Proposed Marshall's Corner/Pennytown Project
Hopewell Township

FISCAL IMPACT REPORT

Prepared for
The Township of Hopewell, Mercer County, NJ

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Executive Summary

- This report summarizes the fiscal impacts for the *Pennytown Project* as laid out by the Marshall's Corner/Pennytown Task Force in April 2012. This particular scenario assumes a joint-development that combines two residential development projects that incorporate various facilities for community uses, retail establishments and professional services.
- Under State of New Jersey rules and regulations, Hopewell Township must meet its historical obligation of affordable housing units. As such, 70 "COAH" units either will be built separately with the development in the *Kooltronic* site to the east, or will be integrated as a joint project with additional amenities and facilities designed to serve the northern part of the township.
- The selling prices used in this study are based on threshold prices that support a minimum reasonable profit. As current market conditions do not support these threshold prices, few new projects will be undertaken now. Only when housing values recover to those threshold price points will developers start building market-rate units in this project.
- The results of the fiscal impacts reported here reflect the completed *Pennytown Project* at "full" occupation. Given the current market conditions, development of the market-rate section is not expected to start immediately. Therefore, the added costs and any revenue enhancements will take place incrementally until all units are developed.
- An analysis of the township's fiscal system shows that despite the recent recession and employment benefits growth outpacing inflation, the township has been successful in controlling the per-capita costs at the pace of inflation. It further suggests that the *Pennytown Project* is not likely causing major negative fiscal impacts.
- School enrollment in the Hopewell Valley Regional School District has been falling for several years and is expected continue to drop. The resulting slack capacity provides an opportunity to absorb small enrollment growth from the *Pennytown Project*.
- The *Pennytown Project* comprises 295 market-rate units and 70 COAH units. When it is fully developed it is expected to add about 775 residents and 97 public school students.

- The COAH section (40 condominium units and 30 rental units) of the *Pennytown Project* would generate 144 residents and 15 public school students. The respective figures for the market-rate section are 631 and 82.
- After taking the project's potential property tax revenues of $395,000 into account and adding in the anticipated operating expenses of $543,000 to serve *Pennytown*, the township will eventually pay approximately $148,000 a year, or less than 1 percent of the total current appropriation.
- As the school is in a phase of enrollment contraction, the *Pennytown Project* would generate enough school tax revenues to cover the additional hiring for the 97 new students. As such, the school district would have a surplus of $676,000 a year.
- The affordable section will be built as a separate project if *Kooltronic* goes ahead to develop its plot separately. On their own, the 70 COAH units would generate an annual net fiscal impact of -$71,000 to the township and -$42,000 to the school district.
- If the affordable section and the *Kooltronic* plot are developed separately, the total fiscal impact would be -$157,000 to the township as compared to -$148,000 in the joint development scenario.
- The separate development scenario would generate $350,000 combined net revenue to the school district, while the joint development would provide $676,000.

Table of Contents

Tables

Figures

Appendix

1. Introduction

On June 27, 2011, the Township Committee of the Hopewell Township adopted a resolution authorizing to retain Sidney Wong, Ph.D. to update the fiscal impact model previously prepared in 2006 with specific reference to Marshalls Corner-Pennytown Redevelopment (hereafter the *Pennytown Project*). Toward the end of the year, Dr. Wong held meetings with the Township Administrator/Engineer, the Assessor, the Chief Financial Officer/Treasurer, the Community Development Coordinator/Zoning Officer, and their staff; visited the *Pennytown* site; and collected data on township and school district finances, home sales comparables, and property tax records necessary for the construction of the fiscal impact model.

In December 2011, the township instructed Dr. Sidney Wong to suspend the study pending future decisions about the affordable housing plan. In March 2012, the Township reauthorized Dr. Wong to restart the study. Meanwhile new data (such as updated township and school district budgets and financial reports, and the Census Bureau's newest 2007-2011 American Community Survey) have been released. The latest sales data up to then end of 2012 was obtained from the Assessor's Office and assembled through *Zillow.com* rental and sales data as of January 2013. To take advantage of this new information, data and trend analysis were reconsidered. Finally, in order to reduce any further delay, the study used housing mix figures based on "Concept A" as the *Pennytown Project* Task Force presented in April 2012. *Pennytown Project* stakeholders reviewed an earlier draft to ensure the assumptions used in this study are within professional standards.

The major components of this study include:

- An examination of the demographics, including birth data, age-structure, and cohort-retention.
- A study of the fiscal structure of the township and the school district.
- An analysis of building permits, and recent housing sales in the township.
- A model of the average household size by housing types based on the most current Public Use Microdata Sample data for Ewing and Hopewell Townships.
- A study of the assessed value and floor space of commercial properties in the township.
- A model of per-capita expenditure multipliers.
- An analysis of the proposed *Pennytown Project*.

- An estimation of the property values of rental units in the *Pennytown Project*.
- An estimation of the added population and public school students of the *Pennytown Project*.
- A projection of the fiscal impacts of the *Pennytown Project* to the township and the school district.
- An additional fiscal impact study for the separate development scenario.

Following this introduction, Section 2 provides an overview of recent changes in population, income, employment, and housing development of the township. Section 3 discusses the township's tax base and outlines the historical and current level of real estate values, and property taxes levied.

Section 4 analyzes the township's revenues and appropriations for the period of 2005 and 2011 to lay the foundation of estimating the per-capita municipal costs. The following section concerns the Hopewell Valley Regional School District. This section examines enrollment trends based on recent births and housing development and uses various sources to estimate the share of school-age children attending public schools. It provides a detailed analysis of school finances for developing per-pupil costs.

Section 6 discusses the methods and approach of fiscal impact analysis, including its applications, limitations, and potential. It also reports recent attempts to improve the methodology. Section 7 states the assumptions used in this study and discussed the primary method – the Refined Per-capita Multiplier Technique, and secondary methods. It also shows how various costs multipliers are estimated, including average household size, public school student ratio, per-capita municipal costs and per-pupil costs.

Section 8 focuses on the *Pennytown Project* and provides estimates of sales values for owner-occupied units and discusses how property values for market-rate rental apartment, affordable housing apartment, and commercial space are estimated.

Section 9 discusses the anticipated added population, public school students, and services needs of the *Pennytown Project*. Section 10 presents the fiscal impact to the township and the school district in terms of the total costs and tax revenues. It also outlines the revenues Mercer County will receive. Last, Appendix briefly reports the fiscal impacts for the separate development scenario.

2. Overview of Hopewell Township

This section outlines the recent demographic, socio-economic, and housing trends of Hopewell Township. With about 58.1 square miles of land area, the township is located in northwestern part of Mercer County in central New Jersey. Hopewell Township borders Princeton Township and Somerset County to the east; Ewing Township and Lawrence Township to the south; Hunterdon County and to the north; and the Delaware River to the west. Pennington and Hopewell Boroughs are independent municipalities located within the boundaries of Hopewell Township. Proximity to Interstate 95 and Route 1 makes the township especially accessible, in particular to the state government agencies in Trenton, and the research and educational facilities in Princeton and sprawling along the 202 Corridor into Pennsylvania. As a result, the township is a convenient work place for commuters from the New York-Philadelphia corridor. Many financial enterprises locate back offices in this area and the pharmaceutical industry has established research and development campuses here as well.

Despite a surge of development in the late 1990s and early 2000s, the township has maintained its rural character in the sparsely populated northern and central part of the township that is zoned as either "Valley Resource Conservation" or "Mountain Resource Conservation." The more recent residential communities at moderate density are concentrated in the southeastern part of the township. The two small towns of Pennington and Hopewell Boroughs are the older dense area and center of activities. In 2010, the Census reported the township's average gross population density at approximately 0.48 persons per acre. In contrast, the population density of Mercer County is about 2.6 persons per acre, or over five times more than the township.

Historically, residential dwellings were scattered across the township and clustered around the two boroughs. The township's major node of commercial activity is located in Pennington Borough. With the completion of the 1,300-unit *Brandon Farms* in the late 1990s, the southeastern section of the township has transformed into more typical medium density suburban area. Bordering I-95, this section is now the home of the Bank of America/Merrill Lynch campus, the *Hopewell Crossing Shopping Center*, and the newly completed *Capital Health Medical Center*. It also added three major residential subdivisions in the mid-2000s — *The Gatherings of Wellington Manor*, *Hopewell Grant*, and *Hopewell Gardens*.

2.1. Demographic Characteristics

Table 1 depicts the population trends from 1990 to 2010. This study focuses on the change in household population because of its direct relationship to housing development in the township. In 1990, the household population of the township was 11,108, growing to 17,294, or by 56 percent in the next twenty years. During the 1990s the annualized percent growth of household population was 3.2 percent as compared to a slower rate of 1.3 percent in the following decade. The fastest population growth took place in the latter part of the 1990s and in the middle of the 2000s primarily due to several major residential subdivision projects. Since the housing market collapse in 2008, the township has seen virtually no population growth. In 2010, Hopewell Township accounted for about five percent of Mercer County's population. In the same year 6,282 households and 4,928 families lived in the township. The average family size was 3.14, while the average household size was 2.75, almost the same as that in 2000.

Table 1 Population Trend and Structure in Hopewell Township

	1990	2000	2010
Total Population	11,590	16,105	17,304
Growth from Previous Period	697	4,515	1,199
Annual Percent Growth	0.6	3.3	0.7
Gross Density (persons per sq. mi.)#	199.4	277.1	297.8
Household Population	11,108	15,224	17,294
Growth from Previous Period	346	4,116	2,070
Annual Percent Growth	0.3	3.2	1.3
Number of Households	3,924	5,498	6,282
Average Household size	2.83	2.77	2.75
Population in Group Quarters *	482	881	10
Institutionalized Population	461	847	0
Other Group Quarters Population	21	34	10
Total Non-institutionalized Population	11,129	15,258	17,304

* The 2010 Census stopped counting individuals in prison facilities as the regular population of a municipality where the facilities are located. As such, about 870 of the township population in group quarters (i.e., the inmates at the Mercer County Correctional Center) were not reported in 2010.

Land area (58.11 sq. mi) is from US Census, 2000 Summary File 1, Table GCT-PH1.

Source: US Census, 2010 Summary File 1, Table DP-1, QT-P12 & P29; 2000 Summary File 1, Table P27; 1990 Summary Tape File 1, Table QT-P1A & P28.

In 2010, about 70 percent of the township's households were traditional families with married couples, representing only a slight downward trend from nearly three quarters in 1990. The share of families headed by single-persons remained at a consistent nine percent throughout this twenty-year period. Of this, the number of female-headed family households with children under 18 was 213 in 2010. As a percent share of all households, this category has increased by only about one percentage point since 1990. Table 2 shows a moderate growth of non-family households and single-person households primarily due to the aging of the population and the completion of several age-restricted housing projects.

Table 2 Household Types in Hopewell Township

Households by Type	1990		2000		2010	
	Number	Percent	Number	Percent	Number	Percent
Total Households	3,924	100	5,498	100	6,282	100
Family Households	3,240	82.6	4,429	80.6	4,928	78.4
Husband-Wife Family	2,888	73.6	3,938	71.6	4,339	69.1
Other Families Headed by Male	105	2.7	115	2.1	175	2.8
Other Families headed by Female	247	6.3	376	6.8	414	6.6
Female Headed Family with Children	99	2.5	199	3.6	213	3.4
Nonfamily Households	684	17.4	1,069	19.4	1,354	21.6
Householder Living Alone	543	13.8	878	16.0	1,118	17.8
Householder 65 Years and Over	212	5.4	355	6.5	497	7.9
Householder Not Living Alone	141	3.6	191	3.5	236	3.8

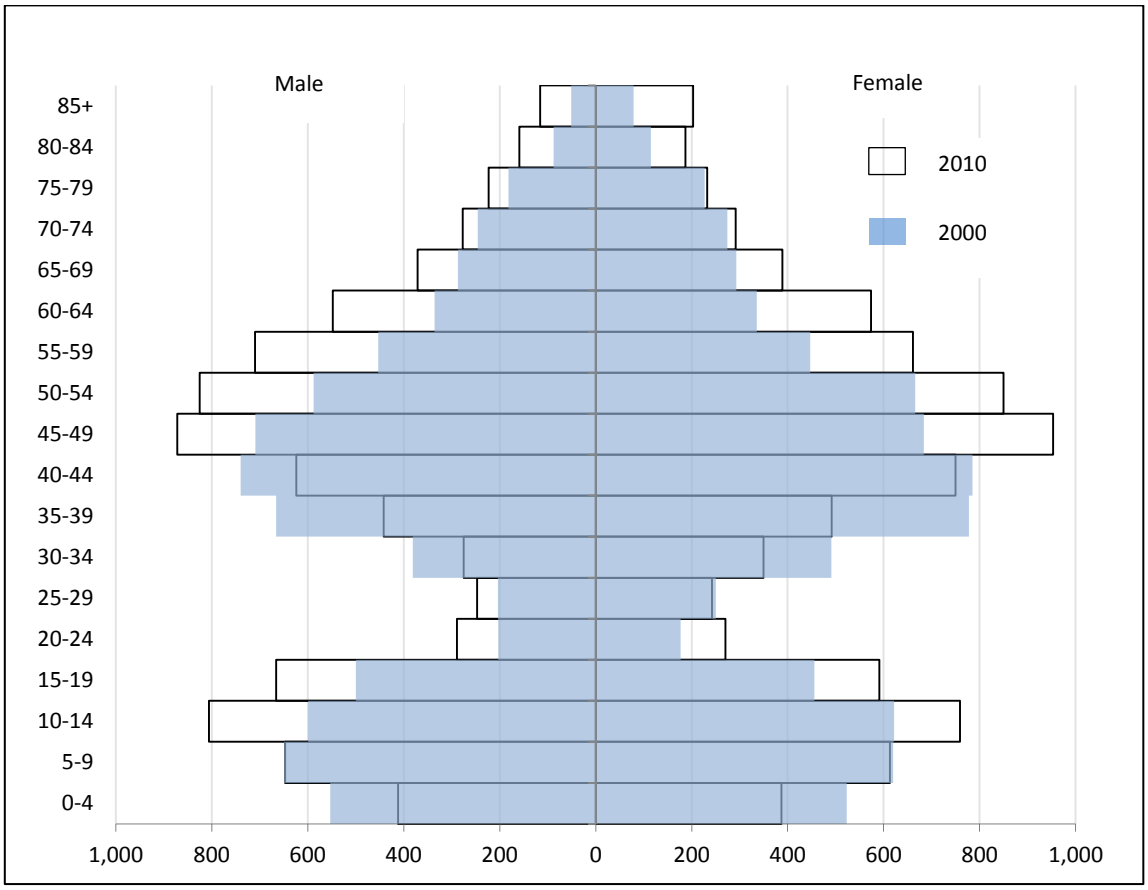
Source: US Census, 2010 Summary File 1, Table DP-1 & P25; 2000 Summary File 1, Table DP-1 & P18; 1990 Summary Tape File 1, Table DP-1 & P16.

In 2010, 86.7 percent of Hopewell Township's population was white, 2.1 percent was African American, and 8.9 percent was Asian, including 2.8 percent Chinese and 3.7 percent Asian Indian.[1] Small percentages of the population were Native American, Pacific Islander, from other races, or of two or more races, and only 3.3 percent of the population was Hispanic or Latino of any race. Compared to 2000, the racial distribution of the township changed marginally with the rapid increase of the small Asian population and the loss of more than half of the African American population.

[1] 2010 Census Summary File 1, Table DP-1 Profile of General Population and Housing Characteristics.

In 2010, not quite 40 percent was aged 30 to 54 and only 6.1 percent was in his or her twenties. Over two-thirds of the population was older than 25 and residents who were older than 65 accounted for 14.2 percent of the population. The 2010 median age of Hopewell's residents was 44.4 years compared to 37.2 years for the nation, representing an age gap of 7.2 years. In 1990, the gap was 5.8 years with a median age of 38.7 and 32.9 respectively. In contrast, the 2000 census showed a considerably less-pronounced age gap at about 3.8 years when the median age for the area was 38.7 years and the median age for the nation was 32.9 years, due primarily to the in-migration of middle age families who came to live in the then-newly developed residential developments such as *Brandon Farms*. The recent widening of the gap is attributed to population aging and the development of additional age-restricted projects. Figure 1 shows the age distribution of the township for 2000 and 2010.

Figure 1 2000 and 2010 Age Structure of Hopewell Township



Source: US Census, 2010 and 2000 Summary File 1, Table QT-P1 Age Groups and Sex.

The graph shows that the township includes a large number of middle-aged adults and children under 18 with a small college-aged population and a significant and growing senior population. It also reveals that the township is significantly aging. First, during the last decade, every age group above 45 years old experienced net gains and the 45- to 54-year-old group became the largest age group. Second, the township lost 908 persons in the 30- to 44-year-old groups between 2000 and 2010. Third, the gain in the 10- to 19-year old age group is temporary because many individuals in this group will leave the area when they go to college. Fourth, the township experienced a net loss of 286 persons under ten years old during this period. Birth figures show that between 2000 and 2009, about 1,500 infants were born to mothers who lived in the township;[2] as the number of persons under ten was 2,059 in 2010, about 560 of them were born elsewhere and moved to the township after 2000. While the number of births declined slightly between the two ten-year periods of 1990 to 1999 and 2000 and 2009, the in-migration of those who were less than ten years old decreased substantially. Because in 2010 the number of women of childbearing age is lower than in 2000, the future number of births in the township is expected to decline.

A cohort-retention analysis can be used to identify age cohorts that the township is more successful to retain or attract (Figure 2). This analysis compares the actual 2010 population with the anticipated population based on a cohort 10 years younger in 2000. If the actual population is higher than the anticipated population, in-migration is shown to take place in the respective age cohort. Between 2000 and 2010, the township attracted substantial in-migration from the middle-aged cohorts (30 to 54). The higher than expected population in the 10 to 14 cohort is the result of in-migration with their older parents. Once this group of teenagers reaches college age, most of them will leave the township as shown historically by the heavy loss of population in the college-age cohorts. The analysis also indicates that some of the original population over 45 in 2000 had left or died by 2010. The effect is more dramatic for the senior cohorts.

The overall age structure is now shifting toward that with large proportion above 50 years and smaller shares in the young and middle-aged population. Only in the long term might this trend reverse when younger families can afford to purchase the houses sold by the retirees. If only the established middle- and senior-age families have the financial means to live in the township, the number of those who are younger than 15 years will start to decline. It should be noted that in view of these demographic factors and recent rezoning,

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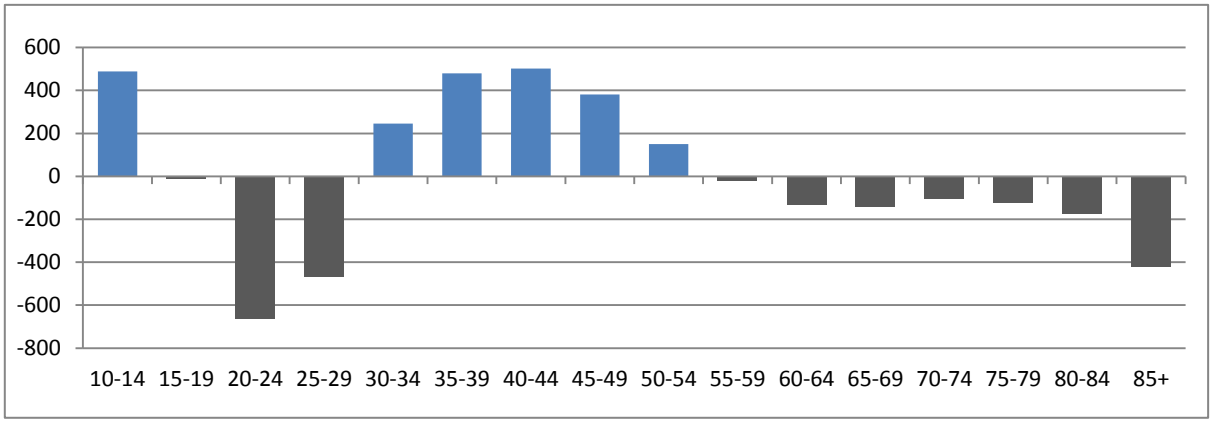
[2] 1990 to 2009 birth data from the New Jersey Department of Health and Senior Services (http://www4.state.nj.us/dhss-shad/query/result/birth/BirthBirthCnty/Count.html).

the Delaware Valley Regional Planning Commission (DVRPC) has scaled back the projected population of the township. Its previous 2007 report forecasted the township's population to be about 24,700 in 2035. Its recent 2012 report reduced the 2035 forecast by 4,350 persons and put the 2040 population at 21,730.[3]

Figure 2 Cohort Retention of Hopewell Township, 2000 to 2010



The figures are the difference between the actual 2010 population in that cohort and the anticipated population from the 10 year younger cohort in 2000. A positive figure is a strong indication of in-migration. A negative figure shows some of the original population had left or died.
Source: US Census, 2010 and 2000 Summary File 1, Table QT-P1 Age Groups and Sex.

2.2. Income, Poverty, and Employment

Despite the recent recession, Hopewell Township remains an affluent community. The American Community Survey (ACS) five year estimate for 2007-2011 show that less than one percent of families were below poverty line; while nationally, about 11.7 percent of families were below poverty in 2011.[4] This same 5-Year ACS estimated the median income for households of the township between $135,200 and $156,700. Compared to the 2011 national median household income of $50,502, the township income level is almost three times higher than the national figure.

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[3] DVRPC. 2007. *Regional, County, and Municipal Population and Employment Forecasts, 2005-2035*, Appendix A-11; 2012. *Regional, County, and Municipal Population Forecasts, 2010-2040*, Appendix A-12.

[4] Table DP03 Selected Economic Characteristics in 2007-2011 ACS 5-Year Estimates for Hopewell Township, and in 2011 ACS 1-Year Estimates for the nation. The sample-based ACS estimates may carry a large margin of error that makes the estimates very imprecise for small areas. Also 5-year ACS estimates are for the whole period, not for the ending year. The ACS replaced the decennial census Summary File 3 data in 2010.

Of the estimated 13,340 people who were aged 16 years or older, about 8,733 (65.2 percent) were in the labor force (statistically no different than the national 64 percent figure). The ACS estimated the average township civilian unemployment rate between 3 to 6.5 percent between 2007 and 2011, compared to the 2011 national average of 10.3 percent. Hopewell Township is a significant employment center in the Trenton-Princeton corridor. The top private employers are *Bank of America/Merrill Lynch*, *Bristol-Meyers Squibb*, *Janssen*, *Trap Rock Industries*, and the *Capital Health Medical Center* opened in late 2011. The US Department of Commerce's *Zip Code Business Patterns* (ZBP) recorded 10,178 private-sector jobs in 2010 for Zip Code 08534 where these firms are located. It profiled 15 establishments that employed over 100 employees (down from 22 from the previous years) and found that the majority is in the finance and insurance industries and professional, scientific and technical services.

Regarding the total number of private and public sector employment for the township, a 2012 DVRPC report estimated that about 13,200 jobs were in the township with another 2,700 in Hopewell and Pennington boroughs.[5] The combined 2010 employment figure is about 3,300 more than the previous estimation performed by DVRPC in 2007.[6] Compared to the township's total number of resident workers (8,300 by the 2007-2011 ACS), the township has net surplus of about 4,900 jobs in 2010. In terms of the larger geographic area including the township and the two boroughs, the excess in employment is about 5,300 jobs compared to resident workers. In addition, the ACS shows that about thirty percent of the resident workers work outside Mercer County. These numbers indicate that the township attracts about 7,000 commuters each day and over 20 percent of its resident workers travel more than 35 minutes to their workplaces. [7]

With its strategic location and excellent labor quality, the township has great potential for employment growth as the regional economy recovers. Another factor of possible growth is the availability of developable land. In 2007, DVRPC forecasted the employment in the township and the two boroughs would grow to 15,630 by 2035. The 2012 DVRPC report revised the forecast upward by 3,500 jobs. It forecasted that in 2040, the combined employment would reach 21,300. As the employment for the two boroughs increased only by 180 jobs between 2010 and 2040, 5,200 of the 5,400 projected jobs will be in the township.

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5 DVRPC. 2012. *2040 Employment Forecasts*, Table 2.

6 DVRPC. 2007. *Regional, County, and Municipal Population and Employment Forecasts,* 2005-2035, Appendix B-11.

7 2007-2011 ACS 5-Year Estimates, Table S0801 Commuting Characteristics by Sex.

2.3. Housing Development

The 2010 Census reported a total housing stock in Hopewell Township of 6,551 units with 6,282 occupied units, 92 percent of which were owner-occupied.[8] The ACS estimated that for the period between 2007 and 2011, about 82 percent of all dwelling units were single-family detached houses; 84 percent of the units were built with more than three bedrooms. About a quarter of the housing units were constructed in the 1990s and one-seventh were constructed in the 2000s.[9] Census data shows that between 1990 and 2000, the township built approximately 1,560 housing units, adding 38 percent more to the 1990 total of 4,070 units. Most of the increase was associated with *Brandon Farms*. In the following decade, the township gained another 920 units for a net increase of 16 percent to the 2000 total of 6,551 units.[10] Three major residential projects in the mid-2000s accounted for about 500 units. *The Gatherings of Wellington Manor*, an age-restricted community, had 115 single family homes; the *Hopewell Grant* generated 240 townhomes; and the *Hopewell Gardens*, an affordable apartment complex for 55 years and older accommodated 150 units. The rest of about 400 units were single-family detached units in small subdivisions.

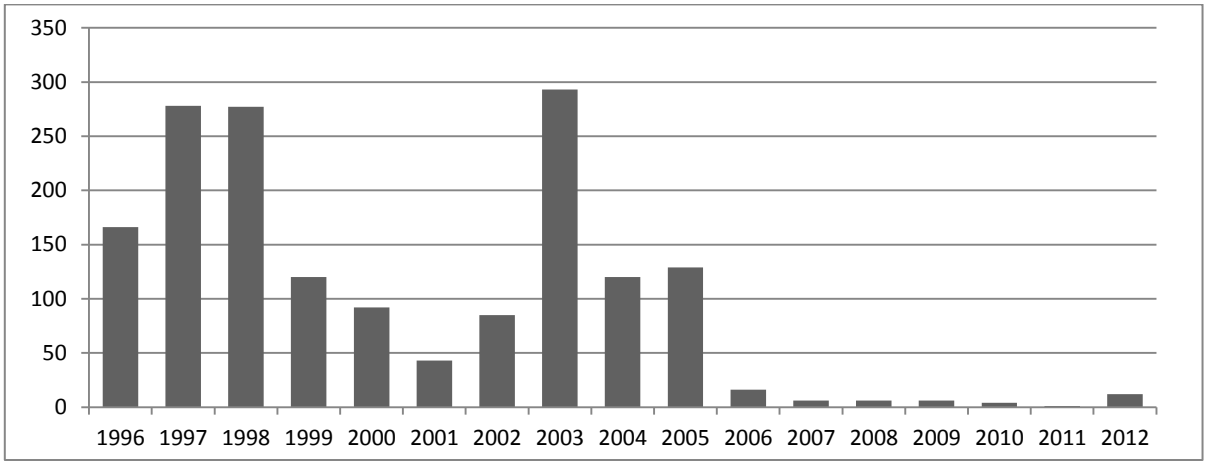
The rapid increase of employment in the region since the late 1990s added pressure on residential development. As a result, home prices increased substantially until the burst of the housing bubble in 2008. In 2000, the Census reported a median home value of $252,600 in the township as 1.5 times of the New Jersey median value of $170,800. The ACS estimated a median home value of $469,600 (with a range between $447,000 and $492,300) in 2007-2011 compared to $349,000 in New Jersey. In the 1990s, the vacancy rate was very low ranging from 3.6 percent in 1990 to 2.3 percent in 2000, reflecting an extremely strong demand for housing despite a substantial increase in housing supply. It is reasonable to believe that the vacancy rate was around two percent until 2007. Following the crash of housing market, housing vacancy started climbing slightly and by 2010, the Census reported a vacancy rate of 4.1 percent (the sample-based ACS estimated it at 6.8 percent with a range of 4.1 and 9.5 percent for the period of 2007 to 2011).[11]

Figure 3 shows the number of building permits approved for new, privately-owned residential units in Hopewell Township between 1996 and 2012. This illustrates the impact of the *Brandon Farms* in the late 1990s and the boom in the middle of the 2000s. After 2005,

8 2010 Census Summary File 1, Table QT-H1 General Housing Characteristics.
9 2007-2011 ACS 5-year Estimates, Table DP04 Selected Housing Characteristics.
10 2000 and 2010 Census Summary File 1, Table QT-H1 General Housing Characteristics.
11 2007-2011 ACS 5-year Estimates, Table DP04 Selected Housing Characteristics.

the applications for building permit for new construction literally dried up. Only in 2012, the number of approved permits went up to 12 from one in the previous year. This slight upward movement is consistently with the national trend. The latest seasonally adjusted annual rate of housing starts (November 2012) in the nation is 861,000 units compared to 500,000 and 700,000 units in 2010 and 2011. Since it takes several years from permit approval to occupancy, the 51 approved permits for new construction in 2006-2012 has had little impact on the current township population.

Figure 3 Building Permits Authorized in Hopewell Township, 1996 - 2012



Figures are for new, privately-owned residential housing units authorized by building permits. 2012 figures are up to October.

Source: U.S. Bureau of the Census, Building Permit Data, (various years): http://censtats.census.gov/cgi-bin/bldgprmt/bldgdisp.pl.

3. Ratable Base in Hopewell Township

For most local governments, property taxes are the most important revenue source. In 2012, 60 percent of the revenues of Hopewell Township came from property taxes. This tax stream is even more crucial for local school districts. In the same year, property taxes accounted for almost 90 percent of the total revenues of Hopewell Valley Regional School District (HVRSD). Therefore, an examination of the property tax base is warranted.

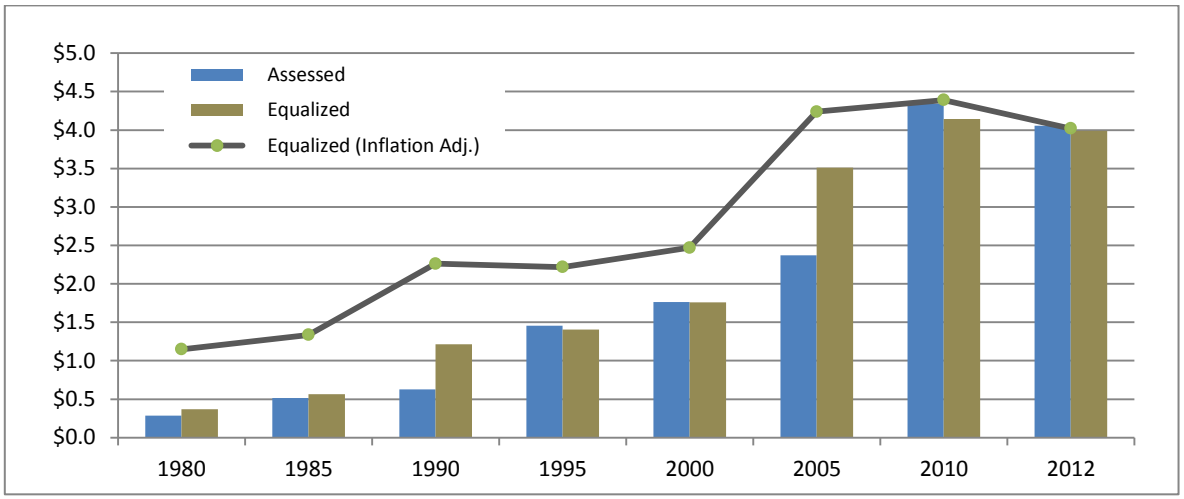
3.1. Parcels and Real Property Values

Two major factors affect the total property values in the township: a) the pace of subdivision, and b) value appreciation. Since the mid-1990s, a vast area of the southeastern section of the township was subdivided for residential and commercial development. With 1,300 units, the *Brandon Farms* development was the biggest residential development throughout the late 1990s. Between 2000 and 2007, 665 residential parcels (with 820 dwelling units) and 33 commercial parcels were developed. In contrast, after 2007 the township did not add a single commercial parcel and the residential property actually dropped by 28 parcels.

The property values of Hopewell Township have experienced substantial growth in the past three decades (Figure 4). Measured in current dollars, the township's total equalized property value (the market value) has increased from $371 million to $4 billion between 1980 and 2012. This eleven-fold increase represents an annualized percent growth rate of 7.7 percent. After adjusting for inflation using 2012 dollars, the total equalized property value increased 3.5 times at an annualized percent growth of 4 percent during this period.[12] However, this growth has reversed since 2008. The equalized value of the township fell after it reached the peak of $4.7 billion in the mid-2000s due to massive real estate price decline and the halt in subdivision and housing starts.

[12] The inflation adjustment in this report is based on the Consumer Price Index (CPI) reported by the Bureau of Labor Statistics for of all urban consumers in the New York-Northern New Jersey-Long Island region. November 2012 is used as the targeted time for adjustment. The series is at http://data.bls.gov/pdq/SurveyOutputServlet?data_tool=dropmap&series_id=CUURA101SA0,CUUSA101SA0.

Figure 4 Hopewell Township Total Valuation

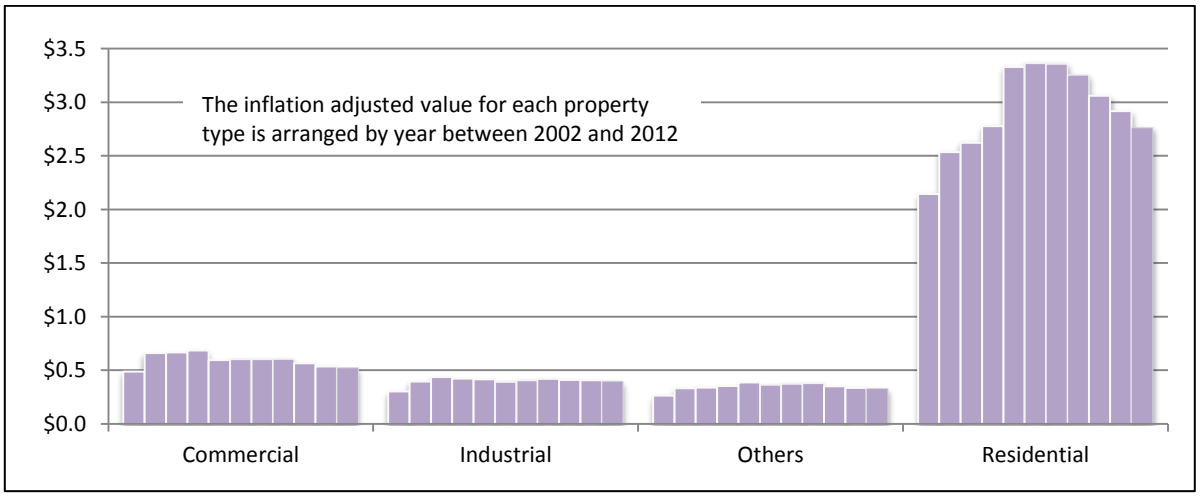


Figures in columns are in current billion dollars, without inflation adjustment; figures in line are adjusted to 2012 billion dollars.

Source: Hopewell Township Tax Assessor Office, *Table of Aggregates* and Mercer County, *Abstract of Ratables* (for indicated years).

Figure 5 illustrates the change in equalized value in a more detailed manner for the most recent ten years. Measured in 2012 dollars, the township total equalized values reached its height of $4.75 billion in 2008, and started falling to $4.02 billion in 2012. Between 2008 and 2012, it declined at 4.1 percent per year; 2009 and 2012 it declined at 4.8 percent.

Figure 5 Hopewell Township Real Equalized Valuation by Property Types



Figures are adjusted to constant 2012 billion dollars. Residential values include an insignificant share for apartments.

Source: Hopewell Township Tax Assessor Office, *Table of Aggregates* (2002 to 2012).

The equalized nonresidential value rose from $1.06 billion in 2002 to $1.46 billion in 2005 and then fell to $1.26 billion in 2012 (all in 2012 adjusted dollars). The more volatile residential values fell from $3.37 billion in 2007 to $2.76 billion in 2012. Its 2007-2012 annualized percent rate of about -3.9 percent is 2.4 times larger than that of the nonresidential value. This decline has recently been accelerating at 5.3 percent between 2011 and 2012. Accompanied by an increase in vacancy, these declining market values caused the fall in assessed value as property owners filed additional appeals against over-valuation. Since residential properties accounted for about 70 percent of total valuation, this decline has significant implications for the collection of property tax revenues. If the housing market does not substantially recover and property value assessments continue to decline, the pressure to raise the property tax rate to compensate for the loss of tax revenues will increase. Fortunately, the National Association of Realtors recently reported that the 2012 4th Quarter median housing price in Mercer County had a 13 percent year-over-year increase. [13]

In 2005, the Township undertook a revaluation to bring the assessed value in line with the then-inflating market value. In 2006, the year the new figures came into force, the assessed value was $4.6 billion (in current dollars without inflation adjustment) — a $2.2 billion increase from the previous year. Table 3 presents the 2006 to 2012 assessed values and illustrates the changes in the tax base. In this period, the total assessed value (not adjusted for inflation) had decreased by $536 million, or falling at an average rate of 2 percent per year. The decline accelerated after 2009 at an annualized rate of about -3.3 percent. As the national housing market showed signs of recovery in late 2012, this downward trend begins to stabilize in 2013, though a recovery would be slower and longer.

As expected, industrial and commercial properties have the highest assessed value per parcel. In 2012, the average industrial parcels were assessed at $13.9 million and almost identically valued to the peak average value of 2006. The average assessed value for commercial parcels was $3.1 million, compared to $3.4 million in 2006. The average residential parcel was assessed at $474,700 in 2012, down from its peak of $554,000 in 2006. On average, each parcel lost about $73,400 of assessed value. The *Capital Health Medical Center* is the only recent significant non-residential development. However, this facility enjoys tax exemption, except for the 150,000-square foot medical office condominium. The additional tax revenue did not significantly increase the township tax base.

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13 National Association of Realtors. 2013. *Median Sales Price of Existing Single-Family Homes for Metropolitan Areas* (released on February 11).

Table 3 Net Assessed Value per Property Classification

Class	2006	2007	2008	2009	2010	2011	2012
Vacant Land	$91	$76	$74	$73	$57	$54	$55
Residential	$3,225	$3,238	$3,212	$3,134	$3,022	$2,903	$2,785
Farm (Regular)	$274	$266	$274	$278	$275	$268	$268
Farm (Qualified)	$6	$6	$6	$6	$6	$6	$5
Commercial	$579	$583	$581	$585	$559	$534	$530
Industrial	$405	$378	$392	$401	$408	$406	$403
Apartment	$8	$6	$5	$5	$5	$5	$6
Others *	$5	$6	$6	$7	$10	$7	$7
Total	$4,594	$4,558	$4,551	$4,489	$4,342	$4,183	$4,058

Figures are in current million dollars without inflation adjustment. Others include non-real property such as machinery, equipment, and telephone systems.
Source: Hopewell Township Tax Assessor Office, *Table of Aggregates* (for indicated years).

In 2005, the overall assessed value of Hopewell Township was at about 60 percent of the equalized (market) value. This ratio, also called the equalization ratio, in theory, should be close to 100 percent in the year of revaluation and steadily decline onward because the market value should increase while the assessed value doesn't change--only when market value is depreciating would this ratio increase. Real estate prices dropped significantly in early 2006 and consequently, the 2006 equalization ratio was at 113 percent (Table 4) and, although the ratio has been steadily decreasing, it is still above 100 percent, indicating that the assessed value is still slightly above the market value.

Table 4 Equalization Ratios in Hopewell Township, 2006 to 2012

	2006	2007	2008	2009	2010	2011	2012
Equalization Ratio	112.67	108.87	104.24	104.20	104.74	103.03	101.66

All figures are in percentages.
Source: Hopewell Township Tax Assessor Office, *Table of Aggregates* (for indicated years).

3.2. Property Tax Rates

In 2005, the year before the revaluation took effect, the combined tax rate reached $3.404 per $100 valuation. In 2006, the combined rate was greatly reduced to $1.914 per $100 valuation, representing a 44 percent cut. [14] During the period between 2000 and 2005, the

[14] Testimony of Hopewell Township Deputy Mayor, David Sandahl to the Joint Legislative Committee on Government Consolidation and Shared Services, November 1, 2006.

combined rate had grown by 86.4 cents. Between 2006 and 2012, the combined rate climbed to $2.43 per $100 valuation, or an increase of 51.1 cents.[15] Compared to the previous period the combined rate has increased at a slower pace each year (4 percent between 2006 and 2012 versus 6 percent between 2000 and 2005). The fastest growth in the early 2000s coincided with a period of rapid land development. The slower growth more recently has largely benefited from the initial rise in property values (up to 2007) and the later increased fiscal discipline during the recession.

Table 5 presents the tax rates for each tax category between 2006 and 2012. Over these five years, the fastest growth was fire assessment (50 percent growth), county library tax (37.5 percent), regional school tax (28.1 percent), county tax (26.3 percent), and township purpose tax (25.4 percent). The rate for county open space tax increased only 5 percent while that for the township open space actually dropped. It should be noted that school tax has increased fairly consistently even after enrollment had peaked. The township purpose tax increased by 1.5 cent in 2012, or a 5.2 percent increase in one year; the 0.4 cent fire assessment increase was a 6.5 percent hike. But the biggest increase in 2012 is in the county tax of seven cents or representing a growth of 15 percent. The combine increase in the township rates (including municipal purposes, open space and fire services) in 2012 is 2 cents (5 percent growth). Unless housing values bounce back, this rate of $0.397 per $100 valuation is likely to increase because of declining assessed value, lack of major development, and the depletion of the township housing fund.

Table 5 Property Tax Rates as per $100 Valuation

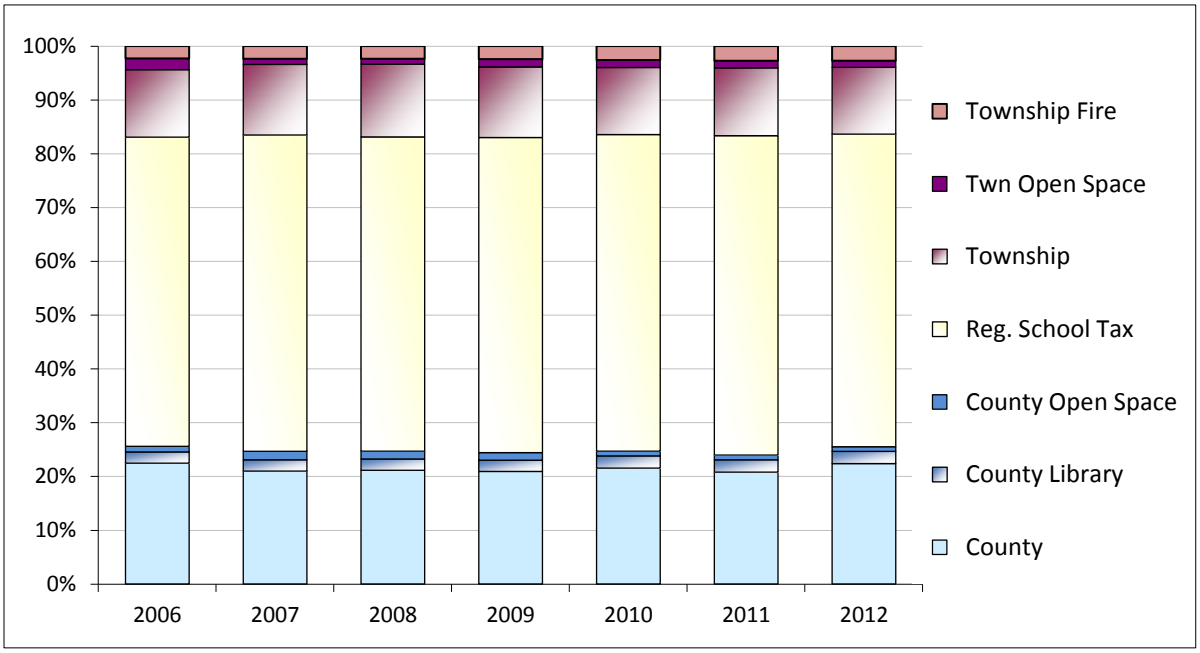
Category	2006	2007	2008	2009	2010	2011	2012
County Tax	0.430	0.400	0.422	0.431	0.465	0.472	0.543
County Library	0.040	0.040	0.042	0.043	0.049	0.052	0.055
County Open Space	0.020	0.030	0.029	0.029	0.019	0.020	0.021
Regional School	1.100	1.120	1.166	1.206	1.270	1.347	1.409
Township Purposes	0.240	0.250	0.270	0.270	0.269	0.286	0.301
Township Open Space	0.040	0.020	0.020	0.030	0.030	0.030	0.030
Fire	0.044	0.045	0.047	0.050	0.056	0.062	0.066
Combined Rate	1.914	1.905	1.996	2.059	2.158	2.269	2.425

All figures are in dollar as per $100 valuation. The fire "tax" is technically an assessment charge of a special district and is not part of the township budget. It is included here to provide a complete picture from the perspective of property tax payers.
Source: Hopewell Township Tax Assessor Office, *Table of Aggregates* (for indicated years).

[15] The precise figure is $2.35899137 per $100 valuation, excluding the $0.066 on the fire levy.

In terms of percent share in 2012, the largest share of 58 percent went to the school tax, followed by the combined county taxes (24 percent). The share for all Hopewell Township taxes (municipal-services, fire, and municipal open space) accounted for about 16 percent. Back in 2000, the combined township share was 12 percent. With the increase in land subdivision, population, and needs for public services, that share gradually grew to 17 percent by 2006, when the distribution pattern stabilized (Figure 6).

Figure 6 Distribution of Property Tax Rates in Hopewell Township



Source: Hopewell Township Tax Assessor Office, *Table of Aggregates* (for indicated years).

3.3. Property Tax Levies

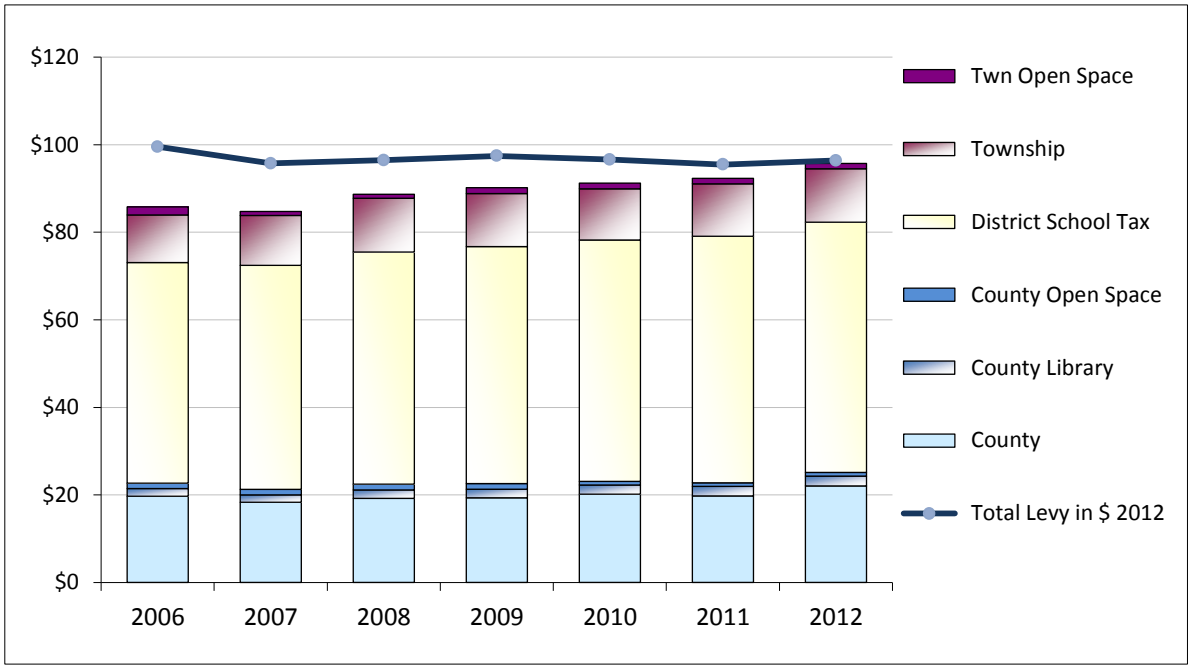
The total property tax levied in 2012 from the Hopewell Township was $95.7 million, of which 60 percent ($57.2 million) was allocated to the HVRSD. Twenty-six percent $25.1 million) was allocated to three county functions (general purposes, library and open space). The township was allocated $13.4 million (14 percent) of all levied.[16] Unlike the rapid growth of property tax revenues in the period of 2000 and 2005, the total amount collected has grown marginally between 2006 and 2012. The net gain of $9.93 million (in current dollars) represented a growth at 1.8 percent per year. Sixty-eight percent of this increase

[16] The figures do not include the rollback tax payment by *Capital Health* under the July 2011 agreement.

($6.8 million) was for the school tax. The second largest net increase in taxes was for the county functions, which gained $2.5 million in this period. The township taxes gained about $0.7 million. The county library tax revenue increased by about $483,000 and is the fastest growing category in terms of percent growth rate.

Under this general picture, more complex changes took shape in the period between 2006 and 2012. First, the taxes collected in 2006 were substantially higher than that in 2005. This single-year $7.3 million increase showed the effects of the inflated property value. Immediately afterward, the county lowered its tax rate, leading to a drop of $1.4 million tax revenues in 2007. Similarly, the township reduced its tax rate in 2008 and was successful in not raising taxes for the following two years. The county and municipal open space tax was scaled back throughout this period. The strong adherence to a policy of fiscal discipline and the falling assessed value resulted in little growth in tax revenue after adjusting for inflation. In this period, only the school tax rate has steadily increased from $50.4 to $57.2 million.

Figure 7 Property Taxes Levied in Hopewell Township



Figures are in million dollars. Dollar amounts in the columns are not adjusted for inflation but that for the line "Total Levy" is adjusted to 2012 dollars. Levy for fire assessment is not included (from 2 million to 2.7 million current dollars between 2006 and 2012).
Source: Hopewell Township Tax Assessor Office, *Table of Aggregates* (various years).

However, after adjusting for inflation, the total tax collected in constant 2012 dollars actually decreased from $99.5 million to $96.4 million. This downward trend reflects the fiscal challenges of general austerity and the depressed real estate market. Given the public sentiment against any tax hike, it is difficult to anticipate precisely how fast the tax rates could be realistically raised. If the township, the county, and the school district take further drastic measures to cut costs, a potential future tax levy will be neutralized. On the other hand, any big reduction in transfers from the upper levels of government (state or federal) creates a pressure of increasing locally-generated revenues to maintain current levels of services.

4. Municipal Finance

This section reviews the revenues and appropriations of Hopewell Township based on the township's budgets. This review helps understand which revenue sources and appropriations items are relevant to the proposed *Pennytown Project*. It also provides useful data for estimating per capita municipal expenditures.

4.1. The National Economic Recession

In December 2007 the United States entered into the deepest recession since 1929. The National Bureau of Economic Research announced that both the Gross Domestic Product (GDP) and Gross Domestic Income (GDI) reached their lowest points in the middle of 2009.[17] Since then, national output has been improving; however, the recovery has been weak and uncertain because of the shrinking labor force, tight lending practices, mounting debt, and extreme rates of home foreclosures. Despite monetary policies that lower the interest rate almost to zero and various federal stimulus packages and programs that bail out banks and businesses, the country continues to suffer from high unemployment. According to the Bureau of Labor Statistics, the national unemployment rate increased from 4.4 percent in the first quarter of 2007 to 10 percent in October 2009. Since then, the national rate declined to 7.7 percent in November 2012. New Jersey has not experienced the same fortune; after a brief dip to 9 percent in early 2012, the unemployment rate for New Jersey rose again to 9.6 percent, nearly the same as it was at its peak in late 2009.

Throughout this downturn, all levels of governments have experienced fiscal distress. The collapse of real estate values and mounting unemployment significantly eroded the local tax base. As state governments entered a period of austerity, they reduced aid and funding transfers to local governments. Even with its strong fiscal standing, Hopewell Township is not exempt from these unfavorable conditions. During the recent economic downturn, the Township had shown exceptional prudence in its fiscal management as it took advantage of low interest rates to refinance its bonds. It also maintained a tax collection rate over 90 percent. In late 2009, the Township's bond rating has been elevated to AAA, the strongest creditworthiness rating among municipal or tax-exempt issuers.[18]

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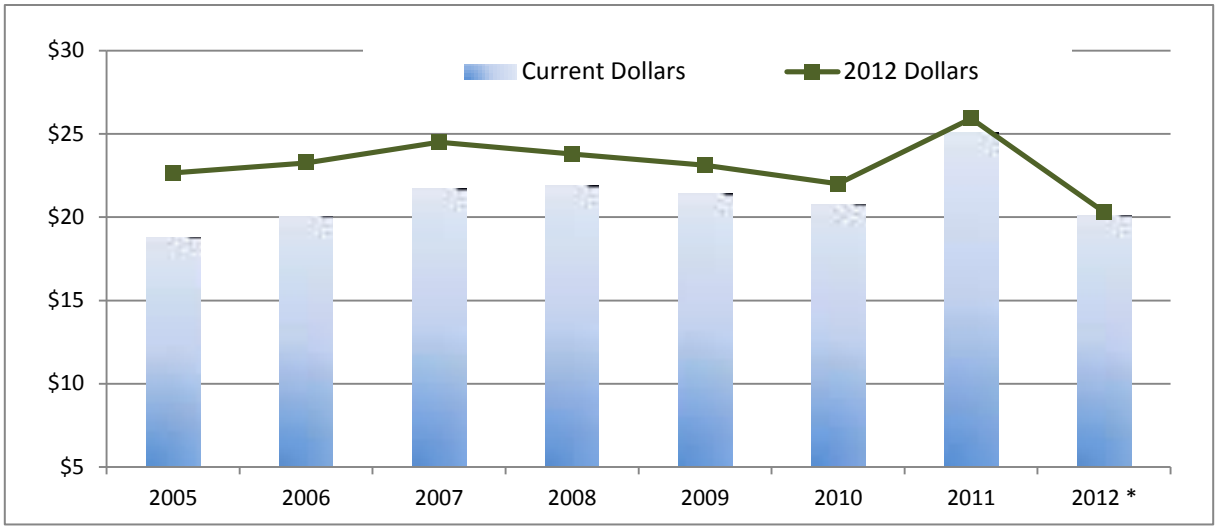
17 The National Bureau of Economic Research. "US Business Cycle Expansions and Contractions." http://www.nber.org/cycles/

18 Minutes, Hopewell Township Committee Regular Meeting, December 14, 2009.

4.2. Municipal Revenues

Figure 8 reports the total township revenues realized between 2005 and 2011.19 First it is important to note that the revenue spike in 2011 is a temporary phenomenon. The surge of $4.3 million includes the payment of back taxes of $1.9 million, primarily from the for-profit medical condominium of the *Capital Health Medical Center*, and the increase of the collected property tax revenues due to a 6.3-percent tax hike (from $0.269 to $0.286 per $100 valuation). As such the current township budget anticipates that the total revenues for 2012 will return to the 2010 level. Either measured in current dollars or in 2012 dollars, the total revenues increased marginally from 2005 to 2007 and then consistently declined afterwards (except the surge in 2011). Until the housing market fully recovers, this less promising trend will not reverse.

Figure 8 Changes of Revenues in Hopewell Township



Figures for columns are in current million dollars; figures for the line are adjusted to 2012 dollars.
* All figures are realized revenues except those for 2012, which are anticipated revenues.
Source: Sheet 11 of the *Hopewell Township Municipal Budget* (various years).

To adjust for the anomaly of the realized revenues in 2011, this report uses the period 2005 to 2010 for the baseline analysis of recent trends. Over this period, total general revenues have increased from $18.8 million to $20.6 million in nominal terms (without an adjustment for inflation) or growing at a modest 2 percent per year. Between 2008 and 2010, revenue

19 The realized figures for 2012 were unavailable at the time this report was prepared. In most part of the 2000s, the total realized revenues had been 10 to 20 percent higher than the anticipated figures from the budget of the previous year. But the gap narrowed to about 4 percent in 2009 and further to 2.3 percent in 2010.

has declined, however. Table 6 shows the changes in the various revenue sources. The only items that exhibited growth in the entire five-year period are a) grant programs, and b) other special sources, including non-recurring refunds from capital programs and debt service. Because of the collapse of real estate values, it is not surprising to see that property tax revenue, which peaked in 2008, has suffered an annual decline of 6 percent between 2008 and 2010. Local non-property tax revenues, (such as interest on investments and deposits, fines and fees, and financial charges on tax delinquency) barely grew during the recession. State aid has consistently declined at about 7 percent between 2005 and 2010. Compared to 2005, the township received $767,000 less state aid in 2010. Throughout this period, the special items (including the reserve for debt service, various refunds from a capital surplus, the debt service of affordable housing construction, and the recreation trust) increased from $0.3 million to $1.3 million. Since the recession, the township adopted a fiscal policy preventing the use of more surplus than it could replace. Due to this fiscal austerity, the township's realized surplus was amended from $1.9 to $1.4 million, reflecting its great restraint in the face of severe economic difficulties. [20]

Table 6 General Revenues Realized in Hopewell Township

Revenue Items	2005	2006	2007	2008	2009	2010	2011*
Property Tax	$11.3	$11.8	$12.3	$13.6	$12.9	$12.1	$14.3
Surplus Realized	$1.9	$1.9	$1.8	$1.4	$1.4	$1.4	$1.4
State Aid	$2.4	$2.4	$2.4	$2.2	$2.1	$1.7	$1.6
Non-property Tax Revenues	$1.2	$1.8	$2.0	$1.4	$1.2	$1.2	$1.5
Interlocal Services	$0.4	$0.5	$0.5	$0.6	$0.6	$0.7	$0.6
Grants	$0.5	$0.8	$1.3	$1.4	$0.9	$1.5	$1.6
Delinquent Tax Payment	$0.8	$0.9	$1.4	$1.2	$1.1	$0.9	$2.8
Other Special Items	$0.3	$0.1	$0.0	$0.0	$1.1	$1.3	$1.2
Total Realized Revenues	$18.8	$20.1	$21.7	$21.9	$21.4	$20.8	$25.1

Figures are in current million dollars without inflation adjustment.

* The 2011 figures are not used in the trend analysis because of its one-time $5 million increase.

Source: Sheet 11 of *Hopewell Township Municipal Budget* (various years).

[20] Surplus is labeled as "surplus anticipated" in the budget, but since the figures reported here are realized in cash for the previous year, so it is termed "Surplus Realized." The current 2012 Budget anticipates a higher surplus of $1.9 million in 2012. This amount was in line of the level in the mid-2000s. Given the gradual recovery in the housing market and a recent tax hike, this figure should be achieved.

Measured in 2012 dollars, total realized revenues decreased from $22.7 to $22 million between 2005 and 2010, at an annual rate of -0.6 percent (Table 7). The State cut aid to the township by 40 percent in this period. The surplus realized decline by one-third, and local non-property tax revenues collected were down by 12 percent. The largest revenue source, property taxes decreased by 6 percent in real terms. Other revenue sources such as reimbursements from neighboring municipalities, grants, payment of delinquent taxes, and special items (mainly refunds) increased in real terms, but are small and irregular items. These figures indicate a mild fiscal stress caused by major reductions to intergovernmental transfers and the lack of growth of the real estate tax base after the housing bust.

Table 7 General Revenues Realized in Hopewell Township (in 2012 dollars)

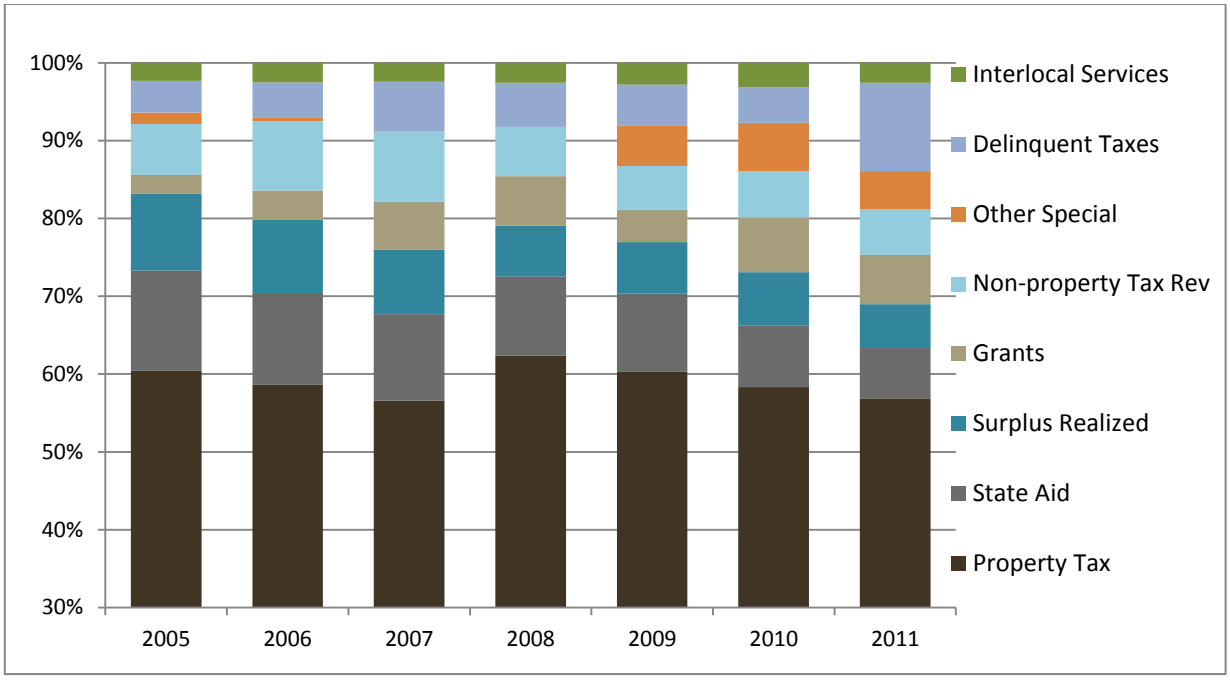
Revenue Items	2005	2006	2007	2008	2009	2010	Annual Percent Rate
Property Tax	$13.7	$13.6	$13.9	$14.8	$14.0	$12.8	-1.3%
Surplus Realized	$2.2	$2.2	$2.0	$1.5	$1.5	$1.5	-7.7%
State Aid	$2.9	$2.7	$2.7	$2.4	$2.3	$1.7	-9.7%
Non-property Tax Revenues	$1.5	$2.1	$2.2	$1.5	$1.3	$1.3	-2.5%
Interlocal Services	$0.5	$0.6	$0.6	$0.6	$0.7	$0.7	5.5%
Grants	$0.5	$0.9	$1.5	$1.5	$1.0	$1.5	23.3%
Delinquent Tax Payment	$0.9	$1.0	$1.6	$1.3	$1.2	$1.0	1.7%
Other Special Items	$0.3	$0.1	$0.0	$0.0	$1.2	$1.4	32.7%
Total Realized Revenues	$22.7	$23.3	$24.5	$23.8	$23.1	$22.0	-0.6%

Figures are in million dollars.
Source: Sheet 11 of *Hopewell Township Municipal Budget* (various years).

Figure 9 shows the percent share of each major revenue source. During the real estate boom between 2000 and 2008, the share of property tax revenue nearly doubled from 38 percent to 62.4 percent. With a weak real estate market, its share dropped to 57 percent in 2011 but is expected to recover in 2012. Late payments from delinquent taxes tended to contribute about 5 percent to the total revenues across all years except in 2011. When revenues from property taxes and delinquent taxes are included, their combined share stayed between 62 and 68 percent since 2004. The second largest source is state aid, but its share has been consistently declining. In 2000, it accounted for 14 percent of the total revenues; by 2011, it contributed 6.5 percent. The share of surplus realized fell from 20 percent to 6 percent between 2000 and 2011. Public and private sector grants, which amounted to about 5 percent of all revenues in the five previous years, increased to 6.3 percent in 2011. It is

anticipated to drop further in 2012. These last two items in particular fluctuated according to external factors. Other special revenues, mainly consisting of refunds, accounted for 5 percent of total revenues in 2011. Non-property tax revenues dropped from a long-term share of about 7 percent to 5.8 percent in 2011.

Figure 9 Composition of General Revenues in Hopewell Township



Percentages for all years are realized revenues.
Source: Sheet 11 of *Hopewell Township Municipal Budget* (various years).

4.3. General Appropriations

Table 8 shows the actual general appropriations from 2005 to 2011 as modified by all transfers at the end of the budget year.[21] In nominal terms (without adjusting for inflation), these appropriations grew from $16.9 million to $20.7 million, or by 3.7 percent each year on average. The largest appropriations expenditure, operational expenses increased mildly at 4.7 percent each year, largely due to changes in the law enforcement budget that capped police wages and required employers to start paying medical premiums. Debt service, payment to bonds and other borrowings increased at a rate of about 3.7 percent a year. Since 2010, the township eliminated expenses in other appropriations, primarily deferred

[21] The actual appropriations reported after the end of the budget year have been consistently larger than anticipated in the budget by about 5 to 8 percent in the past decade. In 2011, the difference was reduced to 1 percent.

charges and judgments. The township also improved its tax-collection efficiency by reducing the amount of uncollected taxes to $1.3 million. Capital improvements fluctuated widely from year to year, but in 2011, it was $147,000.

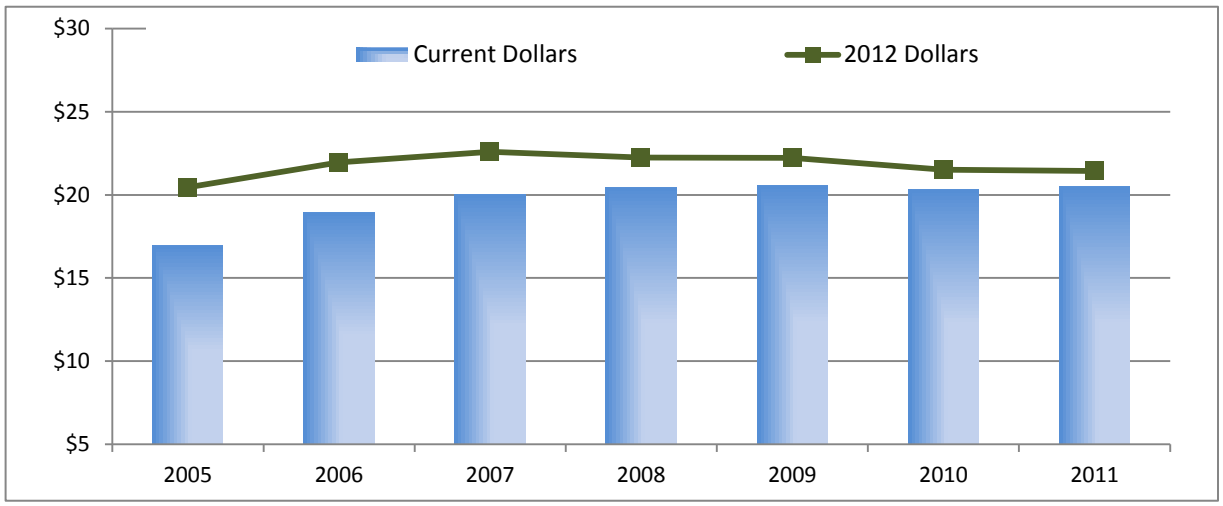
Table 8 Actual General Appropriations in Hopewell Township

	2005	2006	2007	2008	2009	2010	2011	Annual Percent Rate
Operations	$12.2	$13.4	$14.6	$15.4	$15.3	$15.8	$16.0	4.7%
Capital Improvements	$0.2	$0.5	$0.2	$0.4	$0.2	$0.1	$0.2	-4.6%
Debt Service	$2.6	$3.0	$2.8	$2.7	$3.1	$3.1	$3.2	3.7%
Uncollected Taxes	$1.6	$1.8	$1.8	$1.8	$1.8	$1.3	$1.3	-3.2%
Other Appropriations	$0.4	$0.2	$0.6	$0.2	$0.1	$0.0	$0.0	-100.0%
Total Appropriations	$16.9	$18.9	$20.0	$20.4	$20.6	$20.3	$20.7	3.4%

Figures are in current million dollars without inflation adjustment.
Source: Sheets 12 to 30 of *Hopewell Township Municipal Budget* (various years).

When the general appropriations are expressed in real terms (i.e., adjusting for inflation), it climbed between 2005 and 2007 and then steadily fell afterward (Figure 10). Since the recession started, the township has effectively contained its expenditures in spite of moderate population growth. Between 2005 and 2011, the real annual growth rate of actual general appropriations is 0.8 percent, which is very similar to the population growth rate. In other words, the gross per capita appropriations have been held constant.

Figure 10 Changes of General Appropriations in Hopewell Township



Figures for columns are in current million dollars; figures for the line are adjusted to 2012 dollars.
Figures for all years are actual appropriations reported after the budget year ended.
Source: Sheets 12 to 30 of *Hopewell Township Municipal Budget* (various years).

Table 9 provides the inflation-adjusted figures for each of the major expenditure items. Between 2005 and 2011, the household population is estimated to increase at 0.6 percent per year. All line items, except operations and debt service, increased at a slower rate than population growth. The reason that appropriations for operations has been increasing much faster than population is the growth in expenditures relating to employee benefits: retirement and pension contributions and insurance premiums (see 4.4 below). However, recent changes in line items related to law enforcement will help to contain its growth. For example, police contracts are now capped at an increase of 2 percent per year per bargaining unit. In addition, all employees are now required to phase in their contribution towards the medical premium by the end of four years.

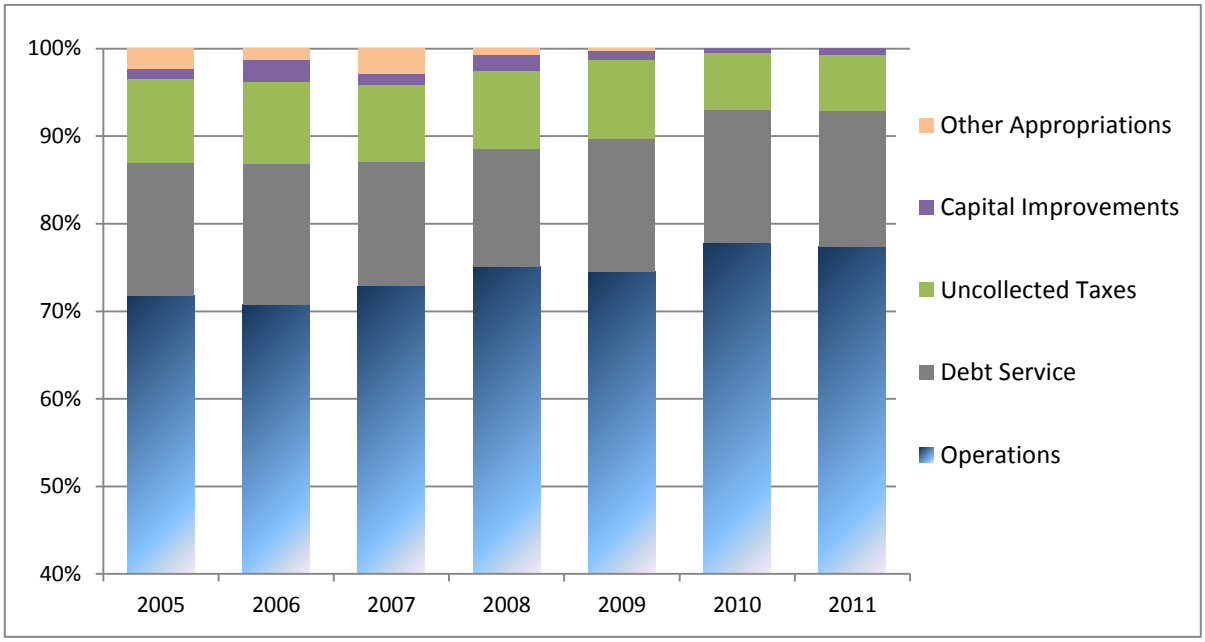
Table 9 General Appropriations in Hopewell Township (in 2012 dollars)

	2005	2006	2007	2008	2009	2010	2011	Annual Percent Rate
Operations	$14.7	$15.5	$16.5	$16.7	$16.6	$16.7	$16.6	2.0%
Capital Improvements	$0.2	$0.5	$0.3	$0.4	$0.2	$0.1	$0.2	-7.0%
Debt Service	$3.1	$3.5	$3.2	$3.0	$3.4	$3.3	$3.3	1.1%
Uncollected Taxes	$2.0	$2.1	$2.0	$2.0	$2.0	$1.4	$1.4	-5.7%
Other Appropriations	$0.5	$0.3	$0.7	$0.2	$0.1	$0.0	$0.0	-100.0%
Total Appropriations	$20.5	$22.0	$22.6	$22.2	$22.2	$21.5	$21.4	0.8%

Figures are in million dollars and are actual appropriations reported after the budget year ended.
Sources: Sheets 12 to 30 of *Hopewell Township Municipal Budget* (various years).

Figure 11 illustrates the percent share of each broad category of expenditures, indicating that municipal operations, on average, accounted for three-quarters of total appropriations. However, its share has been steadily climbing to about 78 percent recently. For a detailed discussion of the appropriations for operations, please refer to 4.4 below. Following this were debt service (about 15 percent), uncollected taxes (8 percent), and capital improvements (about 1 percent). Other appropriations (deferred charges and judgments) have dropped from 2 percent to zero.

Figure 11 Composition of General Appropriations in Hopewell Township



Figures for other years are actual appropriations reported after the budget year ended.
Source: Sheets 12 to 30 of *Hopewell Township Municipal Budget* (various years).

4.4. Operations Appropriations

Since three-quarters of the appropriations are related to operations, they deserve a more robust discussion. Sheets 12 to 30 of the township Municipal Budget provide detailed appropriations by line item under operations. We reclassified specific items into broad function categories for the sake of simplifying this discussion. For example appropriations to the court were combined with police appropriations. Some appropriations under general government operations, such as parks and maintenance, streets and roads, utilities, and sanitation were grouped as public works. In doing so, we do not distinguish appropriations "within CAPS" from "excluded from CAPS".[22] Generally, appropriations "within CAPS" are related to regular and planned government activities and include most operations. Appropriations "excluded from CAPS" include capital improvement, debt service, deferred charges, judgments, and cash deficits. Appropriations for operations but "excluded from CAPS" are one-time events and based on emergency needs such as emergency snow removal. Other operational items "excluded from CAPS" are interlocal services, and local match for public and private grants.

[22] The State of New Jersey established a statutory limitation on municipalities to ensure that recurrent operating expenses are "within CAPS" and cannot expand faster than a set growth rate.

The broad functional categories of operations used here are:

General Government Operations
Administrative and executive, financial administration, tax assessment and collection, professional services, maintenance of fleet and municipal buildings, planning and zoning, insurances, and support for commissions and committees.

Public Safety and Court
Police, municipal court, and public legal defense.

Public Works
Street and roads, street lighting, park maintenance, sanitation, recreation, and snow removal.

Public Health and Community Development
Board of health and dog regulation, community development, senior services and affordable housing.

Employee Benefits [23]
Contributions to a) social security, retirement and pension; and b) system health insurance.

Interlocal Services and Local Matches to Grants
Expenditures in providing services to neighboring jurisdictions and local matches to grant money from state and federal programs.

Residual Operations
Miscellaneous operational appropriations not included in the above functional categories.

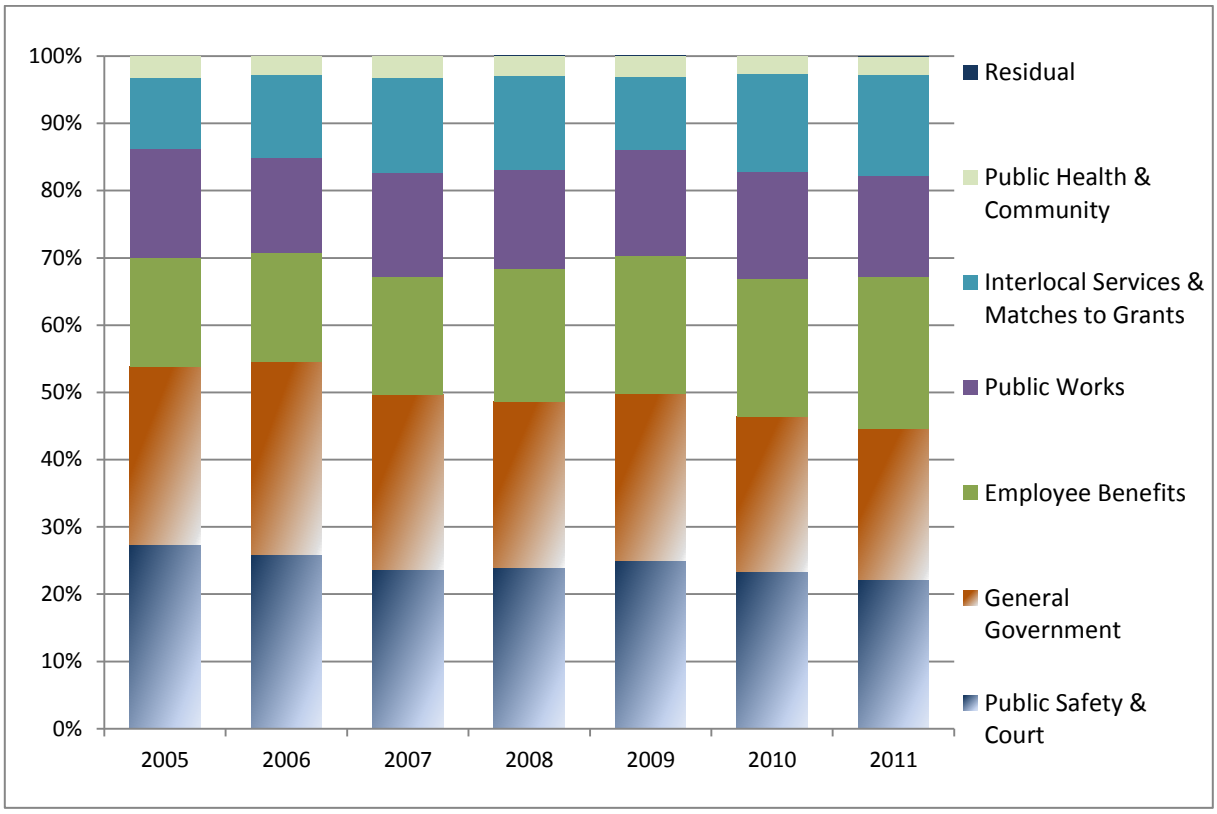
A breakdown of appropriations for these broad functional categories of operations can be found in Figure 12. Public safety and court, and general government operations each consistently amounted to almost one-quarter of all appropriations to operations throughout 2005 to 2011. However, employment benefits have been steadily rising in its share from 16 to 23 percent during this period, making it the largest function in 2011. The 2006 fiscal impact study for the proposed Beazer project cautioned that the township would face steep growth in expenditures relating to employment benefits that the township has little ability to control. [24] The current 2012 budget anticipates that this item will increase to 25 percent. A distant second largest category, public works accounted for about 15 percent throughout the period. In short, 82 percent of all operations throughout the study period were

[23] This is a new functional category not found in the 2006 *Fiscal Impacts of the Proposed Beazer Projects - Hopewell Township, New Jersey*. It includes non-recurring medical insurance and retirement under operations "excluded from CAPS", and similar appropriations "within CAPS" for medical insurance, and statutory expenditures (scheduled social security and retirement contributions).

[24] *Fiscal Impacts of the Proposed Beazer Projects - Hopewell Township, New Jersey*. 2006. Page 24.

distributed to these major functions of local government. The smaller functional categories are interlocal services and matches to grants, and health and community development.

Figure 12 Composition of Operations Appropriations in Hopewell Township



Figures are actual appropriations reported after the budget year ended.
Source: Sheets 12 to 30 of *Hopewell Township Municipal Budget* (various years).

During the same period, total operations grew at an inflation-adjusted rate of 2 percent per year as compared to the 0.8 percent growth of the total general appropriations (Table 10). The largest component of operations appropriations in 2011, employment benefits had grown at 8 percent a year in real terms during this period. Within this functional category, township payments towards health insurance premiums show the fastest real growth at a startling rate of 17 percent per year. The township's contributions towards pensions and social security have been growing at about 3 percent annually. With the new measures that require employees to pay health insurance premiums, growth in the employment benefits line item will slow somewhat but will remain the largest category of all operational expenses. In other words, the inputs to most basic municipal services have not been expanding but labor costs are rising steadily primarily due to health care costs.

Public safety and court decreased at 1 percent annually. Similarly, general government operations appropriations shrunk about 1 percent each year. Public works increased at a moderate 1 percent, primarily due to the expansion of recreation and a mild increase in parks and maintenance expenses. Interlocal services and matches to private and public grants grew in this period to match some of the losses in state aid and fluctuations in external grants.

Table 10 Appropriations in Operations (in 2012 dollars)

Functional Categories	2005	2006	2007	2008	2009	2010	2011	Annual Percent Rate
General Government	$3.9	$4.5	$4.3	$4.1	$4.1	$3.9	$3.7	-0.8%
Employee Benefits								
Pension & Retirement	$1.7	$1.7	$1.8	$1.9	$1.8	$1.8	$2.0	3.0%
Health Insurance	$0.7	$0.9	$1.1	$1.4	$1.6	$1.6	$1.8	16.9%
Public Safety & Court	$4.0	$4.0	$3.9	$4.0	$4.1	$3.9	$3.7	-1.5%
Public Works	$2.4	$2.2	$2.5	$2.5	$2.6	$2.7	$2.5	0.7%
Health and Community	$0.5	$0.4	$0.5	$0.5	$0.5	$0.4	$0.4	-0.8%
Interlocal Services & Matches to Grants	$1.6	$1.9	$2.3	$2.4	$1.8	$2.4	$2.5	8.1%
Total Operations	$14.7	$15.5	$16.5	$16.7	$16.6	$16.7	$16.6	2.0%

Figures are in million dollars.
Source: Sheets 12 to 30 of *Hopewell Township Municipal Budget* (various years).

4.5. Major Observations

In real terms, total general appropriations have increased at the modest rate of 0.8 percent each year between 2005 and 2011. In contrast, the township's general revenues declined at 0.6 percent a year. This discrepancy indicates a mild fiscal pressure on the township even as it still enjoys the strongest bond ratings. It has exercised caution and prudence in controlling expenditures during economic booms and busts. In recent years, basic municipal services such as general government operations, public safety and court, and health and community development have barely grown. It also has reduced its contingency reserve by rolling back the anticipated surplus as well as increasing tax collection efficiency. Appropriations to non-discretionary employee benefits have become the expenditure with the highest growth rate, but the township has maintained a comfortable net gain between realized revenues against the total actual appropriations, mainly due to

the back tax collection and tax increase in 2011 that drastically increased revenues. With the economic recovery in sight and another tax hike in 2012, this gain is expected to increase.

In addition, appropriations for interlocal services and local matches to private and public grants have grown quickly. In principle, appropriations to interlocal services should be self-financed (i.e., the service recipients should pay the full cost to the provider). An examination of past figures indicates that the township has been "subsidizing" the neighboring municipalities. Between 2000 and 2011, the township received on average about $619,400 per year, but paid about $891,000 annually (in 2012 dollars). The net difference is about $167,000 a year.

5. Hopewell Valley Regional School District

5.1. Overview of the School District

The Hopewell Valley Regional School District (HVRSD) is comprised of Hopewell Township, Hopewell Borough, and Pennington Borough. The district supports six public schools: four elementary schools, one middle school, and one high school. The average enrollment for the fiscal year 2011 was 3,794 students.[25] According to the 2007-2011 American Community Survey, about 85.5 percent of the school-age children (SAC) between age 5 to 17 in the Valley attended public school throughout.[26]

The school district is one of the finest in New Jersey. Schools at every grade enjoy a favorable class size, student-faculty ratio, and student-computer ratio when compared to the state averages. Hopewell Valley schools perform well in all measured categories in the New Jersey Assessment of Skills and Knowledge (NJASK) standardized tests administered by the state for elementary and middle school levels. All schools score above state averages in mathematics, in language proficiency, and in science. In the past two years, the students in the Valley consistently scored 15 percent points higher than the state averages in the NJASK (Table 11).

Students do well throughout their school careers in the school district, but they did exceptionally well from grade 8 onward. During the 2010-2011 school year, 32 percent of students in grades 11 and 12 qualified for advanced placement participation compared to 23 percent at the state level. The graduation rate of the Class of 2011 at Hopewell Valley Central High School is 96 percent.[27] In term of the scores of the New Jersey High School Proficiency Assessment Test, about 97 percent of the students scored proficient or advanced in mathematics, and 89 percent scored similarly in language arts literacy (Table 12). In contrast, the state averages are 90 and 76 percent respectively. The average SAT scores over 1700 are equally impressive. Undoubtedly, the high scores are part of a culture leading students to aspire towards "intended pursuits." For example, the last time the data was reported, 81.7 and 12.4 percent of the Class of 2010 at Central High planned to attend four-

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25 Hopewell Valley Regional School District. 2012. *Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2012*. Also FY 2011 stands for the fiscal year from July 1, 2011 to June 30, 2012. Years used in this section is referring to the fiscal year, not calendar year.

26 Table S1401, 2007-2011 ACS 5-Year Estimates, and their sample estimates contain a margin of error. See detailed discussion of the public school ratio in Section 5.4.

27 The self-reported graduation rates for the Classes of 2008 to 2010 are even higher, at around 99 percent. In 2012, the New Jersey Department of Education stopped using the self-reported figures.

and two-year college respectively. In other words, only about 5 percent of students did not intend to further their education.

Table 11 Hopewell Valley Regional School District New Jersey Assessment of Skills and Knowledge Scores Compared to State Averages

Category and Grade Level	Percent Proficient and Advanced					
	2009-2010			2010-2011		
	< Valley	State	> Differences	< Valley	State	> Differences
Language Arts Literacy						
3	76.2	59.8	16.4	78.0	63.2	14.8
4	74.1	59.7	14.4	81.0	63.0	18.0
5	84.8	63.3	21.5	82.4	61.2	21.2
6	85.9	65.5	20.4	87.8	67.0	20.8
7	88.1	69.5	18.6	85.0	63.7	21.3
8	95.7	82.9	12.8	97.2	82.6	14.6
Mathematics						
3	89.6	78.3	11.3	89.6	79.1	10.5
4	86.9	77.2	9.7	89.9	79.6	10.3
5	93.3	79.0	14.3	90.3	80.8	9.5
6	86.0	72.1	13.9	91.5	77.6	13.9
7	86.3	64.6	21.7	81.5	66.0	15.5
8	90.1	69.0	21.1	90.1	71.9	18.2
Sciences						
4	99.0	93.5	5.5	98.6	90.2	8.4
8	97.9	83.3	14.6	96.9	81.6	15.3
Average of Test Scores	88.1	72.7	15.4	88.6	73.4	15.2

Source: Hopewell Valley Regional School District. *NJ Report Card 2010-2011*: http://www2.hvrsd.org/about/Pages/NJReportCard.aspx.

Table 12 Hopewell Valley Regional School District High School Student Performance

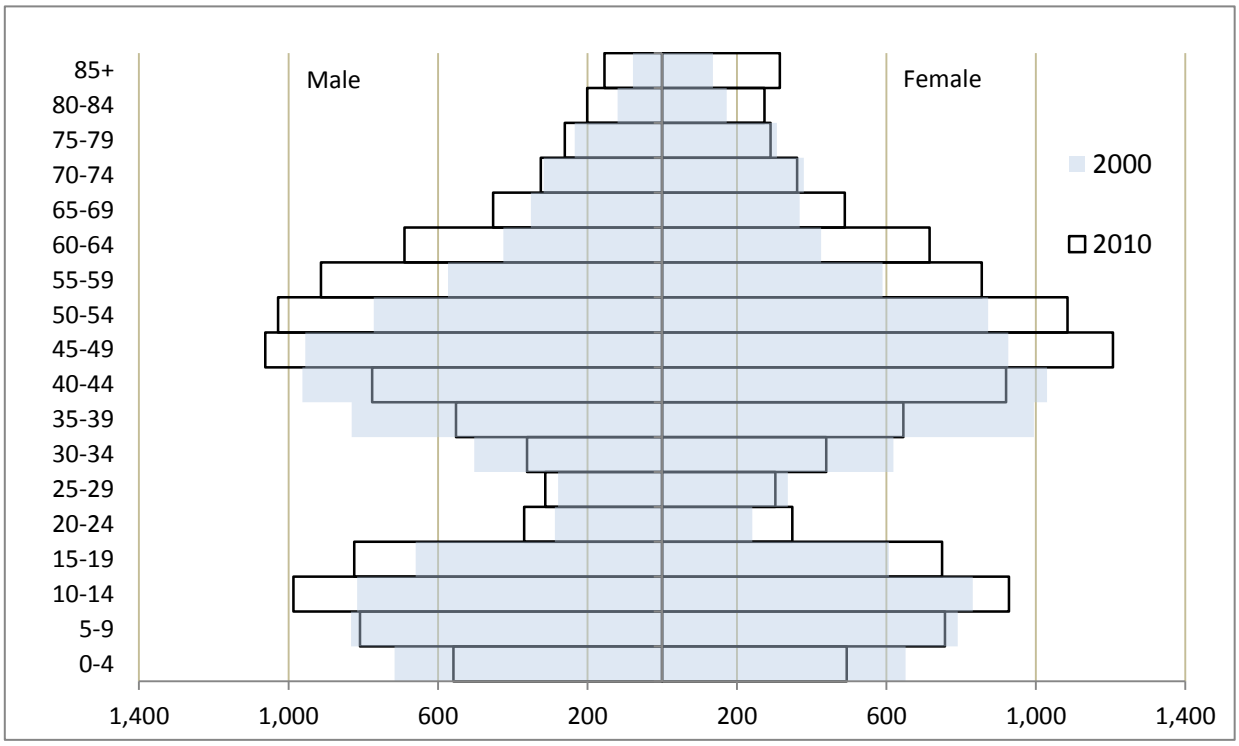
High School Proficiency Assessment	Percent Proficient and Advanced					
	2009-2010			2010-2011		
	< Valley	State	> Differences	< Valley	State	> Differences
Language Arts Literacy	96.2	88.0	8.2	96.7	90.4	6.3
Mathematics	90.5	75.0	15.5	88.7	76.0	12.7
Scholastic Assessment Test (SAT)			***Average SAT Scores***			
Mathematics	582	520	62	582	517	65
Verbal	567	496	71	559	493	66
Essay	556	499	57	565	496	69
Percent Taking SAT	85	66	19	90	74	16

Source: Hopewell Valley Regional School District. *NJ Report Card 2010-2011*: http://www2.hvrsd.org/about/Pages/NJReportCard.aspx.

5.2. District Demographics

In 2010, 21,811 individuals lived in the school district, up from 19,989 in 2000.[28] Figure 13 presents the 2000 and 2010 population pyramids showing the age and gender specific distribution. The dumb-bell shaped age distribution in both years is typical for a suburban community. When one compares the 2000 distribution (colored light blue) with the 2010 distribution (in outline), one can observe that largest share has shifted from the 40 to 49 age group to the 45 to 54 group. The number of females of prime child-bearing age (age 20 to 34) has declined from 1,196 to 1,090 between 2000 and 2010 despite the net population growth of 1,822. While the population in the 10 to 19 age group increased, the group below ten years was in decline.

Figure 13 Age Distribution of the Hopewell Valley Regional School District



Population figures exclude the institutionalized population in correctional facilities (see footnote).

Source: US Census, 2000 and 2010 Summary File 1, Table QT-P1 for the Valley (Hopewell Township, Hopewell Borough, and Pennington Borough.

[28] Unlike the 2010 figure, the 2000 population figure of 20,836 in the Valley contains 847 inmates. To exclude the prison population by age needs an adjustment using the information of Tables P12 and P38 in 2000 Summary File 1 for Block 8036, Block Group 8 of Census Tract 38 of Mercer County where the Mercer County Correctional Center is located. It should be noted only one inmate in 2000 was under 18 years old.

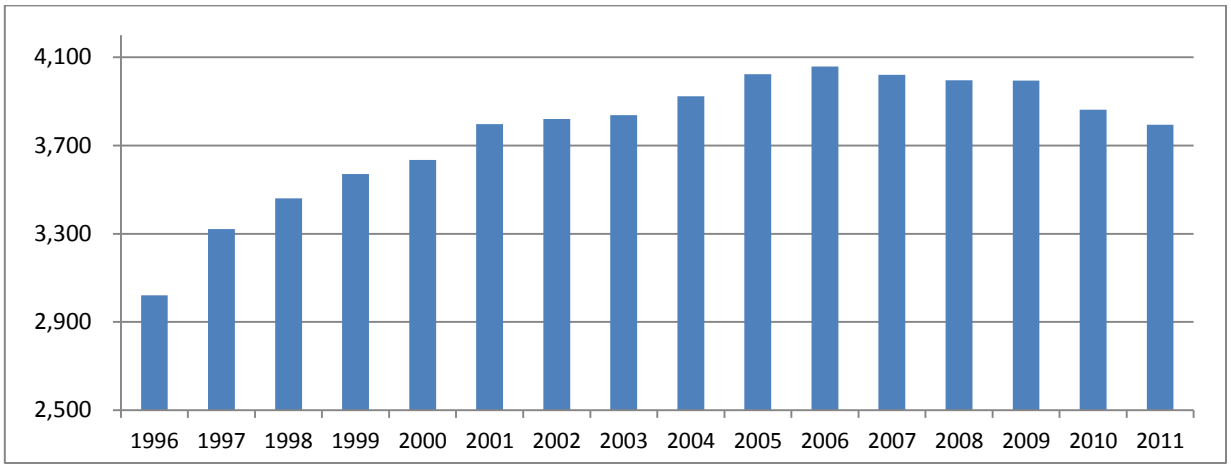
Since few housing units have been added to the HVRSD since 2007, the current population level of 21,800 should remain steady until new major housing developments are undertaken. In the absence of a significant number of families moving in the Valley, the age structure of the current population is the key to future school enrollment. The 2010 population pyramid suggests that the current decline in the elementary school enrollment will intensify. Very soon, middle school enrollment will fall. High school enrollment is expected to gain in the short term; after reaching the peak around 2016, it will decline.

5.3. School Enrollment Trends

School enrollment follows a cycle of expansion and contraction. Enrollment grows with housing development as the incoming families move in with their SAC. Young families without children are likely to have their first child once they settle into the community, sustaining the surge of enrollment for years to come. The expansion phase usually lasts almost two decades after any large subdivision is completed. Student enrollment will finally stop increasing as this student group progresses through the grade levels and leaves the school system. A period of enrollment contraction follows unless new housing is continually added to a community, which can prolong the expansion phase. Eventually, the community will build out or impose restrictions on residential development. The number of families moving into this community will slow down until retirees sell their houses to younger families. Enrollment then expands again, and the cycle repeats at a more moderate fashion because the birth rate in general has been constantly declining for several decades: today's young families are less likely to have four or more children compared to their parent's generation.

The enrollment trends in Hopewell Valley are complex. Like many postwar suburban areas, its school enrollment had declined significantly in the 1980s. In 1990 public school enrollment dropped to about 2,300. After this significant decline, enrollment recovered as small-scale subdivision came in line and mid-age families started moving into homes previously occupied by post-war baby boomers. In 1996, the enrollment reached 3,000 (Figure 14). Subsequently, the 1,300-unit *Brandon Farm* was completed and by 2001, enrollment reached 3,800. Between 2000 and 2007, about 900 housing units (including about 270 age-restricted units) were added. Student enrollment stayed at the level of 4,000 students between 2005 and 2007. Since then, it started declining. For the fiscal year of 2011 and 2012, the average enrollment has dropped to about 3,790.

Figure 14 Average Daily Enrollment in Hopewell Valley Regional School District

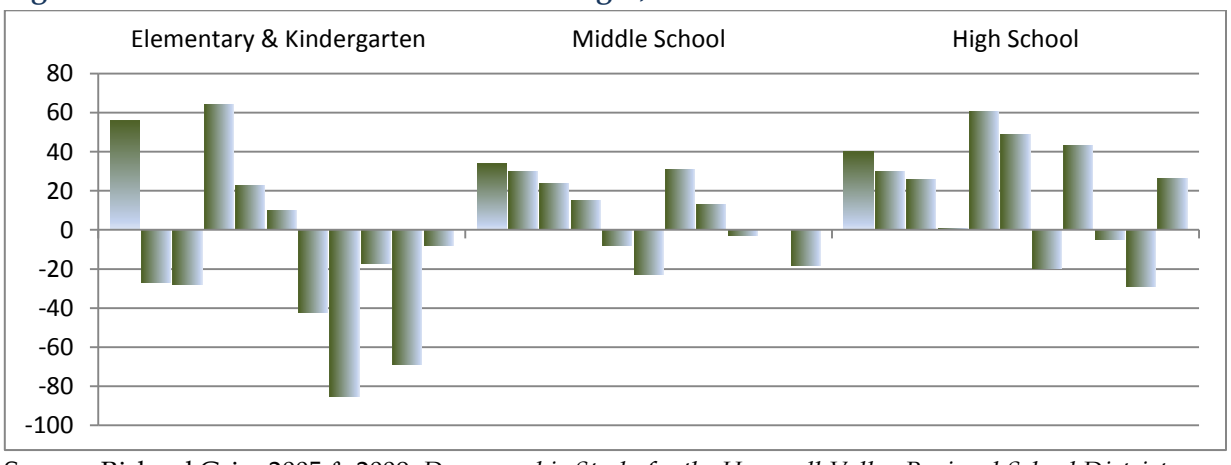


Enrollments are average daily figures. The year is the fiscal year; 2011 represents 2011-2012 fiscal year ended June 30, 2012.

Source: Hopewell Valley Regional School District. *Comprehensive Annual Financial Report, letter of transmittal* (various years).

Figure 15 compares the difference in public school enrollment between current and nine preceding years by three major categories. It shows that kindergarten and elementary school enrollment declined between 2002 and 2003 because the three existing school reached capacity. After Stony Brook opened, elementary level enrollment started climbing but soon entered a downward trend.

Figure 15 Year to Year Enrollment Changes, 2001 to 2011

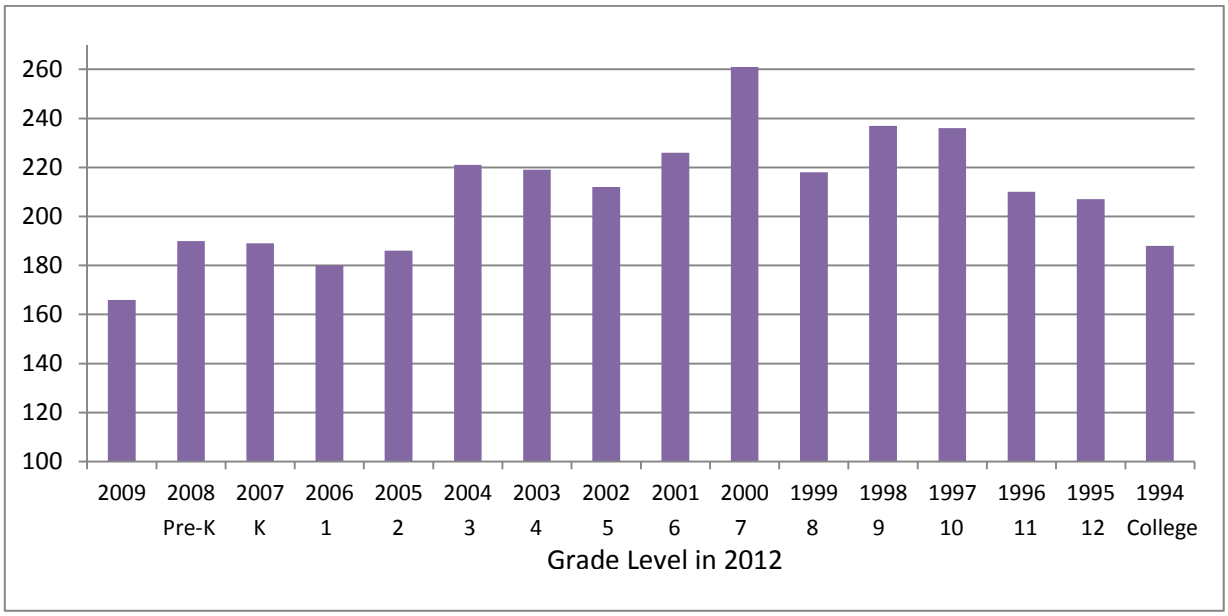


Source: Richard Grip. 2005 & 2009. *Demographic Study for the Hopewell Valley Regional School District*.

The figure clearly shows that kindergarten and elementary enrollment is in the phase of contraction while middle school enrollment will soon fall. Meanwhile, high school enrollment will still increase marginally until an anticipated peak around 2016.

Without major residential development and the association of moving in of families in the near future, public-school enrollment will be more reliant on the age structure, future births, and the public-student ratio. By 2020 when the 25 to 34 year cohort of 2010 moves into the 35 to 44 year cohort, the number of child-bearing females will drop further. College students who leave home will be unlikely to return Hopewell to start a family because housing prices are prohibitive for young couples. The birth trend can be studied based on the data reported by the New Jersey Department of Health. Figure 16 shows the number of births increased during 1994 and 2000 and has decreased since.

Figure 16 Number of Births in the Hopewell Valley, 1994 to 2009



Source: Birth Dataset, New Jersey Department of Health: http://www4.state.nj.us/dhss-shad/query/result/birth/BirthBirthCnty/Count.html

The number of births is only one determinant to forecast the future school-age population because in- and out-migration also play an important role. For the two built-out and land-locked boroughs, past birth figures can fairly accurately predict future population groups. For example, the total number of births between 1990 and 1999 in Hopewell and Pennington Boroughs is nearly identical to the number of persons under ten in 2000 (656 and 646 respectively). Again, the total number of births between 2000 and 2009 (553) almost

match exactly the number of persons below ten in 2010 (560). However, for the bigger Hopewell Township where residential development did not halt till 2008, such perfect relationship does not hold. Total births in the 1990s only accounted for 54 percent of the persons under ten in 2000. The ratio has improved to about 73 percent (1,500 births vs. 2,060 persons under ten in 2010) because the in-migration in the 2000s has decreased.

For Hopewell Valley, the ratio between kindergarten enrollment and births five years prior was about 1.6 for those who were born in 1990. The ratio has been continuously falling and is at about 1.2 today, having fluctuated greatly for the births around 2000. Generally, the ratio will increase if more kindergarten-age children move into the Valley and will decrease after housing construction activities slow down. A 2009 study forecasted kindergarten enrollment will decrease by 50 per year from 2009 to 2013 (with a steeper drop of 100 in 2011).[29] The forecast has employed the best available information and assumed future births to stabilize at the level of 210; however, recent data show that the annual birth has dropped below 170 (Figure 16 above). With the declining birth rate and the slim possibility of a large amount of incoming SAC in the near future, elementary school enrollment will continue to decline.

5.4. The Public School Student Ratio

The ratio between public school students and SAC is an important variable used to forecast future educational needs of a new development. The Princeton region houses a large number of parochial and private schools. The prep schools in this area are particularly respectable. It is important to find out to what degree the school district attracts school-age children residing in the catchment district among competition from private schools. In 2000, the Census (Table P36 of Summary File 3) estimated that 87 percent of the students in grades kindergarten through grade 12 attended public schools throughout the school system.

The 2010 Census no longer provides Summary File 3 sample data. Instead, users must gather information from Table S1401 of ACS. Unlike the 2000 Summary File 3 sample data, the ACS has a much smaller sample size. For that reason, the ACS does not provide single-year estimates for small places like Hopewell Township to avoid large and nonsensical margins of error. Instead, data for small communities like the township and the two boroughs must rely on several 5-Year ACS datasets, which are pooled samples over the

[29] Robert Grib. 2009. *Demographic Study for the Hopewell Valley Regional School District*.

respective five-year period. Users cannot pinpoint the estimated figure to a particular year. Table 13 below shows the results of using two ACS sample estimated datasets. The mid-point estimation of children from kindergarten through 12th grade attending public schools is 84.3 percent for the period 2005-2009, and 85.5 percent for the period 2007-2011. However, these data need to be viewed with caution due to the sampling methodology as these estimates are the result of a complicated procedure that involves a large sampling error. As a result, the true public school student ratios may rest between 60 percent and 100 percent, depending on the unknowable actual margin of error.

Table 13 Estimated Public School Enrollments, 2005 to 2009 and 2007 to 2011

	Estimated Population	Estimated Persons in Public Schools	Percent Share in Public Schools	
	<	2007-2011 ACS	>	2005-2009 ACS
Nursery and Preschool	404	121	29.9	24.4
Kindergarten	544	436	80.1	73.6
Grade 1 to 4	1,413	1,268	89.8	91.6
Grade 5 to 8	1,307	1,081	82.7	80.4
Grade 9 to 12	1,519	1,303	85.8	85.0
College, Graduate & Prof. School	820	516	62.9	50.2
Total in Schools	6,007	4,725	78.7	74.1
Kindergarten to 12th grade	4,783	4,089	85.5	84.3

The enrollment figures are estimates with a wide margin of errors. Adults going back to school are included in the total figure of persons who were 3 years and older enrolled in school. Home-school students are excluded.

Source: 2005-2009 and 2007-2011 ACS 5-Year Estimate, Table S1401 for Hopewell Borough, Hopewell Township and Pennington Borough.

To overcome this wide variation, an alternative method is used. Since the number of SAC can be accurately determined by the 2010 Summary File 1 (100 percent count), we can match the actual student enrollment year by year to estimate the public school ratio. Some minor adjustment and data smoothing are needed because the census data is for March 2010, and enrollment data is for October. In general, the number of SAC in 2010 is approximately 4,654 (an average of those between 5 to 17 years old and 6 to 18). The public school enrollment for kindergarten through grade 12 in 2009 and 2010 is 3,886 and 3,791 respectively. Table 14 shows that the lower- and upper-bound estimation of the share of student-age children in the Hopewell Valley went to one of the six public schools. The estimation variation is much smaller than those using ACS 5-year data. Based on these data, a public school student ratio of 82 percent will be used in this study.

Table 14 Public School Student Ratio, 2010

	2010 School-Age Children		Enrollment		Public School Student Ratio	
	5 to 17 Yr.	6 to 18 Yr.	2009	2010	Low Estimate	High Estimate
Kindergarten	290	306	240	222	0.725	0.828
Grade 1 to 4	1,636	1,704	1,451	1,408	0.826	0.887
Grade 5 to 8	1,158	1,181	977	970	0.821	0.844
Grade 9 to 12	1,583	1,450	1,218	1,191	0.752	0.840
K to 12th grade	4,667	4,641	3,886	3,791	0.812	0.837

Enrollment figures are reported by the school district.

Source: 2010 Census, Summary File 1, Table QT-P2 for Hopewell Borough, Hopewell Township and Pennington Borough; Hopewell Valley Regional School District. *NJ Report Card 2010-2011*: http://www2.hvrsd.org/about/Pages/NJReportCard.aspx.

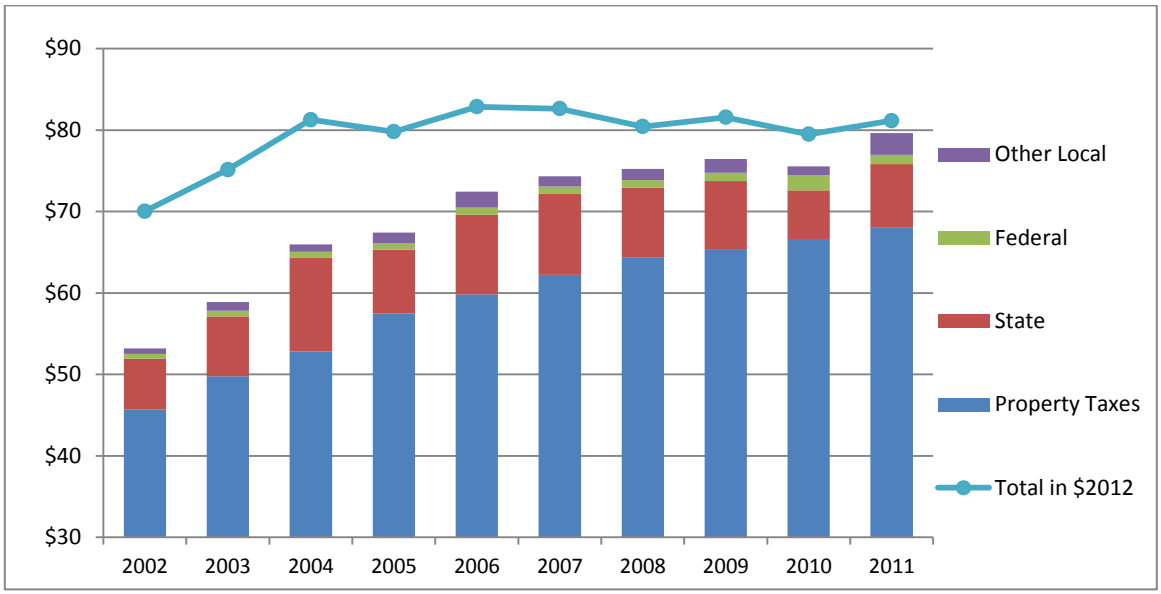
5.5. School Finance

This section examines the funding and expenditures of the Hopewell Valley Regional School District and provides data for estimating the per-pupil cost.

5.5.1. School Funding

School revenues have increased from $53.2 million in 2002 to $79.6 million in 2011. On average, it grew at 4.6 percent each year over this period. The fastest revenue growth period was between 2002 and 2008, during which, total revenue increased at 6 percent a year. After the recession, the nominal revenues slowed down to 1.9 percent a year for the period 2008 to 2011. However, the surge in revenues in 2011 was due to a onetime $1.4 million refund in health insurance premium. If the refund is excluded the annual rate of growth comes down to 1.3 percent. Figure 17 shows the revenues by source. The blue line shows the revenue in real term (i.e., adjusted for inflation) and since 2006, the revenue has stayed at the level of $81 million (in $2012).

Figure 17 School Revenues by Source, 2002 to 2011



Figures are in million dollars. The year reported is the fiscal year: 2011 is FY 2011-2012 beginning from July 1, 2011.

Source: Exhibit J-4, Hopewell Valley Regional School District. 2012. *Comprehensive Annual Financial Report*.

The school district is primarily locally funded. In 2011, 89 percent of all revenues came from local sources, including school tax, tuition, rents, fees, parking, and various refunds. Between 2002 and 2011, the local portion accounted for 86.6 percent of the total revenues. On average, the share ranges from as low as 81.5 percent in 2004 to 89.6 percent in 2010. The 2011 school tax rate in Hopewell Township is $1.347 per $100 valuation.[30] In 2012, school tax has been raised to $1.409 per $100.

5.5.2. School Expenditures

The regional school district expenditures in 2011 accounted for a total of $78.5 million. $24.4 million (31 percent) were slated for regular instruction; $5 million (6.4 percent) for other instruction; and $5.3 million (6.8 percent) for special education instruction, special school and other special instruction. The other expenditure items include $3.7 million (4.7 percent) for bus operation; and $6.9 million (8.7 percent) for support services related to student instruction like library, clinic and counseling. The school district also paid $5.8 million (7.3 percent) on operations and maintenance; $4.3 million (5.5 percent) for school, general, and business administrative services account; $4.9 (6.5 percent) on debt service; and $1.5 million

[30] Hopewell Valley Regional School District. 2012. *Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2012*. Pennington, New Jersey, County of Mercer. Exhibit J-6, page 90.

(4.6 percent) on capital outlay. However, 21.4 percent of the expenditure went to employment benefits (health premium, and contributions to pension and social security). In 2002, the share of this functional category had accounted for 13 percent of the entire expenditures and it has been increased each year.

Table 15 displays the expenditures by functional categories between 2005 and 2011. During this period, the total expenditures increased from $71.5 to $78.5 million in current dollars. The upsurge in 2006 of $10 million was spending in capital outlay (construction, equipment and facilities acquisition). In this six year period, school expenditures increased only 1.6 percent a year as oppose to the ten-percent annual growth in the enrollment. However, special education and employment benefits were growing at almost seven percent a year. Capital outlay has decreased significantly to the level of $1 million after $17 million was spent in the mid-2000s.

Table 15 School Expenditures by Function (In Current Dollars)

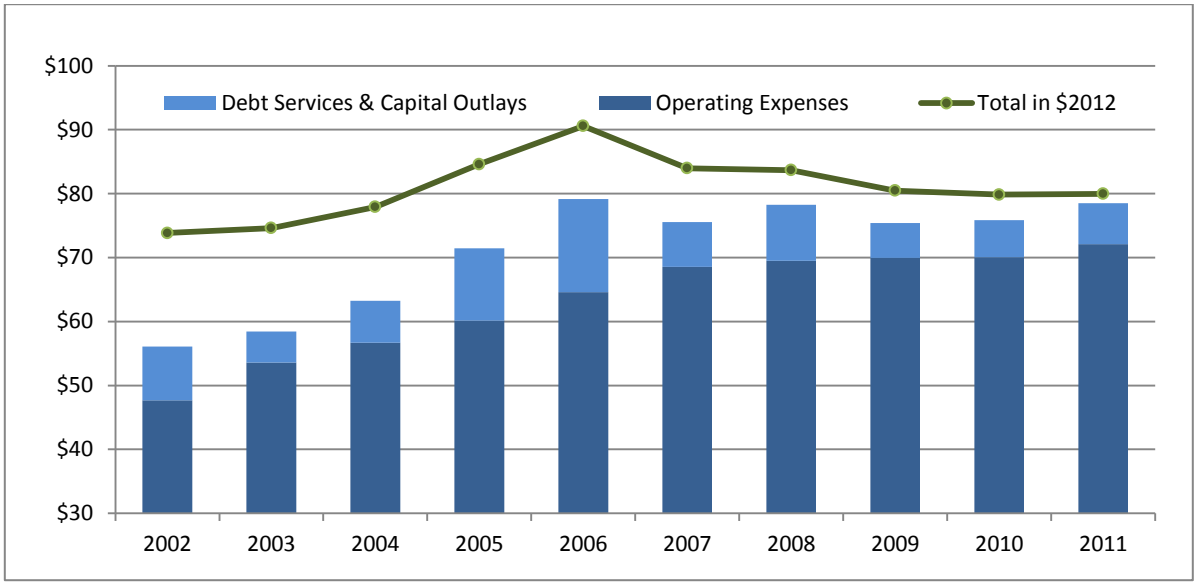
Broad Functions	2005	2006	2007	2008	2009	2010	2011
Regular Instruction	23.0	23.8	25.6	26.1	25.7	25.7	24.4
Other Instruction	4.4	4.2	3.9	4.4	4.1	3.4	5.0
Special Education	3.6	3.9	4.2	4.7	5.0	5.5	5.3
Student Support	5.7	6.1	6.4	6.7	7.1	6.7	6.9
Pupil Transportation	3.8	3.8	3.7	3.9	3.6	3.6	3.7
Administration	3.9	4.3	4.6	4.4	4.1	4.1	4.3
Operation and Maintenance	4.5	5.3	5.8	5.8	5.5	5.6	5.8
Employee Benefits	11.3	13.2	14.4	13.5	14.8	15.4	16.8
Debt Services	4.3	5.0	5.0	5.0	5.0	4.8	4.9
Capital Outlay	7.0	9.6	2.0	3.8	0.5	1.1	1.5
Total	71.5	79.2	75.5	78.3	75.4	75.9	78.5

Figures are in million dollars and have not adjusted for inflation.

Source: Exhibit B-2 and J-4 of Hopewell Valley Regional School District. 2012. *Comprehensive Annual Financial Report*.

Between 2005 and 2010, real expenditures for the HVRSD actually decreased from $84.6 to $80 million (in 2012 dollars). At about one percent, the annual decrease rate for expenditures and enrollment are almost identical, showing that cost control measures have been implemented during this current enrollment contraction phase. Figure 18 shows the long term expenditure trend

Figure 18 Changes in School Expenditures, 2002 to 2011



Figures for columns are in current million dollars without inflation adjustment; figures for the line are adjusted to 2012 dollars

Source: J-4 of Hopewell Valley Regional School District. 2012. *Comprehensive Annual Financial Report*.

6. Fiscal Impact Analysis - General Discussions

A variety of techniques are useful in measuring the distinct impacts of a proposed development on a municipality, such changes in traffic volumes, environmental consequences, social impacts, economic changes, employment growth, and so on.

Among them, fiscal impact analysis (also known as cost-revenue analysis) is one method that local governments widely use to compare the costs of public services with revenues generated and taxes levied with regards to new development. It is a standard way to identify a potential fiscal deficit (when costs exceed revenues) or surplus (when revenues exceed costs). Local jurisdictions have relied on this analysis to compare the costs (operating expenses, capital outlays, debt services, etc.) related to a specific development with tax and other revenues it is expected to generate. The results of a fiscal impact analysis are often used to approve, deny, or modify the plans for development projects, and these results can be used to determine the amount of impact fees the government wishes to levy to offset the net costs of the development.

6.1. The Scope

Fiscal impact analysis has a narrow scope. Its primary concern is current public costs and revenues. It commonly ignores indirect impacts because of the difficulties in predicting spillover effects and the possibility of double-counting simultaneous impacts. Fiscal impact analysis, as it is commonly confined to current costs and revenues, assumes that the project is completed in the same year that the analysis is conducted. This assumption is adopted to avoid estimates of short-term increments of impacts that are uneven and contingent on the pace of development. Thus the analysis needs not consider absorption rate, the time from construction to occupation, possible delays, and issues in financing. Its focus on current year figures recognizes that it cannot accurately forecast many contingences in the interim; fiscal impact analysis therefore is not strictly a forecasting tool but rather a simulation tool. Its emphasis on "current year" completion aims at simulating fiscal effects of a scenario treating the concerned project as if it is fully developed.

It is standard practice to express fiscal impacts in annual figures. This allows the local government to gauge the impacts on their annual appropriations and tax revenues. Occasionally, future fiscal impacts are capitalized into a present value in more complicated models that use cost-benefit analysis to quantify a stream of forecasted costs and benefits.

This approach generates net present value sensitive to a particular time horizon and discount rate.

Fiscal impact analysis differs from cost-benefit analysis. Cost-benefit analysis conducted by the public sector has a wide scope that goes beyond the agencies of a municipality. If a developer conducts a cost-benefit analysis, the focus is on the net return of the investment to the developer and its investors. If it is conducted on behalf of a geographic area, the emphasis is on the aggregate benefits and costs in that area. In contrast, fiscal impact analysis solely measures the increments of revenues and expenditures imposed by a given development to selected agencies within a local jurisdiction.

Fiscal impact analysis also differs from economic impact analysis. While fiscal impact analysis for nonresidential development may involve estimating the number of jobs directly created by the development, it seldom examines the spillover effects. In contrast, economic impact analysis estimates the total changes in employment, wages, and sales, including both the direct changes as well as indirect changes resulting from the multiplier effects of a development. It employs economic base theory and utilizes an input-output model to estimate economic multipliers.

6.2. Use and Limitations of Fiscal Impact Analysis

Since its first use in the 1930s, fiscal impact analysis has been "the backbone of studies commissioned by the public sector to address questions concerning the anticipated primary fiscal impacts."[31] Fiscal impact analysis furnishes important information to providers of local government services (such as public schools, public safety, emergency medical services, police, fire, and public works). This analysis helps local government agencies respond to the proposed development in three important ways:

1) It helps these providers more adequately respond to the needs of the people associated with the development;
2) It helps budget-makers anticipate public revenue deficiencies and indicates if it is possible to raise local taxes or user charges; and
3) Its results are important to the details involved in government negotiations with developers regarding dedications, exactions and impact fees.

[31] Lincoln Institute of Land Policy. 2006. *Request for Proposal: Critical Examination of Fiscal Impact Analysis: Theory, Methodological Issues and Evaluation*, page 1.

However, the results of a fiscal impact analysis should not be the sole criterion in determining whether a proposed development should move forward because the scope of the method is too narrow. Fiscal impact analysis does not consider indirect effects or spillovers, such as how the property value of the surrounding area may be enhanced or depressed. Its single focus on public costs and revenues ignores private costs and benefits. Intangible impacts such as aesthetics and socioeconomic changes are not covered in most fiscal impact studies. In addition, the analysis does not account for impacts outside the agency that commissions the study.

Therefore, decision-makers need to consider other relevant factors. For example, the development's potential impact on traffic and the environment, its concurrence with the general plan, ordinances and regulations; and its ability to meet affordable housing obligations, create jobs, mitigate environmental impacts, and comply with environmental justice requirements are other important decision variables. Decision-makers should examine the compatibility of the development with its neighboring land uses, and the location of the proposed development to infrastructure. Furthermore, decision-makers should consider how the development contributes to the preferred mix and diversity of the area's tax base, income, ethnicity, and employment. In addition to these more traditional concerns, sustainability issues, such as a development's carbon footprint, energy use, green building design, and walkability, have recently entered the decision process.

In this regard, Gene Bunnell observed that fiscal impact studies "produced increasingly negative and pessimistic conclusion(s)."[32] He suggests that project- or location-specific studies should be interpreted in the context of: a) the local and regional structure of public finance and the public services delivery system, and b) the appropriate form of the development to lower environmental and fiscal costs. In a more theoretical article, Raja and Verma listed a number of known limitations of fiscal impact analysis and attacked its over-technical nature and inability to provide a holistic framework for making decisions in accordance to important social and political concerns. They suggested that decision makers should start asking question of "should" and "how" first and use fiscal impact analysis as "a deliberated choice and not de facto selection" in their set of decision-making tools. [33]

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[32] Bunnell, Gene. 1997. "Fiscal Impact Studies as Advocacy and Story Telling," *Journal of Planning Literature*, 12(2): 136-151.

[33] Raja, Samina & Niraj Verma. 2010. "Got Perspective? A Theoretical View of Fiscal Impact Analysis," *Planning Theory*, 9(2) 126-36

6.3. Fiscal Impact Study Methods

Thirty-four years ago in their seminal work *The Fiscal Impact Handbook*, Burchell and Listokin defined fiscal impact analysis as:

> "[a] projection of the direct, current, public costs, and revenues associated with residential or nonresidential growth to the local jurisdiction(s) in which this growth is taking place."[34]

They devised a set of certain common procedures that fiscal impact analyses should follow:

a) Project the "population" (such as residents, housing units, public school children, and employees) generated by the development,

b) Estimate the public service costs to meet the demand of the new population,

c) Estimate the increase in tax base and revenues the development will produce, and

d) Compare the potential service costs and potential revenues.

Estimating revenues is a straightforward process in which the current tax rate is applied to the estimated assessed value of the development. However, the estimation of other potential public costs is complicated and is sensitive to the cost structure of each specific public service and whether the development is projected to reach a certain cost threshold. Burchell, Listokin & Dolphin proposed six common techniques and grouped these techniques under the average costing or marginal costing methods (Table 16).

Table 16 Techniques of Fiscal Impact Analysis

Average Costing Method	Marginal Costing Method
Per Capita Multiplier	Case Study
Service Standard	Comparable City
Proportional Valuation	Employment Anticipation

Source: Burchell, Robert W. et al. 1985. *The New Practitioner's Guide to Fiscal Impact Analysis.*

[34] Burchell, Robert W. and David Listokin, 1978. *The Fiscal Impact Handbook: Estimating Local Costs and Revenues of Land Development*. Center for Urban Policy Research. Rutgers University, New Brunswick, NJ, page 1.

In general, average costing assumes newcomers associated with the proposed project will not cause a disproportionate increase in the costs of relevant public services. For example, additional demand will not overburden a public service delivery system that is not fully utilized. In this case, the incremental public costs of a development can be reasonably represented by the current average cost per various population units. This method is also appropriate when the scale of the proposed development is relatively small without substantial impacts on the existing population units.

In contrast, some situations warrant using marginal costing methods, especially when the service delivery system is under stress: for example, when a school is at full capacity and trailers have been installed in the playground to meet the need for classroom space. Further increases to enrollment may only be met by building a new school in order to maintain the minimum standard and quality. In this case, the costs to provide new students with educational services would be much higher than to existing students. Marginal costing methods should also be used when the actual cost to provide services to the new population is higher than the average costs to the existing users. For example, connecting a development to the public sewage system can be costly especially when the location is located some distance from the existing system. Charging new users at the old rate will be insufficient to cover the connection costs and system expansion, so additional connection fees or charges are usually invoked to cover the capital improvement.

Economists commonly prefer the marginal costing methods because it avoids subsidizing new development. In economic jargon, the marginal costing approach internalizes the external costs of new development. This approach is considered an efficient means of allocating resources by limiting wasteful subsidization and incentives for urban sprawl. In growth management terms, such an approach promotes compact development because isolated development in areas without adequate infrastructure must pay higher public service fees to cover the actual costs of delivery.

In practice, the majority of fiscal impact studies apply the average costing methods because they are simple, straightforward and easy to administer. Researchers will often use a combination of simple techniques, modified as needed, to ensure that the appropriate factors of determining the multiplier effects have been considered. When time and resources allow, researchers can use the more complex marginal costing methods together with case studies and interviews for a more robust analysis. The marginal costing methods are superior in theory, but executing this method is more costly and time consuming. Additionally, it is a very difficult procedure because the calculation of marginal costs

assumes a production function that can be precisely determined.[35] It often involves the identification of fixed cost and variable costs of the whole fiscal system, usually by manual assignment. Overcoming these major difficulties will still require the enormous task of determining a consistent marginal cost based on the changes in costs respective to changes in population.

6.4. Recent Methodological Discussions

In 2006, the Lincoln Institute of Land Policy invited leading experts to examine the theories and methods of fiscal impact analysis. As a result Mary Edwards and her team of researchers published several articles and reports. In a 2009 working paper, Edwards analyzed several dozen fiscal impact studies under the six techniques Burchell proposed. In particular, she used the 2006 *Berwind Study* commissioned by the Hopewell Township to illustrate the application of per capita multiplier techniques.[36] While recognizing its simplicity and ease of understanding, she questioned if the study fully captured the complexity of local government service delivery systems and revenue raising capabilities.

While Edwards' working paper raised important questions about current practices in fiscal impact studies, it does not provide practical recommendations to improve those methods. It rather concluded that the accuracy of all these methods are "untested" because of the complexity of the variables and the assumptions about the expected series of interactions among groups of actors and institutions. The paper recommended that the "ultimate choice of method depends on the precise needs and resource of the community," with "careful evaluation of assumptions, time constraints, precise data requirements, staff resources and community context." Basically it provides no precise steps for improvement.

In a recent article, building on the work of Lincoln Institute of Land Policy working papers, Edwards and Huddleston provided a more systematic examination on fiscal impact analysis.[37] This paper lists the set of appropriate conditions under which the two most popular techniques, the per capita multiplier and the case study, should be used.

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[35] An attempt to calculate the marginal costs based on the 10 year financial data for the township and the school district using various time periods and time lags do not yield any useful results. Rather the estimated marginal costs vary widely from year to year and the analysis indicates it may be negative.

[36] Edwards, Mary M. 2009. "Fiscal Impact Analysis: State of the Art", Lincoln Institute of Land Policy Working Paper.

[37] Edwards, Mary M. and Jack R. Huddleston. 2010. "Prospects and Perils of Fiscal Impact Analysis," *Journal of the American Planning Association* 76 (1): 25-41.

Essentially, the simplistic per capita multiplier techniques should not be used when: a) existing public services are significantly under-used or over-used, b) development will create unique demands on services, and c) significant new infrastructure is required. The most important part of the article, however, is a discussion about the uncertainty in estimating the residential percent share of overall municipal costs. Although it suggests that the estimation of differential services demand by functional populations (including daytime workers) be included in the study, the article falls short of advancing a more practical method of fiscal impact analysis.

Over the past five years, the Lincoln Institute of Land Policy research project on fiscal impact analysis has stimulated a vigorous re-examination of standard off-the-shelf fiscal impact analysis methods and alerted analysts and consultants to the potential for errors and substantial contextual factors of each study. This re-examination suggests more work is needed to develop an equilibrium-type model that connects land development to local government expenditures and revenues along the lines of Paulsen's work.[38] Such a model will take into consideration the interaction of primary and secondary (spillover) impacts. In a nutshell, the initial impacts of a development project impact the fiscal system over time as the demand and supply of public services adjust and residents adapt to possible overcrowding or congestion should the service provider choose not to expand services. In the long run, the desirable or undesirable outcomes will capitalize in the increase or decrease of land value. However, even when such a model can be finally developed in the future, its sophistication, data requirements, and costs would not make it a practical solution compared to the current lower-cost, off-the-shelf approaches.

In 2012, Burchell and Listokin's *The Fiscal Impact Handbook* of 1978 was reprinted the first time in paperback, signifying the long-lasting practicality of the methods they developed. Over the years, Burchell's team at Rutgers University has analyzed the Public Use Microdata Sample (PUMS) and American Housing Survey data to provide updates on the demographic multipliers including average household size and number of students per housing unit by housing types for major regions within a state and for each of the fifty states. While these updates are crucial, they do not add much to the improvement in the methods to determine fiscal impacts.

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[38] Paulsen, Kurt. 2009. "The Effects of Land Development on Municipal Finance: Theoretical and Empirical Perspectives," Lincoln Institute of Land Policy Working Paper. Also email communication from Paulsen to Sidney Wong on October 4, 2011.

Edwards and Huddleston provide several useful suggestions, in particular not to oversell the results and to be careful to scrutinize the scenarios. In fact, in 2006, the author of this study stated similar cautions for consideration of the two fiscal impact studies for the *Beazer* and *Berwind* projects in the Hopewell Township. In those reports, the fiscal conditions of the township and the school district were studied for a multi-year period instead of the more usual single year study. Per-capita and per-pupil costs were estimated based on a variety of factors including inflation, past trends, availability of slack capacity, and consideration of the new policies regarding fiscal discipline. Further adjustments were performed to reflect the specific nature of the residents and the form of development. This vigor applied then will be applied similarly in this report.

7. Assumptions and Methods of the Pennytown Study

The Refined Per-capita Multiplier Technique is used in this report as the primary method because of its simplicity and ease of understanding. However, like the previous fiscal impact studies for the *Beazer* and *Berwind* projects, local conditions are evaluated to verify the basic assumptions needed for the simple Per-capita Multiplier Techniques. Based on these observations, modifications are made to refine the multipliers. For example, a Proportional Valuation Technique is used to establish the allocation rule percentage (ARP) to estimate the share of municipal costs between residential and nonresidential uses. This share is further adjusted by the nature of the non-residential development in the township. In addition, this analysis integrates marginal costing method/case study and trend analysis to complement the primary method. Case studies have been conducted to identify whether some components of local services are approaching a capacity threshold and to generate information for refining multipliers and for verifying the validity of the results of the Per-Capita Multiplier Technique. Per capita costs were further adjusted by: a) the particular form of the proposed development, and b) the demographic characteristics of the new residents. In addition, detailed study of multi-year expenditures of the township and the Hopewell Valley Regional School District was conducted to detect if the fiscal conditions are stable.

7.1. Assumptions Adopted for Analysis

Readers of this report should be aware of the following assumptions, in addition to the scope and application of fiscal impact analysis as discussed in Section 6:

1. Throughout this report, the potential impacts are expressed in annual figures and all dollar amounts are in November 2012 dollars. These figures are in "real" rather than "nominal" dollars.
2. The current conditions of the township and the school district serve as a reasonable guide for estimating the impacts associated with the proposed *Pennytown* mixed-used development. These conditions have been examined in the context of recent trends after the collapse of the housing market and in light of the recession and recent recovery.
3. While the *Pennytown Project* may not be financially feasible under current market conditions, the gradual recovery of the housing market will eventually increase property values, and in the future will meet the threshold price level that would

allow a developer to make a reasonable profit. Therefore, this study uses the threshold price as the sales price of the market-rate units.

4. Estimated multipliers in this report are average figures that capture the overall conditions for the township. Though they have been adjusted to reflect the nature and the specific populations of the proposed *Pennytown* development, they should not be interpreted as definite or precise measures.
5. The estimated fiscal impacts represent the total increase in costs and revenues of the *Pennytown Project* at near-full occupation. Although the project will likely take many years to complete, this study reports the fiscal impact assuming current township fiscal circumstances.
6. The estimate of costs and revenues is based on the proposed development pattern for the *Pennytown Project*, as of June 2012.
7. The estimated impacts are specific to the proposed *Pennytown Project*. Given its relative scale to the township's established development patterns, this project would not significantly affect future changes of the township-wide fiscal conditions. In other words, the fiscal impacts are increments added to the overall baseline fiscal conditions as of 2012.
8. The estimated tax revenues and costs from the *Pennytown Project* are confined to the Hopewell Township for municipal services, and to the Hopewell Valley Regional School District for public school services. This study does not estimate any indirect effects on the two boroughs.
9. This study does not estimate the additional costs of public services generated by *Pennytown Project* that Mercer County would bear. As the township consists of less than five percent of the county population, any need for county services that might originate from *Pennytown* are dissipated throughout the county and difficult to trace. Furthermore, the needs *Pennytown*'s residents in county services (such as public health, human services, public safety, and judicial and penal system services) are likely to be low and fully compensated by the tax levied by the county (which will be reported Section 10.6).
10. The proposed *Pennytown Project* does not create a gated development, so the township would bear the responsibility to maintain local roads. Also the development will not incorporated age-restricted housing.
11. The township is not responsible for solid waste and garbage pickup. In addition, fire service is not part of the municipal budget, but is financed through a fire levy.

7.2. Estimating Average Household Size

The public service costs of a development are usually a function of such indicators as square footage, number of residents, number of housing units, and number of school-age children. The first step in identifying fiscal impacts of a development that has a residential

component is to estimate the number and possibly the characteristics of the population that would likely be drawn to this development.

The most common technique used to estimate the future number of residents is to multiply an estimated region-wide blended average household size with the estimated total number of occupied units in the development. However, this approach may over-estimate or under-estimate the real population size if the proposed development does not induce a housing mix similar to the region. For example, applying a regional multiplier to an age-restricted development would result in over-estimating the population because this type of development would not have school-age children and seldom provides units with more than three bedrooms. In addition, its older residents would have different impacts on police, court, and other services than would the general population. Therefore, applying the 2010 township-wide average household size of 2.75 is not appropriate unless the development is so large that housing mix scenarios could not reasonably be developed. Thus, a set of multipliers by the nature of residential units (number of bedrooms, tenure, and types of the building, etc.) should be employed.

In preparing the *Beazer* and *Berwind* reports in late 2005, our team examined 10 studies to research the multipliers with regard to demographic variables and SAC (see the summary in Appendix 4 and 7 of the *Beazer* and *Berwind* reports). But we found that most of them were either outdated or not relevant to Hopewell. Therefore, we conducted our own analysis of the 2000 PUMS data covering Burlington, Hunterdon, Mercer and Middlesex counties. Documentation for the steps taken to develop these estimates is provided in Appendix 6 of the *Beazer* and *Berwind* studies. Several months after the *Beazer* and *Berwind* reports were submitted, the Center for Research for Urban Policy at Rutgers University started releasing their multiplier reports based on the 2000 PUMS data. [39]

Table 17 displays average household size estimates from these sources.

- The 2000 PUMS data as used in the 2006 *Beazer* and *Berwind* reports,
- The multipliers developed by the Rutgers' Research for Urban Policy (also using the 2000 PUMS data), and
- 2006-2010 ACS 5-Year PUMS data analysis for this report

[39] Based on a telephone conversation with William Dolphin, a specialist in demographic multipliers at the Rutgers Center for Urban Policy Research, the earliest drafts, *Residential Demographic Multipliers: Estimated of the Occupants of New Housing* was completed in June 2006.

Table 17 Average Household Size in the Hopewell Township Area

	Wong	Listokin et al.		2006-2010 PUMS	
	(a)	(b)	(c)	(d)	(e)
Single-family Detached					
3 Bedroom	3.004		2.977	2.621	2.903
3-4 Bedroom				3.200	3.206
4 Bedroom				3.437	3.445
4-5 Bedroom		3.780	3.774	3.571	3.579
Single-family Attached					
2 Bedroom	1.901		1.997	*	2.077
2-3 Bedroom		2.296		2.612	2.586
3 Bedroom	2.604		2.655	2.707	2.871
Multifamily (Own or Rent: 2 to 4 units)					
0-1 Bedroom		2.001	2.043	*	1.219
1 Bedroom				*	1.194
2 Bedroom			2.651	*	1.833
3 Bedroom			3.529	*	*
Multifamily (Own or Rent; 5 units or more)					
0-1 Bedroom		1.603	1.526	1.250	1.467
1 Bedroom				1.233	1.489
2 Bedroom			2.106	2.196	2.165
2-3 Bedroom		2.342		2.427	2.328
3 Bedroom			3.109	*	3.455
Multifamily (Own or Rent; 2 to 19 units)					
1 Bedroom	1.916			*	1.418
2 Bedroom	2.124			2.054	2.028
3 Bedroom	3.213			*	3.500
Condo					
1 Bedroom				*	*
2 Bedroom				1.808	1.753
3 Bedroom				2.705	2.714
Blended				2.420	2.167
All Housing Types					
1 Bedroom	1.814			1.225	1.419
2 Bedroom	2.016			1.990	2.064
3 Bedroom	2.863			2.790	2.947
All Housing Types (Own)					
0-1 Bedroom		2.078	2.139	*	*
2 Bedroom			1.933	1.755	1.819
2-3 Bedroom		2.397		2.338	2.462
3 Bedroom			2.851	2.667	2.866
All Housing Types (Rent)					
0-1 Bedroom		1.729	1.655	1.208	1.421
1 Bedroom				1.186	1.430
2 Bedroom			2.453	2.229	2.250
2-3 Bedroom		2.670		2.525	2.513
3 Bedroom			3.466	*	3.203

* Sample size is smaller than 20.

(a) Wong, Sidney. 2006. *Fiscal Impacts of the Proposed Beazer Projects, Hopewell Township, New Jersey*. Table 32, Appendix 6. It covers a 4-county region around Hopewell, using 2000 PUMS data.

(b) Listokin, David. et al. 2006. *Who Lives in New Jersey Housing? New Jersey Demographic Multipliers*. Table II-D-1. It covers a 6-county region in Central New Jersey, using 2000 PUMS data.

(c) Ibid., Table II-A-1. It covers the whole New Jersey.

(d) *2006-2010 ACS PUMS* data for PUMA 02302, for units constructed after 1999 only in Ewing and Hopewell Townships.

(e) Ibid., for households who moved to the unit within 48 months prior to the ACS survey.

Because of the differences in how housing types and size were classified, these multipliers are not exact matches. The estimates for column (a), (b) and (c) are based on the same data source, so their marginal differences come from different geographical coverage. In fact, the differences are within their margin of errors for the same categories, the estimates are essentially statistically identical. In terms of geographical coverage, (a) covers the following counties: Burlington, Mercer, Hunterdon, Middlesex and part of Somerest. For (b), Central New Jersey includes Hunterdon, Mercer, Middlesex, Monmouth, Ocean, and Somerset Counties; while (c) covers the whole New Jersey.

Columns (d) and (e) need some elaboration. In the 2000s, the township-wide average household size remained practically unchanged (2.77 to 2.75) indicating that new housing developments attract families of similar attributes. Demographic multipliers in columns (a) to (c) could be reasonably used in this report as a conservative approach to minimize underestimation. After the study commenced, the U.S. Census Bureau starts releasing the latest PUMS data. Among the three reporting periods, only the five-year dataset provides information for Public Use Microdata Area (PUMA) 02302 that include Ewing and Hopewell Townships and their boroughs. Column (d) is based on 351 households who lived in dwelling units built 2000 or later. To compensate for the small sample size, another sample (column e) was developed based on 1,017 households who moved to PUMA 02302 48 months prior to ACS survey. Since the survey was taken between 2006 and 2010, some respondents in (e) might have moved to their homes as early as 2000 and some of them might live in a unit constructed before 2000.[40] Both samples exclude group quarters, non-permanent structures, and cases that the housing tenure is unknown. The estimates of these two samples are slightly smaller than those based on the 2000 PUMS data, except for single-family attached units, indicating the possibility that high housing prices for detached dwellings forced newcomers to seek for close substitutes. Also, sample (d) is marginally smaller than (e) possibly because some households moved to older and bigger houses. A number of estimates in (d) are not reported due to insufficient sample size, and in that case, the estimates in (e) will be used.

The following table presents the set of average household size for housing type and size used in the proposed *Pennytown* redevelopment. These estimates are based on information provided in Table 17 above. Where the housing category matches, the estimates from sample (d) are used because the data is based on recently constructed units. Adjustments to the figures are required for several homeownership categories. For example, 1.19 is

[40] The number of households who moved within 48 months prior to interview and also lived in a unit constructed after 2000 is 246; and this sample size is too small.

assigned to the 1-bedroom condominium category because neither sample (d) nor (e) includes a large enough sample size to provide a reliable estimate. Therefore, the figure for the 1-bedroom category for two- to four-unit multifamily housing is used as the best available estimate. Since the PUMS data does not contain information on affordable housing, the estimates for Council of Affordable Housing (COAH) units must also be adjusted.

Household size generally increases as housing value or monthly rent decrease after controlling for housing type and size. [41] However, data in the 2006 report *Who Lives in New Jersey Housing* reveals a more ambiguous picture. While estimates for the whole state confirms the relationship between household size and housing type for single-family attached dwellings, multifamily and rental units (except 1-bedroom units); Central Jersey household size/housing type shows no discernible relationship. One explanation is that the township had few "low-value" units in the 1990s and the affordable housing projects constructed in the 2000s are primarily built for seniors. Since the *Pennytown Project* is not age restricted, it is sensible to adjust the estimates for COAH units upward by about 0.2 to 0.3 persons.

Table 18 Demographic Multipliers Used for the Pennytown Project

Homeowner		Rental	
Single Family Detached		Market Rate	
3-Bedroom	2.68	1 Bedroom	1.21
4 Bedroom	3.44	2 Bedroom	2.22
Townhomes		COAH	
2 Bedroom	2.07	1 Bedroom	1.45 *
3 Bedroom	2.80	2 Bedroom	2.48 *
Condominium		3 Bedroom	3.20 *
1 Bedroom	1.19 *		
2 Bedroom	1.78		
COAH Condominium			
1 Bedroom	1.30 *		
2 Bedroom	2.00 *		
3 Bedroom	2.90 *		

* Adjusted estimates.

[41] Presentation by Robert Burchell and William Dolphin at the National Conference of the National Impact Fee Round Table in Arlington on October 5, 2006.

7.3. Estimating the Public School Student Population

As school tax is much higher than municipal tax, it is important to estimate how many public school students a development will generate. The standard way to estimate this increase is to use a three-step method. The first step is to estimate the number of school-age children (SAC) per household specific to housing type and size. The second step is to multiply these estimates by the total number of occupied housing units to obtain the total number of SAC. The last step is to factor in the local public school student ratio to estimate the probable number of students who will attend public schools.

The SAC multipliers are sensitive to family cycle because each school-age child will eventually leave high school. Thus, the development of single-family detached units that target middle-aged families would have the greatest impacts on school enrollment. Younger families whose children are too young to enter school often occupy townhomes, rental and condominiums units for a short period. As this type of housing is a transition toward startup single-family detached units, the average number of SAC per unit should be at the low side. However, we recognize that the high cost of housing in the Hopewell area has caused some families to stay in townhomes (i.e., single-family attached units) longer. The analysis of the 2000 Census data for 26 blocks of *Brandon Farms* in the *Beazer* and *Berwind* studies confirmed this suspicion. Therefore, in our 2006 studies, we adjusted the SAC multiplier from 0.356 to 0.5 for 3-bedroom single-family attached units.

The 2006-2010 ACS PUMS data further verify this phenomenon because the average household size for 2- to 3-bedroom single-family attached units has increased slightly throughout the 2000s. In contrast, the estimates of almost all other housing types have slightly decreased. Similarly, a higher SAC multiplier should apply to townhomes in the *Pennytown Project*. As the latest PUMS data was released just recently, our team could not comprehensively analyze the data to develop SAC estimations. Rather we take reference to the SAC ratio based on three 2006 studies (Table 19). Overall, the SAC multipliers for all housing types are below 0.2 for 1-bedroom units and above it for 2-bedroom units. They pass 0.5 for 3-bedroom units and go above 1 for 4-bedroom units. The Rutgers's estimates also show an important difference in housing tenure in terms of whether the unit is owned or rented. Except for 1-bedroom units, SAC multipliers are higher for rental units than owner-occupied units.

Table 19 School-Age Children Multipliers in New Jersey

	Wong	Listokin et al.	
	(a)	(b)	(c)
Single-family Detached			
2 Bedroom	0.119		0.118
3 Bedroom	0.523		0.575
2-3 Bedroom		0.367	
4-5 Bedroom		1.094	1.077
All Size		0.851	
Single-family Attached			
2 Bedroom	0.138		0.156
3 Bedroom	0.356 *		0.438
2-3 Bedroom		0.292	
4-5 Bedroom		1.210	1.035
Multifamily (5 units or more)			
0-1 Bedroom		0.064	0.070
2 Bedroom			0.323
2-3 Bedroom		0.373	
3 Bedroom			0.973
Multifamily (2 to 19 units)			
1 Bedroom	0.172		
2 Bedroom	0.254		
3 Bedroom	0.876		
Multifamily (2 to 4 units)			
0-1 Bedroom		0.276	0.288
2 Bedroom			0.453
2-3 Bedroom		0.405	
3 Bedroom			0.805
All Housing Types			
1 Bedroom	0.168		
0-1 Bedroom (Own)		0.275	0.282
0-1 Bedroom (Rent)		0.110	0.130
2 Bedroom	0.184		
2 Bedroom (Own)			0.116
2 Bedroom (Rent)			0.390
2-3 Bedroom (Own)		0.308	
2-3 Bedroom (Rent)		0.512	
3 Bedroom	0.509		
3 Bedroom (Own)			0.505
3 Bedroom (Rent)			0.945

* This multiplier was raised to 0.5 in the final calculations of school-age children in the 2006 Report.

(a) Wong, Sidney. 2006. *Fiscal Impacts of the Proposed Beazer Projects, Hopewell Township, New Jersey*. Table 32, Appendix 6. It covers a 4-county region around Hopewell.

(b) Listokin, David. et al. 2006. *Who Lives in New Jersey Housing? New Jersey Demographic Multipliers*. Table II-D-2.

(c) Ibid., Table II-A-2.

By applying the ratio between the SAC and average household size for each housing type and size, we can develop a set of SAC for the *Pennytown Project*. The next table displays these estimates.

Table 20 School-Age Children Multipliers Used for the Pennytown Project

Homeowner		Rental	
Single Family Detached		Market Rate	
3-Bedroom	0.48	1 Bedroom	0.07
4 Bedroom	0.80	2 Bedroom	0.23
Townhomes		COAH	
2 Bedroom	0.23	1 Bedroom	0.10
3 Bedroom	0.51	2 Bedroom	0.26
Condominium		3 Bedroom	0.58
1 Bedroom	0.10		
2 Bedroom	0.19		
COAH Condominium			
1 Bedroom	0.11		
2 Bedroom	0.24		
3 Bedroom	0.54		

The method regarding the estimation of the share between public and private school students deserves discussion. The 2000 Census estimated that for every 100 SAC who lived in Hopewell Valley, about 87 of them were enrolled in the public school system. As discussed in Section 5.4 above, we estimated that the ratio in 2010 ranges between 81 to 84 percent determined by using the 2010 Census data and reported enrollment by grades in 2009 and 2010. The analysis of the sample data from 2005-2009 and 2007-2011 ACS (Table S1401) confirmed a similar downward trend even though the estimation is less precise.

This public school student ratio is expected to increase in less promising economic times as families find it more arduous to pay for private school tuition. Therefore the counter-intuitive drop of four percentage points based on current estimates needs close monitoring. As the number of SAC in the Hopewell Valley is declining, enrollment should correspondingly decline if the ratio is kept constant. A declining rate in enrollment higher than that of SAC is likely caused by the age maturation of the school-aged population as well as the likelihood that students have switched to private schools or have been removed from public schools to be home schooled. Since available data cannot definitely determine these figures on an annual basis, it is impossible to know whether the recent drop is temporary or permanent. [42] This study recommends using a public school student ratio of 82 percent of the school-aged population based on the analysis of the census data and school enrollment in 2010 (Table 14 above).

[42] One unconfirmed hypothesis putting forward to explain the apparent decline in public school student ratio is that parents made a choice to send their children to prep schools to maximize their potential for future financial support at college.

7.4. Municipal Service Costs

Section 4 provided an in-depth analysis of the fiscal conditions and recent appropriations trends of the township, as well as information necessary for developing several sets of municipal cost multipliers. Two conclusions are important here for deriving the appropriate municipal cost factors. First, since 2006, the township has not experienced major population growth or major increases in housing development. Second, the township has exercised various measures to control and reduce its real appropriations to maintain its fiscal health throughout this stagnant period. The continual upward pressure on health care expenditures together with the decrease in property values and slow regional housing market has caused a persistently low level of fiscal distress. However, this pressure will be lessened in the current "soft" recovery and state's legislations to cap growth in police wages and to shift some of the burden of the high health premiums to employees. As a result, this analysis assumes that the municipal service of the township is at capacity and the township is not likely to adopt a drastic shift in fiscal policy. Under this stable and at-capacity scenario, we can reasonably use the Refined Per-capita Multiplier Technique (a variant of an average cost method).

To derive appropriate per-capita municipal costs, we conducted several calculations. The first calculation, the so-called allocation rule percentage (ARP) is established to estimate the share of municipal costs attributed to residential uses. In this calculation, two methods were used to derive the multipliers. The second calculation examined the past trends of the residential portion of municipal costs to determine whether adjustments are required depending on whether the multiplier (adjusted for inflation) is expanding or remaining constant. These estimates were further adjusted based on specific land uses and specific population group characteristics.

7.4.1. Explanation and Background of Municipal Expenditures

Background information about the township's municipal services helps to explain the probable service impacts of new development there. Hopewell Township provides the following municipal services financed through the municipal budget: police protection, general government services, tax collection and assessment, court services, snow removal, and maintenance and lighting of local roads. It also provides minor public health services (inspection and dog regulation), and other regulatory and licensing activities. The township has minimal recreational and park facilities. The township has entered interlocal compacts

and mutual aid agreements with the two nearby boroughs and other municipalities under which several providers are involved.

The non-residential development in the township is unique because of the municipality's policy to attract research campuses and office parks. These compounds are similar to gated communities as the corporate owners provide their own child-care centers, security, shuttle buses, road and parking lot maintenance, street lighting, snow removal, water and sewer systems, and other infrastructure and services generally considered to be in the realm of a municipality. Although these job centers provided about four-fifth of the jobs in the township, these self-contained compounds require minimal municipal services.

On the other hand, traditional retail business such as supermarkets, restaurants, fast food restaurants, banks, and gas stations are found along Pennington Road (Route 31). The two major shopping centers along Route 31 are the fairly new *Hopewell Crossing Shopping Center* to the south of Pennington Borough and the older *Pennington Shopping Center* immediately to the west of the borough. Other retail establishments and restaurants are scattered throughout the township. Unlike the corporate compounds, these commercial establishments require a wider range of municipal services, especially those related to traffic management, public safety, and firefighting.

Fire protection and emergency medical services (EMS) are not part of municipal appropriations. The township levies a small "fire tax" to fund this all-volunteer service; the fire tax is not included as a line item in the municipal budget. The structural pressure from health care costs and pension contributions, as well as other changes that decrease the township's ability to recruit volunteers, were identified in the 2006 case study. Longstanding residents are aging, and newcomers to the township tend to be retirees (attracted to the age-restricted development) or middle-aged families whose lifestyle makes volunteer work difficult. Because the township has faced some difficulties in recruiting volunteers, the "fire tax" has increased substantially in relation to the assessment rate. In 2006, township residents paid 4.4 cents per $100 assessed value; in 2012, they paid 6.6 cents--an increase of 50 percent. These factors are expected to exact additional future costs for EMS.

7.4.2. Estimating the Nonresidential Share of Municipal Expenditures

The share of municipal expenditures by residential and nonresidential uses was estimated using the Proportional Valuation Method suggested by *The Fiscal Impact Handbook*.[43] This method uses the proportion of nonresidential property value to the total property value as a proxy of the nonresidential share of municipal expenditures. Burchell and Listokin observed that a municipality spends more when nonresidential developments are scattered or in small parcels (like strip malls or in a mixed used area). In contrast, higher value development (such as office parks, shopping malls, and high-rise offices) that commands higher rent to cover a wide range of services requires fewer public services. Based on a number of case studies, Burchell and Listokin found that the nonresidential share of municipal expenditures is roughly the same as the proportion of nonresidential property value to the total property value when the average property value of nonresidential properties is about six times of that of all properties. When that ratio is more than six times, the nonresidential share needs to be adjusted downward; otherwise, it needs to be adjusted upward. Exhibit 6-3 of *The Fiscal Impact Handbook* contains a chart of the refinement coefficient for this adjustment.[44]

To illustrate this adjustment procedure, the relevant 2012 township ratable data is summarized in Table 21. The average assessed value of nonresidential parcels and all parcels is $4.64 million and $554,500 respectively. Dividing the former figure by the latter figure generates a ratio of 8.37. The *Fiscal Impact Handbook* indicates the corresponding refinement coefficient as 0.745. In the same year, nonresidential parcels in the township accounted for about 23 percent of all net assessed values ($933 million of $4.05 billion). This unadjusted share of municipal expenditures is scaled down by using the refinement coefficient (multiplying by 0.745); this calculation provides the adjusted share of nonresidential municipal costs of 17.2 percent. It should be noted that the Proportional Valuation Method used equalized (market) value as the basis of the calculation. Unfortunately, market value figures are not reported, but could be reliably estimated from reported assessed values. As such, the estimations in this report are based on assessed values.

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43 Burchell, Robert W. and David Listokin, 1978. *The Fiscal Impact Handbook: Estimating Local Costs and Revenues of Land Development*.

44 The chart on page 124 of the *Handbook* is a scatterplot based on a number of case studies by Burchell's team in the 1970s.

Table 21 2011 Net Assessed Value in Hopewell Township

Property Class	Number of Parcels	Assessed Value (in $ Millions)	Average Value per Parcel
Nonresidential: Commercial & Industrial	201	$933.0	$4,641,920
Others *	7,104	$3,117.9	$455.093
All Uses	7,305	$4,050.9	$570,996
Ratio between Nonresidential to All Uses		0.23	8.37

Net assessed value excludes $6.8 million on telephone and telegraph utilities.

* This classification includes residential, apartment, farmland and vacant parcels.

Source: Hopewell Township Tax Assessor Office, *Table of Aggregates* for 2012.

A simpler method to derive the share of nonresidential municipal costs can be used without applying a refinement coefficient. This method (called the Average Parcel Value Method) computes two sets of figures: the parcel and assessed value shares of nonresidential properties compared to all properties (excluding vacant and farm parcels). Taking the average of these two shares yields the adjusted share of nonresidential municipal costs. The 2012 ratable data are presented differently in Table 22. In 2012 there are 6,075 nonresidential and residential parcels (excluding farm land and vacant parcels) in the township. Of all these parcels, 201 are nonresidential, i.e., commercial and industrial, or a share of 3.3 percent (almost a constant share since 2006). In terms of assessed value, the nonresidential properties account for 25 percent of the combined nonresidential and residential properties ($933 million of $3.72 billion). The average of these two percent shares (3.3 and 25 percent) is 14.2 percent.

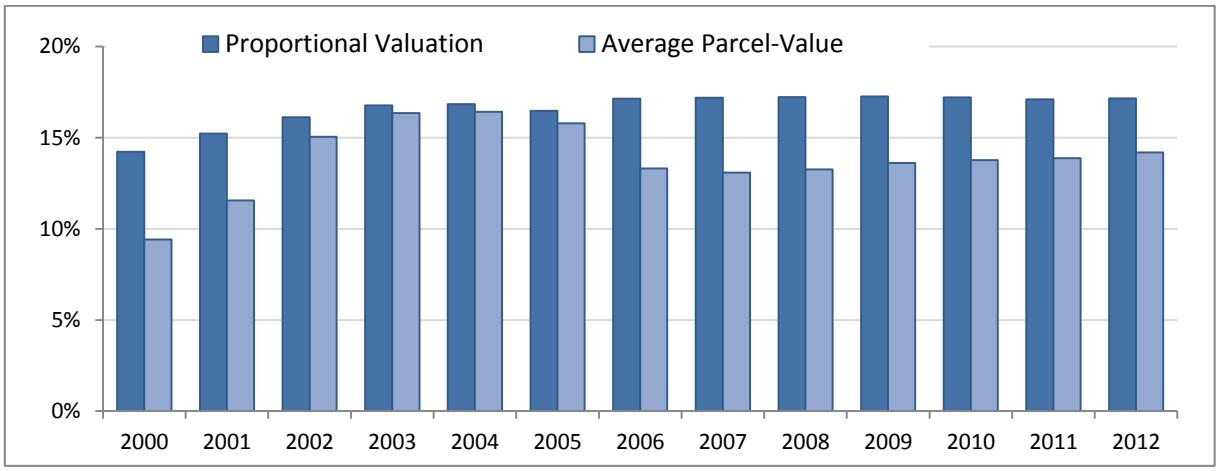
Table 22 2011 Net Assessed Value (Alternative Classification)

Property Class	Number of Parcels	Assessed Value (in $ Millions)
Commercial & Industrial	201	$933.0
Residential and Apartment	5,874	$2,790.4
All Uses, excluding Farm Land and Vacant Parcels	*6,075*	*$3,723.4*
Farm Land & Vacant Parcels	1,230	$327.5
All Uses	7,305	$4,050.9
Percent of Commercial & Industrial as All Uses, excluding Farm land and Vacant parcels	3.30	25.06

Source: Hopewell Township Tax Assessor Office, *Table of Aggregates* for 2012.

When the non-residential share of municipal costs was calculated in 2005, both the Proportional Valuation Method and the Average Parcel-Value Method yielded similar results (16.5 percent vs. 15.8 percent respectively). After revaluation in 2006, these two methods generate divergent results (17.2 percent and 14.2 percent respectively). To explore this divergence, the nonresidential shares were estimated for each year between 2000 and 2012 (Figure 19). In general, the Proportional Valuation Method produced more stable results after the increase between 2000 and 2003; since then, the share stays at 17 percent. The results from the Average Parcel-Value Method are less stable. Its non-residential share rose rapidly from 9 percent to 16 percent between 2000 and 2003. Then, immediately after the 2005 revaluation, it dropped from 15.8 percent to 13.1 percent.

Figure 19 Estimated Nonresidential Shares of Municipal Costs



Source: Hopewell Township Tax Assessor Office, *Table of Aggregates* (various years).

To explore the sudden change between 2005 and 2006, we examined if there is sudden increase in subdivision by the changes in the number of parcels. While one industrial parcel and 17 commercial parcels were added in that year, the township's residential properties grew by 137 parcels. Also in 2006, due to revaluation, the township's assessed values for residential parcels and apartment increased by 108 percent at a rate almost two times faster than that of commercial and industrial values.

Meanwhile, the township was experiencing a faster population growth up to 2006. In the *Beazer* study, our team used occupancy permit data between January 2000 and December 2004 to estimate that the township household population approached 16,620 with 6,180

housing units by early 2005.[45] According to the US Census, in 2010, the township increased to a household population of 17,294 with 6,551 housing units. In other words, the township gained approximately 630 population and 370 housing units between early 2005 and 2010. The majority of this growth was from the three major projects -- *Hopewell Gardens*, *Hopewell Grant*, and *Wellington Manor* (with a total of 400 units). Taking into account that some units in these projects were occupied before early 2005, it is estimated that the township household population gained about 450 residents in one year between mid-2005 and mid-2006. [46]

In the 2000s, the township's population grew about 2,000 persons (about 14 percent of the 2000 base). All this growth took place before 2008 and half of it occurred between 2005 and 2007. With no substantial commercial or industrial development since 2003, the true nonresidential share of municipal expenditures should have declined since the mid-2000s. However, the results from the Proportional Valuation Method actually grew mildly in the same period, showing a possible overestimation bias. The Average Parcel-Value Method has an opposite bias because of its one-year decline of 2.5 percent points in 2006. If the decline is in line with population growth in that year, the decline should have been half a percent point. The extra decline is mainly caused by the faster appreciation of residential value. It should be noted that the share generated by the Average Parcel-Value Method has been increasing each year since 2006 and it appears that the two sets of shares may finally converge at the region of 16 percent.

However, both methods may still overestimate the nonresidential shares of municipal costs because of the presence of semi-autonomous corporate compounds in Hopewell Township. Recent data from the Tax Assessor Office showed that the four compounds of *Bank of America/Merrill Lynch*, *Bristol-Meyers Squibb*, *Janssen*, and *Lexicon* account for 72 percent of all industrial and commercial assessed values, even if they represent only seven percent of all the industrial and commercial parcels. These compounds are self-sufficient as the corporations provide a wide range of services such as security, road maintenance, garbage pickup, snow removal, parking, and even child-care centers. In the 2006 *Beazer* study, the nonresidential share of municipal expenditures was adjusted to 12 percent to reflect the effects of the reduced service burden from these major commercial and industrial

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45 Wong, Sidney. 2006. *Fiscal Impacts of the Proposed Beazer Projects, Final Report*, Appendix 1.

46 The April and mid-year estimation of the population has a difference of about 50 persons in the mid-2000s during. As the township population has stabilized since 2007, the difference is minimal in 2010.

compounds. Factoring into the population growth after 2005, a nonresidential share of 10 percent is adopted in this report.

7.4.3. Municipal Costs per Resident

The residential share of municipal expenditures is used to proportion the total amount of residential expenditure by multiplying it with total appropriations by category. However, the following refinements are necessary.

1. The current year appropriations reported in the township budget are anticipated figures, which are usually smaller than the actual appropriations reported in the following year. In order to overcome the underestimate bias, the actual appropriations as modified by all transfers are used as the basic estimations.[47]
2. Some appropriations are not directly related to the increases of residents or housing units. For example, expenditure categories under interlocal services are reimbursed (though not at full cost recovery) by the neighboring jurisdictions. Local matches to grants are a function of funding opportunities rather than of population size. If these expenditures are incorporated when estimating the per capita cost, over-estimation will result.
3. When a proposed project is not at a scale that would induce new capital improvement, and when the municipal is not under significantly deficient capacity, the project's induced services costs should be confined to the operating expenses.
4. It is imperative to provide the estimation in real dollars, and therefore all calculations are adjusted to 2012 dollars (as in November) for a consistent comparison of costs.
5. Estimated per capita municipal costs based on a single year cannot reflect the trend of how this multiplier behaves. Therefore, we computed the per capita costs for multiple years to see if the last year estimate deviates from the trend.
6. To provide year-by-year estimation of the per capita cost multiplier, a separate household population estimate is performed for the period between 2000 and 2012.

The actual 2011 appropriations are used here to illustrate the above steps. The total general appropriations of $20.72 million (in current dollars) were adjusted downward to obtain the net appropriations of $18.31 million by taking out $2.4 million in interlocal services and required local grants matches. The next step is to determine if the *Pennytown Project* will

[47] Since 2006, the differences between the actual and the anticipated appropriations have been reduced significantly reflecting much better adherence to a policy of fiscal discipline during austerity.

require capital improvements or increase debt service. If such capital expenditures are necessary, the analysis must be modified depending on whether the township shoulders the burden or if the township levies impact fees to recover the costs from the developer. Given that the residents rejected a $4.1 million sewer bond associated with the *Pennytown* affordable housing units in March 2012, we can conclude that if the *Pennytown Project* requires capital improvements, the developers and future residents will be responsible for paying impact fees designed to cover the costs.

The net operations appropriations figure is obtained by subtracting capital improvement costs, debt services, and other non-operating appropriations from the total net appropriations. The $18.31 million is then adjusted to the net operating appropriations of $13.62 million. Multiplying the net operating appropriations by the residential share (90 percent) yields the total residential operating appropriations of $12.26 million. This becomes $12.68 million in 2012 dollars after adjusting for inflation. The mid-year population in 2011, estimated to be 17,280, is used to divide the residential appropriations yielding a per capita cost of $734 for municipal services (Table 23).

Past data show that per capita costs increased from $708 to $768 between 2005 and 2009, declining to the level of $740 in more recent years (Figure 20). Three factors are considered how to select the per capita costs: the historical trend, the anticipated increase of residential appropriations during future economic recovery, and a small population increase when the vacancy rate drops in an improving housing market. Therefore, $740 is utilized as the township-wide per capita municipal operating costs for Hopewell Township.

This figure should be interpreted as a multiplier for a project that closely resembles the entire existing development of the township and would not cause additional capital improvement costs or an increase to the debt service. When applying this multiplier, further refinement is needed if the proposed development does not resemble the township profile. For example, an upward adjustment is needed for a development that is far away from a serviced area because the service costs to reach a scattered development are higher than to reach an area with more compact development. When the proportion of families and school-age children in a development is higher than the township average, extra municipal services are required. If the development has age restrictions, the per capita costs should be scaled downward. In Section 10.3 of this report will present a more detailed discussion of how the township-wide per capita costs are adjusted for the *Pennytown Project*.

Table 23 Estimated Per Capita Costs for Municipal Services in Hopewell Township

	2005	2006	2007	2008	2009	2010	2011	2012 **
General Appropriations	$20.45	$21.95	$22.59	$22.24	$22.23	$21.52	$21.43	$20.31
Less Interlocal Services & Local Match to Grants	*$1.56*	*$1.94*	*$2.35*	*$2.35*	*$1.82*	*$2.42*	*$2.48*	*$0.87*
Less Non-operating App.	*$5.78*	*$6.41*	*$6.13*	*$5.54*	*$5.67*	*$4.79*	*$4.85*	*$5.27*
Net Oper. Appropriations	$13.12	$13.60	$14.11	$14.35	$14.75	$14.31	$14.09	$14.17
Residential Appropriations at 90 percent Share	$11.80	$12.24	$12.70	$12.92	$13.27	$12.88	$12.68	$12.75
Per Capita Costs for Municipal Services *	$708	$712	$734	$747	$768	$744	$734	$738
Estimated Mid-year Household Population	16,671	17,190	17,297	17,282	17,289	17,300	17,280	17,290

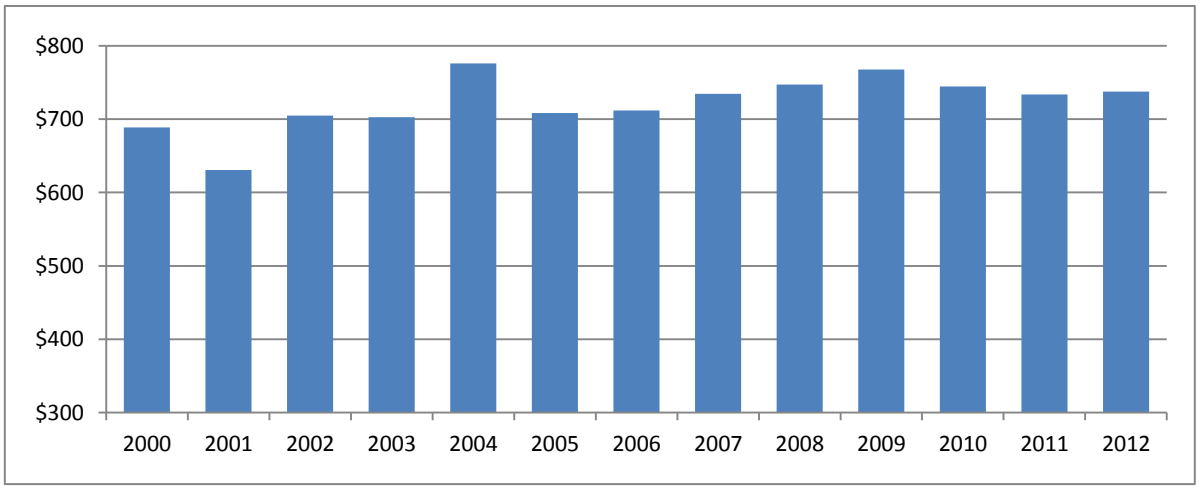
All dollars are adjusted to their value in November 2012.

* The per capita costs for municipal services is in actual dollars, others are in million.

** Figures for 2012 are appropriated, the rest are actual expenditure.

Source: Sheet 30 of *Hopewell Township Municipal Budget* (various years).

Figure 20 Estimated Per Capita Costs for Municipal Services, 2000 to 2012



All figures are in 2012 dollars. Except for the 2012 estimate, all are based on actual appropriations. Figures are confined to net operating expenses.

Source: Sheet 30 of *Hopewell Township Municipal Budget* (various years).

7.5. Per-Pupil School Costs

As discussed in Section 5, the real expenditures of the Hopewell Valley Regional School District (HVRSD) grew rapidly until 2006 and then gradually declined to a current level of about $80 million. The rapidly increasing enrollment and huge capital investment in school property in 2005 and 2006 defined the school district's growth at that time. The recent slowdown reflects enrollment contraction though its rate of decline does not match that of enrollment. The recent New Jersey Department of Education's School Report Card stated that the average cost per pupil for the 2008, 2009, and 2010 school district fiscal years were $19,553, $19,284, and $19,926 respectively. In 2012 dollars, the corresponding figures are $20,908, $20,574, and $20,966. Generally, the gross per-pupil costs have been kept relatively stable at the $20,000 level since 2006.

Estimating public school costs is challenging because most methods are likely to over-estimate the true per-pupil costs, especially in a year that includes unusual increases in capital outlay or in years when enrollment is in decline. For example, in 2005 and 2006, capital outlay accounted for 10 and 12 percent respectively of the total school expenditures. Given that enrollment will continue to decrease concurrently increasing excessive capacity (especially in the elementary school level), HVRSD may not embark on any large-scale capital improvement in the near future. Therefore it makes sense to exclude capital improvement and debt services for past borrowing obligations from the calculation of the per-pupil costs to operating expenses.

But this downward adjustment may not be enough because of the presence of slack capacity. The average enrollment in 2011 has returned to 2002 levels. Compare to the peak enrollment of 4,058 students in 2006, the school district has lost about 264 students, a figure exceeding half of the number of seats of any HVRSD elementary school. The analysis in Section 5 shows that the lack of housing development and accelerated decrease in number of births will greatly impact the district as a continuous decline in enrollment becomes entrenched. While closing one elementary school is not on the agenda at this time, a continual drop in enrollment for another decade will make school closures an option to contain school expenditures.

Using a case study as a method to analyze marginal costs is recommended when school districts face significant excessive capacity. Simply put, this method should involve a series of interviews with public officials and service administrators to identify underutilized capacity by functional categories or job titles. In the case of the study area's school district,

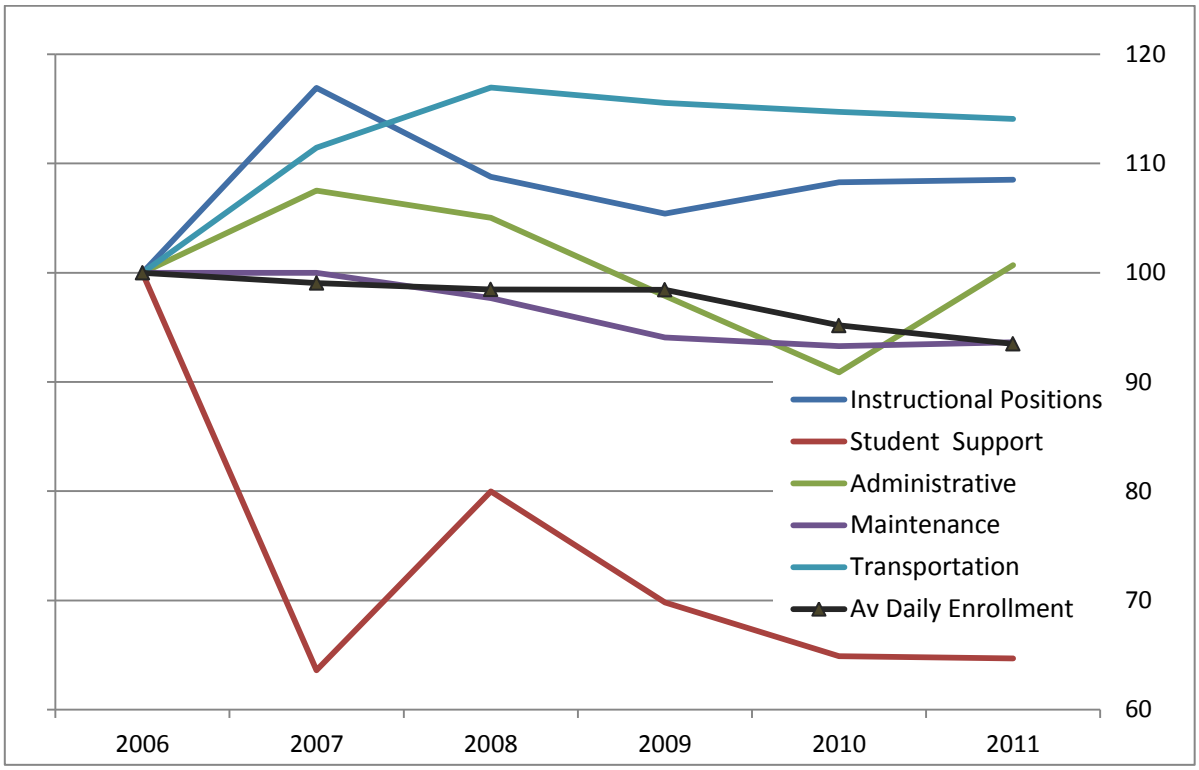
the case study is used to determine which positions could be eliminated without affecting current service levels or quality. However, because this method directly implies imminent layoffs, an outside consultant may have difficulties in soliciting candid responses from interviewees. In addition, the marginal cost "case study" method is expensive and time-consuming, and is beyond the scope of services in this particular instance. Another disadvantage of this method is that the determination of slack or deficient capacity that is usually based on the short-term conditions facing the school service providers without regard to the longer-term changes in the school cost structure. By the time the market rebounds to make housing development a more profitable option (perhaps a decade down the road), the school district may have less slack capacity because cost control measures, attrition, layoffs, and even school closures will produce a very different fiscal condition and environment.

Despite these challenges, it is worthwhile to examine the change of school employee headcounts to see if the cost of adding a small enrollment increase is really minimal. The employee headcount of the school district rose from about 630 in FY 2002 to 670 in FY 2007; since then, it has dropped to about 636. The number of instructional positions peaked in FY 2003 at 468 and declined to 397 in FY 2011. In terms of percent share of the total district employees, instructional positions have dropped from 71 to 62 percent between FY 2002 and FY 2011.

Figure 21 compares the changes in number of employees by categories with enrollment decline (calculated to a base index of 100 in FY 2006). This chart helps to identify how different types of positions react to enrollment change. Maintenance and student support positions have been scaled back. Transportation, and administrative, and instructional positions have not been reduced back to the 2006 level. Instructional positions (397) account for over 60 percent of all positions (636) in 2011 are considered as the first group to expand when more students enter the school system. We analyzed the school expenditures by budget line items and included these categories within instruction into the calculation of the marginal cost-based per pupil cost:

- Regular instruction
- Other instruction
- Special education and special school
- Employee benefits (on a pro-rata basis)

Figure 21 Hopewell Valley Regional School District Employees by Types between FY 2006-2011 (FY 2006 = 100)



Source: Exhibit J-16, Hopewell Valley Regional School District. 2012. *Comprehensive Annual Financial Report*.

In other words, the following analysis relates the per-pupil costs only to the direct instructional expenses and associated employee benefits. The average number of students per one instructional employee (excluding instructional support staff) has remained constant between 9 to 10. Also, after adjusting for inflation, the per-instructional employee expense has been held at about $90,000 (not counting employee benefits). These two sets of stable figures show that the school district has taken actions in limiting excessive hiring in direct instruction positions during the years analyzed. To derive to the marginal per pupil costs, we summed the instructional expenses and added them to a portion of employee benefits, which was calculated by multiplying the number of instructional employees with the average employee benefits during those respective years. Then the result is divided by the daily average enrollment to obtain per-pupil costs (Table 24).

Table 24 Estimated Per-Pupil Costs using the Marginal Costing Method

	2005	2006	2007	2008	2009	2010	2011
Total Instructional Expenses							
Regular Instruction	$27.20	*$27.22*	*$28.47*	*$27.91*	*$27.45*	*$27.09*	*$24.82*
Other Instruction	$5.16	*$4.85*	*$4.38*	*$4.71*	*$4.34*	*$3.53*	*$5.12*
Special Education	$4.27	*$4.48*	*$4.65*	*$5.04*	*$5.36*	*$5.77*	*$5.45*
Sub-total	$36.63	$36.55	$37.50	$37.66	$37.16	$36.38	$35.39
Add Instructional Emp. Benefits	$9.21	$8.43	$10.20	$8.65	$9.67	$10.16	$10.70
Total Instructional Expenses	$45.84	$44.98	$47.71	$46.32	$46.83	$46.55	$46.09
Daily Average Enrollment	4,024	4,058	4,020	3,996	3,995	3,862	3,794
Per Pupil Costs *	$11,390	$11,085	$11,867	$11,591	$11,723	$12,053	$12,147
Employee Benefit per Employee *	$21,324	$23,026	$23,825	$21,723	$25,058	$25,629	$26,920
No. of Instructional Employees	432	366	428	398	386	397	397

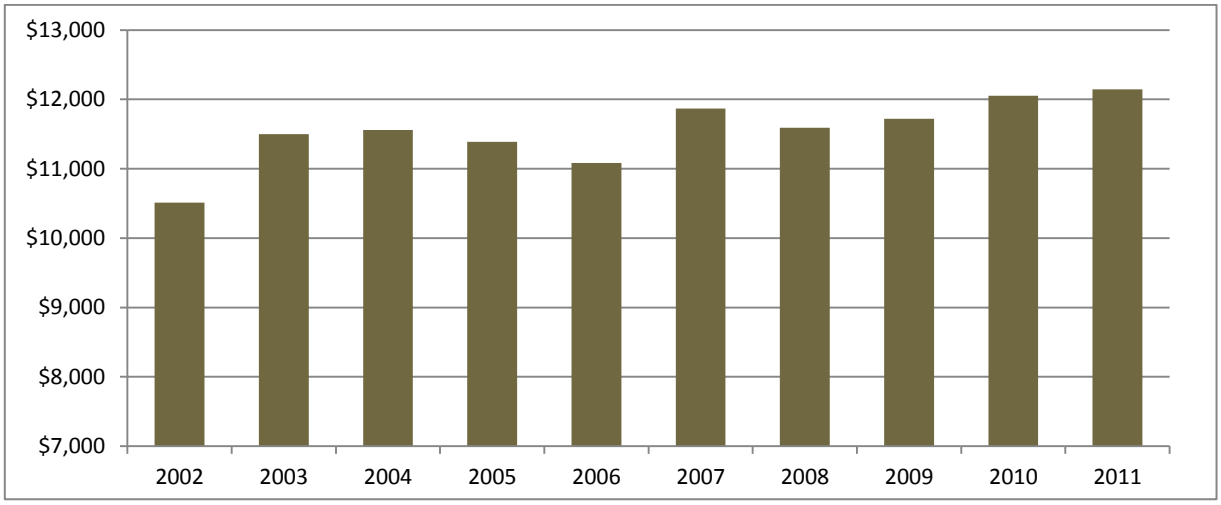
All dollars are adjusted to their value in November 2012.
* The figures are in actual dollars, others are in million.
Source: Exhibit J-16, Hopewell Valley Regional School District. *Comprehensive Annual Financial Report* (various years). Daily Average Enrollment is based on Ibid. Exhibit J-17

Figure 22 exhibits the estimated per-pupil costs using the chosen marginal cost method for 2002 to 2011. It shows that real costs steadily increased in the early 2000s coinciding with enrollment expansion. But even in the enrollment contraction phase after 2006, per-pupil costs still mildly increased. Apart from the pressure on employment benefits, other factors are at play, including special education and information technology. The 2011-12 per-pupil costs are calculated to be $12,150 (in 2012 dollars). This indicates that one new position is needed for every nine new students, at average costs of about $110,000, including employee benefits.

It is important to note that this figure is calculated based on marginal costs confined to direct instructional expenses for the current phase of declining enrollment. Therefore, this figure should be adjusted in a future scenario including enrollment expansion phase after the school district has scaled down all its capacity. At that time, enrollment growth may involve a rise of the marginal cost to cover needed capital improvements and hiring staff for additional positions. [48]

[48] Current township demographics suggest a long-lasting gradual enrollment decline, so a reversal of the enrollment erosion will not take place without substantial subdivision and housing construction.

Figure 22 Estimated Per-Pupil Costs, FY 2002 to 2011



All figures are in 2012 dollars and based on appropriations for instruction.
Source: Exhibit J-18 of Hopewell Valley Regional School District. 2012. *Comprehensive Annual Financial Report*.

8. The Proposed Pennytown Project

This section provides background information and outlines the current proposal for the Marshall's Corner-Pennytown (hereafter "*Pennytown*") site. It will examine the housing mix, uses, and potential property values so as to estimate the tax revenues and costs for municipal and school services.

8.1. The Background of the Project

The *Pennytown* site is located in a rustic area middle of the township (see Map 1). Situated two miles directly north of the center of Pennington Borough, the site is bounded by the CSX rail track to the east, the Else Tract and a stream to the south, Route 31 (Pennington Road) to the west, and the Marshall's Corner Woodsville Road and the Pennington-Hopewell Road to the north. It sits on the way to Hopewell Borough, and on the major route (Route 31) to East Amwell Township and the Route 202 corridor.

The site includes about 104 acres and is split by the Pennington-Hopewell Road. The western part of about 28 acres had accommodated two restaurants, an office, a motel and some retail stores. As businesses failed, the property went foreclosure and became blighted. In the township master planning process, this plot has been identified as an affordable housing site. In 2008, the New Jersey Council of Affordable Housing (COAH) required the township to remediate its retroactive shortfall in its fair housing share of about 130 affordable units under the COAH "Round Three" rules.[49] In December 2009, the township used the Township Affordable Housing Trust fund to purchase this plot and demolish the structures on the site.

The eastern part of about 76 acres is part of a larger plot owned by *Pennwell Holdings*, LLC and the *Gadbey Organisation* (*Pennwell*). The larger plot accommodates the *Kooltronic*'s office and plant facility (about 175,000 sq. ft.), its parking lot, and the surrounding farm, open space and wetland. After the township's master plan proposed to protect the entire site for conservation, *Pennwell* filed a lawsuit. In 2006, the township settled with *Pennwell* and allowed it to transfer its development rights within the entire plot for future development. The whole plot is currently zoned as VRC-HLI (Valley Resource Conservation and Hamlet Light Industrial).

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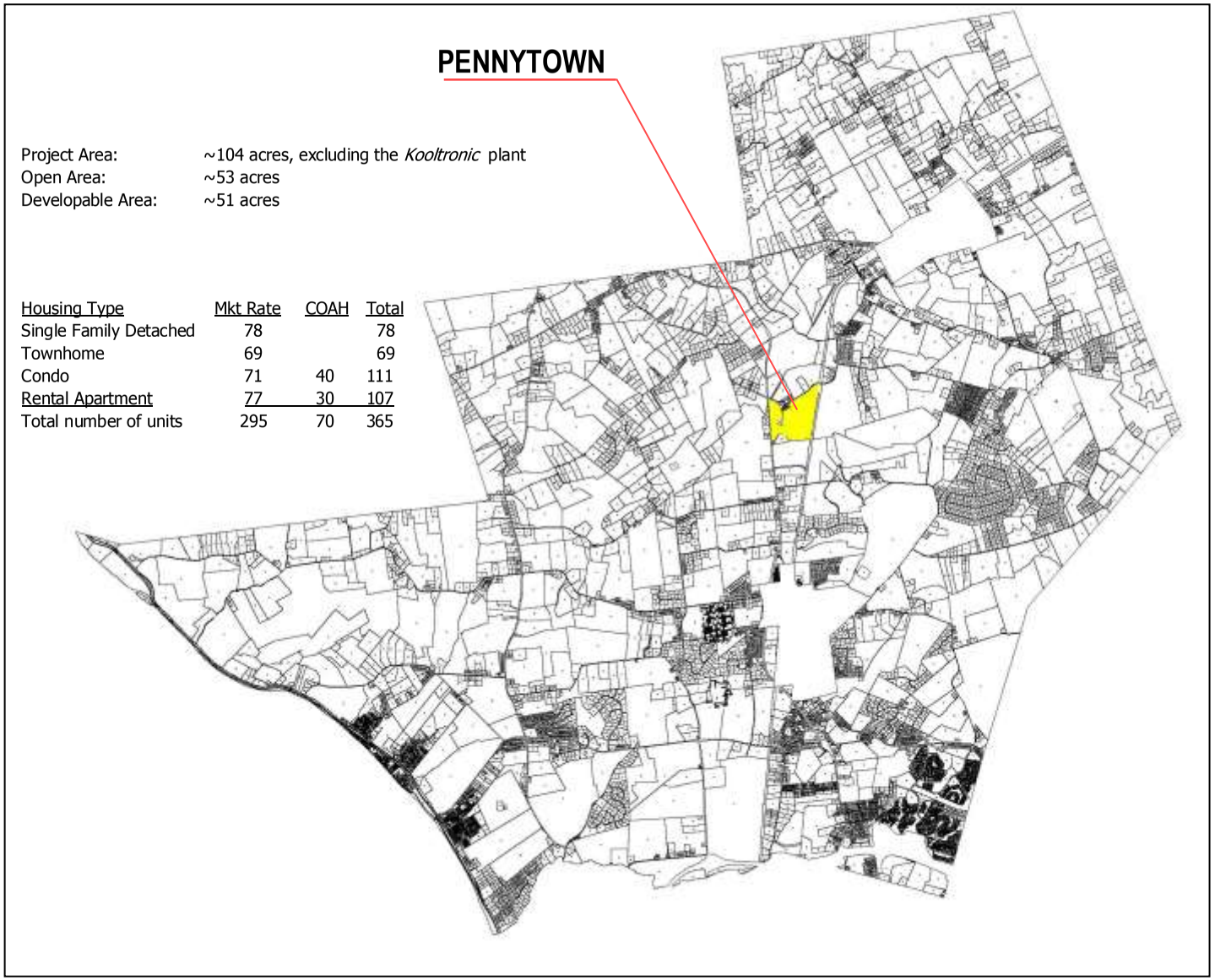
[49] COAH has been a controversy. The "Round Three" rules received numerous legal challenges. In November 2011, COAH was officially abolished and its affordable housing functions are now under the administration of NJ Department of Community Affairs.

Map 1 Location of the Proposed Pennytown Project



In September, 2009 the township identified the western part and adjacent areas as "An Area in Need of Redevelopment." Subsequently, an advisory group was formed to explore the potential of this area and establish development guidelines. This group later evolved as the Marshall's Corner/Pennytown Task Force (hereafter "Task Force"). Through working group and community meetings, the Task Force produced various development concepts and identified major development parameters. On April 19, 2012, it presented the development guidelines to the public. It recommended that the project become an identifiable activity hub; that it emphasizes walkability, neighborhood parks, mixing of housing types, connectivity to trails and nearby recreational facilities, and conservation of sensitive areas; and that it considers environmentally friendly development, accessibility to public transportation, and interfacing with existing dwellings in Marshall's Corner.

The Task Force prepared two slightly different options that are identical in terms of the number of dwelling units, the design in the eastern part, and the designation of the western part as a hub for small shopping center, as well as civic, institutional and community facilities. In both cases, about 54 acres of land are set aside for farm preservation, woodland conservation, and protection of wetland and stream corridor, leaving about 50 acres (about 48 percent) for development. The minor differences lie in the western part as Concept A provides no single-family units while Concept B includes 14 single-family units (two detached and 12 attached).

8.2. Project Housing Mix

As instructed by the client, this report adopts the housing mix used in Concept A, but essentially the differences between the Concepts in this regard is negligible, so the results should also be robust for Concept B. Seventy of the proposed 365 dwelling units are set aside for affordable housing. Table 25 presents the housing type, housing size in terms of number of bedrooms and floor area, and housing tenure.

Before estimating the potential population, the issue of whether the number of bedrooms matches the floor area should be discussed. An examination of a sample of single-family detached homes in the township's communities of *Brandon Farms*, *Mershon Chase*, and *Smith Crossings* confirmed that once the house size passes 2,400 sq. ft., it almost invariably has more than three bedrooms. A survey of new housing development in the *Beazer* study found that a four-bedroom unit was offered for houses as small as 2,200 sq. ft.

Table 25 Housing Mix of the Pennytown Project

	Number of Units	Unit Size (sq. ft.)	Square Footage	Subtotals (sq. ft.)
Eastern Portion				
Single Family Detached				202,800
3 Bedroom	39	2,400	93,600	
4 Bedroom	39	2,800	109,200	
Townhome				78,000
3 Bedroom	39	2,000	78,000	
Condominium				85,900
1 Bedroom	16	900	14,400	
2 Bedroom	55	1,300	71,500	
COAH Condominium				38,000
1 Bedroom	8	700	5,600	
2 Bedroom	24	950	22,800	
3 Bedroom	8	1,200	9,600	
Western Portion				
Townhome				60,000
2- & 3-Bedroom ^	30	2,000	60,000	
Rental Apartment				71,050
1 Bedroom	39	750	29,250	
2 Bedroom	38	1,100	41,800	
COAH Rental Apartment				28,500
1 Bedroom	6	700	4,200	
2 Bedroom	18	950	17,100	
3 Bedroom	6	1,200	7,200	
The Whole Site				
Total Market Rate Units				
Owner-Occupied	218		426,700	
Rental	77		71,050	
Sub-total	295		497,750	
Total COAH Units				
Condominium	40		38,000	
Rental	30		28,500	
Sub-total	70		66,500	
All Residential	**365**		**564,250**	
Commercial	**4**	**5,000**	**20,000**	

^ The housing mix for townhome in the western portion is unspecified.

Source: Hopewell Township Administrator/Engineer, June 2012 and Task Force. Pennytown Final Presentation, April 9, 2012. Housing mix for single family dwellings revised in February 2013.

The township's housing market has always been tight. Its many amenities, superior public services, quality public schools, and proximity to employment have attracted many homebuyers. This strong demand has pushed home prices to a range most younger and smaller families cannot afford. For example, a newly constructed 3-bedroom single-family home commanded an asking price of well over half a million dollars before the recession. As such, buyers for startup homes may either look for townhomes or the smallest 3-bedroom units they can find. In the past, developers responded to this demand by building 3-bedroom single-family detached homes of less than 2,000 square feet. In this regard, a new house of 2,700 square feet will not likely attract younger and/or smaller families. Families who can afford that size would prefer to have four bedrooms. Although the housing slump deflated the value for many of these homes, the price of a 4-bedroom, single-family detached home is still unaffordable for many. The townhome configuration of 2,000 sq. ft. matches the typical size of a 3-bedroom unit in the region, so we assume majority of the 69 townhomes are 3-bedroom units. The floor area of condominiums and rental apartments tend toward the low end but are consistent to the housing design in a high-priced area.

8.3. Sales Price of Owner-Occupied Units

The estimation of the potential sales price (and therefore the assessed value) of a project usually depends on a survey of comparable housing developments currently under construction or recently completed. This survey is impossible because home starts dried up in recent years and most other potentially comparable communities built five or six years ago and currently have substantial number of vacant single-family detached units. Some owners who purchased at the peak of housing bubble have gone through the foreclosure process, further complicating the ability to compare this development with other community sites.

Recent sales in the township were examined to understand the current market conditions. A dataset was obtained from the Assessor's office covering home sales between January 2010 and November 2012. The dataset provides information including bedroom counts, sales prices, and assessed values. Filtering transactions with low sales prices (usually transfers among family members) and age-restricted units in active adult communities, the data was organized by whether it included multi-family units or not. Only the transactions of units in *Brandon Farms, Drakes Mill, Hopewell Grant, Mershon Chase,* and *Smith Crossings*

are included in the analysis. About half of the cases were enhanced by adding information from *Zillow.com* including floor area and a recent price estimation. The relationship between unit size and number of bedrooms was therefore available for analysis.

This dataset contains a total of 176 transactions: including 48 3- or 4-bedroom single-family detached units, and 113 multi-family units of one to three bedrooms. The average sales price is about $400,000 and $500,000 for a 3-bedroom and 4-bedroom single-family home respectfully. The average prices for one, two, and three bedroom multi-family units are $160,000, $217,000, and $330,000 respectively. However, these price levels are deflated and reflect the current weak housing market. Furthermore, all of these units are existing homes and some of them were constructed almost 20 years ago. These low price points are not suitable for the future sales prices for the *Pennytown Project* because they will not entice developers to build.

Alternatively, we looked at the sales prices at the 90 percentile as a gauge for better maintained units that may include a large lot. These 3- and 4-bedroom single-family homes command $470,000 and $630,000 respectively. The respective prices for one, two, and three bedroom multi-family units are $210,000, $350,000, and $410,000. For this sample, regardless the lot size, the average sales price per square foot for single-family and multi-family units are $210, and $200 respectively. These surveyed prices are still about 10 to 15 percent below the peak price in 2006. Developers would not start a project unless the market price has reached a threshold level that they anticipate to get a reasonable profit after adjusting for various risks. We believe that the threshold price level should be comparable to the 90 percentile price point described in the survey.

The estimation of the sales price of COAH units is different because of complicated rules on income limits of the buyers by family size and bedroom counts.[50] Affordable housing development is not financially viable without various gap-financing sources such as the federal Low Income Housing Tax Credit (LIHTC) and other local incentives. In addition, owners of affordable housing must comply with deed restrictions in selling the house to prevent them from earning an excessive windfall. A 1989 court case (*Prowitz vs. Ridgefield Park Village*) affirmed that the assessed value of affordable units should be based on the restricted sales price. Therefore, the home prices of COAH units are much lower than comparable market-rate units. As a rule of thumb, owners of affordable housing units are

[50] The New Jersey Department of Community Affairs provides a table for broad income limits by COAH Region 6 of New Jersey. For example, the most recent table (for 2011) governing Hopewell sets the limit for a household of 2 at $36,557 and $58,490 respectively for low and moderate income.

subject to similar underwriting rules that their annual housing costs could not exceed about one-third of their gross income. As such, if the income for qualifying buyers of these units is at 60 percent of the median income or below, one may expect that the sales price of a COAH unit would be less than half of that of a comparable market-rate unit.[51] Table 26 present the estimated sales prices of the market-rate and COAH owner-occupied units used for the *Pennytown Project.*

Table 26 Estimated Sale Prices for Homeownership Units

Market Rate		COAH	
Single Family Home		Condominium	
3 Bedroom	$520,000	1 Bedroom	$110,000
4 Bedroom	$610,000	2 Bedroom	$130,000
Townhomes		3 Bedroom	$170,000
2 Bedroom	$370,000		
3 Bedroom	$440,000		
Condominiums			
1 Bedroom	$210,000		
2 Bedroom	$310,000		

8.4. Property Value of Market-Rate Rental Units

Appraising the value of rental units (income generating property) is difficult because of the fluctuation in rental income, the changing occupancy rate, the lack of comparables, and the unwillingness of landlords to share information with others. Appraisers usually use several income capitalization methods instead of the sales comparison approach. A crude method is to use a gross income multiplier (GIM, which usually ranges from 8 to 15) to multiply the gross annual income of the property to estimate the property value. When the apartment has no other income (parking, laundry, etc.), the GIM is essentially the same as the gross rent multiplier (GRM). However, the results of this method must be adjusted by other detailed information on operating expenses and debt services, if available, such as operating details and local market conditions.

[51] An examination of selected affordable units in *Brandon Farms* and *Drakes Mill* found that the assessed values, on average, were half of the market value estimated by *Zillow.com*, which were based on comparable market-rate units in the neighborhood.

A more sophisticated method is to first calculate the net operating income (NOI) by subtracting the gross income from operation expenses, including utilities, maintenance, insurance, administrative costs, property tax, debt services, and other various expenses excluding federal income tax. It then divides the NOI by the capitalization rate (cap rate, usually from 5 to 10 percent) to estimate the market value. The challenge lies in obtaining reliable local cap rate data. Usually the cap rate is set at around 10 percent but varies by investment type and market condition. In strong rental markets, it can be down to 5 percent.[52] When data is available regarding the investor's expected rate of return and risk tolerance, a more sophisticated Discounted Cash Flow Method is used to estimate the internal rate of return for before and after tax cash flows. Because of this complexity, licensed appraisers who have better access to relevant data and local market condition can provide a more accurate valuation of income-generating property.

Based on the survey of the rent of market-rate rental apartments in the region, the analysis of 2006-2010 ACS PUMS rental data by income and by bedroom counts, as well as the examination of the information from the New Jersey Housing Resource Center (NJHRC), we found that the monthly rent at the 90 percentile (which represents recently built apartments at comparable quality to those proposed in *Pennytown*) is around $2 per square foot. The COAH rent is estimated by following the New Jersey Department of Community Affairs guidelines and pricing calculator, and data from the New Jersey Housing and Mortgage Finance Agency to calculate the gross rent by bedroom size.[53] The estimated rents for relevant units of the *Pennytown Project* are tallied in Table 27.

Table 27 Estimated Monthly Rent for Apartment Units

Market Rate		COAH	
1 Bedroom	$1,500	1 Bedroom	$860
2 Bedroom	$1,900	2 Bedroom	$1,050
		3 Bedroom	$1,200

COAH rent figures are the possible maximum rent for tenants at 60 percent of COAH Region 4 median income. Also the income limit is contingent of household size and the target tenant group (at extremely low, low, or low-to-moderate income).

[52] In an interview with a tax assessor in the Princeton Valley region, the author was told that a cap rate of 5 percent is used because demand of market-rate rental unit is particularly strong. In contrast, the market demand for townhomes and single-family units is still weak in the region.

[53] New Jersey Housing and Mortgage Finance Agency. *2013 Income Limits and Maximum Rent*: http://www.state.nj.us/dca/hmfa/media/download/tax/incomelimits/2013_income_limits.pdf

Market-rate apartment units in the *Pennytown Project* include 39 1-bedroom and 38 2-bedroom units. The total net floor space is about 71,000 sq. ft. Factoring in the common area, rental offices, fitness rooms, and other facilities, the total floor space increases to about 82,000 sq. ft. Assuming the average construction cost is $120 per sq. ft. and adding 7 percent for paving and landscaping, the total hard cost is about $10.5 million. The development cost is almost $14 million after adding $3.2 million of soft costs (at 30 percent of the hard costs to cover architectural design, engineering drawings, legal fees, permitting fees, other charges and service payments). It is further assumed that the improved land will cost an additional $3 million. The total development cost therefore is estimated to be about $17 million. The cost replacement method, however, does not factor into the anticipated profit and risk premium to the project. Since detailed financing information is not available, a gross income method is used. Applying the estimated monthly market-rate rent in Table 27 to these figures with an occupancy rate of 95 percent yields an annual gross income of about $1.6 million, assuming extra income can be obtained. Using a GIM of 15 for a market-rate rental property, the estimated market value of the whole complex is about $24 million.

8.5. Property Value of COAH Rental Units

Estimating the value for affordable rental units faces some challenges, especially when the project is in the conception phase. Appraisers and tax assessors can rely on actual operating income data to make value determinations after the project is in operation, but when the estimates are based on hypothetical data, the valuation is contingent on a large number of factors and scenarios.

First, COAH rental apartments are subject to the maximum and minimum provisions of units based on the tenant's income level. For example, landlords cannot rent all units to the moderate-income group (i.e., 50 to 80 percent of the regional median income). They must assign some minimum number of units to tenants who earn no more than 50 percent of the area's median income. Second, there is a limit placed on the housing mix by the number of bedrooms to prevent developers from offering only 1-bedroom units. These are complex rules stipulated by the US Department of Housing and Urban Development and state and local housing authorities that only professionals in the affordable housing industry can fully understand. Third, the potential rent value for COAH units is capped according to each tenant's income (not more than 30 percent). Thus, the monthly rent in Table 27 above should be viewed as the maximum potential rent.

A COAH project without a market-rate component has very low NOI and can even generate a negative cash flow. As such, LIHTC benefits and depreciation write-off are vital for some affordable housing apartments. Landlords have additional operating expenses to comply with rules and regulations governing minimum housing services, costs to process tenant applications, and possibly higher maintenance costs. Also the resale of affordable rental apartments is subject to approval through a due diligence process to ensure the buyer has enough experience in managing low-income units. Sales of these units are so infrequent that no comparables can be used. Because of so many variables, the appraisal for the property tax assessment becomes more difficult and the traditional GRM and cap rate for market-rate rental units are not appropriate. [54]

Currently, the 150-unit *Hopewell Gardens* at Denow Road is the only COAH apartment complex in Hopewell. The development cost of this project is about $15 million, of which LIHTC invested in $4.5 million and the New Jersey Housing and Mortgage Finance Agency funded the rest. *Hopewell Gardens* charges $802 and $973 for a 1-bedroom and 2-bedroom apartment respectively. A single-person household qualifies with an income of $39,420 or less and the income limit for two persons is set at $45,000. Fifteen of the units are for people with special needs and the rest are for people over 62. The project has a tax-exempt status, so it cannot provide guidance for this study. The township has another COAH project, the *Freedom Village*, also at Denow Road. This $17 million project will provide 72 rental units with 20 set aside for persons with special needs. Since the project began construction in October 2012, no relevant tax information for it exists yet. The rent for tenants at 60 percent of the region's median income is set at $855, $1,024, and $1,182 for 1-, 2-, and 3-bedroom units respectively. The rent structure and income limit of the *Pennytown* COAH apartment will be very similar to that of *Freedom Village*.

Furthermore the township faces several scenarios in terms of property tax generation from the COAH rental units. First is whether the *Pennytown* COAH rental apartment (30 units) is a separate project or comingled with the 77 market-rate units. There are advantages and disadvantages in both scenarios. Namely, a separate project is easier to develop and by developers who specialize in affordable housing and LIHTC financing. If viewed as a combined project, its mixed-income status will allow some of the market-rate rent to be used to cover the expenses in the COAH section. It is uncertain how these scenarios affect the valuation of assessed value.

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[54] Polton, Richard E. 2005. *Valuation and Market Studies for Affordable Housing*, Chicago: Appraisal Institute.

The following calculation is based on the assumption that the *Pennytown* COAH apartment complex is separate from the market-rate units. The total net floor space of these 30 units is 28,500 sq. ft. The gross area, including common areas, offices, and plant facilities, is about 32,000 sq. ft. At a construction factor of $100 per sq. ft., the cost to build the structure is estimated to be around $3 million. Adding other hard costs for the rest of the site, the total hard cost is estimated to be $3.5 million. While no land cost is expected, additional soft costs (engineering drawings, architectural designs, attorney fees, permitting, etc.) at 33 percent of the hard cost is estimated to be $1.1 million because affordable housing development requires special skills and teamwork. As land cost has been paid, the total development cost is expected to be $4.6 million.

An income approach similar to that used for the market-rate apartment does not generate a higher figure to cover possible small amount of profit. The maximum annual gross rent will not exceed $360,000 at a 5 percent vacancy rate. But since a certain portion of the units would be rented to tenants at a lower percentage of the region's median income level, these units will generate a lower rent. Realistically, the expected gross rent would be less than $300,000 a year. Using a GRM of 15, the project value is approximately $4.6 million. The third method is to treat each COAH apartment as a COAH condominium, and use the aggregate sales price to estimate the total value. However, this method provides a lower figure of about $4 million. The purpose here is not to estimate the market price of this 30-unit COAH apartment, but to derive the assessed values and the property tax revenues that the township may receive. We decided to use $4.6 million as the assessed value because both cost-replacement and income methods generate almost identical figures.

8.6. Property Value of the Commercial Properties

The value for commercial properties is assessed based on rental income and other revenues generated by the tenants. A number of factors relating to the site affect these revenues: location, accessibility to a freeway or dense development, the volume of foot or auto traffic, availability of parking, and the degree of competition. The individual characteristic of each shop or office also affects their value, such as the type of merchandise, the quality of services, maintenance and upkeep, and so on. Therefore, per square footage value varies widely in the township. For example, the assessed value of one restaurant is at about $200 while another is twice as much. Because of the higher rate of business turnover, the vacancy rate of commercial properties can be up to 10 percent even in high demand areas. Owners

of commercial properties can appeal on their tax assessment when they have below-average occupancy.

To estimate the commercial property value of the *Pennytown Project*, we analyzed 200 commercial and industrial lots in the township from a database provided by the Tax Assessor's Office. After isolating the corporate compounds, gas stations, industrial uses, and other factors, about 43 lots are recognized as neighborhood and regional shops and offices. Then we examined some of these properties and used *Google Map* and *Bing* to "inspect" the others to identify those may serve as a comparable for *Pennytown*.

The recently developed *Hopewell Crossing Shopping Center* at Denow Road is a premium retail property with 56,000 square feet of floor space. Assessed at $24 million (or $430 per sq. ft.), it is one of the highest valued retail properties by floor space. Using this project as a comparable is not appropriate because of its different size and more importantly very different locational advantages. It enjoys a strategic location off I-95 and near Pennington Borough. It commands a reasonable income because it is within the vicinity of half a dozen medium- to high-density communities immediately to the east. In comparison, the current *Pennytown* site is less favorably located as there is no concentrated residential development within a 3-mile radius. Additionally, the two nearby boroughs have retail clusters that will remain in strong competition to the *Pennytown Project*.

However, some of these disadvantages would be mitigated by the proposed *Pennytown Project*. Apart from introducing a residential base of 365 units, the proposed institutional and community uses in the "town center" would attract more businesses to the adjacent commercial properties. The site is suitable for professional services for the population to the north of the township; as such it may be an appropriate site for a satellite office for *Capital Health Medical Center*. At this initial planning stage, it is difficult to anticipate precisely how these factors will capitalize for the commercial property.

Given that *Pennytown* has different locational characteristics, we analyze retail/office development away from Denow Road. Specifically, we concentrate on four lots at Tree Farm Road with a total site area of six acres and house a bank, a two-story retail and office building, and a variety of small businesses in other parts of the site. With a total floor space of approximately 57,000 sq. ft., the *Tree Farm* development is about three times the size of that proposed commercial section in *Pennytown*. The average assessed value per sq. ft. is $165 after a bank is excluded for its exceptionally high value. The *Tree Farm* is a recent addition and is located immediately north of Pennington Borough and west of a residential

development at *Woosley Court*. It is the starting point of Route 31 out of Pennington Borough and the site has ample parking space. A second comparable case is an office building near Hopewell Borough. This development has a total of 13,400 sq. ft. with an assessed value of $140 per sq. ft. This is a much older development but within walking distance from the borough. Based on these two comparables, we assign a per sq. ft. assessed value of $160 to the *Pennytown* commercial properties. For the proposed 20,000 sq. ft. of commercial development, the assessed value is estimated to be at least $3.2 million, a figure that needs to be verified by licensed appraisers as more detailed information of the *Pennytown Project* becomes known.

8.7. Summary of Estimated Assessed Values

Table 28 presents the aggregated assessed value of the *Pennytown Project*. Since the equalization rate is almost identical to 1, we treat the market value as the assessed value. All figures are measured in 2012 dollars. Altogether, the whole project is estimated to have a value of about $ 131.3 million, including $128.1 million in residential properties and $3.2 million in commercial properties. With regard to the residential component, the 295 market-rate units have an aggregated value of $118.1 million while the 70 COAH units are estimated at almost $10 million. The owner-occupied section (including 40 the COAH condominium units) accounts for 258 units for an aggregated value of about $99.5 million while the 107 rental units (including 30 COAH apartment units) command about $28.6 million.

Again, the total assessed values can only attained when the whole project is completed at a time when the housing market has rebounded to a level that allows developers to earn an expected profit. Currently, the market price is still below that threshold; it will take some time to get to that point. After construction begins, several additional years are needed for the whole project to be completed and occupied.

Table 28 Assessed Values of the Pennytown Project

	No. of Unit	Assessed Value	No. of Unit	Assessed Value
A. Owner-Occupied Unit				
	Market Rate		**COAH**	
Single Family Home			Condominium	
3 Bedroom	39	$20,280,000	1 Bedroom	8	$880,000
4 Bedroom	39	$23,790,000	2 Bedroom	24	$3,120,000
Subtotal	78	$44,070,000	3 Bedroom	8	$1,360,000
Townhome				
2 Bedroom ^	10	$3,700,000		
3 Bedroom	59	$25,960,000		
Sub-total	69	$29,660,000		
Condominium				
1 Bedroom	16	$3,360,000		
2 Bedroom	55	$17,050,000		
Subtotal	71	$20,410,000		
Total	218	$91,140,000	Total	40	$5,360,000
All Owner-Occupied Units				
Number of Units		*258*		
Aggregated Assessed Value		*$99,50,000*		
B. Rental Unit				
	Market Rate		**COAH**	
Apartment	77	$23,970,000	Apartment	30	$4,600,000
All Rental Units				
Number of Units		*107*		
Aggregated Assessed Value		*$28,570,000*		
C. Total Residential				
Number of Units		*365*		
Aggregated Assessed Value		*$128,070,000*		
D. Commercial		*$3,200,000*		
E. Total Project		***$131,270,000***		

^ The bedroom size of townhomes in the western part of the site is unspecified. This table assumes 10 of the 30 units have 2-bedrooms.

9. Future Population and Service Needs

Combining the information on average household size and the school-age children multiplier in Section 7 with the housing mix information in Section 8, we can provide a detailed estimation of the added population groups from the *Pennytown Project* to the township, as well as the additional number of students to the Hopewell Valley Regional School District.

9.1. Added Population and Municipal Service Needs

The *Pennytown Project* will add a total of 365 units, increasing the township's existing housing stock by about 6 percent. We assume that the project is not gated, but located in the western section together is a core of amenities including neighborhood retail establishments, and civic and community facilities. Based on the guidelines developed by the Task Force, the development will be "green" and eco-friendly in terms of recycling, solar power, retention ponds, and an efficient use of land by carefully placing the proposed buildings. In this sense, the average municipal service needs of the project would be slightly below that of scattered development on larger lots. As the development is not age-restricted, we assume that the incoming population would be younger than the overall age structure of the township.

For small area or project-based population forecasts, planners must choose an appropriate occupancy rate before applying the average household size multipliers specific to housing type and size. Based on the discussion on the housing vacancy in the township using 2010 Census and the recent ACS estimations, we adopted an occupancy rate of 95 percent. Under current market conditions, it is possible that large single-family dwellings, especially those on big lots, may have a lower occupancy rate. Vice versa, the rate may be higher for rental units and small townhomes. In order to simplify the analysis, the rate adopted is applied uniformly to all housing types.

Table 29 shows the results of added population by various housing groups. It is estimated that the whole project would have 775 residents, equivalent to 4 percent of the 2012 township household population. Since the *Pennytown Project* includes six housing components, it will take a longer time to complete the entire development because each component must reach an appropriate price point above the threshold price level. The introduction of this population to the township will be phased and gradual. It is unlikely that several hundred persons would move to *Pennytown* during any particular year.

Table 29 Estimated Population of the *Pennytown Project* by Detailed Breakdown

	No. of Unit	Estimated Population		No. of Unit	Estimated Population
A. Owner-Occupied Unit					
	Market Rate			**COAH**	
Single Family Home			Condominium		
3-Bedroom	39	99	1 Bedroom	8	9
4-Bedroom	39	127	2 Bedroom	24	45
Sub-Total	78	226	3 Bedroom	8	22
Townhome			Subtotal	40	76
2 Bedroom ^	10	19			
3 Bedroom	59	151			
Sub-total	69	170			
Condominium					
1 Bedroom	16	18			
2 Bedroom	55	93			
Subtotal	71	111			
Total Market Rate Unit	*218*	*507*			
All Owner-Occupied	***258***	***583***			
B. Rental Unit					
	Market Rate			**COAH**	
Apartment			Apartment		
1 Bedroom	39	44	1 Bedroom	6	8
2 Bedroom	38	80	2 Bedroom	18	42
Subtotal	77	124	3 Bedroom	6	18
			Subtotal	30	68
All Rental	***107***	***192***			
C. Whole Project					
	365	***775***			

An occupancy rate of 95 percent is applied across the board.

^ The bedroom size of townhomes in the western part of the site is unspecified. This analysis assumes 10 of the 30 units are 2-bedrooms.

The following table tabulates the above population data by different housing categories. Readers can examine the population forecast of each of the housing groups by bedroom count. With an estimated 226 persons, the largest residential group (29 percent) will be in the 78 market-rate single-family dwellings. This follows the most updated housing mix guideline that half of them are 3-bedroom units. In the more detailed design phase, the lot size and floor area can be slightly altered according to market demand. In that scenario, an emphasis on units with smaller floor space may marginally reduce the number of residents as provided in the calculations for the table.

The estimated number of residents in the COAH units is estimated to be about 144 or 19 percent of the 775 persons of the whole project. The overall average household size of the project is about 2.24, lower than the 2010 township-wide figure of 2.75, primarily because three-quarters of the dwellings are 1- to 3-bedroom units. It should be noted that the overall average household size for all 3- and 4-bedroom units are 2.73 and 3.43 respectively.

Table 30 Estimated Population of the Pennytown Project by Broad Categories

	No. Units	Estimated Population	Percent Share of Total Population	Average Household Size
All Owner-Occupied Units	258	583	75	2.38
All Single Family Units	78	226	29	3.05
All Townhomes	69	170	22	2.59
All Condominiums	111	187	24	1.77
All Rental Apartment Units	107	192	25	1.89
All Market-Rate Units	295	631	81	2.25
All COAH Units	70	144	19	2.17
All 1-Bedroom	69	79	10	1.21
All 2-Bedroom	145	279	36	2.03
All 3-Bedroom	112	290	37	2.73
All 4-Bedroom	39	127	16	3.43
Whole Project	*365*	*775*	*100*	2.24

9.2. Needs for Public Schooling

Because of the orientation toward small units (about 60 percent will be 1- or 2-bedroom units), the *Pennytown Project* should have moderate impact on school attendance. Furthermore, because school enrollment has been steadily declining for several years and has lost about 250 students since 2006, the school system will be able to absorb the added students from *Pennytown* without creating fiscal pressure on capital improvement, administrative outlays, and facilities expansion. The direct effects will primarily affect the expenses to hiring new instructors.

Applying the school-age children multipliers established in Section 7 to the estimated number of occupied units (at 95 percent occupancy) generates the number of SAC by housing type and bedroom size. These figures will be multiplied by the public school student ratio (82 percent as concluded in Section 5.4) to generate the projected number of

public school students (PSS). When the *Pennytown Project* is fully occupied, it will send about 97 students to the schools of the Hopewell Valley Regional School District (Table 31). This amount only constitutes 3 percent of the 2012 enrollment.

Table 31 Estimated Public School Students by Detailed Breakdown

	No. of Unit	Estimated PSS		No. of Unit	Estimated PSS
A. Owner-Occupied Unit					
	Market Rate			**COAH**	
Single Family Home			Condominium		
3-Bedroom	39	15	1 Bedroom	8	1
4-Bedroom	39	24	2 Bedroom	24	4
Sub-Total	78	39	3 Bedroom	8	3
Townhome			Subtotal	40	8
2 Bedroom ^	10	12			
3 Bedroom	59	23			
Sub-total	69	25			
Condominium					
1 Bedroom	16	1			
2 Bedroom	55	8			
Subtotal	71	9			
Total Market Rate Unit	*218*	*73*			
All Owner-Occupied	***258***	***81***			
B. Rental Unit					
	Market Rate			**COAH**	
Apartment			Apartment		
1 Bedroom	39	2	1 Bedroom	6	0
2 Bedroom	38	7	2 Bedroom	18	4
Subtotal	77	9	3 Bedroom	6	3
			Subtotal	30	7
All Rental	***107***	***16***			
C. Whole Project					
	365	***97***			

PSS stands for public school students.
An occupancy rate of 95 percent is applied across the board and 82 percent of school-age children will attend public school.
^ This analysis assumes 10 of the 30 townhomes in the western part of the site are 2-bedrooms.

Table 32 presents the distribution of public school students by different housing categories. About 40 percent of these students will come from single-family detached dwellings. The condominiums and rental apartments would likely generate 17 and 16 public school

students respectively. The COAH units would likely generate only 15 students because only 14 units are planned to be built with three bedrooms.

Table 32 Estimated Public School Students by Broad Categories

	No. Units	Estimated PSS	Percent Share of Total PSS	SAC per Household
All Owner-Occupied Units	258	81	84	0.33
All Single Family Units	78	39	40	0.53
All Townhomes	69	25	26	0.38
All Condominiums	111	17	18	0.16
All Rental Apartment Units	107	16	16	0.16
All Market-Rate Units	295	82	85	0.29
All COAH Units	70	15	15	0.23
All 1-Bedroom	69	4	4	0.06
All 2-Bedroom	145	25	26	0.18
All 3-Bedroom	112	44	45	0.41
All 4-Bedroom	39	24	25	0.65
Whole Project	*365*	*97*	*100*	0.28

PSS stands for public school students.

9.3. Summary

The overall impact of the *Pennytown Project* should be insubstantial to the overall township population as it adds only 4 percent to the 2012 population. The impact to the school (an addition of 3 percent to the 2012 enrollment figure) is also minimal because the school district has losing about 50 students on average per year. The distribution of housing size is the biggest contributor to moderate population and student growth. In addition, the urban design concepts and eco-friendly principles would reduce the development's consumption of municipal services on a per capita basis. The following table summarizes the estimations in this section to provide readers an overall picture before going to the next section on fiscal impacts.

Table 33 Summary of Major Variables of the Proposed Pennytown Project

Variables	
Added Population	775
Added Public School Students	97
Number of Market-Rate Units	295
Number of COAH Units	70
Total Number of Dwelling Units	365
Total Residential Floor Space (sq. ft.)	564,250
Total Commercial Floor Space (sq. ft.)	20,000
Project Area (approximately acreage)	104
Area Reserved for Open Space (acre)	54
Area for Development (acre)	50
Gross Density (dwelling units per acre)	3.5
Total Residential Values (in million)	$128.1
Average Value per unit	$351,000
Highest Unit Value (4-bedroom single family home)	$610,000
Lowest Unit Value (COAH 1-bedroom Condominium)	$110,000
Total Project Values (in million)	$131.3
Approximate Revenues to the Township	
Municipal Purpose Tax Revenues	$395,000
Open Space Revenues	$39,400
Fire Levy	$86,600
Approximate School Tax Revenues	$1,849,500

10. Fiscal Impacts of the Pennytown Project

10.1. Overview

The goal of this section is to estimate the municipal revenues and costs generated by the proposed *Pennytown Project*. The preceding sections help develop the estimates that are required in the quantification of the fiscal impacts in this section. Although these estimates have encountered various current and future uncertainties, we believe that we sufficiently discussed the assumptions and possible scenarios to make these estimates reasonable. This section therefore integrates all these estimates to determine the probable municipal costs and revenues that decision-makers, stakeholders, and the public may examine to make their own judgements. Again, fiscal consideration is only one of the many criteria to decide on the approval, modification, or rejection of any development proposal. Issues including recreational amenities and open space, local traffic at peak hours (in the absence public transportation), community and retail facilities, sensitive areas or sustainability, buffer zones surrounding residential development, sewage treatment (after the bond proposal was defeated) are some of the many other important considerations that need to address when determining what to do with the current *Pennytown* development proposal.

10.2. Municipal Revenues to Hopewell Township

New development always increases the tax base of a municipality as the project brings direct and indirect revenues. Direct revenues include property taxes, user charges, impact fees, and license and processing fees that are assessed at the location of the development. The indirect revenues come in many forms as the impact of the development spill over to other parts of the municipality. For example, a development will attract shoppers from outside the directly affected community who will shop, dine, and lodge in the area, which helps improve local sales taxes and produces additional fines and fees (such as parking meter income and traffic tickets). If the development increases the sales in the surrounding properties, their rental income rises and so does the assessed value. The municipality can further benefit by this additional secondary property tax revenue.

After adjusting for inflation, realized municipal revenues have continued to slide downward for the past several years. All major revenue sources are in a slight decline, despite some irregular increases in small items such as outside grant and non-property tax revenues. The temporary rise in 2011 was due to a one-time refund of an insurance

premium and payment of back taxes. In 2003, property tax revenue accounted over 50 percent of all revenues. In 2011, its share rose to 56.8 percent, about 6 percentage points below its peak in 2009. The township's reliance on property tax and the tax base that the *Pennytown* development can add to its coffers, should be examined carefully.

Property tax revenue is the only direct revenue that the *Pennytown Project* brings to the township. Currently, residents are paying two types of property taxes: 30.1 cents for every $100 of assessed real property value for municipal purposes, and 3 cents for an open space trust fund. They also pay 6.6 cents on a special fire service levy. Upon completion, the *Pennytown Project* would generate about $395,000 in property tax revenues each year for municipal purposes. This amount accounts for about 2 percent of the total revenue. The project would also generate about $39,400 to the open space trust fund. The voluntary fire services would benefit by about $86,600.

Table 34 Estimated Municipal Property Tax Revenues from the Pennytown Project

	No. of Units	Aggregated Assessed Value (in $Mil.)	Revenues to Township: Municipal Purpose	Open Space	Fire Levy
Market Rate					
Single Family Home	78	$44.1	$132,700	$13,200	$29,100
Townhome	69	$29.7	$89,300	$8,900	$19,600
Condominium	71	$20.4	$61,400	$6,100	$13,500
Apartment	77	$24.0	$72,100	$7,200	$15,800
	295	$118.1	$355,500	$35,400	$78,000
COAH					
Condominium	40	$5.4	$16,100	$1,600	$3,500
Apartment	30	$4.6	$13,800	$1,400	$3,000
	70	$10.0	$29,900	$3,000	$6,500
Total Residential	365	$128.1	$385,400	$38,400	$84,500
Commercial (20,000 sq. ft.)		$3.2	$9,600	$1,000	$2,100
Total Project		*$131.3*	*$395,000*	*$39,400*	*$86,600*

10.3. Municipal Costs to Hopewell Township

In estimating the added municipal costs generated by any given development, the principle of relevance is vital. Applying township-wide cost multipliers may overestimate or underestimate the actual costs depending on other fiscal and developmental conditions. When the development has a demographic profile similar to the whole township and its

development density and housing mix are like the rest of the township, then these multipliers can be used without adjustments.

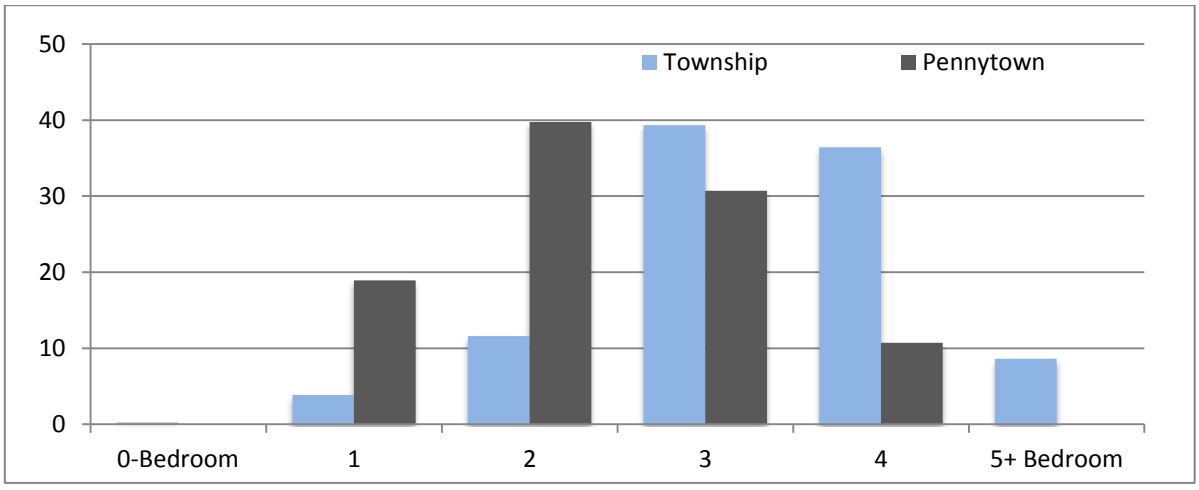
Should the per capita municipal cost estimate of $740 (in constant 2012 dollars) derived from Section 7.4.3 be used for the *Pennytown Project*? To answer that, we need to explore two issues:

a) Will the layout, land use pattern, housing mix, and demographics of the *Pennytown Project* induces more or less than average municipal services?

b) Will the *Pennytown Project* generate capital improvement and borrowing specifically for its development?

Regarding the first issue, housing attributes can provide important clues. Figure 23 shows that *Pennytown* is oriented toward small units. Units of 1 and 2 bedrooms tend to attract younger residents who are more likely to be in their twenties or, alternatively, retirees who do not need a big house. While both of these resident types may be more mobile, neither is likely to have a lot of children living with them. Standard start-up homes for young families with young children are more likely to have three bedrooms. In the past, 4-bedroom units would be more likely to house families with one or two children, some of whom could be in their late teens. However, given the high housing price in the area, mid-age families tend to stay in 3-bedroom units for longer time as they are often not able to afford the larger house. From the perspective of housing size, future residents in *Pennytown* are likely to be younger with fewer children, especially older teenagers, because the housing type will tend to attract this size household.

Figure 23 Distribution of Housing Units by Number of Bedrooms (in Percent)



Source: ACS 2007-2011 5-Year Estimates, Table B25041; Task Force Presentation, April 29, 2012.

Another comparison can be made based on the structure of the units. Well-designed development can use infrastructure more efficiently and cost effectively. However, denser urban forms may induce certain activities requiring municipal action, including more traffic accidents for example. While 82 percent of the township's housing units are single-family detached dwellings, only 21 percent of the *Pennytown* units are of this type, with a majority of townhomes, condominiums or multi-family apartments. According to the Task Force's concept design, about 30 percent of the *Pennytown*'s units are multi-family structures with more than 20 units (the township only includes two percent of this type of housing). Whether multi-family units require more municipal services depends on the quality of the units and the level of management. We expect that the *Pennytown Project* will have a level of management similar to or above the townhomes in *Hopewell Grant*, the condominiums in *Manors*, and the apartment units in *Hopewell Gardens* and the forthcoming *Freedom Village*.

Also there is no reason to believe that the average municipal service needs between residents living in market-rate units and in well-managed COAH units will be very different. About 19 percent of the total 365 units are assigned to be COAH. Of these 70 COAH units, 80 percent of them are 1- or 2-bedroom units, which would tend to attract residents that require fewer services and are less likely to have children and teenagers. Given the efficient use of land and infrastructure, proper property management, and fewer older teenagers in *Pennytown*, we expect that the demand for services in the *Pennytown Project* is similar or slightly below the township average.

The second issue is raised because the per-capita municipal costs in Section 7.4.3 cover operating expenses. In other words, we need to consider whether *Pennytown* would require capital improvements and debt services specifically for itself; and if so, whether the township would pay for it. In the current political climate, it is unlikely that the existing township residents will agree on issuing a bond. In early 2012, the proposed sewage bond, arguably a more immediate concern for voters, was rejected. Other financing mechanisms would not affect existing township residents in adherence to the principle of "Pay as You Go." For example, the developer can absorb all the costs and possibly transfer all or most of them to the buyers. Or the developer can pay an impact fee to the township to cover any needed improvement. The possible improvements and financing options will need to be discussed and negotiated in the future. As far as this study is concerned, we find that the possible capital improvements that burdens on the township is unlikely getting political support, so they should be considered separately from this fiscal impact analysis.

Based on the discussion presented in this report, we conclude that the township-wide per capita municipal cost of $740 may be slightly higher than the *Pennytown Project* would actually require. Because the master planning processes (including cluster development of housing units compared to scattered development on large lots) will ensure that the project more efficiently allocates land use and municipal service consumption, we adjusted it downward to $700.

Table 35 presents the added municipal costs to serve *Pennytown* by broad housing categories. It is estimated that the township will spend about $542,000 on the *Pennytown Project* each year. The municipal costs generated from the commercial uses are not included because of their negligible impact. The commercial floor space only accounts for about 0.4 percent of the total 5 million sq. ft. of the township's commercial and industrial properties. In addition, the commercial uses are designed as an integral part of the *Pennytown Project*, so we assume they will be under the control of the management company for the apartments and condominiums.

Table 35 Estimated Municipal Costs of the Pennytown Project

	No. of Units	Estimated Population	Municipal Costs	Costs per Unit
Market Rate				
Single Family Home	78	226	$158,200	$2,030
Townhome	69	170	$119,000	$1,720
Condominium	71	111	$77,700	$1,090
Apartment	77	124	$86,800	$1,130
	295	631	$441,700	$1,500
COAH				
Condominium	40	76	$53,200	$1,330
Apartment	30	68	$47,600	$1,590
	70	144	$100,800	$1,440
Total Project	*365*	*775*	*$542,500*	*$1,490*

10.4. Net Effects to Hopewell Township

From the perspective of Hopewell Township's municipal decision-makers, most residential development will likely generate a net expenditure if it is not one of the high-end properties with an assessed value approaching a million dollars. This conclusion is

common in most fiscal impact studies because of the unequal relationship between per capita expenditure and per unit tax revenue. The net fiscal impacts of the *Pennytown Project* are shown in Table 36 as anticipated after the project is completed. Even after housing market shows signs of recovery, it will take a many years for this project to approach full occupancy, so the township has ample time to absorb its impact.

Overall, the *Pennytown Project* would generate almost $400,000 in municipal purpose tax revenues (not including the revenues to the open space trust fund and fire/EMS services). The township would spend about $543,000 on *Pennytown* each year for added operating expenses, assuming that the project will not increase the township's debt services or capital investment. In terms of net effects, the township may spend about $147,500 for *Pennytown* each year. Considering the scale of the project, the net expenditures are fairly mild, roughly equivalent to the salary and employee benefits of less than two employees. On a per unit basis, the township would pay from $190 to $1,100. The net effects from the COAH units ($71,000 net expenditures) should be considered as inevitable because of the need to comply with the state rules.

Table 36 Estimated Municipal Revenues and Expenditures

	No. of Units	Estimated Revenues	Estimated Expenditures	Net Impact	Net Impact per Unit
Market Rate					
Single Family Home	78	$132,700	$158,200	-$25,500	-$330
Townhomes	69	$89,300	$119,000	-$29,700	-$430
Condominium	71	$61,400	$77,700	-$16,300	-$230
Apartment	77	$72,100	$86,800	-$14,700	-$190
	295	$355,500	$441,700	-$86,200	-$290
COAH					
Condominium	40	$16,100	$53,200	-$37,100	-$930
Apartments	30	$13,800	$47,600	-$33,800	-$1,130
	70	$29,900	$100,800	-$70,900	-$1,010
Total Residential		$385,400	$542,500	-$157,100	-$430
Commercial		$9,600		$9,600	
Total Project	*365*	*$395,000*	*$542,500*	*-$147,500*	

The estimated revenues are from the collected municipal tax for the township, and the estimated expenditures are the operating expenditures the township will spend.

It is worth pointing out that the per capita municipal costs are nearly constant after adjusting for inflation for the most recent decade, which suggests strong fiscal discipline and conservatism. As such the township has been resilient to minor fiscal stresses. In equilibrium, the township's fiscal system should be well equipped to cope with the gradual introduction of new residents. While on paper, the total cost to the municipality is greater than its collected revenue, the township should be able to handle the incremental increase of the net impact that eventually accounts for at most 0.8 percent of total expenditures. In addition, the township can consider other funding possibilities to mitigate this marginal shortfall by incorporating some arrangements that can internalize the cost for some services in the development and impact fee agreements for the *Pennytown Project*.

In the end, the decision about the *Pennytown* proposal should not simply focus on the net direct fiscal impact. This project originated because the township must comply with the COAH fair housing share requirements. Treating that obligation as a constant or a given fact, the township has the fiscal cushion it needs to find a proposal that would best serve other goals, such as improving the social and income mix as facilitated by its housing units, expanding the non-residential tax base, and creating a mixed-use areas in the middle of the township. It is noted that current proposal incorporates a mini-town center to serve seniors, and constructing additional facilities for community, retail and professional service uses.

10.5. Fiscal Impact to Hopewell Valley Regional School District

In 2012, property owners paid $1.409 for every $100 assessed real property value. The estimated school tax revenues generated from the *Pennytown Project* would be $1.85 million (Table 37). The development would send 97 students to the school system. In Section 7.5, we used the marginal costing method to estimate per-pupil costs at $12,100 at current enrollment decline condition. These costs can be interpreted as only those necessary expenses to hire part-time or full-time instructors (regular or substitute) since the addition of new students are unlikely causes spending on physical facilities. The aggregate school expenditures from *Pennytown* is about $1.17 million to the school district, so the net fiscal impact to the school district is a surplus of about $676,000.

Table 37 Estimated School Tax Revenues and Expenditures

	No. of Units	Estimated PSS	School Tax Revenue	School Expenditure	Net Impact
Market Rate					
Single Family Home	78	39	$620,900	$471,900	$149,000
Townhomes	69	25	$417,900	$302,500	$115,400
Condominium	71	9	$287,600	$108,900	$178,700
Apartment	77	9	$337,700	$108,900	$228,800
	295	82	$1,664,100	$992,200	$671,900
COAH					
Condominium	40	8	$75,500	$96,800	-$21,300
Apartment	30	7	$64,800	$84,700	-$19,900
	70	15	$140,300	$181,500	-$41,200
Total Residential			$1,804,400	$1,173,700	$639,700
Commercial			$45,100		$45,100
Total Project	*365*	*97*	*$1,849,500*	*$1,173,700*	$675,800

PSS stands for public school students.

Due to the housing size distribution tending toward smaller units, the *Pennytown Project* has a lower impact on the school district compared to more typical housing developments that include a higher proportion of 4- and 5-bedroom units in small, scattered subdivisions. In assessing these results, bear in mind that school enrollment has been declining at a rate of about 50 students annually. Thus, the school system has enough infrastructure and physical facilities to absorb additional enrollment from *Pennytown* for many years to come. The students from *Pennytown* would tend to be younger, and would of course move through the school system as they age. [55]

[55] If declining enrollment eventually leads to school closure, then the added costs will be different. After that, added students may require capital improvements to re-open school or add new physical facilities.

10.6. Revenues to Mercer County

Although the scope of this study does not include the impact to the county, this section provides a brief overview of related findings. We assume that any expenditure for county public services is distributed throughout the county and are difficult to separate based on the multiple municipal sources. The counties primarily provide services related to public health, social and human services, court and judicial services, correctional services, library services, parks and recreation, and maintenance and repair of county roads. Since many jurisdictions are involved, some services targeted to underserved areas might draw resources from the more affluent areas.

The *Pennytown Project* will generate about $713,000 tax revenues for county general service. It also provides about $72,100 to the county library systems. The county open space fund also obtains about $27,600 from the *Pennytown Project*.

Appendix 1
Comparison between the Separate and Joint Development Scenarios

This fiscal impact study was conducted based on the assumption that the *Pennytown Project* is a joint development project combining 1) the 28-acre western site owned by the township and 2) the eastern site of about 76 acres owned by *Kooltronic*. The western site has been slated for affordable housing development to meet the unfulfilled obligation under State of New Jerzy COAH rules. The Task Force has explored the potential for and possibilities of combining the two sites through master planning for a more functional and efficient planned community that includes a town center. One advantage of this joint venture is its ability to provide a large enough incentive for the developer to incorporate various mixed uses and non-residential components to meet the regional needs. Another advantage is to contract with a single developer to oversee the construction of this complex proposal of six housing groups rather than deal with separate development by different developers.

The two sites, however, can be developed independently as *Kooltronic* can go ahead to use its development rights under current zoning. Decision-makers and the public should be informed of the fiscal impact under these two scenarios:

- the separate development scenario, and
- the joint development scenario.

Sections 1 to 10 of this study are based on the joint development scenario. This appendix presents a brief summary of the impacts of the separate development scenario. It will not be as detailed as the main part of the report. To estimate the impacts of this scenario, we apply the same fiscal impact model developed for the joint venture scenario. In other words, we use the same set of figures for average household size, SAC multipliers, public school student ratio, and municipal cost, and pupil cost multipliers.

It should be noted that the COAH component is identical in both scenarios because the township has to go ahead with it or without the participation of *Kooltronic*. This component is considered to be a constant. The only variations between the two scenarios are the development parameters, including the unit counts by housing type and bedroom numbers, and the provision of a small town center (Table 38). Under the separate development scenario, no market-rate apartment or condominium units are produced. In addition, it does not accommodate 2-bedroom market-rate townhomes. In contrast, the joint

development option has a variety of housing types like luxurious apartment and condominiums and the non-residential floor space.

Table 38 Development Parameters between Two Scenarios

	Separate Development		Joint Development	
	No. of Units	Floor Space (sq. ft.)	No. of Units	Floor Space (sq. ft.)
COAH Project				
COAH Condominium				
1 Bedroom	8	5,600	8	5,600
2 Bedroom	24	22,800	24	22,800
3 Bedroom	8	9,600	8	9,600
All COAH Condominiums	40	38,000	40	38,000
COAH Rental Apartment				
1 Bedroom	6	4,200	6	4,200
2 Bedroom	18	17,100	18	17,100
3 Bedroom	6	7,200	6	7,200
All COAH Apartments	30	28,500	30	28,500
Total COAH	70	66,500	70	66,500
Commercial/Retail Center	0		4	20,000
Senior Center	0		1	
Community Center	0		1	
Market Rate Development				
Single Family Home				
3 Bedroom	74	177,600	39	93,600
4 Bedroom	74	207,200	39	109,200
All Single Family Homes	148	384,800	78	202,800
Townhomes				
2 Bedroom	0	0	10	17,000
3 Bedroom	80	160,000	59	121,000
All Townhomes	80	160,000	69	138,000
Condominium				
1 Bedroom	0	0	16	14,400
2 Bedroom	0	0	55	71,500
All Condominiums			71	85,900
Apartment				
1 Bedroom	0	0	39	29,250
2 Bedroom	0	0	38	41,800
All Apartments			77	71,050
All Market-Rate Project	228	544,800	295	497,750
All Residential	**298**	**611,300**	**365**	**564,250**

The number of market-rate units for the separate development scenario compared to the joint development scenario is 228 and 295 respectively. The separate development scenario produces more floor space. At 611,300 sq. ft. for all units in total, the separate development produces 47,000 sq. ft. more than that of the joint development scenario. In terms of the total bedroom counts, the separate development has 758 bedrooms while the joint development scenario has 711.

The prospective population size is a function of housing size and number of bedrooms, as well as the number units. Assuming the same 95 percent occupancy rate, the separate development scenario will add 778 residents (Table 39). The joint development scenario will generate 775 residents. The major difference lies in that more families and more teenagers are likely to reside in the separate development scenario because it provides 70 more single family homes. The joint development will have a younger adult population and fewer teenagers. The two scenarios do differ in the number of public school students. Because of the lack of small apartment and condominiums, the separate development generated 25 percent more public school students than the joint development. The former has 121 students when the later has 97.

Table 39 Added Population and Public School Students under the Two Scenarios

	Estimated Population		Est. Public School Students	
	Separate Development	Joint Development	Separate Development	Joint Development
COAH				
Condominium	76	76	8	8
Apartment	68	68	7	7
Total COAH	144	144	15	15
Market Rate				
Single Family Home	429	226	74	39
Townhome	205	170	32	25
Condominium	0	111	0	9
Apartment	0	124	0	9
Total Market Rate	634	631	106	82
Total	**778**	**775**	**121**	**97**

If all the 10 2-bedroom townhomes in the joint development scenarios are 3-bedroom units, the added population and public school students are 781 and 99 respectively.

The total assessed value for the separate development scenario is about $128.9 million (Table 40). The joint development, however, has about $2.5 million more assessed value. Its value of $131.3 million is primarily due to the presence of commercial floor space. As such, the separate development scenario would generate slightly less revenues.

Table 40 Total Assessed Value and Municipal Tax Revenues of the Two Scenarios

	Est. Assessed Value ($ mil.)		Est. Municipal Tax Revenues	
	Separate	Joint	Separate	Joint
COAH				
Condominium	$5.36	$5.36	$16,100	$16,100
Apartment	$4.60	$4.60	$13,800	$13,800
Total COAH	$9.96	$9.96	$29,900	$29,900
Market Rate				
Single Family Home	$83.62	$44.07	$251,700	$132,700
Townhomes	$35.20	$29.66	$106,000	$89,300
Condominium	$0.00	$20.41		$61,400
Apartment	$0.00	$23.97		$72,100
Total Market Rate	$118.82	$118.11	$357,700	$355,500
Commercial		$3.20		$9,600
Total	**$128.78**	**$131.27**	**$387,600**	**$395,000**

The township would spend about $544,600 in the separate development scenario -- about $2,000 more than in the joint development option. The next table presents the net fiscal impacts to the township. Under the separate development scenario, the net impacts to the township would pay $157,000 to cover the added service after factoring into the anticipated revenues; it is about $10,000 more than the joint development scenario.

Table 41 Municipal Costs and Net Fiscal Impacts to the Township

	Est. Municipal Costs		Est. Net Impact	
	Separate	Joint	Separate	Joint
COAH				
Condominium	$53,200	$53,200	-$37,100	-$37,100
Apartment	$47,600	$47,600	-$33,800	-$33,800
Total COAH	$100,800	$100,800	-$70,900	-$70,900
Market Rate				
Single Family Home	$300,300	$158,200	-$48,600	-$25,500
Townhome	$143,500	$119,000	-$37,500	-$29,700
Condominium		$77,700		-$16,300
Apartment		$86,800		-$14,700
Total Market Rate	$443,800	$441,700	-$86,100	-$86,200
Commercial				$9,600
Total	**$544,600**	**$542,500**	**-$157,000**	**-$147,500**

Table 42 presents the estimated school tax revenues and expenditures of the Hopewell Valley Regional School District. The separate development scenario will send 121 students to public schools while the joint development will send 97 students. In terms of revenues, the school district would gain in both scenarios because they would bring in a larger amount of school tax revenues. The separate scenario would incur about $1.46 million school expenditures as compared to $1.17 under the joint development scenario. As a result, the school district would gain about $350,000 and $676,000 from the separate development and the joint development scenario respectively.

Table 42 Estimates School Tax Revenues and Expenditures to the School District

	Est. School Tax Revenues		Est. School Expenditures	
	Separate	Joint	Separate	Joint
COAH				
Condominium	$75,500	$75,500	$96,800	$96,800
Apartment	$64,800	$64,800	$84,700	$84,700
Total COAH	$140,300	$140,300	$181,500	$181,500
Market Rate				
Single Family Home	$1,178,200	$620,900	$895,400	$471,900
Townhome	$496,000	$417,900	$387,200	$302,500
Condominium		$287,600		$108,900
Apartment		$337,700		$108,900
Total Market Rate	$1,674,200	$1,664,100	$1,282,600	$992,200
Commercial		$45,100		
Total	**$1,814,500**	**$1,849,500**	**$1,464,100**	**$1,173,700**

Appendix 2 List of Abbreviations

ACS	American Community Survey
ARP	Allocation Rule Percentage
COAH	Council of Affordable Housing
DVRPC	Delaware Valley Regional Planning Commission
EMS	Emergency Medical Service
GDI	Gross Domestic Income
GDP	Gross Domestic Product
GIM	Gross Income Multiplier
GRM	Gross Rent Multiplier
HVRSD	Hopewell Valley Regional School District
LIHTC	Low Income Housing Tax Credit
NJASK	New Jersey Assessment of Skills and Knowledge
NJHRC	New Jersey Housing Resource Center
NOI	Net Operating Income
PSS	Public School Student
PUMA	Public Use Microdata Area
PUMS	Public Use Microdata Sample
SAC	School-Age Children
VRC-HLI	Valley Resource Conservation and Hamlet Light Industrial
ZBP	Zip Code Business Patterns