

**IMPACT ASSESSMENT:  
PROPOSED HIGH POINT HOSPITAL FACILITY  
MIDDLEBOROUGH, MASSACHUSETTS  
DECEMBER 2013**

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Prepared for:

Middleborough Zoning Board of Appeals  
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## **I. SUMMARY OF IMPACTS**

High Point Treatment Center (“High Point” or “Applicant”) proposes to redevelop the former Saint Luke’s Hospital at 52 Oak Street in Middleborough for a 72-bed psychiatric hospital. The property consists of 3.5± acres and 65,000 sq. ft. of usable floor space located at the edge of Downtown Middleborough in the Business District. RKG estimates that at project completion, the proposed project will have the following fiscal and economic impacts:

- High Point’s 72-bed facility will generate a low-high range of 66 to 150 calls to the Middleborough Police Department each year, and 33 to 86 calls to the Middleborough Fire Department. Similarly, a 50-bed facility that McLean Hospital plans to open on Isaac Street could generate 40 to 50 police calls and about 25 fire calls per year. These estimates are based on data obtained from police and fire departments in a sample of other Massachusetts towns with psychiatric hospitals similar to those proposed by High Point and McLean.
- Public safety services provided to High Point by the Middleborough Police and Fire Departments will cost the Town of Middleborough \$91,100 to \$97,100 per year. Unless the Town and High Point reach agreement about a payment in lieu of taxes or other means to offset these costs, the project will have a negative impact on Town finances. High Point is a non-profit charitable organization that is exempt from property taxes under state law. RKG understands that McLean is leasing the property on Isaac Street and the property owner will continue to pay taxes to the Town.
- High Point will have a favorable impact on employment and the economy. During the construction phase of High Point’s \$10 million redevelopment project, the project will create sixty-three construction jobs with an indirect benefit of forty-four jobs, for a combined construction-phase employment impact of 107 jobs. The net increase in wages is \$6.5 million (rounded), including direct and indirect wages during construction.
- At project completion and when fully operational, High Point’s facility will generate net employment growth. The hospital’s direct employment of 130.15 full-time equivalent (FTE) positions and 70.36 FTE indirect jobs will culminate in a total of 201.5 FTE jobs. The total annual wage impact, including direct and indirect wages, is approximately \$10.1 million. These estimates exclude the jobs and wages that will transfer to Middleborough from High Point’s existing facility in Plymouth.

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## **II. INTRODUCTION**

### **A. Project Description**

High Point Treatment Center (“High Point” or “Applicant”) proposes to redevelop the former Saint Luke’s Hospital at 52 Oak Street in Middleborough for a 72-bed psychiatric hospital. The property consists of 3.5± acres and 65,000 sq. ft. of usable floor space located at the edge of Downtown Middleborough in the Business District. Built in 1925, Saint Luke’s Hospital was acquired by Cardinal Cushing General Hospital ca. 1990 and operated for several years by Cranberry Specialty Hospital, a long-term acute care facility that eventually converted to outpatient-only services and closed in the late 1990s. The Middleborough Zoning Board of Appeals (ZBA) has retained RKG Associates, Inc., to estimate the fiscal and economic impact of High Point’s proposal on the Town of Middleborough. The project requires a special permit from the ZBA because the facility exceeds 10,000 sq. ft. of floor area.

High Point operates under the umbrella of Southeast Regional Network, Inc., a non-profit organization that owns several drug and alcohol treatment centers, inpatient and outpatient mental health facilities, residential recovery programs, and emergency shelter facilities in Southeastern Massachusetts. Its flagship hospital is High Point’s Plymouth campus. There, High Point operates a multi-purpose 105-bed facility with detoxification and substance abuse treatment programs, a program for patients with behavioral health and substance abuse problems, a psychiatric unit licensed by the Massachusetts Department of Mental Health (DMH) under G.L. c. 123, § 12 (“Section 12”), and outpatient services. The proposed facility in Middleborough would offer behavioral health care services, also with DMH licensure. According to High Point’s representatives, the existing sixteen psychiatric beds in Plymouth will be transferred to the new facility in Middleborough.

Section 12 provides for involuntary commitment of people believed to be at risk of serious harm due to mental illness. A physician, licensed psychologist, licensed social worker, or other qualified professional has to determine whether such a risk exists. If so, the person at risk can be committed involuntarily to a DMH-licensed hospital for up to three days. During that three-day period, the hospital must determine whether the client needs longer-term inpatient care. Unless the hospital petitions a court for an extended commitment period, the client must be allowed to leave after three days. In addition, the hospital is required to offer the person the option of voluntary self-admission. According to High Point, clients opting for voluntary admission cannot leave before the end of the same three-day period. High Point reports that over the past few years, the average length of stay for clients admitted under Section 12 (both involuntary and voluntary) has been six to 6.5 days.

Upon discharge, clients admitted under Section 12 may leave the hospital on their own, with family members or friends, or with transportation assistance from High Point staff. High Point officials say that clients typically leave the hospital with an after-care plan for services in their own community, and prescriptions (if needed) to be filled at a pharmacy of their choice. RKG heard similar descriptions of the Section 12 discharge process from other psychiatric hospitals.

## **B. State Licensure Requirements**

### **1. DMH Licensure**

By state law, DMH has authority to license privately owned and operated psychiatric hospitals and psychiatric units in general hospitals. Today, the Commonwealth has sixty-two private hospitals with DMH licenses for a combined total capacity of 2,560 beds. While psychiatric hospitals provide the vast majority of these beds, over half of the hospitals with DMH licenses are actually general medical/acute care hospitals, e.g., Morton Hospital in Taunton or Jordan Hospital in Plymouth. There are eight classes of DMH licensure for inpatient psychiatric facilities, and all but one authorize some type of involuntary commitment. The licenses include:

- Class II: diagnosis and treatment of adults with voluntary admissions under G.L. c. 123, § 10.
- Class III: diagnosis and treatment of adults with conditional voluntary admissions under G.L. c. 123, §§ 10 and 11, and on involuntary committed status under G.L. c. 123, §§ 7 and 8, and to use restraint and seclusion.
- Class IV: diagnosis and treatment of adults on involuntary committed status under M.G.L. c. 123, § 12, and to use restraint and seclusion.
- Class V: evaluation, diagnosis, and treatment of people committed by a criminal court to determine competency to stand trial under G.L. c. 123, §§ 15, 16, 17 and 18, and to use restraint and seclusion.
- Class VI: diagnosis and treatment of minors on voluntary or conditional voluntary admission status under G.L. c. 123, §§ 10 and 11, and on involuntarily committed status under G.L. c. 123, §§ 7, 8 and 12, and to use restraint and seclusion.
- Limited Class VI: diagnosis and treatment of minors age 16 and 17 on adult units on voluntary or conditional voluntary admission status under G.L. c. 123, §§ 10 and 11, and on involuntarily committed status under G.L. c. 123, §§ 7, 8 and 12, and to use restraint and seclusion.
- Class VII: Diagnosis and treatment of adolescents in a residential treatment program or on conditional voluntary admission status under G.L. c. 123, §§ 10 and 11, and on involuntarily committed status under G.L. c. 123, §§ 7 and 8, and to use restraint and seclusion.
- Class VIII: License to administer electroconvulsive treatment.

According to High Point representatives, the Middleborough facility will have DMH Class III, IV, and VI licenses. Information obtained from DMH indicates that High Point's Plymouth campus has the same licenses. All of these license classes include authority to accept involuntary commitments under Section 12.

## **2. Other Licenses, Approvals, and Certifications**

High Point's facility is a hospital, so it will require other licenses and approvals in addition to Section 12 licensure from DMH and zoning approvals from the Town. According to High Point's representatives, the Middleborough campus will be subject to licensure by the Department of Public Health (DPH) as a Primary Care, Mental Health and Substance Abuse Clinic. The Middleborough campus will have a pharmacy, too, and it will require licenses both from DPH and the federal Drug Enforcement Administration (DEA). Finally, the Middleborough campus may require a license from DPH for dual diagnosis treatment services.

In addition to a building permit from and periodic inspections by the Middleborough Building Inspector, High Point's project will require licenses and/or approvals and periodic inspections from the Board of Health and Fire Department.

High Point's flagship hospital in Plymouth and its inpatient and outpatient facilities in Brockton, Taunton, and New Bedford are accredited by The Joint Commission, the non-profit organization that accredits and certifies health care facilities throughout the U.S.

## **C. McLean Hospital**

At approximately the same time that High Point announced plans to open a psychiatric facility at the former St. Luke's site, McLean Hospital received approval to open a satellite campus at the former Greenery rehabilitation (long-term care) center off Forest Street. The McLean project involves relocating an existing 45-bed facility for adults and adolescents from Brockton to Middleborough. McLean, a private non-profit hospital affiliated with Harvard and Massachusetts General Hospital, operates psychiatric and substance abuse treatment facilities in other cities and towns in Eastern and Central Massachusetts. Its Middleborough program is expected to have DMH licensure similar to High Point's – including authority to accept Section 12 admissions – but according to information RKG received for this review, most of the clients at McLean are voluntary.

### **III. IMPACT ASSESSMENT**

#### **A. Fiscal Impact Overview**

##### **1. What does it mean?**

In studies conducted for units of local government, “fiscal impact” refers to the relationship between the amount of revenue generated by a given land use and its associated community service costs. The relationship is expressed as a ratio of municipal and school service costs to revenue, known simply as a “cost-revenue ratio.” A land use qualifies as “revenue positive” if it generates more revenue than the cost of the demands it places on municipal and school services, i.e., a ratio  $<1.00$ , or a low cost-revenue ratio. A “revenue neutral” land use represents the break-even point (1.00), and a “revenue negative” land use costs more in community services than the amount of revenue it produces ( $>1.00$ ). Five factors tend to influence the net fiscal impact of new growth:

- The population changes associated with a particular land use;
- Rate of new growth;
- Location of new growth;
- The existing land use pattern in the receiving city or town; and
- The existing fiscal condition of the receiving city or town.

“Population changes” can include anything from total population growth or decline to a change in the make-up of the population, e.g., growth or change in the household population or the total population in group quarters, such as hospitals, group homes, nursing homes, and so forth. It also includes changes in the make-up or size of the daytime population, e.g., changes in the number of people working in a community from day to day.

##### **2. Models, assumptions, and limitations**

Since local governments depend on property taxes to finance municipal and school services, fiscal impact studies have become a popular tool for development review. However, fiscal impact analysis is not confined to a single “tool” because practitioners have several models or methodologies from which to choose. A model is an organized, systematic way of analyzing data, making inferences and drawing conclusions. All of the prevailing fiscal impact models have been field-tested and reviewed by academic and practicing peers, and from time to time new field tests lead to a change in assumptions. For example, many of the demographic assumptions used by fiscal impact analysts thirty years ago have been modified to reflect national changes in household sizes and types.

Fiscal impact analysis focuses on General Fund revenue because the question ultimately addressed by any of these studies is whether a land use will have a positive or negative impact on the tax rate. To answer that question, a fiscal impact analyst has to rely on known factors – historic revenue and expenditure trends, existing conditions, and the demographic characteristics of a community – to predict the “unknown” outcome of a future land use change.

On this note, most of the prevailing fiscal impact models share some common ingredients. For example:

- Near-term community service expenditures per capita may be used to forecast changes in spending as the local population grows if today's average cost per capita is adjusted to simulate the impacts of large and small amounts of new growth. A significant amount of population and household growth in a short period is more likely to cause accelerated growth in service costs. By contrast, a low or stable rate of population growth usually triggers little change in the overall rate of growth in service, measured on a per capita basis.
- Nearly all fiscal impact models assume that for a given nonresidential land use, the ratio of a development's assessed value to aggregate value of properties in the same use class (two "knowns") can be used to estimate the same development's proportional share of total community service costs (an "unknown").

Fiscal impact studies have limitations and for a variety of reasons, they should be used with caution. While fiscal impact estimates can help communities plan for change, they should not be the sole basis – or even the primary basis – for major public policy decisions. In our experience, the following conditions tend to affect the accuracy and utility of fiscal impact studies:

- No fiscal impact model adequately accounts for a municipality's existing fiscal condition, yet the real impacts of a project are largely determined by context: the demographic, economic and fiscal characteristics of the receiving community.
- Not all local government costs change as a direct result of population growth, and some costs change in the absence of population growth – such as health insurance costs for municipal employees, energy costs for public buildings, and fuel costs for public safety and public works.
- Revenue ratio studies rely on present costs and revenues to describe the fiscal outcome of a development that is not yet built. However, changes in the economy, federalism, public policy, population demographics and technology result in a fluctuating fiscal position for many land uses.
- In isolation, cost-revenue ratios convey an incomplete picture of a development's fiscal outcome. A land use may seem advantageous because it produces a positive cost-to-revenue ratio, but the amount surplus revenue it generates (in dollars) may be strikingly low. In our experience, this kind of outcome is usually associated with low-intensity land uses, particularly low-intensity commercial uses.



## B. Context: Middleborough Profile

Middleborough is the Commonwealth's third largest town in total area and second largest in land area.<sup>1</sup> Due to the size and shape of the town, Middleborough's boundaries touch nine other communities in southeastern Massachusetts. A very low-density town in terms of its existing development pattern, Middleborough is growing at a moderately fast pace. Regional planners estimate that Middleborough will continue to gain population for at least the next two decades. Nevertheless, Middleborough already exceeds the most recently published projections for 2020 and 2030.<sup>2</sup>

**Table 1. Population Growth**

Community	Total Population (Actual)				Pct. Change 2000-2010
	1980	1990	2000	2010	
MIDDLEBOROUGH	16,404	17,867	19,941	23,116	15.9%
Bridgewater	17,202	21,249	25,185	26,563	5.5%
Carver	6,988	10,590	11,163	11,509	3.1%
Halifax	5,513	6,526	7,500	7,518	0.2%
Lakeville	5,931	7,785	9,821	10,602	8.0%
Plympton	1,974	2,384	2,637	2,820	6.9%
Raynham	9,085	9,867	11,739	13,383	14.0%
Rochester	3,205	3,921	4,581	5,232	14.2%
Taunton	45,001	49,832	55,976	55,874	-0.2%
Wareham	18,457	19,232	20,335	21,822	7.3%

Source: U.S. Census Bureau, RKG Associates.

Like most of the surrounding communities, Middleborough has a predominantly white population. Almost 94 percent of the people living in Middleborough today are white, non-Hispanic, and African Americans comprise the town's largest minority group. Less than 2 percent of Middleborough's residents are Hispanic or Latino, including all races. Although its foreign-born population is small, about 5 percent of the total population speaks more than one language, mainly Portuguese or Spanish in addition to English.

Middleborough's population is fairly stable, for the vast majority of its residents have lived in town for at least one year. There is evidence of more turnover in neighboring Taunton and Wareham, which have relatively large inventories of rental housing, and Raynham, which has experienced considerable population and household growth. Much like the region as a whole, Middleborough has more families than non-family households, but it does have a larger percentage of non-family households than its small rural neighbors, e.g., Rochester and Plympton. It has more renter households, too (about 18 percent). These factors play a part in Middleborough's comparatively low household incomes, for the median household income is higher in most neighboring towns, excluding Wareham, Taunton, and Carver.

<sup>1</sup> U.S. Department of Commerce, Bureau of the Census, Geographic Data Files.

<sup>2</sup> Metropolitan Area Planning Council, Regional Growth Projections, MetroFuture 2030 Projections. Although Middleborough is in the Southeastern Regional Planning and Economic Development District (SRPEDD), MAPC has developed detailed population and household projections for most of eastern Massachusetts, including non-MAPC communities like Middleborough.

**Table 2. Population by Minority Status and Nativity**

Community	Population (2010)	Minority Population (Race and Hispanic or Latino)	Foreign Born Population
MIDDLEBOROUGH	23,116	6.3%	3.3%
Bridgewater	26,563	11.6%	4.4%
Carver	11,509	4.1%	3.1%
Halifax	7,518	5.9%	0.8%
Lakeville	10,602	7.5%	4.8%
Plympton	2,820	1.9%	2.1%
Raynham	13,383	8.4%	4.2%
Rochester	5,232	7.9%	6.2%
Taunton	55,874	15.9%	11.0%
Wareham	21,822	10.5%	3.4%

Source: Census 2010, 2007-2001 American Community Survey, RKG Associates.

**Table 3. Households and Household Incomes by Type**

Community	Total Households	Family Households	Median Household Income	Median Family Income	Median Nonfamily Income
MIDDLEBOROUGH	8,059	5,895	\$73,490	\$85,769	\$46,400
Bridgewater	7,927	5,760	\$88,697	\$101,641	\$44,519
Carver	4,286	3,051	\$70,608	\$85,996	\$41,110
Halifax	2,798	1,945	\$83,522	\$89,456	\$55,662
Lakeville	3,586	2,830	\$93,260	\$104,416	\$35,385
Plympton	991	786	\$93,882	\$102,773	\$42,063
Raynham	4,739	3,542	\$82,855	\$96,190	\$46,406
Rochester	1,699	1,411	\$98,728	\$104,496	\$39,327
Taunton	21,799	14,333	\$53,401	\$67,447	\$33,372
Wareham	9,176	5,581	\$52,556	\$64,891	\$31,532

Source: 2007-2001 American Community Survey.

Middleborough is a fairly affordable town. Its home values and rents are low relative to other communities and to the incomes of its own homeowners and renters. According to the Census Bureau, Middleborough's median home value falls at the regional midpoint and its monthly rents are among the region's lowest. Middleborough's affordability to its residents is attributable in part to the cost of community services. In FY 2012, its average single-family tax bill was well below the mid-point for the ten-town area. Total non-school spending seems high compared with that of surrounding communities, but when viewed against spending by other towns serving populations of similar size, Middleborough's expenditures per capita are actually quite low.

**Table 4. Incomes and Housing Values**

Community	Median Home Value	Median Owner Housing Cost as % Income	Median Homeowner Income	Median Gross Rent	Median Gross Rent as % Income	Median Renter Income
MIDDLEBOROUGH	\$325,900	25.3	\$84,473	\$1,065	25.4	\$51,080
Bridgewater	\$348,800	22.9	\$98,940	\$1,125	26.8	\$53,178
Carver	\$279,800	27.9	\$72,622	\$1,593	31.1	\$59,276
Halifax	\$313,800	25.6	\$83,652	\$1,061	22.8	\$73,500
Lakeville	\$407,100	24.0	\$99,327	\$1,038	50.0+	\$26,178
Plympton	\$385,700	26.4	\$97,944	\$1,054	30.8	\$16,000
Raynham	\$334,500	23.5	\$98,132	\$1,241	31.5	\$45,845
Rochester	\$439,300	21.3	\$98,683	\$1,611	18.2	\$147,593
Taunton	\$275,100	24.7	\$75,323	\$881	30.9	\$32,471
Wareham	\$266,800	27.8	\$59,939	\$1,132	36.8	\$21,283

Source: U.S. Census Bureau, 2007-2001 American Community Survey (ACS). Note: These ACS estimates are based on five-year averaging of annual survey data, so home values do not necessarily reflect current conditions.

**Table 5. Property Taxes, Local (Non-School) Spending Per Capita, and Public Safety Expenditures Per Capita**

Community	Population	Average Single-Family Tax Bill	Total Non-School Expenditures Per Capita	Public Safety Expenditures Per Capita
MIDDLEBOROUGH	23,116	\$3,845	\$1,451	\$285
Bridgewater	26,563	\$4,781	\$653	\$250
Carver	11,509	\$4,156	\$805	\$242
Halifax	7,518	\$4,899	\$1,048	\$304
Lakeville	10,602	\$3,637	\$777	\$225
Plympton	2,820	\$5,219	\$1,102	\$375
Raynham	13,383	\$4,291	\$1,043	\$486
Rochester	5,232	\$4,458	\$1,261	\$318
Taunton	55,874	\$3,124	\$1,465	\$381
Wareham	21,822	\$2,410	\$785	\$248

Source: U.S. Census Bureau, Census 2010; Mass. Department of Revenue, Municipal Data Bank, and RKG Associates, Inc.

Middleborough has a small employment base with 630 employer establishments (public and private) and a combined total approximately 8,500 jobs. The average weekly wage in Middleborough, \$932, is somewhat higher than that of Plymouth County as a whole (\$843). Goods-producing employment – e.g., the construction trades, manufacturing, and farming—make up a larger share of Middleborough’s employment base than Plymouth County’s, which makes sense given the town’s largely rural nature. About 21 percent of its tax base is composed of nonresidential property, mainly commercial property. As a matter of local policy, Middleborough has adopted a split tax rate, so the Town taxes commercial, industrial, and personal property at a somewhat higher rate than residential property. In FY 2014 (current fiscal year), the residential tax rate is \$15.60 per thousand and for nonresidential property, \$16.59 per thousand.

## C. Fiscal Impact of High Point

It is difficult to present a “revenue positive” fiscal impact analysis for any land use that does not generate property tax revenue, e.g., a development owned and operated by a non-profit charitable organization. This is true not only for non-profit hospitals, but also for private schools, religious uses, and other charitable institutions. While non-profit organizations often provide a favorable impact on *state* revenues and expenditures, the fact that municipalities depend so heavily on property taxes makes a property owner’s taxpaying status a critical element in fiscal impact studies.

RKG understands that High Point qualifies as a tax-exempt organization under G.L. c. 59, § 5, which means it will not be required to pay real and personal property taxes to the Town of Middleborough. High Point would have to pay for municipal utilities (water and sewer) and other services the Town provides on a user-fee basis, but these revenue sources typically make up a small share of a municipal operating budget. Moreover, utility revenues are typically segregated from the General Fund, so payments made for services such as water and sewer do not directly contribute to the pool of funds used to provide public safety and public works services. As a result, High Point’s use of town services – primarily police and fire – will not be offset by any property tax revenue.

RKG met with several Town employees on October 30, 2013, in order to understand their operations, existing staff capacity, and existing service demands.<sup>3</sup> Some of the issues staff identified involve project review matters that go beyond the scope of RKG’s assignment, e.g., off-street parking, stormwater management, or water use. Nevertheless, the discussions with staff brought these key questions into view:

- Do the Middleborough police and fire departments have adequate capacity to respond to public safety calls generated by High Point’s proposed project?
- Will High Point’s presence have a positive or negative economic impact on Middleborough, and more specifically, the downtown area?
- Will the presence of liquor stores and alcohol-serving establishments in the downtown area attract clients upon discharge from High Point?

### 1. Police and Fire Departments

The Middleborough Police Department (MPD) is a \$3.6 million organization that employs 39 sworn officers.<sup>4</sup> Relative to Middleborough’s geographic area and population, the MPD is fairly small. According to crime statistics published by the Federal Bureau of Investigation (FBI), the ratio of police officers to population (expressed per 1,000 population) is third lowest in Middleborough’s immediate area. In addition to population size, factors such as land use patterns, land area, and road networks play equally if not more important roles in determining the adequacy of a town’s police force. Under almost any criterion, Middleborough appears to be marginally served if not underserved.

<sup>3</sup> Town Manager, Town Planner, Police Chief, Fire Chief, Building Inspector, Assessor, and two representatives of the Department of Public Works.

<sup>4</sup> Middleborough Police Department, FY 2014 Municipal Operating Budget.

**Table 6. Comparative Assessment of Police Department Staffing  
Middleborough and Surrounding Communities**

Town	Population (Census 2010)	Sworn Officers	Land Area	Sworn Officers Per 1,000 Population	Local Area (Sq. Mi.) Per Officer	Road Miles Per Officer
MIDDLEBOROUGH	23,116	39	69.56	1.69	1.78	5.32
Bridgewater	26,563	31	27.49	1.17	0.89	4.13
Carver	11,509	16	37.55	1.39	2.35	4.54
Halifax	7,518	13	15.87	1.73	1.22	5.08
Lakeville	10,602	12	29.90	1.13	2.49	5.61
Plympton	2,820	7	14.79	2.48	2.11	3.87
Raynham	13,383	25	20.50	1.87	0.82	7.31
Rochester	5,232	10	33.93	1.91	3.39	9.25
Taunton	55,874	106	46.62	1.90	0.44	2.46
Wareham	21,822	47	35.79	2.15	0.76	3.60

Sources: U.S. Department of Justice, Bureau of Crime Statistics; U.S. Bureau of the Census, Census 2010 Cartography Library; and RKG Associates, Inc.

According to the police chief, the Police Department responds to about 16,000 calls per year. He reports that most of the calls stem from activity in the center of town and along Route 28. The department covers the Town with three patrol zones per shift, overseen by a single supervisor.

Like Middleborough, most of the surrounding towns fall short of the industry guideline of two officers per 1,000 population. Nevertheless, they do come closer to the guideline. Middleborough would have to increase its police force by seven sworn officers in order to cover the town with an average of (almost) two officers per 1,000 population. Under the Town's existing compensation schedules, adding seven officers to the Middleborough Police Department would cost approximately \$493,400 for salaries and employee benefits. However, the actual cost would be higher because the Town is also responsible for the cost of the police academy, uniforms, and so forth, plus at least one additional cruiser to correspond with the additional patrol capacity.

The Middleborough Fire Department includes 28 professional firefighters and deploys them in seven four-person shifts. Middleborough has not added staff to the Fire Department since the mid-1980s, when the Town's population was approximately 17,000. Due to its limited staff capacity, the Fire Department maintains the central fire station around the clock and opens the south fire station about 50 percent of the time, but a third station in the north part of town remains closed. Emergency medical services in Middleborough are provided under a contract with Brewster Ambulance, which guarantees the Town at least one ambulance at all times. However, the Fire Department operates a Class 5 ambulance and responds to 911 calls. In addition to fire suppression and first responder services, the Fire Department issues some 2,000 permits per year. For the Middleborough Fire Department to more closely match the Northeast average of 1.59 career firefighters per 1,000 population,<sup>5</sup> the Town would have to spend

<sup>5</sup> National Fire Protection Association, *U.S. Fire Department Profile 2010*, 12. The average of 1.59 firefighters per 1,000 population applies to communities with populations of 25,000-49,000. There is no reported average for communities with populations below 25,000.

approximately \$561,600 and hire eight additional firefighters – that is, a 28 percent increase over existing personnel.

To provide an impartial estimate of police and fire calls that High Point will most likely generate, RKG requested and received data from police and fire officials in several communities with Section 12-licensed psychiatric facilities. For Plymouth, we focused on police and fire calls associated with High Point’s campus in Manomet. Table 7 summarizes the information we received.

**Table 7. Public Safety Calls Associated with Psychiatric Facilities (2012)**

City/Town	Facility	Capacity (Beds)	Police Calls	Fire Calls	Police Calls/Bed	Fire Calls/Bed
Georgetown	Baldpate	59	N/A	104	N/A	1.76
Belmont	McLean	152	140	69	0.92	0.45
Plymouth	High Point	105	223	125	2.12	1.19
Pocasset	Cape Cod/Islands Comm. Health	24	15	15	0.63	0.63
Westwood	Westwood Lodge	130	129	121	0.99	0.93
Pembroke	Pembroke Hospital	80	82	53	1.03	0.66

Sources: American Hospital Association; police and fire departments in Georgetown, Plymouth, Belmont, and Pocasset; and RKG Associates, Inc.

The data in Table 7 suggest that in a given year, the Middleborough Police Department may be asked to respond to anywhere from 66 to 150 calls from High Point. The Fire Department is likely to see less activity, first because Brewster Ambulance provides emergency medical transport in Middleborough and second, RKG understands that High Point is prepared to contract with Brewster for non-emergency transport services. Working with the statistics in Table 7, however, High Point could generate 33 to 86 calls requiring a response from the Fire Department. Similarly, the 50-bed facility that McLean plans to open on Isaac Street could generate 40 to 50 police calls and about 25 fire calls per year.

The Town has to decide whether its public safety departments have enough capacity to absorb the municipal service demands from High Point’s development. The challenge for this fiscal impact assessment is that Middleborough’s shortfall of seven police officers or eight firefighters – assuming one adopts industry guidelines – already exists. The shortfall precedes High Point and it will exist even if High Point decides to open a hospital in another community. Middleborough’s recent annual town reports are replete with concerns from the Police Chief and Fire Chief about existing inadequacies in public safety coverage. Moreover, the Fire Chief submitted a Fiscal Year (FY) 2014 funding request for twelve new firefighters, citing inability to staff apparatus and unacceptable response times from the north and south fire stations due to lack of staff capacity.<sup>6</sup> In short, the capacity challenges these departments already face is general public knowledge in Middleborough; this, in turn, argues against assigning the full cost of correcting the problem to High Point. Still, it seems clear that High Point’s presence will place further strain on both the Police and Fire Departments, and especially the Police Department. At issue is arriving at a share of each department’s capacity need that can fairly be ascribed to High Point’s project.

<sup>6</sup> Fire Department, Request for New Funding, FY 2014.

## 2. Proportional Valuation

An appropriate way to estimate the additional public service costs associated with High Point is a well-respected fiscal impact model known as **proportional valuation (PV)**. Developed, field-tested, and refined by Robert W. Burchell from Rutgers, the proportional valuation model assumes that a community can determine the cost of new nonresidential services – the “unknown” – from the relationship between three “known” conditions: the assessed value of existing real property, the assessed value of nonresidential property, and the community’s nonresidential service costs (total General Fund expenditures minus education spending). The underlying logic is that appraised value relationships provide a useful surrogate for municipal service cost relationships, i.e., the proportional value of a land use can reasonably be used to estimate its proportion of municipal service costs. Since Burchell inaugurated this approach over thirty years ago, it has been modified and used by many organizations and applied to a wide range of fiscal impact questions. A particularly well-known use of proportional valuation is the American Farmlands Trust’s Cost of Community Services (COCS) studies, which try to demonstrate the economic benefits of protected open space.

**Table 8. Proportional Valuation Estimate of High Point Municipal Service Costs**

Step	Model Component	Number
A	Total Municipal Expenditures (FY 2012)	\$33,545,382
B	Total Assessed Value (2012)	\$2,296,872,855
C	Total Parcels (FY 2012)	8,991
D	Total Assessed Nonresidential Value (FY 2012)	\$448,200,850
E	Total Nonresidential Parcels (FY 2012)	558
F	Average Assessed Value [B/C]	\$255,500
G	Average Nonresidential Value [D/E]	\$803,200
H	Est. Market Value: High Point	\$11,003,400
I	Ratio: Avg. Nonresidential Value to Average Value of All Parcels [G/F]	3.14
J	Ratio: High Point Value to Average Nonresidential Value [H/G]	13.70
K	Ratio: Nonresidential Value to Total Assessed Value [D/B]	0.195
L	Refinement Coefficient #1	1.350
M	Est. Nonresidential Municipal Expenditures [A*K*L]	\$8,836,900
N	Ratio: High Point to Average Nonresidential Parcel [H/G]	13.70
O	Ratio: High Point Value to Total Nonresidential Assessed Value [H/D]	0.0246
P	Refinement Coefficient #2	0.42
Q	Cost of Services for High Point Hospital (Rounded) [M*O*P]	\$91,100

Source: Mass. Department of Revenue, Municipal Data Bank; Robert W. Burchell, *The Fiscal Impact Handbook*; and RKG Associates, Inc.

Notes:

- (1) Assessed value, expenditure, and parcel data are based on FY 2012 conditions. FY 2012 is the most current year for which all three inputs were available when this analysis was conducted.
- (2) Refinement coefficients from Burchell.
- (3) High Point est. market value = capitalized NOI @ 12% plus land value. High Point’s bank appraisal under post-construction conditions is \$10,650,000.
- (4) Est. nonresidential municipal expenditures is approximately 26 percent of total municipal (non-school) spending.

Through years of field research and model adjustments, Burchell found that the proportional relationships between property values and service costs sometimes produces an exaggerated

result. For example, if the value of a new office project dramatically exceeds the value of existing nonresidential real estate, the ratio of the office project's assessed value to the value of existing properties will be quite high – and thereby cause the estimated cost of new municipal services to be unduly high. The opposite problem can happen as well, resulting in an underestimate of new service costs. To address these conditions, Burchell introduced the concept of “refinement coefficients,” or multipliers that can be used to adjust for extremes.

The appraised value of High Point's facility is currently an “unknown” because the project does not exist. However, it is possible to estimate the project's market value, that is, the value for which it would be assessed if the property could be taxed. Using information in High Point's operating pro forma for this facility, RKG made a conservative assumption of \$11 million, which is the capitalized value of the project's net operating income (at 12 percent) plus the value of the land. Under Burchell's proportional valuation model, Middleborough's cost to serve this facility would be approximately \$91,100 per year. This is roughly 9 percent of the cost to eliminate Middleborough's existing public safety deficit.

### 3. Employment Anticipation (EA) Model

A second way to estimate Middleborough's cost to provide town services to High Point involves a model known as Employment Anticipation (EA). Due to the number of unknowns associated with High Point's proposal, it makes sense to apply another methodology to the project and compare the results. EA assumes that employment growth has an incremental impact on a community's per capita cost of community services. The model is fairly straightforward. Much like proportional valuation, the EA method relies on coefficients to control exaggerations caused by a very high rate of employment growth or, conversely, a rapid rate of job loss. Given the Town's existing municipal expenditures per capita, its additional cost to serve the High Point facility will be approximately \$97,100, according to an EA analysis.

**Table 9. EA Estimate of High Point Municipal Service Costs**

A	B	C	D	E	F	G
Current Population	Existing Municipal Services Per Capita	New Employment (High Point)	Coefficient	New Employment * Coefficient [C*D]	New Cost Increment	New Municipal Service Cost [A*F]
23,116	\$1,500	183 FTE	0.0000153	0.0027999	\$4.20	\$97,100
Source: Mass. Department of Revenue, Municipal Data Bank; Executive Office of Labor and Workforce Development, ES-202; Robert W. Burchell, <i>The Fiscal Impact Handbook</i> ; and RKG Associates, Inc.						

The proportional valuation cost estimate of \$91,100 and the EA estimate of \$97,100 are close enough to conclude that in a given year, Middleborough's cost to provide services to High Point will range from \$91,000 to \$97,100.

### 4. Impact on Surrounding Property Values

RKG has heard concerns that High Point's development will cause a decline in residential property values nearby. RKG conducted a literature search to locate scholarly or applied research about this point. No peer reviewed journal articles could be found in academic or industry publications. However, RKG also reviewed residential property values in the neighborhoods around Westwood Lodge in Westwood and McLean Hospital in Belmont. No



discernible differences could be found in home values close to these facilities, both of which are significantly larger than both High Point's project and the relocated McLean facility. In general, it is difficult to imagine that capital improvements on this site would be more injurious to neighboring properties than the existing condition: a long-vacant, substantially deteriorated institutional building. Nevertheless, RKG is willing to speak with the realtor whose opinion about a decrease in property values was cited by a local resident at the November 2013 public hearing. RKG would need to know the professional basis for the realtor's opinion before providing specific comments on it.

## D. Economic Impact

Fiscal impact studies estimate a town's cost to serve new development, but economic impact studies estimate the impact of new development on job creation and economic activity within the community. Making these estimates requires an analysis of the anticipated number of new jobs that a development will bring to the community, the wages associated with those jobs, and the new business establishment's purchases of goods and services from other businesses. The ZBA has asked about the economic impact of High Point's project and that of the McLean site on the Town of Middleborough, and more particularly on the downtown area.

Economic impact is measured in both direct and indirect terms. **Direct impact** includes net job growth and net increase in wages, whereas **indirect impact** includes the "multiplier effect" of the additional wages as they circulate in the local and regional economy. Both direct and indirect impacts should be subdivided between construction and permanent jobs, for construction employment triggers a temporary impact and permanent jobs, a longer-term impact.

### 1. Construction-Phase Impacts

RKG understands that the construction budget for High Point's redevelopment project is approximately \$10 million. Assuming 40 percent of the construction budget is allocable to construction wages, the direct construction employment impact is sixty-three jobs with an indirect benefit of forty-four jobs, for a combined construction-phase employment impact of 107 jobs. The net increase in wages is \$6.5 million (rounded), including direct and indirect wages during construction.

**Table 10. Summary of Direct and Indirect Construction-Phase Impacts, High Point Psychiatric Hospital**

Construction Budget (Approximate)	Construction Wages	Annual Construction Wage, Plymouth County	Construction Employment, Direct (No. Jobs)	Indirect Wage Multiplier
\$10 million	\$4 million	\$63,000	63	0.6243
Indirect Employment Multiplier	Indirect Construction Jobs	Indirect Wages	Total Employment, Construction Phase	Total Wages, Construction Phase
0.6915	44	\$2,497,200	107 Jobs	\$6,497,200
Sources: Bureau of Economic Analysis (BEA), RIMS II Economic Multipliers; and RKG Associates, Inc.				

## **2. Permanent Jobs and Wages**

According to the operating pro forma for High Point's development, the facility will employ a total of 183.24 full-time equivalent (FTE) positions with total annual wages of \$8,497,403. The employment projection includes 52.09 FTE positions that already exist at High Point's main facility in Plymouth. While all 183 jobs will be "new" to Middleborough, the existing employment should be deducted from the total in order to estimate net economic impact.

Not all jobs generate the same economic benefit. Wages play a significant part in the equation. Higher-wage jobs provide employees more disposable income, so the "multiplier" effect of the wages tends to be (but is not always) greater than that of lower-wage jobs. Using Plymouth County and Bristol County employment and wage multipliers from the Bureau of Economic Analysis (BEA), RKG estimates that High Point will generate a total of 201.5 FTE jobs and \$10,138,983 in annual wages, as shown on the following pages.

**Table 11. Direct and Indirect Employment and Wage Impact, High Point Middleborough**

Position	Direct FTE	Hourly Rate	Annual Wage	Direct Wages	Employment Multiplier	Wages Multiplier	Indirect FTE	Indirect Wages	Total Jobs	Total Wages
Case Manager/Clin 2	3.40	\$14.75	\$28,800	\$97,920	0.4342	0.6498	1.48	\$63,628	4.88	\$161,548
UR	0.20	\$13.00	\$25,400	\$5,080	0.4342	0.6498	0.09	\$3,301	0.29	\$8,381
Therapist	1.40	\$16.50	\$32,200	\$45,080	0.5312	0.6932	0.74	\$31,249	2.14	\$76,329
Medical										
Nurse - RN	4.90	\$25.00	\$48,800	\$239,120	0.5312	0.6932	2.60	\$165,758	7.50	\$404,878
Nurse - LPN	3.50	\$25.00	\$48,800	\$170,800	0.5312	0.6932	1.86	\$118,399	5.36	\$289,199
Management										
Nurse Dir (Shared)	0.15	\$35.00	\$68,300	\$10,245	0.8341	0.7651	0.13	\$7,838	0.28	\$18,083
Nurse Sup, 2nd shift	0.15	\$32.00	\$62,400	\$9,360	0.8341	0.7651	0.13	\$7,161	0.28	\$16,521
Clin Dir	1.00	\$32.00	\$62,400	\$62,400	0.8341	0.7651	0.83	\$47,742	1.83	\$110,142
Med Dir	1.00	\$100.00	\$195,000	\$195,000	0.6045	0.9023	0.60	\$175,949	1.60	\$370,949
Nurse Mgr	1.00	\$34.00	\$66,300	\$66,300	0.8341	0.7651	0.83	\$50,726	1.83	\$117,026
MD	0.42	\$100.00	\$195,000	\$81,900	0.6045	0.9023	0.25	\$73,898	0.67	\$155,798
CNS	0.62	\$60.00	\$117,000	\$72,540	0.6045	0.9023	0.37	\$65,453	0.99	\$137,993
Support										
MHS	8.40	\$13.00	\$25,400	\$213,360	0.4342	0.6498	3.65	\$138,641	12.05	\$352,001
MHS Supervisor	0.25	\$15.00	\$29,300	\$7,325	0.4342	0.6498	0.11	\$4,760	0.36	\$12,085
Case Mgr	6.75	\$18.00	\$35,100	\$236,925	0.8341	0.7651	5.63	\$181,271	12.38	\$418,196
Clin 2	2.18	\$14.00	\$27,300	\$59,514	0.5312	0.6932	1.16	\$41,255	3.34	\$100,769
UR	0.53	\$13.00	\$25,400	\$13,462	0.4691	0.6782	0.25	\$9,130	0.78	\$22,592
Therapist	3.68	\$17.00	\$33,200	\$122,176	0.5312	0.6932	1.95	\$84,692	5.63	\$206,868
Medical									0.00	\$0
Nurse - RN	12.36	\$25.00	\$48,800	\$603,168	0.5312	0.6932	6.57	\$418,116	18.93	\$1,021,284
Nurse - LPN	9.69	\$25.00	\$48,800	\$472,872	0.5312	0.6932	5.15	\$327,795	14.84	\$800,667
Management										
Nurse Dir (Shared)	0.85	\$35.00	\$68,300	\$58,055	0.8341	0.7651	0.71	\$44,418	1.56	\$102,473
Nurse Sup, 2nd shift	0.85	\$36.00	\$70,200	\$59,670	0.8341	0.7651	0.71	\$45,654	1.56	\$105,324
Clin Dir	2.00	\$32.00	\$62,400	\$124,800	0.8341	0.7651	1.67	\$95,484	3.67	\$220,284
Med Dir	3.20	\$100.00	\$195,000	\$624,000	0.6045	0.9023	1.93	\$563,035	5.13	\$1,187,035
Nurse Mgr	0.21	\$35.00	\$68,300	\$14,343	0.8341	0.7651	0.18	\$10,974	0.39	\$25,317

**Table 11. Direct and Indirect Employment and Wage Impact, High Point Middleborough**

Position	Direct FTE	Hourly Rate	Annual Wage	Direct Wages	Employment Multiplier	Wages Multiplier	Indirect FTE	Indirect Wages	Total Jobs	Total Wages
Nurse Mgr	1.21	\$35.00	\$68,300	\$82,643	0.8341	0.7651	1.01	\$63,230	2.22	\$145,873
Nurse Mgr	1.21	\$35.00	\$68,300	\$82,643	0.8341	0.7651	1.01	\$63,230	2.22	\$145,873
CNS	1.07	\$60.00	\$117,000	\$124,605	0.6045	0.9023	0.64	\$112,431	1.71	\$237,036
MD	0.58	\$100.00	\$195,000	\$112,125	0.6045	0.9023	0.35	\$101,170	0.92	\$213,295
MHS	22.05	\$12.00	\$23,400	\$515,970	0.4691	0.6782	10.34	\$349,931	32.39	\$865,901
MHS Supervisor	0.90	\$15.00	\$29,300	\$26,370	0.4342	0.6498	0.39	\$17,135	1.29	\$43,505
Clinical										
Clin 1	1.65	\$25.00	\$48,800	\$80,520	0.8341	0.7651	1.38	\$61,606	3.03	\$142,126
Clin 2	0.85	\$28.00	\$54,600	\$46,410	0.8341	0.7651	0.71	\$35,508	1.56	\$81,918
Management									0.00	\$0
Clin Dir	0.50	\$24.04	\$46,900	\$23,450	0.8341	0.7651	0.42	\$17,942	0.92	\$41,392
Medical Dir	0.10	\$91.30	\$178,000	\$17,800	0.6045	0.9023	0.06	\$16,061	0.16	\$33,861
Psychiatrist	0.75	\$110.26	\$215,000	\$161,250	0.6045	0.9023	0.45	\$145,496	1.20	\$306,746
Support										
Receptionist	2.35	\$11.50	\$22,400	\$52,640	0.4691	0.6782	1.10	\$35,700	3.45	\$88,340
Nurse - RN	1.00	\$25.00	\$48,800	\$48,800	0.5312	0.6932	0.53	\$33,828	1.53	\$82,628
Management									0.00	\$0
NP	0.33	\$60.00	\$117,000	\$38,610	0.6045	0.9023	0.20	\$34,838	0.53	\$73,448
MD	0.05	\$91.30	\$178,000	\$8,900	0.6045	0.9023	0.03	\$8,030	0.08	\$16,930
Support									0.00	\$0
Receptionist	0.30	\$11.50	\$22,400	\$6,720	0.4691	0.6782	0.14	\$4,558	0.44	\$11,278
Dietary Dept.										
Director	1.00	\$18.00	\$35,100	\$35,100	0.4691	0.6782	0.47	\$23,805	1.47	\$58,905
Cooks	2.38	\$13.00	\$25,400	\$60,452	0.4320	0.5690	1.03	\$34,397	3.41	\$94,849
Dietary Aides	5.93	\$10.00	\$19,500	\$115,635	0.4320	0.5690	2.56	\$65,796	8.49	\$181,431
Nutritionist	0.50	\$55.00	\$107,300	\$53,650	0.6045	0.9023	0.30	\$48,408	0.80	\$102,058
Environmental Dept.										
Maintenance Super	1.00	\$24.00	\$46,800	\$46,800	0.4691	0.6782	0.47	\$31,740	1.47	\$78,540
Maintenance	3.85	\$12.50	\$24,400	\$93,940	0.4691	0.6782	1.81	\$63,710	5.66	\$157,650
Housekeeping Manager	1.00	\$14.00	\$27,300	\$27,300	0.4691	0.6782	0.47	\$18,515	1.47	\$45,815

**Table 11. Direct and Indirect Employment and Wage Impact, High Point Middleborough**

<b>Position</b>	<b>Direct FTE</b>	<b>Hourly Rate</b>	<b>Annual Wage</b>	<b>Direct Wages</b>	<b>Employment Multiplier</b>	<b>Wages Multiplier</b>	<b>Indirect FTE</b>	<b>Indirect Wages</b>	<b>Total Jobs</b>	<b>Total Wages</b>
Housekeeping	5.49	\$12.50	\$24,400	\$133,956	0.4691	0.6782	2.58	\$90,849	8.07	\$224,805
Admin Assistant	0.77	\$10.50	\$20,500	\$15,785	0.4320	0.5690	0.33	\$8,982	1.10	\$24,767
Drivers	3.85	\$12.00	\$23,400	\$90,090	0.4320	0.5690	1.66	\$51,261	5.51	\$141,351
Receptionist	0.80	\$11.50	\$22,400	\$17,920	0.4320	0.5690	0.35	\$10,196	1.15	\$28,116
<b>TOTAL</b>	<b>130.15</b>			<b>\$5,785,499</b>			<b>70.36</b>	<b>\$4,324,684</b>	<b>200.51</b>	<b>\$10,110,183</b>

Sources: High Point, Bureau of Economic Analysis (BEA) RIMS II, Plymouth and Bristol County; and RKG Associates, Inc.