

## INTRODUCTION AND EXECUTIVE SUMMARY

The New England School Development Council (NESDEC) was asked by the Uxbridge Superintendent of Schools to develop a demographic report and fourteen-year enrollment projection for Uxbridge students, PK-12, including the impact of increased development.

Notable points of the Report are these:

- Since 1994, Uxbridge PK-12 school enrollments have grown by 383 students, from 1,790 to 2,173 students in 2004-05.
- Currently, about 640 residents of Uxbridge are attending schools other than the Uxbridge Public Schools (about 237 “choiced out” to other public schools, 162 in vocational high schools, and 239 in non-public schools)...in projecting future enrollments, these numbers need to be considered, hence three “scenarios” are presented in the Report.
- Whether or not the town decides to build a new high school will have an impact upon the number of students enrolled at all levels, elementary and middle school, as well as high school.
- If the town continues to grow (as described in the Report) and if a new high school were built, enrollments by 2018-19 are projected to grow at all school levels as described in Table 16 (634 UHS students v. 549 in 2004-05; 774 UMS pupils v. 697 last year; 757 Grade 1-4 students v. 637 last year; and 367 PK-K pupils v. 290 last year)...as the numbers of Uxbridge residents served by the Uxbridge Public Schools are restored to the “historic” levels of a decade ago.
- Uxbridge school enrollments are driven by a combination of factors including new residential construction, turnover of existing homes, net in-/out-migration (which is in part influenced by positive perceptions of the public schools, and by quality of life issues), and by births.
- Additional residential development, combined with in-migration and housing turnover could yield about 20 students per year beginning about 2009; added highway access and infrastructure improvements, and improved educational opportunities are factors which will contribute to this growth.

- The distribution of these additional students is expected to be 70% elementary, 20% middle grades, 10% high school in ownership dwellings (60% elementary-20% middle-20% high school in rental units). Thus, with the impact of additional development, Uxbridge PK-12 enrollments could increase by at least 120 pupils to 2,293 PK-12 students in 2014-15, compared with 2,173 PK-12 students in 2004-05 (“the second scenario”).
- Overall town population projections for 2010 and 2020 prepared by the MA Institute for Social and Economic Research (MISER), the MA affiliate of the U.S. Census Bureau, suggest that enrollment in the Uxbridge Public Schools could further increase in an additional “scenario” described in Table 17 of the Report.
- Although multi-family housing has not played a major role in Uxbridge’s historic tradition, it has become a reality in many suburbs similar to Uxbridge; thus an appendix provides data on the student-yield of multi-family housing in several communities with a high ratio of students (similar to Uxbridge’s experience).
- Four "Then-Now" charts are included to shed light on a factor which often is overlooked: new educational programs have decreased the student capacity of older school buildings across America.

Uxbridge deserves to be commended for commissioning this study. The town is engaged in thoughtful, data-based planning and prudent use of available resources. Planning for school needs begins with a firm grounding in community data and accurate forecasting of future school enrollments.

## DEMOGRAPHY AND ENROLLMENT PROJECTIONS

### A. TOWN-RELATED FACTORS: UXBRIDGE

The preparation of enrollment forecasts is an integral part of the long-range planning process for the Uxbridge District. Some of the factors to be considered in this effort pertain to the Town of Uxbridge— specifically, the population size and age composition, growth and nature of housing units, number of births to residents, and in/out migration patterns.

The statistical information in Tables 1-7 is from the 2000 Federal Census, unless otherwise noted. Although most Census data were gathered almost five years ago, they offer the most complete snapshot available, and are augmented and brought up-to-date by recent estimates. Census data are buttressed by information from the Town Office, Building Department, School Department and town records, as well as the Massachusetts Department of Public Health, Central Massachusetts Planning Council (CMPC), and The Warren Group, *Banker and Tradesman and Commercial Register*. Also helpful were conversations with area realtors, and a visual inspection of several Uxbridge neighborhoods. Town Manager Allan Klepper and Director of Planning and Economic Development Floyd Forman, Superintendent Dan Stefanilo, staff in the school department and at Town Hall, especially Cheryl Brodeur, as well as realtors and community persons were helpful in providing data. We thank all of them. For case study information on student yield of multi-family properties, "Housing the Commonwealth's School Age Children: The Implications of Multi-Family Housing Development for Municipal and School Expenditures" Children's Housing and Planning Association (CHAPA, 2003) is furnished with this Report. Authors of the CHAPA study, Judith Barrett and Peter Sanborn were helpful. Also useful is "Demographic, Education, Labor Market, and Family Well-Being Indicators for Teens and Young Adults in Massachusetts" (Northeastern University, 2004).

#### **Population Size - Tables 1, 1A, 1B**

Uxbridge is a historic community of almost 30 square miles. The town has six distinct localities: Centerville, Halfway House, Ironstone, Linwood, North Uxbridge, and Wheelockville. Located on the southern border of Massachusetts at the Rhode Island line, Uxbridge is about 15 miles south of Worcester, 38 miles southwest of Boston, and 25 miles

north of Providence. The town of Uxbridge is served by Routes 16, 98, 122, 146, and 146A as well as being accessible to I-495, I-395, and I-90, the Massachusetts Turnpike. Uxbridge has considerable open space and is nearing 50% of buildout according to the Massachusetts Executive Office of Environmental Affairs (EOEA). As Table 1 indicates, from 1990 to 2000 the population of Uxbridge increased by 741 persons (7.1%), somewhat more than the growth of the state (5.5%) or of Worcester County (4.8%).

Table 1A shows a population increase of 1,087 persons in Uxbridge from 2000 to 2004. It should be noted that the Massachusetts Institute for Social and Economic Research (MISER) at UMass-Amherst, the state's affiliate of the U.S. Bureau of the Census, anticipates that the population of Uxbridge (and Sutton and Blackstone) in 2020 will grow by 15-30% over the 2000 population. By 2020, Millville and Douglas are projected to grow by 45% or more; Mendon and Hopedale are forecast to grow by at least 30%; Webster is expected to increase by 5-15%; Oxford, Milford and Northbridge are projected to remain approximately the same population as 2000; and Bellingham to lose at least -5% ...when compared with their populations in 2000 (see reference to the MISER study on pages 18-19).

Table 1B places Uxbridge's 7.1% growth in the regional context, an area which generally grew in the 1990's. About half of the nearby towns grew less than did Uxbridge (Millbury, Milford, Northbridge and Hopedale in MA; Thompson in CT, and Burrillville, North Smithfield, and Woonsocket in RI). Conversely, Douglas, Millville, Sutton and Upton grew by over 20%, and Hopkinton increased by over 40%. Thus the towns surrounding Uxbridge provide a region of diverse issues with respect to growth.

In the terminology of the Census Bureau, everyone who is not homeless or living in a household lives in "group quarters". Although the number in Uxbridge "group quarters" has been relatively small and stable, for the sake of clarity it is important to realize that they are population factors in the town, as described in the chart below.

<b>Persons in Group Quarters</b>			
	<b>1980</b>	<b>1990</b>	<b>2000</b>
<b>Uxbridge</b>	53 “Other”	7 “Other”	15 “Other”

“Group Quarters” is a Census Bureau term which includes nursing homes, mental hospitals, and correctional facilities; plus “other” persons in college and school dormitories, group homes, religious communities, shelters, and military barracks.

### **Age Composition – Tables 2, 3, 4, 5**

Table 2 and the following graphs indicate that the **number** of Uxbridge residents under the age of 18 rose between 1990 and 2000, an experience similar to Worcester County and the state as a whole. The **percentage** of Uxbridge residents under the age of 18 shrank from 1980 to 1990, yet rose somewhat by 2000, again a pattern similar to the county and state. Meanwhile the median age in Uxbridge rose from 32.9 in 1980, to 33.1 in 1990, and to 35.3 in 2000 (a rise similar to, yet less than, the county and state), suggesting that persons have remained in town or that some newer residents are older in years...or both.

Table 3 (and the following graph) provide valuable information for helping to project the potential for future births, as well as the potential for future turnover of housing units. It is crucial in understanding the dynamics of growth in Uxbridge during the 1990's to realize that **the population from age 0-34 shrank by 92 persons, whereas the age 35+ group increased by 833 persons.** Children in the age 0-4 cohort increased by 7.9% over the number in 1990 (824 children in 1990 v. 889 in 2000); in 2005, these persons are 5-9 year olds who currently impact the school enrollment. The cohorts from ages 20-34, taken together, shrank from 2,623 persons in 1990 to 2,045 persons in 2000, a loss of 578 persons (-22%), and it is the size of these cohorts which have the greatest impact on future births. The age cohort from 35-44 grew by 657 persons. Although, anecdotally we know of women in this latter age range now giving birth, the numbers of births to this age group remain statistically much smaller than the number of births to younger women (86% of births to the younger group v. about 9% of births to the older group and 5% to teenagers). Although some professional women do choose to have

children in the older age range, others choose to have none. See related graph on “Age-Specific Fertility Rates”. In the 1990's, the number of residents age 65 and above shrank by 207 persons (-15.8%). The resulting 1,105 residents, age 65 and above, can be an important factor in projecting the potential for property turnover (see the discussion of Table 7 in this regard). The decrease in the number of persons age 60-64 indicates continued decline in the "over 60" population in the short term future: followed by a much larger “baby boomer” group. A community can grow in population through the turnover of existing housing stock from families with no young children (the “empty nesters”) to families with young children.

Table 4 and the related graph indicate a K-12 Uxbridge public school population that decreased by 136 students through the 1980's, yet rose during the 1990's by 794 students. Note that in both 1980 and 2000, Uxbridge had a larger percentage of its residents in school than did the state as a whole. See the Historical Enrollments which follow in Tables 9 and 10. Table 5 and the related graph display the Population by Race and Hispanic Origin. Growth through the 1990's in the non-white and Hispanic populations generally reflect the trends in Worcester County and in the state as a whole; although Uxbridge's absolute numbers and percentages remain much smaller than the state or county. The apparent growth in the "Other" category is, in part, due to a redefinition by the Bureau of the Census. "Other" now includes persons of more than one race which heretofore had to be identified as one race or another.

The 2000 Census reported 353 foreign-born residents. Of the 115 persons reporting that they speak English less than "very well", 30 speak Spanish; 69 speak other European languages and 16 speak Asian languages. When persons were asked to identify their ancestry, (3,229 persons reported Irish or Scots-Irish; 3,206 French (or French-Canadian); 2,062 English (including Scottish and Welsh); 1,964 Italian; 756 “Other”; 693 Polish; 629 German; 438 “United States” or “American”; 276 Swedish; 246 Portuguese; 212 Dutch; 84 Greek; 83 Arab; 72 Czech; 61 Lithuanian; 59 Slovak; 45 Russian; and 35 Norwegian, to name the largest groups. Uxbridge and the Uxbridge schools historically have been welcoming to immigrants, although in the past three years fewer newcomers have come due, in part, to tighter controls on immigration and to the changing economy.

The slowing of immigration is a regional phenomenon; several nearby towns report a similar experience...and it is difficult to predict how long the quiet period will last.

### **Housing Growth – Tables 6, 6A-F**

According to the 2000 Census, it would first appear that Uxbridge increased by only 127 dwelling units during the relatively affluent decade of the 1990's, compared with 903 units added during the 1980's. The 1990 Census listed 3,963 dwellings (including 63 mobile homes), compared with 4,090 dwellings (including no mobile homes) in 2000. Thus during the 1990's, 63 mobile homes were replaced with permanent dwellings...establishing a true total of 190 units (127 + 63) constructed over the decade. As land becomes more expensive, the number of mobile homes often decreases...an early predictor of economic growth. At the time of the 2000 Census, 98% of all dwellings were occupied. Of these, 79% were owner-occupied and 21% renter-occupied. Of the 102 vacant dwellings, 10 were for "seasonal, recreational, or occasional use." During the 1990's, 215 households were added (+5.7%), that is, 3,988 households in 2000 v. 3,773 in 1990. In the vocabulary of the Census Bureau, a "household" is an occupied dwelling. See Table 6B which documents the fluctuations in the number of building permits over the past 41 years. The lag from permitting to occupancy to full impact upon school enrollment is described below. In addition to the new homes, condos, and apartments, there are a number of additions or remodelings each year. Table 6B also suggests that some demolitions took place over the 1990's, another forerunner of economic growth as the number of building permits issued exceeds the net growth in dwellings. The number of persons per unit (currently 2.5 persons) has remained fairly constant, although condos and other housing have been added to Uxbridge's housing stock. Uxbridge's residents per household have been only slightly higher than the state average. The state data reflects more statewide rentals and single-parent families.

The rising cost of houses can be seen in Tables 6C, 6D and 6E. In 2003, 150 single-family properties (median price \$277,000) were sold in Uxbridge. Also sold in 2003 were 78 condominiums (median price of \$209,450). The number of single-family home sales since 1996 has averaged over 130 per year every year with the median price rising steadily from \$139,200 in 1996 to \$255,000 in 2002. The rise continued in 2004, as 166 single-family homes were sold in Uxbridge at a median price of \$327,250; the hot

condo market rose to a median of \$215,900 in Uxbridge based upon 55 sales. With the exception of 1998, the number of single-family homes sold in 2004 was greater than in any of the past 17 years. In January-June 2005, the single-family median stood at \$308,700 and the condo median rose to \$241,000, based upon a well-above-average number of January-June single-family home sales in Uxbridge and the largest-ever number of condo sales (tie with 2003). See Table 6E. Even these high medians understate the increases. A survey of 96 single-family Uxbridge properties recently (or currently) on the market in 2005 revealed only 26 (27%) single-family homes priced below \$350,000; 46 were advertised in the \$400-599,900 range; and 8 from \$600,000 upward. See Table 6F. Of 41 condos recently advertised, only 15 (37%) were priced below \$250,000; 26 were priced from \$250-399,900. There are few rental properties; inexpensive rentals are difficult to find. Only eleven parcels of land were advertised, starting at \$170,000 for 0.46 acres, up to \$840,000 for 13.92 acres with five lots. Realtors report that, despite low mortgage rates, some young families are finding it difficult to afford a house in Uxbridge at the current asking prices on the market; condos, multi-family properties, and rentals often are considered. However, many persons inquiring about residential purchase or rental in Uxbridge have school-age children, thus the town continues to be a community-of-choice for many young families. Homes priced below \$450,000 sell the most rapidly, although much recent construction has been priced at \$500,000 and above. At present, Uxbridge has a reasonable inventory of property on the market, as described above; nevertheless, low income housing is in short supply. Realtors report that the perceived quality or reputation of the school district, and of individual schools, often is a factor with prospective clients, especially (though not exclusively) those families with children. Ledgemere Country IV and V, Brown Bear Crossing, and other planned projects represent substantial residential building in progress. The improvements in Route 146, increasing easy access to employment such as the 1,000 new jobs with Fidelity Investments in Smithfield, and the economic revitalization (of which the BJ's distribution center is but one example) will continue to spur residential construction. See "Uxbridge's Capacity for Additional Growth" below.

In addition to new construction, property turnover can increase school enrollments. As seniors seek to downsize, their properties come on the market for



potential purchase by young families. The addition of age-restricted housing often triggers an "echo effect", as families with school-age children purchase the vacated larger homes. Occasionally somewhat younger empty-nesters will sell their homes, not waiting until they become senior citizens. Sometimes re-valuation causes homes to come on the market, as large increases in assessments cause owners to place properties on the market in order to realize the financial gain. Spikes in market prices sometimes have the same effect in causing owners to place property on the market...a "buy low-sell high" effect. There are a number of factors identified as "growth limiters": the town has an adequate water supply, although the municipal sewer system is limited to extensions from the downtown area. Portions of Uxbridge are comprised of Blackstone River State Park and Taft Memorial Park. In addition, there are the Blissful Meadows Golf Course and Edgewood Golf Course, cemeteries, conservation/protected open space or parkland. Other portions include Aldrich Pond, Blackstone River, Calumet Pond, Caprons Pond, Cedar Swamp Pond, Chockalog Pond, Coleman Pond, Dunleavey Pond, Flat Bottom Pond, Hecla Pond, Inman Pond, Ironstone Pond, James Whitin Pond, Lackey Pond, Lee Reservoir, Pout Pond, Rice City Pond, Rivulet Pond, Sawmill Pond, West River Pond, and related wetlands. Although some of the most easily developable land has already been built upon, tracts do remain...especially west of Route 146, in the west and the southwest parts of town. **The Community Preservation Initiative of the Executive Office of Environmental Affairs (EOEA) estimated that in 2000, Uxbridge stood at about 48% of buildout. Based upon current zoning, the State estimated that Uxbridge could grow by 4,598 additional units at buildout (compared with the 4,090 units existing in 2000)... to a buildout population of 23,225 persons (v. 11,156 residents in 2000); and with 257 miles of public roads (v. 114 miles in 2000). It can be questioned whether Uxbridge ever will reach these totals, yet the point seems clear that substantial growth is possible.** See "Map 1 Zoning and Absolute Development Constraints," "Map 2 Developable Land and Partial Constraints" and "Map 3 Composite Development" produced by the EOEA. The three Executive Office of Environmental Affairs maps of developable land in Uxbridge are printed in a greatly compressed format in this Report, thereby causing some features to blur. Interested readers can view the originals (which are about 5-6 times larger) at

[http://commpres.env.state.ma/community/maps/Uxbr/Uxbr\\_map2.pdf](http://commpres.env.state.ma/community/maps/Uxbr/Uxbr_map2.pdf). For the moment, Uxbridge is below the State's Chapter 40B target of 10% of the housing stock qualifying as "affordable", thus the town currently is receiving Chapter 40B proposals. As additional housing is built, more affordable housing will be required for the town to remain above the state threshold. In any event, the need for additional lower-priced dwellings or rentals in the area is substantial, especially for families with children: the waiting list for government-subsidized housing in this part of the central Massachusetts area is well in excess of 4,000 households. More dense/multi-family housing may be in Uxbridge's future...as has occurred in similar situations in many Massachusetts communities. See below the wide variations in student-yield of multi-family housing.

### **Other Economic Factors – Table 7**

As reported in the 2000 Census, the Uxbridge median family income was \$70,068, with 86% of workers driving alone, about 9% carpooling, and 2% walking just under 31 minutes (mean) to work, including substantial use of Routes 16, 146, I-495 and I-90. Although Uxbridge residents work in many locations, the Metrowest and Worcester areas are common destinations, as is employment in Rhode Island.

"Management/Professional" (38%); "Sales and Office Occupations" (25%); "Education/Health/Social Services" (22%); were the largest occupations. "Manufacturing" (19%); "Production, Transportation, and Material Moving" (15%); "Retail" (12%); "Professional/Scientific/Management" (9%); "Construction" (7%); "Finance/Insurance" (6%); and "Transportation and Warehousing" (6%) provided a large number of jobs. These were followed by "Arts" (4%); "Wholesale Trade" (4%); "Information" (3%); "Public Administration" (3%); and "Other Services" (3%). Incomes below the poverty level were reported by 110 families; of these, 67 families had children under the age of 18, and 25 families had children under age 5. In 58 households, the primary caregiver to children was a grandparent.

Table 7 and graph display the number of K-12 Uxbridge public school students per dwelling. This statistic, .51 students per dwelling unit in 1980, had shrunk to .36 students by 1990; and then rose to .54 in 2000. In 2005, there are approximately .46 students per dwelling (2,034 students in Grades K-12 v. 4,434 estimated dwellings).

**Roughly speaking, every ten Uxbridge dwellings currently will yield about five public school students, a statistic above the state as a whole (.37 public school students per dwelling unit).** As communities go through cycles of aging and renewal, it is reasonable to assume that Uxbridge's ratio of public school students per dwelling again may rise to the level in 2000; see "Uxbridge's Capacity for Additional Growth" below.

The number of Uxbridge households with individuals under the age of 18 was 1,731 (43.4%) in 2000. These latter numbers include students in public, private, parochial, and vocational school, school dropouts, and those too young for school.

**Housing turnover is one key to understanding the potential for increasing school enrollment.** The 2000 Census documented that 588 households (15%) had moved into their Uxbridge dwelling during the 15 months between 1999 and March, 2000; 1,122 households (28%) moved in from 1995 to 1998; and 735 households (18%) moved in from 1990 to 1994...a 61% turnover in just over a decade. On the one hand, these data indicate a significant rate of turnover; on the other (when combined with the growing number of residents over age 55), the data suggest the potential for a significant number of turnover homes to come on the market in the decade from 2010-2020.

### **Births– Table 8**

Table 8 and the accompanying graph display the annual number of Uxbridge births from 1989 to 2003. The Massachusetts Department of Public Health will not release its count of births to Uxbridge residents in 2004 until February, 2006. Birth data also are available from town clerks or town reports, although such numbers tend to be incomplete, as not all births particularly from remote hospitals, are reported to local officials. Births are published in the Town Report based on a fiscal year; 122 births were recorded in FY04. In the past 15 years, the number of Uxbridge births has increased from an average of 163 in 1989-93; to 171 in 1994-98; to 179 in 1999-2003. Given the shrinking number of persons in the 20-34 age cohort described in Table 3, there appears to be little potential for the annual number of births to current residents to rise significantly in the near term.

## **B. HISTORICAL ENROLLMENT**

### **Historical Enrollment – Public Schools – Tables 9, 10**

The PK-12 historical enrollment for Uxbridge students over the past eleven years is shown in Table 9, in Table 10 in grade combinations, and in the following graph. From 1994-2000, the Uxbridge Public Schools increased by 535 students (1790 PK-12 students in 1994-95 v. 2,325 students in 2000-01), then dropped back somewhat to 2,173 in 2004-05. **It is important to acknowledge that well over 600 Uxbridge residents attend schools other than the Uxbridge Public Schools (about 237 “choiced out” to other public schools, 162 to vocational high schools, and 239 to non-public schools...see below for additional information).** The number of PK classes has increased over the decade, yet there is a waiting list for slots in these classes. Students registered in public Kindergarten, on average, have represented over 90% of the Uxbridge births five years previous (although this shrank to 82% in fall, 2004); following Table 10, see the graph illustrating the Birth to Kindergarten relationship over the past 20 years. Currently, Uxbridge offers half-day Kindergarten classes. A decade ago about 40% of all children in America attending Kindergarten were in a full-day program. By 2003, approximately 60% of all children in Kindergarten in the United States were in full-day programs. See Appendix B “Full-Day Kindergarten and Early Childhood Education” which summarizes the research base regarding the linkage between strong Preschool and full-day Kindergarten programs, and the success of all students...especially students at risk. The progress of a class from Kindergarten through the grades can be traced by drawing a diagonal line from Kindergarten, dropping in the following year to Grade 1 then to Grade 2, etc. The number of Grade 1 students tends to be about 7% below the total in the previous year’s Kindergarten. Following Grade 1 there has been slight out-migration in almost every grade. However, the peak of out migration occurred in June, 2001, and has improved since that time...especially in 2004-05. See below the references to the MISER Stability Index. It is a common phenomenon for high schools to experience declining numbers of students, especially as students leave Grade 8 for a vocational high school.

Tables 10A displays the elementary grade Stability Index devised by the Massachusetts Institute for Social and Economic Research (MISER) at UMass-Amherst. An Index of 1.00 (100%) would indicate perfect stability, that is: a class group neither growing nor shrinking, a common phenomenon in the elementary grades. MISER found that the most stable membership in schools exists from Grade 2 to wherever the break occurs to the next school level (i.e. transfer to the next building). MISER suggests bundling together two or three grades, in order to better understand and analyze trends. Thus Table 10A compares the same cohort of children as students in Grades 2-3 followed by the same group during the next school year when they are in Grades 3-4. (To read Table 10A note the number of students in the left column, then drop down diagonally to the same group of children, one column to the right in the following school year). It is both interesting and curious that the most recent school years yield lower index calculations. It is beyond the scope of this Report to analyze where the exiting students are attending school, yet the District may wish to pursue an analysis of the Pupil Transfer cards to determine where school records are being forwarded, and whether the destinations are any different from earlier years when there was more net in-migration. Some students may be moving out of Uxbridge, others may be remaining as residents, yet attending school elsewhere. The number on home schooling has been a fairly constant 38-41 students, spread across the 13 grades. This year there were only 20-22 students (about two per grade) with substantial Special Needs who are placed in schools outside of the District; in prior years, the number of pupils with Special Education outplacements has been higher by 28-35 students. One resident attended a charter school, and 75 non-residents attended school in Uxbridge as School Choice students. About 237 Uxbridge residents have “choiced out” to other public schools (compared with fewer than 35 students in 1999-00. Attending public vocational high schools are 162 students, up from 119 in 2000-01.

### **Historical Enrollment – Non-Public Schools and Class of 2005 – Tables 11, 12, 12A**

The K-12 historical enrollment of Uxbridge residents in private and parochial schools appears to have grown over the past decade. See Tables 11 and 12. The tables provide a useful snapshot of trends, yet the data may be incomplete. Data was not available for the 1998-99 and 2000-01 school years. By one computation, there were 99

Uxbridge residents in non-public schools in 1999-00 compared with 239 students in 2004-05. The Massachusetts Department of Education does not track these enrollments, thus the data are derived from a commendable annual survey by the Uxbridge School Department. Close liaison with the preschools will also help to establish contact with those who later may be attending the Uxbridge Public Schools.

Decisions to attend private or parochial schools are driven by a number of factors, including family tradition, economics, and relative satisfaction/dissatisfaction with various schools, public and private. Some Uxbridge parents may have chosen to enroll their children in non-public schools for family reasons unrelated to the public schools. The American economy during the decade of the 1990's was relatively prosperous. It is unclear how the present economic climate will play out. A policy question which needs to be asked is: what would be our plans if the numbers of Uxbridge students in Grades PK-12 currently attending private/parochial schools should begin to shrink? As new numbers become available each fall, the trend in the non-public percentages at each school level will provide additional planning insights.

Table 12A displays the enrollment history of the Uxbridge Class of 2005, the present senior class...beginning with 140 Uxbridge births. The combined effects of the many factors bearing upon student enrollment can be seen, in microcosm, in a single class.

### **C. PROJECTED ENROLLMENT – WITHOUT IMPACT OF ADDITIONAL DEVELOPMENT**

#### **Methodology**

The data reported below are "status quo", that is, without the impact of new, additional large developments. The cohort survival technique is the most frequently used method of preparing school enrollment forecasts. NESDEC, indeed, uses this technique, but modifies it in order to move away from forecasts that are wholly computer or formula driven. Such modification permits the incorporation of important and current town-specific information into the generation of the enrollment forecasts. Basically, percentages are calculated from the historical enrollment data to determine a reliable percentage of increase or decrease in enrollment between any two grades. For example, if 100 students enrolled in Grade 1 in 2003-04 and the class increased to 110 students in

Grade 2 in 2004-05, the percentage of survival would have been 110%, or a ratio of 1.10. Such ratios are calculated between each pair of grades or years in school over several recent years.

The ratios used are the key factors in the reliability of the projections, given the validity of the data at the starting point. The strength of the ratios lies in the fact that each ratio encompasses **collectively** the variables that could possibly account for an increase or decrease in the size of a grade enrollment as it moves on to the next grade.

Each ratio, then, represents the cumulative effect of the following factors:

1. Migration, in or out, of the schools
2. Retention in the same grade
3. Changes in school program
4. Dropouts, transfers, etc.
5. Births and deaths
6. Housing growth

Based upon a reasonable set of assumptions in regard to each of these factors, ratios most indicative of present/future trends are determined for each pair of grades or years. To project for the future, the ratios thus selected are applied to the present enrollment statistics for a predetermined number of years. In the case of Uxbridge, the assumptions are these (disregarding the potential for additional development and the possibility of a new high school):

1. the annual number of births to Uxbridge residents through 2009 will level off at about 170-179 per year;
2. the rate of housing growth over the next ten years will continue at approximately the same rate as that of the past ten years (about 80-90 units per year)...the recent action by the Town to limit new building permits to 85 per year should have a substantial effect, although this ruling applies only to new subdivisions (and there are loopholes); see "Uxbridge's Capacity for Additional Growth" on pages 17-20;
3. the pattern and numbers involved in the turnover of existing housing stock will not change appreciably from the recent past (130-160 single-family dwellings and 60-75 condos per year), however, the rapidly rising prices may

make it more difficult for some young families to purchase homes in Uxbridge;

4. the number of PK students will increase by about 4 per year; there will continue to be public Kindergarten registration at about 95% of the Uxbridge births five years previous; the class will shrink by 7% in Grade 1 and will shrink 4% (total) between Grades 2-12;
5. the percentage of Uxbridge students in non-public schools (see description above), vocational schools (about 30-45 per grade level), “choiced out” to other public schools, and in home-schooling (2-3 per grade) and charter schools are assumed to remain at their present levels (which are significantly higher than in earlier years). **If any of these assumptions need to be altered in the future, so, too, will the projections. It is important to note that NESDEC annually updates projections for affiliated school districts at no cost. This provides an opportunity for the District to plan adequately for any changes that might occur.**

### **Reliability of Projections**

While the reliability of projections, in general, rests upon the soundness of the assumptions upon which they are based, there are degrees of reliability over the grades and the ten-year period shown. **The enrollment projection in Table 13 can be divided into three sections. The top and largest section represents the projections based on students who are already enrolled in the Uxbridge Public Schools. This projection has the highest reliability. The projections based on children who have been born, but are not yet in school are somewhat less reliable. The projections for students who are not yet born are the least reliable projections.**

A fourteen-year projection (which drops in reliability after the 5<sup>th</sup> year) is a very small window into the future. The “leveling” of the elementary enrollment which occurs in years 6-10 of the projections is caused by holding the births stable during that period. If the births should increase during that period (continuing the trend of the last several years), the Kindergarten class will increase, thereby causing growth which would ultimately spread to all the elementary grades. If the rate of housing growth were to



increase dramatically from past levels (or if property turnover increased markedly), the projections would rise. At all grade levels, improved programs/facilities could lead to additional Uxbridge residents attending (or remaining in) the public schools. Ten-year enrollment projections are just that – projections; they are not guarantees. Whatever the School Committee chooses to do in making plans, it should take into account the possibility of a 10% swing either way in terms of enrollment at all grade levels. In other words, the School Committee should be prepared to respond to the questions: "How will the space be used if 10% **fewer** students materialize?", and "How will the space be provided if 10% **more** students materialize?"

### **Projections (2005-2018) - Tables 13, 14 – Without Impact of Additional Development or HS and 14A, 14B – With New High School**

Total public school enrollment, PK-12, (as displayed in Table 13 by grade level, and in Table 14 in grade combinations), is conservatively projected to shrink over a decade by 124 students (primarily at the middle and high school) below its present level (2,173 students in 2004-05 v. 2,049 students in 2018-19). Most of the decline is expected in the initial four or five years, with years 6-10 becoming relatively stable, K-4 elementary enrollments are expected to remain constant throughout the next ten years.

**An additional factor which may affect the District's public school enrollments is worthy of special mention: the combined impact of developments now under construction or being considered, the rapid turnover of rental properties, and the possibility of additional in-migration, may produce a student-yield above the numbers projected in Tables 13-14. See the "Uxbridge's Capacity for Additional Growth" section below which addresses the question of additional school children resulting from this possible scenario beginning in 2009-10, and Tables 14A and 14B. There has been a discussion of building a new Uxbridge High School with strong 21<sup>st</sup> Century educational programs. In the event this project would be approved, the successors of some students who currently are served in other settings ("choiced out", public vocational school, or non-public school) would attend the Uxbridge Public Schools. Such has been the attendance pattern in other communities that have improved their school facilities. See Tables 14A and 14B for these data. Tables**

14A and 14B assume that the number of students leaving after Grade 8 for vocational school will be reduced from the present 40 per grade to the historic level of 25 per grade. Further, we have assumed that the number of students who “choice out” will be reduced to the historic number of 2-3 per grade; and that the number attending non-public schools will be reduced from the present 18 per grade to the historic 7 per grade. The history of other communities that have improved their school facilities supports these assumptions. See page 11.

All of these factors bear careful watching. As new information is obtained, it can be used to further illuminate and/or modify the enrollment projections for Uxbridge. For example, by tracking building permits and property sales, future enrollments can be forecast which will update or modify these projections. In any event, it is clear that the perceived quality of life, to which the public schools are an important contributor, continue to make Uxbridge properties strong choices on the real estate market.

## **MISER Study of Massachusetts Population in 2010 and 2020 – Table 15**

Reference was made earlier to the “MISER Population Projections for Massachusetts, 2000-2020” by the Massachusetts Institute for Social and Economic Research (MISER, 2003), the Massachusetts affiliate of the U.S. Bureau of the Census. This MISER study was the subject of a June 5, 2005 *Worcester Telegram* article bearing the headline “School enrollment to plummet; 100,000 drop forecast”. Although the article regarding Worcester County was well done, the headline was unfortunate as it could lead a casual reader to believe that enrollments are expected to drop in all communities....whereas the data presented indicates that some communities will experience a growth in their student enrollments, and others will experience no change. What does this important MISER study forecast for Uxbridge? Table 15 displays Uxbridge’s total population in 1990 and 2000, including age group breakout combinations of the population ages 0-19. Included as well are MISER’s 2010 and 2020 “middle level” projections for the town as a whole, and the “low”, “middle”, and “high” projections for the age 0-19 breakouts. **The “middle range” projections are in bold-face as they are believed by MISER (and NESDEC) to be the most probable.** MISER describes its methodology as being limited to assumptions regarding future births, deaths, and migration trends. MISER cautions that its projections “are not intended as a forecast or prediction of future population” and suggests that “...for those areas where local knowledge or additional input data would suggest that changing the projection assumptions is advised, more customized population projections could be pursued.” Thus, as helpful as the MISER study can be regarding broad trends, it does not utilize local information such as residential construction, real estate sales/transfers, school enrollments, trends within the school population, or interviews with knowledgeable persons. The latter are used in this NESDEC Report to understand, expand upon, and customize the more general information from MISER.

**MISER’s findings, as summarized in Table 15 (and the Massachusetts 2020 map), indicate that Uxbridge: a. is expected to grow steadily and to have a total population in 2020 that will be 26% larger than its population size in 2000; b. the age 0-4 group is expected to increase somewhat by 2010 and again by 2020; c. the**

**age 5-9 group (i.e. through Grade 4) may be smaller in 2010 than the size of this group in 2000, yet by 2020 it is expected to be much larger than in 2000; d. the age 10-14 group (roughly Grades 5-9) may be slightly larger in 2010 and in 2020 than it was in 2000; e. and the age 15-19 group (roughly Grade 10 and above) may be substantially larger in 2010, then decrease a bit by 2020, yet still be larger than in 2000. This is the broad-brush canvas for which the present NESDEC Report provides more specific detail. Based upon the MISER estimates in Table 15, the Table 13 and 14 projections appear to be overly conservative. Thus a second scenario, with assumptions stated, is presented in Tables 14A and 14B...and a third scenario in Tables 16 and 17...quite similar to Tables 14A and 14B, yet with a bit higher enrollment.**

Due to changes in educational programs over recent decades, the student capacity of older school buildings across America has been reduced...making them less able to serve as many additional students as in the past. Four "Then-Now" charts (see below) are included to describe these factors which affect Uxbridge as well as many other Massachusetts communities. **Although it is beyond the scope of this Report to assess the student capacities of Uxbridge school buildings, careful study is likely to determine that changes in educational programs have decreased the capacities.**

### **Uxbridge's Capacity for Additional Growth – Tables 16, 17 – With Impact of Additional Development**

A well-managed town with good amenities and a reputation for quality of life and good schools can experience additional school enrollments. The "student yield", calculated across the entire town was .54 public school students per dwelling in 2000, well above the state average of .37 students per dwelling. In 2005, it is estimated that the number of public school students per dwelling has shrunk to .46 (see calculation above related to Table 7). For new subdivisions, the "student yield" can be as high as double that local statistic:  $.46 \text{ students per dwelling} \times 2 = .92 \text{ students/unit}$ . It is quite possible that Uxbridge could have an even higher student-yield, as indicated in its history in Table 7. The time lag from issuance of building permits to occupancy often is 12-36 months. The effect upon school enrollments frequently occurs in three stages: a. at initial

occupancy, there may be slight effect on the schools, as some of the children may be toddlers; b. within 2-3 years, many of the children will be in school; c. by 5-6 years after occupancy, a development usually has maximum impact upon enrollments. The impact felt in the schools, in the early years of ownership developments, usually is about 70% in new elementary enrollments, 20% middle school, and 10% at the high school level. In rental properties, the grade-distribution skew varies widely but often is about 60% elementary, 20% middle school, and 20% high school. See pie chart. Extremely high prices also can lead to fewer lower grade students. Accelerated turnover in housing (above the current properties per year described in discussion of Tables 6C-F) also could contribute to additional school enrollments. By doing annual enrollment projections, a free service for NESDEC affiliates, the District can have substantial time to plan for increasing enrollments.

As described above, the Massachusetts Office of Environmental Affairs estimated that Uxbridge could add about 4,500 additional units before reaching buildout. Recent PK-12 enrollment totals in Uxbridge have been sustained, in part, by the addition of 80-90 dwellings per year. Thus the enrollment projections in Tables 13-14 conservatively assume continuation of that level of construction. Added highway access, especially improvement in Route 146, is fueling building and property turnover, as employment becomes more accessible (the new Fidelity jobs in Smithfield, for example).

An acceleration in the number of Uxbridge property sales is an additional factor which could further contribute to student enrollments. As indicated above, transfer of 130-160 single-family homes and 60-75 condos per year were assumed in the Table 13 and 14 projections. Tables 14A, 14B, 15, 16 and 17 project a scenario with more students than forecast in Tables 13 and 14. The assumptions leading to the additional growth are these (compare with the Table 13 and 14 assumptions above):

1. added highway access, especially Route 146 improvements, and infrastructure improvements will fuel economic prospects and additional growth by making employment more accessible;
2. the rate of housing growth over the next ten years will rise above the rate of the past decade to 80-90 units per year (this assumption depends, in part, upon what is

- constructed in addition to the present Ledgemere Country IV, V, and their future projects; Liberty Estates, Brown Bear Crossing, Hammond Estates, Meadow Brook Knoll, North Court, Palomino Estates, Down East, Mystic Valley, Spruce Hill, Forest Hill Sutton Place, Eber Taft Road, Oxbow Lane, Power Acres, and other projects);
3. the pattern and numbers involved in turnover of existing housing stock increase from the recent past (130-160 single-family dwellings and 60-75 condos per year), in part due to down-sizing by empty nesters and seniors whose properties become available for purchase by young families (see description of “echo effect” below)...and partly in conjunction with an end to the recent spike in prices;
  4. the ratio of public school students per dwelling will continue in the .46-.51 range (although in new housing it may be as high as .92 students per dwelling; see discussion of Table 7 above);
  5. the already solid early childhood education program will be further strengthened; registration in Kindergarten will improve from 93% to 95% of births; registration in Grade 1 will improve from 93% to 95% of those in the previous year’s Kindergarten; the trickle of out-migration will decrease, combined with an increased registration at the high school level;
  6. Due to the factors above, it appears that 20 additional students will enter the Uxbridge Public Schools each year beginning in 2009-10 (14 elementary, 4 middle school, 2 high school each year).

**Most instructive is Table 16 which displays the two projection scenarios (one without additional development as in Table 13, and one with the new high school and the added development). By the end of the planning period (2018-19), Table 16 forecasts 367 students in PK-K (v. 361 students projected in Tables 13-14); 757 pupils in Grades 1-4 (v. 629 students in Tables 13-14); 774 pupils in Grades 5-8 (v. 612 expected in Tables 13-14); and (especially) 634 students in UHS (v. 447 in Tables 13-14).** Given the higher price of land and housing in Uxbridge compared with other nearby towns, is it realistic to project that additional families with children will move to Uxbridge as described on the two pages above? The comprehensive MISER study described above suggests that growth is more possible in Uxbridge than in many nearby

communities. **Table 17 utilizes the same MISER data from Table 15 to demonstrate that even Table 16 might be too conservative: looking at the high school, for example, Table 17 forecasts the potential in 2010-11 for 614-674 UHS students (v. 580 students projected in Table 16).** Table 17 envisions that 97% of the “available” Uxbridge residents (ie. those of the relevant age group) will attend grades K-8 in the Uxbridge Public Schools, the same percentage as in 2000. At the high school level, 82% of the eligible UHS students were actually attending UHS in 2000. Table 17 displays the UHS enrollment totals for 2010 and 2020 if 82% were attending, and if 90% of the eligible students were attending (the more conservative Table 16 assumes that only 69% of eligible students will attend UHS in 2010).

### **Student Enrollment Data: Technical Comments**

There are multiple sets of (sometimes inconsistent) Uxbridge enrollment numbers in the public domain...in Town Reports, in previous enrollment projections, in memos to the School Committee, etc. Some include residents only, others include (as does the MA Department of Education) every pupil occupying a seat in the Uxbridge Public Schools. In obtaining Uxbridge enrollment data for this Report, NESDEC received a number of files generated at different points by different data collectors throughout the past ten school years. The Massachusetts Department of Education uses October 1 as the official date for recording enrollment data each fall. Some school districts, Uxbridge included, have tracked their enrollments on a quarterly or monthly basis. Although this practice is helpful for internal school management, it can lead to a “questioning of the numbers” when several sets of enrollment counts are available for the same school year. NESDEC attempted to use only the standard DOE official October 1 data for Uxbridge residents in preparing this Report. Nor is the DOE blameless: on their website, the DOE lists all students occupying an Uxbridge seat on October 1, whether or not the student actually resides in Uxbridge. Thus a careful reader needs to inquire into the data collection rules as well.

## Appendix A. Pupil-Yield of Multi-Family Housing

As described above, multi-family housing is likely to continue as an important feature in Uxbridge's future. Thus this Appendix summarizes information from among the 42 case studies in the CHAPA study; the complete CHAPA study also is furnished with this NESDEC Report. Although Uxbridge has a ratio of public school students per dwelling which is currently well below the State average, for reasons explained above it is quite possible that multi-family housing constructed in Uxbridge will produce a high student yield...as opposed to the "industry standard". Thus NESDEC has selected thirteen examples of high student yield from among the CHAPA case studies.

### 13 Examples of high student-yield in multi-family housing

Town	School Children/Units	Yield/Unit	Comments
Andover	212/444	.48	57% el.
Attleboro	118/184	.64	44% el.
Barnstable	126/220	.57	57% el. all rentals
Bedford	36/ 96	.38	60% el. all rentals
Bedford (second project)	34/40	.85	70% el. ownership
Brockton	35/79	.44	
Charlton	34/40	.85	
Leominster	255/403	.63	40% el.
Lexington	104/198	.53	39% el. 1 BR = 30 2 BR = 113 3 BR = 55
Lynn	351/545	.64	
Mashpee	102/ 73	1.40	70% el. family units
N. Andover	156/254	.61	40% el.
Wilbraham	29/34	.85	67% el. 2/3 BR

Note: 29 communities in CHAPA study had smaller ratio of student yield/unit.

Source: CHAPA (2003)

### "Echo Effect"

In many communities, "empty nest" owners have sold their 3-4 bedroom homes and moved to smaller quarters, if available, within their present communities. Thus, when condominiums or apartments become available in towns like Uxbridge, it is not unusual for 15-20% of the "new" occupants to come from downsizing residents within



the same community. Thus we must ask "what is the probability that this phenomenon could occur in Uxbridge?"

Three and four-bedroom homes are common, with the medium number of rooms at 6.1. Of Uxbridge's 4,090 total housing units enumerated in the 2000 Census, 1,043 (26%) had eight or more rooms. 681 (17%) had 7 rooms and 867 (21%) had 6 rooms.

**Housing, families and school-age children** (excerpt from "Housing the Commonwealth's School-Age Children", CHAPA 2003)

- Compared to single-family homes, new multi-family developments almost always house fewer school-age children per dwelling unit. (In the case of Uxbridge, the student-yield could be a bit higher, due to the long waiting lists....NESDEC)
- The probability that multi-family developments will generate school children is influenced by several factors, including:
  - The number and percentage of dwelling units sized for family households. In virtually all cases, developments that offer three- or four-bedroom units generate more school children per unit than developments limited to one- and two-bedroom units.
  - The reputation of a community's public schools. In most cases, multi-family developments in strong school systems house more school-age children than communities with average or less competitive schools. The same usually holds true for single-family homes.
  - Scale, density and location. Large, high-density multi-family developments appear to be less attractive to families with children than low-rise, moderately dense developments with fewer units per building. Developments that offer yards, walkways and common open space typically house more children. In addition, developments located near schools or established residential areas – developments that connect logically to adjoining neighborhoods and the larger community – usually have more children than developments that are isolated, by location or design, or occupy sites near offensive land uses.
  - Composition, age and character of existing housing stock. In communities with relatively high percentages of two-, three- or four-unit homes in traditional neighborhoods, new multi-family developments seem to attract fewer families with school-age children.
  - Units for low- and moderate-income households. Multi-family housing developed exclusively or primarily as affordable to low- and moderate-income families generates more children than a development with 25% low- and

moderate-income units, i.e., the minimum required for comprehensive permit development. (The multiplier for low-and moderate-income is generally in the range of 130-140% for 2 BR (and 160% for 3 BR), although a myth exists that the number would be far greater...NESDEC)

- In high growth communities, large multi-family developments that include three- or four-bedroom units accelerate the need for new or expanded community facilities, notably schools. (This factor appears to be a possibility in Uxbridge ...NESDEC)

New multi-family developments often attract renters who already live in the community. (In the case of Uxbridge, these may be seniors...NESDEC). Like homeowners, renters need and look for opportunities to move up to higher-quality housing. The scale, character and location of a new development, coupled with the cost to live there, will influence the extent to which it generates children from in-town moves.

### **“Then-Now” and Space Implications**

Four “Then-Now” charts are included to display the educational program factors which have combined to reduce the student capacity of older school buildings. Many schools were designed and built when desks were in straight rows; there were few, if any, special education services, and no use of computers. Such buildings served well the programs for which they were designed. Little storage space for educational materials was required. Twenty-First Century schools, however, are expected to provide a broader program to a more comprehensive spectrum of students. Thus, a school which once housed 600 students a generation ago now may be overcrowded at 500 students. The “Then-Now” charts provide detail in describing this phenomenon, in which new educational programs have decreased the student capacity of older school buildings.

The Table 13 and 14 conservative projections of student enrollments and the Table 14A, 14B, 15-17 forecast of possible additional growth tell only one half of the story regarding the need for space in the Uxbridge Public Schools. The second factor, often neglected by communities in facility planning, is related to changes in educational programs...many of which are space-intensive.

## **Appendix B. Full-Day Kindergarten and Early Childhood Education**

Undoubtedly sorting out Uxbridge's needs regarding a high school is "facility-need #1". A second important issue to be addressed involves the youngest students. Thus far Uxbridge has not been able to expand its Kindergarten from half-day to full-day, although Uxbridge is offering a preschool program which is integrated (special education and typically-developing peers enrolled together) to as many students as possible. Neither the space nor the funding have been available to fully realize the goal of an enhanced PK and full-day Kindergarten. Some districts, when tough financial times occur, consider restricting budgets in Early Childhood education. This is understandable as strong Early Childhood programs were unknown a generation ago. Yet the evidence is massive that such programs are the bedrock for later school success. A compelling case regarding the need for and benefits of strong programs for 3-5 year-olds is made in the recently released report of the National Governors Association Task Force on School Readiness; see "Building the Foundation for School Readiness" (2005) available on-line at [www.nga.org/cda/files/0501TaskForceReadiness.pdf](http://www.nga.org/cda/files/0501TaskForceReadiness.pdf).

One positive local example is North Smithfield, Rhode Island which has had a strong Early Childhood program (full-day Kindergarten for all, plus an integrated Preschool) for five years. The District already is experiencing almost no need for students to repeat Kindergarten or to enter a Readiness program, as well much stronger success in Grade 1 and 2 Reading, considerably fewer high-cost referrals to Special Education, and cost-containment in its overall budget. Other districts across New England are achieving similar results. Thus we have included this appendix because of the linkage among the demographic issues, the need for fiscal restraint, the need for space, and for students to meet with educational success.

Over the last three decades, many studies have found that a high quality Early Childhood experience boosts both later school achievement and social adjustment, reducing the likelihood of grade retention or placement in special education and increasing the probability of graduation from high school. Research also has shown that the negative effects of poverty can be reduced by participation in high quality Early Childhood education programs. "All-Day Kindergarten" (Clark and Kirk, 2000) indicates

a long-lasting benefit for children in quality full-day Kindergarten programs. In the early 1980's, only about 30% of U.S. Kindergarten children attended full-day programs; by 1993 the number had risen to 54%; currently it is over 60% ... although New England and Massachusetts lag behind the national average in this matter. In facilities planning, some states now require communities to plan sufficient space for full-day Kindergarten and for preschool when requesting grant monies for major renovations or for new elementary schools. "Securing Our Future" (MA Department of Education, 2001) notes that 65% of infants and toddlers spend eight hours or more per day in daycare...and would benefit from quality educational programs.

Dramatic evidence of vital importance to Early Childhood education has come from the field of neuroscience. We now know that early experience has a direct influence on the connective pathways that are established in the brain during the early years of life. The quality of a child's early experiences not only affects his/her comfort and sense of security, it actually affects his/her brain development and later ability to learn and to reason. Research studies document that early identification and early intervention with respect to cognitive, developmental, physical, social and emotional problems in young children, birth to six or seven years of age, provides substantial long-term positive impact on the overall development of children. More recently, studies have demonstrated that normally-developing children benefit substantially from sound early developmentally-based educational programs.

In short, formal school-based early childhood programs enhance the development of **all** children and significantly reduce the incidence of cognitive/developmental psycho-emotional difficulties through the pre-adolescent and adolescent years. There is an economic advantage to the school, as well, in terms of cost-avoidance and the distress that unaddressed problems of this nature create. The most recent evaluation of the Perry Preschool/High Scope Study (which documents the participants lives at age 27, compared with a control group who did not attend preschool) shows that **for every \$1 dollar invested in high quality pre-school programs, over \$7 dollars is saved in later remedial education services, criminal justice spending, and welfare costs** (Schweinhart et al, 1993). A study of 17,600 Philadelphia school children further supports the academic and financial benefits of full-day Kindergarten (Andrea de

Gaudio-Weiss, American Educational Research Association, April, 2002). Recently economists have noted the long-term economic savings of providing Early Childhood programs, a convincing argument for investing in accessible, comprehensive early care and education for all families. The National Committee for Economic Development, a group of 250 leaders in business, industry, and education, has published The Unfinished Agenda: A New Vision for Child Development and Education which strongly advocated full-day Kindergarten and recommended PK educational programs. James Heckman, a Nobel prize-winning economist, advocated for full-day Kindergarten and strong preschool programs in "Preschool for All: Investing in a Productive and Just Society" (2004). Economist Arthur Rolnick made similar points in a study for the Minneapolis Federal Reserve Bank (2004). "Exceptional Returns: Economic, Fiscal and Social Benefits of Investment in Early Childhood Development" by economist Robert Lynch (2004) finds such programs pay for themselves, generating \$2 in returns to school taxpayers for every \$1 invested... and the total benefits to society exceed 8 to 1.

In light of this body of research and the current developments in the field, Uxbridge would be serving its students (and its taxpayers) well by working toward appropriate space for full-day Kindergarten and additional integrated preschool programs.