

Brookline's Changing Households:
An Examination of School, Health and Census Data Relevant to School Enrollments

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Executive Summary

Brookline's burgeoning public elementary school enrollment has caused serious overcrowding in many of our schools. While the recent growth in young school-aged children is well documented, we have not yet fully examined the details of this trend. Questions abound, such as: Why are there so many young children? Which areas of town are experiencing the greatest growth in young children? Are families moving into Brookline? If so, where are they coming from? Is this trend likely to continue? What factors are contributing to this growth?

By looking at recent data from the census, school profile reports, state public health statistics, and the assessor's department, which were then compared with the analogous 2000 data and to surrounding communities, we can begin to answer a few of these questions. As a more subjective balance to the data and in conjunction with this analysis, Larry Koff, conducted a telephone survey of local realtors, pre-school and daycare operators, private school administrators and public school principals. A list of survey questions and a summary of the findings can be found in the Appendix.

A number of hard-to-predict factors such as birth rates, migration patterns, cultural shifts, availability of public and private services and changes in household composition are impacting the growth in young school children. To date these factors have given rise to two key trends:

1) *The Growth in families with children* represents a shift in the make-up of our households.

- The number of young children, (0 – 9 years old) increased by 1,070, (approximately 20%) between 2000 and 2010.
- There are 273 more families with children living in Brookline in 2010 than in 2000.
- There were 700 more owner-occupied households (625 of which were family households) and -1,181 fewer renter households in 2010 than there were in 2000.
- The birthrate in Brookline has increased slightly over the decade.

Culturally, and as a result of the economy (especially rising energy prices), young families throughout the country are placing a greater value on proximity to their workplace, access to transit and a walkable and therefore urban lifestyle. The trend towards repopulating our cities has been well documented, (for example see *The Great Inversion and the Future of the American City*, by Alan Ehrenhalt). In Brookline, this has translated into new young families moving into recently renovated condominiums in two-three and multi-family buildings. As a result of renovations and condo conversions, the number of owner-occupied households increased by 700, between 2000 and 2010, while the number of rental households has declined by 1,181. This has made housing stock available in Brookline that is attractive to young families and which is more easily afforded by two-earner professional couples, possibly after selling their home in surrounding communities.

2) *Creating and Maintaining Family-friendly Services and Infrastructure.*

Brookline has been extremely successful in creating a social and physical infrastructure that supports families and many individuals from a variety of backgrounds and socio-economic categories. The availability of daycare and pre-school facilities, our parks, recreation programs, public libraries, special needs and English Language Learning

programs in our schools, combined with our walkable, transit accessible setting and proximity to Boston all combine to make Brookline workable, desirable and “affordable”. In other words, our publicly provided services and infrastructure help to offset the high cost of housing and create a very livable and supportive setting. The neighborhoods around the Devotion, Lawrence, Pierce, and Driscoll schools are undergoing revitalization and increasing property values as multi-unit homes are renovated and converted to condominiums, creating new home ownership opportunities, which seem to be particularly attractive to families.

Will the growth trend continue? There are a number of factors that may work against a continuing growth in young children.

- The number of persons living in Brookline who are of childbearing age has declined over the 2000 – 2010 decade.
- The “boomlet” resulting from the baby boomer’s children having children will run its course.
- The housing supply is severely constrained, with 25% fewer properties on the market this year over last.
- Increased demand for the limited housing supply has driven up prices.
- Declines in federal spending have negatively impacted health and science research fellowships and employment locally.
- Post-doctoral fellowships bring a large number of families with young children from around the globe. The rate of growth and mobility among ELL students in Brookline is greater than that for the student population as a whole. It is unclear what impact this highly mobile population may have on future school enrollments.
- Charter schools are proliferating in the Boston area, potentially offering an attractive alternative to Brookline parents.
- In the longer term, young persons graduating from college now are finding it increasingly difficult to afford an independent household.

Recommendation:

Further Inquiry and Data Collection is needed to monitor the growth of school age children:

While we can describe the trends contributing to the growth in young families with school age children, there is considerable uncertainty with respect to myriad factors including; employment, housing prices, changing quality of Brookline and neighboring schools, etc., all of which could significantly alter current patterns. Some of the uncertainty could be eliminated through additional data gathering and monitoring, such as:

- The School Administration and BEEP should track the number, source and destination of students moving into and out of the school system.
- The Assessors Department should track real estate sales by school district.
- The Planning Department should assess the potential for likely sales, renovations and condominium conversions by school district.

Introduction

The purpose of this paper is to present some of the available information that can help us to understand the trends contributing to our school enrollment growth.

Data Sources and Topics Explored:

The topics covered in this paper include 1) changes in population and household composition, 2) the number, origin and type of new residents (in-migration), 3) birth rates, 4) private school enrollment and 5) public school student attrition and mobility.

As a companion to this effort, I have collaborated with Larry Koff (an urban planner and Pct. 3 TMM) on a survey that has been administered to realtors, school principals, the town assessor and private school administrators, which is designed to further explore enrollment trends and their potential explanations. This paper does not take any position regarding any of the proposals put forward to address school enrollment issues.

As researcher for the Brookline Community Foundation's Understanding Brookline project, I prepared a comprehensive report, The Phase One Data Report. Many of the reports' findings are relevant to the question of school enrollments, reiterating the enrollment growth trends observed by the School Department. Specifically these were; the growth in the population aged nine and under, the growth in the number of family households with children, and the increase in the average family household size. That report also contained comparisons of these trends to neighboring communities and statewide averages, highlighting the ways in which Brookline mimics or diverges from generalized trends in the region. A few key findings are presented here. For further information, please consult the full Phase One Data Report, (the "Report") which can be downloaded at www.brooklinecommunity.org

While my work for the foundation is referenced here, the Brookline Community Foundation did not request or fund the creation of this paper.

School Enrollment Growth:

Since 2006 the total number of elementary school children enrolled in Brookline Public Schools has increased by 30%. In 2006 the total elementary school enrollment was 3,896, in 2013 there are 5,067 students, an increase of 1171 students. The average elementary school enrollment increase per year between 2006 and 2013 was 167. High School enrollments have actually declined slightly over this same period. Therefore, total school enrollments over the same time period grew by 1,070 or 19%. These rates of growth are mirrored by the 2010 Census data, which reports a 22% growth in children under 5 between 2000 and 2010, representing 570 young children. For the 5 – 9 year old population, there was a 20% increase, representing 500 additional children. The school enrollment increases have severely strained the capacity of Brookline's public schools. As a community, we need to understand the "how" and "why" of this growth in order to predict enrollment trends and plan for the future.

Significant Trends and Patterns

1) Shifting Age Characteristics.

Over the 2000 – 2010 decade Brookline’s population shifted, with growth in the number of young children, college aged young adults and baby boomers nearing or in retirement age. The number of middle-aged residents declined.

Brookline Population by Age Group 2000 – 2010

Age Group	2000	2010	Difference	% Change
< 5	2,639	3,209	570	21.6%
5 - 9	2,531	3,031	500	19.8%
10 - 14	2,702	2,606	-96	-3.6%
15 - 19	2,706	2,817	111	4.1%
20 - 24	5,605	6,618	1,013	18.1%
25 - 34	12,853	12,028	-825	-6.4%
35 - 44	8,429	7,696	-733	-8.7%
45 - 54	7,770	6,545	-1,225	-15.8%
55 - 64	4,764	6,688	1,924	40.4%
65 - 74	3,300	3,846	546	16.5%
75 - 84	2,473	2,326	-147	-5.9%
85+	1,335	1,322	-13	-1.0%
Town Total	57,107	58,732	1,625	2.8%

Source: DP-1 Profile of General Demographic Census 2000 & 2010

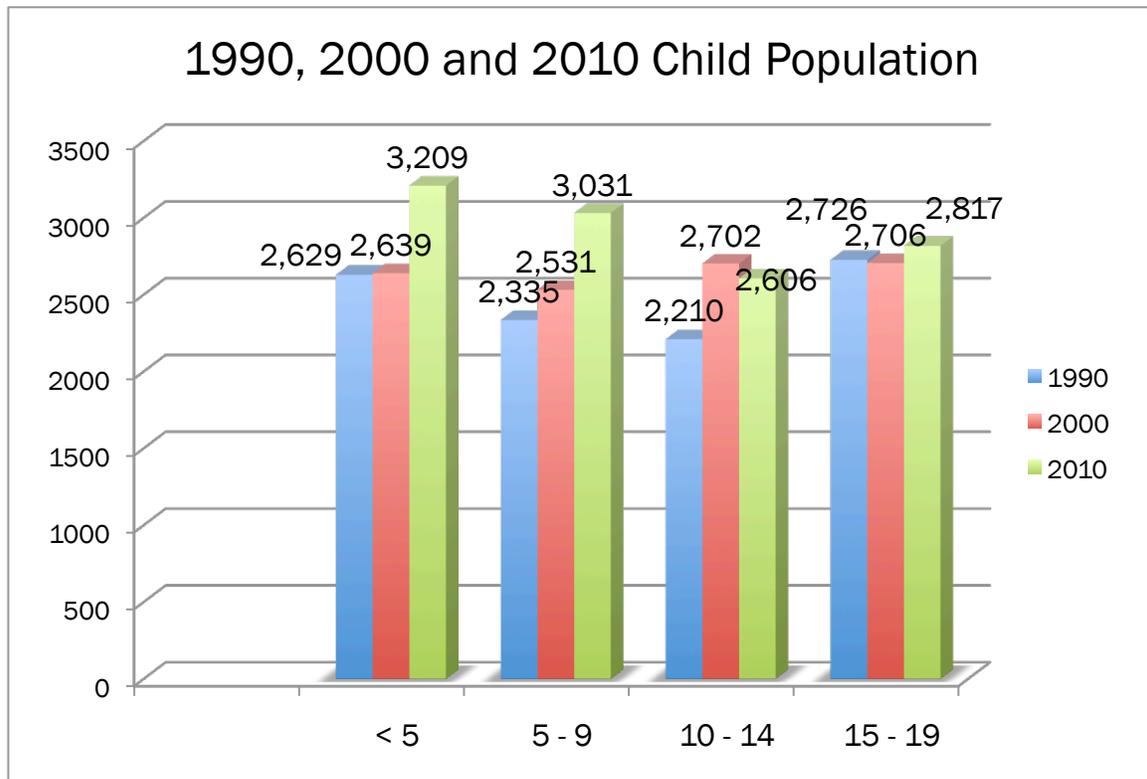
- **Are there more young children living in Brookline?**

The percent change in the number of children under 5 (21.6%) and between 5-9 (19.8%) are growth rates that are higher than every other community in the Boston area, with the exception of Everett.^{1 2} While this rate of growth is significant, it is important to note that the proportion of Brookline’s population (10.7%) that is aged nine and under still lags behind Newton (11.5%) and the Massachusetts average (11.5%). For further comparison, 9.5% of Boston’s population and 7.2% of Cambridge’s population is aged nine and under, as shown in Table 1-2 of the report. Because of Brookline’s large college and graduate student population, declining middle-age population and relatively large proportion of single-person households, it appears unlikely that the proportion of Brookline’s population that is aged 0 – 9 will grow to exceed the statewide proportion or that found in more suburban communities.

¹ Census 2010: Winners and Losers in Demographic Change in Boston Area Cities and Towns by Eswaran Selvarajah for Boston Studies Group, Boston, MA

² For a comparison of age group 2000-2010 change for Brookline and neighboring communities and MA, see Table 1-3 on pg. 6 of Understanding Brookline Phase 1 Data Report.

To underscore just how strong the growth rate in young children was between 2000 and 2010, the chart below, which focuses on the child aged population for the years 1990, 2000 and 2010, illustrates the magnitude of growth for the under 5 and 5-9 populations. This chart also illustrates that there was not a corresponding growth in the population of older children. For instance, in 2000 the 10-14 age group population was larger than it was in 2010. Just as the high school population has declined in recent years, this suggests that the growth in the lower grades is somewhat offset by declines or stability in the school population of older children.

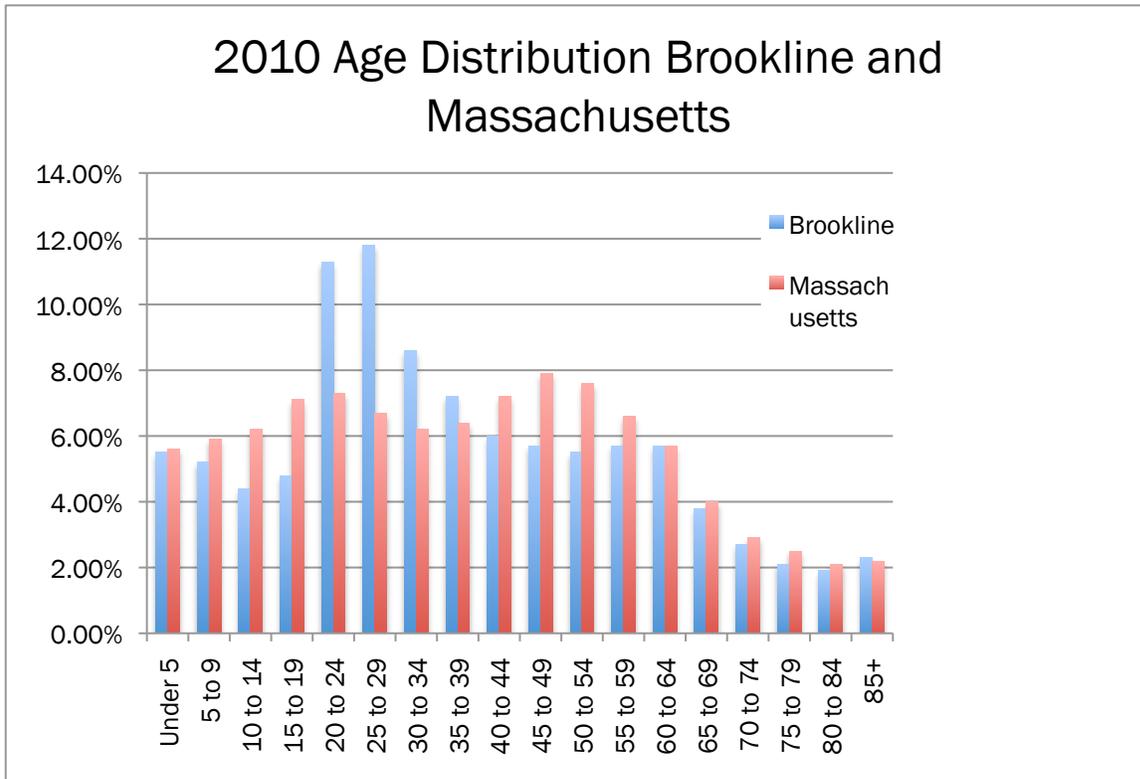


Source: DP-1 Profile of General Demographic Census 1990, 2000 & 2010

- **How is Brookline’s Age Distribution Unique?**

The chart below³ illustrates the way in which Brookline’s age distribution deviates from the statewide age distribution. While our under 5 population is approaching the statewide proportion, the percentage of 5-19 year old residents remains much lower in Brookline. However, the 10-14 age group population declined slightly in the past decade and this age group’s share of the overall population is much lower in Brookline than it is statewide. The impact of our large college and graduate school student population and the decline in middle-aged Brookline residents are clearly illustrated. Interestingly, the 30-34 and 35-39 year old age groups are slightly higher percentages of the population in Brookline than the state. In Brookline, this age group has the highest birth rate, as shown below.

³ pg. 5 Chart 1-3 Understanding Brookline Phase One Report, Brookline Community Foundation



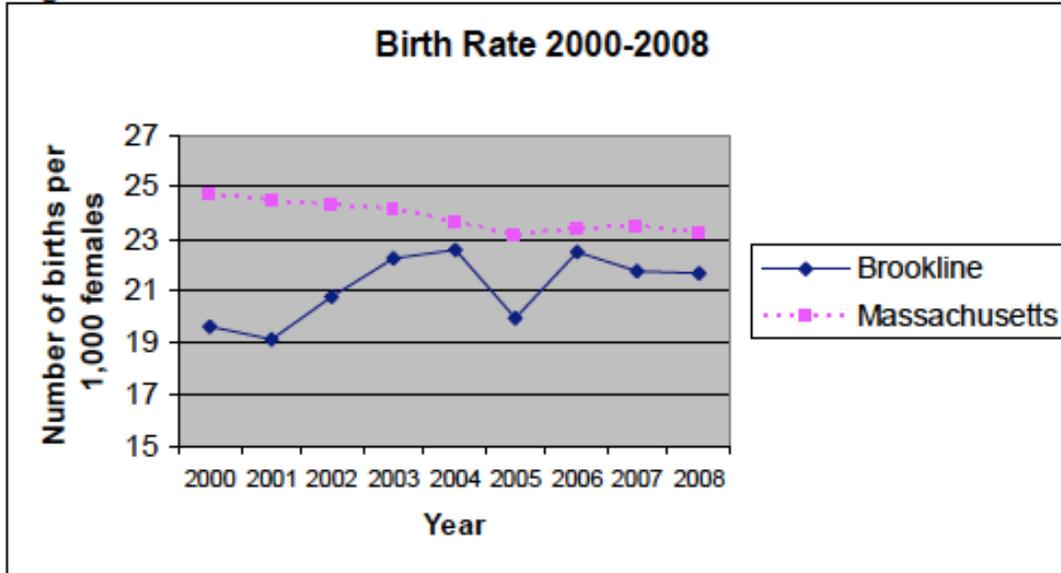
Source: DP-1 Profile of General Population and 2010 Demographic Profile Data

2) Birthrates

- ***Does the Number of Births Explain Enrollment Growth?***

It is clear that increased births by women living in Brookline do not fully explain the growth in early elementary enrollments. As reported in *Healthy Brookline XIII*, published by the Brookline Department of Public Health in 2011, birthrates rose slightly in the mid-2000's, declined slightly and are now leveled off. In 2009 there were 676 births, which translates to a rate of 22.14 per 1,000 females in Brookline, a value consistent with previous years' birthrates. This birthrate is below that of the Massachusetts average. As the baby boom generation ages into retirement, their children reach child-bearing age, even for those who delay marriage and childbirth until their thirties.

Figure 2.1

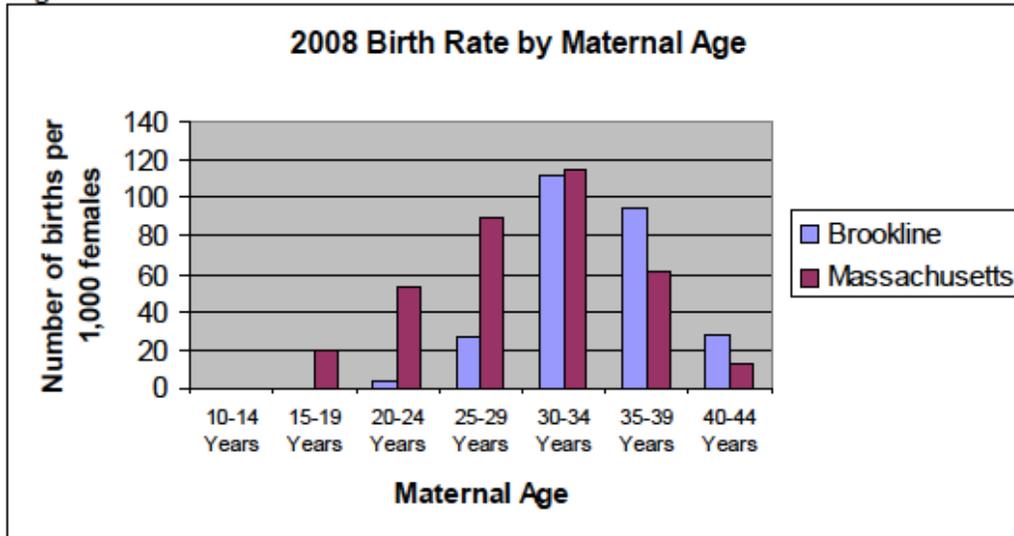


Source: Registry of Vital Records and Statistics, Bureau of Health Statistics, Research and Evaluation, Massachusetts Department of Public Health, MassCHIP v3.0 r234, 7/8/2010

- *What does Brookline's Maternal Age mean for the future?*

Brookline women tend to have children at an older age.⁴ The distribution of Brookline's maternal age towards the older age brackets, coupled with the 6% - 9% decline in the 25-34 and 35-44 age groups respectively, makes the notion of any future marked birthrate increase in Brookline an unlikely proposition.

Figure 2.2

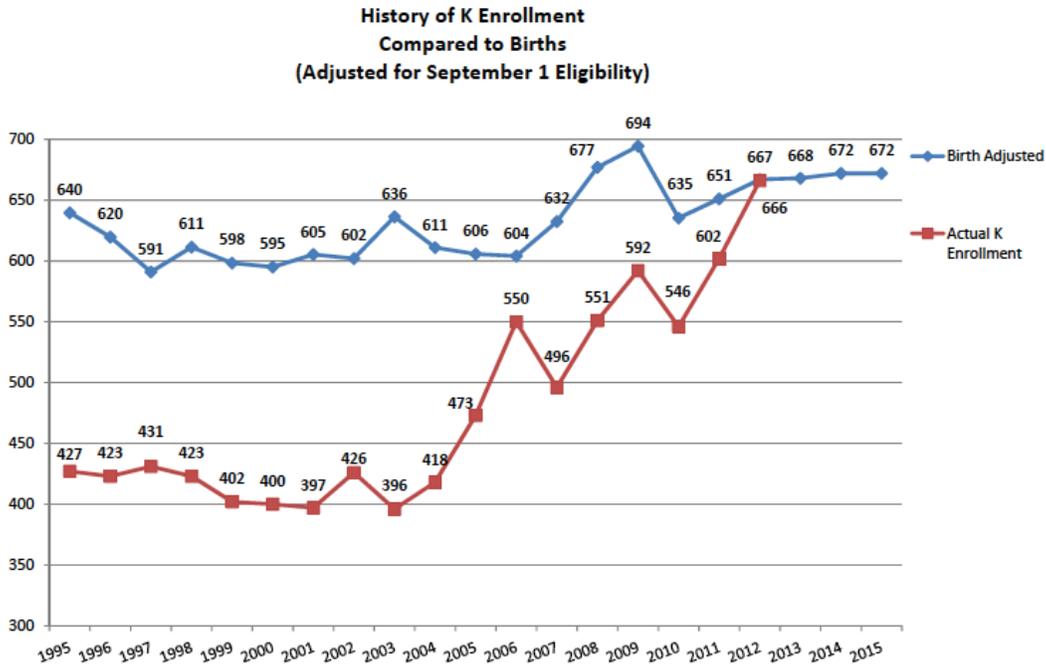


Source: Registry of Vital Records and Statistics, Bureau of Health Statistics, Research and Evaluation, Massachusetts Department of Public Health, MassCHIP v3.0 r234, 7/8/2010

⁴ Healthy Brookline XIII, Brookline Department of Public Health, 2011, pg. 16

- *Has the school “capture rate” become 100%?*

The School Department presented the chart below⁵, illustrating the relationship between births five years previous and Kindergarten enrollment.



Between 1995 and 2005 a relatively consistent pattern prevailed, where 180 to 240 of those born 5 years previously do not appear in the K enrollment, with average capture rates being around 80%. Private school enrollments account for about 14% of Brookline students prior to 2005. After 2005 the size of the difference between births and enrollment shrinks and eventually, in 2012, the two lines converge; the number of births and enrollment are the same. There are a number of possible explanations for this convergence. 1) The proportion of children born in Brookline who attend private school instead of public school may be declining. 2) The number of children who were born in Brookline but move out of Brookline before becoming school age may be declining, or 3) The number of children born elsewhere but moving to Brookline before becoming school age may be increasing.

3) Private School Enrollment

- *Has the proportion of school-age children attending private school changed?*

Since 2000 the number of Brookline’s K-12 students enrolled in private school has remained fairly constant, hovering somewhere between 900 and 1,000⁶. Since 2006, when the recent growth in elementary school enrollments began, the number of

⁵ Enrollment and Classroom Demand History Projection Presentation, January 14, 2013, pg.8

⁶ Private School Enrollment figures provided by Mr. Peter Rowe, Deputy Superintendent, Brookline Public Schools.

elementary students attending private school has ranged between approximately 920 and 980, with recent years being in the mid-point of this range. However, because public school enrollments have grown, the proportion of Brookline’s K-12 students attending private school has *declined* from 14% to approximately 12% of the school-age population.

4) Pre-School Enrollments

- ***Are Census Pre-School Enrollments Consistent with Trend?***

The American Community Survey estimates school enrollments as part of their sample-based data gathering effort.⁷ While actual school enrollment figures are far more accurate, the ACS data may be useful otherwise because it includes estimates for pre-school and college enrollments as well. For the Brookline population aged 3 and above the number of pre-school students, and the percent of those students attending private vs. public pre-school are estimated for 2007 – 2011. To interpret trends in school enrollments, 2000 Census data is included as well. Given the birth rate data, these enrollment figures show a very high enrollment “capture” in pre-school and are consistent with enrollment trends, given that this data represents 3 and 4 year olds.

Brookline Pre-School Enrollment

Year	Number	%Private
2011	1,299	68.1%
2010	1,321	68.1%
2009	1,253	68.4%
2008	1,284	74.2%
2007	1,182	65.1%
2000	957	74.0%

Source: American Community Survey S1401 5-Yr Estimates 2007-2011, 2000 Census, QT-P19, SF 3

5) In-migration of School Age Children

- ***Are more young children moving to Brookline?***

Can the growth in enrollments, beyond that expected by Brookline births, be explained by children moving into Brookline? The table below shows the number of individuals in each age group who moved to Brookline in the year prior to the 2010 Census. The percentage of each age group who are new is also presented. For Brookline as a whole, 20.3%, or 11,634 residents moved to Brookline within the previous year. High mobility within the 20-29 year old age group accounts for almost half of Brookline’s new residents. There were 533 new 1-4 year old residents (21.1%) and 821 new 5-17 year olds (10.8%). Our total population has only grown slightly; therefore there are many individuals who move away as well. The 10.8% or 821 new 5 – 17 year olds corresponds to the roughly 10% overall mobility rate among all students, reported by the Brookline Public Schools. The greater percentage of mobile 1-4 year olds, (21%), representing 533 new children, is a

⁷ The American Community Survey is a continuous sampling of households, which replaced the Decennial Census long form, which obtained certain detailed household information via sampling.

good indication of the pattern of families with young children moving into Brookline prior to school-age.

2010 Brookline In-Migration by Age Group

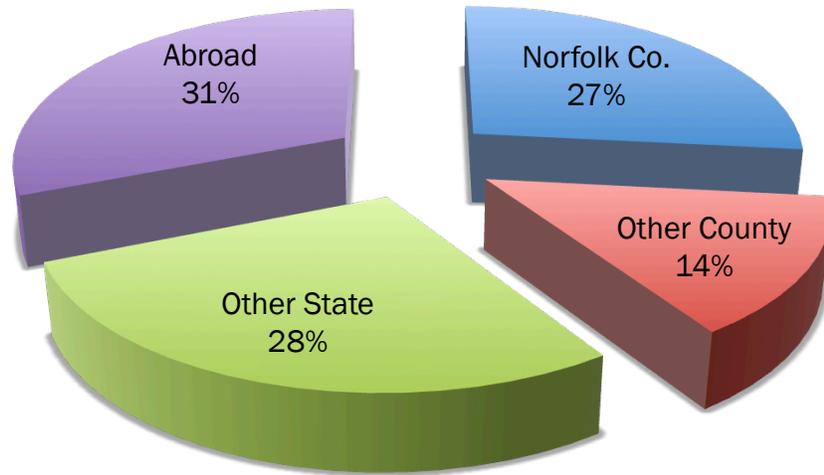
Age Group	Pop. Total	Percent New	Number New
Total (1+)	57,300	20.3%	11,634
1 - 4	2,526	21.1%	533
5 - 17	7,593	10.8%	821
18 - 19	1,061	35.6%	378
20 - 24	6,060	48.1%	2,916
25 - 29	6,652	40.2%	2,677
30 - 34	4,597	27.8%	1,277
35 - 39	3,791	25.0%	948
40 - 44	3,767	11.0%	413
45 - 49	3,377	17.4%	589
50 - 54	3,403	10.0%	339
55 - 59	3,843	5.4%	206
60 - 64	3,351	2.6%	86
65 - 69	2,185	5.0%	109
70 - 74	1,529	5.6%	85
75+	3,565	7.2%	257

Source: American Community Survey 2006-2010: B07001: Geographical Mobility in the Past Year by Age for Current Residence.

- ***Where do the new pre-school and school-aged children come from?***

Below is a pie chart showing the place of origin for new 5 – 17 year old residents. We frequently hear the theory that Boston families with young children move to Brookline for the schools.

Origin of 2010 New 5 - 17 Year Old Brookline Residents

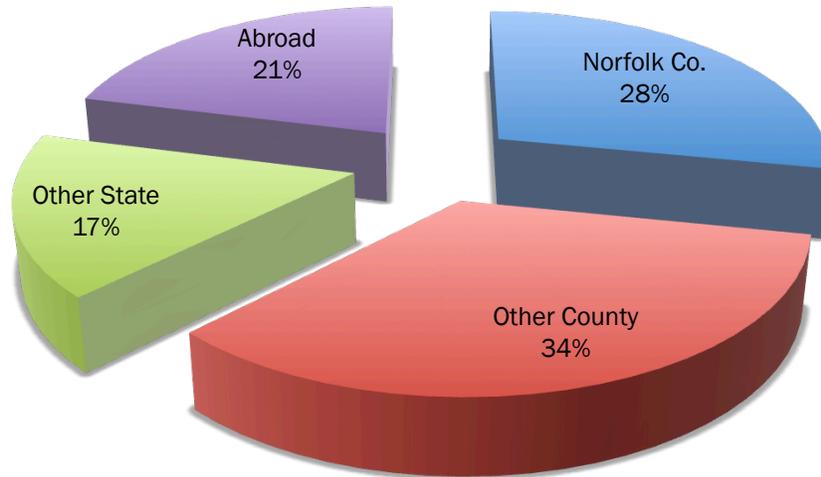


Source: American Community Survey 2006-2010: B07001: Geographical Mobility in the Past Year by Age for Current Residence.

Within the school-age population (5-17 years old) only 14% of new-comers came from some county other than Norfolk within Massachusetts, the category that includes Boston and Cambridge. The highest number of school-age children moving into Brookline (31%) is moving from abroad. The number of foreign students moving into our schools is significant, and these students have a challenging transition to make, often requiring a commitment to learn English as well.

What does the data tell us about the place of origin of new pre-school age children? We saw earlier that the rate of mobility (21.1%) for this age group is more than twice that of school age children (10.8%). Within this age group (see table on next page) the highest number of pre-school aged children (34%) are moving from counties other than Norfolk, within Massachusetts (again, a category which includes Boston and Cambridge) The percentage (28%) moving from other Norfolk Co. towns is almost identical (27%) to the 5-17 year old age group, while the proportions moving from abroad and other States are less. So, it seems that for those families already living in Massachusetts who are moving to Brookline, many of them make the decision to relocate before their youngster reaches Kindergarten.

Origin of 2010 New 1 - 4 Year Old Brookline Residents

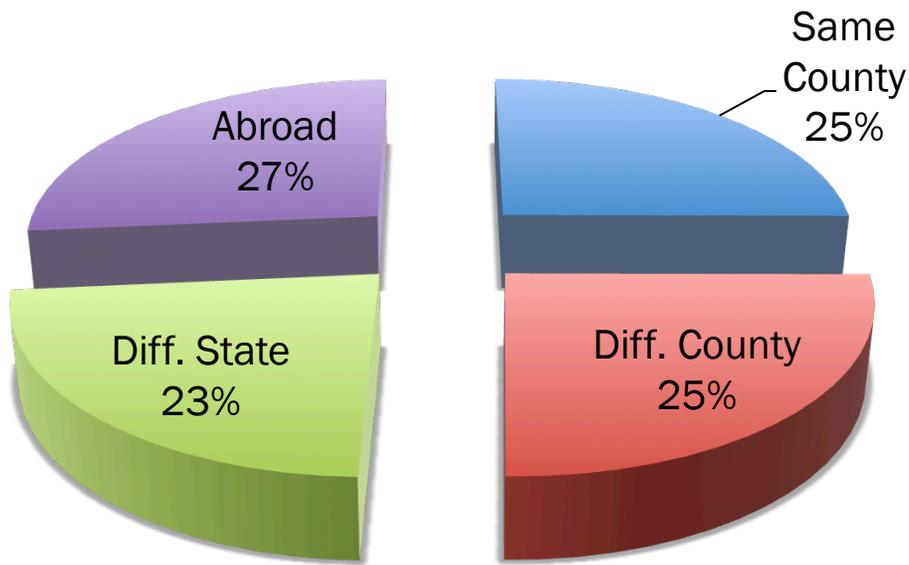


Source: American Community Survey 2006-2010: B07001: Geographical Mobility in the Past Year by Age for Current Residence.

- ***Is the mobility of married couples similar to child mobility?***

The majority of parents with young children are married couples. Therefore, we would expect to see similar mobility rates and patterns among married persons. Of the 10,494 persons aged 15 and above who moved to Brookline in the year prior to the 2010 Census, 6,786 or 60% were never married, while 2,940 or 32% were married. Where did the married new residents come from? Was the distribution of their origins the same as we saw for the young children? As we can see from the chart below, the distribution of origins for new married residents were more evenly balanced among the categories than that for the 1-4 year old population, which were more heavily weighted in the “other county” category. These findings support the assumption that families with young children are moving to Brookline from nearby communities prior to school enrollment.

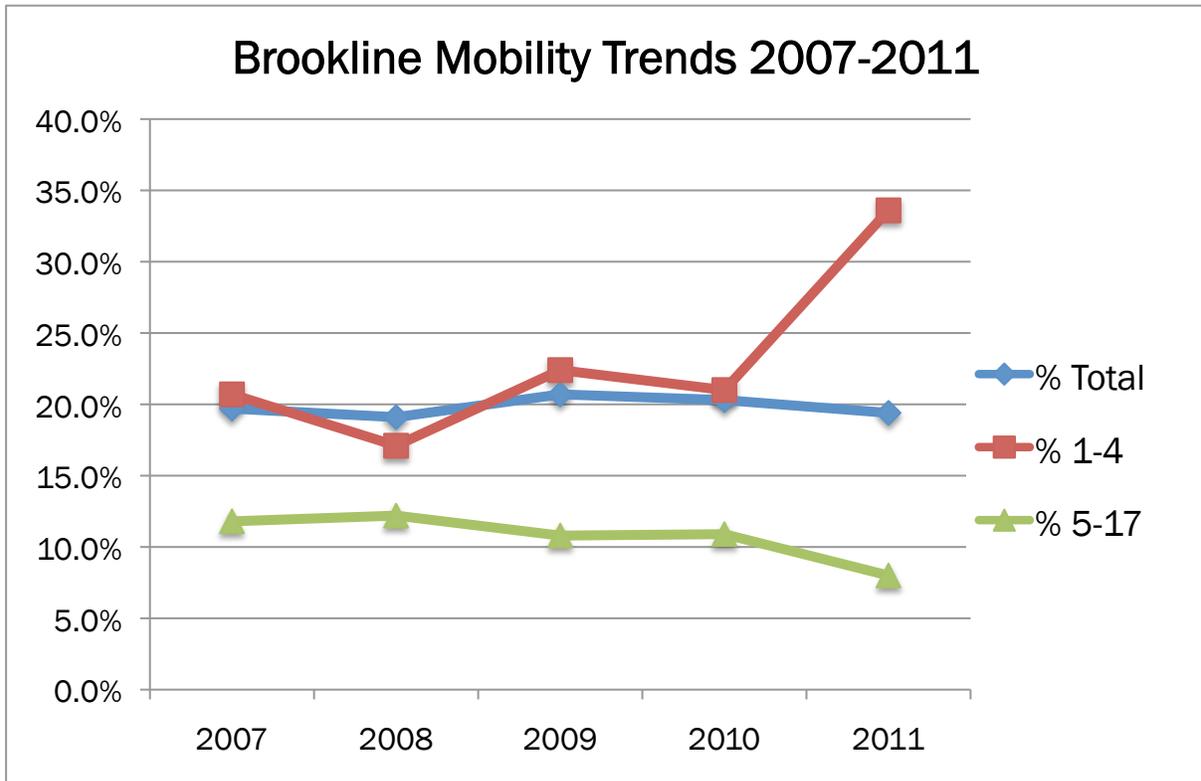
Origin of Married New Residents 15+ - 2010



American Community Survey: 2006 - 2010 B07008, Geographic Mobility in the past year by Marital Status for current residence, population 15 years and older.

- ***Has the rate of mobility changed recently?***

To help us gain some perspective on these mobility statistics, it is helpful to look at previous years mobility numbers to determine if there is a trend of increasing or decreasing mobility, and it is also helpful to compare mobility rates for surrounding communities.



Source: American Community Survey S0701: 2007-2011: Geographic Mobility by Selected Characteristics 3-yr and 5-yr Estimates. While there is a consistency to this data, the age group mobility rates have accuracy rates above a 15% coefficient of variation. The Town Total figures are within a 15% coefficient of variation.

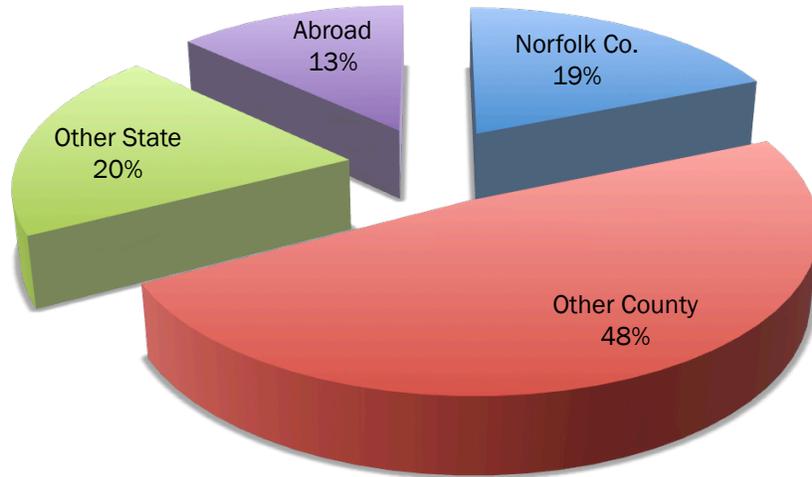
The American Community Survey has only gathered analogous geographic mobility data since 2007. For the time period of 2007 – 2011, the percentage of our population moving into Brookline in any given year has remained fairly stable. Additionally, the Town-wide population in-migration in 2000 was 23%, (it was 20% in 2010), further contributing to a depiction of a fairly stable Brookline geographic mobility rate.

The obvious outlier is the 34% mobility estimate for 2011 within the 1-4 year old age group. As stated above, these estimates have a high margin of error and cannot be relied upon for accuracy. However, the steep increase, even if it were actually less dramatic than shown here, would help explain the steep increase in Kindergarten enrollments. 2012 ACS data will be released this fall.

- ***Where did the 2011 1-4 year old residents come from?***

Because we are very interested in recent in-migration patterns of pre-school age children moving into Brookline, it is useful to look at the most recent ACS estimates for the origin of these residents for the most recent year we have (2011), which is also the year showing a possible steep increase in mobility rates. If these estimates prove correct, the increasing rate of 1-4 year old mobility should be mirrored by an increasing rate of in-migration from other Massachusetts counties. As can be seen from the chart below, such a mirroring is evident, with almost half of these new residents coming from counties other than Norfolk within Massachusetts, (including Boston and Cambridge).

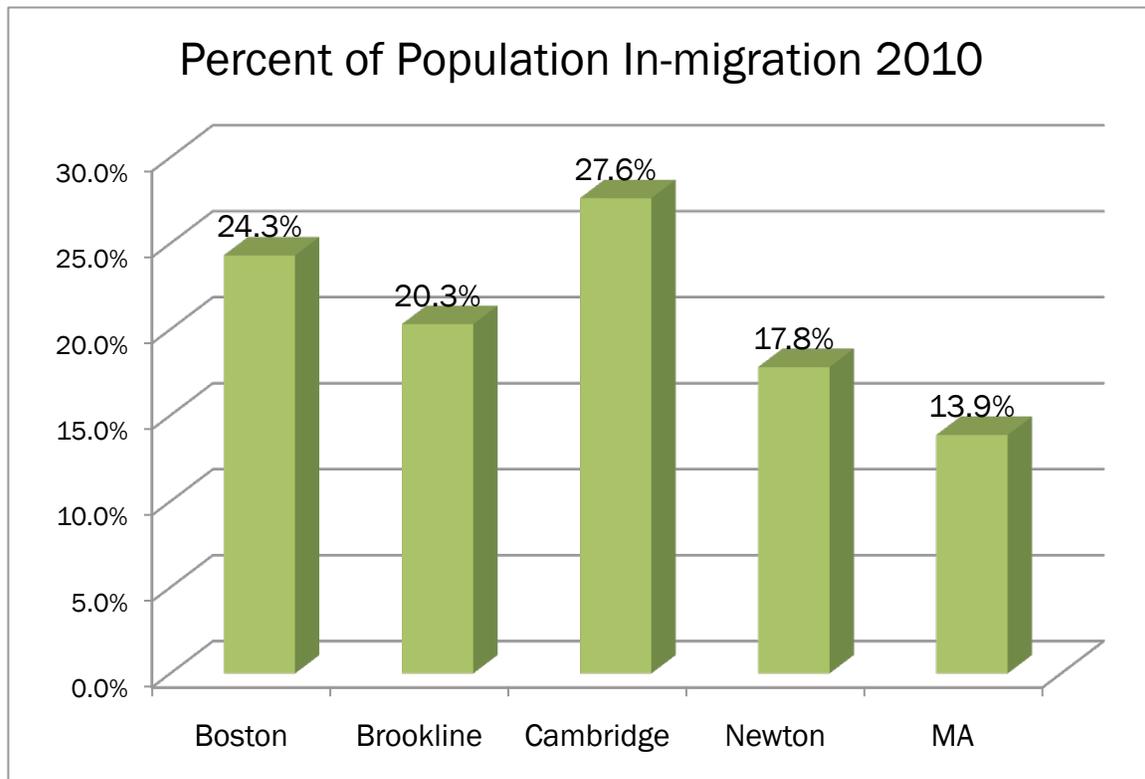
Origin of 2011 New 1-4 Year Old Brookline Residents



Source: American Community Survey S0701: 2009-2011 3-Yr Estimate: Geographic Mobility by Selected Characteristics.

- ***How Does Brookline Mobility Compare to Other Communities?***

Does Brookline have a higher rate of geographic mobility among its residents than other nearby communities? Below is a comparison of the overall population mobility for some surrounding towns and the Massachusetts statewide average.

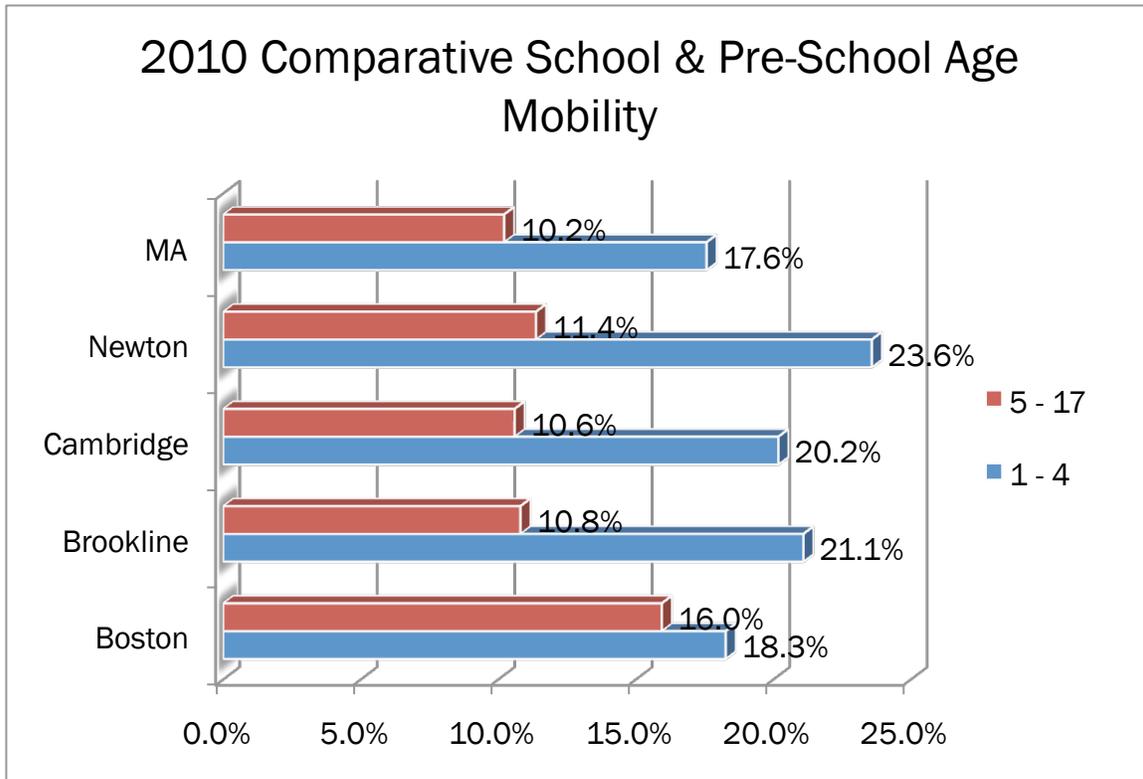


Source: American Community Survey: 2006-2010 B07001: Geographic Mobility In the Past Year by Age for Current Residents Age 1 and over.

As we would expect, those communities with a large number of college and graduate school students, especially Boston and Cambridge, have high rates of resident mobility. Brookline's 20.3% falls somewhere between Boston's (24.3%) and Newton's (17.8%), a distribution somewhat analogous to the relative distribution of college and graduate student population.

- ***Does Brookline's Pre-School Mobility Differ?***

How does Brookline's pre-school and school-age children's mobility rates compare? Surprisingly, the differences in child mobility rates between the comparison communities are relatively small. The community with the highest rate of mobility in the 1-4 year old age group, Newton, is only slightly higher than Brookline, a difference of 2.5%. The mobility rates for 5-17 year old residents are even more consistent between all communities and the statewide rate, except for Boston's higher rate of (16.0%). An important finding seems to be the relatively high number of school-age children moving from abroad, which is likely due to parents coming to the area for post-doctoral or other types of positions, being drawn by our area's high concentration of medical and academic institutions.



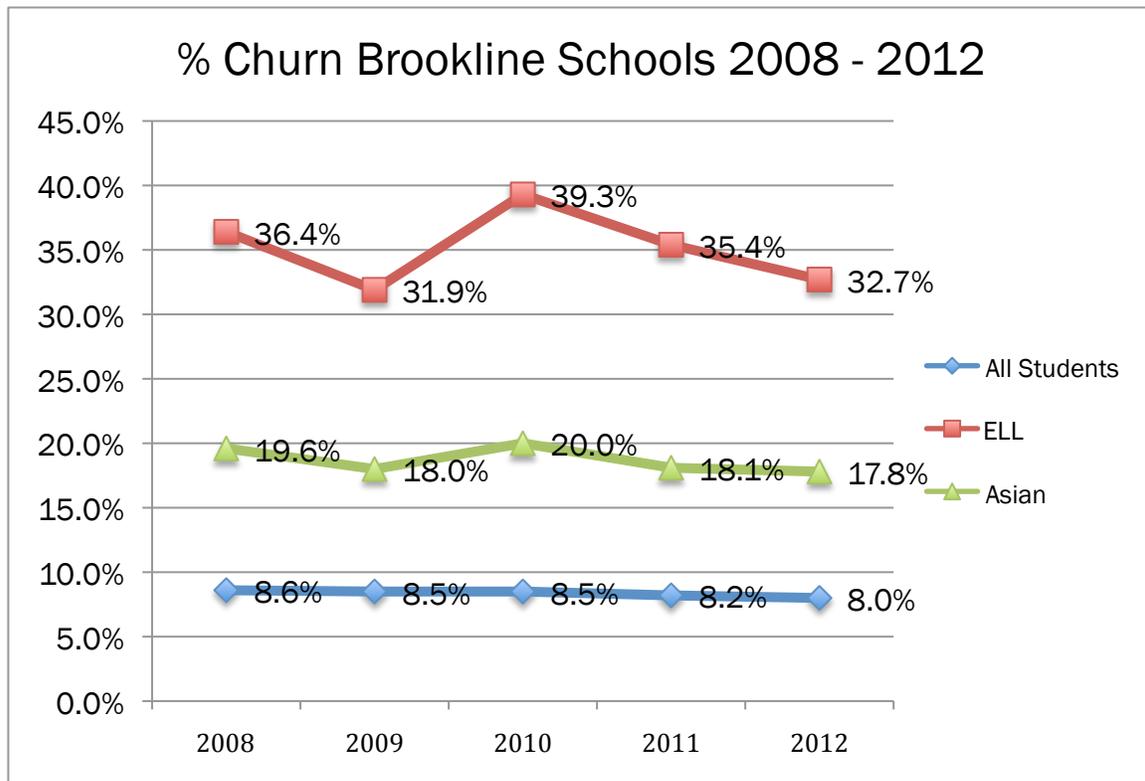
Source: American Community Survey: 2006-2010 B07001: Geographic Mobility In the Past Year by Age for Current Residents Age 1 and over.

6) School Attrition and Mobility

The Commonwealth of Massachusetts Department of Elementary and Secondary Education publishes District Profiles for each school district in the state, reporting a consistent set of data for all schools. (See: <http://profiles.doe.mass.edu/>). The Massachusetts Department of Education defines mobility to include students moving into or out of a school district during the school year. A student who moved to a new town or school district during the period between school years (summer) would not be counted as mobile in this profile data. Therefore, the census and school department measure mobility differently. Nevertheless, by accessing data on the mobility of students and the attrition of students between each grade, we can tell whether or not there has been a change in the rate of mobility over time in Brookline, and we can compare Brookline's mobility with other school districts to get a sense of whether or not Brookline student's mobility is unique or different from comparable communities.

- ***Does the School District Profile Show change in Mobility?***

The chart below shows that the churn rate in Brookline has remained fairly stable over the years. The churn rate is defined as the number of students transferring into or out of a public school or district throughout the course of a school year. The churn rates are presented below; one for all students combined, the English Language Learner population and the Asian population.

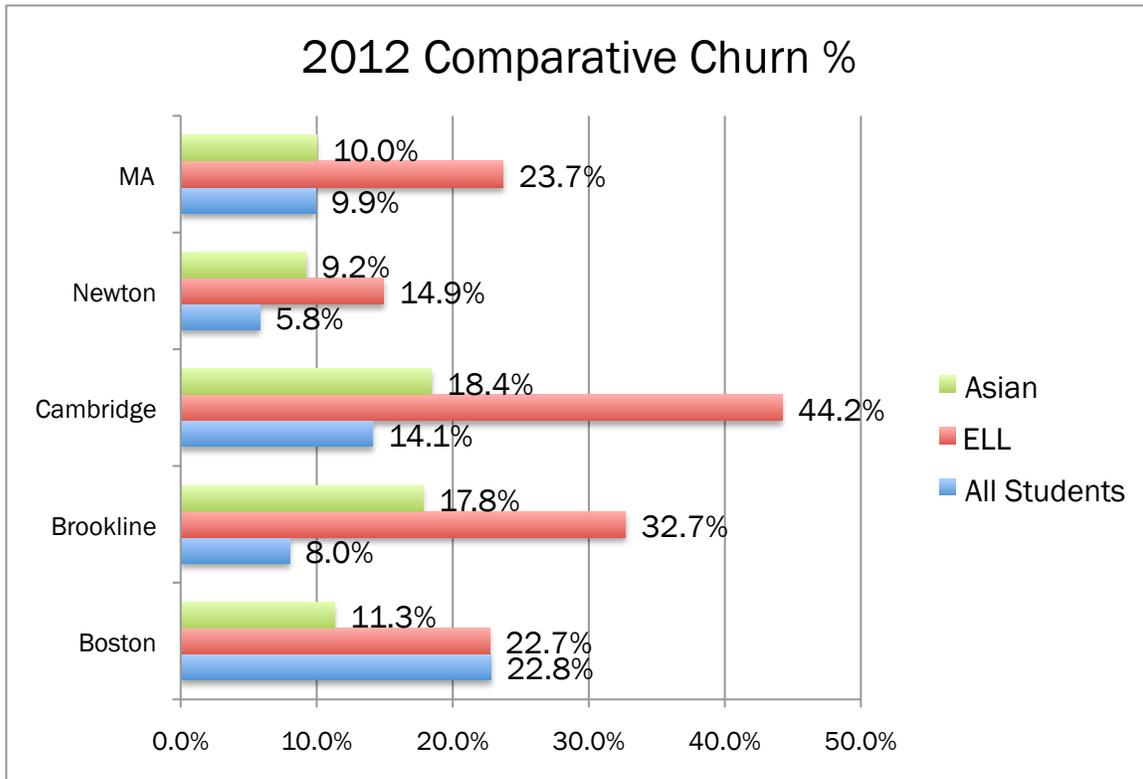


Source: Massachusetts Department of Elementary and Secondary Education, District Profiles.

This chart depicts a relatively stable pattern of student turnover during the school year over the past five years, although there was a slight spike in turnover in 2010. The average churn rate for all students combined hovers between 8% and 8.5% over the time period, representing approximately 475 – 550 (depending upon total enrollment) students either entering or leaving the school district during the school year. What is interesting is the variation in churn rate between student populations. English Language Learners have the highest rate of mobility, with 32% - 39% of the student population coming or going during the year, meaning that roughly 200+ ELL students are either entering or leaving the district during a given year. The second highest rate of turnover (18%- 20%) is within the Asian population, with roughly 250 Asian students entering or leaving the district. Both of these high turnover rates (ELL and Asian) seem to correlate with the higher proportion (31%) of new school-age children moving into Brookline who come from abroad. A pattern of high mobility amongst our foreign population is emerging. The ELL population of students has grown faster (+30%) from 2008 – 2012, than the combined total student population, which grew 11% over the same period.

- ***Do Brookline Schools have higher mobility rates?***

The chart below shows the % churn for neighboring communities and Massachusetts. Brookline’s overall % churn of 8.0% is higher than Newton’s 5.8%, but lower than the other comparison communities and the statewide average of 9.9%. But, our English Language Learner and Asian student populations have relatively high % turnover, higher than Boston, the state and Newton, and almost as high as that found in Cambridge. Therefore, this additional data source reiterates the fact that our foreign student population is highly mobile.



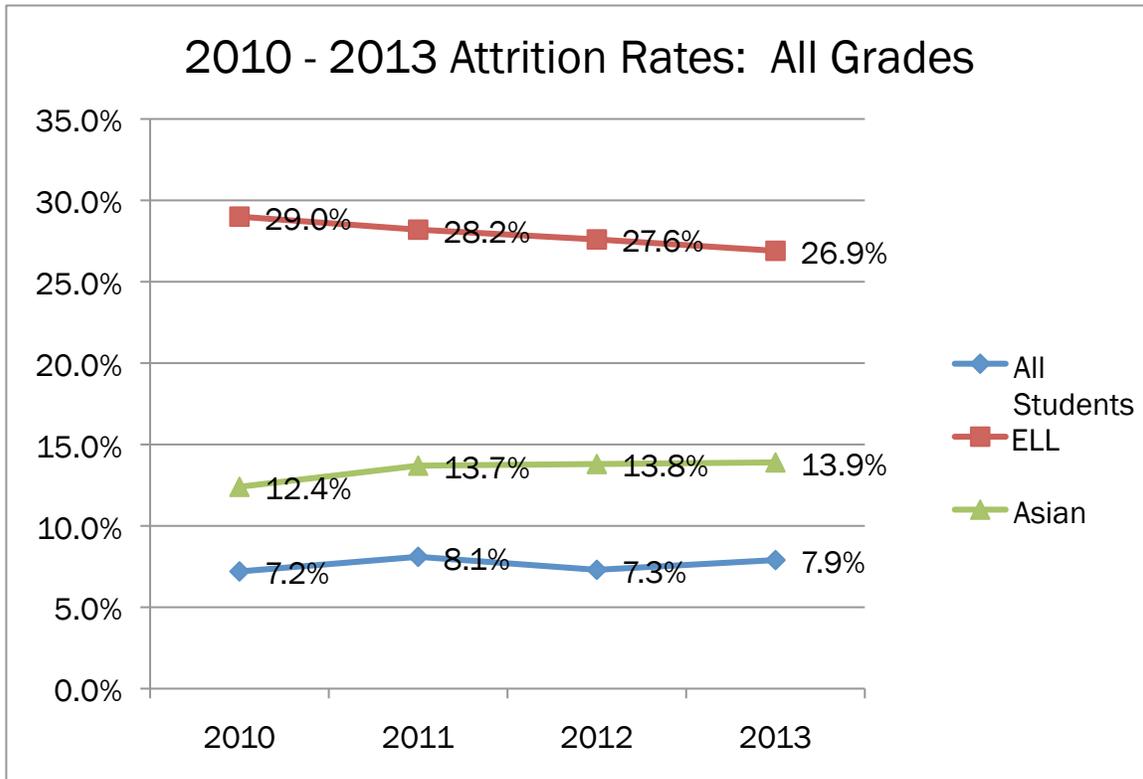
Source: Massachusetts Department of Elementary and Secondary Education, District Profiles.

- ***Has there been a change in Brookline’s student Attrition?***

Another statistic reported by the Massachusetts Department of Primary and Secondary Education is the % of students who leave a school or district between school years, which is the attrition rate. Like the churn %, Brookline’s attrition rates have remained relatively stable over time, and also like the churn % English Language Learners and Asian student populations show the greatest attrition. An attrition rate that is only slightly less than the churn rate implies that the majority of student mobility is attributed to those leaving. Attrition rates are reported for each grade transition, and for the combined average of all grades. For the combined “all students” population, the attrition rate is roughly analogous to the churn %, showing no significant difference. The 8th to 9th grade transition has a slightly higher attrition rate than average (10%). The high school years have a much lower attrition rate, (4%).

With no significant trend of decreasing or increasing attrition rates, attrition alone does not seem to factor into the discussion about enrollment growth.

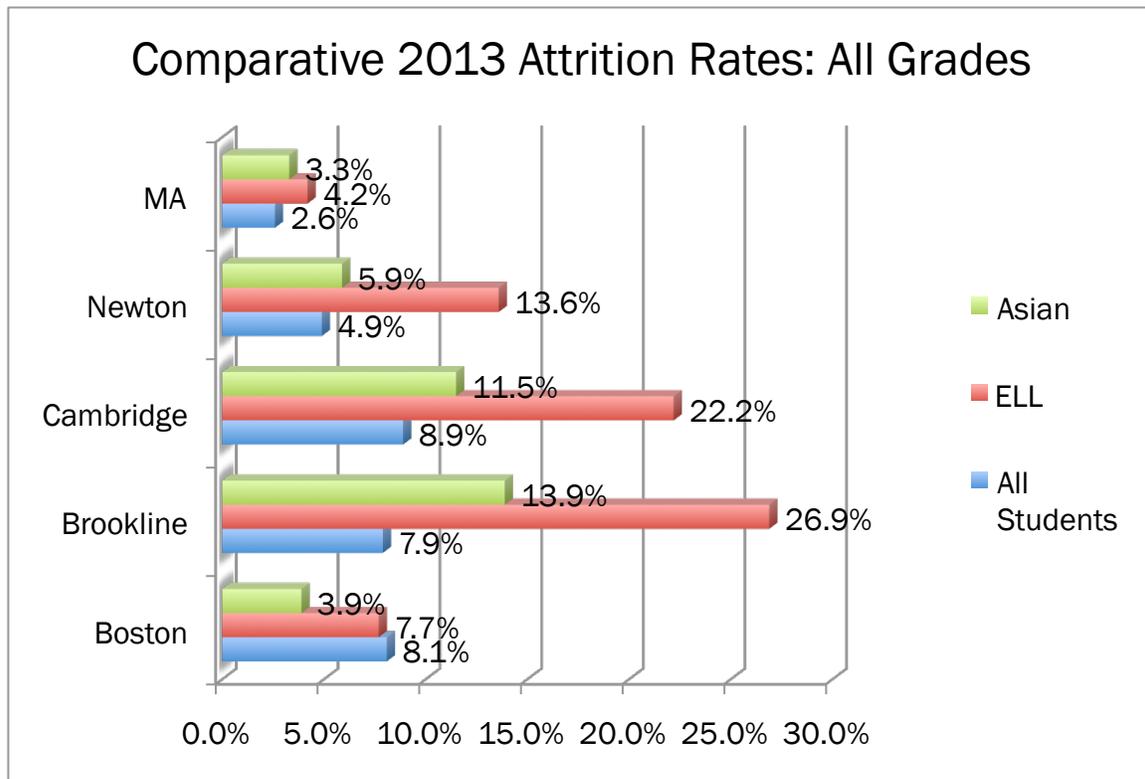
The ELL and Asian populations have attrition rates that are 4% - 8% lower than their corresponding churn rate, a greater difference than that found in the general student population. This difference may reflect a higher number of foreign families who enter the school district during the school year, with a slightly lower number choosing to leave mid-season.



Source: Massachusetts Department of Elementary and Secondary Education, District Profiles.

- ***Do Brookline schools have a higher rate of attrition?***

By comparing Brookline’s attrition rates to other surrounding communities and the statewide average, we can determine whether or not Brookline’s attrition rates are unusual. Interestingly, the rates of attrition amongst the ELL and Asian populations’ (26.9% and 13.9% respectively) are higher than all other comparison communities, even Cambridge. This was not the case for the churn %. Again, the data show a high level of mobility within the foreign born population, with students not only entering a school district mid-season, but many are frequently leaving during the school year as well. Nonetheless, when taken as an average, Brookline’s rate of attrition (7.9%) is slightly lower than that of Cambridge (8.9%).



Source: Massachusetts Department of Elementary and Secondary Education, District Profiles.

7) Shifting Household Characteristics

The 2010 census reported that there were 25,092 households living in Brookline, a decrease of 502 households since 2000, even though the population had increased by 1,625. More people were living in fewer households. The household decrease was primarily due to the fact that the number of vacant dwelling units increased. How had the make-up of our households changed over the decade? All of the data presented thus-far, with the possible exception of a sharp increase in the number of pre-school age children moving into Brookline in 2011, have revealed fairly stable recent patterns. How can a shift in the type of households living in Brookline explain our school enrollment growth and can we predict that the momentum of these changes will continue? The growth in the number and proportion of young children in our population points towards an increase in the number of family households.

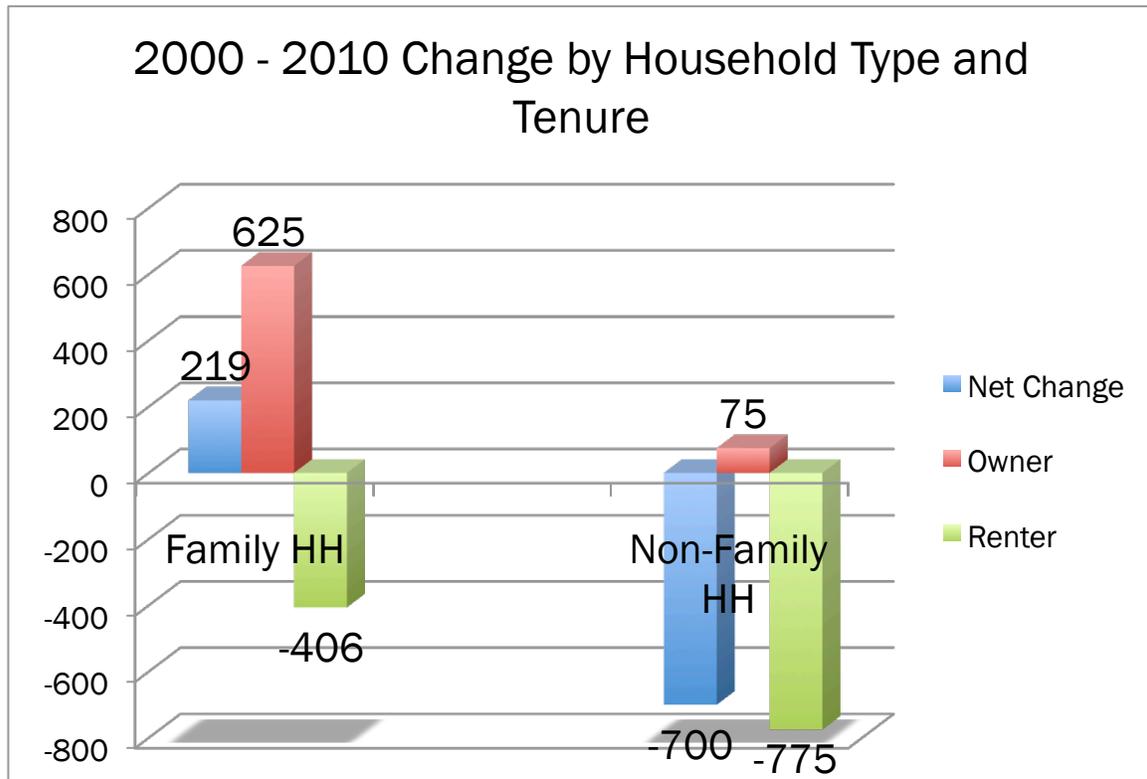
- ***If the total number of households declined, why is the number of children growing?***

As noted earlier, the average size of Brookline households increased from 2.18 to 2.27, a trend which is counter to almost all other Massachusetts communities and the country as a whole, which continue to see shrinking household sizes. Brookline's average family household size also increased, rising from 2.86 to 2.91. This increase does not necessarily mean that individual families are getting larger, and in fact these increases simply indicate that there are more family households and that more family households are families with children. Married couples are included in the definition of family households. The number of family households with children under 18 increased by 273 between 2000-2010. (See Table 1-7 pg. 30 of the Report). By looking at the changes in

the number of households, sorted by household relationship and by whether or not a household rents or owns, we can begin to see how individual choices, in response to conditions such as housing price, housing availability, transportation options, employment location, public parks, schools, culture and commercial amenities, are changing who lives in Brookline.

Between 2000 and 2010, the number of households that are owner-occupied increased by 700. Almost all of that increase (625) is attributable to family households. The number of renter households declined significantly, by -1,181. The majority of that decline (-775) was non-family households, but the number of family households renting also declined, by -406. This decline in renter households reflects the impact of increasing rents and a challenging economy, with higher rental vacancies and more unrelated groups living together, as a result. This decline in rental households occurred despite the fact that the number of 20 - 24 year olds, the college student population, increased by 1, 013 between 2000 and 2010.

Disregarding the shift from renter to owner, the net change in family households was an increase of 219. I believe this shift from rental to ownership is largely being dictated by economics and the conversion of rental units into condominiums. Rents over the decade increased more than the average costs of owning a home and financing rates have been extremely low, and, as we'll see, homeowners tend to be older than renters. More renters were forced to double up, a phenomenon dictated by high rents.



Source: 2000 Census: H019, 2010 Census: H18: Tenure by Household Type by Age of Householder

2000 -2010 Change in Brookline Households by Type and Tenure

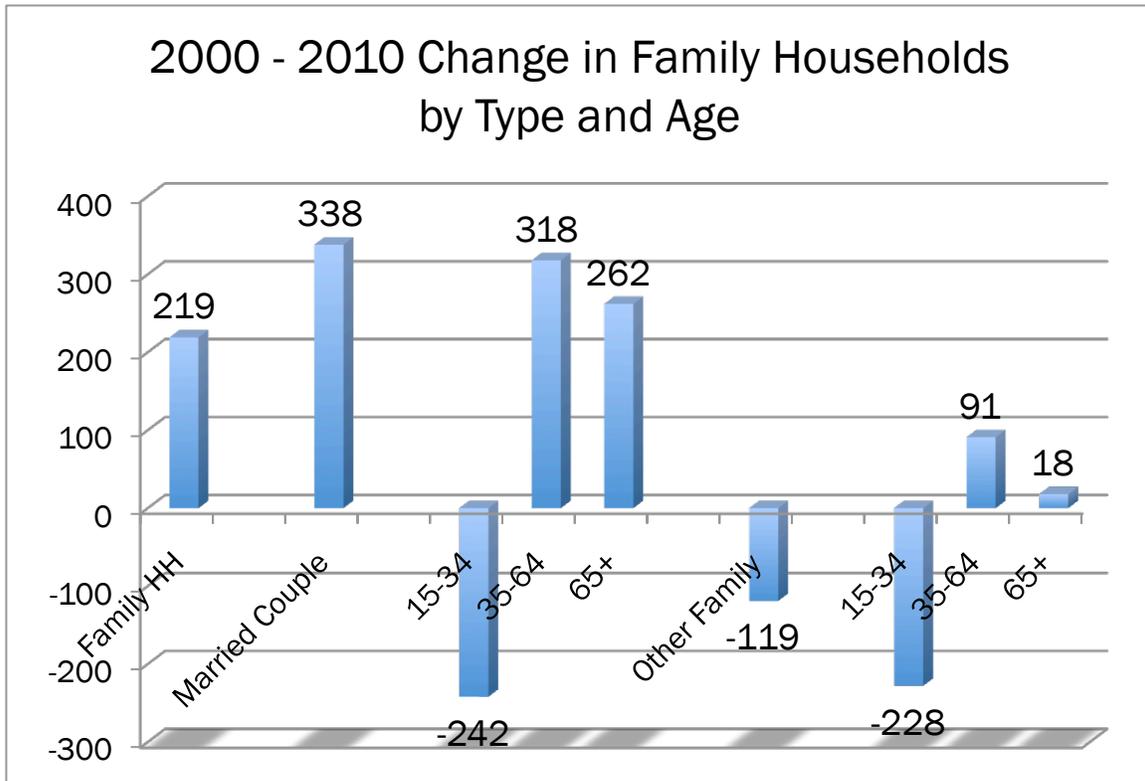
	Net Change	Owner- Occupied			Renter		
		2000	2010	Difference	2000	2010	Difference
Total	-481	11,553	12,253	700	14,020	12,839	-1,181
Family HH	219	7,602	8,227	625	4,751	4,345	-406
Non-Family HH	-700	3,951	4,026	75	9,269	8,494	-775

Source: 2000 Census: H019, 2010 Census: H18: Tenure by Household Type by Age of Householder

- **Did childbearing age family households increase?**

As we saw earlier when looking at the changing age distribution of Brookline's population the number of childbearing aged persons actually declined between 2000 and 2010. The chart above tells us that there were an additional 219 family households living in Brookline in 2010 than there were in 2000. Are these new family households of childbearing age? We cannot answer that directly. However, we do know that the number of married couple families increased by 338, while the number of "other" family households decreased by -119. Significantly, young families, where the householder is aged 15 – 34, declined significantly (-470), with declines in both married couple families (-242) and other families (-228). The number of 65+ married couple households increased by 262. There were a total of 409 new family households in the 35 – 64 age group. This group may contain some families of childbearing age, but the increase could very well be skewed towards the 55 – 64 year old age group, because of the steep increase in population (+40%) seen in this age group. The largest increase in family households is seen in the +65 owners (+401). This does not necessarily mean that older families are moving into Brookline, but instead could be attributable to families who own their home remaining in Brookline as they age.

The table shown below the chart shows the family household numerical breakdown between owners and renters. The number of younger family households (under 35) declined for all categories, young married owners and renters and other family owners and renters.



Source: 2000 Census: H019, 2010 Census: H18: Tenure by Household Type by Age of Householder

2000-2010 Change in Family Households by Type, Age & Tenure

	Net Change	Owner-Occupied			Renter		
		2000	2010	Difference	2000	2010	Difference
Family HH	219	7,602	8,227	625	4,751	4,345	-406
Married Couple	338	6,506	7,097	591	3,483	3,230	-253
15-34	-242	685	672	-13	1,380	1,151	-229
35-64	318	4,625	4,828	203	1,630	1,745	115
65+	262	1,196	1,597	401	473	334	-139
Other Family	-119	1,096	1,130	34	1,268	1,115	-153
15-34	-228	174	64	-110	435	317	-118
35-64	91	709	839	130	738	699	-39
65+	18	213	227	14	95	99	4

Source: 2000 Census: H019, 2010 Census: H18: Tenure by Household Type by Age of Householder

These household trends have significant implications for Brookline. The high cost and limited supply of housing in Brookline has favored two-earner married couples, who are only able to purchase a home later in life than has previously been the case. This reduces

the diversity of our population, as opportunities become limited for families who rent or other non-family households to buy.

Suggestions for Further Inquiry

While there is no single identifiable “cause” for Brookline’s school enrollment growth to be found in the above referenced data, there are many key factors that influence current and *future* school enrollments which merit further scrutiny and consideration.

1) The decline in childbearing aged adults, perhaps as a result of the decline of the baby boomer’s grandchildren “boomlet”. When are we likely to see a decline in the number of births?

2) The high mobility and increasing proportion of ELL and Asian students. Analyzing school and grade specific data would help us predict whether or not young children from abroad will remain in Brookline throughout their school-aged years.

3) The future growth or decline in medical and educational employment opportunities. What are the recent trends in the availability of research fellowships and employment at neighboring institutions?

4) The limited housing supply. Working with the Town Assessor, an estimate of recent sales vs. existing housing stock by school district could tell us whether or not a significant supply of properties remain that are similar in attributes to those recently sold to young families. It was Mr. McCabe’s impression that most of the two and three family homes have already been renovated and converted. What proportion of Brookline’s housing supply are three-bedroom dwellings? How many two and three family dwellings have recently been converted to condominiums after renovation? Are there many two – three family properties remaining that have not been converted? Does Brookline have a greater or lesser proportion of 3-bedroom + dwellings compared to surrounding communities? What other type of dwelling units are families purchasing or living in?

5) Tracking pre-school enrollments, including those recently relocated to Brookline, including information on their place or origin.

Answering these questions would help us to better estimate the potential for recent trends in shifting household make-up to continue.

Appendix Summary of Survey Findings

Both Larry Koff and myself thought that professionals working in our community who are in contact with families should be asked about their observations concerning the growth in young children in our community. While the answers are subjective, they nonetheless added valuable insight. Larry Koff administered the survey via phone asking local realtors, pre-school and daycare providers, private school administrators and public school principals the following questions⁸

1) Is it your experience that young families with children are moving into Brookline at increasing rates?

- Are they moving into Brookline with more children than families in the past?
- What communities are they moving from?
- If moving from abroad, which countries are they moving from?

2) Are more families choosing public school vs. private school than in the past?

- Are families with young children choosing to stay in Brookline at a greater rate than they did in the past?

3) Is the housing turnover rate slower, faster or consistent with past trends?

-Is there a shift in the types of households selling? Older married couples?
Singles?

- Given increasing price of homes and condos, are families likely to continue to afford Brookline home purchases?

4) Do you notice any new trends in the housing choice families with children are making moving into Brookline?

- Single family vs. condo
- Ownership vs. rental?
- Less space (fewer bedrooms) because of access to schools
- Stay longer in existing residences

5) What accounts for the growth of young families with school-age children? Rank

Quality of schools in Brookline

Relative affordability and range of rental and ownership housing options

Increase in employment in Cambridge and Longwood Medical Area

Desire to live near transit and being able to walk to work, stores and other destinations

Proximity to Downtown Boston

Availability of after school, special education and/or ESL

Availability of Day Care and Pre-school programs

Diverse community

Open Space

Safety

Other

⁸ Note: Not all questions were asked of all respondents.

One of the more interesting findings is that the growth of pre-school programs in the town over the last 7 or so years has contributed to the growth in elementary enrollment. There are some 550 seats in pre-school programs in three centers that have been developed in the last 7 or so years-Sunshine Academy, Little Children's School, Little Corner School House. BEEP has a waiting list of 200 kids. While BEEP operates in public facilities, it charges \$9,000 for a 10-month program, excluding school vacations during the year. The private programs cost somewhat more but offer a variety of flexible programs for infants – 6 year olds. The net effect of the availability of these pre-school programs is to introduce parents and their children to Brookline, its school program, convenience and services. The pre- school children make friends and want to continue in a public school program.

Possibly the most significant factor contributing to the growth in enrollment is the success of the Brookline schools in the fullest sense of the term-neighborhood schools, support services, pre-school programs, etc. and their setting in an urban community with good access to the medical area and downtown, parks, shopping, etc. Our housing stock of apartments, condos and homes provides choices for those interested in education. One can make sacrifices to get into Brookline schools even if one is not wealthy as BEEP provides support, the schools are free, and the town provides many services such as the recreation department, libraries, parks, public transportation which allow families to do with less in terms of space but allow their children to get a first class education in a uniquely diverse community.

What is the trend? The Town has spent some years getting the schools and services to function together as a quality of life experience. The town is a unique urban-suburban experience with neighborhood schools, public transit, a diverse population, and a sense of safety, In-migration is taking place from throughout the USA as well as overseas. But the main source of enrollment continues to be long-term residents and families from this area. In Brookline, there is a shortage of housing stock, down 25% from past years. Families seem to be able to compete for the available housing by doing with less space, owning one car, using town services. Private school enrollment varies by school. The Park School has 7-10 applicants for each seat. Other schools such as Dexter are having a hard time filling seats in the early years.

It is clear that the older neighborhoods in North Brookline in the Driscoll, Devotion and Lawrence neighborhoods are being renovated and gentrified with families. Former two family homes are being up-graded and rehabbed as condos each selling for \$1 M to \$1.5. While the homes are expensive, if you are selling property in Cambridge or Boston, it is affordable.

Cambridge and Boston are the town's main competition and it is anyone's guess when they will be able to improve the schools and support services and provide the citizens a sense of safety to the point that young families will want to stay in these communities rather than migrate into Brookline.