additional Brookline students would register (602 minus 442). A similar pattern existed in for the 2012-2013 School Year, with 49 non-resident students admitted by **February** 2012, despite the fact that an additional 133 Brookline students would register. Moreover, the Schools accepted these 49 non-resident students despite the fact that the population registered by February 2012 was 91 greater than the previous year, indicating that many additional classrooms would have to be created and staffed, in contravention of the written policy that non-resident students will not create the need for additional staffing. By admitting 49 non-resident students, the Schools created a kindergarten class of 666 students rather than a more manageable class of 617 resident students. Similarly, for the 2013-14 School Year, the Schools had admitted 42 non-resident students by **February** 2013, despite the fact that the total class would grow by an additional 154 students. All of these February admissions occurred despite the written guidelines that students could be notified as late as June, a time frame that would allow for compliance with written policies.

⁸ As previously stated, this currently refers primarily to foreign students coming to Brookline for a particular period of time.

Table 1: KINDERGARTEN ENROLLMENT COMPARISONS - BY MONTH - SY 2011-12, 12-13, 13-14⁹

SCHOOL	FEB 2011	APRIL 2011	SEPT 2011	FEB 2012	APRIL 2012	SEPT 2012	FEB 2013	APRIL 2013	AUG 1, 2013	SEPT 30 2013
BAKER	56	67	85	50	75	98	43	59	73	78
DEVOTION	50	68	104	85	104	115	75	90	101	108
DRISCOLL	48	50	66	47	57	64	29	46	55	59
HEATH	36	37	58	47	63	69	22	40	54	57
LAWRENCE	65	75	85	67	74	85	53	74	79	87
LINCOLN	54	58	69	58	73	75	46	58	64	66
PIERCE	54	60	79	80	80	91	87	104	105	110
RUNKLE	34	38	56	50	63	69	46	59	66	65
METCO	22	22		20	3		21	14		
STAFF	23	22		29	3		21			
TOTAL	442	497	602	533	595	666	443	544	597	630
RESIDENT(TOTAL -[FEB METCO + STAFF])	397	452	557	484	546	617	401	502	555	588
RESIDENT AS % OF SEPT RESIDENT NO.	71%	81%	100%	78%	88%	100%	68%	85%	94%	100%
RESIDENT AS % OF FEB RESIDENT	100%	114%	140%	100%	113%	127%	100%	125%	138%	147%

⁹ SOURCES: February 2011 to August 2013 data from Attachment O to memo transmitted to OSC by P. Rowe by 10/18/13 email; September 30, 2013 from attachment to 10/30/13 P. Rowe email to R. Benka

Moreover, for the 2012-13 and 2013-14 School Years, most METCO and Materials Fee students were already assigned to schools by the preceding April, despite the fact that numerous additional resident students would be expected to enroll before the start of the school year (in April 2012, only 6 of 29 were unassigned; in April 2013, only 14 of 42 remained unassigned).

The table on the preceding page shows that, over the last three school years, the Schools have admitted METCO and Materials Fee students – and assigned them to schools -- at a time when substantial numbers of Brookline resident students have not yet enrolled and at a time well before the decision deadlines set forth in the Schools' own policies. The Schools have admitted non-resident students in disregard of the Schools' own "space available" and "no additional staffing" policies.

At the OSC's February 10, 2014 meeting, Superintendent Lupini announced that the Schools were continuing similar practices for the upcoming school year. Thus, the Schools had already accepted applications for the 2014-15 School Year (FY15) for teachers ("Unit A") and planned to announce acceptances prior to February 14, well before the total resident enrollment and thus available spaces could be known. Applications from remaining School and Town employees would be accepted after February 24, 2014. The Superintendent further announced that the METCO admissions process had already begun, with admissions to be based *not* on space available or open seats in kindergarten or other lower grades, but rather on the number of METCO students graduating from the High School so as to maintain approximately 300 METCO students in the system. It was stated that decisions would be made by mid or late March, 2014, when, as noted, many resident students have not yet registered. Thus, it appears that the Schools intend to continue to deviate from the written "space available" policies.

Non-Resident Students – Impacts of Existing Practices

It has been asserted in the past that METCO and Materials Fee students simply occupied spaces that would otherwise be empty. Even the School Committee and School Administration acknowledge that such an argument is not necessarily accurate in the current climate of significant space constraints and looming capital costs. The argument is also contradicted by the fact that such non-resident students are admitted well *before* the number of resident students (or their districts or buffer zones) is known.

The potential impact of the admission of non-resident students can be demonstrated by taking the Brookline resident students for the last two kindergarten classes and determining how many classrooms would theoretically be necessary to serve those Brookline students in compliance with Brookline School Department

policy at 22 to 24 students per class,¹⁰ and then comparing that to the number of classrooms **actually** used to serve those kindergarten classes including the non-resident students.¹¹

For the 2012-13 School Year, there were 613 Brookline resident kindergarten students enrolled as of 7/19/13 (i.e., at year-end). Complying fully with district and buffer zone boundaries for student assignments, it would have been possible to place the **Brookline** students in 28 classrooms (at 22 students per class) or in 26 classrooms (at 24 students per class). In actuality, the Schools used 32 classrooms for this kindergarten class, when METCO and Materials Fee students were included.¹² The difference of four to six classrooms is the result of class sizes smaller than necessitated by School Department policy and actual assignments that do not maximize classroom utilization, but is also driven by adding, based on the way that the PSB projects classroom demand, the equivalent of two classrooms of non-resident students. The PSB is skeptical of this conclusion that the majority of the Task Force have reached.

For the 2013-14 School Year, 610 Brookline kindergarten students were reported in data as of 10/30/13 (about two months after the beginning of the school year). Again complying fully with district and buffer zone boundaries, it would have been possible to place those **Brookline** students in 28 classrooms (at 22 per students per class) or in 26 classrooms (at 24 students per class). Instead, the Schools used 30 classrooms for this kindergarten class, when METCO and Materials Fee students were included.¹³ Thus, again, based on the way that the PSB projects classroom demand, the number of classrooms and attendant staffing could be reduced while still adhering to Brookline's class size and district/buffer zone policies for resident students. The PSB is skeptical of this conclusion that the majority of the Task Force have reached.

It is recognized that the classroom calculations assume that Brookline students are assigned in a way that maximizes classroom usage, and that it might not be possible to achieve the maximum reductions of 4 or 6 classrooms out of 30 or 32. What is clear, however, is that existing districts and buffer zones provide a great deal of flexibility in student assignments and do not mandate "lopsided" class assignments. It is possible to have classes of balanced sizes across all the elementary schools. Consequently, it is also clear, based on the way that the PSB projects classroom demand, that a combination of slightly larger average class sizes, more effective classroom assignments (as by delaying assignments until the number of entering students is better known and/or making clear that late-registering students do not necessarily have school preferences), and reductions in the number of METCO and Materials Fee students could have a significant impact of the number of classrooms

¹⁰ The written Brookline School Department policy, as set forth in the Superintendent's 2011 Budget Message, at p. 321, is to have no more than 22 to 24 students in each K-3 class. It is noteworthy that every kindergarten (as well as every 1st Grade class) is staffed by a certified teacher **and** by a paraprofessional, who is in most cases also a certified teacher or, at least, a college graduate.

¹¹ Spreadsheets showing placements of the 2012-13 and 2013-14 kindergarten classes are attached as Exhibits A-D

¹² There is a slight discrepancy in numbers. Attachment O to the 10/18/13 Peter Rowe email to the OSC appears to show 49 METCO and Materials Fee kindergarten students, which subtracted from the 666 total kindergarten students as of September 2012 would yield 617 rather than 613 Brookline resident students. The data used were from different points in time in the school year.

¹³ Here, again, there is a discrepancy in the numbers. The Schools reported 42 METCO and Materials Fee kindergarten students for the 2013-14 School Year, and a total of 628 students in an 10/3/13 presentation to the OSC. That would suggest 586 Brookline resident students, rather than the 610 reported on October 30, 2013. Here, it was possible to place even the larger number of resident students in 2 to 4 fewer classrooms than were actually used.

required and on the attendant staffing, affecting both capital and operating budgets. A reduction of only two classrooms for each entering class would, in five years, eliminate the need for 10 additional classrooms; a reduction of three classrooms for each entering class would, in five years, eliminate the need for 15 additional classrooms. Significant savings could be achieved even without a 4 to 6 classroom per grade reduction.

Materials Fee

The Materials Fee program allows Town and School employees who are residents of other municipalities to send their children to PSB for an annual cost that is supposed to cover the cost to the Town of the 'materials' necessary to provide the education. The Town is, by law, prohibited from charging tuition. The Materials Fee program is supposed to run on a 'space available' basis.¹⁴

The Materials Fee program was begun in the 1980's shortly after the introduction of Proposition 2 1/2. In an environment of steep budget cuts and fee increases (cuts to Art and Music, home economics, manual arts, class size increases, firehouse elimination, personnel reductions in fire and police, D.P.W. cuts, curtailment of library hours, increases in Park and Rec fees, etc.) the Schools and Town were unable to offer salary increases and some degree of labor unrest ensued.

The rationale then, as now, is that the program is an effective recruiting and retention tool in the Town's quest to hire and keep the best employees. Brookline did not invent this concept and some other towns already had similar programs in place when Brookline adopted its program.¹⁵ There is also a belief that by having children in the school system, teacher parents can and do stay in town longer on a daily basis. Finally, public statements have indicated the belief that teachers (and other Town and School employees) are more invested in the community if their own children go to school here. Initially, the program was open only to school staff and was later expanded after complaints from Town employees.

Officials point out that many employees cannot afford to live in Brookline. Yet, when the policy was initially implemented, the School Committee faced criticism from town employees and teachers who remained residents of the town and who stated that they were paying the high Brookline taxes and compromising on living space in order to send their children to Brookline schools and their colleagues were getting an unfair benefit. The program today remains one that benefits some employees and not others.

Apart from anecdotal data, neither the Schools nor the Town have conducted any formal analysis to show whether the program does, or does not, accomplish the objectives of being a 'difference maker' when most employees opt to accept an offer from Brookline or that the Town's or the School's 'best' employees utilize the benefit. The Committee further notes that the public comments regarding the Materials Fee program were

¹⁴ Policy manual of the Public Schools of Brookline, Section J

¹⁵ Newton and Wellesley are most often cited. Newton does not accept children of staff if they have special needs, admitting students only to the "regular education program." Students in both Newton and Wellesley are admitted "on a space available basis." Also, it appears that both communities admit children of only some employees, e.g., teachers and nurses in Wellesley.

most focused on teachers, as opposed to Town employees and School Department employees other than teachers.

Currently there are 178 Materials Fee students from 123 families spread throughout the PSB. The family participation is 92 from the Schools and 31 from the Town staff. Of this total, 40 are children of Town employees and 138 are children of School employees (including teachers and non-teachers). Geographically, 60% of Materials Fee students reside in the Boston neighborhoods Jamaica Plain, Roslindale and West Roxbury and Brighton and a substantial majority live within a 10 mile radius of Brookline.

In practice the use of the Materials Fee program is not capped¹⁶. Recently, usage of the program has increased every year and is up approximately 40% from 2010 levels in the K-8 grades. As the school population grows and more staff is required it can be reasonably anticipated that this program will grow as well, especially if new hires are individuals who have yet to begin raising children or whose children have yet to enter kindergarten elsewhere.

Year	K-8	HS	Total
F2010	102	34	136
F2011	111	31	142
F2012	124	32	156
F2013	136	32	168
F2014	143	35	178

The following table presents the current and projected fee schedule for Materials Fee students over the next several years:

Year	Fee	% Discount Per Additional Child	\$ Discount Per Additional Child	Fee For Additional Child
F2012	\$2,347	0.0%	\$0	\$2,347
F2013	\$2,417	2.5	\$60	\$2,357
F2014	\$2,490	5.0	\$125	\$2,366
F2015	\$2,565	7.5	\$192	\$2,373
F2016	\$2,642	10.0	\$264	\$2,378
F2017	\$2,721	10.0	\$272	\$2,449

Materials fee children are eligible for all special education programs, with the exception of out of district placements, or in-district programs if their home district has a similar program, at no additional charge. Though

¹⁶ Theoretically, the Materials Fee program should be capped by the ‘space available’ policy that currently is not being enforced.

the incidence of special needs is higher in the Materials Fee population than in the general population (24.2% vs. 16%), most of the Materials Fee children are of a lower need category; however there currently are a small number in higher cost partial-inclusion programs.

Financial Impact¹⁷

With recent incoming classes of roughly 21 students per year, children in the Materials Fee program essentially utilize one classroom per class, per year, based on the way that the PSB projects classroom demand. This number is not static and is expected to continue to grow as the size of the school staff grows. The long-run cost of educating the Materials Fee children is estimated to be between \$13,000 and \$15,000 per child per year, after associated revenue and special needs costs. Over a K-12 13 year period, the cost to the Town approaches \$170,000 to \$197,000 per child. Without any changes to the program, the long-run unfunded financial commitment of the Town for the Materials Fee program will range from \$44,000,000 to \$51,000,000 assuming an average entering kindergarten class of just 20 students. Because there is no population cap on the program, this is likely a low estimate as the growth in the program is likely to track the growth in the resident population as more teachers and support staff are hired. These are effectively subsidies from Brookline to other municipalities, primarily Boston.

Modifying the Materials Fee program would reduce the total number of children entering the school system at a time where there is insufficient space to house resident children and, combined with other measures, could have a material impact on space needs over the forecast period. Most immediately, the combined use of such measures could eliminate the need for the expansion of the Driscoll School.

Options

The options with regard to the Materials Fee program are varied, including, but not limited to, the concepts discussed below:

A. **Do Nothing**

B. **Options to Affect Population**

- a. Have a cap on the absolute number of materials fee slots made available, in total and in any given year.
- b. Suspend new entrants to the Materials Fee Program: Over time, this would be expected to reduce classroom demand by approximately 1 classroom per grade as the impact of eliminating approximately 20 (and growing) kindergartners per year works its way through the system. Current students and, perhaps, already born siblings of existing children of any Town or School employee enrolled in the PSB as of January 1, 2014 could be 'grandfathered'.
- c. Make new materials fee enrollment a function of projected resident enrollment based on early registration data: For example, over the 2011-2013 time period the final Town resident enrollment averaged 36% more than initial enrollment. If the Town assumed a final enrollment adjustment factor of 40% and a maximum target kindergarten class size of 590 (including a

¹⁷ See Appendix, The Economic Impact of Enrollment Growth of the Brookline Public Schools.

combined 40 slots for METCO and Materials Fee), then, in any given year, the Town would not accept new materials fee students (perhaps with the exception of siblings) if initial resident enrollment were greater than 420 students. Available slots would be reduced if initial resident enrollment were between 390 and 420 students. These formulas could be adjusted throughout the spring and summer as the resident enrollment picture becomes clearer, with the actual target class size refined to reflect the space available and projected for non-resident students in the system without the need for additional classroom construction.

- d. Offer the Materials Fee program for Town and school employees other than full-time teachers. Current students and, perhaps, already born siblings of existing children of any Town employee enrolled in the PSB as of January 1, 2014 could be 'grandfathered'.
- e. Offer the Materials Fee program for all Town employees and School employees other than full-time teachers who live more than [5] miles from Brookline. Current students and, perhaps, already born siblings of existing children of any Town or School employee enrolled in the PSB as of January 1, 2014 would be 'grandfathered'.
- f. Eliminate the Materials Fee program for all Town employees. Current students and, perhaps, already born siblings of existing children of any Town employee enrolled in the PSB as of January 1, 2014 could be 'grandfathered'.
- g. Offer the Materials Fee program to a select population (such as full-time teachers) but only after an employee has been employed for a minimum of [5] years.
- h. Offer the Materials Fee program only for educational specialties where 'additional compensation' may be needed to attract teachers with appropriate experience and expertise.

C. Other Non-Population Suggestions

- a. Whether or not policy choices are made, the School department and the Town should strive to better understand whether this program has its desired effect, particularly as it relates to attracting the 'best' candidates and retaining the 'best' employees. It could also take steps to understand why, when offers are given and turned down, applicants determine to not accept a position in Brookline.
- b. The School Department should use the flexibility allowed in its policies on admissions and placements, which provide for admissions of children of teachers to be decided no later than June 1, rather than in February as is now the case, and of children of other Town and School employees to be decided no later than June 20. .

Any such change to the Materials Fee acceptances would not violate, but rather would **follow** existing policy, which is designed to restrict the need for additional costs, by recognizing that the program should be for when space is available and no extra staffing (much less the capital cost of additional classrooms) is required.

METCO

The Metropolitan Council For Educational Opportunity was established in 1968 as a program where municipalities in Massachusetts would undertake a voluntary integration plan by accepting students from Boston (primarily) and Springfield¹⁸ in an effort to help alleviate racial imbalance in those cities and mitigate racial isolation in the receiving districts. The State defines racial imbalance in a community as greater than 50% minority and racial isolation as greater than 70% majority. This definition is not accepted by all members of the Task Force as being reflective of diversity in a community because it does not address composition of individual races within a community.

The METCO program annually places approximately 3,300 minority children into 37 suburban school districts in the metropolitan areas around Boston and Springfield. Brookline has been a participant in the METCO program almost since its inception and, with a current target METCO population of approximately 300 children, is the second largest participant (in terms of number of students) in the program. METCO, like the Materials Fee program, is designed and expected, by METCO, to be run on a 'space available' basis.

Historically, participation in METCO was primarily by black and African-American children regardless of other socio-economic considerations (such as income levels), as long as they were residents of Boston or Springfield. METCO accepts applications from children of any ethnicity and has a relatively new policy of diversifying the population that is being placed in receiving districts. METCO has a lengthy waiting list.

METCO grants are set by the Legislature as part of the annual budget process. Every municipality that participates in METCO receives payment equal to (in 2013) \$3,500 per student plus reimbursement for transportation expenses. In the current fiscal year, Brookline is receiving \$1,050,000 plus transportation reimbursement for its METCO population. Funding for the next fiscal year is projected to be flat, per the draft budget presented by the Governor. With respect to special education services, METCO children are eligible for all special education programs with the exception of out of district placements at no additional charge or reimbursement. As discussed in greater detail below, funding for METCO has declined in both nominal and real terms over time. In addition, the State formerly provided some relief for special education services provided to METCO students.

¹⁸ From METCO DESE site: Chapter 76, Section 12A of Massachusetts General Laws states that "the school committee of any city or town or any regional school district may adopt a plan for attendance at its schools by any child who resides in another city, town, or regional school district in which racial imbalance exists." This plan "shall tend to eliminate racial imbalance in the sending district" and, as the law states, "to help alleviate racial isolation in the receiving district."

The following table presents METCO enrollment in Brookline over the past several years:

Year	K-8	HS	Total
F2010	203	96	299
F2011	210	92	302
F2012	215	82	297
F2013	217	78	295
F2014	204	93	297

METCO cohorts are not uniform in size and currently range from a low of 16 students in the current Senior high school class to a high of 34 students in the current freshman high school class. In K-8, the range is a low of 19 in each of the 3rd and 7th grades and a high of 29 in the fourth grade. Assuming the target number of 300 was realized 20 years ago, as a percentage of total in-district population, METCO has declined from 5.1% in 1993 to 4.2% in 2013¹⁹.

Most residents cite several points in support of the program generally and particularly when the question of continued participation is raised. These views are summarized below:

1. **Furthering Racial Diversity in the PSB:** This was, and remains, the most crucial element of the METCO program with regard to furthering the broad mission of the school system. Furthering racial diversity in the PSB is essentially the sole reason cited by the School Committee and the central administration for maintaining Brookline’s participation in the program. One reason some parents choose to live in Brookline is because of its diversity and many people believe that participation in METCO is a driving force behind this. In particular, METCO has a significant impact on the African-American population attending the PSB.
2. **Income Diversity:** The majority of the Task Force feels that public comments, letters and articles indicate the general belief that METCO students are disadvantaged, primarily or exclusively coming from low-income homes. In this regard, Brookline’s participation is viewed as helping children and families that are from a substantially different socio-economic background than the ‘typical’ Brookline family. Exposure to children from different socio-economic backgrounds has also been cited in public forums and media as an important factor by Brookline parents who support METCO.
3. **‘Empty Seats’:** Like Materials Fee children, METCO students are perceived as not adding to the space issues faced by the PSB. The perception is that because most (but not all) METCO students enter the PSB in kindergarten, they can be, and are, allocated to individual schools in a manner that essentially fills ‘empty seats’.
4. **Economic Benefit:** Because METCO students are viewed as occupying ‘empty seats’ and are using only existing services the income Brookline receives from the State is ‘found money’ because the view is there are no additional fixed or variable expenses associated with educating these children.

When Brookline first entered into the METCO program its student body was overwhelmingly white. In the almost 45 years since the program began, the face of Brookline generally, and that of its student population, has

¹⁹ Based on total K-12 population of 7,079 per Attachment M in Peter Rowe’s October 16, 2013 memo.

changed dramatically. The data indicate that Brookline, with or without METCO, is approximately 40% minority and would no longer be considered a “racially isolated” (i.e., greater than 70% white) METCO receiving community under the State’s guidelines.²⁰ As shown below, Brookline’s student population is among the most diverse in the State, with or without its METCO population²¹:

Race (2014) ²²	Current	% of District	Without Metco		% of State
African American/Black	462	6.5%	275	4.1%	8.6%
Asian	1275	18.0%	1260	18.6%	5.9%
Hispanic	689	9.7%	609	9.0%	16.4%
Multi-Race & Other	626	8.8%	614	9.0%	2.7%
Total Non-White	3052	43.1%	2758	40.6%	33.9%
White	4030	56.9%	4027	59.4%	66.1%
TOTAL	7082		6785		

The data also indicates that even though the overall diversity of the PSB would not be substantially affected by the complete and immediate elimination of METCO (an extreme scenario not contemplated by the Task Force), the Black/African-American segment would be meaningfully impacted as the African-American/Black population of METCO currently represents about a third of the African-American/Black population in the PSB.²³

While the Task Force does not anticipate a scenario where a substantial reduction in METCO would be implemented, it is nevertheless appropriate to examine the possible impact of even a modest reduction in enrollment numbers, specifically on incoming Kindergarten classes as that is where the bulk of any change would be expected to occur.

The PSB has indicated that the Black and African-American resident elementary population approximates 3%-5% of total enrollees per kindergarten class. In recent years, incoming METCO classes have been ‘...split roughly half and half Black and Hispanic (with one or two Asian and Multiethnic students each year)’.

Assuming an incoming resident class of 590 and a METCO class of 20 (ignoring Materials Fee for the purpose of this exercise), the recent data would suggest the number of resident African-American/Black to range from 18-30 children. Assuming further that the African-American/Black component of METCO was not the recent 50/50 split with other races but tracked the current overall average in the PSB (63% for METCO), an incoming METCO cohort would be expected to have 13 African-American/Black students. If the METCO cohort were reduced by 5 (3 African-American/Black students), the projected impact on the combined incoming class of 610 would be to

²⁰ The Task Force is not suggesting that because Brookline is no longer ‘isolated’ under the State definition that Brookline should use that information as a rationale to eliminate participation in the METCO program.

²¹ Data is as of October 2013 and is derived from percentage information obtained from Peter Rowe on June 25, 2014.

Includes pre-k students that are non-paying.

²² Multi-race, non-Hispanic has been a choice since 2005.

²³ The PSB indicates that the current racial composition of K-12 METCO students in Brookline is 63% African-American/Black, 27% Hispanic/Latino, 5% Asian, 4% Multi-race and 1% White. The PSB further indicates that incoming kindergarten METCO cohorts are approximately 45% African-American/Black, 45% Hispanic/Latino and 10% other races.

change the percentage of African-American/Black from 5.0% to 4.6% on the high end (going from 31 out of 610 to 28 out of 605) to 7.0% to 6.6% on the low end (going from 43 out of 610 to 40 out of 605).

The reason for the diversity in the PSB is that over the past 20 years Brookline has become an increasingly diverse community, at least as compared to the prior composition of its resident base and of its student population. This phenomenon is evidenced below, where the comparison of the absolute numbers of students and the percentages of racial composition in 1993 and 2104 is shown..²⁴²⁵:

Including METCO	1993		2014	
African-American/Black	617	10.4%	462	6.5%
Asian	783	13.2%	1275	18.0%
Hispanic	267	4.5%	689	9.7%
Multi-Race & Other	6	0%	626	8.8%
Total Non-White	1673	28.2%	3052	43.1%
White	4258	71.8%	4030	56.9%
TOTAL	5931		7082	

Roughly one third of the increase in minority students has come from Asian students and approximately two thirds have come from other minorities. Multi-race, which has only been a choice since 2005, makes direct comparison of the two endpoints somewhat inexact. The data, which is race based only, does not reflect the enormous cultural diversity that exists in Brookline. Indeed the School administration and the School Committee state that Brookline’s diversity makes it difficult to compare the PSB to the ‘usual suspects’ of Newton, Lexington and Wellesley and, as a result, they look outside the Commonwealth for communities against which to compare Brookline.²⁶

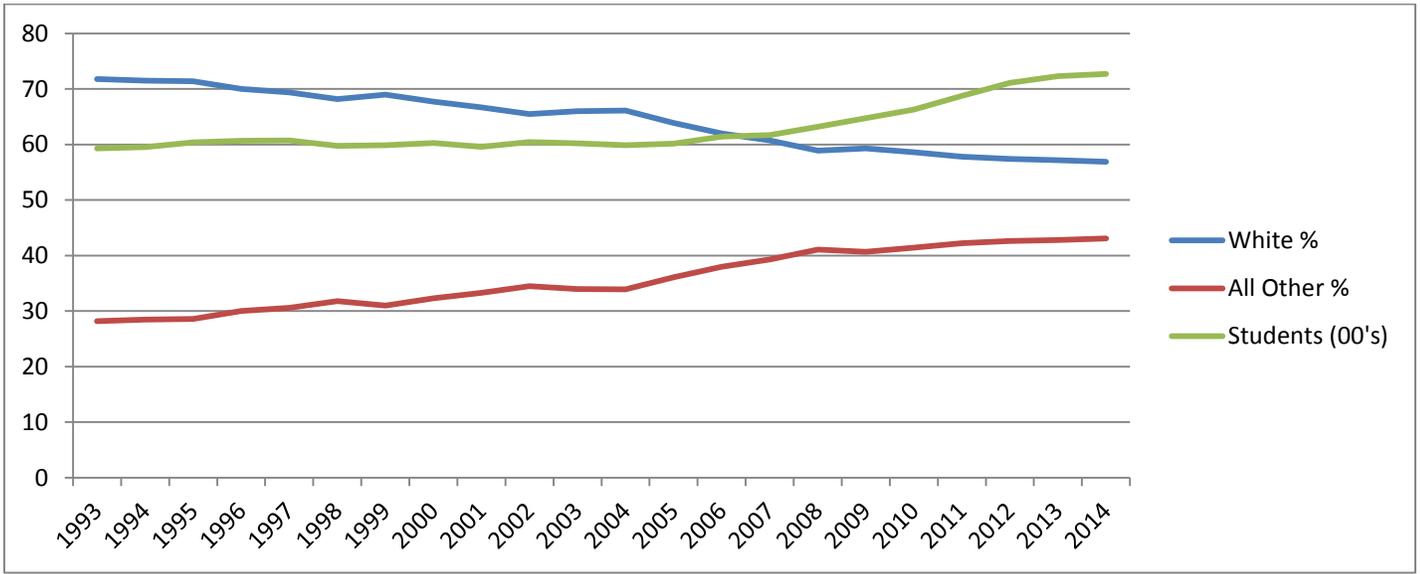
Graphically, the overall trends in the diversity in Brookline’s school system can be seen on the following page²⁷:

²⁴ Data derived from percentage data on DESE website and from percentage information provided by the PSB in June of 2014. Excludes Pre-K populations except for non-paying Pre-k children in 2013-2014(no pre-k in 1993).

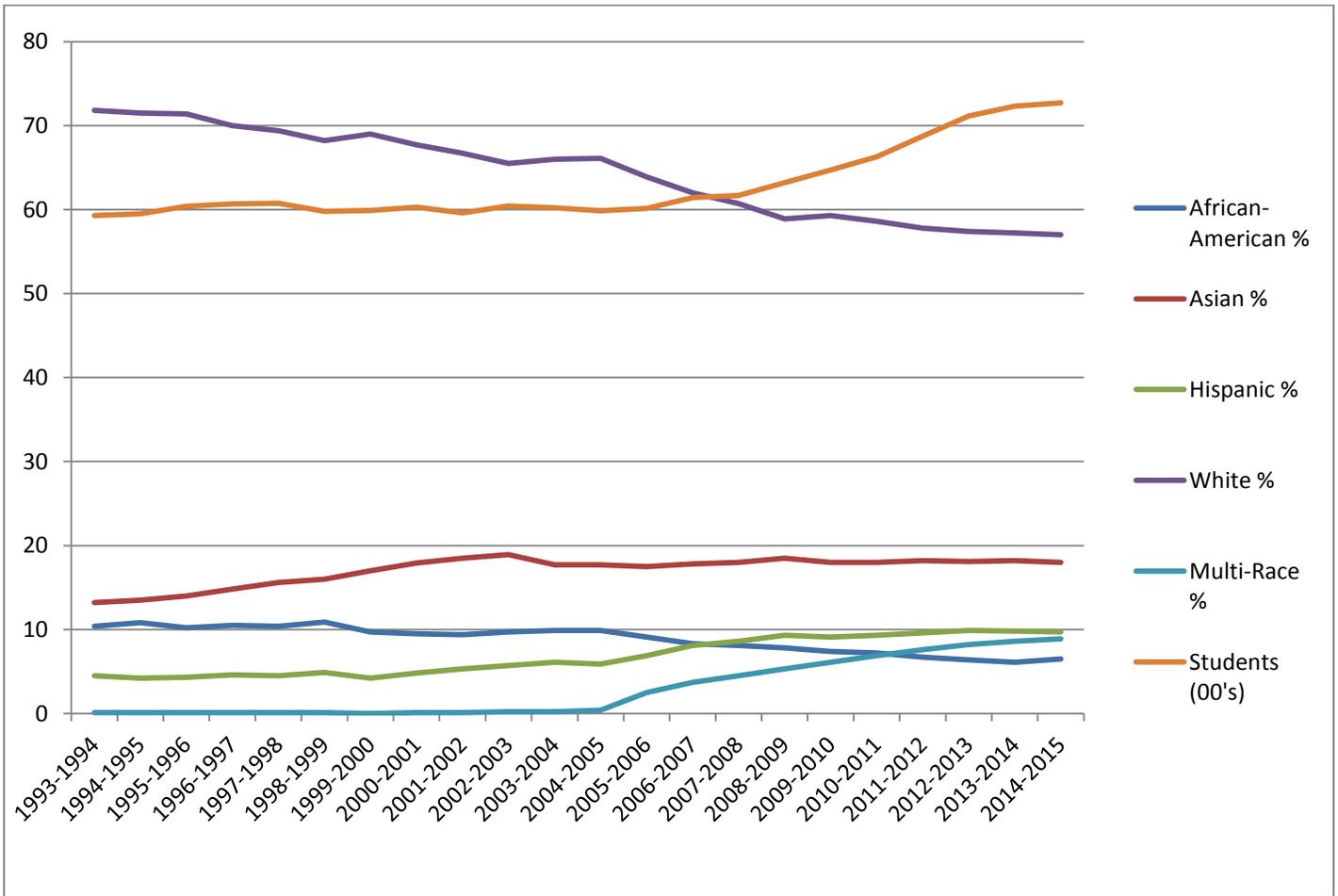
²⁵ The category of ‘Multi-race’ has only been a choice since 2005 making an exact comparison of the two endpoints difficult as before it was available multi-race families are believed by the PSB to have chosen a specific minority designation.

²⁶From Peter Rowe (italics added): While the most frequently cited communities for a benchmark to Brookline have historically been Newton and Lexington, the truth is that most of the districts that Brookline “compares to” are not located in Massachusetts. They are districts like those other members of the Minority Student Achievement Network (MSAN), which are in affluent communities, *with significant minority populations* and historical student success (as represented by college attendance, etc.). These districts include Princeton (New Jersey), Shaker Heights (Ohio), Farmington (Michigan), and Evanston (Illinois).

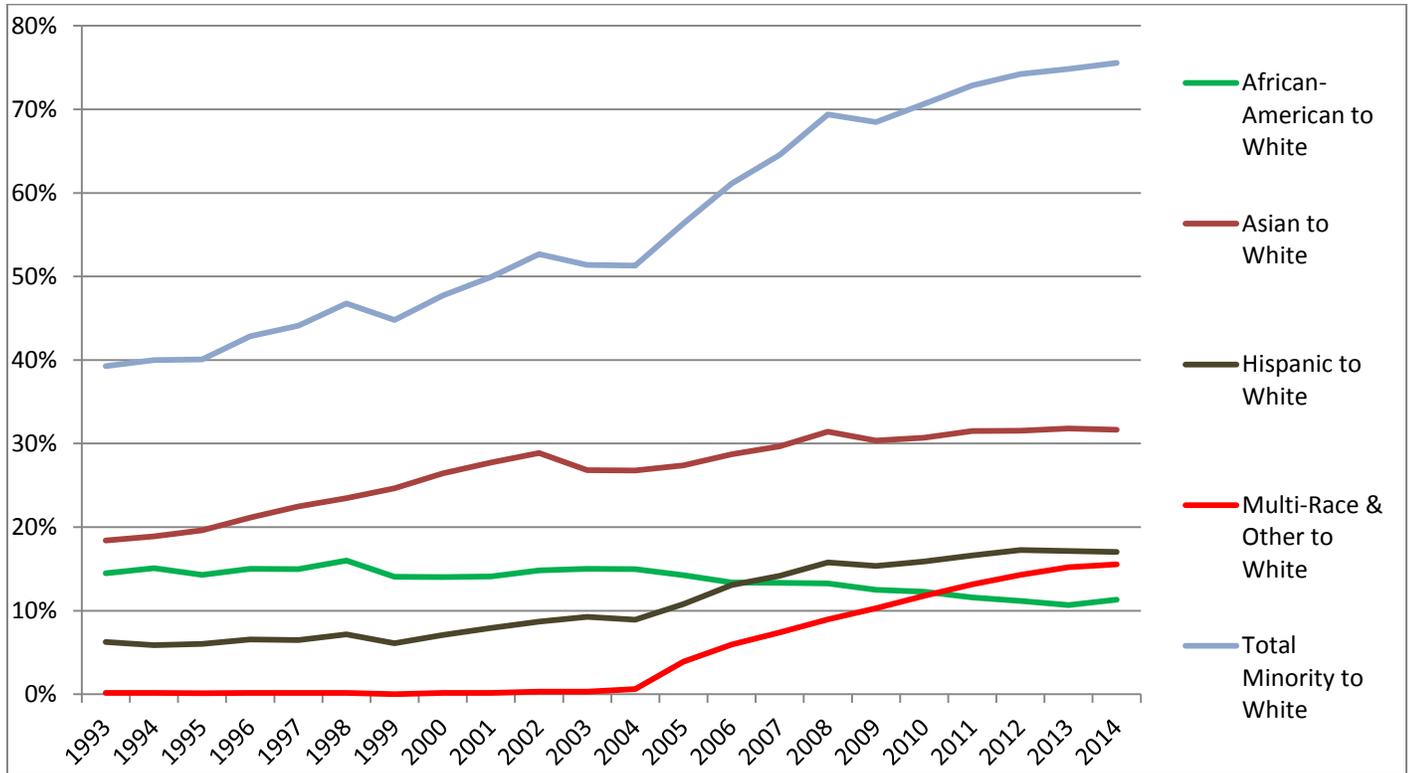
²⁷ All charts include all pre-k children beginning in 2001-2002. Data derived from percentage data on DESE website and percentage information provided by PSB in June 2014. Resident paying pre-K composition assumed to be identical to K-12 resident composition. Multi-race has only been a selection choice since 2005.



This chart shows the individual components of the graph above.



And the relationship of minority students to white students:



METCO itself has begun to diversify its racial composition and the program has explicitly stated that, as a policy goal, it has been working to have the METCO program better reflect the overall diversity of Boston Public Schools.²⁸ At the beginning of the 2013-2014 school year, the K-12 METCO population in Brookline was approximately 63% African-American/Black, 27% Hispanic/Latino and 10% other racial categories. As stated above, new Kindergarten cohorts in Brookline recently have been split fairly evenly between African-American/Black and Hispanic/Latino (45% each) with, again, about 10% other races. This composition tends to

²⁸ From METCO DESE site: 'METCO Inc. also works with the Department in carrying out policy recommendations, such as having Metco placements that reflect the diversity of Boston Public Schools and that Metco students are placed in districts based upon their application date. From Metco's list of criteria: race (in the past ten years, increased efforts have been made to have the Metco program reflect better the diversity of Boston Public Schools). And, The Department, through its service provider METCO Inc., prohibits the screening out of students for anything other than an applicant's unwillingness to fulfill basic registration procedures or as described under the special education question...'

mirror both the current enrollment policy of METCO and more closely the minority student composition in Boston.

The table below is a comparison of Brookline’s student population with and without METCO compared to districts that are cited as ones with which Brookline ‘competes’. This table highlights that even without METCO (*again, a scenario that the Task Force neither endorses nor anticipates*) Brookline would still be far more diverse than most, if not all, of our comparable/competitive neighbors with METCO:

Race	Brookline With METCO	Brookline Without METCO	Newton With METCO	Lexing. With METCO	Welles. With METCO	Belmont With METCO	Arling. With METCO	% of State
African American	6.5%	4.1%	5.3	4.2	4.6	3.9	3.2	8.6%
Asian	18.0%	18.6%	16.4	30.9	8.7	14.7	10.7	5.9%
Hispanic	9.7%	9.0%	6.9	3.5	4.9	3.7	5.1	16.4%
Native American	0.0%	0.0%	0.1	0.1	0.1	0.0	0.0	0.2%
White	56.9%	59.4%	65.8	56.6	77.3	72.3	77.0	66.1%
Native Hawaiian, Pacific Islander	0.0%	0.0%	0.0	0.0	0.1	0.1	0.1	0.1%
Multi-Race, Non-Hisp.	8.8%	9.0%	5.4	4.6	4.4	5.1	3.8	2.7%

Despite general perception, the School Department (and METCO’s website) highlight that income is not (and apparently has never been) a criterion for participation in METCO. Today, at least in Brookline, 60% of the families participating in METCO are not considered low-income²⁹. While the 40% of METCO participants that are defined as low-income by DESE and PSB exceeds by a very significant margin the proportion of families in Brookline considered low-income, it is also very substantially below the proportion in Boston (75%) and may not provide as much economic diversity as is generally believed because Brookline itself has a meaningful and increasing proportion of its population that is living in poverty.

METCO children are eligible for all special education programs, with the exception of out-of-district placements. As with Materials Fee students, the incidence of special needs is higher in the METCO population than in the resident population. The resident population has approximately 16% in special needs programs while METCO has approximately 27% of its population in special needs programs. While most of the METCO children are of a lower need category, there currently are approximately 10 children in higher-cost partial-inclusion programs.

²⁹ Low income as used by the State and the PSB is considered being eligible for free or reduced lunch, which is an income level equal to or less than about \$44,000 for a family of four or 185% or less of the income defined by the Federal government as the poverty level. The Task Force does not have a view as to whether that level is an appropriate measure of low income.

Acceptance of new METCO students is subject to the School Committee’s guidelines for class size, the availability of funds from the State and space availability.³⁰ METCO itself points out that ‘district grade and seat availability’ are limitations on placement decisions. In the current environment even the School Committee and the Central Administration acknowledge that the historical argument that METCO and material fee students take up space that would otherwise be fallow is not necessarily accurate.

State Funding

METCO is a program that is funded by the Commonwealth on an annual basis. The following table presents the funding that Brookline has received from the State over the past 12 years.

FY03 - \$1,040,466	FY09 - \$1,479,883
FY04 - \$919,127	FY10 - \$1,320,954
FY05 - \$1,060,111	FY11 - \$1,261,748
FY06 - \$1,249,595	FY12 - \$1,264,880
FY07 - \$1,393,637	FY13 - \$1,290,341
FY08 - \$1,479,883	FY14 - \$1,336,196

The Governor’s draft budget for fiscal 2015 calls for METCO to be level funded. The grant amounts equal a per student grant of \$3,500 and reimbursement for transportation costs incurred servicing the population. The data indicate that Brookline receives less money in absolute dollars and substantially less money in real terms than we did in FY 2008. While Brookline’s State representatives have as a legislative agenda item the continued lobbying for increased funding for METCO, the fact that the state continues to effectively reduce funding indicates a lack of progress and possibly a predictor of continued inadequate funding. Neither Brookline’s legislative representatives nor METCO itself expect any significant near-term increases to the funding for the program.

Financial Impact³¹

With a current target population of 300 and thirteen grades, the average METCO class is 23 students or, based on the way that the PSB projects classroom demand, approximately 1 classroom per kindergarten cohort. While the total target number is relatively static, the annual numbers have varied and a peak population of 34 students will be graduating from the high school during the next four years. The long-term incremental cost of educating the METCO children is estimated to range from \$14,500 to \$16,500 per child after associated

³⁰ Policy manual of the Public Schools of Brookline, Section J

³¹ See Appendix, The Economic Impact of Enrollment Growth of the Brookline Public Schools.

revenues and special education costs are factored. In total this implies an annual cost ranging from \$4,300,000 to \$4,900,000 after associated revenue³². Over a K-12 13 year period, the cost to the Town ranges from \$188,000-\$215,000 per child. Without any changes to the program over just the next 13 years the long-run financial commitment by the Town to the METCO program ranges from \$55,000,000 to \$62,500,000 assuming an average entering kindergarten class of 23 students. This is a subsidy to the City of Boston and a financial commitment that the Town underwrites with every student that it accepts into the program.

Changing the target population or temporarily modifying new admissions for the METCO program would reduce the total number of children entering the school system at a time where there is insufficient space to house resident children and, along with other measures, could have a material impact on space needs and operating budgets over the next 5 years.

Options

The options with regard to the METCO program are varied and, like Materials Fee, include concepts to address the actual population demands as well as ideas for continued work to obtain more equitable financial treatment for receiving districts like Brookline. It should be noted that the Task Force does not endorse any approach that would 1.) affect any child currently enrolled in the PSB or 2.) could reasonably be foreseen as resulting in the elimination of either program.

1. **Do Nothing:**

2. **Options to Affect Population**

- a. Partially reduce incoming METCO Cohorts. This option would be expected to help reduce classroom demand, possibly to a material level if done in concert with other tools available to the PSB. Current students and, perhaps, already born siblings of existing children enrolled in the PSB as of January 1, 2014 would be 'grandfathered'.
- b. Make new METCO enrollment a function of projected resident enrollment based on early registration data: For example, over the 2011-2013 time period the final Town resident enrollment averaged 36% more than initial enrollment. If the Town assumed a final enrollment adjustment factor of 40% and a maximum target kindergarten class size of 590 (including a combined 40 slots for METCO and Materials Fee), then, in any given year, the Town would not accept new METCO students (perhaps with the exception of siblings) if initial resident enrollment were greater than 420 students. Available slots would be reduced if initial resident enrollment were between 390 and 420 students. These formulas could be adjusted throughout the spring and summer as the resident enrollment picture becomes clearer, with the actual target class size refined to reflect the space available and projected for non-resident students in the system without the need for additional classroom construction.
- c. Lower the target METCO population from 300 to a number that would, in combination with other options, help to meaningfully impact demand over the next five years.

3. **Other Ideas and Suggestions**

³² FY2013 numbers

- a. Modify participation in METCO until the Legislature funds the program on a basis equal to 1. The amount of money that Boston would pay if these children went to a charter school in Boston, 2. the 'high point' of 2008 (or some other defined level) adjusted for inflation plus funds some reimbursement for the special needs services provided to the METCO population or 3. A sum equal to what would be paid assuming a 'school choice' program was available, plus the cost of transportation. Continued adjustments for inflation would also be necessary.
- b. Continue legislative lobbying efforts to obtain additional funds.
- c. The School Department should accept new students and make allocations to individual schools for METCO children as late as possible instead of February which is the current practice.

SPECIAL EDUCATION

Special Education

Special Education is a significant portion of the overall school budget. In the face of almost constantly evolving state and federal rules and regulations, the PSB appears to be doing an excellent job of evaluating and managing programs to deliver high-quality service and the Task Force has not identified any specific areas or opportunities for meaningful savings in the area of special education. However, while the PSB has been successful in implementing changes when it recognizes an opportunity, the PSB does not always analyze changes to programs in a manner that looks at costs and benefits. In some circumstances this may be difficult to do because the decisions made are expected to reduce demand for future services and it is not possible to show the 'what if we hadn't done this' comparison. Indeed, there have been many changes that appear to make 'common sense' and where efficiencies and system financial benefits can be reasonably inferred. And, there are some examples where actual savings can be proven, though having more examples would be helpful for transparency and to buttress the rationale behind the many seemingly intelligent decisions the PSB has made in recent years.

State and Federal laws provide extensive frameworks for the education of children with special needs. Like every municipality in Massachusetts, Brookline is required to provide a free and appropriate education in the [least restrictive manner] to every resident child. If a child has special needs, the burden for providing the services is the responsibility of the School system, regardless of how financially or logistically onerous those needs are. If the students cannot be serviced 'in-house' then the schools are responsible for paying for a child's Out of District Placement, including transportation to and from an appropriate facility.

The entire learning environment began to change with the passage of the No Child Left Behind Act of 2001 and the Individuals with Educational Disabilities Act of 2004 but actual regulations and standards for IDEA were not finalized until the 2006-2007 period. In such a heavily regulated environment, where services are mandated and where parents have many avenues to exercise legal rights, the question for school systems is not one of 'what is the least we can do'. The question, or challenge, is for school systems to continuously improve and to provide required services in the most organized, integrated and cost effective manner. As such, constant evaluation programs, adoption of new approaches and elimination of historical impediments to progress are required. Coupled with a vigilant approach to identification of children at risk, such a pro-active philosophy can, and should, have a meaningful impact on absolute dollars being spent and on the rate of growth of special education expenses.

Currently, the Special Education requirements of students in Brookline accounts for approximately 28% of total PBS expenditures. Excluding volatile Out of District Placements, the number has ranged between 20.1% and 21.9% over the past six fiscal years (\$000)³³:

³³ Total special education includes transportation and medical.

	FY 09	FY10	FY11	FY12	FY13	P14
Total BPS	\$70,897	\$72,515	\$72,522	\$78,444	\$81,674	\$86,138
Total SpEd	19,331	21,141	22,146	22,648	22,453	24,399
% of Total BPS	27.3%	29.2%	29.3%	28.9%	27.5%	28.3%
Total SpEd	\$19,331	\$21,141	\$22,146	\$22,648	\$22,453	\$24,399
OOD	5,077	5,820	5,936	5,584	5,733	5,578
Net SpEd	14,254	15,321	16,210	17,064	16,720	18,881
% of Total BPS	20.1%	21.1%	21.5%	21.8%	20.5%	21.9%

Brookline has implemented systems and strategies designed to both identify children at risk as early as possible and to minimize the likelihood that a child develops the need for special services. The PSB highlight that most requests for IEP normally come in middle school grades, in particular grades 6 and 7 as curricula become more complex and executive function demands increase. The PSB also indicate that dealing with matters become more difficult as children get older and, as a result, the focus on early identification is an investment that pays long-term dividends. [The implementation of these programs requires dedicated time with students and does impact the number of hours of regular education received by pupils.]

Over the past ten years, the PSB has undertaken many initiatives to accomplish the various goals described above. The PSB educates special needs children in a certain way and is constantly seeking to improve its pedagogical approach to both create better outcomes for the students and to do so in the most cost-effective manner. Much of what has been done reflects organizational design changes that improve efficiency, and consistency to the quality of service delivered at individual schools and across the system. The Task Force notes also that with the increased mandates that not just the philosophy of how to deal with special needs children has changed but that classroom teachers and school administrators now require a level of expertise and sensitivity to issues that still have not been entirely embraced throughout the system. Despite these management challenges, many practices, programs and policies have been implemented and there appears to be demonstrable evidence that the new approaches are having their desired effect.

Of particular note is that the system currently has fewer out of district placements than it did 10 years ago, despite a total population that has significantly increased.

Two broad organizational changes are summarized below:

Authority to spend money/Adherence to Law: Ten years ago the PSB had more than 20 different individuals responsible for chairing meetings to determine need for services (IEP) in an uncoordinated manner. These individuals included, at different schools, guidance counselors, school psychologists, principals or vice principals, etc, many of whom were not trained in the area of special needs. The law states that whoever chairs such a meeting has authority to spend money. The result was that Brookline had people without expertise not just spending money but spending more money than needed (higher out of district placements) and without consistency across the system. This was changed when the PSB obtained a Federal grant and hired Team Facilitators for the system to chair meetings and to coordinate assessments and service implementation. These

same facilitators now also ensure that legal procedures and compliance requirements are met which has resulted in fewer claims of denial of FAPE, fewer legal challenges to IEP implementation, etc.

Classroom Accountability: An historic issue has been the unwillingness, or inability, of some classroom teachers, particularly longer tenured teachers, to adopt new strategies to deal with certain matters. Often, the system concluded, teachers took the 'easy way out' and referred students with difficulties for special education treatment (translated as in-classroom aides) instead of trying to manage the challenge themselves. To address this issue and to change the mindset of teachers to one that 'owns' inclusion classrooms, the PSB established district wide Child Study Teams who work with teachers on strategies to deal with specific situations. The result of such efforts include increasing system wide embracement of the inclusion model, reductions in 1-1 aides and an ability to disseminate, via the Child Study Teams, strategies and ideas equitably throughout the system. The impediments to this have been more significant than is readily apparent. For example, until 2001, Brookline High School had no teachers with special education training. Changing the mindset of staff at BHS, and at several other elementary schools has been challenging.

Two examples of changes to programs with demonstrable economic savings are presented below:

Home Based Services-

Public schools are required to provide home based services to individuals aged 3-22. Typically, these services meet the needs of individuals with physical or cognitive disabilities who can otherwise not be served within a particular specialized environment.

The PSB for several years utilized the services of outside vendors when fulfilling its obligations to this population. Among the guidelines for providing home-based services is that the in-home caretakers (parents, guardians, etc.) must be present and should be involved in the service delivery so that they can learn techniques and approaches for dealing with their children when the professional staff is not on site.

The experience of the PSB was that the outside vendors were failing to meet standards in several areas, including 1.) the PSB was getting complaints from caretakers that services were not adequate and 2.) the service providers were not managing the caretakers and insisting that they be present during sessions. The net result was that Brookline was paying substantial sums and was neither getting customer satisfaction nor customer education, the two principal goals of the program.

Accordingly, the PSB decided to terminate the retained delivery of home-based services and has built its own internal staff to provide this mandated service. By replacing the retained service organizations with a program that is managed by the system, the Town has benefitted from both service increases and reduced costs. As shown in the following table, the decision to move home-based services to a program managed by the school system was budgeted as delivering an approximately \$342,000 in annual savings. Actual performance was better than budget, with savings of \$532,000 realized between 2012 and 2013.

HOME SERVICES FY 13 RESTRUCTURING AND BUDGET

REDUCTIONS IN CONTRACTED SERVICES FOR HOME SERVICES FY 13

Reduction in BCBA Contracted Services			\$	363,035
Reduction in Contracted Home Based Services			\$	636,965
Reduction in Contracted Speech Services (Lincoln)			\$	55,000

(ignore speech services-)

IN-HOUSE STAFFING PROJECTED COSTS FY 13

BCBA Staffing	4.00	\$	84,113	\$	336,452
ABA Technicians				\$	301,140
Home Services Clerical Support	0.50	\$	40,000	\$	20,000

Building Programs to Reduce Out of District Placements

The legislative mandates have led Brookline to examine many delivery mechanisms to treat children with special needs. One tactic used by the school system, when there is sufficient demand and need for a service, is to develop ‘in-house’ the capability to treat specific types of needs. Currently, the system has XXX such ‘district-wide’ programs. The programs are housed either within one of the elementary schools or at the high school. When a student is diagnosed with a particular need that can be met by the system, the child is placed in the school where the service is available. If the program is ‘partial-inclusion’, the child will take regular Ed classes for part of their day and will be in a dedicated room for the balance of the day. A non-inclusion program would have these students placed at the school where the program is offered and the student would remain in a specific classroom with the exception of leaving for any additional services during the day. Children who are on full-inclusion IEP typically stay in their home districts.

The Schools do, on occasion, evaluate the comparison of keeping or bringing programs in-house versus sending children out of district. The following analysis shows the comparable costs of certain in-house programs versus the cost of sending children to out of district schools to obtain similar services³⁴:

³⁴ The analysis does not take into account space needs/costs nor does it reflect non-economic value of having Brookline residents able to attend Brookline schools.

Runkle - Rise Program

Grades	Professional Staff FTE	Professional Staff FY14 Salary	Aide FTE	Aide FY14 Salary	Related Services (3 FTE for OT, SLP and BCBA)	Transportation Cost (\$6,875 per student)	Benefits Premium (25% of total staff salaries)	Indirect Costs (\$10,000 per student)	Total Cost	Enrolled Students
K to 1	1.00	72,598	3.36	81,361	13,015	13,750	41,744	60,000	282,468	6
2 to 4	1.00	66,249	3.44	81,711	13,015	13,750	40,244	60,000	274,969	6
1 to 4	1.00	60,999	3.36	83,630	13,015	13,750	39,411	100,000	310,805	10
5 to 7	1.00	96,127	3.36	80,606	13,015	13,750	47,437	100,000	350,936	10
6 to 8	1.00	87,729	4.04	97,196	13,015	13,750	49,485	50,000	311,176	5
Totals	5.00	383,702	17.56	424,504	65,077.00	68,750	218,321	370,000	1,530,353	37

BHS - Excel and CBC

Program	Professional Staff FTE	Professional Staff FY14 Salary	Aide FTE	Aide FY14 Salary	Related Services (4 FTE for Nursing, OT, SLP, PT and BCBA)	Transportation Cost (\$6,875 per student)	Benefits Premium (25% of total staff salaries)	Indirect Costs (\$10,000 per student)	Total Cost	Enrolled Students
Excel	4.40	279,157	1.77	45,601	X	X	81,189	160,000	565,947	16
CBC 9th-12th Grade	1.00	53,128	3.36	88,065	60,322.00	34,375	50,379	70,000	356,269	7
CBC 18-22 Program	1.00	60,999	2.52	57,579	60,322.00	34,375	44,725	80,000	338,000	8
CBC Subtotal	2.00	114,127	5.88	145,644	120,644.00	X	95,104	150,000	694,269	15
Totals BHS (Excel and CBC)	6.40	393,284	7.65	191,245	120,644	68,750	176,293	310,000	1,260,216	31

Program Cost Analysis

Program Name	Program Cost	# of Students in Comparable Brookline System-wide Program	Total Program Cost
Rise - Comparable Programs	41,361	37	1,530,357
N.E.C.C. Day	73,475	37	2,718,565
Melmark Day	104,565	37	3,868,900
Excel - Comparable Programs	35,372	16	565,947.08
Dearborn	62,252	16	996,032
Farr Academy	72,126	16	1,154,014
CBC - Comparable Programs	46,285	15	694,268.96
Kennedy Day School	73,880	15	1,108,198
Boston Campus	74,382	15	1,115,731

Circuit Breaker Analysis

Program Name	Per Pupil Cost	72% Reimbursement Over Foundation Amount	Total Per Pupil Net Cost
Rise - Comparable Programs	41,361	611	40,750
N.E.C.C. Day	73,475	23,733	49,742
Melmark Day	104,565	46,118	58,447
Excel - Comparable Programs	35,372	N/A	35,372
Dearborn	62,252	15,653	46,599
Farr Academy	72,126	22,762	49,364
CBC - Comparable Programs	46,285	4,157	42,128
Kennedy Day School	73,880	24,025	49,855
Boston Campus	74,382	24,386	49,996

Note: Each FY assumes a 2% increase in in-house and OOD program costs.

	FY14	FY15	FY16	FY17	FY18
Rise	1,530,353	1,560,960	1,592,180	1,624,023	1,656,504
NECC Day	2,718,565	2,772,936	2,828,395	2,884,963	2,942,662
Melmark Day	3,868,900	3,946,278	4,025,203	4,105,707	4,187,822
	FY14	FY15	FY16	FY17	FY18
Excel	565,947	577,266	588,811	600,588	612,599
Dearborn	996,032	1,015,953	1,036,272	1,056,997	1,078,137
Farr Academy	1,154,014	1,177,095	1,200,637	1,224,649	1,249,142
	FY14	FY15	FY16	FY17	FY18
CBC	694,269	708,154	722,317	736,764	751,499
Kennedy Day School	1,108,198	1,130,362	1,152,969	1,176,028	1,199,549
Boston Campus	1,115,731	1,138,045	1,160,806	1,184,022	1,207,703

FULL DAY KINDERGARTEN

Full-Day Kindergarten

Like every municipality, Brookline is required to provide half-day kindergarten to its residents. In Massachusetts, the provision of full-day kindergarten is optional. If a municipality chooses to offer full-day kindergarten, it may offer the program at no charge or it may implement a charge for the service. Brookline has offered free full-day kindergarten only since [2001].

Currently, in Massachusetts, there are 217 communities that offer free-full day kindergarten, 73 communities that offer full-day kindergarten for a fee and 20 communities that do not offer full-day kindergarten³⁵.

The average charge for full day kindergarten is \$3,240 with a range of \$1,600 to \$4,000 for those communities that provide 'quality full-day kindergarten' and hence are eligible for a grant from the State Department of Elementary and Secondary Education and a range of \$995 to \$4,872 (2012-2013 data) for communities that do not receive the grant.³⁶

Any decision to charge for full-day kindergarten is complicated by the Chapter 70 Foundation budget reimbursement formula. In Massachusetts every community receives some State aid for education. The 'Foundation Budget' is a number that represents the minimum amount of funding (including both State and local contributions) that an individual community must invest in education.

Each community has a target funding ratio between it and the State with the ratio generally being a function of the wealth of the community. Affluent towns such as Brookline have a target community funding responsibility of 82.5% of their 'Foundation Budget'.

The actual amount of community contribution is determined by a formula that takes into account both total property values and total income in the municipality. For several communities, again generally affluent ones such as Brookline, the minimum required contribution results in a payment that is above the amount that would be required under the 82.5%/17.5% municipality/State sharing in an equilibrium environment.

The State has recognized that towns contributing more than their target should not be penalized for 'being affluent' and so has set up a mechanism to try and get such communities to the point where they receive 17.5% of their Foundation Budget in State aid. Brookline has yet to reach the 17.5% threshold.

The relevance of this discussion to the question of full day kindergarten is that full-day students and half-day students count for different amounts in the establishment of the Foundation budget, with full day students counting for twice as much as half-day students.

The effective net impact is that for every dollar of Foundation budget reduction Brookline's Chapter 70 aid is reduced by \$0.85. An initial analysis therefore is whether there would be any net benefit to the Town by switching to a pay for full day model under various economic assumptions.

³⁵ See Attachment 5.1 to Peter Rowe of 11/26/13 to OSC.

³⁶ See Attachment 5.1 to Peter Rowe of 11/26/13 to OSC.

An initial assumption that every family opted for, and could afford to pay for, full day kindergarten would represent the theoretical maximum revenue the Town could receive at any particular price point. The following chart demonstrates this using the average and maximum grant funded fees charged by other municipalities in the State for an incoming class of 600:

	F2014 Current-Free Full Day	FY 2014 Alternative-Full Day Fee	Difference
Projected Aid	\$10,570,841	\$8,622,031	-\$1,948,810
Revenue at State Average ³⁷	\$0	\$1,811,400	\$1,811,400
Total	\$10,570,841	\$10,433,431	-\$137,410
Revenue at Maximum ³⁸	\$0	\$ 2,400,000	\$2,400,000
Total	\$10,570,841	\$11,022,031	\$ 451,190

However, the School Department has estimated that, if Brookline were to charge for a full day program, out of an incoming class of 600 students, 350 would choose to pay , 50 would choose to only go for a half-day and that Brookline 200 students would require financial aid. Assuming these are reasonable assumptions, the following table reflects the potential financial impact to the Town:

FY 2014 Chapter 70 Calculation Assuming 600 Students³⁹, 350 pay, 200 scholarship, 50 Half Day

	F2014 Current-Free Full Day	FY 2014 Alternative-Full Day Fee	Difference
Projected Aid	\$10,570,841	\$9,271,704	-\$1,299,137
Revenue at State Average ⁴⁰	\$0	\$1,056,650	\$1,056,650
Total	\$10,570,841	\$10,328,354	-\$242,547
Revenue at Maximum ⁴¹	\$0	\$ 1,400,000	\$1,400,000
Total	\$10,570,841	\$10,671,704	\$ 100,803

If 50% paid and 50% received scholarships, the analysis would be as follows:

	F2014 Current-Free Full Day	FY 2014 Alternative-Full Day Fee	Difference
Projected Aid	\$10,570,841	\$9,596,435	-\$974,406

³⁷ \$3,019 is the average for grant-funded municipalities

³⁸ \$4,000 is the maximum for grant-funded programs and is assumed as a limiting factor.

³⁹ The actual number of students for Foundation purposes was 569 per the State website.

⁴⁰ \$3,019 is the average for grant-funded municipalities

⁴¹ \$4,000 is the maximum for grant-funded programs and is assumed as a limiting factor.

Revenue at State Average ⁴²	\$0	\$1,056,650	\$1,056,650
Total	\$10,570,841	\$10,653,085	-\$68,697
Revenue at Maximum ⁴³	\$0	\$ 1,200,000	\$1,200,000
Total	\$10,570,841	\$10,853,085	\$ 225,603

Finally, if the assumption were made that 66.6% paid and 33.4% received scholarships, the analysis would look like this:

	F2014 Current-Free Full Day	FY 2014 Alternative-Full Day Fee	Difference
Projected Aid	\$10,570,841	\$9,271,704	-\$1,299,137
Revenue at State Average ⁴⁴	\$0	\$1,207,600	\$1,207,600
Total	\$10,570,841	\$10,479,304	-\$91,597
Revenue at Maximum ⁴⁵	\$0	\$ 1,600,000	\$1,600,000
Total	\$10,570,841	\$10,871,704	\$ 200,803

Considering that Brookline’s early education program, which charges \$9,000 for a half day (an amount that will increase somewhat next year), and is generally oversubscribed by 50%, it is possible that the Town would get essentially 100% participation in any full-day program. Moreover, the appetite for the early education program suggests that Brookline could charge in excess of the \$4,000 grant-funded maximum, forego the grant, and generate more revenue than would be lost in the grant. This view is also supported by the fees families are willing to pay for extended-day services to private non-profit vendors at the schools, generally over \$5,000 for approximately three and a half hours per day, assuming a five day week.

On the other hand, any assumption about participation carries risk associated with it and, despite the demand for services and the demonstrated willingness for families to pay for such services it is always possible that fewer families would select the pay-for-full-day option. Further, if Brookline were to switch to full day pay, there would be increased administrative costs to deal with the issue of scholarships and, at the PSB projections, such expenses could easily eliminate any financial gain. Finally, because Brookline has yet to reach full Chapter 70 funding there is likely more near-term ‘upside’ to maintaining the status quo at this time and exploring the option of charging for full-day kindergarten only when full Chapter 70 funding has been achieved.

⁴² \$3,019 is the average for grant-funded municipalities

⁴³ \$4,000 is the maximum for grant-funded programs and is assumed as a limiting factor.

⁴⁴ \$3,019 is the average for grant-funded municipalities

⁴⁵ \$4,000 is the maximum for grant-funded programs and is assumed as a limiting factor.

Less Than Five Days of Full-Day Kindergarten

The previous analysis is based on School Department information and assumes that Brookline would need to offer five days of full-day kindergarten to qualify for full-day credit for Foundation purposes. However, according to the State “for purposes of Chapter 70, appearing as full day K is contingent on not charging tuition. There isn’t a criteria for number of days; districts use a variety of models.” The City of Newton offers two-free full days of kindergarten and three half-days of kindergarten yet all of its kindergarteners qualify as full day for Foundation budget purposes.

It is therefore possible that Brookline need only offer full-day kindergarten two or three days a week to qualify for full-day credit for Foundation purposes. This might give the Town the flexibility to reduce personnel and other expenses for the remaining days and/or offer an after-school program for a fee. This would not be expected to have any impact on demand for space in the schools.

Financial Impact

By reducing full-day kindergarten from the current five days a week to two or three days a week, the system would be expected to save 6%-9% on kindergarten teacher time and 12%-18% on hours required by aides in the classroom. The savings associated with these reductions would range from approximately \$230,000 to approximately \$350,000. In addition, the system would be expected to be able to run after-school programs for a fee, much as it currently does at BEEP and as is provided by organized extended day programs. These revenues could be substantial and might allow for significant scholarships being made available for families in need.

Conclusions

It is clear that Brookline residents are willing to pay for education as demonstrated by the demand for early education and extended day programs. A model of charging for full-day kindergarten may therefore be viable. However, it is equally clear that there is probably little net gain in modifying the existing approach until such time as Brookline reaches full Chapter 70 funding or if the State changes the way it calculates Foundation aid in a manner that reduces aid. It is therefore recommended that the School Committee continue its current practice of periodically evaluating this option.

With regard to providing less than five days of full day kindergarten, the Schools could possibly ‘arbitrage’ the rules and achieve the current level of Chapter 70 funding while offering only two or three days of kindergarten. It is also clear that there could be both real savings as well as the opportunity to offer an extended day program for the two or three days not covered. The current participation in full-day pre-school and extended day programs suggests that many families would avail themselves of this option. Whether there would be sufficient demand to provide funds for an appropriate number of scholarships is not known and could be researched by the Schools so that this option is one that can be fully evaluated, financially and from an educational perspective.

EARLY EDUCATION

Early Education

There are several early education programs that are run in buildings owned by public agencies of Brookline. While most of these are run by the School Department, one is run by the Recreation Department and one is run by a non-Brookline entity for the benefit of Brookline teachers and other town employees.

The programs run by Brookline agencies appear to be priced below the market and there should therefore be additional revenue available to the Town as not all of these services are mandated. There may also be an opportunity to obtain rent for the space that is not used by Brookline agencies.

Brookline Early Education Program (BEEP)

Like every community in the State, Brookline is required to provide early education to children with special needs. The State law further mandates that such children must be enrolled in a program where at least 50% of the children are considered “typically developing.” Brookline runs its program with a 2:1 ratio, that is, two typically developing children for every child who has an IEP. Mandated students are included in the Town’s foundation budget for Chapter 70 aid purposes. Paying students are not but additional Foundation budget benefit would run only to the typically developing students needed to get to the minimum ratio of 1:1. In this case, unlike full-day kindergarten, the Chapter 70 aid that could be obtained would be substantially less than the revenue that is obtained by charging for tuition.

The administrators of BEEP, and the School Department, make a concerted effort to locate children who might be considered ‘at risk’ in an effort to have them enrolled in a formal education program as early as possible. This effort is based on the belief that having at-risk children in a structured, socially diverse environment at the youngest age possible will reduce the incidence of greater special needs as these children age.

Sign-up for Brookline’s programs typically occurs in the spring. Brookline generally has more demand for spots in its program than are available and, as a result, there is normally a significant waiting list after the initial enrollment period ends. Over the course of the Spring and Summer the waiting list dwindles as parents seek, and find, alternative early education programs in and near the town that are run by private operators.

Because of the increased population in the elementary schools, the Town has chosen to reclaim space previously dedicated to BEEP and to move many classrooms into space from third parties. The current annual cost of these outside rentals is approximately \$500,000 and is likely to grow as the BEEP classes remaining in the elementary schools and the [high school are displaced].

Brookline charges typically developing children for its pre-school programs. The Town currently has early education programs for children ranging in age from 2 years and 6 months to 4 years and 11 months. While the hours of operation range from 8:00 am to as late as 5:45 pm (depending on the age of the child and the location of the specific program) the vast majority of the programs offered by Brookline run from 8:00 am to 12:15 pm.

Currently, the BEEP program has an annual cost of approximately \$5 million and takes in revenue of approximately \$2 million, leaving a net cost of \$3 million. The PSB believe that the cost of placing all of its special needs children in private programs would approximate the \$3 million net cost of the current program. However, the analysis should be examined on the basis of what would the cost to the Town to run the program with a 1:1 ratio versus outside placement. The revenue side of the equation should be considered only after that cost is determined. While Brookline does charge for its programs, a comparison of Brookline’s fees to those of private vendors for the largest program, the morning Pre-K program, indicates BEEP is currently priced at a level below the averages for other programs in Brookline. Accordingly there may be opportunities to increase the price for services substantially given the backlog in demand and the myriad options presented to families. BEEP is currently pricing itself as an average to below average brand while it should position and price itself as a brand providing premium service.

BEEP classes are staffed with one teacher, a paraprofessional and an aide. Moreover, BEEP provides dedicated on-site play spaces in contrast to many for-profit providers that rely on limited shared time at public parks. BEEP appears to be significantly underpriced with regard to its competition. Beyond covering more costs, such an approach would enable BEEP to potentially generate more scholarship money for lower-income students who could most benefit from BEEP exposure.

Ages 3.0-4.11 Morning Pre-K	Brookline		Apple Orchard	Clinton Path	Corner COOP	KI
	Various	Lynch PM				
Hours	21.25	12	18.75	20	15	15
Cost	\$8,955	\$5,480	\$16,950	\$9,809	\$8,127	\$8,970
Cost Per Hour	\$11.71	\$12.69	\$25.11	\$13.62	\$15.05	\$16.61
	Trust Center	Pine Manor	Rainbow			
	Pre-K	Pre-k	Half			
Hours	20	22.5	25			
Cost	\$10,455	\$9,796	\$9,350			
Cost Per Hour	\$14.52	\$12.09	\$10.39			
		No Apple Orchard				
Average with Brookline	\$14.64	\$13.34				
Average Without Brookline	\$15.34	\$13.71				

	INCREMENTAL INCOME AT FOLLOWING RATES				
		2013 164 Paying Students			
Hourly Cost	\$13.34	\$ 13.71	\$14.64	\$15.34	\$16.61
Revenue	\$205,016	\$251,437	\$368,114	\$455,936	\$615,271
Increase From 2013	14%	17%	25%	31%	42%
Annual Cost	\$10,197	\$10,488	\$11,200	\$11,735	\$12,707

The data indicates that Brookline could likely add anywhere from approximately \$350,000 to approximately \$600,000 if it priced its principal program at a level at least equal to the competitors or at a level equal to the second highest brand in the market. These projections are before scholarships which will reduce the net amount raised.

While an increase in rates does increase costs on consumers, several points must be made:

1. Brookline does not have to offer a pre-school or pre-kindergarten program. That the cost is roughly equivalent to outsourcing is only because we do charge typically developing children.
2. There is a waiting list for BEEP. Not everyone who wants to get into BEEP can. Those families that can't must pay what the market will bear. BEEP has the reputation of being perhaps the highest quality program in the market. While some might question that, there is little debate as to whether BEEP is as good as other programs. Why should the consumers who are able to get in not have to pay for such a quality product?
3. At the higher end of the price spectrum, the money raised might allow Brookline to provide more scholarships for lower income families. It is generally acknowledged that those who receive the greatest benefit from quality early education programs are children from low-income families.
4. There has been considerable discussion about how Brookline is a wealthy community and, as such, can afford a substantial tax increase to pay for all the requests on the table. If this perception is indeed accurate, then it would follow that families could also afford to pay for the use of a non-mandated service.

The following table shows the overall cost families face if they send their children to an entire day in BEEP as compared to other programs:

	Brookline Various Programs						Clinton Path	Corner COOP	KI
Pre-K ED	Lynch, Putterham, BHS 1			BHS 2			ED	ED	ED
Hours	26.75	29.50	35.00	32.25	37.75	48.75	35.00	27.50	30.00
Cost	\$11,201	\$12,324	\$14,570	\$12,713	\$14,592	\$18,350	\$15,409	\$ 15,977	\$16,020
Cost Per Hour	\$11.63	\$11.60	\$11.56	\$10.95	\$10.74	\$10.46	\$12.23	\$16.14	\$14.83
	Trust Center		Pine Manor		Rainbow				
Pre-K Fuller Day	ED	ED	ED	FD	Extended	Full			
Hours	45.00	30.00	35.00	50.00	40.00	50.00			
Cost	\$20,112	\$16,261	\$14,186	\$18,577	\$11,000	\$14,000			
Cost Per Hour	\$ 12.41	\$ 15.06	\$11.26	\$10.32	\$7.64	\$7.78			
	Less Than 35 Hours	More Than 35 Hours							
Average with Brookline	\$13.37	\$10.49							
Average without Brookline	\$15.34	\$9.88							

This table does indicate that when families send their children to a Brookline program of more than 35 hours a week that they will be paying a price that is at or near the top of the market. The combination of the two analyses (morning and full-day) suggests that, unless all the children in BEEP actually sign-up for 35 or more hours per week, Brookline should be doing a better job of aligning its fees to the market by adjusting how it prices the various ‘tiers’ of service.

Soule Day Care Program

Brookline’s Recreation Department runs a certified educational program at the Soule Recreation Center. The program is run the entire year. The Soule Center program was started almost 60 years ago as a drop-in nursery school service for children ages 2-4 1/2 years, but is now a State-certified early education program based on a mix of Reggio Emilia and Montessori philosophies.

The program serves only Brookline residents and is licensed for 72 slots. A total Of 90 families are served on a full- and part-time basis. Daily schedule options are 8-12, 8-4, and 8-6. There is a wait list of 400 families. All teachers hold a bachelor’s or master’s degree in education and are certified by the Department of Early Education and Care. There are four multi-age classrooms balanced for age, gender, and program choice. Toddler rooms are ages 12 mos. to 2.8; pre-school ages 2.9 to 5. The program provides one snack each day. Parents provide lunch and diapers and provide morning snack on a rotating basis. The Reggio Emilia model

focuses on assessment and documentation. Children identified as having special needs are referred to the BEEP program. The program makes use of all recreational facilities of the town, including swimming, skating, etc.

Families using the Soule Center are a diverse socio-economic mix. Fees are based on cost plus an overlay of market analysis and there is no imputed cost for the facility. The Center does not take vouchers, but does provide scholarship of 10-30%, based on HUD aid guidelines and capped per child. Families can receive multiple scholarships for more than one child in the program. No sibling discounts are offered. Families are not turned away for financial reasons but scholarships are limited.

The pricing of the Soule Day Care program is significantly under the market, and the Town could realize significant additional revenues (as well as provide additional scholarships for additional lower-income children who could most benefit from the program) if the program charged competitive prices.

In addition to the early education program, the Rec Department offers an extended day program for 35 children (the license is for 40), servicing the overflow from the school-based extended day programs. Transportation is provided by the Rec Department.

The Rec Department provides services to children with special needs through its recreational therapy programs and works closely with the School Department in this area. Recreation therapy programs are particularly helpful for children who require educational support through the summer months.

The current cost⁴⁶ of the Soule Early Education programs are shown below:

Soule-72 Slots 10 Months	(8-12:30)	(8-4)	(8-6)	(8-4)	(8-4)	(8-6)	(8-6)
	5 Days	3 Days	3 Days	4 Days	5 Days	4 Days	5 Days
Hours Per Week	22.5	24.0	30.0	32.0	40.0	40.0	50.0
Pre-School (2.9-4.9)	\$4,960	\$7,630	\$8,920	\$8,520	\$9,410	\$10,560	\$11,630
Per Hour Cost	\$5.80	\$8.37	\$7.82	\$7.01	\$6.19	\$6.95	\$ 6.12

⁴⁶ All prices are 2013 prices. Soule and other programs have increased prices for 2014 but for the purposes of this report 2013 data is used as not all updated comparable data is currently available.

The following are fees charged by other pre-school programs in Brookline:

Pre-School	Brookline		Apple	Orch.	KI	Trust Center	
	BEEP	BEEP	Pre-				
	AM	PM	School	Pre-S	Pre-S	Toddler	
Hours	16.25	8	18.75	15	20	18.75	
Cost	\$6,850	\$3,460	\$16,950	\$8,970	\$10,455	\$12,900	
Cost Per Hour	\$11.71	\$12.01	\$25.11	\$16.61	\$14.52	\$19.11	
	No AO						
	47						
Average with Brookline	\$16.51	\$14.79					
Average Without Brookline	\$18.84	\$16.75					

The following are the 'fuller day' comparable tuitions for pre-school and toddlers⁴⁸:

	KI	Trust Center				Pine Manor		Rainbow	
	Pre-S	ED-P	ED-P	ED-T	ED-T	ED	FD	Extended	Full
Hours	30	45	30	45	28.75	35	50	40	50
Cost	\$16,020	\$20,112	\$16,261	\$22,450	\$18,450	\$14,186	\$18,577	\$11,000	\$14,000
Cost Per Hour	\$14.83	\$12.41	\$15.06	\$13.86	\$17.83	\$11.26	\$10.32	\$7.64	\$7.78

In addition to being well below current market comparables, fees at Soule are significantly below the fees at Baldwin, a program run by teachers for children of teachers:

Hours Per Week	25	30	35	40
Infant and Young Toddler	\$15,040	\$16,910	\$18,040	\$20,620
	\$16.71	\$15.66	\$14.32	\$14.32
Toddler and Pre-School	\$13,260	\$14,870	\$15,810	\$18,070
	\$14.73	\$13.77	\$12.55	\$12.55
Pre-school	\$10,630	\$11,940	\$12,710	\$14,520
	\$11.81	\$11.06	\$10.09	\$10.08

⁴⁷ Excludes the Apple Orchard.

⁴⁸ Note that there are few programs that take children as young as Soule does. Those programs tend to be much more expensive as demonstrated by the Trust Center costs and the costs at Baldwin.

The Recreation Department has indicated that the greatest demand is for their 22.5, 24, 32 and 40 hour time slots in both the toddler and pre-school programs.

Currently, the program does not cover indirect costs. Over the next several years there is a plan to increase the fees of the program and to be at so-called full cost recovery by fiscal 2017; however, even then, the program would charge fees that are almost 22% below what BEEP charges *today* and almost 40% below the market averages *today*.

2013-2014		2014-2015		2015-2016		2016-2017	
Hourly rate	10 mth Tuition	Hourly rate	10 mth Tuition	Hourly Rate	10 mth Tuition	Hourly Rate	10 mth Tuition
<i>6%increase</i>		<i>20% increase</i>		<i>20% increase</i>		<i>20% increase</i>	
\$5.52	\$4,960.00	\$6.62	\$5,960.00	\$7.94	\$7,150.00	\$9.53	\$8,580.00

Beginning in FY 2015, Soule will be changing the slots made available to families and reducing some slots. In the current school year (2013-2014) Soule has a population of 11 toddlers and 60 pre-school children enrolled at the school. If the populations stay constant in the future and the same time slots are demanded in the future, the following indicates the incremental revenue that could be realized if Soule charged market rates immediately versus its currently scheduled increases:

		Toddler		
Hours	8:00-4:00	8:00-4:00	8-12:30	
Days	4	5	5	
Current Enrollment	3	5	4	
		Cost For 10 Months		
	32	40	22.5	
2014-2015	\$ 12,280	\$ 15,350	\$11,880	
2015-2016	\$ 14,736	\$ 18,420	\$ 14,256	
2016-2017	\$ 17,683	\$ 22,104	\$ 17,107	
2017-2018	\$ 18,391	\$ 22,988	\$ 17,791	
2018-2019	\$ 19,126	\$ 23,908	\$ 18,503	
		Per Hour		
2014-2015	\$ 9.59	\$ 9.59	\$ 13.20	
2015-2016	\$ 11.51	\$ 11.51	\$ 15.84	
2016-2017	\$ 13.82	\$ 13.82	\$ 19.01	
2017-2018	\$ 14.37	\$ 14.37	\$ 19.77	
2018-2019	\$ 14.94	\$ 14.94	\$20.56	

		Market		
2013-2014	\$ 14.00	\$ 13.00	\$ 15.50	
2014-2015	\$ 14.56	\$ 13.52	\$ 16.12	
2015-2016	\$ 15.14	\$ 14.06	\$ 16.76	
2016-2017	\$ 15.75	\$ 14.62	\$ 17.44	
2017-2018	\$ 16.38	\$ 15.21	\$ 18.13	
2018-2019	\$ 17.03	\$ 15.82	\$18.86	
Toddler	3	5	4	
		Net Increase		Total
2014-2015	\$ 19,070	\$ 31,410	\$ 10,512	\$60,992
2015-2016	\$ 13,939	\$ 20,386	\$ 3,329	\$ 37,654
2016-2017	\$ 7,423	\$ 6,466	\$ -	\$ 13,889
2017-2018	\$ 7,720	\$ 6,724	\$ -	\$ 14,445
2018-2019	\$ 8,029	\$ 6,993	\$ -	\$ 15,022

For Pre-School:

		Pre-School			
Hours	8:00-4:00	8-12:30	8:00-6:00		
Days	5	5	5		
Current Enrollment	10	4	6		
Current Enrollment	10	7	3		
Current Enrollment	0	20	0		
		Cost For 10 Months			
Hours	40	22.5	50		
2014-2015	\$ 11,290	\$ 5,960	\$ 13,960		
2015-2016	\$ 13,548	\$ 7,152	\$ 16,752		
2016-2017	\$ 16,258	\$ 8,582	\$ 20,102		
2017-2018	\$ 16,908	\$ 8,926	\$ 20,906		
2018-2019	\$ 17,584	\$ 9,283	\$ 21,743		
		Per Hour			
2014-2015	\$ 7.06	\$ 6.62	\$ 6.98		
2015-2016	\$ 8.47	\$ 7.95	\$ 8.38		

2016-2017	\$ 10.16	\$ 9.54	\$ 10.05		
2017-2018	\$ 10.57	\$ 9.92	\$ 10.45		
2018-2019	\$ 10.99	\$ 10.31	\$ 10.87		
		Market Per Hour			
2013-2014	\$10.75	\$13.75	\$10.00		
2014-2015	\$11.18	\$14.30	\$10.40		
2015-2016	\$11.63	\$14.87	\$10.82		
2016-2017	\$12.09	\$15.47	\$11.25		
2017-2018	\$12.58	\$16.09	\$11.70		
2018-2019	\$13.08	\$16.73	\$12.17		
Current Enrollment	10	4	6		
Current Enrollment	10	7	3		
Current Enrollment	0	20	0		
P1	Net Revenue Increase				
2014-2015	\$ 65,980	\$ 27,640	\$ 41,040		
2015-2016	\$ 50,555	\$ 24,931	\$ 29,280		
2016-2017	\$ 30,901	\$ 21,351	\$ 14,369		
2017-2018	\$ 32,137	\$ 22,205	\$ 14,944		
2018-2019	\$ 33,422	\$ 23,093	\$ 15,542		
P2					
2014-2015	\$ 65,980	\$ 48,370	\$ 20,520		
2015-2016	\$ 50,555	\$ 43,630	\$ 14,640		
2016-2017	\$ 30,901	\$ 37,365	\$ 7,185		
2017-2018	\$ 32,137	\$ 38,859	\$ 7,472		
2018-2019	\$ 33,422	\$ 40,413	\$ 7,771		
P3					
2014-2015	\$ -	\$138,200	\$ -		
2015-2016	\$ -	\$124,656	\$ -		
2016-2017	\$ -	\$106,756	\$ -		
2017-2018	\$ -	\$111,026	\$ -		
2018-2019	\$ -	\$115,467	\$ -		

	Grand Totals--Net Revenue Increase				
	Toddler	P1	P2	P3	Total
2014-2015	\$ 60,992	\$ 134,660	\$ 134,870	\$ 138,200	\$ 468,722
2015-2016	\$ 37,654	\$ 104,766	\$ 108,825	\$ 124,656	\$375,902
2016-2017	\$ 13,889	\$ 66,621	\$ 75,450	\$ 106,756	\$262,716
2017-2018	\$ 14,445	\$ 69,286	\$ 78,468	\$ 111,026	\$273,224
2018-2019	\$ 15,022	\$ 72,057	\$ 81,606	\$ 115,467	\$284,153

Baldwin

A parent cooperative day care center for School/Town staff and other Brookline residents is operated at the Baldwin School. The Town does not charge for the use of space (based on info on the website, the program has capacity for 30-35 children.) The Baldwin site could be reclaimed by the Town and used for infants and toddlers currently serviced by the Recreation Department or as an alternative placement for children in BEEP who are currently located in rental space in Town. Given the space shortage faced by the Town every consideration should be given to whether it remains appropriate to provide this space to non-Brookline residents. In addition to the question of whether the space should be made available, there is the related question of whether, if it is made available, it should be on a rent-free basis.

The following presents the current annual fees in total dollars and dollars per hour charged at Baldwin:

Hours Per Week	25	30	35	40
Infant and Young Toddler	\$15,040	\$16,910	\$18,040	\$ 20,620
	\$16.71	\$15.66	\$14.32	\$14.32
Toddler and Pre-School	\$13,260	\$14,870	\$15,810	\$ 18,070
	\$14.73	\$13.77	\$12.55	\$12.55
Pre-school	\$10,630	\$11,940	\$12,710	\$14,520
	\$11.81	\$11.06	\$10.09	\$10.08

If the program were charged a rent of \$25,000 per year, the charges would be as follows:

	25	30	35	40
Infant and Young Toddler	\$15,798	\$17,668	\$18,798	\$21,378
	\$17.55	\$16.36	\$14.92	\$14.85
Toddler and Pre-School	\$14,018	\$15,628	\$16,568	\$18,828
	\$15.58	\$14.47	\$13.15	\$13.07
Pre-school	\$11,388	\$12,698	\$13,468	\$15,278
	\$12.65	\$11.76	\$10.69	\$10.61

As a percentage of current cost, the increases would range from a low of 3.7% for 40 hours a week of infant or young toddler care to 7.1% for 25 hours a week of pre-school care. The task force understands that most

participants at Baldwin are infants and toddlers. It should be noted that the cost of day care at Baldwin appears to be more expensive than BEEP and substantially more expensive than the Recreation Department program at Soule.

Options and/or Additional Analysis

1. Do nothing
2. Explore whether the 2-1 ratio is required to obtain the favorable outcomes for children on IEP or at risk. Any reduction in this ratio could lead to net savings in both space and overhead.
3. Understand the cost of supplying just the mandated services versus outsourcing services for the special needs early education population. If such an analysis indicates a break-even or savings when the full cost of space dedicated, or planned to be dedicated, to these programs is included then additional consideration should be given to outsourcing.
4. Explore whether the Schools could take over the space at Soule Recreation Center and either end or absorb the Soule program into BEEP. The space at Soule could help alleviate the space demands at the elementary schools and thereby reduce the expansion needs on the margin. The opportunity to increase revenues may be greater in a merger scenario given the steep costs of BEEP's mandated care. This needs to be evaluated compared to the possibly higher cost of running the program in the school system.
5. Explore whether the space currently utilized at Baldwin for the day-care and early education program for Brookline teachers and other Town employees should be given to BEEP. The space at Baldwin could help alleviate the space demands at the elementary schools and thereby reduce the expansion needs on the margin. As Staff currently pays for these services at rates at or approaching market, switching their children to private programs may be financially neutral. This would be particularly true if the Baldwin program is charged rent in the future.
6. Pricing for BEEP should be increased at a rate of 10% per annum until such time as they equal or exceed the average, on a per hour basis in the market for programs of similar duration, nature, quality and location (excluding Brookline schools and the Apple Orchard)⁴⁹. Pricing tiers for BEEP and its extended day options should reflect overall market conditions as well. There is every reason to suggest that BEEP set rates for its program at a level that reflects the premium quality of the services it provides.
7. Pricing for Soule should be increased to full cost recovery as soon as possible and, preferably, to a level that is comparable to the average of the marketplace. Imputed cost for space (if allowed), all benefits including OPEB's, and indirect administrative costs should be added to the cost function for Soule.
8. Children at risk and children living in poverty theoretically receive the greatest benefit from quality early education programs. Effort could be made to recruit those children and to underwrite the cost (and supplement it by attempting to establish permanent endowments for scholarships) while maximizing revenue from families who can pay, using such revenue to cross-subsidize lower-income students.

⁴⁹ Based on data provided by BEEP, the Committee suggests that the peer group for the morning Pre-Kindergarten would be Clinton Path, Corner COOP, Kehilith Israel, The Trust Center, Pine Manor and Rainbow pre-school half-day. Pre-school comparables would be Kehilith Israel and the The Trust Center. Extended day programs would include the programs identified above for Pre-K with a recognition that a distinction should be made between options that total less than 35 hours and options that total more than 35 hours.

AFTER SCHOOL BUILDING USAGE

After-School Building Usage

Extended Day

Brookline does not, as a school system, offer extended day services beyond the pre-kindergarten age. All extended day programs beginning in kindergarten are run by individual not-for-profit entities affiliated with each elementary school. The programs are held in the schools.⁵⁰ These programs charge for their services and have, historically, not been charged for the use of space in the Brookline schools.

The prices charged for the programs are presented below⁵¹:

Charges Per Month Per Days Each Week

	1	2	3	4	5	
Baker	\$ 136	\$ 253	\$ 354	\$ 443	\$ 516	3.67
Heath	\$ 150	\$ 278	\$ 392	\$ 464	\$ 488	3.42
Devo	\$ -	\$ 341	\$ 468	\$ -	\$ 589	3.42
Runkle	\$ -	\$ 230	\$ 344	\$ 458	\$ 573	3.25
Pierce	\$ -	\$ 252	\$ 379	\$ 505	\$ 568	3.67
Driscoll	\$ -	\$ 312	\$ 390	\$ -	\$ 511	3.5
Lawrence	\$ -	\$ 300	\$ 390	\$ 475	\$ 510	3.5
Lincoln	\$ 159	\$ 317	\$ 470	\$ 515	\$ 560	3.5

Charges Per Hour Per Day

	1	2	3	4	5	
Baker	\$ 9.26	\$ 8.62	\$ 8.04	\$ 7.54	\$ 7.03	3.67
Heath	\$ 10.96	\$ 10.16	\$ 9.55	\$ 8.48	\$ 7.13	3.42
Devo	\$ -	\$ 12.46	\$ 11.40	\$ -	\$ 8.61	3.42
Runkle	\$ -	\$ 8.85	\$ 8.82	\$ 8.81	\$ 8.82	3.25
Pierce	\$ -	\$ 8.58	\$ 8.61	\$ 8.60	\$ 7.74	3.67
Driscoll	\$ -	\$ 11.14	\$ 9.29	\$ -	\$ 7.30	3.5
Lawrence	\$ -	\$ 10.71	\$ 9.29	\$ 8.48	\$ 7.29	3.5
Lincoln	\$ 11.36	\$ 11.32	\$ 11.19	\$ 9.20	\$ 8.00	3.5

It is interesting to note that the per hour charges are highest at the elementary schools with the greatest number of relatively low-income students.⁵² The following is a list of 'extended day' costs at various pre-school

⁵⁰ Except Devotion which currently is being run in rented space.

⁵¹ This is for Kindergarten and older. Most of the schools also offer a pre-K extended day with similar pricing but it is not clear that the hours are always the same. Data from websites and Brookline Extended Day Advisory Council.

⁵² Devotion, Lincoln and Lawrence are the three 'Title 1' schools in Brookline.

and pre-k options in Brookline. While not directly comparable because of the age of the children and the fact that someone must be enrolled in the morning programs to be eligible for extended day options, they do provide context for what families are willing to pay for child care in the afternoon:

	Brookline						Clinton Path	Corner COOP	KI
Ages 3.0-4.11 Extended day	Lynch, Putterham, BHS			BHS 2			ED	ED	ED
Hours (week)	5.50	8.25	13.75	11.00	16.50	27.50	15.00	12.50	15.00
Cost	\$2,246	\$3,369	\$5,615	\$3,758	\$5,637	\$9,395	\$5,600	\$7,850	\$7,050
Cost Per Hour	\$11.34	\$11.34	\$11.34	\$9.49	\$ 9.49	\$9.49	\$10.37	\$17.44	\$13.06
	Trust Center		Pine Manor		Rainbow				
Ages 3.0-4.11 Extended day	ED-P	ED-P	ED	FD	Extended	Full			
Hours	25	10	12.5	27.5	15	25			
Cost	\$9,657	\$5,806	\$4,390	\$8,781	\$1,650	\$4,650			
Cost Per Hour	\$10.73	\$16.13	\$9.76	\$8.87	\$3.06	\$5.17			

The Devotion extended day program, with a current enrollment of approximately 120 students, has moved out of the Devotion school to Kehilith Israel where it is paying rent at a rate of approximately \$5,000 per classroom plus use of some common areas. . At a minimum, the PSB could be charging extended day programs for the use of space on a basis that is no less remunerative to the Town than what is available in the marketplace. The number of classrooms utilized by the extended day programs is not currently known. With a total enrollment of 1,078 children and using Devotion as an analog, it would imply that there are about 40 classrooms plus common space used throughout the system (after deducting the Devotion population). This would generate about \$171,500 to the Town assuming a \$5,000 per classroom charge.

In terms of impact per child, a \$171,500 number would be about \$18 per month per child after excluding the Devotion population. This is estimated to represent less than a 5.0% increase, on average, to the fees that are currently being charged by the programs.

Gym Usage

Although the school system has stated policies for gym usage (as well as cafeteria, auditoriums, classroom, music and band rooms, etc.)⁵³ during after-school and weekend periods, it is not readily evident that the central administration of these uses is organized and/or marketed in a manner that seeks to actively realize revenue.

With regard to the gyms at the schools, it should be noted that communities surrounding Brookline do charge for gym space and that in the Boston metropolitan area gym space routinely rents for \$100 per hour. For example, the Park School has rented space to Brookline Travel Teams seeking extra practice time at a cost of \$110 per hour. Even after providing discounts to Brookline programs there is likely to be a meaningful amount of money that could be generated for the Town or the Schools.

Cursory analysis suggests that there are 8-14 spaces at schools that could be rented out. These include a gym at each elementary school and as many as four gyms at the high school. Most gyms are in use immediately after school ends, either for high school sports, extended day programs or other intramural programs. School buildings are open until 9:00 PM on weekday evenings (Mondays excluded though with usage it would be economical to keep the buildings open). Buildings are occasionally open during the weekends. Having demand that merits, from a financial perspective, consistently opening buildings, or at least gyms, should be examined relative to the costs involved.

Even after taking into account the prerequisite demand of Brookline teams, an analysis indicates that there could be as much as \$200,000 to \$400,000 in net revenue that could be earned by the Schools just during the winter months. This analysis is summarized on the next page:

⁵³ See 'Use of School Building Program' at http://www.brookline.k12.ma.us/index.php?option=com_content&view=article&id=190:administration-a-finance-school-building-services&catid=38&Itemid=78

Market Rate		\$ 100
Discount Rate 1		\$ 60
Basketball Rate		\$ 25
Basketball 0 Rate		\$ -
	Gyms	
Elementary	8	
High School	4	
	Gross ⁵⁴	Net ⁵⁵
Available Hours (5:30-9:30 Weekdays)	270	146
Available Hours (9:00-8:00 Weekends)	286	228
Winter weeks		15
Effective Utilization		80%
Possible Weekday Revenue ⁵⁶	Per Week	Winter Season
Basketball \$0, Rest at Market	\$ 11,680	\$ 175,200
Basketball \$25, Rest at Brookline Discount	\$ 10,108	\$ 151,620
Basketball \$25, Rest at Market	\$ 14,780	\$ 221,700
Possible Weekend Revenue ⁵⁷	Per Week	Winter Season
Basketball \$0, Rest at Market	\$ 18,240	\$ 273,600
Basketball \$25, Rest at Brookline Discount	\$ 12,094	\$ 181,410
Basketball \$25, Rest at Market	\$ 19,390	\$ 290,850
Combined 7 Day Possible Revenue		
Basketball \$0, Rest at Market	\$ 29,920	\$ 448,800
Basketball \$25, Rest at Brookline Discount	\$ 22,202	\$ 333,030
Basketball \$25, Rest at Market	\$ 34,170	\$ 512,550
Possible Custodial Costs	Hours	Rate
Per weekday (1/2 hour per site per day)	32.5	20
Per Weekend (total unused hours)	228	40
	Weekly Cost	Season Cost
	\$ 650	\$ 9,750
	\$ 9,120	\$ 136,800

⁵⁴ Number of hours per day times number of gyms

⁵⁵ Takes out hours for travel teams, school teams, HS teams

⁵⁶ Revenues reflect 'Brookline Teams' at one rate and everyone else at a different rate. Combinations are open.

⁵⁷ Revenues reflect 'Brookline Teams' at one rate and everyone else at a different rate. Combinations are open.

In addition to basketball teams that might have an interest (currently paying \$110 at Park), gyms can and are used for futsal, lacrosse and myriad other sports.

The Rec Department would benefit from better access to school gyms. Users would be charged for the services and an offsetting fee paid to the schools by the Rec Department. Brookline charges less for recreation fees than other towns and there is potential to increase revenue from this source.

This is an opportunity that the schools should examine immediately. Despite concerns about priority usage when schools need the space, such scheduling issues would be part of contracts executed with each user. Fees should be collected up-front before anyone is able to actually use the space.

The monetization of the space requires focus and potentially a dedicated person for all gyms. This program will have less success if there are 8 or 9 individuals responsible. Outsourcing the scheduling and/or fee collection to Rec should be examined.

Other Observations

In addition to these two opportunities, there are a wide variety of after-school activities for Brookline children and there are apparently significant issues and concerns regarding space, its use, coordination and communication, accessibility and funding. These are fully discussed in the 'Out of School Time Review Report' delivered to the School Committee in January of 2012. Some of the major points raised in the document include:

1. There is no long-term vision for after-school and out-of-school time activities.
2. There is a need for better coordination with regard to assigning and allocating space. This has implications for extended day and the fees for other space and programs discussed herein.
3. There are significant concerns raised by principals about student supervision and safety.
4. Policies regarding after-school space are inconsistently implemented or interpreted.
5. There is a lack of trust in the current system of communication.
6. There are financial and equity issues that need to be addressed.

The overall picture indicates that the school system can and should be doing a better job of managing the after-school use of space from both a programmatic and financial perspective. There are likely many ways the Schools and Town could work together to achieve better utilization of the space. In no particular order, these include:

1. Having the school system assume the responsibility for all after-school activities to promote better coordination, compliance, communication and similar programming at the various schools.
2. Having the PSB formally contract out some of the after-school activities to a vendor through a competitive bid process. This would also promote uniformity between programs and the likely ability of the Town to require, contractually, certain standards, including liability insurance, in the programs and the personnel hired by the vendors.

3. Having the PSB 'in-source' certain programs to the Recreation Department while the PSB maintains control of certain other programs. Here the Town and PSB would have responsibility for the programs leading to better control and coordination.

Any of the options that might be explored should be done with the goals of better management, increased revenue and system-wide consistency as priorities. All of these considerations are currently beyond the near-term charge of the OSC but could be explored in depth in future months or via a joint committee sponsored by the Selectmen and the School Department.

EXHIBITS, APPENDICES AND TABLES

TOWN OF BROOKLINE
OVERRIDE STUDY COMMITTEE

**THE ECONOMIC IMPACT
OF ENROLLMENT GROWTH
ON THE BROOKLINE PUBLIC SCHOOLS**



Lee L. Selwyn
Population and Special Education Task Force
adopted as a report of the Population and Special Education Task Force

June 2014

THE ECONOMIC IMPACT OF ENROLLMENT GROWTH ON THE BROOKLINE PUBLIC SCHOOLS

TABLE OF CONTENTS

EXECUTIVE SUMMARY	iii
Introduction	1
The Public Schools of Brookline Policy for Enrollment of Non-resident Students	2
Enrollment growth, from whatever source, engenders the same types of long run costs	5
Enrollment-driven long run incremental costs of the Brookline Public Schools	7
The “top-down” regression analysis methodology	11
The effect of different Special Education obligations on the long run costs of resident and non-resident students	15
The long term financial impact of the METCO and Materials Fee programs	18
Changes in long run incremental cost attributable to the potential for large-scale capital spending on added K-8 and High School capacity	22
Conclusion	24
 Tables and figures	
Table 1: Brookline Public Schools – FY14 Costs	9
Table 2: Brookline Public Schools – Change in Enrollment and Total Cost FY06-FY14 – Adjusted for Inflation to FY14 dollars	10
Table 3: Regression Model Statistical Output	14
Table 4: Placements in In-building Special Education Programs	16

The Economic Impact of Enrollment Growth on the Brookline Public Schools

Table 5:	Long Run Incremental Cost per Student Adjusted to Reflect Relative Use of Special Education Services	17
Table 6:	Long Run Incremental Cost per Non-resident Student Net of Revenues Received	17
Table 7:	FY14 Net Long Run Incremental Cost of Brookline’s Participation in the METCO and Materials Fee Programs	18
Table 8:	Long Run Incremental Cost Confronting Brookline for Non-resident Students Entering Kindergarten in September 2014	20
Table 9:	Long Term Financial Impact of Continued Participation by the Town of Brookline in the METCO and Materials Fee Programs	21
Table 10:	Long Run Incremental Cost per Student Associated with Proposed Driscoll Expansion and Other Major Capital Projects Based on Capital Subcommittee Estimates	23
Figure 1:	Scatter Diagram Showing Relationship Between the Number of K-12 PSB students and Total Inflation-Adjusted K-12 Operating Costs of the Brookline Public Schools	12

DATA AND COMPUTATIONAL APPENDIX

Table A1:	Summary: Long run incremental costs (LRIC) specific to METCO and Materials Fee Programs (based on FY 13 data)
Table A2:	Sensitivity Analysis at +/- \$1,000 Base LRIC Estimate
Table A3:	Long run unit incremental costs
Table A4:	13-year METCO and Materials Fee cost commitment – Scenario 1: Suspend all further kindergarten enrollments starting in Fall 2014
Table A5:	13-year METCO and Materials Fee cost commitment – Scenario 2: continue Brookline participation in METCO and Materials Fee programs indefinitely
Table A6:	Source Data for Regression Analysis
Table A7:	Regression Input Data

THE ECONOMIC IMPACT OF ENROLLMENT GROWTH ON THE BROOKLINE PUBLIC SCHOOLS

EXECUTIVE SUMMARY

This report was prepared for and was adopted as a report of the Population and Special Education Task Force of the Override Study Committee to examine the long run financial impact upon the Town of Brookline resulting from the recent and anticipated future enrollment growth in the Brookline Public Schools. Over the nine school years, from 2005-06 through 2013-14 (FY06 through FY14), the total K-12 enrollment in the Public Schools of Brookline (PSB) increased by 21.9%, from 5,766 to 7,030 – an additional 1,264 students. Over that same period, the total annual cost of the Brookline Public Schools experienced an increase that was roughly commensurate with the jump in enrollment – about 18.6% on an inflation-adjusted basis. Total PSB enrollment in FY14 (the 2013-14 school year) included approximately 475 non-resident students who attend Brookline schools under either the “Metropolitan Council for Educational Opportunity” (METCO) program or the so-called “Materials Fee” program under which children of non-resident School and non-School employees of the Town of Brookline are offered enrollment in the Brookline Public Schools for a nominal fee.

The School Department’s and METCO policy guidelines expressly condition non-resident student enrollment in the Brookline Public Schools on the following: (a) that space (i.e., “seats”) is available; (b) in the case of Materials Fee students, that staffing levels be set “on the basis of tuition paying or resident students,” (c) again in the case of Materials Fee students, that “[t]he cost of special education services ... will have to be borne by the employee’s town or city of residence, or by the individual,” and (d) upon the availability of funds for the METCO program from the Massachusetts Department of Education. The METCO program guidelines provide that placement decisions are to be based upon “district grade and seat availability” in school districts “with openings for the particular grade level needed.” The existence of these stated policies fosters the impression that the economic impact of these non-resident programs upon the total cost of the Brookline school system is minimal and can be thought of as being limited to short-run out-of-pocket costs (as implied by the term “materials fee” that is used to describe the non-resident admissions being offered to the children of Town employees); offering a non-resident student a seat that might otherwise go unused in a classroom imposes no significant amount of long-run economic costs on the school system other than ancillary services the student might require – because at such time as the seat assigned to the non-resident student is required by a Brookline resident, the “space available” policy would require that the non-resident student's continued enrollment be discontinued and the seat be reassigned to a resident. But if the non-resident student is allowed to remain in the Brookline schools while at the same time the additional resident will also be accommodated, *the economic cost to the Town as between the additional resident and the previously-admitted non-resident student is exactly the same*, subject only to differences in the nature of specific services that may be provided to each.

In practice, the Brookline School Department and the School Committee have not been, and are certainly not now, adhering to these policy prescriptions. Yet it is precisely because these policies are being ignored that it is fundamentally incorrect, as an economic matter, to view the cost impact of enrolling non-resident students as differing in any material way from the cost impact of enrolling

The Economic Impact of Enrollment Growth on the Brookline Public Schools

Brookline residents. The appropriate standard for evaluating the economic impact of all PSB students – resident and non-resident – is *long run incremental cost* – the average per-student cost arising from adding the increment of students that the PSB has been experiencing annually for much of the past decade. The “long run” in this context refers to a time period over which most costs can be varied – i.e., are affected by the change in total enrollment. Physical classroom and other space needs increase with increased enrollment, and given the time required to plan and implement school building construction and expansion projects, building capacity will need to be adjusted to meet the additional space requirements. While building capacity is often thought of as being fixed, at least in the near term, the ongoing and persistent enrollment growth being experienced in the Brookline schools requires a corresponding ongoing planning, funding and construction horizon to assure that additional capacity will be available when needed. In the context of persistent and ongoing growth, the “long run,” which embraces the time frame in which capital and other capacity-related costs will be either incurred or avoided, is thus relatively short. Because the OSC is looking at projects that will commence within the next one, two, or three years, the “long run” here necessarily refers to that length of time over which, but for the additional capacity that would be required, these additional (incremental) costs would not need to be incurred.

Using a “top-down” approach and employing widely used multiple linear regression analysis, the Override Study Committee developed an estimate of the long run incremental cost per additional student at \$15,748 in FY14 dollars. Going forward, therefore, the Town can expect to spend, on average, an additional \$15,748 (in FY14 dollars before adjusting for future inflation) per student per year for each additional student beyond the current (FY14) level. The decision of the School Department not to adhere to or enforce its own “space available” policy has contributed directly and inextricably to the nearly 1100-student jump in total PSB enrollment that has occurred since 2006. *There is no “space available” in the current context.* Several OSC subcommittees have undertaken analyses indicating that the suspension of further admissions to the METCO and Materials Fee programs starting in the fall of 2014 would significantly reduce, and perhaps even eliminate altogether, the need for as many as 10 additional classrooms by 2019 relative to the level that had been projected by the School Department – and relied upon by the B-SPACE Committee – absent any modifications to existing non-resident student enrollment practices. A modest increase in the average class size would have a similar effect. The suspension of new non-resident student enrollments and/or the acceptance of a modest (one or two student) increase in average class size would thus substantially reduce, if not entirely eliminate, the need for additional classroom capacity and the consequent requirement for a tax override of the magnitude being sought by the School Department. If practices do not change, Brookline will in essence be building its new classrooms to serve non-resident students and will, contrary to its explicit policies, be staffing its schools at levels needed to serve non-resident and resident, rather than only resident, students.

Using the base long run incremental cost estimate as a starting point, and adjusting for differences in the relative use of special education services, we have developed estimates of the long run economic cost to the Town of Brookline arising from its involvement in the non-resident student enrollment programs. Currently, by accommodating roughly 300 Boston METCO students in the Brookline schools, *Brookline taxpayers are effectively providing a cash subsidy to the City of Boston of more than \$4.4-million annually.* It has been the School Department’s commitment that all non-resident children entering kindergarten in Brookline are to be assured continued enrollment in the Brookline schools through graduation from High School. As a result, for each new non-resident student enrolling in kindergarten in the fall of 2014, over the next thirteen years the Town will spend roughly \$202,000 for each entering METCO student and roughly \$182,000 for each entering Materials Fee student, net of offsetting revenue. For the

The Economic Impact of Enrollment Growth on the Brookline Public Schools

full cohort of non-resident students projected to enter the PSB in September 2014, the Town’s financial commitment over the next thirteen years would be roughly \$8.1-million. To the extent that this is not a legal obligation of the Town, it may not carry the same unfunded liability status as, for example, post-retirement medical benefits that the Town is legally obligated to provide. However, if the practice of assuring enrollment through graduation is viewed as a *de facto* commitment, there are major and serious financial consequences. We have calculated the long term financial commitment confronting Brookline under two non-resident student enrollment scenarios:

Scenario 1: Brookline suspends all further admission of new non-resident students on and after September 2014, but continues to honor the commitment to educate all existing non-resident students through 12th grade graduation.

Scenario 2: The current situation – Brookline maintains its existing level of participation in both programs indefinitely, and continues to admit new kindergarten cohorts each year.

	Base Estimate	Lower Bound	Upper Bound
Scenario 1: Suspend new admissions, maintain existing students through 12 th grade			
METCO	\$32,490,306	\$30,399,500	\$34,581,112
Materials Fee	\$20,725,903	\$19,247,790	\$22,204,016
TOTAL NPV	\$53,216,209	\$49,647,290	\$56,785,128
Scenario 2: Maintain full participation in both programs indefinitely (13-year time frame for cost estimate)			
METCO	\$59,454,355	\$55,628,367	\$63,280,342
Materials Fee	\$46,808,491	\$43,470,241	\$50,146,741
TOTAL NPV	\$106,262,846	\$99,098,608	\$113,427,084

In essence, adhering to “space available” policies and thus suspending the METCO and Materials Fee programs to new entrants as of September 2014 would reduce the Town’s financial exposure over the next 13 years by one-half, or over \$53-million, although the Town would still face some \$53-million of costs for non-resident students currently enrolled. As of the issuance of this report, the PSB has made the determination not to suspend new admissions to the METCO or Materials Fee programs for September 2014, although the programs may be slightly reduced in size. Scaling down these programs will somewhat reduce the \$106-million in future costs, but not nearly to the extent that would result from full adherence to the PSB and METCO “space available” guidelines. Note that the \$106-million estimate was limited to a 13-year time frame; if participation in both non-resident programs is to be maintained indefinitely, the potential financial impact upon the Town would be multiples of that amount.

It is not the purpose of the analyses presented here to offer or to reach any conclusions as to the appropriateness and public benefit of continued participation at current levels by the Town of Brookline in one or both of the non-resident student programs. It is, however, entirely appropriate for the benefits being ascribed to these programs to be evaluated relative to their actual individual, i.e., per-student, and combined, i.e., program-wide, costs to the Town. It is hoped that the analysis provided here will make a positive contribution to that effort.

THE ECONOMIC IMPACT OF ENROLLMENT GROWTH ON THE BROOKLINE PUBLIC SCHOOLS

Lee L. Selwyn
Override Study Committee

Introduction

This report was prepared for and was adopted as a report of the Population and Special Education Task Force of the Override Study Committee to examine the long run financial impact upon the Town of Brookline resulting from the recent and anticipated future enrollment growth in the Brookline Public Schools. Over the nine school years, from 2005-06 through 2013-14 (fiscal year (FY) 06 through FY14), the total K-12 enrollment in the Brookline Public Schools increased by 21.9% from 5,766 to 7,030 – an increase of 1,264 students. Over that same period, the total annual cost of the Brookline Public Schools experienced an increase that was roughly commensurate with the jump in enrollment – about 18.6% on an inflation adjusted basis. The total PSB enrollment in FY14 included approximately 475 non-resident students¹ who attended Brookline schools under the “Metropolitan Council for Educational Opportunity” (METCO) program or the so-called “Materials Fee” program under which children of non-resident School and non-School employees of the Town of Brookline are offered enrollment in the Brookline public schools for a nominal “materials fee” (\$2,490 in FY14 with a 5.0% discount for each additional child in the same family).² METCO enrollment has been relatively constant at about 300 students for many years, but Materials Fee enrollment has been increasing over the past several years.³ While the total growth in PSB enrollment cannot be attributed to either of these non-resident student programs, METCO and Materials Fee students do occupy capacity and make use of resources that could otherwise be used to support the growth in *resident* student enrollment. Thus, Brookline’s continued participation in these two non-resident student programs does have significant economic consequences for the Brookline Schools and for the Town as a whole. In this report, we undertake to quantify the extent of that economic impact over the long run.

1. “The Public Schools of Brookline Override Study Committee Presentation – FY14 and Beyond,” School Department presentation to the Override Study Committee, October 3, 2013 (“October 3 presentation”), at 53, 56 (297 METCO and 178 Materials Fee).

2. *Policy Manual of the Public Schools of Brookline (“Policy Manual”)*, at J-14. No specific explanation is provided as to the basis for the Materials Fee amount. In FY15, the charge will increase to \$2,565 with a 7.5% (\$192) discount for each additional child in the same family.

3. October 3 presentation, at 56 (increase from 136 in FY10 to 178 in FY14).

The Public Schools of Brookline Policy for Enrollment of Non-resident Students

The *Policy Manual of the Public Schools of Brookline* (“*Policy Manual*”) sets out a number of specific conditions governing the admission of non-resident students under the METCO and Materials Fee programs and several other categories of non-resident student admissions:

All new non-resident students will be admitted, with the permission of the Superintendent of Schools, *on a space available basis* and will be charged full tuition as has been established by the School Committee, except under the following circumstances when part or all of the tuition may be waived:

- a. Students enrolled in the METCO program.
- ...
- f. Children of non-resident employees (including teachers) of the Town, with the following conditions and qualifications
 - 1.) Payment of \$300 processing fee.
 - 2.) First priority to tuition paying students in instances of limited space.
 - 3.) Second priority shall be given to non-resident teachers in cases of limited space.
 - 4.) *All staffing shall be done on the basis of tuition paying or resident students.*
 - 5.) At Brookline High School, the decision as to whether space is available or not is at the discretion of the Superintendent of Schools, rather than on a class-by-class basis.
 - 6.) The cost of special education services connected to Chapter 766 and any other Massachusetts or federal statute will have to be borne by the employee’s town or city of residence, or by the individual.
 - 7.) Children will be allowed to attend those schools where space is available. However, the Superintendent of Schools reserves the right to make the necessary changes in any school or individual grade.⁴

And specifically with respect to METCO admissions, the *Policy Manual* provides that:

The Superintendent of Schools is authorized to admit new students from the METCO (Metropolitan Council for Educational Opportunity) program from Pre-K through Grade 4, subject to the School Committee’s guidelines for class size

4. *Policy Manual*, at J-11, emphasis supplied. The quoted language is included in a section the title of which refers to the children of non-resident employees, but the text itself refers to “all new non-resident students” and to METCO students (providing for waiver of tuition). In any event, METCO’s policies make clear that placements are to be made only when seats are available.

*and subject to the availability of funds for the METCO program from the Massachusetts Department of Education.*⁵

In addition, the Massachusetts Department of Elementary and Secondary Education states that METCO placement decisions are based on, among other factors, “district grade and seat availability” in “school districts with openings for the particular grade level needed.”⁶ Conceptually, the policy of conditioning non-resident student attendance in the Brookline Public Schools (a) to a “space available” or “seat available” basis, with the further conditions (b) that, in the case of Materials Fee students, “staffing levels be set “on the basis of tuition paying or resident students,” (c) in the case of Materials Fee students, that “[t]he cost of special education services ... will have to be borne by the employee’s town or city of residence, or by the individual, and (d) that funds are available for the METCO program from the Massachusetts Department of Education, would all suggest that the potential economic impact of such admissions upon the total cost of the Brookline school system would be significantly different – and much smaller – than for resident students whom the Town and the School Department have a legal obligation to serve. Offering a non-resident student a seat that might otherwise go unused in a classroom imposes no significant amount of long-run economic costs on the school system other than ancillary services the student might require – because at such time as the seat assigned to the non-resident student is required by a Brookline resident, the “space available” policy would require that the non-resident student’s continued enrollment be discontinued and the seat be reassigned to a resident. But if that does not happen, if the non-resident student is allowed to remain in the Brookline schools while at the same time the additional resident will also be accommodated, *the economic cost to the Town as between the additional resident and the previously-admitted non-resident student is exactly the same*, subject only to specific differences in the nature of specific services that may be provided to each. In the specific case of non-resident METCO students, moreover, the *Policy Manual* expressly conditions enrollment on “the availability of funds for the METCO program from the Massachusetts Department of Education.”

The Brookline School Department, however, neither adheres to nor enforces *any* of these policy prescriptions:

- (a) *There is no “space available” for the nearly 500 non-resident students in the Brookline Public Schools and there is no evidence that this condition for admission has ever been enforced.* Indeed, asserted urgency of the need to expand the capacity of existing school buildings – or to construct new ones – serves to underscore this fact.

5. *Id.*, at J-10, emphasis supplied.

6. See <http://www.doe.mass.edu/metco/faq.html?section=c>

- (b) Staffing levels are clearly not based upon the needs of resident students only, but on the total enrollment in the PSB.
- (c) Special education services that are provided to non-resident students are paid for by Brookline taxpayers. The School Department receives no reimbursement from METCO or from the Materials Fee student's town or city of residence, or from the individual non-resident Town employee.
- (d) The "availability of funds for the METCO program from the Massachusetts Department of Education" is woefully insufficient to cover the cost of the Town's participation in METCO.
- (e) Non-resident students – both METCO and Materials Fee – are accepted into the Brookline Public Schools well before the number of entering resident students is known, further contravening the "space available" policy.

It is this lack of adherence to or enforcement of the School Department's own stated and adopted policies that fundamentally alters the economic impact of these programs from one that involves only short-run out-of-pocket costs to one that imposes the same type of long run costs as those associated with serving Brookline residents.

When the METCO program was initiated in the mid-1960s, the Massachusetts Department of Education ("MDOE") compensated participating districts at a level that represented a far greater proportion of the district's per-student cost than it does today. Indeed, the MDOE is seemingly required to maintain this policy – i.e., compensating participating districts at something close to the full cost of educating METCO students – under applicable state law.⁷ However, while the

7. M.G.L. c. 76, Section 12A provides that "[t]he school committee of any city or town ... may adopt a plan for attendance at its schools by any child who resides in another city, town, or regional school district in which racial imbalance, as defined in section thirty-seven D of chapter seventy-one, exists in a public school. Such plan shall ... include an estimate of the expenses necessary to implement such plan. Such school committee or regional district school committee shall file a copy of such plan and the vote by which it was adopted with the [state] board of education If it approves such plan, the board, acting through the commissioner of education and on behalf of the commonwealth, shall enter into an agreement with such school committee ... providing that such school committee ... shall accept for attendance at its schools non-resident children as provided by such plan and that the commonwealth shall provide financial assistance to such city, town, or regional district school committee as provided by this section; provided, however, that such agreement may provide that such school committee or regional district school committee waives all or any part of such financial assistance. No such school committee or regional district school committee shall be required to implement any such plan unless and until it and the board have entered into such an agreement providing for the amount of financial assistance and the terms on which such assistance shall be provided." ... "The commonwealth shall, subject to appropriation and upon certification by the board, provide financial assistance in accordance with such agreement. *Such financial assistance shall include payments for: (i) the cost per pupil of educating each non-resident child, as approved by the board; (ii) the cost of transportation of each such child, as approved by the board; and (iii) the cost, as approved by the board, of special education services provided to each such child determined to be in need of such services pursuant to chapter seventy-one B.* The board shall, by regulation, define the special education costs eligible for such financial assistance." See,

(continued...)

average cost per student in Brookline has increased to approximately \$17,000 over the more than four decades since METCO began, the MDOE’s reimbursement has actually *decreased* (on an inflation-adjusted basis) since that time. For FY14, for example, the Town of Brookline received a total of \$1,336,196 in METCO funding, out of which the Town spent \$327,884 on transportation of METCO students and \$492,487 for certain METCO program-specific staff costs, providing a net contribution to the overall costs of the Brookline Public Schools of only \$515,825,⁸ or about \$1,737 per METCO student – i.e., *slightly more than one-tenth of the \$17,000 fully-loaded (i.e., Schools + Town) average cost.*

The PSB’s stated policy guidelines – and the assumption that they are being adhered to – serve to create the (false) impression that the economic impact of these non-resident programs on the total cost of the Brookline school system is minimal, and can be thought of as being limited to short-run out-of-pocket costs, as implied by the term “materials fee” that is used to describe the non-resident admissions being offered to Town employees. These policy prescriptions are being ignored, however, and it is precisely because these policies are being ignored that it is fundamentally incorrect, as an economic matter, to view the cost impact of enrolling non-resident students as differing in any material way from the cost impact of enrolling Brookline residents. And the appropriate standard for evaluating the economic impact of all PSB students – resident and non-resident – is *long run incremental cost.*

Enrollment growth, from whatever source, engenders the same types of long run costs

In the context of a persistently expanding student population, the long run incremental cost per additional student, when multiplied by the growth in the total number of students, provides an indication of the total additional cost that the Town of Brookline will incur annually to accommodate the higher level of enrollment. Were we dealing with stable enrollment and a steady-state condition, “long run” would instead refer to the time frame in which, for example, school renovation projects (as distinct from school expansion projects) would be planned and pursued, because were a *decrease* in school population to occur within that time frame, some renovation could be postponed or cancelled if space became surplus. In the current context, of course, we are dealing with ongoing and persistent expansion in capacity needs and capacity expansion programs that are slated to take place over the next several years. Thus, for our purposes, “long run” refers to precisely the time frame that the Override Study Committee (OSC) is dealing with – i.e., FY15 through FY19 and beyond.

7. (...continued)

<https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXII/Chapter76/Section12A> . Emphasis supplied.

8. October 3 presentation, at 55. The School Department uses the \$515,825 net contribution to pay the salaries of six classroom teachers.

Of particular relevance to the task of the Override Study Committee, long run incremental cost can also be used as a basis for estimating the additional costs that can be *avoided* if, as a result of a change in PSB policy, the rate of growth can be attenuated. By examining cost changes over an extended period of time – nine years in this case – we can identify and quantify long run cost effects of enrollment growth and in so doing assess the consequences to long run costs of deviations from the current long run enrollment growth trajectory.

While many factors likely influence the total cost of operating the Brookline Public Schools, total enrollment appears to be a major, if not the principal, cost driver, when examined over an extended period of time. And it is the long run that represents the relevant and appropriate time frame for assessment of enrollment-driven cost impacts. This approach is referred to as a “top-down” type of cost analysis. In a “top-down” analysis, we focus upon the aggregate cost of operating the school system without separately and subjectively examining the individual line-item components of such costs as would be done in a “bottom-up” type of study. In addition, we look at conditions affecting aggregate costs over an extended “long run” time frame. The “long run” in this context refers to a time period over which most costs can be varied – i.e., are affected by the change in total enrollment. Physical classroom and other space needs increase with increased enrollment, and given the time required to plan and implement school building construction and expansion programs, building capacity will need to be adjusted to meet the additional space requirements. While building capacity is often thought of as being fixed, at least in the near term, the ongoing and persistent enrollment growth being experienced in the Brookline schools requires a corresponding ongoing planning, funding and construction horizon to assure that additional capacity will be available when needed. In the context of persistent and ongoing growth, the “long run,” which embraces the time frame in which capital and other capacity-related costs will be either incurred or avoided, is thus relatively short. Thus, if we are looking at projects that will commence within the next one, two, or three years, then “long run” refers to that length of time in that, but for the additional capacity that would be required, these additional (incremental) costs would not need to be incurred.

The specific extent to which individual elements of cost vary with total enrollment depends both on the nature of the element itself and the time frame over which it is being examined. For example, personnel costs (such as teachers, aides, special education teachers, and other professional and non-professional staff) tend to increase (or decrease) as enrollment increases (or decreases) even from one year to the next. Additional teachers are being recruited and hired in each school year both to replace those that are retiring or otherwise leaving the Brookline system, or where additional personnel are needed to accommodate growth in total enrollment. If enrollment is growing, additional personnel can be hired; if enrollment is decreasing, some of those retiring or leaving may not need to be replaced. Other costs vary less directly, at least from one year to the next, but will still vary with enrollment over time. For example, as the growth in student enrollment drives the recruitment and hiring of additional teachers, those additional teachers will in turn require additional classrooms and associated common facilities in each school building and, as the number of classroom teachers increases, so too will the need for support staff both within each individual building as well as district-wide. While classroom

capacity may be relatively fixed in the short run because it would be difficult or impossible to augment existing buildings from one year to the next unless plans to do so had been initiated several years earlier,⁹ the ultimate need to increase building capacity constitutes a long run enrollment-driven cost that must be fully recognized in any economic analysis.¹⁰

The alternative to a “top-down” approach is a “bottom-up” analysis. In a bottom-up analysis, one would carefully – and often subjectively – examine the nature and timing of cost variation on a line-item basis. This would be done with respect to each individual cost element – e.g., classroom teachers, guidance counselors, nurses, specialty teachers, administrators, other professional staff (librarians, IT support staff), special education teachers and other staff, and non-professional staff, classroom and common space capacity, heat and utilities, etc. A “bottom-up” type of analyses does have certain utility in examining year-over-year budgetary requirements where long-run cost impacts are rarely addressed. However, a bottom-up approach is not useful for assessing or understanding long run cost effects that are driven by processes that occur over extended – and different – periods of time. And when examining such long-run effects, the highly detailed bottom-up type of analysis is both a difficult undertaking and is one that may be susceptible to considerable subjective judgment and error.

Enrollment-driven long run incremental costs of the Brookline Public Schools

Through its Schools Subcommittee, the Override Study Committee (OSC) undertook to examine the long run relationship between total enrollment and total cost. This involved the development of a “long run incremental cost” (LRIC) analysis using econometric modeling techniques that are widely used in the economics profession. The approach develops a long run incremental cost per student per year. “Incremental cost” as used here, is distinguished from “marginal cost” in that the latter is normally thought of in terms of the additional cost of supplying one additional unit of output (e.g., the additional cost of serving one additional student), whereas the former concept, while still expressed on a per-unit (e.g., per student per year) basis, is calculated over an *increment* of output, such as the total growth in PSB student enrollment from one year to the next.

9. Even here, some year-over-year capacity adjustment may still be possible. For example, in response to classroom capacity exhaust in existing PSB buildings, the School Department is leasing classroom space in several synagogues for the Brookline Early Education Program (BEEP) that will free up space in K-8 buildings for use by K-8 classes. The costs associated with such space leases creates a short-run capacity cost that will vary from one year to the next in response to enrollment growth. Similarly, spaces within existing buildings can be and have been converted to classroom use more quickly than a new school or addition can be constructed.

10. If some portion of total enrollment was actually being offered only on a strictly space-available basis, such capacity-related costs – even including costs associated with personnel – would not arise with respect to such students since they would no longer continue to be served once space was no longer available. However, if the “space available” policy is not being adhered to or enforced, then *all* students contribute to capacity exhaustion and are equally responsible for driving capacity and other enrollment-driven long run costs.

The Economic Impact of Enrollment Growth on the Brookline Public Schools

The total cost of the Brookline School system for grades K through 12 is comprised of four principal components:

- (1) The specific allocation to the School Department in the Town's annual budget, including amounts allocated under the Town/School Partnership.¹¹ The use of funds allocated to the Schools is within the discretion and control of the Brookline School Committee;
- (2) Certain teacher costs not specifically associated with the METCO program and not included in the School Department allocation that are funded by the METCO grant;
- (3) Other costs incurred by the Town in addition to those directly allocated to the School Department, including School and retired employee medical insurance, pension benefits, building maintenance, debt service and amortization of principal for major School Department capital projects, and various other support functions; and
- (4) Certain "pay-as-you-go" Capital Improvement Program (CIP) costs incurred by the Town for relatively small School projects that are funded as part of the annual CIP budget.

For FY14, these cost components may be summarized as shown on Table 1:

11. Under the so-called Town/School Partnership, approximately 50% of the Town's operating expense budget is allocated to, and under the control of, the School Department and its use is solely within the discretion and approval of the Brookline School Committee. Costs in this category include direct personnel and other payments but do not include various overhead and other costs, such as health insurance, non-teacher pension contributions, debt service on school capital projects, and current revenue-funded capital spending on school-related projects, all of which are nevertheless driven by the spending decisions made by the School Committee and School Department.

Table 1	
BROOKLINE PUBLIC SCHOOLS	
Grades K-12	
FY14 COSTS	
Category	Amount
Costs allocated to the School Department under the Town/School Partnership	\$78,798,174
Cash payments made for out-of-district special education programs	\$5,255,584
Additional teacher salaries funded by the METCO after payment of certain METCO-specific program costs	\$515,825
Expenses incurred by the Town for Schools-related purposes	\$27,404,461
Debt service, including interest costs and amortization of principal, for major Schools projects	\$5,758,139
Annual Capital Improvement Program (CIP) costs associated with Schools projects	\$1,830,240
Total FY14 PSB costs	\$119,046,598

Adjusted for inflation and expressed in FY14 dollars,¹² total K-12 PSB costs jumped from \$100.4-million in FY06 to \$119.0-million in FY14, or by roughly \$18.6-million. The proportionate increase in inflation-adjusted costs and the increase in total enrollment over this period have been roughly the same, as shown on Table 2:

12. United States Bureau of Labor Statistics, *CPI Detailed Report Data for December 2013*, available at <http://www.bls.gov/cpi/>

Table 2					
BROOKLINE PUBLIC SCHOOLS CHANGE IN K-12 ENROLLMENT AND TOTAL COST FY06-FY14 – Adjusted for Inflation to FY14 dollars					
Fiscal Year	Enrollment	Pct increase since FY06	Total Expense	Pct increase since FY06	Average Cost per pupil
FY06	5,766		\$100,400,407		\$17,412
FY07	5,883	2.03%	\$101,208,497	0.80%	\$17,204
FY08	5,906	2.43%	\$103,673,270	3.26%	\$17,554
FY09	6,072	5.31%	\$108,726,603	8.29%	\$17,906
FY10	6,217	7.82%	\$111,504,106	11.06%	\$17,935
FY11	6,335	9.87%	\$109,651,696	9.21%	\$17,309
FY12	6,598	14.43%	\$111,296,082	10.85%	\$16,868
FY13	6,836	18.56%	\$115,007,828	14.55%	\$16,824
FY14	7,030	21.92%	\$119,046,598	18.57%	\$16,934

Using a “top-down” approach and employing multiple linear regression analysis, the Committee developed an estimate of the long run incremental cost per additional student at approximately \$15,748 in FY14 dollars.¹³ Going forward, the Town can expect to spend, on average, an additional \$15,748 (in FY14 dollars) per student per year for each additional student beyond the current (FY14) level (before adjusting for future inflation).

The approach that has been employed, and the incremental cost estimate that has been developed, is appropriate specifically in the context of a persistently growing Brookline public schools enrollment. Since the Town will be required to increase total PSB capacity to accommodate additional student population, the additional (incremental) cost associated with such capacity expansion is also the incremental cost that can be avoided if the extent of the required capacity expansion is reduced. This approach would not be appropriate in the absence of the type of ongoing and persistent growth that Brookline has been experiencing and that is projected to continue over at least the next five or more years. That is, if instead the student population

13. The estimated coefficient from the regression model was \$15,159. It was the judgment of the Override Study Committee that due to a small degree of imprecision in the available input data, it would be appropriate to limit the precision of the estimate to two significant digits, i.e., rounded to the nearest \$1,000. The Committee also believed that calculations should be subject to a sensitivity analysis covering a range of \$1,000 below and \$1,000 above the base estimate – i.e., \$14,000 to \$16,000. The \$15,748 is based upon the regression analysis estimate of \$15,159 rounded to \$15,000, plus an additional \$748 representing the total cost of out-of-district programs spread over all *resident* students. The rounding and the sensitivity range are reflected in the analyses that follow.

was expected to remain relatively stable over the same time frame (FY15 through FY20), the Town would not avoid the entire \$15,748 per student if the enrollment level were to decrease below the current steady-state baseline. But that is not the situation we presently confront.

The “top-down” regression analysis methodology

In a “top-down” type of analysis, we focus upon the total cost of operating the school system without separately and subjectively examining the individual line-item components of such costs as would be done in a “bottom-up” type of study. Regression analysis is a statistical process for quantitatively estimating the relationships among variables. More specifically, regression analysis helps one understand how the value of the dependent variable changes when any one of the independent or explanatory variables changes while the other independent variables are held constant. It is a widely used and widely accepted economic analysis technique for prediction and forecasting.

In undertaking a regression analysis, one begins by hypothesizing intuitive relationships as between a “dependent” variable and one or more “independent” or “explanatory” variables. Regression analysis then provides a mathematical process for testing the statistical validity of the hypothesized relationship or “model.” A key element of any such hypothesis is an assumption of *causality*. In this instance, we are seeking to identify the factor(s) that most directly affect the total cost of operating the PSB system.¹⁴ We can reasonably infer a causal relationship of some sort flowing from the total number of students in the system to the total cost of operating the system.¹⁵ Note that under this approach, we do not distinguish between resident and non-resident student populations because the per-student impact, other than adjusting for certain significantly expensive services differentially used by each group (which we discuss below), is the same. Regression analysis provides a mathematical process for quantitatively assessing the extent to which this one factor, together with other potential explanatory variables, affects the total annual cost of the PSB.

The regression is calculated based upon total Schools+Town K-12 costs, exclusive of Out-of-District special education tuition payments, which are added to the regression results to obtain the total long run cost estimate. The first step in this process is to plot the data as a series of points on a “scatter diagram” and visually examine whether or not there appears to be some

14. Regression analysis cannot test for causality as such and, in fact, a good mathematical result may sometimes be found between entirely unrelated variables. For example, comparing two variables both of which are experiencing steady growth (e.g., the average height of students in a given class in each year starting with kindergarten and running through the 12th grade vs. the total cost of operating the school system over the same period) would likely yield a good statistical result, but would be meaningless since there is no intuitive basis to expect a causal relationship between these two series.

15. The alternate assumptions are (1) causality flowing from the total cost to the number of students, or (2) no causal relationship at all. Neither of these make intuitive sense in this case, and thus can be discarded.

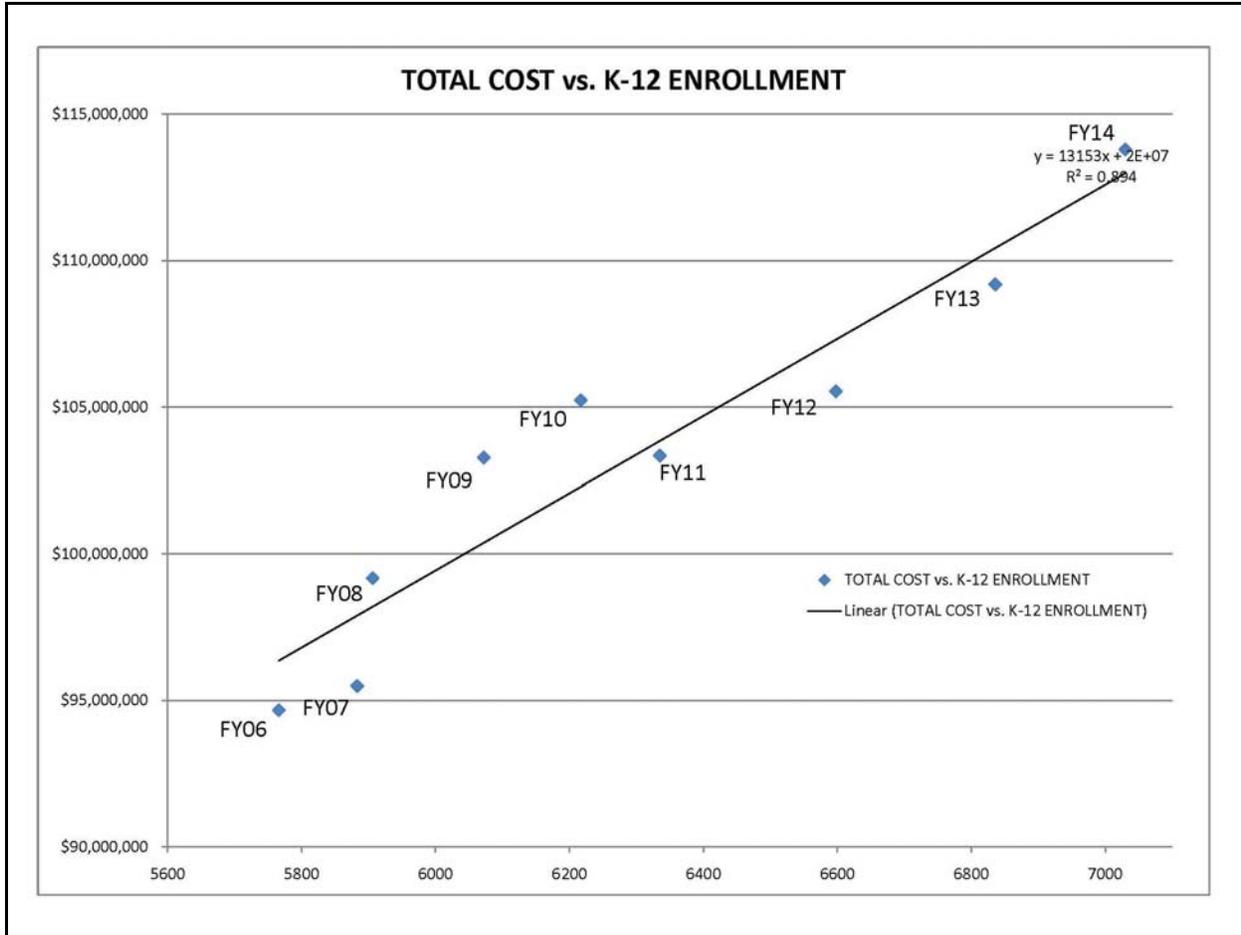


Figure 1. Scatter diagram showing relationship between number of PSB K-12 students (horizontal axis) and total inflation-adjusted annual K-12 operating costs of the Brookline Public Schools (vertical axis).

relationship, i.e., whether the dots exhibit some pattern, such as a straight line, or are spread all over the graph. Figure 1 plots points for each of the fiscal years 2006 through 2014, with the total inflation-adjusted cost of the Brookline school system on the “Y” or vertical axis and the number of enrolled K-12 students on the “X” or horizontal axis. The “trend line” that is drawn through the plotted points is calculated mathematically, and has the property of minimizing the sum of the squares of the distance between each of the various points and the line. Put simply, the line is located such that it is closest to most of the points.

An examination of the points on the graph and the trend line suggests a very close and linear relationship between the number of students and total cost. There are, however, two points that appear well above the trend line – i.e., that appear to deviate most from the plotted relationship. These are the points for FY09 and FY10. In such a situation, it is important to attempt to identify and if possible to explain the source(s) of the departure(s) from what is otherwise a very

close linear relationship and to reflect such source(s) in the regression model. As it turns out, there were events in FY09 and FY11 that appeared to be responsible for the deviations:

- FY09 – the Town implemented a \$6.2-million tax override that was adopted by the voters in May 2008. \$4.1-million of this amount was specifically earmarked for the Brookline Public Schools, with an additional \$1.5-million to be used for improvements to School and Town buildings, streets and sidewalks.
- FY11 – the Town joined the state Group Insurance Commission (GIC) employee health insurance plan, providing a reported savings of roughly \$5.6-million in annual health insurance costs.

The regression modeled the total inflation-adjusted annual cost (dependent variable) against three potential independent (explanatory) variables:

- Total K-12 enrollment
- A “dummy variable” representing the onset of the FY09 tax override, which was set at 0 for FY06 through FY08, and 1 for FY09 through FY14
- A “dummy variable” representing the adoption for FY11 of the GIC employee health insurance in FY11, which was set at 0 for FY06 through FY10, and 1 for FY11 through FY14

When included in a regression model, the use of one or more “dummy” variables permits the modeler to test whether the factor represented by the dummy variable has a statistically significant effect upon the dependent variable and, if it does, to quantify its specific impact. Both the “Override” and “GIC” dummy variables were found to be highly statistically significant, and are thus properly included among the explanatory variables in the model.¹⁶ The regression statistics are provided on Table 3 below.

16. In an alternate specification of the model, both the total student population and the special education population were included as explanatory variables. However, this turned out to be problematic because these two series are highly correlated – the “correlation coefficient” associated with these two series was calculated at 0.967995. Inclusion of two highly correlated independent variables results in a property of the model known as “multicollinearity,” such that the regression calculation cannot separate the individual effect of each of the highly correlated variables on an “all else equal” basis. In the model run that included both variables, the special education variable was found to not be statistically significant. In addition, its coefficient had a negative value, which would suggest (had the variable been statistically significant) the anomalous result that an increase in the number of special education students would have resulted in a reduction in the total cost of the system. These types of outcomes are not atypical for a model specification where multicollinearity is present. Thus, the model that included both total and special education enrollment must be rejected.

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.985297979
R Square	0.970812107
Adjusted R	0.953299372
Standard E	1336624.451
Observatic	9

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>ignificance F</i>
Regressor	3	2.97E+14	9.9E+13	55.43463	0.000293
Residual	5	8.93E+12	1.79E+12		
Total	8	3.06E+14			

	<i>Coefficients</i>	<i>andard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	7,735,487	14474853	0.534409	0.615957	-2.9E+07	44944281
PUPILS	15,159	2470.111	6.137056	0.001668	8809.588	21508.83
2009 OVEF	3,367,773	1418454	2.374256	0.063616	-278479	7014025
2011 GIC	(4,704,306)	1794719	-2.62119	0.04703	-9317778	-90834.3

DUE TO A MINOR LEVEL OF IMPRECISION IN THE SOURCE DATA, THE OVERRIDE STUDY COMMITTEE HAS DETERMINED THAT THE ESTIMATE OF THE LONG RUN INCREMENTAL COST PER PUPIL SHOULD BE ROUNDED TO THE NEAREST \$1000, TOGETHER WITH A CONFIDENCE RANGE OF +/- \$1000

BASE ESTIMATE	LOWER BOUNDER BOUND
\$ 15,000	\$ 14,000 \$ 16,000

Table 3. Regression Model Statistical Output

When the model is evaluated based upon the three explanatory variables – total K-12 enrollment (“PUPILS”), the FY09 override dummy variable (“OVERRIDE”) and the FY11 GIC dummy variable (“GIC”), the results are highly statistically significant:

- The r^2 of the model, the so-called “coefficient of determination,” is 0.9708, indicating that the model explains or accounts for 97.08% of the variation in the total cost of operating the PSB.
- The t -statistic, which provides an indication of the statistical significance (confidence) of each of the three explanatory variables, is highly significant; with respect to the PUPILS variable (6.1370), it is in excess of the 99.9% confidence level, and is approximately at the 97.5% confidence level with respect to each the two “dummy” variables.
- The t -statistic for the “intercept” term (0.5344)– where the regression line intersects the Y-axis at the theoretical level of zero students – is *not* statistically significantly different from zero at the 95% confidence level, suggesting that the overall cost of operating the school system varies in direct proportion to its overall size.

Given the strong statistical confidence that the model exhibits, it provides a reliable basis to assess the long run incremental cost impacts of the various policy alternatives that the OSC may consider as these affect total PSB enrollment, and can confidently be utilized for that purpose.¹⁷

The effect of different Special Education obligations on the long run costs of resident and non-resident students

M.G.L. c. 766 requires all local school districts in the Commonwealth to provide programs and educational opportunities for students with “special needs” that are intended to assure that all such students receive “a free and appropriate public education in the least restrictive environment.”¹⁸ In FY14, the Brookline School Department expended approximately \$21.8-million for special education programs serving students in the K-12 grades. When adjusted for the various additional costs (benefits, building maintenance, capital improvements, etc.) that are borne by the Town, the total Town spending on special education for FY14 was approximately \$29.3-million. Note that these are the costs specific to special education programs, and do not include the normal costs associated with the special needs students’ “mainstream” participation in regular elementary and high school classes. In FY14, roughly 24.65% of the total (Schools plus Town) K-12 costs of the Public Schools of Brookline were devoted to costs specific to special education programs.

The School Department’s *Policy Manual* provides that, with respect to Materials Fee students, “[t]he cost of special education services connected to Chapter 766 and any other

17. Because the source data used to develop the regression model was compiled from several different sources, the Override Study Committee felt that the precision of the regression coefficient should be limited to two significant figures. Hence, the calculated coefficient of the dependent variable, PUPILS, \$15,159, was rounded to \$15,000.

18. M. G. L. Ch. 71B, §2.

Massachusetts or federal statute will have to be borne by the employee’s town or city of residence, or by the individual.” The *Policy Manual* expressly conditions Brookline’s participation in the METCO program upon “the availability of funds for the METCO program from the Massachusetts Department of Education.”¹⁹ Because the School Department has not been following either one of these policy prescriptions with respect to those special education services being provided to METCO and Materials Fee students, the entirety of the costs of such services are being borne by the Brookline school district. The cost analysis presented here necessarily reflects this reality and the differential usage of various types of special education services, items with significant budgetary impacts, by different categories of students.

When a special needs student requires an out-of-district placement, the Town is required to pay the full tuition for the out-of-district program. In the case of a METCO or Materials Fee special needs student requiring an out-of-district placement, the non-resident student is transferred back to his or her home district, which will then bear these costs. Most other special needs services are provided in the student’s elementary school building or in the High School, and METCO and Materials Fee students with special needs participate in such programs with only limited “circuit-breaker” reimbursement of costs coming from the MDOE, and none at all from the students’ home districts. The School Department also maintains several “district-wide” special needs programs that offer an alternative to out-of-district placements, participation in which is limited mainly to resident students. The proportion of METCO and Materials Fee special needs students who do receive special education services in their respective schools is substantially greater than for resident students, as summarized in Table 4 below for FY14:

Table 4			
PLACEMENTS IN IN-BUILDING SPECIAL EDUCATION PROGRAMS			
Category	Total enrollment	Special Education	Percent of Total
Brookline resident	6,555	893	13.62%
METCO	297	79	26.60%
Materials Fee	178	41	23.03%
Total K-12 PSB	7,030	1,013	14.41%

The magnitude of special education costs, coupled with the disproportionate participation as between resident and non-resident students, suggests that the system-wide long run incremental cost per student (\$15,748) may differ as between resident and non-resident students due specifically to their differential need for special education services.

19. *Policy Manual*, at J-11.

Table 5 below demonstrates this condition. There are three categories of special education services – out-of-district, district-wide, and in-building. The first two of these are limited to Brookline residents and thus their costs are properly assigned entirely to the resident student population. The in-building category serves all three groups, and so the costs of these services should be allocated in proportion to each group’s relative participation.

Table 5			
LONG RUN INCREMENTAL COST PER STUDENT ADJUSTED TO REFLECT RELATIVE USE OF SPECIAL EDUCATION SERVICES			
LRIC per student			
Category	Base estimate	Lower bound	Upper bound
Brookline resident	\$15,658	\$14,658	\$16,658
METCO	\$17,276	\$16,276	\$18,276
Materials Fee	\$16,512	\$15,512	\$17,512
Overall average	\$15,748	\$14,748	\$16,748

These costs are offset, to a limited extent, by a nominal amount of revenue that Brookline receives from the MDOE (in the case of METCO) and from Town employees whose children attend Brookline schools under the Materials Fee program. A large portion of the MDOE METCO payment is, however, used to fund certain METCO-specific costs – transportation and METCO staff – and is thus not available to defray general PSB costs. Table 6 below provides the long run incremental cost per student (in FY14 dollars) net of payments to the Town:

Table 6			
LONG RUN INCREMENTAL COST PER NON-RESIDENT STUDENT NET OF REVENUES RECEIVED			
Net LRIC per student			
Category	Base estimate	Lower bound	Upper bound
METCO			
LRIC	\$17,276	\$16,276	\$18,276
Revenue	\$1,737	\$1,737	\$1,737
Net long run cost	\$15,540	\$14,540	\$16,540
Materials Fee			
LRIC	\$16,512	\$15,512	\$17,512
Revenue	\$2,490	\$2,490	\$2,490
Net long run cost	\$14,022	\$13,022	\$15,022

Multiplying these per-student net long run costs by the number of students in each program, we can estimate the annual net cost being absorbed by the Brookline Public Schools in connection with serving these non-resident students:

Table 7			
FY14 NET LONG RUN INCREMENTAL COST OF BROOKLINE'S PARTICIPATION IN THE METCO AND MATERIALS FEE PROGRAMS			
Category	Base estimate	Lower bound	Upper bound
METCO			
Net LRIC per student	\$15,540	\$14,540	\$16,540
FY14 students	297		
Total net long run cost	\$4,615,264	\$4,318,264	\$4,912,264
Materials Fee			
Net LRIC per student	\$14,022	\$13,022	\$15,022
FY14 students	178		
Total net long run cost	\$2,495,892	\$2,317,892	\$2,673,892
Total FY14 Cost for Non-Resident Student Programs			
Total net long run cost	\$7,111,156	\$6,636,156	\$7,586,156

The long term financial impact of the METCO and Materials Fee programs

Table 7 provides estimates of the annual long run cost (based upon FY14 data) of the Town’s participation in METCO and its support for the Materials Fee program, and puts the combined cost of these two programs *in the range of about \$6.6-million to \$7.6-million annually*. The Override Study Committee has been advised that it is the School Department’s practice (although apparently not specifically expressed in any formal written polity) that once a METCO or Materials Fee student is admitted to the Brookline Public Schools, the School Department will commit to continued enrollment for that student through the 12th grade and graduation from Brookline High School.²⁰ Moreover, the Committee has been advised that in the case of METCO, the Department’s objective is to maintain METCO enrollment at approximately 300, such that if and when any METCO student withdraws from the program in Brookline, the slot so vacated will be made available to another METCO student, although not necessarily in the same grade or in the same building. The Override Study Committee has also been advised that it is the

20. In the case of children of non-resident Town and School employees, the commitment is maintained only so long as the parent remains employed by the Town.

policy of the School Department to offer enrollment on a priority basis to entering non-resident kindergarten children who have older siblings already enrolled in the Brookline Schools and, moreover, in such cases the entering kindergarten student will be placed in the same building as his or her older sibling.²¹

It is not our purpose here to address the efficacy or merit of the current School Department practice of assuring continued enrollment of non-resident students through 12th grade graduation irrespective of space availability or funding. The merits of this practice aside, it does create a substantial financial commitment for the Brookline Public Schools and the Town over an extended period of time. Consider the following. If each non-resident child entering kindergarten in the fall of 2014 is assured continued enrollment in the Public Schools of Brookline through graduation from High School, that represents a commitment of the per-student long run incremental cost per year, less any offsetting revenue, adjusted for inflation and discounted for the time value of money, over the entire 13-year period over which those costs will continue to be incurred. Because this is not a *legal* obligation of the Town, it does not carry the same unfunded liability status as, for example, post-retirement medical benefits that the Town is legally obligated to provide.²² However, if the practice of assuring enrollment through graduation is viewed as a given, such a “commitment” has major and serious financial consequences. This is illustrated in Table 8 below. Starting with the estimated LRIC per

21. It has frequently been suggested by the School Department that it has greater flexibility in the assignment of nonresident students to specific buildings than is the case for Brookline residents, for whom a specific effort is made to assign them to a building in their neighborhood, and that this additional flexibility enables the non-resident students to be served at lower cost than for Brookline residents. The commitments described here undermine that contention. Once initially assigned to a specific building, the non-resident student – and any subsequently arriving siblings – will be assigned to the same building. Thus, the only “flexibility” in school assignment that may (arguably) be available in the case of non-resident students is limited to those entering kindergarten who do not already have any older siblings in the system. The Superintendent has advised the OSC that between 40% and 50% of entering kindergarten students in any given year will have older siblings in the Brookline schools. Thus, out of the roughly 480 METCO and Materials Fee students that are expected to be enrolled in the Brookline Public Schools in the 2014-15 (FY15) year, only about 20 will potentially be eligible for this type of “flexible” assignment. Moreover, the Superintendent has also indicated that school building assignments for entering METCO and Materials Fee kindergarten students are typically made by the end of April, which has the operative effect of placing any Brookline residents who register for September enrollment after April of any given year *behind* the non-residents in the school building assignment priority. Information provided by the School Department indicates that new METCO and Materials Fee students have over the last three school years been advised of their admission in February, well before the total resident class size is known. The practice of admitting and assigning non-resident ahead of many resident students has been followed despite the fact that School Department policies provide that admissions decisions regarding non-resident students are to be on a “space available” basis and further provide that admissions decisions regarding Materials Fee students are not have to be made until June. *Policy Manual*, at J-12 to J-13.

22. At the May 12, 2014 meeting of the OSC’s Population and Special Education Subcommittee, the Executive Director of METCO, Inc. suggested that the Town had a *legal* obligation to provide enrollment in the PSB to existing METCO students through High School graduation. However, when asked for a citation to the law being referred to, she was unable to do so at that time. Town Counsel should be requested to determine whether any such legal obligation exists. If it does, the Town may be required to reflect the potential cost of fulfilling this obligation as an unfunded liability on its financial reports.

METCO and per Materials Fee student, respectively, and offsetting these by the net per-student contribution in excess of METCO-specific costs that is provided by the MDOE or the per-student Materials Fee revenue, we calculate the net present value of the inflation-adjusted net annual long run incremental costs of these two programs over the full 13-year period.

Table 8			
LONG RUN INCREMENTAL COST CONFRONTING BROOKLINE FOR NON-RESIDENT STUDENTS ENTERING KINDERGARTEN IN SEPTEMBER 2014			
Category	Net LRIC per student		
	Base estimate	Lower bound	Upper bound
13-Year cost per METCO student net of revenues	\$202,015	\$189,015	\$215,015
13-Year cost per Materials Fee student net of revenues	\$182,284	\$169,284	\$195,284
METCO Kindergarten enrollment, Sept 2014	22		
Mat. Fee Kindergarten enrollment, Sept 2014	20		
13-year net cost to the Town for the Sept 2014 METCO cohort	\$4,444,328	\$4,158,328	\$4,730,328
13-year net cost to the Town for the Sept 2014 Materials Fee cohort	\$3,645,685	\$3,385,685	\$3,905,685
Total 13-year net cost to the Town for the Sept 2014 non-resident cohort	\$8,090,013	\$7,544,013	\$8,636,013

Put simply, once the September 2014 non-resident kindergarten cohort is enrolled in the Brookline schools, the Town of Brookline will acquire a *de facto*, if not a legally enforceable, obligation to spend some \$8.1-million (in net present value terms) over the next 13-years until these students graduate from high school. A corresponding financial commitment will arise in each subsequent year for each new non-resident cohort.

Using this same approach, the aggregate financial commitment confronting Brookline can be calculated for the METCO and Materials Fee programs. We have performed this calculation under two alternate scenarios:

- Scenario 1: Brookline suspends all further admission of new non-resident students on and after September 2014, but continues to honor the School Department’s commitment to educate all existing non-resident students through 12th grade graduation. This represents the financial commitment associated with those non-resident K-12 cohorts that are currently enrolled in the Brookline schools.

Scenario 2: Brookline maintains its existing level of participation in both programs indefinitely, and continues to admit new kindergarten cohorts each year.

Table 9 below summarizes the results of these cost impact calculations under both scenarios. In the case of Scenario 2, the calculation is based upon the same 13 year time frame that was used for Scenario 1, although since the Town’s participation in both programs is assumed here to continue indefinitely, the actual long term financial commitment is far greater. Note also that Scenario 1 is based upon two simplifying assumptions whose effects are opposite. First, it assumes that all new admissions are suspended, including siblings of existing program participants. If siblings were to continue to be admitted under this scenario, the cost impact would be greater. Second, Scenario 1 assumes that all students in each entering cohort remain in the Brookline schools through the 12th grade. To the extent that some attrition occurs, that some students drop out of these programs and are not replaced, the actual financial commitment would be somewhat lower. The figures shown in Table 9 retain the same +/- \$1,000 sensitivity on the base overall LRIC estimate as in the previous analysis.

Table 9			
LONG TERM FINANCIAL IMPACT OF CONTINUED PARTICIPATION BY THE TOWN OF BROOKLINE IN THE METCO AND MATERIALS FEE PROGRAMS			
	Base Estimate	Lower Bound	Upper Bound
Scenario 1: Suspend new admissions, maintain existing students through 12 th grade			
METCO	\$32,490,306	\$30,399,500	\$34,581,112
Materials Fee	\$20,725,903	\$19,247,790	\$22,204,016
TOTAL NPV	\$53,216,209	\$49,647,290	\$56,785,128
Scenario 2: Maintain full participation in both programs indefinitely (13-year time frame for cost estimate)			
METCO	\$59,454,355	\$55,628,367	\$63,280,342
Materials Fee	\$46,808,491	\$43,470,241	\$50,146,741
TOTAL NPV	\$106,262,846	\$99,098,608	\$113,427,084

Thus, even if Brookline were to suspend all new admissions of non-resident beginning with the 2014-15 School Year, there would still be a long run financial commitment over 13 years of \$53.2-million for the students already enrolled in these programs. But if Brookline continues along the path it has been following and continues to admit new non-resident students year after year, the financial commitment to non-resident students over the same 13-year period more than doubles, to roughly \$106.2-million unfunded by outside sources and with ongoing and increasing unfunded commitments in future years. Importantly, this latter calculation was limited to a 13-year time frame. However, if continued participation in both non-resident programs is to be continued indefinitely, and if participation in the Materials Fee program continues to increase as

it has in recent years, the potential financial impact upon the Town would be multiples of the \$106.2-million estimate presented here.

Changes in long run incremental cost attributable to the potential for large-scale capital spending on added K-8 and High School capacity

The foregoing analysis and regression model are premised upon the assumption that the same trends in PSB enrollment growth and capital expenditures that have been experienced over the FY06 through FY14 period will persist into the future. The OSC has been examining the impact upon capacity needs that would result from any of several specific modification to existing School Department policies regarding non-resident student enrollment, class size, improved school assignment efficiency, and other capacity-reducing measures. If additional K-8 capacity must be provided, that would modify – and increase – the trajectory of long run incremental costs going forward. These could include the proposed Driscoll expansion, and the construction of additional space at Brookline High School – or even the creation of a second high school building – in addition to the massive expansion of Devotion and the planned 4-classroom addition at Lawrence. The core assumption of the regression model and its use in extrapolating future long run costs thus cannot be sustained. If these large-scale capital projects prove to be necessary, the regression model would seriously *understate* the per-student long run incremental cost that will be experienced by the Brookline Schools going forward.²³

Some have suggested that the principal driver of growth in enrollment has come from resident, rather than from non-resident students, implying that reducing the number of non-resident students is not the solution to the PSB’s capacity needs. That view ignores the inescapable fact that *the economic cost to the Town as between each additional resident and each newly-admitted non-resident student is exactly the same*, subject only to specific differences in the extent of each group’s use of Special Education programs. Thus, if the School’s capacity requirements can be reduced by scaling back non-resident student enrollment, the effect is to offset resident growth and potentially to avoid, perhaps entirely, the capital expenditures that would be required to accommodate the growth in resident enrollment while maintaining all non-resident populations at their present levels.

A case in point can be seen with respect to the proposed Driscoll expansion that would accommodate an additional ten (10) sections, or about 210 K-8 students assuming no increase in average class size. The Capital Subcommittee has estimated the capital requirements associated with new classroom construction at \$2.3-million per additional classroom. At an average of 21

23. Thus, during the FY06 to FY14 period, the Heath and Runkle School projects together were \$38-million, with a Town share of \$22.5-million. The proposed Devotion project is now estimated at \$110-million and the contemplated Driscoll project is estimated by the OSC Capital Subcommittee at \$54-million, with a Town share for the two projects of \$115-million, more than five times the amount of Heath and Runkle combined. The contemplated expansion of the High School would be in addition to these numbers.

students per classroom, this works out to an incremental capital investment per student of roughly \$110,000. The Capital Subcommittee has estimated the annual debt service cost to the Town per classroom at \$157,000, which translates into an annual debt service cost per student of about \$7,475. Debt service includes both interest and amortization of principal, based upon a 25-year amortization schedule at a 4.75% interest rate.²⁴

Table 10		
LONG RUN INCREMENTAL COST PER STUDENT ASSOCIATED WITH PROPOSED DRISCOLL EXPANSION AND OTHER MAJOR CAPITAL PROJECTS BASED ON CAPITAL SUBCOMMITTEE ESTIMATES		
Category	Capital \$	Annual OpEx
Incremental annual capital-driven cost per additional classroom	\$ 2,300,000	\$157,000
Incremental annual capital-driven cost per additional student	\$ 110,000	\$ 7.500
Long Run Incremental Cost based on Regression Model		\$ 15,748
Total Long Run Incremental Cost per additional Driscoll student		\$ 23,248

The working subcommittees of the Override Study Committee that have analyzed the question have estimated that the Driscoll expansion can be avoided entirely either by suspending additional non-resident enrollment and/or by a modest increase in average class size for all K-8 buildings. If changes in practices are delayed, the reduction in classroom needs will occur later, perhaps forcing a Driscoll expansion that might otherwise be avoided. If practices that would obviate the need for a Driscoll expansion are not pursued, the total long run incremental cost per student for the “last 210 students” in the Public Schools of Brookline would thus be in the range of \$23,000 annually.

24. To the extent that the service life of any new construction exceeds 25 years, using a 25-year amortization would slightly overstate the annual debt service cost. For example, using a 40-year amortization schedule, the annual debt service cost per student would drop to about \$6,165. However, because the immediate out-of-pocket cost to the Town will reflect the actual (25-year) rather than a more theoretical (40-year) amortization and in any event would be incurred annually over the next 25 years, we use the \$7,475 cost in the analysis here.

Conclusion

It is not the purpose of the analyses presented here to offer or to reach any conclusion as to the appropriateness and public benefit of continued participation by the Town of Brookline in one or both of the non-resident student programs. It is, however, entirely appropriate for the benefits being ascribed to these programs to be evaluated relative to their individual and combined cost to the Town. Since total enrollment in the METCO program has been relatively constant at about 300 students for many years, METCO cannot be held responsible for any portion of the substantial enrollment growth that has confronted the PSB over the past decade. Materials fee enrollment has increased somewhat over the same period, and has thus made a small contribution to the overall rate of growth.

That said, the decision of the School Department *not* to adhere to and to enforce its own “space available” policy has contributed directly and inextricably to the nearly 1100-student jump in total PSB enrollment that has occurred since 2006. *There is no “space available” in the current context.* Several OSC subcommittees have undertaken analyses indicating that the suspension of further admissions to the METCO and Materials Fee programs starting in the fall of 2014 would significantly reduce, and perhaps even eliminate altogether, the need for as many as 10 additional classrooms by 2019 relative to the level that had been projected by the and the School Department – and relied upon by the B-SPACE Committee – absent any modifications to existing non-resident student enrollment practices. A modest increase in the average class size would have a similar effect. The suspension of new non-resident student enrollments and/or the acceptance of a modest (one or two student) increase in average class size would thus substantially reduce, if not entirely eliminate, the need for additional classroom capacity and the consequent requirement for a tax override of the magnitude being sought by the School Department. If practices do not change, Brookline will in essence be building its new classrooms to serve non-resident students and will, contrary to its explicit policies, be staffing its schools at levels needed to serve non-resident, rather than resident, students.

Similarly, the School Department’s decision not to actually condition METCO participation upon the availability of funding from the state is directly and inextricably responsible for the current budgetary stresses that confront the Brookline schools. Under existing state law, when a Boston student attends a Charter School, the district (Boston) is required to make annual cash payments approximating the district’s average per-student cost to the Charter School for each such student. Yet there is no corresponding funding requirement for the 3,174 Boston students that currently participate in METCO across the 34 participating Boston area municipalities.²⁵ If all of the 3,174 of those students either attended the Boston public schools or attended charter schools that Boston was required to pay for, the City of Boston would confront somewhere on

25. <http://www.doe.mass.edu/metco/funding.html>. There are 3,311 students in the METCO program; 3,174 of these are assigned to schools in 34 districts in metro Boston, 137 are assigned to schools in 4 districts in metro Springfield. Brookline, with 297 METCO students, has the second largest METCO contingent, exceeded only by Newton, with 404.

the order of \$50-million in annual education costs that the financial structure of METCO funding has enabled the City to shift to the suburbs. There can be no justification for this disparity in treatment as between Boston's avoidance of any financial responsibility for METCO versus its obligation to pay charter school costs for all Boston students. By accepting roughly 300 Boston students into the Brookline schools, *Brookline taxpayers are effectively providing a cash subsidy to the City of Boston of more than \$4.5-million annually.*²⁶ The structural deficits confronting the Brookline Public Schools can be directly – and perhaps entirely – ascribed to the persistence of this unfair subsidy burden. If continued participation in METCO is determined to be appropriate for Brookline, it is essential that the School Department adhere to its own stated policy and condition further involvement with METCO upon receipt of compensatory funding either from the state or the City of Boston.

Finally, it is noteworthy that at the January 22, 2014 Override Study Committee public hearing and in numerous e-mails and other communications sent to the OSC and to its members, many Brookline residents have expressed deep concerns and objections to the various proposals that have been discussed by the OSC to address both the budgetary deficit and classroom capacity expansion needs. There was considerable opposition to various program cutbacks and eliminations, to BEEP fee increases, to requiring that extended day program §501(c)(3) entities pay rent for the use of school facilities, to the impending major school building expansions, to increases in class size, to suspension or elimination of the METCO and/or Materials Fee programs, and to various other proposals that many in attendance felt would diminish the quality of the Brookline Public Schools. Unfortunately, in the face of the types of financial constraints and limitations on the Town's ability to increase revenues, not all of these concerns can be addressed, accommodated or satisfied. Choices will need to be made, and these choices must be guided by accurate estimates of the relative costs and benefits – and tradeoffs – among the conflicting demands. It is hoped that the analysis provided here will make a positive contribution to that effort.

26. By offering enrollment to the roughly 178 Materials Fee students, Brookline is also enabling these students' home communities to avoid the cost of educating them. Approximately 125 of the Materials Fee students are residents of Boston, creating an additional \$2-million in annual savings to the City.

**THE ECONOMIC IMPACT OF ENROLLMENT GROWTH
ON THE BROOKLINE PUBLIC SCHOOLS**

DATA AND COMPUTATIONAL APPENDIX

Table A1

**LONG RUN INCREMENTAL COSTS (LRIC) SPECIFIC TO METCO AND MATERIALS FEE PROGRAMS
AND 13-YEAR COSTS TO BROOKLINE**

Enrollment	All Students	Residents	Metco	Materials Fee
Number of students (FY13)	7030	6555	297	178
Number of students in Special Needs programs (excluding Out-of-District)	1013	893	79	41
Percent of students in Special Needs Programs (excluding Out-of-District)	14.41%	13.62%	26.60%	23.03%

Annual Cost, revenue and financial commitment by Brookline	All Students	Residents	Metco	Materials Fee
Total annual cost per category	\$ 110,705,584	\$ 102,635,383	\$ 5,131,089	\$ 2,939,112
Net Annual Revenues received in support of non-Resident programs	\$ 959,045		\$ 515,825	\$ 443,220
Annual Net cost of non-Resident programs	\$ 7,111,156		\$ 4,615,264	\$ 2,495,892
Per-student LRIC (including share of total Spec Educ costs)	\$ 15,748	\$ 15,658	\$ 17,276	\$ 16,512
Per-student program revenue			\$ 1,737	\$ 2,490
Per-student support provided by Brookline taxpayers			\$ 15,540	\$ 14,022

Brookline's 13-year Metco/Materials Fee Cost Commitment

13-YEAR COST ARISING FROM FALL 2014 COHORT	TOTAL	Metco	Materials Fee
Cost per non-resident student through 12th grade		\$ 224,593	\$ 214,654
Less: Revenue per student from Metco and Materials Fee payments (NOTE 1)		\$ 22,578	\$ 32,370
Net 13-year cost commitment per student by Brookline taxpayers		\$ 202,015	\$ 182,284
Cost through 12th grade	\$ 9,234,133	\$ 4,941,049	\$ 4,293,085
Less: Revenues from Metco and Materials Fee payments (NOTE 1)	\$ 1,144,120	\$ 496,720	\$ 647,400
Net 13-year cost commitment by Brookline taxpayers	\$ 8,090,013	\$ 4,444,328	\$ 3,645,685

**SCENARIO 1: SUSPEND ALL FURTHER KINDERGARTEN ENROLLMENTS
STARTING IN FALL 2014**

Arising from total current Metco/Materials Fee Enrollment	TOTAL	Metco	Materials Fee
Cost through 12th grade (NOTE 2)	\$ 60,527,990	\$ 36,121,585	\$ 24,406,405
Less: Revenues from Metco and Materials Fee payments	\$ 7,311,781	\$ 3,631,279	\$ 3,680,502
Net 13-year cost to Brookline	\$ 53,216,209	\$ 32,490,306	\$ 20,725,903

**SCENARIO 2: CONTINUE BROOKLINE PARTICIPATION IN METCO AND
MATERIALS FEE PROGRAMS INDEFINITELY**

Arising from total continued full Metco/Materials Fee Enrollment	TOTAL	Metco	Materials Fee
Cost through 12th grade (NOTE 3)	\$ 121,220,005	\$ 66,099,271	\$ 55,120,734
Less: Revenues from Metco and Materials Fee payments	\$ 14,957,159	\$ 6,644,916	\$ 8,312,243
Net 13-year cost to Brookline	\$ 106,262,846	\$ 59,454,355	\$ 46,808,491

NOTE 1: METCO revenues are those funds remaining after payment of certain METCO-specific costs that are not included in total School Department costs.

NOTE 2: In this scenario, we assume that Brookline would suspend all further initial kindergarten enrollments in METCO and Materials Fee programs beginning with the 2014-15 school year, but continue to serve existing program participants through the 12th grade. If Brookline continues to accept siblings of existing program participants, the level of unfunded support would be greater than as presented here.

NOTE 3: In this scenario, we assume an average of approximately 300 METCO students (23 per class) and 260 Materials Fee students (20 per class, based upon recent years' kindergarten enrollments). While it is assumed that participation in these programs would continue indefinitely, the calculation itself is limited to a 13-year period (i.e., from FY15 through FY27).

Table A2

**LONG RUN INCREMENTAL COSTS (LRIC) SPECIFIC TO METCO AND MATERIALS FEE PROGRAMS
AND 13-YEAR COSTS TO BROOKLINE**

Sensitivity Analysis at +/- \$1,000 Base LRIC Estimate

The regression analysis presented in this report exhibits extremely strong statistical properties, including an R-squared (a measure of the overall explanatory power of the regression model) of 0.9708, implying that the model "explains" 97.08% of the variation in the dependent variable, TOTAL EXPENDITURES. The coefficient of the PUPILS variable (\$15,159) which is interpreted as constituting the annual Long Run Incremental Cost per pupil in FY14 \$, is statistically significant at a level in excess of 99.99%. However, due to small imprecisions in the source data, the base estimate was rounded to \$15,000 and a sensitivity analysis of plus or minus \$1,000 was conducted.

ANNUAL LONG RUN INCREMENATAL COSTS	Estimated	Lower bound	Upper bound
Long run incremental cost per PSB pupil per year	\$ 15,748	\$ 14,748	\$ 16,748
Long run incremental cost per resident pupil per year	\$ 15,658	\$ 14,658	\$ 16,658
Long run incremental cost per METCO pupil per year	\$ 17,276	\$ 16,276	\$ 18,276
Less: METCO revenue per student net of transportation and METCO-specific costs	\$ 1,737	\$ 1,737	\$ 1,737
Per-student support provided by Brookline taxpayers	\$ 15,540	\$ 14,540	\$ 16,540
FY13 METCO enrollment	297	297	297
FY13 net cost to Brookline of METCO participation	\$ 4,615,264	\$ 4,318,264	\$ 4,912,264
Long run incremental cost per Materials Fee pupil per year	\$ 16,512	\$ 15,512	\$ 17,512
Less: Materials Fee revenue per student paid by program participants	\$ 2,490	\$ 2,490	\$ 2,490
Per-student support provided by Brookline taxpayers	\$ 14,022	\$ 13,022	\$ 15,022
FY13 Materials Fee enrollment	178	178	178
FY13 net cost to Brookline of Materials Fee program	\$ 2,495,892	\$ 2,317,892	\$ 2,673,892
FY13 Total net cost of non-resident programs	\$ 7,111,156	\$ 6,636,156	\$ 7,586,156
13-YEAR COST COMMITMENT FOR METCO AND MATERIALS FEE PROGRAMS	Estimated	Lower bound	Upper bound
13-YEAR COST PER STUDENT ARISING FROM FALL 2014 COHORT - METCO	\$ 202,015	\$ 189,015	\$ 215,015
13-YEAR COST PER STUDENT ARISING FROM FALL 2014 COHORT - Materials Fee	\$ 182,284	\$ 169,284	\$ 195,284
13-YEAR COST COMMITMENT ARISING FROM FALL 2014 COHORT - METCO	\$ 4,444,328	\$ 4,158,328	\$ 4,730,328
13-YEAR COST COMMITMENT ARISING FROM FALL 2014 COHORT - Materials Fee	\$ 3,645,685	\$ 3,385,685	\$ 3,905,685
13-YEAR COST COMMITMENT ARISING FROM FALL 2014 COHORT - TOTAL	\$ 8,090,013	\$ 7,544,013	\$ 8,636,013
13-YEAR COST COMMITMENT -- SCENARIO 1 - METCO	\$ 32,490,306	\$ 30,399,500	\$ 34,581,112
13-YEAR COST COMMITMENT -- SCENARIO 1 - Materials Fee	\$ 20,725,903	\$ 19,247,790	\$ 22,204,016
13-YEAR COST COMMITMENT -- SCENARIO 1 - TOTAL	\$ 53,216,209	\$ 49,647,290	\$ 56,785,128
13-YEAR COST COMMITMENT -- SCENARIO 2 - METCO	\$ 59,454,355	\$ 55,628,367	\$ 63,280,342
13-YEAR COST COMMITMENT -- SCENARIO 2 - Materials Fee	\$ 46,808,491	\$ 43,470,241	\$ 50,146,741
13-YEAR COST COMMITMENT -- SCENARIO 2 - TOTAL	\$ 106,262,846	\$ 99,098,608	\$ 113,427,084

Table A3

LONG RUN INCREMENTAL COSTS (LRIC) SPECIFIC TO METCO AND MATERIALS FEE PROGRAMS

	"School" costs	"Town" costs	Total cost
Long Run annual incremental cost per student from regression model, rounded to nearest \$1000			\$ 15,000
FY14 Schools operating expenses net of ODD, BEEP	\$ 78,798,174	\$ 34,992,840	\$ 113,791,014
FY14 Special Educ net of OOD & BEEP	\$ 16,543,627	\$ 7,547,879	\$ 24,091,506
Less: Estimated Cost of District-wide programs	\$ 5,000,000	\$ 2,281,204	\$ 7,281,204
Special Educ costs net of OOD, BEEP and District-Wide	\$ 11,543,627	\$ 5,266,674	\$ 16,810,301

Cost Allocation Factors				
Average special educ cost per student:	Total	Residents	METCO	Materials Fee
Total K-12 student population	7,030	6,555	297	178
Total K-12 spec educ population - District-wide Programs	229	229		
Total K-12 spec educ population - School-based Programs	784	664	79	41
Total K-12 spec educ population (excl. Out-of-District)	1,013	893	79	41
Percent of K-12 population in Special educ programs	14.41%	13.62%	26.60%	23.03%
Percent of K-12 population in School-based Special educ programs	11.15%	10.13%	26.60%	23.03%
Allocation factors based on total student populations	100%	93.24%	4.22%	2.53%
Allocation factors based on District-Wide, OOD Special Educ populations	100%	100.00%	0.00%	0.00%
Allocation factors based on School-based Special Educ populations	100%	84.69%	10.08%	5.23%

	Total	Residents	METCO	Materials Fee
Total LIRC (all K-12 students)	\$ 105,450,000			
Total LIRC excluding costs of special educ (assign based on total K-12 share)	\$ 81,358,494	\$ 75,861,299	\$ 3,437,194	\$ 2,060,002
Total District-wide costs (assign exclusively to Brookline Students)	\$ 7,281,204	\$ 7,281,204	\$ -	\$ -
School-based special educ costs (assign based on no. of students served)	\$ 16,810,301	\$ 14,237,296	\$ 1,693,895	\$ 879,110
OOD Spec Educ Cost allocated to resident students only	\$ 5,255,584	\$ 5,255,584		
Total annual cost per category	\$ 110,705,584	\$ 102,635,383	\$ 5,131,089	\$ 2,939,112
Net Annual Revenues received in support of non-Resident programs	\$ 959,045		\$ 515,825	\$ 443,220
Annual Net cost of non-Resident programs	\$ 7,111,156		\$ 4,615,264	\$ 2,495,892
Per-student LIRC (including share of total Spec Educ costs)	\$ 15,748	\$ 15,658	\$ 17,276	\$ 16,512
Per-student program revenue			\$ 1,737	\$ 2,490

Table A4

**BROOKLINE'S 13-YEAR COST COMMITMENT
METCO AND MATERIALS FEE PROGRAMS**

SCENARIO 1: SUSPEND ALL FURTHER KINDERGARTEN ENROLLMENTS STARTING IN FALL 2014

GRADE	TOTAL K-12	0	1	2	3	4	5	6	7	8	9	10	11	12
FY14 METCO and Materials Fee Students by Grade														
METCO	297	22	19	23	20	21	29	28	22	20	34	24	17	18
Mat Fee	178	20	24	18	13	14	17	14	16	8	8	9	12	5
TOTAL	475	42	43	41	33	35	46	42	38	28	42	33	29	23
Student-years remaining in PSB for each cohort														
METCO	2076	286	228	253	200	189	232	196	132	100	136	72	34	18
Mat Fee	1460	260	288	198	130	126	136	98	96	40	32	27	24	5
TOTAL	3536	546	516	451	330	315	368	294	228	140	168	99	58	23
Dscnt Factor		1.0000	0.9990	0.9928	0.9787	0.9523	0.9260	0.8948	0.8593	0.8293	0.7904	0.7646	0.7390	0.7133
Inflation factor		1.0000	1.0204	1.0412	1.0624	1.0841	1.1062	1.1288	1.1518	1.1753	1.1993	1.2237	1.2487	1.2742
Long Run Incremental Cost per cohort (at current \$ amounts)														
	NPV													
METCO	\$ 36,121,585	\$ 4,941,049	\$ 4,019,357	\$ 4,551,042	\$ 3,671,038	\$ 3,539,886	\$ 4,433,882	\$ 3,822,265	\$ 2,626,680	\$ 2,030,495	\$ 2,817,795	\$ 1,522,200	\$ 733,477	\$ 396,231
Mat Fee	\$ 24,406,405	\$ 4,293,085	\$ 4,852,407	\$ 3,404,070	\$ 2,280,580	\$ 2,255,491	\$ 2,484,151	\$ 1,826,559	\$ 1,825,776	\$ 776,256	\$ 633,671	\$ 545,564	\$ 494,837	\$ 105,194
TOTAL	\$ 60,527,990	\$ 9,234,133	\$ 8,871,763	\$ 7,955,112	\$ 5,951,618	\$ 5,795,377	\$ 6,918,033	\$ 5,648,824	\$ 4,452,457	\$ 2,806,751	\$ 3,451,466	\$ 2,067,764	\$ 1,228,314	\$ 501,425
Anticipated revenues per cohort (at current \$ amounts)														
	NPV													
METCO	\$ 3,631,279	\$ 496,720	\$ 404,063	\$ 457,513	\$ 369,047	\$ 355,862	\$ 445,735	\$ 384,250	\$ 264,058	\$ 204,124	\$ 283,271	\$ 153,026	\$ 73,736	\$ 39,833
Mat Fee	\$ 3,680,502	\$ 647,400	\$ 731,746	\$ 513,336	\$ 343,913	\$ 340,130	\$ 374,612	\$ 275,446	\$ 275,328	\$ 117,060	\$ 95,558	\$ 82,271	\$ 74,622	\$ 15,863
TOTAL	\$ 7,311,781	\$ 1,144,120	\$ 1,135,809	\$ 970,849	\$ 712,960	\$ 695,992	\$ 820,347	\$ 659,696	\$ 539,387	\$ 321,184	\$ 378,829	\$ 235,297	\$ 148,358	\$ 55,696
Net Brookline taxpayer support per cohort														
	NPV													
METCO	\$ 32,490,306	\$ 4,444,328	\$ 3,615,293	\$ 4,093,529	\$ 3,301,991	\$ 3,184,024	\$ 3,988,146	\$ 3,438,015	\$ 2,362,622	\$ 1,826,371	\$ 2,534,524	\$ 1,369,174	\$ 659,741	\$ 356,398
Mat Fee	\$ 20,725,903	\$ 3,645,685	\$ 4,120,661	\$ 2,890,734	\$ 1,936,667	\$ 1,915,361	\$ 2,109,540	\$ 1,551,113	\$ 1,550,448	\$ 659,196	\$ 538,113	\$ 463,293	\$ 420,215	\$ 89,330
TOTAL	\$ 53,216,209	\$ 8,090,013	\$ 7,735,954	\$ 6,984,263	\$ 5,238,658	\$ 5,099,385	\$ 6,097,686	\$ 4,989,128	\$ 3,913,070	\$ 2,485,567	\$ 3,072,637	\$ 1,832,467	\$ 1,079,956	\$ 445,729

NOTE 1: METCO revenues are those funds remaining after payment of certain METCO-specific costs that are not included in total School Department costs.

NOTE 2: In this scenario, we assume that Brookline would suspend all further initial kindergarten enrollments in METCO and Materials Fee programs beginning with the 2014-15 school year, but continue to serve existing program participants through the 12th grade. If Brookline continues to accept siblings of existing program participants, the level of unfunded support would be greater than as presented here.

Table A5

**BROOKLINE'S 13-YEAR COST COMMITMENT
METCO AND MATERIALS FEE PROGRAMS**

SCENARIO 2: CONTINUE BROOKLINE PARTICIPATION IN METCO AND MATERIALS FEE PROGRAMS INDEFINITELY

GRADE	TOTAL K-12	0	1	2	3	4	5	6	7	8	9	10	11	12
FY13 METCO and Materials Fee Students by Grade														
METCO	298	22	23	23	23	23	23	23	23	23	23	23	23	23
Mat Fee	260	20	20	20	20	20	20	20	20	20	20	20	20	20
TOTAL	558	42	43	43	43	43	43	43	43	43	43	43	43	43
Student-years remaining in PSB for each cohort														
METCO	3874	286	299	299	299	299	299	299	299	299	299	299	299	299
Mat Fee	3380	260	260	260	260	260	260	260	260	260	260	260	260	260
TOTAL	7254	546	559	559	559	559	559	559	559	559	559	559	559	559
Dscnt Factor		1.0000	0.9990	0.9928	0.9787	0.9523	0.9260	0.8948	0.8593	0.8293	0.7904	0.7646	0.7390	0.7133
Inflation factor		1.0000	1.0204	1.0412	1.0624	1.0841	1.1062	1.1288	1.1518	1.1753	1.1993	1.2237	1.2487	1.2742
Long Run Incremental Cost per cohort (at current \$ amounts)														
NPV														
METCO	\$ 66,099,271	\$ 4,941,049	\$ 5,270,998	\$ 5,378,504	\$ 5,488,202	\$ 5,600,138	\$ 5,714,356	\$ 5,830,904	\$ 5,949,829	\$ 6,071,180	\$ 6,195,006	\$ 6,321,357	\$ 6,450,285	\$ 6,581,843
Mat Fee	\$ 55,120,734	\$ 4,293,085	\$ 4,380,645	\$ 4,469,991	\$ 4,561,160	\$ 4,654,187	\$ 4,749,113	\$ 4,845,974	\$ 4,944,811	\$ 5,045,663	\$ 5,148,573	\$ 5,253,582	\$ 5,360,732	\$ 5,470,068
TOTAL	\$ 121,220,005	\$ 9,234,133	\$ 9,651,643	\$ 9,848,495	\$ 10,049,362	\$ 10,254,325	\$ 10,463,469	\$ 10,676,878	\$ 10,894,640	\$ 11,116,843	\$ 11,343,579	\$ 11,574,939	\$ 11,811,017	\$ 12,051,911
Anticipated revenues per cohort (at current \$ amounts)														
NPV														
METCO	\$ 6,644,916	\$ 496,720	\$ 529,890	\$ 540,697	\$ 551,725	\$ 562,978	\$ 574,460	\$ 586,177	\$ 598,132	\$ 610,332	\$ 622,780	\$ 635,482	\$ 648,443	\$ 661,668
Mat Fee	\$ 8,312,243	\$ 647,400	\$ 660,604	\$ 674,078	\$ 687,826	\$ 701,855	\$ 716,169	\$ 730,776	\$ 745,681	\$ 760,889	\$ 776,408	\$ 792,244	\$ 808,402	\$ 824,890
TOTAL	\$ 14,957,159	\$ 1,144,120	\$ 1,190,494	\$ 1,214,775	\$ 1,239,551	\$ 1,264,833	\$ 1,290,630	\$ 1,316,953	\$ 1,343,813	\$ 1,371,221	\$ 1,399,188	\$ 1,427,725	\$ 1,456,845	\$ 1,486,558
Net Brookline taxpayer support per cohort														
NPV														
METCO	\$ 59,454,355	\$ 4,444,328	\$ 4,741,108	\$ 4,837,807	\$ 4,936,477	\$ 5,037,159	\$ 5,139,896	\$ 5,244,727	\$ 5,351,697	\$ 5,460,848	\$ 5,572,226	\$ 5,685,875	\$ 5,801,842	\$ 5,920,175
Mat Fee	\$ 46,808,491	\$ 3,645,685	\$ 3,720,041	\$ 3,795,914	\$ 3,873,334	\$ 3,952,333	\$ 4,032,943	\$ 4,115,198	\$ 4,199,130	\$ 4,284,774	\$ 4,372,165	\$ 4,461,338	\$ 4,552,330	\$ 4,645,178
TOTAL	\$ 106,262,846	\$ 8,090,013	\$ 8,461,149	\$ 8,633,720	\$ 8,809,810	\$ 8,989,492	\$ 9,172,839	\$ 9,359,925	\$ 9,550,827	\$ 9,745,622	\$ 9,944,391	\$ 10,147,213	\$ 10,354,172	\$ 10,565,352

NOTE 1: METCO revenues are those funds remaining after payment of certain METCO-specific costs that are not included in total School Department costs.

NOTE 3: In this scenario, we assume an average of approximately 300 METCO students (23 per class) and 260 Materials Fee students (20 per class, based upon recent years' kindergarten enrollments). While it is assumed that participation in these programs would continue indefinitely, the calculation itself is limited to a 13-year period (i.e., from FY15 through FY27).

Table A6 (page 1)

SOURCE DATA FOR REGRESSION ANALYSIS

TOTAL ANNUAL EXPENDITURES													
Fiscal Year	School Expenses net of ODD, 2014 \$	Town expenses K-12 schools Nominal \$	Total K-12 expense Nominal \$	Total K-12 expenses incl OOD, nominal \$	Total K-12 expenses incl OOD,2014 \$	Cumulative Pct Change in Total CPI-adjusted K-12 Expenses incl OOD	Town/School Expense Factor	Total Expense CPI-adjusted 2014 \$	DELTA	Cumulative Pct Change in Total CPI-adjusted Expenses	Average Total Expense per Pupil, 2014 \$	Pct change in avg cost per pupil since FY06, 2014 \$	
FY06	\$ 54,032,868	\$ 26,508,943	\$ 80,541,810	\$ 85,425,327	\$ 100,400,407		49.06%	\$94,660,808			\$17,412		
FY07	\$ 56,428,257	\$ 27,177,702	\$ 83,605,960	\$ 88,612,207	\$ 101,208,497	0.80%	48.16%	\$95,490,608	\$829,800	0.88%	\$17,204	-1.20%	
FY08	\$ 59,256,671	\$ 29,769,659	\$ 89,026,330	\$ 93,064,298	\$ 103,673,270	3.26%	50.24%	\$99,174,989	\$3,684,380	4.77%	\$17,554	0.81%	
FY09	\$ 64,351,891	\$ 31,813,319	\$ 96,165,210	\$ 101,242,323	\$ 108,726,603	8.29%	49.44%	\$103,274,166	\$4,099,178	9.10%	\$17,906	2.84%	
FY10	\$ 64,955,172	\$ 32,566,491	\$ 97,521,663	\$ 103,342,172	\$ 111,504,106	11.06%	50.14%	\$105,223,895	\$1,949,729	11.16%	\$17,935	3.00%	
FY11	\$ 67,722,461	\$ 29,415,589	\$ 97,138,050	\$ 103,073,629	\$ 109,651,696	9.21%	43.44%	\$103,337,313	-\$1,886,582	9.17%	\$17,309	-0.60%	
FY12	\$ 70,914,382	\$ 31,317,362	\$ 102,231,744	\$ 107,815,875	\$ 111,296,082	10.85%	44.16%	\$105,531,700	\$2,194,388	11.48%	\$16,868	-3.13%	
FY13	\$ 73,922,208	\$ 33,624,056	\$ 107,546,265	\$ 113,279,129	\$ 115,007,828	14.55%	45.49%	\$109,187,477	\$3,655,777	15.35%	\$16,824	-3.38%	
FY14	\$ 78,798,174	\$ 34,992,840	\$ 113,791,014	\$ 119,046,598	\$ 119,046,598	18.57%	44.41%	\$113,791,014	\$4,603,537	20.21%	\$16,934	-2.75%	

SCHOOL DEPT EXPENSES									
Fiscal Year	School Expenses Nominal \$	METCO Contrib Nominal \$	Out-of-District SPED Tuition Payments, nominal \$	Net Cost of BEEP, Nominal \$	School Expenses net of SPED ODD & BEEP, Nominal \$	School Expenses net of BEEP & ODD, 2014 \$	Avg School Expense per pupil 2014 \$	Pct change in avg cost per pupil since FY06, 2014 \$	
FY06	\$ 60,414,543	\$ 376,000	\$ 4,883,517	\$ 1,874,158	\$ 54,032,868	\$ 63,504,842	\$ 11,014		
FY07	\$ 62,916,637	\$ 460,000	\$ 5,006,247	\$ 1,942,133	\$ 56,428,257	\$ 64,449,575	\$ 10,955	-0.53%	
FY08	\$ 64,786,212	\$ 521,000	\$ 4,037,968	\$ 2,012,573	\$ 59,256,671	\$ 66,011,703	\$ 11,177	2.02%	
FY09	\$ 70,987,572	\$ 527,000	\$ 5,077,114	\$ 2,085,568	\$ 64,351,891	\$ 69,109,066	\$ 11,382	1.83%	
FY10	\$ 72,515,419	\$ 514,930	\$ 5,820,509	\$ 2,254,668	\$ 64,955,172	\$ 70,085,312	\$ 11,273	-0.95%	
FY11	\$ 75,521,702	\$ 472,782	\$ 5,935,580	\$ 2,336,444	\$ 67,722,461	\$ 72,044,447	\$ 11,372	0.88%	
FY12	\$ 78,443,875	\$ 475,823	\$ 5,584,131	\$ 2,421,185	\$ 70,914,382	\$ 73,203,440	\$ 11,095	-2.44%	
FY13	\$ 81,673,260	\$ 490,813	\$ 5,732,865	\$ 2,509,000	\$ 73,922,208	\$ 75,050,300	\$ 10,979	-1.05%	
FY14	\$ 86,137,933	\$ 515,825	\$ 5,255,584	\$ 2,600,000	\$ 78,798,174	\$ 78,798,174	\$ 11,209	2.10%	

Table A6 (page 2)

SOURCE DATA FOR REGRESSION ANALYSIS

x

TOWN EXPENSES FOR SCHOOLS									
Fiscal Year	Town expenses	Town debt service	Total Town			Town Portion of	Total expense	Total Expense	Avg Town
	for schools	for schools	CIP for school	School-related	School-related				
	Nominal \$	Nominal \$	projects	expenses,	expenses,	nominal \$	Nominal \$	2014 \$	pupil 2014 \$
			Nominal \$	nominal \$	nominal \$				
FY06	\$ 19,146,798	\$ 7,677,475	\$ 1,105,190	\$ 27,929,463	\$ 1,420,520	\$ 26,508,943	\$ 31,155,967	\$ 5,403	
FY07	\$ 19,712,618	\$ 7,476,250	\$ 1,415,845	\$ 28,604,713	\$ 1,427,010	\$ 27,177,702	\$ 31,041,033	\$ 5,276	
FY08	\$ 22,932,636	\$ 7,203,990	\$ 1,393,982	\$ 31,530,608	\$ 1,760,949	\$ 29,769,659	\$ 33,163,285	\$ 5,615	
FY09	\$ 24,951,941	\$ 6,985,977	\$ 1,659,412	\$ 33,597,330	\$ 1,784,011	\$ 31,813,319	\$ 34,165,100	\$ 5,627	
FY10	\$ 26,063,096	\$ 7,201,020	\$ 1,260,901	\$ 34,525,017	\$ 1,958,527	\$ 32,566,491	\$ 35,138,583	\$ 5,652	
FY11	\$ 25,135,512	\$ 4,630,181	\$ 1,427,760	\$ 31,193,453	\$ 1,777,865	\$ 29,415,589	\$ 31,292,865	\$ 4,940	
FY12	\$ 26,057,274	\$ 5,772,568	\$ 1,471,403	\$ 33,301,245	\$ 1,983,883	\$ 31,317,362	\$ 32,328,260	\$ 4,900	
FY13	\$ 27,590,096	\$ 5,772,568	\$ 2,357,850	\$ 35,720,514	\$ 2,096,458	\$ 33,624,056	\$ 34,137,177	\$ 4,994	
FY14	\$ 29,548,793	\$ 5,758,139	\$ 1,830,240	\$ 37,137,172	\$ 2,144,332	\$ 34,992,840	\$ 34,992,840	\$ 4,978	

PUPILS				
Fiscal Year	K-12 Pupils	Pct chg since FY06	Non-ODD Special	Pct in Special
			Education Pupils	Education
FY06	5766		969	16.81%
FY07	5883	2.03%	965	16.40%
FY08	5906	2.43%	983	16.64%
FY09	6072	5.31%	972	16.01%
FY10	6217	7.82%	972	15.63%
FY11	6335	9.87%	1022	16.13%
FY12	6598	14.43%	1039	15.75%
FY13	6836	18.56%	1074	15.71%
FY14	7030	21.92%	1082	15.39%

INFLATION FACTORS			
Fiscal Year	CPI Year	CPI-U	Inflation
		(1999=\$100)	factor to 2014
			\$
FY06	2005	113.700	1.1753
FY07	2006	117.000	1.1422
FY08	2007	119.957	1.1140
FY09	2008	124.433	1.0739
FY10	2009	123.850	1.0790
FY11	2010	125.615	1.0638
FY12	2011	129.453	1.0323
FY13	2012	131.623	1.0153
FY14	2013	133.632	1.0000

Table A6 (page 3)

SOURCE DATA FOR REGRESSION ANALYSIS

BROOKLINE EARLY EDUCATION PROGRAM (BEEP) COSTS							
Fiscal Year	BEEP Revolving Tuition Fund	BEEP SPED Costs	Total Schools BEEP cost	Town/School Factor (incl BEEP costs)	Estimated Town BEEP cost	Total BEEP cost	Net BEEP cost to be excluded
FY06	\$ 969,328	\$ 1,874,158	\$ 2,843,486	49.96%	\$ 1,420,520	\$ 4,264,006	\$ 3,294,678
FY07	\$ 969,805	\$ 1,942,133	\$ 2,911,938	49.01%	\$ 1,427,010	\$ 4,338,948	\$ 3,369,143
FY08	\$ 1,409,246	\$ 2,012,573	\$ 3,421,819	51.46%	\$ 1,760,949	\$ 5,182,768	\$ 3,773,522
FY09	\$ 1,442,247	\$ 2,085,568	\$ 3,527,815	50.57%	\$ 1,784,011	\$ 5,311,826	\$ 3,869,579
FY10	\$ 1,557,995	\$ 2,254,668	\$ 3,812,663	51.37%	\$ 1,958,527	\$ 5,771,190	\$ 4,213,195
FY11	\$ 1,656,550	\$ 2,336,444	\$ 3,992,994	44.52%	\$ 1,777,865	\$ 5,770,858	\$ 4,114,308
FY12	\$ 1,947,697	\$ 2,421,185	\$ 4,368,882	45.41%	\$ 1,983,883	\$ 6,352,765	\$ 4,405,068
FY13	\$ 1,976,792	\$ 2,509,000	\$ 4,485,792	46.74%	\$ 2,096,458	\$ 6,582,250	\$ 4,605,458
FY14	\$ 2,100,000	\$ 2,600,000	\$ 4,700,000	45.62%	\$ 2,144,332	\$ 6,844,332	\$ 4,744,332

Table A7

REGRESSION DATA

REGRESSION DATA				
Fiscal Year	TOT EXP	PUPILS	2009 OVERRIDE	2011 GIC
FY06	\$ 94,660,808	5766	0	0
FY07	\$ 95,490,608	5883	0	0
FY08	\$ 99,174,989	5906	0	0
FY09	\$ 103,274,166	6072	1	0
FY10	\$ 105,223,895	6217	1	0
FY11	\$ 103,337,313	6335	1	1
FY12	\$ 105,531,700	6598	1	1
FY13	\$ 109,187,477	6836	1	1
FY14	\$ 113,791,014	7030	1	1

TOTAL COST vs. K-12 ENROLLMENT	
Total Expense (\$million:	Pupils
\$ 94,660,808	5766
\$ 95,490,608	5883
\$ 99,174,989	5906
\$ 103,274,166	6072
\$ 105,223,895	6217
\$ 103,337,313	6335
\$ 105,531,700	6598
\$ 109,187,477	6836
\$ 113,791,014	7030

EXHIBITS AND TABLES

CLASS ROOM DEMAND AT VARIOUS CLASS SIZES FOR 2012-2013 AND 2013-2014

EXHIBIT A: 2012-13 BROOKLINE KINDERGARTEN STUDENTS AT 22 PER CLASS											
Number	Districts	#Students	Baker	Devo	Driscoll	Heath	Lawrence	Lincoln	Pierce	Runkle	TOTAL
1	B/H	12	12								12
2	R/H	4				1				3	4
3	Dr/R	25			19					6	25
4	Dr/De	6		6							6
5	De/P/Dr	2							2		2
6	De/La	59		45			14				59
7	P/La										0
8	P/La	41					41				41
9	P/Li	17						11	6		17
10	Li/P/R	8						5	3		8
11	Li/P	3							3		3
12	B/H/Li/R	15	7			3		5			15
13	H/Li	3				2		1			3
14	P/Dr	4							4		4
15	R/Li	0									0
21	B	69	69								69
22	De	59		59							59
23	Dr	47			47						47
24	H	60				60					60
25	La	33					33				33
26	Li	44						44			44
27	P	67							67		67
28	R	35								35	35
	Total	613	88	110	66	66	88	66	85	44	613
	÷22	27.9	4	5	3	3	4	3	3.9	2	27.9
ACTUAL 2012-13			5	6	3	3	4	4	4	3	32
Notes:											
1. Buffer Numbers Match BPS Buffer Zones Effective 7/1/2012 - Buffer 7 and 8 (both P/La) are both coded as 8											
2. District Numbers Start at 21, in alphabetical order											
3. Brookline Students from IP Printout 7/19/13											
4. No redistricting -- no deviation from existing district and buffer zones -- 28 classrooms required vs. 32 actually used											
5. METCO & Materials Fee (total 43) require increasing average class size to 23.4, or equivalent to 2 additional classrooms of 22											

EXHIBIT B: 2012-13 BROOKLINE KINDERGARTEN STUDENTS AT 24 PER CLASS

Number	Districts	#Students	Baker	Devo	Driscoll	Heath	Lawrence	Lincoln	Pierce	Runkle	TOTAL
1	B/H	12	12								12
2	R/H	4				1				3	4
3	Dr/R	25			18					7	25
4	Dr/De	6		0	6						6
5	De/P/Dr	2			1				1		2
6	De/La	59		37			22				59
7	P/La										0
8	P/La	41					41				41
9	P/Li	17						17	0		17
10	Li/P/R	8						5	0	3	8
11	Li/P	3						3	0		3
12	B/H/Li/R	15	15			0		0			15
13	H/Li	3				2		1			3
14	P/Dr	4							4		4
15	R/Li	0									0
21	B	69	69								69
22	De	59		59							59
23	Dr	47			47						47
24	H	60				60					60
25	La	33					33				33
26	Li	44						44			44
27	P	67							67		67
28	R	35								35	35
	Total	613	96	96	72	63	96	70	72	48	613
ROOMS	÷24	25.5	4	4	3	2.625	4	2.91	3	2	25.5
ACTUAL 2012-13			5	6	3	3	4	4	4	3	32
Notes:											
1. Buffer Numbers Match BPS Buffer Zones Effective 7/1/2012 - Buffer 7 and 8 (both P/La) are both coded as 8											
2. District Numbers Start at 21, in alphabetical order											
3. Brookline Students from IP Printout 7/19/13											
4. No redistricting -- no deviation from existing district and buffer zones -- 26 classrooms required vs. 32 actually used											
5. METCO & Materials Fee (total 43) require increasing average class size to 25.2, or equivalent to 2 additional classrooms of 24											

EXHIBIT C: 2013-14 BROOKLINE KINDERGARTEN STUDENTS AT 22 PER CLASS											
Number	Districts	#Students	Baker	Devo	Driscoll	Heath	Lawrence	Lincoln	Pierce	Runkle	TOTAL
1	B/H	4				4					4
2	R/H	5								5	5
3	Dr/R	32			17					15	32
4	Dr/De	4		4							4
5	De/P/Dr	2		2							2
6	De/La	58		33			25				58
7	P/La	0									0
8	P/La	44					27		17		44
9	P/Li	28						26	2		28
10	Li/P/R	6								6	6
11	Li/P	2							2		2
12	B/H/Li/R	6								6	6
13	H/Li	1						1			1
14	P/Dr	1			1						1
15	R/Li	0									0
21	B	67	67								67
22	De	71		71							71
23	Dr	41			41						41
24	H	40				40					40
25	La	36					36				36
26	Li	39						39			39
27	P	89							89		89
28	R	34								34	34
	Total	610	67	110	59	44	88	66	110	66	610
	÷22	27.7	3.045455	5	2.7	2	4	3	5	3	27.7
ACTUAL 2013-14			4	5	3	3	4	3	5	3	30
Notes:											
1. Buffer Numbers Match BPS Buffer Zones Effective 7/1/2012 - Buffer 7 and 8 (both P/La) are both coded as 8											
2. District Numbers Start at 21, in alphabetical order											
3. Brookline Students from IP Printout 10/30/13											
4. No redistricting -- no deviation from existing district and buffer zones -- 28 classrooms required vs. 30 actually used											
5. METCO & Materials Fee (total 41) require increasing average class size to 23.3, or equivalent to 2 additional classrooms of 22											

EXHIBIT D: 2013-14 BROOKLINE KINDERGARTEN STUDENTS AT 24 PER CLASS

Number	Districts	#Students	Baker	Devon	Driscoll	Heath	Lawrence	Lincoln	Pierce	Runkle	TOTAL
1	B/H	4	4								4
2	R/H	5				2				3	5
3	Dr/R	32			24					8	32
4	Dr/De	4			4						4
5	De/P/Dr	2			2						2
6	De/La	58		25			33				58
7	P/La	0									0
8	P/La	44					23		21		44
9	P/Li	28						25	3		28
10	Li/P/R	6						3	2	1	6
11	Li/P	2						2			2
12	B/H/Li/R	6	1			5					6
13	H/Li	1				1					1
14	P/Dr	1			1						1
15	R/Li	0									0
21	B	67	67								67
22	De	71		71							71
23	Dr	41			41						41
24	H	40				40					40
25	La	36					36				36
26	Li	39						39			39
27	P	89							89		89
28	R	34								34	34
	Total	610	72	96	72	48	92	69	115	46	610
ROOMS	÷24	25.4	3	4	3	2	3.8	2.9	4.8	1.9	25.4
ACTUAL 2013-14			4	5	3	3	4	3	5	3	30
Notes:											
1. Buffer Numbers Match BPS Buffer Zones Effective 7/1/2012 - Buffer 7 and 8 (both P/La) are both coded as 8											
2. District Numbers Start at 21, in alphabetical order											
3. Brookline Students from IP Printout 10/30/13											
4. No redistricting -- no deviation from existing district and buffer zones -- xx classrooms required vs. 30 actually used											
5. METCO & Materials Fee (total xx) require increasing average class size to xx, or equivalent to 2 additional classrooms of 24											