

A Fiscal Impact Analysis Union Street Mixed Use Development Holbrook Massachusetts

December 17, 2002

1.0 Overview

We have prepared a fiscal impact analysis for a mixed-use development located on Union Street in the Town of Holbrook Massachusetts. The initial phase is comprised of 36,000 square feet of retail and office development and 28 rental residential units of which 21 are second floor residences above the proposed commercial development (11 one bedroom and 10 two bedroom) and 7 are a townhouse design. The second phase is composed of 315 residential units, 157 designed as one-bedroom units and 158 as two bedroom units.

Fiscal year 2002 data for both revenue and expenditures as published by the Massachusetts Department of Revenue and the Town of Holbrook has been employed for this study. Benefiting from more accurate data derived from local tax data the following report replaces the initial analysis prepared in November of 2002. For purposes of clarity and ease of reading, the larger numbers values have been rounded. The overall objective of this analysis remains the same i.e. to determine the net fiscal impact of the overall proposal by comparing municipal service costs and associated revenue sources. However, as an addendum and comparison, this revised report also reviews condominium and trucking terminal development scenarios.

2.0 Summary of Findings

1. The initial mixed-use phase of the proposal i.e. 36,000 square feet of commercial 28 residential units, has a positive revue ratio of 0.46. Thus of every dollar of revenue generated, forty -six cents (46 cents) will be required for service costs. **In dollar terms, the initial phase will generate an annual net fiscal return of \$55,000.**
2. The second phase, 315 one and two bedroom apartments, has a revenue ratio of 0.70. **In dollar terms, the second phase will generate an annual net fiscal return of app\$173,000.**
3. **The completed mixed-use apartment project will have a revue ratio of 0.67; and generate a net positive fiscal return of at least \$228,000 per year.**

4. The mixed-use apartment proposal will create a significant amount of “new growth revenue” for the Town of Holbrook. The additional assessed valuation of approximately 27 million dollars will be exempt from Massachusetts levy limitations for one year. **Thus an estimated \$450,000 in tax levy can be used as new growth revenue during the appropriate construction years.**
5. **The mixed-use apartment proposal will generate approximately \$250,000 to \$300,000 in associated building permit and construction fees.** The fees will be collected over the project build-out period and constitute a significant additional fiscal benefit.
6. The mixed –use apartment proposal will generate approximately 3.3 million dollars in additional retail sales within the Town of Holbrook and 15 million regionally.
6. In terms of build-out phasing, the apartment and trucking scenarios would most likely be constructed over a two-year period. The build-out for the condominium scenario may take at least five years and potentially as many as ten years.
7. For the three scenarios discussed the comparative annual net fiscal return at build-out is as follows:
 - trucking / warehouse \$200,000;
 - mixed-use / apartments \$228,000, plus local retail expenditures;
 - mixed use / condominiums \$521,000, plus local retail expenditures.
8. **Given the differences in the anticipated build-out timeframe for each scenario, we find that the mixed-use apartment scenario will most likely return the most net revenue to Holbrook over the next 5 to 10 years .** After said period a condominium scenario would create the most annual net revenue. However, after said period, the potential exists for an apartment to condominium conversion (full or partial). An initial apartment development with a potential condominium conversion generates the best short and long term fiscal outcome. The trucking / warehouse scenario generates the least short and long term net annual revenue, and over time the value and fiscal value of said facility will weaken in comparison to either residential scenario.

3.0 Municipal Revenue and Expenditure

We have used the FY 2002 Town of Holbrook estimated revenues and expenditures to arrive at 25 million dollars as the FY 2002 cost of municipal services. In Holbrook property taxes represent approximately 53% of total municipal revenues, state aid represents approximately 26%, and local receipts and other available funds almost 21%. More importantly, the non-residential component of the tax base represents 17% of total assessed valuation but yields approximately 25% of the tax levy. This is due to the property tax classification provision allowed by the Commonwealth of Massachusetts. Specifically, in FY2002 industrial and commercial properties were taxed at a higher rate than residential properties i.e. \$25.82 versus \$16.35 per thousand of valuation.

Using the departmental “cost per land use type method” outlined in The Fiscal Impact Handbook by Burchell and Listokin (see Appendix 1), we determined that approximately 85% of all municipal costs i.e. \$21.25million, or 85% of \$25 million, were attributable to residential uses in FY 2002. Given that the Town has approximately 4,200 households of all types, the average gross municipal service cost per household was \$5,060 in FY 2002.

4.0 Education Costs.

The term “fiscal impact” is commonly employed to describe the “*net fiscal impact*” of a land use type or specific development project. Specifically, will the average annual municipal service costs exceed or be less than the generated annual real estate taxes and other associated municipal receipts? For Holbrook, as in most communities, education is the single most expensive municipal service cost. For FY2002 the education budget was approximately \$10.5 million. However, in Massachusetts communities are permitted to pay various forms of school overhead and school related items off the school budget. In this instance, items such as health insurance, fica/medex, and various other costs add approximately \$2 million dollars to school costs, for a total expenditure of approximately \$12.5 million dollars. Thus, for a FY 2002 school system with approximately 1,450 students, Holbrook had a per pupil cost of \$8,620.

In large measure the municipal cost associated with adding new students is a function of the capacity of the existing system. If a school system has considerable or moderate excess capacity and the community-wide rate of student growth is low, the incremental cost of adding new students is usually less than the average per student cost. However, if the overall school system or an affected elementary school district is at or near capacity it is likely that additional students may require increased staff, redistricting, or additions to the physical plant. In this instance, Holbrook is experiencing relatively stable population growth and our review of the state build-out projections indicates that future single family residential development is less than 5% of the existing number of dwelling units. However, our review also indicates that Holbrook has approximately 0.35 students per dwelling unit, essentially the average in Greater Boston. To be conservative, we have assumed a high incremental cost per new student, regardless of the essentially developed

nature of the community. We assumed that the current per pupil cost (\$8,620), minus 15% for administrative costs, reflects the incremental cost per new student for the foreseeable future. In this instance, the incremental school cost is determined to be approximately \$7,325 per student.

4.1 Estimating School Children by Residential Type

The governing factors for new school aged children in apartment and townhouse developments is the number of bedrooms per unit, the scale of the development and the rent schedule. Appendix 2 provides school-aged children generation rates for similar residential development types in Greater Boston, including affordable housing. Assuming a market rate residential component and using the studies cited in the appendices we estimate that the proposal will generate 22 public school children when fully developed and a total of 23 new students. See Table 1 for breakdown by unit type

Table 1

<i>Unit Type</i>	<i>Students per 100 units</i>	<i>Students</i>
7 Townhouses (2 bedroom)	0.20	1.4
21 Apartments over commercial	0.11	1.2
157 One bedroom Apartments	0.01	1.5
158 two bedroom Apartments	0.12	18.9
Total		23.0
Total with private school factor		22.0

Based on our review we estimate that the complete project will generate 23, additional school children per year. However, assuming a private school enrollment factor of five percent, we estimate that the annual average number of public school children will be 22. In any one given year the number may fluctuate minus or plus 15%. We estimate that of the 22 students 15 will enter elementary and middle school and 7 will enter high school.

In terms of project phasing, we estimate that phase one i.e. 28 total units plus 36,000 square feet of commercial development will generate 2 or 3 students of which one may be of high school age. Phase two will generate the remaining 18 to 19 students.

Table 2. Municipal Education Costs by Element and Total

Element	Students per Unit (Avg.)	Total Students	Incremental Cost per Student	Total Annual School Cost	Annual School Cost per Unit
7 Townhouse apartments	0.2	1	\$7,325	\$7,325	\$1,046
21 Apartments over commercial	0.1	1	\$7,325	\$7,352	\$349
157 one bedroom garden style	0.01	2	\$7,325	\$14,650	\$93
158 two bedroom garden style age restricted	0.12	19	\$7,325	\$139,175	\$881
Total		23	\$7,325	\$168,475	\$491
Total with 5% private school		22	\$7,325	\$161,150	\$470

5.0 Measuring Non-Education Costs

To understand the total municipal service costs associated with the proposal, we need to review the constituent elements of the current \$5,060 average municipal service costs per household and to assign a non-education service cost to both the apartment and town house components of the proposal.

The non-education cost per household is derived by determining the education cost per household i.e. the 12.5 million school costs divided by 4,200 households or \$2,976; and deducting it from the total residential cost i.e. \$5,060 minus \$2,976. The resulting \$2,084 dollars is the average non-education cost per household. Therefore, exclusive of education costs, in Holbrook the average composite residential unit generates \$2,084 of annual municipal service cost. Considering that the Town is primarily a single-family community this value essentially represents a single-family non-education cost. However, one and two bedroom apartments and townhouses generate, 30% to 50% of the non-education service costs as compared to the average residential unit cost. This is primarily due to the lower population per unit, approximately one half the vehicular trips, and the assumption of various traditional municipal services, such as street lighting, snow removal, trash pick-up, and maintenance of private roads. Since the proposed project will contain private roads and require few public services except emergency services, we have used the median cost factor (40%) in our estimates.

Therefore, we can reduce the town wide average non-education service cost of \$2,084 to \$834 for the proposed residential components. .

Table 3 illustrates the estimated total municipal service cost per residential unit by combining the education cost per unit and the non-education costs per unit. It also provides, in dollar terms per year, an estimate of the total municipal cost for each project component. In general terms, the values expressed in Table 3 represent the “cost” element of the fiscal impact equation. In Section 6, we will examine the revenue element and in comparing the two elements we derive an estimated cost to revenue ratio or revenue ratio, as a measure of fiscal impact.

Table 3. Gross Municipal Service Cost Per Unit and Option

Component	Education Cost per Unit	Non-Education Cost per Unit	Total Municipal Cost per Unit	Total Annual Municipal Cost, per component
7 townhouse apartments	\$1,046	\$834	\$1,880	\$13,160
21 apartments over commercial	\$349	\$834	\$1,183	\$24,843
157 one bedroom garden apts.	\$93	\$834	\$927	\$145,539
158 two bedroom garden apts.	\$881	\$834	\$1,715	\$270,970
343 total units	\$470 (1)	\$834	\$1,304	\$447,272(1)

(1) Value assumes the 5% private school factor, see Table 2

6.0 Revenue Sources and the Revenue Ratio

To illustrate the relationship of the residential costs shown in Table 4 to “net fiscal impact,” we also need to examine the revenue side of the equation. Property taxes are an obvious revenue source. They represent only 53% of local revenue, therefore, the non-real estate revenues, 47% of all revenues, must also be factored into the fiscal impact equation. The non-real estate revenues include major revenue sources such as auto excise taxes, state aid, service fees, special accounts, grants, fines, and other sources of local revenue. Once the equation is complete the resulting relationship between costs and revenue is the “revenue ratio”. For example, a ratio of 0.40 means that for every revenue dollar received, 40 cents is needed to provide service costs, and 60 cents is net revenue to

the Town. A ratio of 1.0 is neutral, and a ratio of 1.20 is negative requiring \$1.20 of service cost for every \$1.00 of revenue received.

In Table 4 below we estimated the future taxable value of new luxury apartment buildings using the assessed values for current high end apartment units as a base, and assumed an increase in tax yield due to the upcoming revaluation and the fact that the proposed buildings would be new structures.

Table 4. Estimated Assessed Value of Residential Components

Component	Tax Value per unit (1)	Total Taxable Value	Tax Yield at \$16.35	Tax Yield per Unit (average)
7 townhouse apartments	\$75,000	\$525,000	\$8,600	\$1,225
21 apts. over commercial	\$60,000	\$1,260,000	\$20,600	\$980
157 one bedroom garden apartments (1)	\$70,000	\$10,990,000	\$179,700	\$1,145
158 two bedroom garden apartment	\$80,000	\$12,640,000	\$206,700	\$1,310
All unit Average (rounded)	\$72,900	\$25,500,000	\$416,00	\$1,212

7.0 Commercial Component

To this point the analysis has focused on the cost and revenues of the residential component of the proposal. However, phase one of the proposal also contains 36,000 square feet of commercial development.

Regional averages for service cost of office and retail development range from 15 to 35 cents per square foot. For the purposes of this report we are using an average of 25 cents per square foot. Therefore, the 36,000 square foot commercial component will have a municipal service cost of approximately \$9,000 per year. Assuming a taxable value of \$60 per square foot for the new commercial development yields an assessed value of \$2,160,000. At said value and the \$25.82 tax rate the commercial component yields \$55,770 in annual taxes. Subtracting cost from taxes yields a net return of \$46,770 per year as a net fiscal return, a revenue ratio of 0.16; a value within regional range for similar commercial development.

Section 8 Net Fiscal Impact

Table 5, below, integrates the commercial component with the residential aspects of the proposal. Further, it combines the property tax with the other major sources of revenue and establishes a cost to revenue relationship or revenue ratio for each scenario. As indicated both phase-one and phase two of the proposed mixed-use development are revenue positive. For the proposal as a whole we find a positive revenue ratio of 0.67. Essentially, municipal service costs will be 67 cents for every dollar of revenue generated. In dollar terms, the proposal will generate a positive net fiscal impact of approximately \$228,000 per year. As indicated in Table 5, the majority of the net revenues will be generated in phase two i.e. \$173,000 per year. In addition, phase one will generate a positive annual fiscal return of approximately \$55,000 dollars.

TABLE 5. COST TO REVENUE ANALYSIS ALL COMPONENTS

RESIDENTIAL COMPONENTS	EST. TAXABLE VALUE PER UNIT	REAL ESTATE TAXES PER UNIT \$	STATE AID PER RESIDENTIAL UNIT \$ (1)	LOCAL RECEIPTS INCLUDING EXCISE TAXES (2)	OTHER RECEIPTS (3)	REVENUE PER UNIT	GROSS SERVICE COST PER UNIT	COST TO REVENUE RATIO
PHASE 1								
28 UNITS, 21 APTS, 7 TOWNHOUSES	\$64,000	\$1,046	\$231	\$384	\$0	\$1,661	\$1,357	0.82
36,000 SF RETAIL AND OFFICE						\$55,770	9,000	0.16
						(TOTAL ANNUAL)	(TOTAL ANNUAL)	
PHASE 1 TOTALS						\$102,300 (ANNUAL)	\$47,000 (ANNUAL)	0.46
								(\$55,000 NET)
PHASE 2								
315 GARDEN APARTMENTS	\$75,000	\$1,226	\$231	\$384	\$0	\$1,841	\$1,293	0.70
PHASE 2 TOTALS						\$580,000 (TOTAL ANNUAL)	\$407,300 (TOTAL ANNUAL)	0.70
								(\$173,000 NET)
TOTAL ALL PHASES AND ALL ELEMENTS						REVENUE	COSTS	RATIO
						\$682,300	\$454,300	0.67
								(\$228,000 NET)

1. The \$6.3 million in net state aid in FY2002 equates to approximately \$1,508 per household. However, not all state aid line items are sensitive to new development. However, two items, school aid and lottery disbursement are sensitive to new growth. Using current Chapter 70 aid levels per pupil, we calculated additional state education aid is approximately \$3,136 per student. Assuming current levels of aid and 22 new students we estimate an additional \$68,992 in aid. Divided by 343 new units this equates to \$201 per unit. The non-school aid component of state aid is 1.79 million but except for a slight increase in lottery disbursement due to a population increase, no other non-education state aid components will necessarily accrue. We estimate a \$30 per unit increase in non-education state aid, given the population increase. Total for this column is therefore \$231.

2. Local receipts (including excise taxes) were approximately \$3.23 million in FY 2002. However, local receipts and excise taxes are sensitive to population. Since the new units will have about half the per unit population as a single-family house, we estimated local receipts at a rate of only 50% of current per household value i.e. \$384.

3. This column represents the \$1.96 million in local revenues. A majority of these funds are stabilization funds, limited use accounts, or free cash and may not be expended or linked to any specific expenditure. Thus while available as additional revenue to address municipal service costs, to be conservative, we have not allocated any of these funds.

9.0 New Growth Tax Benefits

Consistent with State regulations, the taxes generated from the proposed mixed-use development are not immediately added to total assessed valuation. The taxes generated by new growth is collected and used as a revenue source for one year before becoming part of total assessed valuation and subject to mandated levy limitations. This feature of municipal finance was designed to provide municipalities with budgetary flexibility and to encourage growth and change. Thus, over the build-out period, the approximately \$27 million dollar taxable value will generate \$450,000 in new property taxes exempt from state levy limitation for one year.

10.0 Construction Permit Revenue

In addition to property taxes and excise taxes, the proposal will generate building permit, electrical, and plumbing fees. The fees will be paid over the build-out period of the proposed mixed-use development. We estimate that the proposal will generate approximately \$250 to \$300,000 dollars in additional fees for the general fund, given the current construction fee requirements of the Town of Holbrook.

11.0 Economic Impact

Based on the anticipated rental rates of the proposed units i.e. we estimate that the composite household income will be at least \$90,000. The total disposable income (including food and clothing purchases) will be approximately 25% of gross income. Therefore, each household will have approximately \$22,500 of disposable income.

Given the significant amount of retail establishments in surrounding communities it is conceivable that not more than 20% of all retail sales will occur in the primary market area i.e. Holbrook. At said rate, each residential unit will expend \$4,500 in the primary market area for a total of \$1.5 million annually. Using the standard sales multiplier of 2.2 equates to \$3.3 million dollars in additional sales potential for existing Holbrook businesses. Regionally, the project will generate approximately \$15 million in annual retail sales.

Addendum 1

Alternate Development Scenarios and Associated Fiscal Impact

Based on our meeting with the Board of Selectmen on December 5th we have examined additional development scenarios and their related fiscal impact profile. To maintain consistency, the fiscal impact methodologies described in the body of the report have been used in the scenarios outlined below. However, the property tax and school children generation values have been revised to reflect the realities associated with the alternate development scenarios.

Alternate 1. Condominium Use

Program Summary.

In a condominium scenario, the mixed-use nature of the property along Union Street remains similar to the apartment scenario i.e. a mixed-use development of 36,000 square feet of retail/ office space and 28 rental apartments. However, the site to the rear would be altered from 315 rental apartments to 315 condominiums units, specifically, 157 one bedroom and 158 two bedroom condominium units.

Revenue Adjustments

Based on local and regional sales data, we have estimated that one-bedroom condominium units would sell in a range of \$150,000 to \$170,000 and that two bedroom units between \$190,000 to \$230,000. However, in terms of average taxable value, our analysis has assumed a taxable valuation of \$130,000 for a one-bedroom unit and \$175,000 for a two bedroom units.

Using the FY 2002 tax rate we estimated the total taxable value of 315 condominiums to be \$48 million dollars. Said value generates an annual tax yield of \$784,000 dollars, or a per unit average of \$2,491. In comparison, the apartment scenario generates approximately \$1,225 per year per unit. Therefore the condominium scenario increases the property tax yield by approximately 100% per unit.

The state aid and local receipts generated by a condominium scenario is essentially the same as an apartment scenario (see table 5 of this report). Therefore, on a per unit basis, the average condominium unit would generate \$2,491 in property taxes, \$231 in state aid and \$384 in local receipts including excise taxes creating a total revenue of \$3,076 per year as compared to \$1,661 per unit for the apartment scenario.

Cost Adjustments

Non-school costs are essentially the same for the one and two bedroom apartments and similar sized condominiums. However, while overall project generates relatively few school-aged children given the one and two bedroom unit mix, our review of regional

data indicates a condominium scenario may generate ten (10) more school aged children than the apartment scenario. The additional school-aged children would generate \$75,000 in annual school costs, or an increase of \$238 per unit per year as compared the apartment scenario. As a result, the annual service cost per condominium unit is \$1,595; as compared to an apartment annual service cost of \$1,357 per unit.

Revenue Ratio and Annual Net Revenue

As shown in Table 5, the apartment component has a revenue ratio of 0.70, meaning that service costs are 70 cents of every dollar received as revenue. The remaining 30 cents is net revenue that accrues to the Town. Given appropriate revenue and cost considerations, the revenue ratio for the condominium scenario is 0.52. In dollar terms, the annual net revenue generated by the apartment component was calculated to be \$173,000 while the annual net revenue of the condominium component is \$466,000.

Buildout Comparison and Implications of Various

Combining the mixed-use component along Union Street to both the apartment and condominium scenario provides a fiscal comparison at build-out. *We estimate that the revenue ratio for the apartment scenario to be 0.67 and the condominium scenario to be 0.52.*

In annual net dollars, the apartment scenario will return \$228,000 per year and the condominium scenario \$521,000. It should be noted that the apartment scenario would most likely be built out in a two-year period. Therefore the fiscal benefit of an apartment scenario would accrue to Holbrook in the relatively near term. Further, if the apartment scenario was eventually converted to condominiums, additional fiscal benefits would accrue to the community at the time of conversion.

The condominium scenario, since it is a home ownership option, would take at least five (5) years to possibly eight years (8) to reach the 100% sales position. Thus while the condominium scenario has stronger net fiscal benefits at build-out, it will take a considerably longer period for said benefits to fully accrue to the Town.

There are innumerable apartment/condominium hybrid alternatives. While we have not tested specific hybrid scenarios we are confident that the net fiscal return would be between \$300,000 and \$400,000 dollars per year.

Alternate 2. Trucking Terminal and Warehouse

Consistent with the current zoning bylaw we prepared a development scenario to maximize industrial use. We have based our review on a site plan designed to accommodate a warehouse / trucking terminal of 114,000 square feet. Said facility would be, by far, the largest facility of its kind in Holbrook.

Assessed Value

We have determined that the current taxable value of similar uses and buildings in Holbrook to be not more than \$28 dollars per square foot. However, we believe that said value should be adjusted upward since the scenario is testing for a new and a very large trucking terminal / warehouse. The regional average value for said facilities is between 45 and 60 dollars per square foot, and although a warehouse on Union Street is not a prime location given poor access to the regional highway network we have used a median regional value of \$55 dollars per square foot for tax calculation purposes.

At \$55 per square foot the 114,000 sq ft building would be assessed at \$6,270,000 million dollars. Using the FY 2002 commercial tax rate of \$25.82, the development would yield \$162,000 per year in gross property taxes. Based on our initial studies the service cost associated with commercial/industrial is very low in Holbrook and consistent with regional averages i.e. not more than 10% of revenues generated. Therefore, after deducting for service costs, the annual net revenue for a trucking / warehouse facility would be approximately \$146,000 dollars. Combining the net revenue from the mixed-use component along Union Street with the industrial component yields \$200,000 per year.

Therefore, we find that the trucking terminal will return an average of \$200,000 dollars per year, the condominium scenario an average of \$521,000 dollars per year, and the apartment scenario, \$228,000 dollars per year.

Fiscal Comparison by Scenario

Scenario	Revenue Ratio	Est. Net Annual Revenue (1)	Est. Total Assessed Value	Est. Annual Property Tax at build-out
Mixed use with Apartments	0.67	\$228,000	\$27,000,000	\$460,000
Mixed use with Condominiums	0.52	\$521,000	\$51,000,000	\$830,000
Mixed use with trucking/warehouse	0.10	\$200,000	\$ 8,500,000	\$220,000

(1) The column represents net revenue i.e. the revenue position after all costs from all sources have been deducted from the scenario in question.

Appendix 1. Percent of Service Costs by Department and Development Type

DEPARTMENT	INDUSTRIAL RANGE AVG.	COMMERCIAL RANGE AVG.
General Government	4-8 (6)	4-8 (6)
Public Safety	35-55 (45)	60-90 (75)
Public Works	35-55 (45)	10-20 (15)
Health and Welfare	2-4 (3)	1-3 (2)
Recreation and Culture	0-2 (1)	1-3 (2)

Appendix 2. School Aged Children Analysis by Residential Type

**Umass Donahue Institute
Public Use Micromedia Sample, US Census
November 2002**

For apartment developments over 50 units and with a rent of over \$750 per month, the following student generation rates were determined

Single family Attached (townhouses)	0.315 per unit
One-bedroom apartments.	0.015 per unit
Two bedroom apartments	0.1282 per unit

Note the above data reflects all units, i.e both market and subsidized. Market rate only units generate about 20% less students per unit type than the data above indicates.

Appendix 3. Burlington Apartment Survey, Student Generation Rates (1)

Property	Elementary	Middle School	High School	Total Students	Total Units	Students per unit
Arboretum	42	16	13	71	399	0.178
Beacon Village	45	16	13	74	420	0.176
Hallmark Gardens	9	1	1	11	154	0.071
Lord Baron	68	19	13	100	380	0.380
Stonebrook Farms	9	6	6	21	202	0.104
Total	173	58	46	277	1555	0.178

(1) The above sample includes approximately 5% three bedroom units and 25% affordable housing units.

Appendix 4. School Children Generation Studies Melrose Ma.

Connery Associates surveyed 450 one and two bedroom market rate and affordable housing units as part of a fiscal impact study prepared for Pembroke Real Estate i.e. the 576 unit Oak grove village proposal. All buildings were within one half mile of the proposed project site. The student per unit ratio was 1 per 56units or a rate of 0.018 per unit.

	# Units	Students	Student per Unit
Towne Estate Apts.	260	6	0.023
Pine Banks Apt.	44	0	0
288 Main	20	0	0
296 Main	24	1	0.04
306 Main	16	0	0
314 Main	16	0	0
3 Mt. Vernon	20	0	0
12 Mt. Vernon	24	1	0
333 Main	26	0	0
Total	450	8	0.018

Appendix 5 Abbott Development, Boston Ma.

The following is summary analysis of 9 apartment developments (each in excess of 200 units) in Northern Rhode Island. The study surveyed 2,166 one and two bedroom units, and a small percentage of three bedroom units (less than 3%) produced 20 school-aged children. The survey was conducted in May of 2000. The study was completed as part of a proposal for a 330-unit apartment development in Lincoln Rhode Island

Total Units	Toddlers	School Aged	20-50	Over 50
2,166	56	20	2,247	1,314

Source Abbott Development, Boston Massachusetts. May 2000

The projects surveyed had as few as 109 units and as many as 348 units. The ratio of school-aged children was **1 school-aged child per 108 units, or .009 per unit.**

It is interesting to note that the total number of children was 76 but the school-aged population (5 to 19) was only 20. Essentially, the data illustrates the attrition rate from

pre-school to school aged children and the mobility of families that use an apartment dwelling as a first dwelling prior to moving to another residential form.

The survey also indicated the average population per unit was 1.68