

Summary of Key Findings of Five 40B Fiscal Impact Analysis

Prepared by Alicia Cleary

The following analysis identifies the FY2009 actual fiscal implications of 5 Chapter 40B rental apartment and condo developments that began construction in 2005 with an affordable housing component that ranged from 20% - 70%. I followed John Connery's fiscal impact methodology for his three studies of multifamily developments. The rental apartments comprised of 116 one, 179 two bedrooms and 18 three bedroom units and the condo developments consisted of 13 one bedroom and 25 two bedroom units. In total, there were 351 units constructed from these 5 developments - 129 one bedroom units, 204 two bedroom units and 18 three bedroom units. The rental apartments ranged in structural design from two to three floor buildings with single floor units to side by side townhouse style with multi-floor units. The condos also ranged in configuration from three floor buildings with single floor units.

Table 1. Project Bedroom Mix

Development	Building Configuration	1 Bedroom Units	2 Bedroom Units	3 Bedroom Units	Total
Rental Units					
Heritage	Three floor buildings with single floor units.	54	92	18	164
Avalon Bay	Two floor buildings with single floor apartment units and side by side townhouses with single floor units.	52	87		139
Patriot Place	Two floor building with single floor units.	10			10
Total No. Rental Units		116	179	18	313
Condo Units					
Village at Bedford	Three floor buildings with single floor units.	5	25		30
Stephen Lane	One floor building with single floor and multi floor units.	8			8
Total No. Condo Units		13	25	0	38
Total Units		129	204	18	351

Summary of Findings

- The two condominium developments had a positive fiscal impact on the Town of Bedford, while only one of the three rental developments (Patriots Place) had a positive impact on the town.
- Rental developments generally generated the most number of children, except for Patriots Place which didn't add any school age children to Bedford's school system. Half of the condominiums generated school age children, but at an extremely low level of three students from Village at Bedford Woods.

- Village at Bedford Woods, a condominium development with three school age children in residence contributed the most revenue among the five developments – approximately two and half times greater than Stephen Lane, the second largest positive impact development which has no school age children in residence. The Village at Bedford Woods generated \$92,555 in excess revenues followed by Stephen Lane and Patriot’s Place which contributed \$33,819 and \$3,345 to the town. Heritage had the greatest negative fiscal impact cost to the town totaling \$78,134 and Avalon Bay had a negative fiscal impact cost to the town of \$54,749.

- The number of bedroom units per development and total number of units per development are also factors in reducing consumption of municipal services. Total condominium units comprised 14% of the total number of units from all five developments, and the condominium units didn’t build any three bedroom units. Heritage constructed the largest number of total units and three bedroom units and had the largest negative fiscal impact,

The primary reason for negative fiscal impacts in rental developments and positive fiscal impacts in condominiums are the differences in education costs. Education costs in this fiscal analysis consist of the number of school age students enrolled in K-12 Bedford Public School system from each development multiplied by both fixed and variable costs to educate these children. These fixed costs consist of services and supplies also referred to as “consumables” or the non-instructional costs of supplies, equipment and technology consumed by in-district students participating in daily classroom instruction. Variable costs include special needs and bus route expenditures. The location of a development plays a significant role in impacting bus transportation costs. For example, Heritage required adding an entirely new bus at a cost of \$54,593, while Village at Bedford Woods only added a bus route at a cost of \$4,186. As for special needs costs, Heritage and Avalon Bay costs ranged from \$163,000 - \$177,000, while the other developments didn’t have any special needs cost.

Table. Education Costs

40B Development	Total No. of In-District Students	Total No. of All Students	Service and Supply Costs	Special Needs Costs	Bus Route Costs	Total Education Cost	Education Cost Per Pupil (6)	Education Cost Per Unit
Rental Units								
Heritage	31	36	\$30,225	\$163,840	\$54,593	\$248,658	\$6,907	\$1,516
Avalon Bay	19	26	\$18,525	\$177,248	\$0	\$195,773	\$7,530	\$1,408
Patriot Place	0	0	\$0	\$0	\$0	\$0	\$0	\$0
Condo Units								
Village at Bedford Woods	3	3	\$2,925	\$0	\$4,186	\$7,111	\$2,370	\$237
Stephen Lane	0	0	\$0	\$0	\$0	\$0	\$0	\$0
Total	53	65	\$51,675	\$341,088	\$58,779	\$451,542	\$16,807	\$3,162

Thus, the lower the number of school age children and variable education costs, the greater the potential for a positive fiscal impact. In this analysis, Patriot Place (apartment) and Stephen Lane (condominium) didn't generate any school age children, thus the positive impact. Yet, interestingly enough, their positive impact was significantly less than the Village at Bedford Woods.

The reason for the positive fiscal impact from Village at Bedford Woods was the larger number of residents and units which contributes more revenue to the town in property and excise taxes than Stephen Lane and Patriot Place.

Another reason for negative fiscal impacts in rental developments is that there are a higher number of residents per unit in rental developments which results in higher average residential municipal service costs not related to education. The exception to this is the Patriot Place rental development which only has one resident per unit.

Table. Average Residential Municipal Cost Per Unit

40B Development	Average Municipal Service Cost Per Bedford Resident	Total No. Residents	General Municipal Service Cost of Development	Total No. Units	Municipal Cost Per Unit (Municipal Cost/Unit)	Residents Per Unit
Rental Units						
Heritage	722	261	\$188,481	164	\$1,149	1.59
Avalon Bay	722	201	\$145,152	139	\$,1044	1.45
Patriot Place	722	10	\$7,222	10	\$722	1.00
Condo Units						
Village at Bedford	722	41	\$29,608	30	\$987	1.37
Stephen Lane	722	8	\$5,777	7	\$825	1.14

Attached is a sheet showing detailed information on the general municipal service and education costs as well as revenue streams and cost to revenue calculations on each of the five developments studied.

Summary of Key Findings: Cost to Revenue Ratio - Page 1

	MUNICIPAL SERVICE COSTS								
40B Development	2009 Bedford Population (1)	Municipal Operating Budget Impacted by Development (2)	Average Municipal Service Cost Per Bedford Resident (3)	Total No. Residents (4)	General Municipal Service Cost of Development (5)	Total No. Units (6)	Municipal Cost Per Unit (Municipal Cost/Unit) (7)	Residents Per Unit	Students Per Unit
RENTAL	RENTAL	RENTAL	RENTAL	RENTAL	RENTAL	RENTAL	RENTAL	RENTAL	RENTAL
Heritage	13,503	9,751,209	722	261	188,481	164	1,149	1.59	0.22
Avalon Bay	13,503	9,751,209	722	201	145,152	139	1,044	1.45	0.19
Patriot Place	13,503	9,751,209	722	10	7,222	10	722	1.00	0.00
CONDO	CONDO	CONDO	CONDO	CONDO	CONDO	CONDO	CONDO	CONDO	CONDO
Village at Bedford	13,503	9,751,209	722	41	29,608	30	987	1.37	0.10
Stephen Lane	13,503	9,751,209	722	8	5,777	7	825	1.14	0.00

(1) Doreen Tremblay, Bedford Town Clerk reported Bedford Town population in June 16, 2009 memo to Planning Department.

(2) The Municipal Operating Budget is calculated in the "2009 Appropriated Non-Education Costs Calculation" spreadsheet.

(3) The Average Municipal Service Cost/Bedford Resident is calculated by dividing the municipal operating budget by the 2009 Bedford Population.

(4) The Total Number of Residents Per Development was derived by 2009 Census and Excise Tax Reports from the Town of Bedford and White Page Telephone Listing. This also includes the total number of school age children.

(5) The General Municipal Service Cost of Development was calculated by multiplying the Average Municipal Service Cost/Bedford Resident and the Total No. Residents.

(6) See Table: Comparison of SAC Multiplier and Generation at 40B Condos

(7) Non Education Cost/Unit is calculated by multiplying The General Municipal Service Cost of Development by the Total No. Units Per Development.

Summary of Key Findings: Cost to Revenue Ratio - Page 2

40B Development	EDUCATION COSTS				SERVICE COSTS		COST/REVENUE ANALYSIS			
	# Total Students Enrolled 2008-2009 School Year	Total Education Costs (8)	Education Cost Per Unit	Education Cost Per Pupil	Service Cost Per Unit (Education/Unit plus Municipal/Unit)	Total Annual Service Cost (Total General Municipal Costs plus Total Education Costs)	Total Revenues (9)	Cost to Revenue Ratio	Net Positive or Negative	Fiscal Impact
RENTAL	RENTAL	RENTAL	RENTAL	RENTAL	RENTAL	RENTAL	RENTAL	RENTAL	RENTAL	RENTAL
Heritage	36	248,658	1,516	6,907	2,665	437,139	359,005	1.22	(78,134)	Negative
Avalon Bay	26	195,773	1,408	7,530	2,453	340,925	286,177	1.19	(54,749)	Negative
Patriot Place	0	0	-	0	722	7,222	10,567	0.68	3,345	Positive
CONDO	CONDO	CONDO	CONDO	CONDO	CONDO	CONDO	CONDO	CONDO	CONDO	CONDO
Village at Bedford	3	7,111	237	2,370	1,224	36,719	129,274	0.28	92,555	Positive
Stephen Lane	0	0	-	-	825	5,777	39,596	0.15	33,819	Positive

(8) Total School Costs are derived from actual direct school costs (unaudited) from 2008-2009 School Year Budget from the Bedford.

(9) Revenues are derived from total 2009 real estate tax collections and excise tax collections and billing reported by the Town Collection Department. See Table: 2009 Revenues Per Development.

**Fiscal Impact Analysis
Village at Bedford Woods 2009**

Bedford Planning Department

Prepared by Alicia Cleary

November 2009

1.0 Overview

The following analysis identifies the 2009 actual fiscal implications of a 30 unit Chapter 40B rental apartment complex with a 27% affordable housing component comprised of 5 one and 25 two bedrooms located on Albion Road in Bedford, Massachusetts. Only 30 units were constructed out of the 88 planned, but the number of affordability increased by 2% to 27% actually built.

Table 1.0 Project Mix

Only 30 out of the 88 planned units were constructed to date.

Bedrooms	Project Mix	2005 Planned Number of Units	% of Total	2009 Actual Number of Units Built	% of Total
1 Bedroom	Market			2	7%
1 Bedroom	Affordable	9	10%	3	10%
2 Bedrooms	Market			20	67%
2 Bedrooms	Affordable	13	15%	5	17%
Total Number of Affordable		22	25%	8	27%
Total Number of Units		88		30	

Source: Comprehensive Permits, Occupancy Permits and 2009 Property Records from the Assessor's database.

Summary of Findings

- The development's actual cost to revenue ratio in 2009 of 0.28 was positive. This generated a net positive fiscal impact of approximately \$92,554 in the FY2009.
- The development \$129,274 in revenues from both property and excise taxes in the FY2009.

- The development added 3 school age children in the 2008-2009 school year – which is consistent with the 2.75 students that would have been projected using Connery’s methodology. The 3 school age children from Village at Bedford enrolled in Bedford’s school system were distributed throughout the elementary and high school grades without clustering in any single grade, thus no additional instructional teachers were added.

Summary of Methodology

My approach to determining the actual fiscal impact for this residential development follows a similar methodology to what John Connery employs in his fiscal impact analysis of Heritage residential development at Bedford Springs 2005. In this fiscal analysis, Connery divides municipal service cost into two broad categories which consist of school costs and general service school costs (a.k.a. non-school costs).

Bedford’s FY2009 Appropriated Operating Budget data (source: 2009 Annual Town Meeting Warrant Report Bedford, Massachusetts) has been used in the preparation of the non education costs with additional data from the Department of Public Works actual expenditures. We examined each cost category and selected items that we believed would add an incremental cost. After determining the per capita costs for the impacted departments, this was applied to the actual residential population of the development to generate total general service costs.

We examined the revenue stream produced from this development which includes FY2009 residential and excise tax data employed by Bedford’s Assessor’s and Finance Department’s. By relating the total costs to total revenue generates a net fiscal profile of the development.

2.0 Municipal Expenditure for Residential Uses

We followed Connery’s method for estimating the fiscal impact associated with Heritage unit mix by dividing municipal expenditures into two broad categories: one, school expenditures by which is meant the incremental cost of adding new school age children to the public school system and, two non-school costs which represent all other forms of municipal service costs.

3.1 School Enrollment and Education Costs

This analysis first analyzes the school age multiplier for determining the number of school age children that would have been generated in FY2005 based on John Connery’s 2005 estimates of SAC from 3 other developments and compares it to the actual 2009 number of SAC generated.

3.1.a. Background of Estimating School Enrollment

Connery projected the number of school age children generated from three proposed 40B developments which include: Heritage (a.k.a. Thompson Farms), Criterion and Hartwell Farms in 2005. In each report, Connery states that although school costs can vary from community to community, the probability that multi-family developments will attract and house families with school age children is influenced by several factors:

- The number and percentage of dwelling units sized for family households

- The reputation of a community’s public schools
- Scale, density and location
- Composition, age and character of existing housing stock
- Units for low and moderate income households
- Underlying growth rate of the community
- Build-out rates

Location plays a significant role in reducing bus transportation costs associated with deriving school based costs for this analysis. If a development is located in-town, there is a high probability that an existing school bus can absorb more children from a development without adding another bus.

To estimate the number of school aged children, Connery uses annual average multipliers over a ten year period by housing unit type and number of bedrooms. He uses this methodology versus a per capita multiplier after testing the reliability of per capita multipliers in estimating fiscal impacts of 40B developments in the case study of Bedford and 40 other similar communities in the report titled “Housing the Commonwealth’s School-Age Children” (co-authored with the Citizens Housing and Planning Association , August 2003). He constructed forecasts under FY 1990 using per capita multipliers and compared them to FY 2000 actual outcomes. The report concludes that for most communities, per capita multipliers produce a distorted (overestimates) fiscal impact forecast and should not be relied upon to estimate the cost or revenues associated with housing development. The findings concluded that building type as well as number of bedrooms play a significant role in student generation rates.

Housing and Children, School Enrollment

The five developments analyzed range in size from 10 to 164 apartments and 7 to 30 condominiums for a total of 313 rentals and 37 condos. Our analysis identified 62 students from these rental and 3 students from the condo developments, for an average of .20 children/apartment and .08 children/condo unit. Together these children constituted 3% of the town’s total K-12 school age population for the 2008-2009 school year. As far as the student K-12 school enrollment, SAC population changed by 5.5% from 2,325 students in 2004-2005 to 2,452 students in 2008-2009 school year.

Multiplier Findings from Bedford Planning Department’s Analysis

Connery used two sets of multipliers per number (one to three) and type (affordable and market rate) bedrooms to project the total number of school age children – one set for rental and another for condo developments. To test the accuracy of Connery’s 2005 multiplier for estimating school age children, we multiplied Connery’s 2005 condo multiplier of .11 to the actual 2009 number of units built to estimate 2009 number of school age children generated at Village at Bedford Woods. This resulted in 3.30 students. The actual number of students generated totaled 3 which results in an actual multiplier of .10 students per unit.

Table 2. Analysis of 2009 Actual Condo Based School Age Children Multiplier

Village at Bedford Woods Condo	2009 Actual Number of Units ¹	Projected Using Connery's 2005 Multiplier		2009 Actual Total Students	2009 Actual Multiplier
		Students Per Unit ²	Total Students		
Apartment Type					
1 Bedroom Market	2	0.00	0.00		
1 Bedroom Affordable	3	0.00	0.00		
2 Bedroom Market	20	0.10	2.00		
2 Bedroom Affordable	5	0.15	0.75		
Average SAC/unit	30	0.09	2.75	3	0.10

¹ The number of bedrooms and units are reported from the Comprehensive Permit;

² Students Per Unit (a.k.a. Multiplier) is reported from John Connery's Fiscal Analysis of Heritage, Criterion and Hartwell Farms.

We performed the same calculation above to determine the 2009 actual multiplier per for all 2 condo developments (Stephen Lane and Village at Bedford Woods) which ranged from 0.0 – 0.10. The condo development at the Village at Bedford Woods (30 units) and The Stephen Lane House (7 units) have on average generation of .08 school age children per unit. The village at Bedford Woods provides the largest sample size of 30 units and, therefore provides a better indicator of outcomes generated with .10 school age children per unit (See Appendix). With only 37, the sample size of these developments may be too small to use as a predictor. A better option may be to use a multiplier for condos such as the .19 school age students per unit used by Connery in his 2009 update of the fiscal impact analysis for Hartwell Farms.

3.1.b. Education Costs

To determine the additional education costs directly associated with the actual number of new students at the development, Connery employed a formula below in Table 4. David Coelho, School Finance Director of the Bedford School Finance Department provided actual school costs from both FY2008 (and grew them by 4.4% annual inflation rate) FY2009 actual expenditures for students from Village at Bedford Woods. David determined that an increase in students from Village at Bedford Woods did not trigger an increase in teacher staff for the traditional classroom setting, or for special education care. This is because, Village at Bedford Woods's school age children didn't form a critical mass in any single grade – they were distributed among many grades. Yet, the critical mass of students in total from Village at Bedford Woods did require adding an additional bus route at the cost of \$4,186. The cost of service and supplies was derived from the Department of Education audited 2009 report on school expenditure items: 1) instructional materials and equipment and 2) pupil services.

Coelho provided the total actual incremental costs associated with out-of-district special education costs which are included below. In 2009, the total incremental education costs from the Village at Bedford Woods development using this formula amounts to \$7,111 and the education cost per student is \$2,370.

Table 3. 2009 Incremental Educational Costs

Total No. of In-District Students(1)	Total No. of All Students (2)	Service and Supply Costs (3)	Special Needs Costs (4)	Bus Route Costs (5)	Total Education Cost	Education Cost Per Pupil (6)	Education Cost Per Unit
3	3	\$2,925	\$0	\$4,186	\$7,111	\$2,370	\$237

(1) Total number of students participating in traditional classroom school instruction for the 2008- 2009 school year in-district (excludes out-of-district SPED students).

(2) Total number of students enrolled for the 2008-2009 school year (includes in-district and out-of-district SPED students).

(3) The services and supplies cost of \$975 per student also referred to as "consumables" or the non instructional costs (supplies, equipment and technology) consumed by the in-district students participating in daily classroom instruction (i.e. excludes out of district Special Education students who attend programs full-time outside of the school) are calculated by multiplying this by the total number of in-district students enrolled during the 2008-2009 school year.

(4) The special needs cost refer to the total out-of-district special education costs incurred by students attending full-time special education programs outside of the school.

(5) Assumes the cost of additional bus route as a result of the additional students from the development.

(6) The Total Incremental Education Cost Per Pupil is derived by dividing the total incremental education cost by the total number of students enrolled during the 2008-2009 student year.

4. Total Service Costs

We examined each non education cost category of the 2009 Appropriated Town Budget and made determinations where an incremental and marginal cost was undertaken and selected items that as a result of the residential population of the development would add an incremental cost. We used the per capita method to assign costs. The total residential population of the development is 41 people.

In calculating the general service costs, we followed Connery's methodology of not assigning full service costs to the public works budget because the internal roadways of the development will be privately maintained, plowed, and lighted and trash collection will also be private service. In addition, the residential community pays water and sewer fees on a usage basis.

Connery identifies that the budgets that will be impacted by the developments include elections, police, fire, code, enforcement, public works, council on aging, youth and family services, recreation, board of health, public library, mosquito control, local transit and the financial committees. We assumed the full budgets of the departments noted above and \$1,434,079 of the public works budget.

We met with Adrienne St. John from DPW to review actual DPW costs impacted by the development. Based on her feedback, we decreased the equipment/materials budget item of the public works budget from the warrant's reporting of \$760,681 to report the actual costs identified by Adrienne totaling \$459,261. These adjustments reflect a total FY2009 base non school operating cost of \$9,751,209. Therefore, using the total population of 13,503 reported in the 2009 Bedford Town Warrant and \$9,751,209 as the value of impacted municipal operating budgets, the average municipal service cost for the above noted impacted departments is \$722 per person. Therefore, the 41 residents generate a general municipal service cost of \$29,608 or \$987 per unit. (See Table 4. below) After determining the per capita costs for the impacted departments, this was applied to the actual residential population of the development to generate total general service costs. So in combining the school costs of \$7,111 and non-school costs \$29,608, the total annual service cost is \$36,720. (See Table 5. below).

Table 4. 2009 Actual Municipal Costs

	2009 Bedford Population (1)	Municipal Operating Budget Impacted by Development (2)	Average Municipal Service Cost Per Bedford Resident (3)	Total No. Residents (4)	General Municipal Service Cost of Development (5)	Total No. Units (6)	Municipal Cost Per Unit (Municipal Cost/Unit) (7)
2009 Actual	13,503	\$9,751,209	\$722	41	\$29,608	30	\$987

(1) Doreen Tremblay, Bedford Town Clerk reported Bedford Town population in June 16, 2009 memo to Planning Department.

(2) The Municipal Operating Budget is calculated in the "2009 Appropriated Non-Education Costs Calculation" spread sheet.

(3) The Average Municipal Service Cost/Bedford Resident is calculated by dividing the municipal operating budget by the 2009 Bedford Population.

(4) The Total Number of Residents Per Development was derived by 2009 Census and Excise Tax Reports from the Town of Bedford and White Page Telephone Listing. This also includes the total number of school age children.

(5) The General Municipal Service Cost of Development was calculated by multiplying the Average Municipal Service Cost/Bedford Resident and the Total No. Residents.

(6) See Table: Comparison of SAC Multiplier and Generation at 40B Condos

(7) Non Education Cost/Unit is calculated by multiplying The General Municipal Service Cost of Development by the Total No. Units Per Development.

Table 5. 2009 Actual Service Costs

	No. of Units	Education Cost Per Unit	Municipal Cost Per Unit	Total Service Cost Per Unit ¹	Total Annual Service Cost ²
2009 Actual	30	\$237	\$987	\$1,224	\$36,720

¹Total Service Cost per Unit is calculated by adding the Education Cost per Unit plus the Municipal Cost Per Unit.

² Total Annual Service Cost is calculated by multiplying Municipal Cost per Unit by the total number of units.

5.0 Revenue Sources and Cost to Revenue Ratio

The condo development generates both property taxes as well as excise taxes. According to the town’s property tax collections for FY2009 tax rate, the property yields approximately \$124,142 per year. On site cars generate annual excise taxes of approximately \$5,132 per the 2009 year. Therefore, the development will have an annual revenue stream of \$129,274.

Table 6. 2009 Actual Revenues

	Excise Tax	Property Tax	Total Revenues
2009 Actual	\$5,132	\$124,142	\$129,274

Source: 2009 Excise and Property Taxes were derived from 2009 excise and property billings from the Town Collections database.

Given the annual service cost of \$36,720 and revenue of \$129,274 the estimated cost to revenue ratio is 0.28; meaning that for every revenue dollar received it will cost Bedford \$0.28 to service the project. This creates an annual net positive fiscal gain of \$92,554.

Table 7. 2009 Actual Service Cost To Revenue Ratio

	Annual Service Cost (Service Cost/Unit Total Units) ¹	Total Revenues	Cost to Revenue Ratio ²	Net Positive/Negative (Dollars)	Fiscal Impact
2009 Actual	\$36,720	\$129,274	0.28	\$92,554	Positive

¹ Total Annual Service Cost is calculated by multiplying Municipal Cost per Unit by the total number of units.

² Cost to Revenue Ratio is derived from dividing the Total Annual Service Cost by Total Revenues.

7.1 Factors that Made the Difference

The table below provides factors that contributed to the positive cost to revenue ratio in 2009.

Table 8. 2009 Factors Impacting Fiscal Analysis

	2009 Actual
Number of Units	30
Number of Residents	41
Bedford Population	13,503
number of School Age Children	3
Education Cost Per Unit	\$237
Municipal Cost Per Unit	\$987
Total Service Cost Per Unit	\$1,224

Appendix A:

We reviewed with John Connery and Adrienne St. John from DPW the source of the base municipal operating budget – items from the Public Works budget appropriated by the 2009 Annual Town Meeting Warrant Report and actual FY2009 DPW expenditures - to identify all of the incremental costs incurred by residents generated by the developments. We assigned full service costs to the public works budget because the internal roadways of the development will be privately maintained, plowed, and lighted and trash collection will also be private service. In addition, the residential community pays water and sewer fees on a usage basis.

Connery identifies that the budgets that will be impacted by the developments include elections, police, fire, code, enforcement, public works, council on aging, youth and family services, recreation, board of health, public library, mosquito control, local transit and the financial committees. We assumed the full budgets of the departments noted below and adjusted the Public Works budgets item from \$2,211,408 to \$1,434,079 by eliminating Salaries, Snow Removal Overtime and Materials, MWRA, Water Purchase and Energy/Utilities budget items because the new roads are privately maintained and the residents pay for water consumed. We also added two more items and made an adjustment to an existing item. The rationale for adjusting the Public Works budget items is that we did not think that the additional residents from the developments would require hiring additional DPW employees, thus we eliminated DPW salaries item. Lastly, the additional residents would not require DPW to expand its buildings because of more residents, thus additional energy is not demanded from additional residents. Thus, the remaining Public Works budget items were Refuse/Recycling and Capital Outlay which would require the town to service or

be consumed by additional residents. The budget items we added were Hazardous Waste and Legal Services which totaled \$152,500.

We also decreased the Equipment/Materials budget from \$760,681 to \$459,261 to only include cost of supplies for Athletic Fields, Maintenance for Sidewalk Repair and Fuel Supplies. We felt that only these items would require additional supplies from additional use from new residents.

These adjustments and additions reflect a total FY2009 base municipal operating cost of \$ 9,751,209. John Connery agreed with most of our recommended adjustments and additions.

Tables below illustrate how we arrived at these calculations.

FY2009 Municipal Budget Items Adopted at Annual Town Meeting (Adjusted)	
Board of Health	485,908
Code Enforcement	383,578
Council on Aging	160,319
Elections & Registrations	45,342
Financial Committees	520,412
Fire Department	2,125,712
Local Transit	51,148
Mosquito Control	32,673
Police Department	2,903,095
Public Library	1,080,504
Recreation	113,293
Youth and Family Services	212,038
<u>Added</u>	
Hazardous Waste	15,683
Legal Services	187,425
<u>Adjusted</u>	
Public Works	1,434,079
Total	9,751,209

Public Works Budget Items Adjusted	
Salaries	2,262,850
Snow Removal Overtime	70,500
Snow Removal Materials	199,230
MWRA	2,983,346
Water Purchase	1,168,020
Refuse/Recycling	967,773
Equipment/Materials	459,261
Capital Outlay for Grounds	7,045
Total	1,434,079

DPW Equipment and Materials 2009 Budget Adjusted in Meeting 4/17	
Total Supplies Athletic fields	125,349
Maintain Sidewalk Repair	4,361
Total Fuel Supplies	329,551
Total	459,261

**Comparative Fiscal Impact Analysis
of Heritage at Bedford Springs**

Bedford Planning Department

Prepared by Alicia Cleary

November 2009

1.0 Overview

The following analysis identifies the 2009 actual fiscal implications of a 164 unit Chapter 40B rental apartment complex with a 20% affordable housing component comprised of 54 one, 92 two and 18 three bedrooms located on Thompson Farm Road in Bedford, Massachusetts. The 2009 actual fiscal implications are compared to John Connery's 2005 proposed fiscal analysis of this residential development.

1.1 Summary of Methodology

My approach to determining the actual fiscal impact for this residential development follows a similar methodology to what John Connery employs in his fiscal impact analysis of Heritage residential development at Bedford Springs. In this fiscal analysis, Connery divides municipal service cost into two broad categories which consist of school costs and general service school costs (a.k.a. non-school costs).

Bedford's FY2009 Appropriated Operating Budget data (source: 2009 Annual Town Meeting Warrant Report Bedford, Massachusetts) has been used in the preparation of the non education costs with additional data from the Department of Public Works actual expenditures as of April 2009. We examined each cost category and selected items that we believed would add an incremental cost. After determining the per capita costs for the impacted departments, this was applied to the actual residential population of the development to generate total general service costs.

We examined the revenue stream produced from this development which includes FY2009 residential and excise tax data employed by Bedford's Assessor's and Finance Department's. By relating the total costs to total revenue generates a net fiscal profile of the development.

Table 1.0 Project Mix

Bedrooms	Project Mix	2005 Projected Number of Units	% of Total	2009 Actual Number of Units	% of Total
1 Bedroom	Market	43	25%	43	26%
1 Bedroom	Affordable	11	6%	11	7%
2 Bedrooms	Market	80	47%	74	11%
2 Bedrooms	Affordable	21	12%	18	11%
3 Bedrooms	Market	14	8%	14	9%
3 Bedrooms	Affordable	3	2%	4	2%
Total Number of Units		172		164	

Source: Comprehensive Permits, Occupancy Permits and 2009 Property Records from the Assessor's database.

Summary of Findings

- The development's actual cost to revenue ratio in 2009 of 1.22 was similar to Connery's 2005 estimated cost to revenue ratio of 1.14. This generated a net negative fiscal impact of approximately \$78,134 in the FY2009.
- The development added \$26,359,600 in assessed real estate value with a total of \$359,005 in revenues from both property and excise taxes in the FY2009.
- The development added 36 school age children in the 2008-2009 school year - 7 more students than the 29 children Connery estimated in 2005. The 36 school age children from Heritage enrolled in Bedford's school system were distributed throughout the elementary and high school grades without clustering in any single grade, thus no additional instructional teachers were added.
- The municipal cost per unit increased the most between 2005 to 2009 by 40% - the largest among the cost factors that contributed to a higher cost to revenue ratio in 2009.

2.0 Municipal Expenditure for Residential Uses

We followed Connery's method for estimating the fiscal impact associated with Heritage's unit mix by dividing municipal expenditures into two broad categories: one, school expenditures by which is meant the incremental cost of adding new school age children to the public school system and, two non-school costs which represent all other forms of municipal service costs.

3.1 School Enrollment and Education Costs

This analysis first examines the number of school age children John Connery estimated the development would generate in FY2005 and compares it to the actual number of school age children generated in 2009.

3.1.a. Background of Estimating School Enrollment

Connery projected the number of school age children generated from three proposed 40B developments which include: Heritage at Bedford Springs (a.k.a. Thompson Farms), Criterion and Hartwell Farms in 2005. In each report, Connery states that although school costs can vary from community to community, the probability that multi-family developments will attract and house families with school age children is influenced by several factors:

- The number and percentage of dwelling units sized for family households
- The reputation of a community's public schools
- Scale, density and location
- Composition, age and character of existing housing stock
- Units for low and moderate income households
- Underlying growth rate of the community
- Build-out rates

Location plays a significant role in reducing bus transportation costs associated with deriving school based costs for this analysis. If a development is located in-town, there is a high probability that an existing school bus can absorb more children from a development without adding another bus.

To estimate the number of school aged children, Connery uses annual average multipliers over a ten year period by housing unit type and number of bedrooms. He uses this methodology versus a per capita multiplier after testing the reliability of per capita multipliers in estimating fiscal impacts of 40B developments in the case study of Bedford and 40 other similar communities in the report titled "Housing the Commonwealth's School-Age Children" (co-authored with the Citizens Housing and Planning Association, August 2003). He constructed forecasts under FY 1990 using per capita multipliers and compared them to FY 2000 actual outcomes. The report concludes that for most communities, per capita multipliers produce a distorted (overestimates) fiscal impact forecast and should not be relied upon to estimate the cost or revenues associated with housing development. The findings concluded that building type as well as number of bedrooms play a significant role in student generation rates.

Housing and Children, School Enrollment

The five developments analyzed range in size from 10 to 164 apartments and 7 to 30 condominiums for a total of 313 rentals and 37 condos. Our analysis identified 62 students from these rental and 3 students from the condo developments, for an average of .20 children/apartment and .08 children/condo unit. Together these children constituted 3% of the town's total K-12 school age population for the 2008-2009 school year. As far as the student K-12 school enrollment, SAC population

changed by 5.5% from 2,325 students in 2004-2005 to 2,452 students in 2008-2009 school year.

Multiplier Findings from Bedford Planning Department’s Analysis

Connery used two sets of multipliers per number (one to three bedrooms) and type (affordable and market rate) bedrooms to project the total number of school age children – one set for rental and another for condo developments. To test the accuracy of Connery’s multiplier for estimating school age children generated at Heritage, we multiplied Connery’s 2005 total condo multiplier of .17 to the actual 2009 number of units built to estimate 2009 number of school age children generated at heritage. This resulted in 28.44 projected students. The actual number of students generated totaled 36 which results in an actual multiplier of .22 students per unit. Total actual 2009 multiplier per rental unit for the 3 rental developments (Heritage, Avalon and Patriot Place) ranged from 0.00 – 0.22.

Table 3. Analysis of Connery’s 2005 Rental School Age Children Multiplier to 2009 Actual School Age Children Rental Multiplier

Heritage Garden Apartment Rental	2005 Estimated			2009 Actual No. of Units	2009 Projected Using Connery's 2005 Rental Multiplier Per No. and Type Bedroom		2009 Actual No. of Students	2009 Actual Multiplier
	Apartment Type ¹	No. of Units	Students Per Unit ²		Total Students	Multiplier		
	A	B	A*B=					
1 Bedroom Market	43	0.00	0.00	43	0.00	0.00		
1 Bedroom Affordable	11	0.02	0.22	11	0.02	0.22		
2 Bedroom Market	80	0.13	10.4	74	0.13	9.62		
2 Bedroom Affordable	21	0.40	7.20	18	0.40	7.20		
3 Bedroom Market	14	0.50	7.00	14	0.50	7.00		
3 Bedroom Affordable	3	1.10	4.40	4	1.10	4.40		
Average SAC/unit	172	0.17	29.32	164	0.17	28.44	36	0.22

¹ The number of bedrooms and units are reported from the Comprehensive Permit;

² Students Per Unit/Multiplier is reported from John Connery’s Fiscal Analysis of Heritage, Criterion and Hartwell Farms.

We performed the same calculation above to determine the 2009 actual multiplier per condo unit for 2 condo developments (Village at Bedford Woods and Stephen Lane House) which ranged from 0.0 – 0.10. The condo development at the Village at Bedford Woods (30 units), and The Stephen Lane House (7 units) have on average generated .08 school age children per unit. The village at Bedford Woods provides the largest sample size of 30 units and, therefore provides a better indicator of outcomes generated with .10 school age children per unit (See Appendix). With only 37, the sample size of these developments may be too small to use as a predictor. A better option may be to use a multiplier for condos, such as the .19 school age students per

unit used by Connery in his 2009 update of the fiscal impact analysis for Hartwell Farms.

3.1.b. Education Costs

To determine the additional education costs directly associated with the actual number of new students at the development, Connery employed a formula below in Table 4. David Coelho, School Finance Director of the Bedford School Finance Department provided actual school costs from both FY2008 (and grew them by 4.4% annual inflation rate) FY2009 actual expenditures for students from Heritage. David determined that an increase in students from Heritage did not trigger an increase in teacher staff for the traditional classroom setting, or for special education care. This is because, Heritage’s school age children didn’t form a critical mass in any single grade – they were distributed among many grades. Yet, the critical mass of students in total from Heritage did require adding a bus route at the cost of \$54,593. The cost of service and supplies was derived from the Department of Education audited 2009 report on school expenditure items: 1) instructional materials and equipment and 2) pupil services. Coelho provided the total actual incremental costs associated with out-of-district special education costs which are included below. In 2009, the total incremental education costs from the Heritage development using this formula amounts to \$248,658 and the education cost per student is \$6,907.

It is critical to note that Connery’s 2005 educational incremental estimates excluded out of district special education costs, which can skew overall education cost increases at the development level. This may have been excluded because of the wide variance in costs, but its total cost per development has been included in the incremental cost method in this analysis.

Table 4. 2009 Incremental Educational Costs

Total No. of In-District Students(1)	Total No. of All Students (2)	Service and Supply Costs (3)	Special Needs Costs (4)	Bus Route Costs (5)	Total Education Cost	Education Cost Per Pupil (6)	Education Cost Per Unit
31	36	\$30,225	\$163,840	\$54,593	\$248,658	\$6,907	\$1,516

- (1) Total number of students participating in traditional classroom school instruction for the 2008- 2009 school year in-district (excludes out-of-district SPED students).
- (2) Total number of students enrolled for the 2008-2009 school year (includes in-district and out-of-district SPED students).
- (3) The services and supplies cost of \$975 per student also referred to as "consumables" or the non instructional costs (supplies, equipment and technology) consumed by the in-district students participating in daily classroom instruction (i.e. excludes out of district Special Education students who attend programs full-time outside of the school) are calculated by multiplying this by the total number of in-district students enrolled during the 2008-2009 school year.
- (4) The special needs cost refer to the total out-of-district special education costs incurred by students attending full-time special education programs outside of the school.

(5) Assumes the cost of additional bus route as a result of the additional students from the development.

(6) The Total Incremental Education Cost Per Pupil is derived by dividing the total incremental education cost by the total number of students enrolled during the 2008-2009 student year.

4. Total Service Costs

We examined each non education cost category of the 2009 Appropriated Town Budget and made determinations where an incremental and marginal cost was undertaken and selected items that as a result of the residential population of the development would add an incremental cost. We used the per capita method to assign costs. The total residential population of the development is 261 people.

In calculating the general service costs, we followed Connery's methodology of not assigning full service costs to the public works budget because the internal roadways of the development will be privately maintained, plowed, and lighted and trash collection will also be private service. In addition, the residential community pays water and sewer fees on a usage basis.

Connery identifies that the budgets that will be impacted by the developments include elections, police, fire, code, enforcement, public works, council on aging, youth and family services, recreation, board of health, public library, mosquito control, local transit and the financial committees. We assumed the full budgets of the departments noted above and \$1,434,079 of the public works budget.

We met with Adrienne St. John from DPW to review actual DPW costs impacted by the development. Based on her feedback, we decreased the equipment/materials budget item of the public works budget from the warrant's reporting of \$760,681 to report the actual costs identified by Adrienne totaling \$459,261. These adjustments reflect a total FY2009 base non school operating cost of \$9,751,209. Therefore, using the total population of 13,503 reported in the 2009 Bedford Town Warrant and \$9,751,209 as the value of impacted municipal operating budgets, the average municipal service cost for the above noted impacted departments is \$722 per person. Therefore, the 261 residents generate a general municipal service cost of \$188,481 or \$1,149 per unit. (See Table 4. below) After determining the per capita costs for the impacted departments, this was applied to the actual residential population of the development to generate total general service costs. So in combining the school costs of \$248,658 and non-school costs \$188,481 the total annual service cost is \$437,139. (See Table 5. below).

Table 5. Comparison of 2005 Estimated vs. 2009 Actual Municipal Costs

	2009 Bedford Population (1)	Municipal Operating Budget Impacted by Development (2)	Average Municipal Service Cost Per Bedford Resident (3)	Total No. Residents (4)	General Municipal Service Cost of Development (5)	Total No. Units (6)	Municipal Cost Per Unit (Municipal Cost/Unit) (7)
2005 Estimated	12,900	\$7,701,300	\$597	250	\$149,250	172	\$868
2009 Actual	13,503	\$9,751,209	\$722	261	\$188,481	164	\$1,149

(1) Doreen Tremblay, Bedford Town Clerk reported Bedford Town population in June 16, 2009 memo to Planning Department.

(2) The Municipal Operating Budget is calculated in the "2009 Appropriated Non-Education Costs Calculation" spreadsheet.

(3) The Average Municipal Service Cost/Bedford Resident is calculated by dividing the municipal operating budget by the 2009 Bedford Population.

(4) The Total Number of Residents Per Development was derived by 2009 Census and Excise Tax Reports from the Town of Bedford and White Page Telephone Listing. This also includes the total number of school age children.

(5) The General Municipal Service Cost of Development was calculated by multiplying the Average Municipal Service Cost/Bedford Resident and the Total No. Residents.

(6) See Table: Comparison of SAC Multiplier and Generation at 40B Condos

(7) Non Education Cost/Unit is calculated by multiplying The General Municipal Service Cost of Development by the Total No. Units Per Development.

Table 6. Comparison of 2005 Estimated vs. 2009 Actual Service Costs

	No. of Units	Education Cost Per Unit	Municipal Cost Per Unit	Total Service Cost Per Unit ¹	Total Annual Service Cost ²
2005 Estimated	172	\$1086	\$868	\$1,954	\$336,088
2009 Actual	164	\$1,516	\$1,149	\$2,665	\$437,139

¹Total Service Cost per Unit is calculated by adding the Education Cost per Unit plus the Municipal Cost Per Unit.

² Total Annual Service Cost is calculated by multiplying Municipal Cost per Unit by the total number of units.

5.0 Revenue Sources and Cost to Revenue Ratio

The rental development generates both property taxes as well as excise taxes. The total assessed 2009 value is \$26,359,600 or \$160,729 per unit. According to the town's

property tax collections for FY2009 tax rate, the property yields approximately \$337,442 per year. There are 113 units registered with 178 cars on site which generates annual excise taxes of \$21,564 per the 2009 year. Therefore, the development will have an annual revenue stream of \$359,005. In Connery's 2005 analysis, his revenues of \$322,500 includes building permit, electrical and utility fees. We do not consider these items to be ongoing revenue sources, so we excluded them from this analysis which decreases his 2005 actual revenues to \$295,797.

Table 7. Comparison of 2005 Estimated vs. 2009 Actual Revenues

	Excise Tax	Property Tax	Total Revenues
2005 Estimated	\$30,272	\$265,525	\$295,797 ¹
2009 Actual	\$21,563	\$337,442	\$359,005

Source: 2009 Excise and Property Taxes were derived from 2009 excise and property billings from the Town Collections database.

¹The 2005 revenues represent only the ongoing annual revenue receipts from excise and property taxes. Connery estimated higher revenues of \$322,500 because he included one time fees consisting of construction permit and utility connection fees. The Bedford Planning Department did not include these fees because they are not ongoing annual revenues.

Given the annual service cost of \$437,139 and revenue of \$359,005 the estimated cost to revenue ratio is 1.22; meaning that for every revenue dollar received it will cost Bedford \$1.22 to service the project. This creates an annual net negative fiscal loss of \$78,134. Given the 2005 ongoing revenue stream total of \$295,797, the net fiscal loss is actually \$26,691 greater than what Connery reported which generates a 1.14 cost to revenue ratio.

¹ In Connery's 2005 Analysis of Heritage, he includes building permit, electric and plumbing fees in his reported revenue stream of \$322,500. We have not included these fees in 2005 total revenues because they are not an ongoing revenue stream for the town.

Table 8. Comparison of 2005 Estimated vs. 2009 Actual Service Cost To Revenue Ratio

	Annual Service Cost (Service Cost/Unit Total Units) ¹	Total Revenues	Cost to Revenue Ratio ²	Net Positive/Negative (Dollars)	Fiscal Impact
2005 Estimated	\$336,088	\$295,797	1.14	(40,291) ³	Negative
2009 Actual	\$437,139	\$359,005	1.22	(78,134)	Negative

¹ Total Annual Service Cost is calculated by multiplying Municipal Cost per Unit by the total number of units. Connery indicated a net fiscal loss of \$13,600 because he used higher revenues as described in footnote 1 of Table 7.

² Cost to Revenue Ratio is derived from dividing the Total Annual Service Cost by Total Revenues.

7.1 Factors that Made the Difference

The table below provides factors that contributed to the cost to revenue ratio increase from 2005 to 2009.

Table 9. 2005 Estimated vs. 2009 Actual Factors Impacting Fiscal Analysis

	2005 Estimated	2009 Actual	% Change
Number of Units	172	164	-5%
Number of Residents	250	261	4%
Bedford Population	12,900	13,503	5%
number of School Age Children	29	36	24%
Education Cost Per Unit	\$1,086	\$1,516	40%
Municipal Cost Per Unit	\$868	\$1,149	44%
Total Service Cost Per Unit	\$1,954	\$2,665	42%

Appendix A.:

We reviewed with John Connery and Adrienne St. John from DPW the source of the base municipal operating budget – items from the Public Works budget appropriated by the 2009 Annual Town Meeting Warrant Report and actual FY2009 DPW expenditures - to identify all of the incremental costs incurred by residents generated by the developments. We assigned full service costs to the public works budget because the internal roadways of the development will be privately maintained, plowed, and lighted and trash collection will also be private service. In addition, the residential community pays water and sewer fees on a usage basis.

Connery identifies that the budgets that will be impacted by the developments include elections, police, fire, code, enforcement, public works, council on aging, youth and family services, recreation, board of health, public library, mosquito control, local transit and the financial committees. We assumed the full budgets of the departments noted below and adjusted the Public Works budgets item from \$2,211,408 to \$1,434,079 by eliminating Salaries, Snow Removal Overtime and Materials, MWRA, Water Purchase and Energy/Utilities budget items because the new roads are privately maintained and the residents pay for water consumed. We also added two more items and made an adjustment to an existing item. The rationale for adjusting the Public Works budget items is that we did not think that the additional residents from the developments would require hiring additional DPW employees, thus we eliminated DPW salaries item. Lastly, the additional residents would not require DPW to expand its buildings because of more residents, thus additional energy is not demanded from additional residents. Thus, the remaining Public Works budget items were Refuse/Recycling and Capital Outlay which would require the town to service or be consumed by additional residents. The budget items we added were Hazardous Waste and Legal Services which totaled \$152,500. We also decreased the Equipment/Materials budget from \$760,681 to \$459,261 to only include cost of supplies for Athletic Fields, Maintenance for Sidewalk Repair and Fuel Supplies. We felt that only these items would require additional supplies from additional use from new residents.

These adjustments and additions reflect a total FY2009 base municipal operating cost of \$ 9,751,209. John Connery agreed with most of our recommended adjustments and additions. Tables below illustrate how we arrived at these calculations.

FY2009 Municipal Budget Items Adopted at Annual Town Meeting (Adjusted)	
Board of Health	485,908
Code Enforcement	383,578
Council on Aging	160,319
Elections & Registrations	45,342
Financial Committees	520,412
Fire Department	2,125,712
Local Transit	51,148
Mosquito Control	32,673
Police Department	2,903,095
Public Library	1,080,504
Recreation	113,293
Youth and Family Services	212,038
Added	
Hazardous Waste	15,683
Legal Services	187,425
Adjusted	
Public Works	<u>1,434,079</u>
Total	9,751,209

Public Works Budget Items Adjusted	
Salaries	2,262,850
Snow Removal Overtime	70,500
Snow Removal Materials	199,230
MWRA	2,983,346
Water Purchase	1,168,020
Refuse/Recycling	967,773
Equipment/Materials	459,261
Capital Outlay for Grounds	<u>7,045</u>
Total	1,434,079

DPW Equipment and Materials 2009 Budget Adjusted in Meeting 4/17	
Total Supplies Athletic fields	125,349
Maintain Sidewalk Repair	4,361
Total Fuel Supplies	<u>329,551</u>
Total	459,261

Appendix B: Comparison of Connery's 2005 vs. Actual 2009 Multipliers for Apartments

Heritage Rental Apartment	Projected 2005			2009 Actual Number of Units	Projected Using Connery's 2005 Multiplier		2009 Actual Students	Multiplier	2005-2009 % Change
Apartment Type	Number of Units	Students Per Unit	Total Students		Students Per Unit	Total Students			
	A	B	A*B=						
1 Bedroom Market	43	0	0	43	0	0			
1 Bedroom Affordable	11	0.02	0.22	11	0.02	0.22			
2 Bedroom Market	80	0.13	10.4	74	0.13	9.62			
2 Bedroom Affordable	21	0.4	8.4	18	0.4	7.2			
3 Bedroom Market	14	0.5	7	14	0.5	7			
3 Bedroom Affordable	3	1.1	3.3	4	1.1	4.4			
Average SAC/unit	172	0.17	29.32	164	0.17	28.44	36	0.22	27
Connery states that over a 10 year period, it should be anticipated that the actual number of students may fluctuate on annual basis of five to ten percent									

Appendix C: Total Number of Students by Type of Student at Heritage

	Total Student Enrollment	Total In-District Students	No. Regular Classroom Students (non-SPED)	No. In-District SPED Students	No. Out of District SPED Students
Heritage	36	31	17	14	5

Source: David Coelho, School Finance Director of the School Finance Department

**Fiscal Impact Analysis
Stephen Lane 2009**

Bedford Planning Department

Prepared by Alicia Cleary

November 2009

1.0 Overview

The following analysis identifies the 2009 actual fiscal implications of a 7 unit Chapter 40B condo apartment complex with 25% affordable housing component comprised of 7 units located on North Road in Bedford, Massachusetts.

Table 1.0 Project Mix

	2009 Actual Number of Units Built	% of Total
The Stephen Lane House		
2 Bedroom Market	4	57%
2 Bedroom Affordable	1	14%
3 Bedroom Market	1	14%
3 Bedroom Affordable	1	14%
Total Number of Affordable	2	29%
Total Number of Units	7	

Source: Comprehensive Permits, Occupancy Permits and 2009 Property Records from the Assessor's database.

Summary of Findings

- The development's actual cost to revenue ratio in 2009 of 0.15 was positive. This generated a net positive fiscal impact of approximately \$33,819 in the FY2009.
- The development added \$39,596 in revenues from both property and excise taxes in the FY2009.
- The development added no school age children in the 2008-2009 school year.

Summary of Methodology

My approach to determining the actual fiscal impact for this residential development follows a similar methodology to what John Connery employs in his fiscal impact analysis of Heritage residential development in 2005. In this fiscal analysis, Connery divides municipal service cost into two broad categories which consist of school costs and general service school costs (a.k.a. non-school costs).

Bedford's FY2009 Appropriated Operating Budget data (source: 2009 Annual Town Meeting Warrant Report Bedford, Massachusetts) has been used in the preparation of the non education costs with additional data from the Department of Public Works actual expenditures. We examined each cost category and selected items that we believed would add an incremental cost. After determining the per capita costs for the impacted departments, this was applied to the actual residential population of the development to generate total general service costs.

We examined the revenue stream produced from this development which includes FY2009 residential and excise tax data employed by Bedford's Assessor's and Finance Department's. By relating the total costs to total revenue generates a net fiscal profile of the development.

2.0 Municipal Expenditure for Residential Uses

We followed Connery's method for estimating the fiscal impact associated with Heritage unit mix by dividing municipal expenditures into two broad categories: one, school expenditures by which is meant the incremental cost of adding new school age children to the public school system and, two non-school costs which represent all other forms of municipal service costs.

3.1 School Enrollment and Education Costs

This analysis first analyzes the school age multiplier for determining the number of school age children that would have been generated in FY2005 based on John Connery's 2005 estimates of SAC from 3 other developments and compares it to the actual 2009 number of SAC generated.

3.1.a. Background of Estimating School Enrollment

Connery projected the number of school age children generated from three proposed 40B developments which include: Heritage at Bedford Springs (a.k.a. Thompson Farms), Criterion and Hartwell Farms in 2005. In each report, Connery states that although school costs can vary from community to community, the probability that multi-family developments will attract and house families with school age children is influenced by several factors:

- The number and percentage of dwelling units sized for family households
- The reputation of a community's public schools
- Scale, density and location
- Composition, age and character of existing housing stock
- Units for low and moderate income households
- Underlying growth rate of the community
- Build-out rates

Location plays a significant role in reducing bus transportation costs associated with deriving school based costs for this analysis. If a development is located in-town, there is a high probability that an existing school bus can absorb more children from a development without adding another bus.

To estimate the number of school aged children, Connery uses annual average multipliers over a ten year period by housing unit type and number of bedrooms. He uses this methodology versus a per capita multiplier after testing the reliability of per capita multipliers in estimating fiscal impacts of 40B developments in the case study of Bedford and 40 other similar communities in the report titled "Housing the Commonwealth's School-Age Children" (co-authored with the Citizens Housing and Planning Association, August 2003). He constructed forecasts under FY 1990 using per capita multipliers and compared them to FY 2000 actual outcomes. The report concludes that for most communities, per capita multipliers produce a distorted (overestimates) fiscal impact forecast and should not be relied upon to estimate the cost or revenues associated with housing development. The findings concluded that building type as well as number of bedrooms play a significant role in student generation rates.

Housing and Children, School Enrollment

The five developments analyzed range in size from 10 to 164 apartments and 7 to 30 condominiums for a total of 313 rentals and 37 condos. Our analysis identified 62 students from these rental and 3 students from these condo developments, for an average of .20 children/apartment and .08 children/condo unit. Together these children constituted 3% of the town's total K-12 school age population for the 2008-2009 school year. As far as the student K-12 school enrollment, SAC population changed by 5.5% from 2,325 students in 2004-2005 to 2,452 students in 2008-2009 school year.

Multiplier Findings from Bedford Planning Department's Analysis

Connery used two sets of multipliers per number (one to three) and type (affordable and market rate) bedrooms to project the total number of school age children – one set for rental and another for condo developments. To test the accuracy of Connery's 2005 multiplier for estimating school age children generated at **Stephen Lane**, we multiplied Connery's 2005 total condo multiplier of .11 to the actual 2009 number of units built to estimate 2009 number of school age children generated at **Stephen Lane**. This resulted in 1.3 projected students. The actual number of students generated totaled **0** which results in an actual multiplier of 0.00 students per unit. (see Table below)

Table 3. Analysis of 2009 Actual Condo Based School Age Children Multiplier

The Stephen Lane House	2009 Actual Number of Units	Projected Using Connery's Heritage 2005 Multiplier		2009 Actual Total Students	2009 Actual Multiplier
		Students Per Unit	Total Students		
1 Bedroom Market		0.00	0.00		
1 Bedroom Affordable		0.00	0.00		
2 Bedroom Market	4	0.10	0.40		
2 Bedroom Affordable	1	0.15	0.15		
3 Bedroom Market	1	0.30	0.30		
3 Bedroom Affordable	1	0.45	0.45		
	7	0.11	1.30	0	0.00

¹ The number of bedrooms and units are reported from the Comprehensive Permit;

² Students Per Unit (a.k.a. Multiplier) is reported from John Connery's Fiscal Analysis of Heritage, Criterion and Hartwell Farms.

We performed the same calculation above to determine the 2009 actual multiplier for all condo developments (Stephen Lane and Village at Bedford Woods) which ranged from 0.0 – 0.10. The condo development at the Village at Bedford Woods (30 units), and The Stephen Lane House (7 units) have on average generation of .08 school age children per unit. The Village at Bedford Woods provides the largest sample size of 30 units and, therefore provides a better indicator of outcomes generated with .10 school age children per unit (See Appendix). With only 37, the sample size of these developments may be too small to use as a predictor. A better option may be to use a multiplier for condos such as the .19 school age students per unit used by Connery in his 2009 update of the fiscal impact analysis for Hartwell Farms.

3.1.b. Education Costs

To determine the additional education costs directly associated with the actual number of new students at the development, Connery employed a formula below in Table 4. David Coelho, School Finance Director of the Bedford School Finance Department provided actual school costs from both FY2008 (and grew them by 4.4% annual inflation rate) and FY2009 actual expenditures. Since **Stephen Lane** did not generate any school age children, there was no cost of service and supplies or any other incremental costs associated with out-of-district special education. Thus, In 2009, there were no incremental education costs from **Stephen Lane** development. (see Table Below)

Table 4. 2009 Incremental Educational Costs

Total No. of In-District Students(1)	Total No. of All Students (2)	Service and Supply Costs (3)	Special Needs Costs (4)	Bus Route Costs (5)	Total Education Cost	Education Cost Per Pupil (6)	Education Cost Per Unit
0	0	0	\$0	\$0	\$0	\$0	\$0

(1) Total number of students participating in traditional classroom school instruction for the 2008- 2009 school year in-district (excludes out-of-district SPED students).

(2) Total number of students enrolled for the 2008-2009 school year (includes in-district and out-of-district SPED students).

(3) The services and supplies cost of \$975 per student also referred to as "consumables" or the non instructional costs (supplies, equipment and technology) consumed by the in-district students participating in daily classroom instruction (i.e. excludes out of district Special Education students who attend programs full-time outside of the school) are calculated by multiplying this by the total number of in-district students enrolled during the 2008-2009 school year.

(4) The special needs cost refer to the total out-of-district special education costs incurred by students attending full-time special education programs outside of the school.

(5) Assumes the cost of additional bus route as a result of the additional students from the development.

(6) The Total Incremental Education Cost Per Pupil is derived by dividing the total incremental education cost by the total number of students enrolled during the 2008-2009 student year.

4. Total Service Costs

We examined each non education cost category of the 2009 Appropriated Town Budget and made determinations where an incremental and marginal cost was undertaken and selected items that as a result of the residential population at the development would add an incremental cost. We used the per capita method to assign costs. The total residential population of the development is 8 people.

In calculating the general service costs, we followed Connery’s methodology of not assigning full service costs to the public works budget because the internal roadways of the development will be privately maintained, plowed, and lighted and trash collection will also be a private service. In addition, the residential community pays water and sewer fees on a usage basis.

Connery identifies that the budgets that will be impacted by the developments include elections, police, fire, code, enforcement, public works, council on aging, youth and family services, recreation, board of health, public library, mosquito control, local transit and the financial committees. We assumed the full budgets of the departments noted above and \$1,434,079 of the public works budget.

We met with Adrienne St. John from DPW to review actual DPW costs impacted by the development. Based on her feedback, we decreased the equipment/materials budget

item of the public works budget from the warrant’s reporting of \$760,681 to report the actual costs identified by Adrienne totaling \$459,261. These adjustments reflect a total FY2009 base non school operating cost of \$9,751,209. Therefore, using the total population of 13,503 reported in the 2009 Bedford Town Warrant and \$9,751,209 as the value of impacted municipal operating budgets, the average municipal service cost for the above noted impacted departments is \$722 per person. Therefore, the 8 residents generate a general municipal service cost of \$5,777 or \$825 per unit. (See Table 4. below) After determining the per capita costs for the impacted departments, this was applied to the actual residential population of the development to generate total general service costs. So in combining the school costs of \$0 and non-school costs \$5,777 the total annual service cost is \$5,777. (See Table 5. below).

Table 5. 2009 Actual Municipal Costs

	2009 Bedford Population (1)	Municipal Operating Budget Impacted by Development (2)	Average Municipal Service Cost Per Bedford Resident (3)	Total No. Residents (4)	General Municipal Service Cost of Development (5)	Total No. Units (6)	Municipal Cost Per Unit (Municipal Cost/Unit) (7)
2009 Actual	13,503	\$9,751,209	\$722	8	\$5,777	7	\$825

(1) Doreen Tremblay, Bedford Town Clerk reported Bedford Town population in June 16, 2009 memo to Planning Department.

(2) The Municipal Operating Budget is calculated in the "2009 Appropriated Non-Education Costs Calculation" spreadsheet.

(3) The Average Municipal Service Cost/Bedford Resident is calculated by dividing the municipal operating budget by the 2009 Bedford Population.

(4) The Total Number of Residents Per Development was derived by 2009 Census and Excise Tax Reports from the Town of Bedford and White Page Telephone Listing. This also includes the total number of school age children.

(5) The General Municipal Service Cost of Development was calculated by multiplying the Average Municipal Service Cost/Bedford Resident and the Total No. Residents.

(6) See Table: Comparison of SAC Multiplier and Generation at 40B Condos

(7) Non Education Cost/Unit is calculated by multiplying The General Municipal Service Cost of Development by the Total No. Units Per Development.

Table 6. 2009 Actual Service Costs

	No. of Units	Education Cost Per Unit	Municipal Cost Per Unit	Total Service Cost Per Unit ¹	Total Annual Service Cost ²
2009 Actual	7	\$0	\$825	\$825	\$5,777

¹Total Service Cost per Unit is calculated by adding the Education Cost per Unit plus the Municipal Cost Per Unit.

² Total Annual Service Cost is calculated by multiplying Municipal Cost per Unit by the total number of units.

5.0 Revenue Sources and Cost to Revenue Ratio

The **condo** development generates both property taxes as well as excise taxes. According to the town’s property tax collections for FY2009 tax rate, the property yields approximately **\$39,078** per year. On site cars generate annual excise taxes of approximately **\$518** per the 2009 year. Therefore, the development will have an annual revenue stream of **\$39,596**.

Table 7. 2009 Actual Revenues

	Excise Tax	Property Tax	Total Revenues
2009 Actual	\$518	\$39,078	\$39,596

Source: 2009 Excise and Property Taxes were derived from 2009 excise and property billings from the Town Collections database.

Given the annual service cost of **\$5,777** and revenue of **\$39,596** the estimated cost to revenue ratio is **0.15**; meaning that for every revenue dollar received it will cost Bedford **\$0.15** to service the project. This creates an annual net positive fiscal gain of **\$33,319**.

Table 8. 2009 Actual Service Cost To Revenue Ratio

	Annual Service Cost (Service Cost/Unit Total Units)	Total Revenues	Cost to Revenue Ratio ¹	Net Positive/Negative (Dollars)	Fiscal Impact
2009 Actual	\$5,777	\$39,596	0.15	\$33,819	positive

¹ Cost to Revenue Ratio is derived from dividing the Total Annual Service Cost by Total Revenues.

7.1 Factors that Made the Difference

The table below provides factors that contributed to the cost to revenue ratio in 2009.

Table 9. 2009 Actual Factors Impacting Fiscal Analysis

	2009 Actual
Number of Units	7
Number of Residents	8
Bedford Population	13,503
number of School Age Children	0
Education Cost Per Unit	\$0
Municipal Cost Per Unit	\$825
Total Service Cost Per Unit	\$825

Appendix A:

We reviewed with John Connery and Adrienne St. John from DPW the source of the base municipal operating budget – items from the Public Works budget appropriated by the 2009 Annual Town Meeting Warrant Report and actual FY2009 DPW expenditures - to identify all of the incremental costs incurred by residents generated by the developments. We assigned full service costs to the public works budget because the internal roadways of the development will be privately maintained, plowed, and lighted and trash collection will also be private service. In addition, the residential community pays water and sewer fees on a usage basis.

Connery identifies that the budgets that will be impacted by the developments include elections, police, fire, code, enforcement, public works, council on aging, youth and family services, recreation, board of health, public library, mosquito control, local transit and the financial committees. We assumed the full budgets of the departments noted below and adjusted the Public Works budgets item from \$2,211,408 to \$1,434,079 by eliminating Salaries, Snow Removal Overtime and Materials, MWRA, Water Purchase and Energy/Utilities budget items because the new roads are privately maintained and the residents pay for water consumed. We also added two more items and made an adjustment to an existing item. The rationale for adjusting the Public Works budget items is that we did not think that the additional residents from the developments would require hiring additional DPW employees, thus we eliminated DPW salaries item. Lastly, the additional residents would not require DPW to expand its buildings because of

more residents, thus additional energy is not demanded from additional residents. Thus, the remaining Public Works budget items were Refuse/Recycling and Capital Outlay which would require the town to service or be consumed by additional residents. The budget items we added were Hazardous Waste and Legal Services which totaled \$152,500. We also decreased the Equipment/Materials budget from \$760,681 to \$459,261 to only include cost of supplies for Athletic Fields, Maintenance for Sidewalk Repair and Fuel Supplies. We felt that only these items would require additional supplies from additional use from new residents.

These adjustments and additions reflect a total FY2009 base municipal operating cost of \$ 9,751,209. John Connery agreed with most of our recommended adjustments and additions. Tables below illustrate how we arrived at these calculations.

FY2009 Municipal Budget Items Adopted at Annual Town Meeting (Adjusted)	
Board of Health	485,908
Code Enforcement	383,578
Council on Aging	160,319
Elections & Registrations	45,342
Financial Committees	520,412
Fire Department	2,125,712
Local Transit	51,148
Mosquito Control	32,673
Police Department	2,903,095
Public Library	1,080,504
Recreation	113,293
Youth and Family Services	212,038
Added	
Hazardous Waste	15,683
Legal Services	187,425
Adjusted	
Public Works	<u>1,434,079</u>
Total	9,751,209

Public Works Budget Items Adjusted	
Salaries	2,262,850
Snow Removal Overtime	70,500
Snow Removal Materials	199,230
MWRA	2,983,346
Water Purchase	1,168,020
Refuse/Recycling	967,773
Equipment/Materials	459,261
Capital Outlay for Grounds	<u>7,045</u>
Total	1,434,079

DPW Equipment and Materials 2009 Budget Adjusted in Meeting 4/17	
Total Supplies Athletic fields	125,349
Maintain Sidewalk Repair	4,361
Total Fuel Supplies	<u>329,551</u>
Total	459,261

**Fiscal Impact Analysis
Avalon Bay 2009**

Bedford Planning Department

Prepared by Alicia Cleary

November 2009

1.0 Overview

The following analysis identifies the 2009 actual fiscal implications of a 139 unit Chapter 40B rental apartment complex with a 25% affordable housing component comprised of 52 one and 87 two bedrooms located on Bay Circle and Avalon Drive in Bedford, Massachusetts.

Table 1.0 Project Mix

Bedrooms	Project Mix	2005 Planned Number of Units	% of Total	2009 Actual Number of Units Built	% of Total
1 Bedroom	Market	39	28%	39	28%
1 Bedroom	Affordable	13	9%	13	9%
2 Bedrooms	Market	65	47%	65	47%
2 Bedrooms	Affordable	22	16%	22	16%
Total Number of Affordable		35	25%	35	25%
Total Number of Units		139		139	

Source: Comprehensive Permits, Occupancy Permits and 2009 Property Records from the Assessor's database.

Summary of Findings

- The development's actual cost to revenue ratio in 2009 of 1.19 was negative. This generated a negative fiscal impact of approximately \$54,749 in the FY2009.
- The development \$286,177 in revenues from both property and excise taxes in the FY2009.
- The development added 26 school age children in the 2008-2009 school year. The 26 school age children did not cluster in any one grade – they were

distributed throughout the elementary and high school grades without clustering in any single grade, thus no additional instructional teachers were added.

Summary of Methodology

My approach to determining the actual fiscal impact for this residential development follows a similar methodology to what John Connery employs in his fiscal impact analysis of Heritage residential development at Bedford Springs 2005. In this fiscal analysis, Connery divides municipal service cost into two broad categories which consist of school costs and general service school costs (a.k.a. non-school costs).

Bedford's FY2009 Appropriated Operating Budget data (source: 2009 Annual Town Meeting Warrant Report Bedford, Massachusetts) has been used in the preparation of the non education costs with additional data from the Department of Public Works actual expenditures. We examined each cost category and selected items that we believed would add an incremental cost. After determining the per capita costs for the impacted departments, this was applied to the actual residential population of the development to generate total general service costs.

We examined the revenue stream produced from this development which includes FY2009 residential and excise tax data employed by Bedford's Assessor's and Finance Department's. By relating the total costs to total revenue generates a net fiscal profile of the development.

2.0 Municipal Expenditure for Residential Uses

We followed Connery's method for estimating the fiscal impact associated with Heritage unit mix by dividing municipal expenditures into two broad categories: one, school expenditures by which is meant the incremental cost of adding new school age children to the public school system and, two non-school costs which represent all other forms of municipal service costs.

3.1 School Enrollment and Education Costs

This analysis first analyzes the school age multiplier for determining the number of school age children that would have been generated in FY2005 based on John Connery's 2005 estimates of SAC from 3 other developments and compares it to the actual 2009 number of SAC generated.

3.1.a. Background of Estimating School Enrollment

Connery projected the number of school age children generated from three proposed 40B developments which include: Heritage (a.k.a. Thompson Farms), Criterion and Hartwell Farms in 2005. In each report, Connery states that although school costs can vary from community to community, the probability that multi-family developments will attract and house families with school age children is influenced by several factors:

- The number and percentage of dwelling units sized for family households
- The reputation of a community's public schools
- Scale, density and location
- Composition, age and character of existing housing stock

- Units for low and moderate income households
- Underlying growth rate of the community
- Build-out rates

Location plays a significant role in reducing bus transportation costs associated with deriving school based costs for this analysis. If a development is located in-town, there is a high probability that an existing school bus can absorb more children from a development without adding another bus.

To estimate the number of school aged children, Connery uses annual average multipliers over a ten year period by housing unit type and number of bedrooms. He uses this methodology versus a per capita multiplier after testing the reliability of per capita multipliers in estimating fiscal impacts of 40B developments in the case study of Bedford and 40 other similar communities in the report titled “Housing the Commonwealth’s School-Age Children” (co-authored with the Citizens Housing and Planning Association , August 2003). He constructed forecasts under FY 1990 using per capita multipliers and compared them to FY 2000 actual outcomes. The report concludes that for most communities, per capita multipliers produce a distorted (overestimates) fiscal impact forecast and should not be relied upon to estimate the cost or revenues associated with housing development. The findings concluded that building type as well as number of bedrooms play a significant role in student generation rates.

Housing and Children, School Enrollment

The five developments analyzed range in size from 10 to 164 apartments and 7 to 30 condominiums for a total of 313 rentals and 37 condos. Our analysis identified 62 students from these rental and 3 students from these condo developments, for an average of .20 children/apartment and .08 children/condo unit. Together these children constituted 3% of the town’s total K-12 school age population for the 2008-2009 school year. As far as the student K-12 school enrollment, SAC population changed by 5.5% from 2,325 students in 2004-2005 to 2,452 students in 2008-2009 school year.

Multiplier Findings from Bedford Planning Department’s Analysis

Connery used two sets of multipliers per number (one to three) and type (affordable and market rate) bedrooms to project the total number of school age children – one set for rental and another for condo developments. To test the accuracy of Connery’s 2005 multiplier for estimating school age children, we multiplied Connery’s 2005 condo multiplier of .13 to the actual 2009 number of units built to estimate 2009 number of school age children generated at Avalon Bay. This resulted in 17.51 students. The actual number of students generated totaled 26 which results in an actual multiplier of .19 students per unit. (See Table below)

Table 3. Analysis of 2009 Actual Rental Based School Age Children Multiplier

Avalon Bay Rental Apartment Type	Actual 2009 Number of Units	Projected Using Connery's 2005 Multiplier		2009 Total Students	2009 Actual Multiplier
		Students Per Unit	Total Students		
1 Bedroom Market	39	0.00	0.00		
1 Bedroom Affordable	13	0.02	0.26		
2 Bedroom Market	65	0.13	8.45		
2 Bedroom Affordable	22	0.40	8.80		
3 Bedroom Market	0	0.50	0.00		
3 Bedroom Affordable	0	1.10	0.00		
Average SAC/unit	139	0.13	17.51	26	0.19

¹ The number of bedrooms and units are reported from the Comprehensive Permit;

² Students Per Unit (a.k.a. Multiplier) is reported from John Connery's Fiscal Analysis of Heritage, Criterion and Hartwell Farms.

We performed the same calculation above to determine the 2009 actual multiplier for the 2 condo developments (Stephen Lane and Village at Bedford Woods) which ranged from 0.00 – 0.10. The condo development at the Village at Bedford Woods (30 units), and The Stephen Lane House (7 units) have an average generation of .08 school age children per unit. The Village at Bedford Woods provides the largest sample size of 30 units and, therefore provides a better indicator of outcomes generated with 0.10 school age children per unit. With only 37, the sample size of these developments may be too small to use as a predictor. A better option may be to use a multiplier for condos such as the .19 school age students per unit used by Connery in his 2009 update of the fiscal impact analysis for Hartwell Farms.

3.1.b. Education Costs

To determine the additional education costs directly associated with the actual number of new students at the development, Connery employed a formula below in Table 4. David Coelho, School Finance Director of the Bedford School Finance Department provided actual school costs from both FY2008 (and grew them by 4.4% annual inflation rate) FY2009 actual expenditures for students from **Avalon Bay**. David determined that an increase in students from **Avalon Bay** did not trigger an increase in teacher staff for the traditional classroom setting, or for special education care. This is because, **Avalon Bay** school age children didn't form a critical mass in any single grade – they were distributed among many grades. Yet, the critical mass of students in total from **Avalon Bay** did require additional **\$177,248** incremental costs associated with out-of-district special education. The **\$18,525** cost of service and supplies was derived from the Department of Education audited 2009 report on school expenditure items: 1) instructional materials and equipment and 2) pupil services. In 2009, the total incremental education costs from the **Avalon Bay** development using this formula amounts to **\$195,773** and the education cost per student is **\$7,530**.

Table 4. 2009 Incremental Educational Costs

Total No. of In-District Students(1)	Total No. of All Students (2)	Service and Supply Costs (3)	Special Needs Costs (4)	Bus Route Costs (5)	Total Education Cost	Education Cost Per Pupil (6)	Education Cost Per Unit
19	26	\$18,525	\$177,248	\$0	\$195,773	\$7,530	\$1,408

(1) Total number of students participating in traditional classroom school instruction for the 2008- 2009 school year in-district (excludes out-of-district SPED students).

(2) Total number of students enrolled for the 2008-2009 school year (includes in-district and out-of-district SPED students).

(3) The services and supplies cost of \$975 per student also referred to as "consumables" or the non instructional costs (supplies, equipment and technology) consumed by the in-district students participating in daily classroom instruction (i.e. excludes out of district Special Education students who attend programs full-time outside of the school) are calculated by multiplying this by the total number of in-district students enrolled during the 2008-2009 school year.

(4) The special needs cost refer to the total out-of-district special education costs incurred by students attending full-time special education programs outside of the school.

(5) Assumes the cost of additional bus route as a result of the additional students from the development.

(6) The Total Incremental Education Cost Per Pupil is derived by dividing the total incremental education cost by the total number of students enrolled during the 2008-2009 student year.

4. Total Service Costs

We examined each non education cost category of the 2009 Appropriated Town Budget and made determinations where an incremental and marginal cost was undertaken and selected items that as a result of the residential population of the development would add an incremental cost. We used the per capita method to assign costs. The total residential population of the development is 201 people.

In calculating the general service costs, we followed Connery’s methodology of not assigning full service costs to the public works budget because the internal roadways of the development will be privately maintained, plowed, and lighted and trash collection will also be private service. In addition, the residential community pays water and sewer fees on a usage basis.

Connery identifies that the budgets that will be impacted by the developments include elections, police, fire, code, enforcement, public works, council on aging, youth and family services, recreation, board of health, public library, mosquito control, local transit and the financial committees. We assumed the full budgets of the departments noted above and \$1,434,079 of the public works budget.

We met with Adrienne St. John from DPW to review actual DPW costs impacted by the development. Based on her feedback, we decreased the equipment/materials budget

item of the public works budget from the warrant's reporting of \$760,681 to report the actual costs identified by Adrienne totaling \$459,261. These adjustments reflect a total FY2009 base non school operating cost of \$9,751,209. Therefore, using the total population of 13,503 reported in the 2009 Bedford Town Warrant and \$9,751,209 as the value of impacted municipal operating budgets, the average municipal service cost for the above noted impacted departments is \$722 per person. Therefore, the 201 residents generate a general municipal service cost of \$145,152 or \$1,044 per unit. (See Table 4. below) After determining the per capita costs for the impacted departments, this was applied to the actual residential population of the development to generate total general service costs. So in combining the school costs of \$195,773 and non-school costs \$145,152 the total annual service cost is \$340,925. (See Table 5. below).

Table 5. 2009 Actual Municipal Costs

	2009 Bedford Population (1)	Municipal Operating Budget Impacted by Development (2)	Average Municipal Service Cost Per Bedford Resident (3)	Total No. Resident s (4)	General Municipal Service Cost of Development (5)	Total No. Units (6)	Municipal Cost Per Unit (Municipal Cost/Unit) (7)
2009 Actual	13,503	\$9,751,209	\$722	201	\$145,152	139	\$1,044

(1) Doreen Tremblay, Bedford Town Clerk reported Bedford Town population in June 16, 2009 memo to Planning Department.

(2) The Municipal Operating Budget is calculated in the "2009 Appropriated Non-Education Costs Calculation" spread sheet.

(3) The Average Municipal Service Cost/Bedford Resident is calculated by dividing the municipal operating budget by the 2009 Bedford Population.

(4) The Total Number of Residents Per Development was derived by 2009 Census and Excise Tax Reports from the Town of Bedford and White Page Telephone Listing. This also includes the total number of school age children.

(5) The General Municipal Service Cost of Development was calculated by multiplying the Average Municipal Service Cost/Bedford Resident and the Total No. Residents.

(6) See Table: Comparison of SAC Multiplier and Generation at 40B Condos

(7) Non Education Cost/Unit is calculated by multiplying The General Municipal Service Cost of Development by the Total No. Units Per Development.

Table 6. 2009 Actual Service Costs

	No. of Units	Education Cost Per Unit	Municipal Cost Per Unit	Total Service Cost Per Unit ¹	Total Annual Service Cost ²
2009 Actual	139	\$1,408	\$1,044	\$2,452	\$340,925

¹Total Service Cost per Unit is calculated by adding the Education Cost per Unit plus the Municipal Cost Per Unit.

² Total Annual Service Cost is calculated by multiplying Municipal Cost per Unit by the total number of units.

5.0 Revenue Sources and Cost to Revenue Ratio

The rental development generates both property taxes as well as excise taxes. According to the town’s property tax collections for FY2009 tax rate, the property yields approximately \$270,209 per year. On site cars generate annual excise taxes of approximately \$15,968 per the 2009 year. Therefore, the development will have an annual revenue stream of \$286,177.

Table 7. 2009 Actual Revenues

	Excise Tax	Property Tax	Total Revenues
2009 Actual	\$15,968	\$270,209	\$286,177

Source: 2009 Excise and Property Taxes were derived from 2009 excise and property billings from the Town Collections database.

Given the annual service cost of \$340,925 and revenue of \$286,177 the estimated cost to revenue ratio is 1.19; meaning that for every revenue dollar received it will cost Bedford \$1.19 to service the project. This creates an annual negative fiscal loss of \$54,749.

Table 8. 2009 Actual Service Cost To Revenue Ratio

	Annual Service Cost (Service Cost/Unit Total Units) ¹	Total Revenues	Cost to Revenue Ratio ²	Net Positive/(Negative) (Dollars)	Fiscal Impact
2009 Actual	\$340,925	\$286,177	1.19	(\$54,749)	Negative

¹ Total Annual Service Cost is calculated by multiplying Municipal Cost per Unit by the total number of units.

² Cost to Revenue Ratio is derived from dividing the Total Annual Service Cost by Total Revenues.

7.1 Factors that Made the Difference

The table below provides factors that contributed to the **negative** cost to revenue ratio in 2009.

Table 9. 2009 Factors Impacting Fiscal Analysis

	2009 Actual
Number of Units	139
Number of Residents	201
Bedford Population	13,503
number of School Age Children	26
Education Cost Per Unit	\$1,408
Municipal Cost Per Unit	\$1,044
Total Service Cost Per Unit	\$2,452

Appendix A.1:

We reviewed with John Connery and Adrienne St. John from DPW the source of the base municipal operating budget – items from the Public Works budget appropriated by the 2009 Annual Town Meeting Warrant Report and actual FY2009 DPW expenditures - to identify all of the incremental costs incurred by residents generated by the developments. We assigned full service costs to the public works budget because the internal roadways of the development will be privately maintained, plowed, and lighted and trash collection will also be private service. In addition, the residential community pays water and sewer fees on a usage basis.

Connery identifies that the budgets that will be impacted by the developments include elections, police, fire, code, enforcement, public works, council on aging, youth and family services, recreation, board of health, public library, mosquito control, local transit and the financial committees. We assumed the full budgets of the departments noted below and adjusted the Public Works budgets item from \$2,211,408 to \$1,434,079 by eliminating Salaries, Snow Removal Overtime and Materials, MWRA, Water Purchase and Energy/Utilities budget items because the new roads are privately maintained and the residents pay for water consumed. We also added two more items and made an adjustment to an existing item. The rationale for adjusting the Public Works budget items is that we did not think that the additional residents from the developments would require hiring additional DPW employees, thus we eliminated DPW salaries item. Lastly, the additional residents would not require DPW to expand its buildings because of more residents, thus additional energy is not demanded from additional residents. Thus, the remaining Public Works budget items were Refuse/Recycling and Capital Outlay which would require the town to service or be consumed by additional residents. The budget items we added were Hazardous Waste and Legal Services which totaled \$152,500. We also decreased the Equipment/Materials budget from \$760,681 to \$459,261 to only include cost of supplies for Athletic Fields, Maintenance for Sidewalk Repair and Fuel Supplies. We felt that only these items would require additional supplies from additional use from new residents.

These adjustments and additions reflect a total FY2009 base municipal operating cost of \$ 9,751,209. John Connery agreed with most of our recommended adjustments and additions. Tables below illustrate how we arrived at these calculations.

FY2009 Municipal Budget Items Adopted at Annual Town Meeting (Adjusted)	
Board of Health	485,908
Code Enforcement	383,578
Council on Aging	160,319
Elections & Registrations	45,342
Financial Committees	520,412
Fire Department	2,125,712
Local Transit	51,148
Mosquito Control	32,673
Police Department	2,903,095
Public Library	1,080,504
Recreation	113,293
Youth and Family Services	212,038
Added	
Hazardous Waste	15,683
Legal Services	187,425
Adjusted	
Public Works	<u>1,434,079</u>
Total	9,751,209

Public Works Budget Items Adjusted	
Salaries	2,262,850
Snow Removal Overtime	70,500
Snow Removal Materials	199,230
MWRA	2,983,346
Water Purchase	1,168,020
Refuse/Recycling	967,773
Equipment/Materials	459,261
Capital Outlay for Grounds	<u>7,045</u>
Total	1,434,079

DPW Equipment and Materials 2009 Budget Adjusted in Meeting 4/17	
Total Supplies Athletic fields	125,349
Maintain Sidewalk Repair	4,361
Total Fuel Supplies	<u>329,551</u>
Total	459,261

**Fiscal Impact Analysis
Avalon Bay 2009**

Bedford Planning Department

Prepared by Alicia Cleary

November 2009

1.0 Overview

The following analysis identifies the 2009 actual fiscal implications of a 139 unit Chapter 40B rental apartment complex with a 25% affordable housing component comprised of 52 one and 87 two bedrooms located on Bay Circle and Avalon Drive in Bedford, Massachusetts.

Table 1.0 Project Mix

Bedrooms	Project Mix	2005 Planned Number of Units	% of Total	2009 Actual Number of Units Built	% of Total
1 Bedroom	Market	39	28%	39	28%
1 Bedroom	Affordable	13	9%	13	9%
2 Bedrooms	Market	65	47%	65	47%
2 Bedrooms	Affordable	22	16%	22	16%
Total Number of Affordable		35	25%	35	25%
Total Number of Units		139		139	

Source: Comprehensive Permits, Occupancy Permits and 2009 Property Records from the Assessor's database.

Summary of Findings

- The development's actual cost to revenue ratio in 2009 of 1.19 was negative. This generated a negative fiscal impact of approximately \$54,749 in the FY2009.
- The development \$286,177 in revenues from both property and excise taxes in the FY2009.
- The development added 26 school age children in the 2008-2009 school year. The 26 school age children did not cluster in any one grade – they were

distributed throughout the elementary and high school grades without clustering in any single grade, thus no additional instructional teachers were added.

Summary of Methodology

My approach to determining the actual fiscal impact for this residential development follows a similar methodology to what John Connery employs in his fiscal impact analysis of Heritage residential development at Bedford Springs 2005. In this fiscal analysis, Connery divides municipal service cost into two broad categories which consist of school costs and general service school costs (a.k.a. non-school costs).

Bedford's FY2009 Appropriated Operating Budget data (source: 2009 Annual Town Meeting Warrant Report Bedford, Massachusetts) has been used in the preparation of the non education costs with additional data from the Department of Public Works actual expenditures. We examined each cost category and selected items that we believed would add an incremental cost. After determining the per capita costs for the impacted departments, this was applied to the actual residential population of the development to generate total general service costs.

We examined the revenue stream produced from this development which includes FY2009 residential and excise tax data employed by Bedford's Assessor's and Finance Department's. By relating the total costs to total revenue generates a net fiscal profile of the development.

2.0 Municipal Expenditure for Residential Uses

We followed Connery's method for estimating the fiscal impact associated with Heritage unit mix by dividing municipal expenditures into two broad categories: one, school expenditures by which is meant the incremental cost of adding new school age children to the public school system and, two non-school costs which represent all other forms of municipal service costs.

3.1 School Enrollment and Education Costs

This analysis first analyzes the school age multiplier for determining the number of school age children that would have been generated in FY2005 based on John Connery's 2005 estimates of SAC from 3 other developments and compares it to the actual 2009 number of SAC generated.

3.1.a. Background of Estimating School Enrollment

Connery projected the number of school age children generated from three proposed 40B developments which include: Heritage (a.k.a. Thompson Farms), Criterion and Hartwell Farms in 2005. In each report, Connery states that although school costs can vary from community to community, the probability that multi-family developments will attract and house families with school age children is influenced by several factors:

- The number and percentage of dwelling units sized for family households
- The reputation of a community's public schools
- Scale, density and location
- Composition, age and character of existing housing stock

- Units for low and moderate income households
- Underlying growth rate of the community
- Build-out rates

Location plays a significant role in reducing bus transportation costs associated with deriving school based costs for this analysis. If a development is located in-town, there is a high probability that an existing school bus can absorb more children from a development without adding another bus.

To estimate the number of school aged children, Connery uses annual average multipliers over a ten year period by housing unit type and number of bedrooms. He uses this methodology versus a per capita multiplier after testing the reliability of per capita multipliers in estimating fiscal impacts of 40B developments in the case study of Bedford and 40 other similar communities in the report titled “Housing the Commonwealth’s School-Age Children” (co-authored with the Citizens Housing and Planning Association , August 2003). He constructed forecasts under FY 1990 using per capita multipliers and compared them to FY 2000 actual outcomes. The report concludes that for most communities, per capita multipliers produce a distorted (overestimates) fiscal impact forecast and should not be relied upon to estimate the cost or revenues associated with housing development. The findings concluded that building type as well as number of bedrooms play a significant role in student generation rates.

Housing and Children, School Enrollment

The five developments analyzed range in size from 10 to 164 apartments and 7 to 30 condominiums for a total of 313 rentals and 37 condos. Our analysis identified 62 students from these rental and 3 students from these condo developments, for an average of .20 children/apartment and .08 children/condo unit. Together these children constituted 3% of the town’s total K-12 school age population for the 2008-2009 school year. As far as the student K-12 school enrollment, SAC population changed by 5.5% from 2,325 students in 2004-2005 to 2,452 students in 2008-2009 school year.

Multiplier Findings from Bedford Planning Department’s Analysis

Connery used two sets of multipliers per number (one to three) and type (affordable and market rate) bedrooms to project the total number of school age children – one set for rental and another for condo developments. To test the accuracy of Connery’s 2005 multiplier for estimating school age children, we multiplied Connery’s 2005 condo multiplier of .13 to the actual 2009 number of units built to estimate 2009 number of school age children generated at Avalon Bay. This resulted in 17.51 students. The actual number of students generated totaled 26 which results in an actual multiplier of .19 students per unit. (See Table below)

Table 3. Analysis of 2009 Actual Rental Based School Age Children Multiplier

Avalon Bay Rental Apartment Type	Actual 2009 Number of Units	Projected Using Connery's 2005 Multiplier		2009 Total Students	2009 Actual Multiplier
		Students Per Unit	Total Students		
1 Bedroom Market	39	0.00	0.00		
1 Bedroom Affordable	13	0.02	0.26		
2 Bedroom Market	65	0.13	8.45		
2 Bedroom Affordable	22	0.40	8.80		
3 Bedroom Market	0	0.50	0.00		
3 Bedroom Affordable	0	1.10	0.00		
Average SAC/unit	139	0.13	17.51	26	0.19

¹ The number of bedrooms and units are reported from the Comprehensive Permit;

² Students Per Unit (a.k.a. Multiplier) is reported from John Connery's Fiscal Analysis of Heritage, Criterion and Hartwell Farms.

We performed the same calculation above to determine the 2009 actual multiplier for the 2 condo developments (Stephen Lane and Village at Bedford Woods) which ranged from 0.00 – 0.10. The condo development at the Village at Bedford Woods (30 units), and The Stephen Lane House (7 units) have an average generation of .08 school age children per unit. The Village at Bedford Woods provides the largest sample size of 30 units and, therefore provides a better indicator of outcomes generated with 0.10 school age children per unit. With only 37, the sample size of these developments may be too small to use as a predictor. A better option may be to use a multiplier for condos such as the .19 school age students per unit used by Connery in his 2009 update of the fiscal impact analysis for Hartwell Farms.

3.1.b. Education Costs

To determine the additional education costs directly associated with the actual number of new students at the development, Connery employed a formula below in Table 4. David Coelho, School Finance Director of the Bedford School Finance Department provided actual school costs from both FY2008 (and grew them by 4.4% annual inflation rate) FY2009 actual expenditures for students from **Avalon Bay**. David determined that an increase in students from **Avalon Bay** did not trigger an increase in teacher staff for the traditional classroom setting, or for special education care. This is because, **Avalon Bay** school age children didn't form a critical mass in any single grade – they were distributed among many grades. Yet, the critical mass of students in total from **Avalon Bay** did require additional **\$177,248** incremental costs associated with out-of-district special education. The **\$18,525** cost of service and supplies was derived from the Department of Education audited 2009 report on school expenditure items: 1) instructional materials and equipment and 2) pupil services. In 2009, the total incremental education costs from the **Avalon Bay** development using this formula amounts to **\$195,773** and the education cost per student is **\$7,530**.

Table 4. 2009 Incremental Educational Costs

Total No. of In-District Students(1)	Total No. of All Students (2)	Service and Supply Costs (3)	Special Needs Costs (4)	Bus Route Costs (5)	Total Education Cost	Education Cost Per Pupil (6)	Education Cost Per Unit
19	26	\$18,525	\$177,248	\$0	\$195,773	\$7,530	\$1,408

(1) Total number of students participating in traditional classroom school instruction for the 2008- 2009 school year in-district (excludes out-of-district SPED students).

(2) Total number of students enrolled for the 2008-2009 school year (includes in-district and out-of-district SPED students).

(3) The services and supplies cost of \$975 per student also referred to as "consumables" or the non instructional costs (supplies, equipment and technology) consumed by the in-district students participating in daily classroom instruction (i.e. excludes out of district Special Education students who attend programs full-time outside of the school) are calculated by multiplying this by the total number of in-district students enrolled during the 2008-2009 school year.

(4) The special needs cost refer to the total out-of-district special education costs incurred by students attending full-time special education programs outside of the school.

(5) Assumes the cost of additional bus route as a result of the additional students from the development.

(6) The Total Incremental Education Cost Per Pupil is derived by dividing the total incremental education cost by the total number of students enrolled during the 2008-2009 student year.

4. Total Service Costs

We examined each non education cost category of the 2009 Appropriated Town Budget and made determinations where an incremental and marginal cost was undertaken and selected items that as a result of the residential population of the development would add an incremental cost. We used the per capita method to assign costs. The total residential population of the development is 201 people.

In calculating the general service costs, we followed Connery’s methodology of not assigning full service costs to the public works budget because the internal roadways of the development will be privately maintained, plowed, and lighted and trash collection will also be private service. In addition, the residential community pays water and sewer fees on a usage basis.

Connery identifies that the budgets that will be impacted by the developments include elections, police, fire, code, enforcement, public works, council on aging, youth and family services, recreation, board of health, public library, mosquito control, local transit and the financial committees. We assumed the full budgets of the departments noted above and \$1,434,079 of the public works budget.

We met with Adrienne St. John from DPW to review actual DPW costs impacted by the development. Based on her feedback, we decreased the equipment/materials budget

item of the public works budget from the warrant's reporting of \$760,681 to report the actual costs identified by Adrienne totaling \$459,261. These adjustments reflect a total FY2009 base non school operating cost of \$9,751,209. Therefore, using the total population of 13,503 reported in the 2009 Bedford Town Warrant and \$9,751,209 as the value of impacted municipal operating budgets, the average municipal service cost for the above noted impacted departments is \$722 per person. Therefore, the 201 residents generate a general municipal service cost of \$145,152 or \$1,044 per unit. (See Table 4. below) After determining the per capita costs for the impacted departments, this was applied to the actual residential population of the development to generate total general service costs. So in combining the school costs of \$195,773 and non-school costs \$145,152 the total annual service cost is \$340,925. (See Table 5. below).

Table 5. 2009 Actual Municipal Costs

	2009 Bedford Population (1)	Municipal Operating Budget Impacted by Development (2)	Average Municipal Service Cost Per Bedford Resident (3)	Total No. Resident s (4)	General Municipal Service Cost of Development (5)	Total No. Units (6)	Municipal Cost Per Unit (Municipal Cost/Unit) (7)
2009 Actual	13,503	\$9,751,209	\$722	201	\$145,152	139	\$1,044

(1) Doreen Tremblay, Bedford Town Clerk reported Bedford Town population in June 16, 2009 memo to Planning Department.

(2) The Municipal Operating Budget is calculated in the "2009 Appropriated Non-Education Costs Calculation" spread sheet.

(3) The Average Municipal Service Cost/Bedford Resident is calculated by dividing the municipal operating budget by the 2009 Bedford Population.

(4) The Total Number of Residents Per Development was derived by 2009 Census and Excise Tax Reports from the Town of Bedford and White Page Telephone Listing. This also includes the total number of school age children.

(5) The General Municipal Service Cost of Development was calculated by multiplying the Average Municipal Service Cost/Bedford Resident and the Total No. Residents.

(6) See Table: Comparison of SAC Multiplier and Generation at 40B Condos

(7) Non Education Cost/Unit is calculated by multiplying The General Municipal Service Cost of Development by the Total No. Units Per Development.

Table 6. 2009 Actual Service Costs

	No. of Units	Education Cost Per Unit	Municipal Cost Per Unit	Total Service Cost Per Unit ¹	Total Annual Service Cost ²
2009 Actual	139	\$1,408	\$1,044	\$2,452	\$340,925

¹Total Service Cost per Unit is calculated by adding the Education Cost per Unit plus the Municipal Cost Per Unit.

² Total Annual Service Cost is calculated by multiplying Municipal Cost per Unit by the total number of units.

5.0 Revenue Sources and Cost to Revenue Ratio

The rental development generates both property taxes as well as excise taxes. According to the town’s property tax collections for FY2009 tax rate, the property yields approximately \$270,209 per year. On site cars generate annual excise taxes of approximately \$15,968 per the 2009 year. Therefore, the development will have an annual revenue stream of \$286,177.

Table 7. 2009 Actual Revenues

	Excise Tax	Property Tax	Total Revenues
2009 Actual	\$15,968	\$270,209	\$286,177

Source: 2009 Excise and Property Taxes were derived from 2009 excise and property billings from the Town Collections database.

Given the annual service cost of \$340,925 and revenue of \$286,177 the estimated cost to revenue ratio is 1.19; meaning that for every revenue dollar received it will cost Bedford \$1.19 to service the project. This creates an annual negative fiscal loss of \$54,749.

Table 8. 2009 Actual Service Cost To Revenue Ratio

	Annual Service Cost (Service Cost/Unit Total Units) ¹	Total Revenues	Cost to Revenue Ratio ²	Net Positive/(Negative) (Dollars)	Fiscal Impact
2009 Actual	\$340,925	\$286,177	1.19	(\$54,749)	Negative

¹ Total Annual Service Cost is calculated by multiplying Municipal Cost per Unit by the total number of units.

² Cost to Revenue Ratio is derived from dividing the Total Annual Service Cost by Total Revenues.

7.1 Factors that Made the Difference

The table below provides factors that contributed to the **negative** cost to revenue ratio in 2009.

Table 9. 2009 Factors Impacting Fiscal Analysis

	2009 Actual
Number of Units	139
Number of Residents	201
Bedford Population	13,503
number of School Age Children	26
Education Cost Per Unit	\$1,408
Municipal Cost Per Unit	\$1,044
Total Service Cost Per Unit	\$2,452

Appendix A.1:

We reviewed with John Connery and Adrienne St. John from DPW the source of the base municipal operating budget – items from the Public Works budget appropriated by the 2009 Annual Town Meeting Warrant Report and actual FY2009 DPW expenditures - to identify all of the incremental costs incurred by residents generated by the developments. We assigned full service costs to the public works budget because the internal roadways of the development will be privately maintained, plowed, and lighted and trash collection will also be private service. In addition, the residential community pays water and sewer fees on a usage basis.

Connery identifies that the budgets that will be impacted by the developments include elections, police, fire, code, enforcement, public works, council on aging, youth and family services, recreation, board of health, public library, mosquito control, local transit and the financial committees. We assumed the full budgets of the departments noted below and adjusted the Public Works budgets item from \$2,211,408 to \$1,434,079 by eliminating Salaries, Snow Removal Overtime and Materials, MWRA, Water Purchase and Energy/Utilities budget items because the new roads are privately maintained and the residents pay for water consumed. We also added two more items and made an adjustment to an existing item. The rationale for adjusting the Public Works budget items is that we did not think that the additional residents from the developments would require hiring additional DPW employees, thus we eliminated DPW salaries item. Lastly, the additional residents would not require DPW to expand its buildings because of more residents, thus additional energy is not demanded from additional residents. Thus, the remaining Public Works budget items were Refuse/Recycling and Capital Outlay which would require the town to service or be consumed by additional residents. The budget items we added were Hazardous Waste and Legal Services which totaled \$152,500. We also decreased the Equipment/Materials budget from \$760,681 to \$459,261 to only include cost of supplies for Athletic Fields, Maintenance for Sidewalk Repair and Fuel Supplies. We felt that only these items would require additional supplies from additional use from new residents.

These adjustments and additions reflect a total FY2009 base municipal operating cost of \$ 9,751,209. John Connery agreed with most of our recommended adjustments and additions. Tables below illustrate how we arrived at these calculations.

FY2009 Municipal Budget Items Adopted at Annual Town Meeting (Adjusted)	
Board of Health	485,908
Code Enforcement	383,578
Council on Aging	160,319
Elections & Registrations	45,342
Financial Committees	520,412
Fire Department	2,125,712
Local Transit	51,148
Mosquito Control	32,673
Police Department	2,903,095
Public Library	1,080,504
Recreation	113,293
Youth and Family Services	212,038
Added	
Hazardous Waste	15,683
Legal Services	187,425
Adjusted	
Public Works	<u>1,434,079</u>
Total	9,751,209

Public Works Budget Items Adjusted	
Salaries	2,262,850
Snow Removal Overtime	70,500
Snow Removal Materials	199,230
MWRA	2,983,346
Water Purchase	1,168,020
Refuse/Recycling	967,773
Equipment/Materials	459,261
Capital Outlay for Grounds	<u>7,045</u>
Total	1,434,079

DPW Equipment and Materials 2009 Budget Adjusted in Meeting 4/17	
Total Supplies Athletic fields	125,349
Maintain Sidewalk Repair	4,361
Total Fuel Supplies	<u>329,551</u>
Total	459,261

**Fiscal Impact Analysis
Patriot Place 2009**

Bedford Planning Department

Prepared by Alicia Cleary

November 2009

1.0 Overview

The following analysis identifies the 2009 actual fiscal implications of a 10 unit Chapter 40B rental apartment complex with 70% affordable housing component comprised of 10 one bedrooms located on Springs Road in Bedford, Massachusetts.

Table 1.0 Project Mix

Bedrooms	Project Mix	2009 Actual Number of Units Built	% of Total
1 Bedroom	Market	3	30%
1 Bedroom	Affordable	7	70%
Total Number of Units		10	

Source: Comprehensive Permits, Occupancy Permits and 2009 Property Records from the Assessor's database.

Summary of Findings

- The development's actual cost to revenue ratio in 2009 of .68 was positive. This generated a net positive fiscal impact of approximately \$3,345 in the FY2009.
- The development added \$10,567 in revenues from both property and excise taxes in the FY2009.
- The development added no school age children in the 2008-2009 school year.

Summary of Methodology

My approach to determining the actual fiscal impact for this residential development follows a similar methodology to what John Connery employs in his fiscal impact analysis of Heritage residential development in 2005. In this fiscal analysis, Connery divides municipal service cost into two broad categories which consist of school costs and general service school costs (a.k.a. non-school costs).

Bedford's FY2009 Appropriated Operating Budget data (source: 2009 Annual Town Meeting Warrant Report Bedford, Massachusetts) has been used in the preparation of the non education costs with additional data from the Department of Public Works actual expenditures. We examined each cost category and selected items that we believed would add an incremental cost. After determining the per capita costs for the impacted departments, this was applied to the actual residential population of the development to generate total general service costs.

We examined the revenue stream produced from this development which includes FY2009 residential and excise tax data employed by Bedford's Assessor's and Finance Department's. By relating the total costs to total revenue generates a net fiscal profile of the development.

2.0 Municipal Expenditure for Residential Uses

We followed Connery's method for estimating the fiscal impact associated with Heritage unit mix by dividing municipal expenditures into two broad categories: one, school expenditures by which is meant the incremental cost of adding new school age children to the public school system and, two non-school costs which represent all other forms of municipal service costs.

3.1 School Enrollment and Education Costs

This analysis first analyzes the school age multiplier for determining the number of school age children that would have been generated in FY2005 based on John Connery's 2005 estimates of SAC from 3 other developments and compares it to the actual 2009 number of SAC generated.

3.1.a. Background of Estimating School Enrollment

Connery projected the number of school age children generated from three proposed 40B developments which include: Heritage at Bedford Springs (a.k.a. Thompson Farms), Criterion and Hartwell Farms in 2005. In each report, Connery states that although school costs can vary from community to community, the probability that multi-family developments will attract and house families with school age children is influenced by several factors:

- The number and percentage of dwelling units sized for family households
- The reputation of a community's public schools
- Scale, density and location
- Composition, age and character of existing housing stock
- Units for low and moderate income households
- Underlying growth rate of the community
- Build-out rates

Location plays a significant role in reducing bus transportation costs associated with deriving school based costs for this analysis. If a development is located in-town, there is a high probability that an existing school bus can absorb more children from a development without adding another bus.

To estimate the number of school aged children, Connery uses annual average multipliers over a ten year period by housing unit type and number of bedrooms. He uses this methodology versus a per capita multiplier after testing the reliability of per capital multipliers in estimating fiscal impacts of 40B developments in the case study of Bedford and 40 other similar communities in the report titled “Housing the Commonwealth’s School-Age Children” (co-authored with the Citizens Housing and Planning Association , August 2003). He constructed forecasts under FY 1990 using per capita multipliers and compared them to FY 2000 actual outcomes. The report concludes that for most communities, per capita multipliers produce a distorted (overestimates) fiscal impact forecast and should not be relied upon to estimate the cost or revenues associated with housing development. The findings concluded that building type as well as number of bedrooms play a significant role in student generation rates.

Housing and Children, School Enrollment

The five developments analyzed range in size from 10 to 164 apartments and 7 to 30 condominiums for a total of 313 rentals and 37 condos. Our analysis identified 62 students from these rental and 3 from the condo developments, for an average of .20 children/apartment and .08 children/condo unit. Together these children constituted 3% of the town’s total K-12 school age population for the 2008-2009 school year. As far as the student K-12 school enrollment, SAC population changed by 5.5% from 2,325 students in 2004-2005 to 2,452 students in 2008-2009 school year.

Multiplier Findings from Bedford Planning Department’s Analysis

Connery used two sets of multipliers per number (one to three bedrooms) and type (affordable and market rate) bedrooms to project the total number of school age children – one set for rental and another for condo developments. To test the accuracy of Connery’s multiplier for estimating school age children generated at Patriots Place, we multiplied Connery’s 2005 total rental multiplier of .17 to the actual 2009 number of units built to estimate 2009 number of school age children generated. This resulted in 0.14 projected students. The actual number of students generated totaled 0 which results in an actual multiplier of .00 students per unit. Total actual 2009 multiplier per rental unit for the 3 rental developments (Heritage, Avalon and Patriot Place) ranged from 0.00 – 0.22.

Table 3. Analysis of 2009 Rental Based School Age Children Multiplier

Patriots Place Rental	2009 Actual Number of Units ¹	Projected Using Connery's 2005 Multiplier		2009 Actual Total Students	2009 Actual Multiplier
		Students Per Unit ²	Total Students		
Apartment Type					
1 Bedroom Market	3	0.00	0.00		
1 Bedroom Affordable	7	0.02	0.14		
Average SAC/unit	10	0.014	0.14	0	00.00

¹ The number of bedrooms and units are reported from the Comprehensive Permit;

² Students Per Unit (a.k.a. Multiplier) is reported from John Connery’s Fiscal Analysis of Heritage, Criterion and Hartwell Farms.

We performed the same calculation above to determine the 2009 actual multiplier for all condo developments (Village at Bedford Woods and Stephen Lane House) which ranged from 0.0 – 0.10. The condo development at the Village at Bedford Woods (30 units) and The Stephen Lane House (7 units) have on average generation of .08 school age children per unit. The Village at Bedford Woods provides the largest sample size of 30 units and, therefore provides a better indicator of outcomes generated with .10 school age children per unit (See Appendix). With only 37 units, the sample size of these developments may be too small to use as a predictor. A better option may be to use a multiplier for condos such as the .19 school age students per unit used by Connery in his 2009 update of the fiscal impact analysis for Hartwell Farms.

3.1.b. Education Costs

To determine the additional education costs directly associated with the actual number of new students at the development, Connery employed a formula below in Table 4. David Coelho, School Finance Director of the Bedford School Finance Department provided actual school costs from both FY2008 (and grew them by 4.4% annual inflation rate) and FY2009 actual expenditures. Since Patriots Place did not generate any school age children, there was no cost of service and supplies or any other incremental costs associated with out-of-district special education. Thus, In 2009, there were no incremental education costs from Patriot’s Place development.

Table 4. 2009 Incremental Educational Costs

Total No. of In-District Students(1)	Total No. of All Students (2)	Service and Supply Costs (3)	Special Needs Costs (4)	Bus Route Costs (5)	Total Education Cost	Education Cost Per Pupil (6)	Education Cost Per Unit
0	0	0	\$0	\$0	\$0	\$0	\$0

- (1) Total number of students participating in traditional classroom school instruction for the 2008- 2009 school year in-district (excludes out-of-district SPED students).
- (2) Total number of students enrolled for the 2008-2009 school year (includes in-district and out-of-district SPED students).
- (3) The services and supplies cost of \$975 per student also referred to as "consumables" or the non instructional costs (supplies, equipment and technology) consumed by the in-district students participating in daily classroom instruction (i.e. excludes out of district Special Education students who attend programs full-time outside of the school) are calculated by multiplying this by the total number of in-district students enrolled during the 2008-2009 school year.
- (4) The special needs cost refer to the total out-of-district special education costs incurred by students attending full-time special education programs outside of the school.
- (5) Assumes the cost of additional bus route as a result of the additional students from the development.

(6) The Total Incremental Education Cost Per Pupil is derived by dividing the total incremental education cost by the total number of students enrolled during the 2008-2009 student year.

4. Total Service Costs

We examined each non education cost category of the 2009 Appropriated Town Budget and made determinations where an incremental and marginal cost was undertaken and selected items that as a result of the residential population at the development would add an incremental cost. We used the per capita method to assign costs. The total residential population of the development is 10 people.

In calculating the general service costs, we followed Connery's methodology of not assigning full service costs to the public works budget because the internal roadways of the development will be privately maintained, plowed, and lighted and trash collection will also be a private service. In addition, the residential community pays water and sewer fees on a usage basis.

Connery identifies that the budgets that will be impacted by the developments include elections, police, fire, code, enforcement, public works, council on aging, youth and family services, recreation, board of health, public library, mosquito control, local transit and the financial committees. We assumed the full budgets of the departments noted above and \$1,434,079 of the public works budget.

We met with Adrienne St. John from DPW to review actual DPW costs impacted by the development. Based on her feedback, we decreased the equipment/materials budget item of the public works budget from the warrant's reporting of \$760,681 to report the actual costs identified by Adrienne totaling \$459,261. These adjustments reflect a total FY2009 base non school operating cost of \$9,751,209. Therefore, using the total population of 13,503 reported in the 2009 Bedford Town Warrant and \$9,751,209 as the value of impacted municipal operating budgets, the average municipal service cost for the above noted impacted departments is \$722 per person. Therefore, the 10 residents generate a general municipal service cost of \$7,222 or \$722 per unit. (See Table 4. below) After determining the per capita costs for the impacted departments, this was applied to the actual residential population of the development to generate total general service costs. So in combining the school costs of \$0 and non-school costs \$7,222 the total annual service cost is \$7,222. (See Table 5. below).

Table 5. 2009 Actual Municipal Costs

	2009 Bedford Population (1)	Municipal Operating Budget Impacted by Development (2)	Average Municipal Service Cost Per Bedford Resident (3)	Total No. Residents (4)	General Municipal Service Cost of Development (5)	Total No. Units (6)	Municipal Cost Per Unit (Municipal Cost/Unit) (7)
2009 Actual	13,503	\$9,751,209	\$722	10	\$7,222	10	\$722

(1) Doreen Tremblay, Bedford Town Clerk reported Bedford Town population in June 16, 2009 memo to Planning Department.

(2) The Municipal Operating Budget is calculated in the "2009 Appropriated Non-Education Costs Calculation" spreadsheet.

(3) The Average Municipal Service Cost/Bedford Resident is calculated by dividing the municipal operating budget by the 2009 Bedford Population.

(4) The Total Number of Residents Per Development was derived by 2009 Census and Excise Tax Reports from the Town of Bedford and White Page Telephone Listing. This also includes the total number of school age children.

(5) The General Municipal Service Cost of Development was calculated by multiplying the Average Municipal Service Cost/Bedford Resident and the Total No. Residents.

(6) See Table: Comparison of SAC Multiplier and Generation at 40B Condos

(7) Non Education Cost/Unit is calculated by multiplying The General Municipal Service Cost of Development by the Total No. Units Per Development.

Table 6. 2009 Actual Service Costs

	No. of Units	Education Cost Per Unit	Municipal Cost Per Unit	Total Service Cost Per Unit ¹	Total Annual Service Cost ²
2009 Actual	10	\$0	\$722	\$722	\$7,220

¹Total Service Cost per Unit is calculated by adding the Education Cost per Unit plus the Municipal Cost Per Unit.

² Total Annual Service Cost is calculated by multiplying Municipal Cost per Unit by the total number of units.

5.0 Revenue Sources and Cost to Revenue Ratio

The rental development generates both property taxes as well as excise taxes. According to the town's property tax collections for FY2009 tax rate, the property yields approximately \$10,119 per year. On site cars generate annual excise taxes of approximately \$448 per the 2009 year. Therefore, the development will have an annual revenue stream of \$10,567.

Table 7. 2009 Actual Revenues

	Excise Tax	Property Tax	Total Revenues
2009 Actual	\$448	\$10,119	\$10,567

Source: 2009 Excise and Property Taxes were derived from 2009 excise and property billings from the Town Collections database.

Given the annual service cost of \$7,220 and revenue of \$10,567 the estimated cost to revenue ratio is 0.68; meaning that for every revenue dollar received it will cost Bedford \$0.68 to service the project. This creates an annual net positive fiscal gain of \$3,345.

Table 8. 2009 Actual Service Cost To Revenue Ratio

	Annual Service Cost (Service Cost/Unit Total Units)	Total Revenues	Cost to Revenue Ratio ¹	Net Positive/Negative (Dollars)	Fiscal Impact
2009 Actual	\$7,222	\$10,567	0.68	\$3,345	positive

¹ Cost to Revenue Ratio is derived from dividing the Total Annual Service Cost by Total Revenues.

7.1 Factors that Made the Difference

The table below provides factors that contributed to the cost to revenue ratio in 2009.

Table 9. 2009 Actual Factors Impacting Fiscal Analysis

	2009 Actual
Number of Units	10
Number of Residents	10
Bedford Population	13,503
number of School Age Children	0
Education Cost Per Unit	0
Municipal Cost Per Unit	\$722
Total Service Cost Per Unit	\$722

Appendix A:

We reviewed with John Connery and Adrienne St. John from DPW the source of the base municipal operating budget – items from the Public Works budget appropriated by the 2009 Annual Town Meeting Warrant Report and actual FY2009 DPW expenditures - to identify all of the incremental costs incurred by residents generated by the developments. We assigned full service costs to the public works budget because the internal roadways of the development will be privately maintained, plowed, and lighted and trash collection will also be private service. In addition, the residential community pays water and sewer fees on a usage basis.

Connery identifies that the budgets that will be impacted by the developments include elections, police, fire, code, enforcement, public works, council on aging, youth and family services, recreation, board of health, public library, mosquito control, local transit and the financial committees. We assumed the full budgets of the departments noted below and adjusted the Public Works budgets item from \$2,211,408 to \$1,434,079 by eliminating Salaries, Snow Removal Overtime and Materials, MWRA, Water Purchase and Energy/Utilities budget items because the new roads are privately maintained and the residents pay for water consumed. We also added two more items and made an adjustment to an existing item. The rationale for adjusting the Public Works budget items is that we did not think that the additional residents from the developments would require hiring additional DPW employees, thus we eliminated DPW salaries item. Lastly, the additional residents would not require DPW to expand its buildings because of more residents, thus additional energy is not demanded from additional residents. Thus, the remaining Public Works budget items were Refuse/Recycling and Capital Outlay which would require the town to service or be consumed by additional residents. The budget items we added were Hazardous Waste and Legal Services which totaled \$152,500. We also decreased the Equipment/Materials budget from \$760,681 to \$459,261 to only include cost of supplies for Athletic Fields, Maintenance for Sidewalk Repair and Fuel Supplies. We felt that only these items would require additional supplies from additional use from new residents.

These adjustments and additions reflect a total FY2009 base municipal operating cost of \$ 9,751,209. John Connery agreed with most of our recommended adjustments and additions. Tables below illustrate how we arrived at these calculations.

FY2009 Municipal Budget Items Adopted at Annual Town Meeting (Adjusted)	
Board of Health	485,908
Code Enforcement	383,578
Council on Aging	160,319
Elections & Registrations	45,342
Financial Committees	520,412
Fire Department	2,125,712
Local Transit	51,148
Mosquito Control	32,673
Police Department	2,903,095
Public Library	1,080,504
Recreation	113,293
Youth and Family Services	212,038
Added	
Hazardous Waste	15,683
Legal Services	187,425
Adjusted	
Public Works	<u>1,434,079</u>
Total	9,751,209

Public Works Budget Items Adjusted	
Salaries	2,262,850
Snow Removal Overtime	70,500
Snow Removal Materials	199,230
MWRA	2,983,346
Water Purchase	1,168,020
Refuse/Recycling	967,773
Equipment/Materials	459,261
Capital Outlay for Grounds	<u>7,045</u>
Total	1,434,079

DPW Equipment and Materials 2009 Budget Adjusted in Meeting 4/17	
Total Supplies Athletic fields	125,349
Maintain Sidewalk Repair	4,361
Total Fuel Supplies	<u>329,551</u>
Total	459,261

Appendix B: Total Number of Students by Type of Student From Patriot Place

	Total Student Enrollment	Total In-District Students	No. Regular Classroom Students (non-SPED)	No. In-District SPED Students	No. Out of District SPED Students
Patriot Place	0	0	0	0	0

Source: David Coelho, School Finance Director of the School Finance Department