

Fiscal Impact Analysis  
Age Restricted Rental Housing  
484-490 Boston Post Road  
Wayland Massachusetts

March 15, 2013

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**Fiscal Impact Analysis**  
**Proposed Age Restricted Rental Housing**  
**484-490 Boston Post Road**  
**Wayland Massachusetts**  
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## 1.0 Preface

This report is designed to identify the key fiscal factors and the long term fiscal characteristics associated with a proposal to construct 216 rental units on a 7.63 acre Town of Wayland controlled site located at 484-490 Boston Post Road abutting the Wayland / Sudbury Town Line. The site is now controlled by the Wayland Department of Public Works.

The final development plan may vary in terms of the percentage of age restricted units in the final unit mix. For purposes clarity a 75% age restricted has been selected as the baseline scenario. However, the report will also examine and compare the fiscal implications of 50% and 25% age restricted scenarios and identify differences or similarities.

Table 1 illustrates the unit mix based on 216 total units with 75% of the total of one and two bedroom units being age restricted i.e. 213 units with 159 age restricted units and 54 non restricted units, each having a 25% affordable component and 3 three bedroom non-age restricted affordable units.

**Table 1. Proposed Unit Mix – 75% Age Restricted Scenario**

Unit Type	Total	Affordable	Market
One Bedroom Age Restricted	81	21	60
One Bedroom Non-Restricted	27	7	20
Two Bedroom Age Restricted	79	20	59
Two Bedroom Non-Restricted	26	3	23
Three Bedroom Non-restricted	3	3	0
<b>Total (1)</b>	<b>216</b>	<b>54</b>	<b>162</b>

## **2.0 Summary of Methodology**

To determine the fiscal impacts of the Proposal, this report divides municipal service costs into two broad categories: (i) education costs and (ii) general service costs (i.e. all non-education costs). As noted in the body of this report, general service costs, in this instance, are related to potential public safety costs (police, fire and ambulance service).

In terms of education costs, all 108 one bedroom units and 79 age restricted two bedroom units will not generate school aged children i.e. 187 units. For the 75% age restricted scenario, school aged children will only be generated from 26 non-restricted two bedroom units and the 3-three bedroom non-restricted affordable units.

### **2.1 School-Aged Children Estimate and Education Cost**

Education costs are driven by the estimate of net additional school-aged children generated by the Proposal and local per pupil costs. Given that there are no comparable multi-family developments in Wayland from which to determine the current multi-family student generation rates, the report applies two approaches i.e. regional averages to provide context and comparable developments in similar surrounding communities.

To estimate annual education costs associated with new enrollments, the actual net school spending per pupil (ANSS), as reported by the Massachusetts Department of Education for 2012 provides the basis for the cost estimate, minus state aid since it is a revenue source. Actual Net School Spending (ANSS) includes all funds expended by the School Committee via the budget, grants, and other funds as well as certain town expenditures including employee benefits but excluding certain types of expenditures such as transportation, adult education, and long-term debt. As such ANSS provides an inclusive school cost estimate. Its use also assumes that each new student will generate a specific fixed cost. Generally applied this approach provides a conservative estimate (high) for school costs since in that it assumes that each new student could also marginally add to overall administrative costs and physical plant operation maintenance, consideration of this issue is addressed in the report. Finally, the report does not attempt to estimate Chapter 70 school aid in the future but assumes that it will remain at approximately at the same low proportion of actual net school spending that currently exists.

### **2.2 General Service Cost Estimates**

For general municipal service costs, the report employs the FY2013 operating budget and included those service categories that will most likely exhibit a measurable additional service cost due to the Proposal such as police , fire , and ambulance service. There are operational budget categories that are not included in general service costs, such as existing debt payments and infrastructure services that will be paid by the owner; in this case, the cost of water and wastewater services. The traditional public works responsibilities in the immediate area such as road maintenance and snow plowing of existing public roadways will not change.

Items such as trash collection, lighting and snow plowing of internal roadways and parking areas will be the responsibility of the private owner and therefore are not included as a new service cost. Finally, short term costs related to building department construction review will be addressed through the fees assessed by the Building Department.

### **2.3 Revenue Projections**

Municipal service and education costs represent only one part of the fiscal equation. To appropriately estimate the annual cost-to-revenue ratio at stabilization, the estimated revenue stream must also be determined (specifically, the income generated by annual property taxes, and other forms of annual taxation such as excise tax and community preservation act assessments. After a general discussion with the Town Assessor this report employs an income method to generate an estimated assessed value at stabilization and adds any other taxes such as excise tax and community preservation surcharge to generate the estimated annual revenue stream.

### **2.4 Fiscal Profile**

As noted, this report compares the estimated municipal service costs (both general service costs and education-related costs) with anticipated total annual revenue sources to arrive at an estimated annual cost-to-revenue ratio, or annual fiscal profile. The findings are also expressed in terms of current dollars gained or lost annually commencing at stabilization. The objective is to provide the Town of Wayland with a fiscally prudent understanding of the long-term fiscal implications of the Proposal and its potential minor variations. Accordingly, the most important finding presented in this report is the estimated cost-to-revenue ratio at project stabilization. While the ratio will likely vary slightly from year to year due to regional or national economic factors, it is the Town's best measure of the long term fiscal performance of the Proposal.

### **3.0 Summary of Findings**

- A development scenario with a 75% age-restricted component and a 25% affordable requirement generates an annual fiscal benefit of approximately \$542,000 at stabilization.
- The 75% age restricted scenario has a cost to revenue ratio of 0.21, meaning that 21 cents of every revenue dollar collected is required to address all forms of annual municipal service cost while 79cents is unencumbered revenue.
- The 75% age restricted scenario will generate a gross annual revenue stream of approximately \$690,000 and annual municipal service costs of \$147,500.
- The 75% age restricted scenario will generate relatively few additional students. The annual average number of new students is estimated at 7.
- The alternate scenarios i.e. 50% and 25% age restricted also generate strong positive fiscal profiles with cost to revenue ratios of 0.27 and 0.33 respectively.
- The alternate scenarios i.e. 50% and 25% age restricted also generate significant annual revenues at stabilization of \$501,000 and \$460,000 respectively.
- None of the scenarios will generate any significant impact on the Wayland School System.
- Police, fire and ambulance services are the only general municipal services with measurable general service cost impact; and none of the scenarios will require additional public safety staffing.
- The one time building permit fees will be approximately \$250,000.

#### 4.0. General Service Costs

To assess the general service costs associated with the Proposal, the report uses the Town's FY2013 operating budget.

##### Police and Fire

To estimate the public safety costs, this report uses the per capita method (PCM). Note: the PCM method simply applied to the public safety budget (Police and Fire) creates inappropriate service cost estimates for residential uses because the resulting estimates would include responsibilities of the public safety departments with respect to commercial and other non-residential uses i.e. commercial/ industrial uses, public facilities, institutional uses, and general municipal traffic safety responsibilities. In most communities, nonresidential land use demand comprises the majority of a municipality's public safety obligations. Given these factors, this report uses a broad adjustment methodology from the *Fiscal Impact Handbook*, by Burchell and Listokin, to arrive at a more equitable estimate of residential service costs. As indicated in Appendix 1, depending on the nature of the community, public safety service costs related to commercial uses can be 40% to 90% of overall public safety costs, conversely residential uses can be 10% to 60%. Since Wayland is overwhelmingly a residential community but with considerable through traffic movements this report assigns 50% of current public safety costs to residential uses.

Table 2 illustrates the estimated general service costs of police and fire services (public safety costs) associated with the Proposal. Numbers are rounded.

**Table 2. General Service Costs - Residential**

Department	FY 2013 Budget	Per Capita Cost (1)	Population (2)	Residential Factor (3)	Estimated Annual Cost
Police	\$2,308,000	\$166	350	50%	\$29,050
Fire	\$2,445,000	\$176	350	50%	\$30,800
<b>Total</b>					<b>\$59,850 (\$60,000)</b>

(1) Based on an estimated population estimate of 13,900 for 2012

(2) The estimated population per unit is 1.6 or approximately 350 people.

As noted above, the Proposal would likely generate an additional public safety service cost of \$60,000. This sum represents any additional time that may be on site for potential public safety responses. However, given, the relative small number of units and population characteristics, no new public safety districts or staffing will be required.

### **Ambulance**

In addition to potential general police and fire service cost the senior or age restricted housing component will generate additional ambulance service calls. In nearby Lincoln a senior development known as The Groves containing 168 units (94 occupied) has a unit mix of one and two bedroom units similar to the Proposal. In 2012 it generated 108 ambulance service calls, a small majority were emergency calls and the balance were transportation related calls. Given, the lack of comparables in Wayland, the Lincoln example is used as a comparable for this report, essentially a ratio of one call per year per unit for senior housing, a ratio that the author has found to be relatively consistent region wide. Accordingly, the 75% scenario has 159 senior related units and therefore we can anticipate approximately 159 ambulance service calls from said component at stabilization in 2016. As for the remaining 54 units of non-age restricted housing and the 3-three bedroom units, the report applies a conservative ( high) rate one half of that as applied to the senior or a total of 28 calls; for a rounded total of total of 190. In 2012 there were 1,169 medical calls and 668 transport calls for a total of 1,837. Therefore, the 190 potential additional calls represent an increase of approximately 10% with 65% of the calls being for emergency services.

Based on information provided by the Wayland Fire Department approximately 50% of the time when the ambulance is out of Town, personnel has been hired to cover the fire station. The average cost per hire is reported to be approximately \$120 per call when this need arises. Assuming that approximately half the anticipated new service calls could generate this additional cost i.e. 95 calls at \$120 non covered costs. This report finds that it is likely that the anticipated increase in ambulance service calls will generate an additional annual service cost of approximately \$11,500 (current dollars).

### **DPW**

Given the location and design of the Proposal there are no apparent marginal DPW costs related to existing road maintenance, drainage maintenance, or snow plowing since all current public maintenance efforts will not be affected. Further, internal roads, drains, signs, and lighting will be the responsibility of the owner as will water and wastewater service costs. In terms of traditional public works services the Proposal is essentially self contained and will be privately maintained. There is no measurable service cost increases associated with the DPW.

### **Other Departments**

The Building Department will see an increase in work load relative to plan review and construction monitoring but the Proposal is a relatively small development and any staff cost issues will be easily addressed using a portion of the assigned permit fees.

Further, the relatively small overall estimated population (350) will not require additional staffing for public services such as general government administration, town clerk, various boards and commissions, libraries, recreation department or the health department. Also, annual municipal cost items such as existing municipal debt do not apply since they pre-date the Proposal.

### **Total General Service Costs**

*This report finds that for the 75% age restricted scenario the measurable general service costs are related to police, fire, and ambulance services. Accordingly, the annual general service cost is estimated at \$71,500 (\$60,000 general police and fire services and \$11,500 in additional ambulance related costs).*

**Table 3. Summary of General Service Cost**

<b>Scenario</b>	<b>Police and Fire Service Cost</b>	<b>Ambulance Cost</b>	<b>Total Service Cost</b>
216 units @ 75% age restricted	\$60,000	\$11,500	\$71,500

## **5.0 Education Costs**

### **5.1 Student Projections**

The key factor relative to the projection of school aged children generated by the Proposal is the that age restricted housing generates no measurable number of school aged children For our example, the 186 units, a combination of age restricted two bedroom units and all one bedroom units, will not generate any school aged children. Only 26 two bedroom non-restricted units and 3-three bedroom affordable units will generate school aged children.

There or no comparable developments in Wayland from which to project students from multi-family housing. If the generally accepted regional averages were applied i.e. 0.15 students per market two bedroom units and 0.50 students for the affordable two bedroom units, the two bedroom non-restricted portion of the unit mix would generate 5 students additional students. Similarly, applying a regional norm of 1.3 students to the 3 affordable three bedroom units would add an additional 4 students; for a total of 9.

However, to broaden the student generation analysis the report examined student generation rates in five communities that have high quality school systems and have a 25% affordable component in their existing multi-family developments. The percentage of one bedroom units in the comparables varies considerably and only in one case is it higher than the Proposal. Accordingly, the student generation rates shown in the far right column of the table below removes the one bedroom units and therefore indicates the estimated generation rate for two bedroom non-age restricted units. See Appendix 2 for detail on the methodology. In only one instance (Concord), the unit mix of a comparable listed in the table below contains three bedroom units i.e. Concord at 10%.

**Table 4. Comparable Student Generation Rates.**

<b>Comparable</b>	<b>Number of Units</b>	<b>Students</b>	<b>Gross Student per Unit Ratio</b>	<b>Two Bedroom Ratio</b>
Avalon Ship Yard Hingham	177	31	0.175	0.210
Avalon Sharon	156	65	0.416	0.591
Charles River Landing Needham	350	16	0.457	0.081
Concord Mews Concord	350	65	0.185	0.267
Powder Mill Sq. Andover	59	9	0.152	0.152
<b>Totals</b>	<b>1,059</b>	<b>186</b>	<b>0.175</b>	<b>0.260</b>

Applying the 0.26 ratio, from Table 3 to the 26 the non age restricted two bedroom units of the 75% restricted scenario generates an estimate of 7 students. Adding an estimated 4 students to be generated by the 3-three bedroom affordable units generates a total estimate of 11 students.

However, it should be noted that the Proposal is essentially an adult community and this characteristic is apparent not only because of the inclusion age restricted units but also because fully half of the units are one bedroom units, a percentage that is considerably higher than any of the comparables above except for Charles River Landing. It has been my consistent experience that adult oriented communities generate significantly fewer school aged children than the regional average including multi-family developments with a broad market orientation such as the comparables above. Accordingly, the report needs to reflect this reality.

In my experience, Eastern Massachusetts adult oriented multi-family developments generate school aged children in a range of 0.06 to 0.12 students per two bedroom unit. Applying the high end of this range of 0.12 , to be conservative, the 26 two bedroom units of the 75% age restricted scenario would generate only three (3) students. Adding the four (4) students anticipated from the 3 three bedroom affordable units would bring the student estimate to 7. For the 75% scenario this report will employ the estimate of 7 students in recognition of the strong adult orientation of the Proposal and the high one bedroom component in the unit mix.

### **5.2 Education Cost and Student Enrollment at Stabilization**

The estimated annual school cost is based on the Actual Net School Spending per Pupil as currently tabulated by the Massachusetts Department of Education (See section 2 for a more detailed discussion of ANSS).

Wayland's current ANSS is approximately \$14,800. Subtracting state aid of approximately \$1,200 per student (a revenue source), Wayland's annual locally borne school cost is \$13,600 per student. Based on Massachusetts Department of Education data, total enrollment in Wayland has declined by about 200 students or approximately 7% during the past decade. A review of the school budget indicates that approximately 20% of annual school cost relate to building operation and maintenance and general administration. Given the small number of students anticipated in the 75% scenario and the recent declines in total enrollment this report contends that no new administration staff or general building operational costs can be attributed to the new students. Therefore, to arrive at more accurate estimate of the marginal cost increase per new student, the report reduces the \$13,600 ANSS cost per student (minus state aid) by 20% to \$10,900.

*Accordingly, the 75% restricted scenario will add an annual average of 7 students and will generate a service cost at project stabilization in 2016 of approximately \$76,300 (current dollars). The small number of new students will not require the addition of an additional school bus but may generate the need to alter an existing school bus route.*

To provide additional context, Table 5 below illustrates and compares the education cost estimates for the 75% restricted scenario to 50% and 25% age restricted scenarios. In all cases the number of students projected is minor in relation to current capacity. Additional discussion of alternate scenarios is found in Section 8.0.

**Table 5. Summary of School Costs by Development Scenario**

Total Units	Percent Restricted	Number of non restricted 2 bedroom units (1)	Number of three bedroom units (1)	Total Students (2)	Cost per Student (3)	Total Annual Cost
216	75%	26	3	7	\$10,900	\$76,300 (\$76,000)
216	50%	53	3	11	\$10,900	\$119,900 (\$120,000)
216	25%	79	3	15	\$10,900	\$163,500 (\$163,500)

(1) Two and three bedroom only included since one bedroom units generate no enrollment.

(2) The student p ratio applied to two bedroom units is 0.12, see Section 5.1. A ratio of 1.33 per unit or the 3 three bedroom units. The estimated increase is 3 to 4 students for each less restricted scenario i.e. moving from 75% to 25%. To be conservative the number of additional students added to each progressively less age restricted scenario is four (4).

(3) See the cost analysis and estimate per pupil in Section 5.2.

### **5.3 Year of Enrollment and Grade Level Distribution**

Based on the author's experience with regional multi-family student enrollment patterns, approximately 60% of the 7 students generated by the Proposal or 4 students will enroll in various grades PK-6. The remaining balance of 3 will enroll in the various middle and high school grades. Given the nature of multi-family development, it will be rare to have a student enrolled from kindergarten through to grade 12. It is more likely that enrollment per grade emanating from the Proposal will vary from year to year. Given permitting, construction and rent up periods, it is possible that some new students will enroll for the 2015/16 school year, but it is highly likely that the projected 7 additional students will not arrive until the 2016/17 school year or thereafter. Finally, while specific student numbers are estimated for purposes of this report, they represent the long-term average. In any given year, the student numbers from the multi-family development of this nature (small student numbers) could easily fluctuate by 20% in either direction.

## **6.0 Municipal Revenue**

The Proposal will have three sources of revenue: property tax, automotive excise tax, and the community preservation tax. As noted, the Town does not have multi-family developments from which to generate estimates of the taxable value for the Proposal. Using the recent Bryne-McKinney Market Analysis for the Proposal as a guide, the report assumed the following average rents by unit type for tax estimating purposes. However, it is possible that after a successful period of operation, the rents from the Proposal would likely increase given the qualities of the host community. For estimation purposes, the restricted and non-restricted units have been assigned the same rent by unit type.

The estimated rents used for fiscal analysis purposes in this report are as follows:

- 1 bedroom market rate \$1,900-(80 units)
- 1 bedroom affordable rate: \$1,250-(28 units)
- 2 bedroom market rate: \$2,200-(79 units)
- 2 bedroom affordable rate \$1,450-(26 units)
- 3 bedroom affordable rate \$1,700-(3 units)

The Town's Assessing Department cannot assign a value to something that does not exist. However, discussions with the Assessors Department indicated that the Proposal will most likely be assessed using the stabilized income method; essentially treating the Proposal as a residential investment property. The metrics for an income assessment approach for multi-family development also currently do not exist in Wayland. After a general discussion with the local Assessor's Department, and based on the author's experience in the region, this report applies the following metrics. The capitalization rate is the author's estimate and based on two factors: the high residential tax rate in Wayland and the fact that there is no specific project or site design at this point in time to review. Consequently, the estimate is likely on the conservative side. The other values assigned to the assessment model are fairly standard throughout the region. The assessment metrics applied are as follows:

- 5% -vacancy deduction
- 30% -operation and maintenance deduction
- 2%- reserve contingency deduction
- 9.00- capitalization rate

Based on the above factors the estimated assessed value at stabilization will be approximately \$35,000,000 generating an average assessed value per unit of approximately \$162,000. *Applying the 2012 residential tax rate of \$19.01 (to adjust for the use of free cash on the 2013 rate) yields an estimated property tax of approximately \$665,000 at stabilization (current dollars).*

The Town also assesses a 1.5% annual community preservation act surcharge. In this instance the surcharge will generate approximately \$10,000. Further, the 216 units will likely have approximately 200 registered vehicles on site. Given that the average household income of the Proposal the automobile values are likely to be less than the current average in Wayland this report has assigned an average value of \$75 per vehicle, accordingly the total estimated annual excise tax is \$15,000. *Combining the three revenue sources, the Proposal will yield an annual revenue stream of approximately \$690,000, see Table 6 below.*

**Table 6. Summary of Revenue**

<b>Proposal</b>	<b>Property Tax</b>	<b>CPA Surcharge</b>	<b>Excise Tax</b>	<b>Total (1)</b>
216 units	\$665,000	\$10,000	\$15,000	\$690,000

(1) Note all scenarios examined in this report have the same estimated annual revenue stream.

## 7.0 Fiscal Profile

With a revenue stream of \$690,000 and total service costs of \$ \$71,500 the estimated cost to revenue ratio of the 75% restricted scenario is 0.21. In dollar terms, it generates an annual fiscal benefit of approximately \$583,000 at stabilization. See Table 7 below for details.

**Table 7. Estimated Fiscal Profile - 75% Restricted Scenario**

<b>Annual Revenue</b>	<b>Total Service Cost (1)</b>	<b>Net Annual Gain or (loss)</b>	<b>Cost to Revenue Ratio</b>
\$690,000	\$147,500	\$542,500	0.21

(1) \$71,500 in general service costs and \$76,000 in education costs; for an estimated to annual total service of \$147,500 (current dollars)

The strong positive cost to revenue ratio of 0.21 and the significant annual fiscal benefit of \$542,500 are directly related to the value of residential development in Wayland and to the overwhelmingly non-family oriented nature of the 75% age restricted scenario which generates a relatively small annual education cost.

## 8.0 Alternative Unit Mix Scenarios and Fiscal Profiles

As noted in Section 1.0 the baseline scenario has 75% age restricted units. The two other scenario's i.e. 50% age restricted and 25% age-restricted are presented below for comparison purposes. Given that the number of total units and bedroom mix remains the same, as well as the estimated rents, affordable percentages, estimated total population, and general service costs; the only measurable differences between the scenarios are the number school aged students (related school costs) and the small fluctuation in ambulance service costs.

### 50% Restricted Scenario

Using the same estimating approach as detailed in the body of the report a 50% age restricted scenario would generate four additional students or 11 students as compared to 7 for the 75% scenario. The associated educational cost increase would be approximately \$43,600 (\$44,000) This cost would be slightly offset by a decline in ambulance costs of approximately \$2,500. Accordingly, total service costs would increase by approximately \$41,500. The total estimated annual service cost for the 50% restricted scenario would be approximately \$189,000.

### 25% Restricted Scenario

In comparison to the 75% scenario, the 25% age restricted scenario would increase the student estimate by approximately 8 to a total of 15 students and increase school costs by \$87,200 (\$87,000). Ambulance costs would be about \$5,000 less than the 75% scenario. Therefore, the 25% scenario, in comparison with the 75% scenario generates \$82,000 more cost and has a total annual service cost estimate of \$229,500.

Table 8 below summarizes the fiscal profile associated with all scenarios and illustrates the costs associated with each scenario. The estimated annual benefit at stabilization is in current dollars and the cost to revenue ratio also relates to stabilization. As can be seen all scenarios generate strong positive cost to revenue ratios and a significant annual fiscal benefit.

**Table 8 Comparison of Fiscal Outcomes**

<b>Scenario</b>	<b>Annual Revenue</b>	<b>Public Safety Cost (1)</b>	<b>School Cost</b>	<b>Total Cost</b>	<b>Annual Benefit</b>	<b>Cost to Revenue Ratio</b>
75% Restricted	\$690,000	\$71,500	\$ 76,000	\$147,500	<b>\$542,500</b>	<b>0.21</b>
50% Restricted	\$690,000	\$69,000	\$120,000	\$189,000	<b>\$501,000</b>	<b>0.27</b>
25% Restricted	\$690,000	\$66,500	\$ 207,000	\$229,500	<b>\$460,500</b>	<b>0.33</b>

(1) Includes ambulance costs of \$11,500, \$9,000 and \$ 6,500 for 75%, 50% and 25% scenarios, respectively

As shown above, the report finds that there is a small difference between the scenarios in terms of the annual fiscal benefit expressed in terms of current dollars. Essentially, the three scenarios share a common foundation of age restricted units and almost no family oriented units. Combined these factors minimize education cost and accordingly are the factors driving a significant and sustainable annual fiscal benefit for all scenarios.

### **9.0 One Time Fees**

Given the current building permit fees of \$12 per \$1,000 of construction cost and an estimate of \$20,000,000 to \$25,000,000 for total construction cost, this report estimates that by completion of construction total fee payments will be approximately \$240,000 to \$260,000. This sum, after deducting monitoring costs, the permit fees represent a significant one time revenue source.

## 10.0 Echo Effect

There is a common misconception that providing senior housing or other small housing units suitable for downsizing creates an ‘echo effect’ i.e. opportunities for local empty nesters to leave their single family homes and create a residential infill opportunity and thereby adding to student enrollment or school costs. In reality, the turnover of single family homes is an on-going phenomenon due to moving, death, or older residents moving in with children or into smaller pre-existing housing in the same or neighboring towns. Essentially, when a person or family is ready to downsize, they will downsize regardless of the ability to stay in the community where they currently reside. The decision is always a life style choice or medical necessity.

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Further, the current percentage of the senior population choosing to down size varies from region to region but never more than 15 to 20% of the senior population. The large majority of seniors choose to remain in current homes until conditions beyond their control force a move.

However, in Eastern Massachusetts the best direct evidence of the non-impact of senior housing on school enrollment comes from an examination of school trends in two communities with large senior housing developments i.e. Hingham and Peabody. If the echo effect were to show up anywhere it would be in these two communities.

### Linden Ponds -Hingham

In 2002 the Linden Ponds Senior Community opened in Hingham with 648 units of assisted living and senior housing. The Table below illustrates the local conditions from 1996-2002 (the 5 year period prior to opening); the period of 2002 to 2006 (5 years after opening) and 2007 to 2012 (an additional 5 year period). The data shown is drawn from local annual reports and from the Massachusetts Department of Education.

#### Linden Ponds and School Enrollment

Linden Ponds	Population Increase (loss)	Additional Students (loss)	New Single Family Homes	School Budget Avg. Increase
1996-2001	(77)	209	147	4.3%
2002- 2006	1,207	255	218	4.8%
2007- 2012	458	(214)	66	4.7%

The first glance it could seem that after Linden Ponds opened 2002 for a similar period of time thereafter there was an increase 44 students (209 minus 255) could be attributed to the existence of a large amount of senior housing. However, for that to be true it would also be true that no students would have been generated from the 218 new single family homes, a highly improbable occurrence. While the Town’s population increased due to the new senior housing campus and associated residents from 2002 to 2006, there is no evidence of an echo effect.

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From 2007 to 2012 enrollments *declined* by a little more than 200 students even though single family housing development continued (at a much lower rate than the previous 5 years) and during this time frame the Town also added 177 40B housing units in the Hingham Shipyard. Accordingly, if there was an echo effect there would be some enrollment trajectory that could not be explained given other forms of housing growth. Similarly, the average school budget after increasing by only 0.5% from 2002-2006 declined slightly from 2007 to 2012, even with a mature and stabilized Linden Ponds.

Hingham, like Wayland has a high quality school system and it has clearly not experienced an echo effect due to the construction of a large amount of senior housing.

**Brooksby Village- Peabody**

In many ways Peabody would be the most logical place to find traces of the echo effect since it has the largest assisted living / senior housing development in Eastern Massachusetts (1,219 units) and has relatively moderate single family home prices. The table below illustrates enrollment outcomes since the facility was opened in 2000.

**Brooksby Village**

<b>Brooksby Village Peabody</b>	<b>Population Increase (loss)</b>	<b>Additional Students ( loss)</b>	<b>New Single Family Homes</b>	<b>School Budget Avg. Increase</b>
1995- 2000	1,229	565	333	6.7
<b>2001-2006</b>	2,471	323	181	5.1
2007-2012	876	(601)	41	2.6

Similar to Hingham, Peabody experienced a population increase in the five years after the opening of the senior facility, but the student enrollment increase was actually *less* in the five years after opening than prior to opening. Further, since 2007 enrollment has declined by approximately 600 students.

As with Hingham there is no statistical imprint of an echo effect. To be sure some seniors in both communities did downsize to Linden Ponds or Brooksby Village but they would have done so even if the local option was not available. The existence of locally available senior housing does not alter the housing downsizing decision making, it only provides an opportunity for some seniors who are going to downsize anyway to relocate to another part of the *same* Town

## Appendix 1. Percentage of Non-Residential Costs by Broad Municipal Category

The following data was derived from Exhibit 6-4 Typical Impact of Commercial Uses on Various Public Service Categories: Fiscal Impact Handbook Burchell and Listokin, Chapter 6 Proportional Valuation Fiscal Impact Method. The table indicates the percentage of service cost attributed to non-residential use and thus the balance represents residential use. The wide range is an expression of the variety of communities, i.e. essentially bedroom communities, to communities with office parks, active centers, through to industrial commercial oriented communities.

Service Category	Percent Range	Mid-Point, %
General Government	4 to 6	6
Public Safety	40 to 90	75
Public Works	10 to 20	15
Health and Welfare	1 to 3	2
Recreation and Culture	1 to 3	2

In the report, the public safety category was composed of two categories: police services and fire services. It is important to note that in the above referenced handbook, commercial development is divided into two major categories with retail uses generating as much as three times the cost per square foot as office / research use, this factor in conjunction with community type underlies broad percent range of service cost associated with public safety. The associated residential cost is essentially the residual percentage of what is shown above. As shown above the public safety mid -point is 75% for commercial (non-residential use) but to be conservative smaller deduction was applied i.e.50% for the purposes of the report.. Accordingly, 50% is also applied to residential land uses.

## **Appendix 2. Methodology applied to determine equivalent student generation rate.**

As noted in the report, based on regional data collected over the past two decades, one bedroom residences do not generate school aged students. They may accommodate younger children for a limited period of time, but not school-aged children. While there are very limited number instances where one bedroom residences have generated school-aged children, the percentage is essentially de minimis and proves to be a short lived phenomenon.

Accordingly, to accurately compare the student generation rate of existing multifamily developments with a proposed development, the one bedroom residences need to be removed from the analysis.

In this instance, the methodology detailed below was applied to all comparables but, for the sake of clarity and simplicity, only Charles River Landing is addressed. In this example. It is comprised of one and two bedroom units like the Proposal

- Charles River Landing generates 16 students from 350 total residences, for a gross students-per-unit ratio of 0.045. This value includes the 25% of residences that are affordable.
- Charles River Landing has 252 one bedroom residences that do not generate any students. Therefore the 16 students are generated from 98 units or a gross two bedroom rate of 0.163 students per residence (including the affordable residences).
- Twenty five percent or 24 of the 98 two bedroom residences are affordable units. Applying a regional average of 0.40 students per affordable two bedroom residences generates an estimated 10 students from the 24 affordable two bedroom residences. This leaves 6 students to be assigned to the 74 market rate two bedroom residences; (i.e. a rate of 0.081).
- The methodology above is applied to all equivalency calculations used in the report.