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Executive Summary

Project Overview

CARES (Capital Asset Realignment for Enhanced Services) is the Department of Veterans Affairs (VA's) effort to produce a logical, national plan for modernizing healthcare facilities. The objective is to identify the optimal approach to provide current and projected veterans with healthcare equal to or better than is currently provided in terms of access, quality, and cost effectiveness, while maximizing any potential re-use of all or portions of the current real property inventory owned by VA. The Secretary's Decision Document of May 2004 called for additional studies in certain geographic locations to refine the analyses developed in the CARES planning and decision-making process. Team PricewaterhouseCoopers (Team PwC) is assisting VA in conducting the VA CARES Business Plan Studies at 17 sites around the United States, which include site-specific requirements for Healthcare Delivery Studies, Capital Plans, and Reuse Plans.

Boston is one of the CARES study sites and includes healthcare delivery, capital planning, and re-use planning studies. The Secretary's CARES Decision for the Boston study site indicates the following for this study:

- Four existing VA Medical Centers (VAMCs) in Boston range in age from 36 to 62 years.
- All require ongoing renovation and upgrades and are in need of modernization.
- Feasibility of consolidating its existing four Boston area medical centers into one state-of-the-art tertiary care facility that will act as a hub for VA healthcare in the greater Boston area.
- Current fragmented nature of care across the four existing Boston area facilities.
- VA's need to remain competitive in a medical care environment where recruitment and retention of quality staff is difficult.
- The system to be studied would be anchored by a state-of-the-art tertiary care medical center and would include plans for development of strategically located multi-specialty outpatient clinics and CBOCs.
- The study also will analyze the demand for nursing home care services and plan to locate facilities in places that would preserve access for aging veterans and their families.
- The tertiary care medical center would deliver comprehensive inpatient care services, while allowing specialty care services such as cardiology, neurology, audiology, as well as primary and special VA mental health services to spread out into the community closer to where patients live.
- Supported by CBOCs, the system of care would bring VA healthcare into communities throughout the Boston area, improving access to specialty care, primary care, mental healthcare, and nursing home services.

The Boston study site consists of two major veteran service providers – the Boston Healthcare System (BHS) and the Edith Nourse Rogers Memorial Veterans Hospital, referred to as the Bedford VA Medical Center (Bedford VAMC).

Boston Overview

The Boston study comprises the following four locations: Edith Nourse Rogers Veterans Memorial Hospital, Bedford, MA; Brockton Division, VA Boston Healthcare System (BHS); Jamaica Plain Division, VA BHS; and West Roxbury Division, VA BHS.

- In fiscal year 2003, all four campuses combined operated 451 inpatient beds, 425 long-term care beds, 120 domiciliary beds, 30 chronic spinal cord injury (SCI) beds, and 23 acute SCI beds.
- The four campuses encompass over 116 buildings located on approximately 375 acres within a 40-mile radius of downtown Boston.
- The buildings were constructed over a period of several years beginning in 1941
- Approximately 22% of the property is currently vacant
- Thirty-four buildings on the Bedford campus and two buildings on the West Roxbury campus are determined to be eligible for inclusion on the National Register of Historic Places, but none are listed in the Register
- Asbestos containing materials, potential indicators of lead in surface paint, and radon have been identified in some of the older buildings and structures
- \$300.8 million has been identified as being required for capital improvements¹

The four Boston area facilities are part of Veterans Integrated Service Network (VISN) 1, which is composed of four markets: the Far North Market (Maine), the North Market (Vermont and New Hampshire), the West Market (Western Massachusetts and Connecticut) and the East Market (East Massachusetts and Rhode Island). The Boston study site is located in the East Market. In this market, veteran healthcare services are provided for approximately 131,000 veteran enrollees.

Six major drivers were considered for the Boston study site. These drivers represent factors of considerable importance at the Boston study site that must be balanced in the development and evaluation of Business Plan Options (BPOs). They are:

- 1. Potential to improve quality of care through the collocation of services that would result from a consolidation of campuses
- 2. Recruitment and retention efforts may be more difficult if relocation of facilities significantly alters commute times and if facilities are not accessible via public transportation
- 3. The Boston study site is affiliated with over 100 area institutions of higher education and research and annually provides graduate medical education programs to over 2,000 medical residents, medical students, and other allied health professionals. These education programs could be affected if length and ease of commutes between affiliates and VAMCs is compromised.

¹ Total of Building Correction values from the Facility Condition Assessment Summaries from the CAI database for all four campuses in the Boston study site.

- 4. The operation of multiple VAMCs is not cost effective and thus results in a less efficient use of VA resources
- 5. The four Boston campuses total approximately 375 acres in urban and suburban settings which could result in significant re-use proceeds if some of this land is made available for re-use
- 6. Significant implementation risk exists due to the complexity associated with consolidation of campuses and the level of stakeholder interest

These six drivers are described further below:

Healthcare Quality – The baseline configuration of services provides acute inpatient care at West Roxbury, ambulatory care at Jamaica Plain, and inpatient psychiatry, nursing home, and domiciliary care at the Brockton and Bedford campuses. Additionally, the Boston study site supports multiple Centers of Excellence, including the Geriatric Research, Education and Clinical Center (GRECC), Mental Illness Research, Education, and Clinical Center (MIRECC), and Geriatric Evaluation and Management (GEM) programs located among the various campuses. The consolidation of these four campuses has the potential to improve quality through the collocation of services onto one or two campuses. Specifically, the collocation of inpatient psychiatry currently provided at Brockton and Bedford, with inpatient medicine, currently provided at West Roxbury, may have a positive effect on quality. Additionally, the collocation of the extensive diagnostic services currently provided at Jamaica Plain with other service lines at the other campuses may also have a positive effect on quality of care.

Human Resources - Consolidation of even one facility requires a significant number of FTEEs to change their work location. Commuting distance and access to public transportation may adversely affect recruitment and retention of human resources. Employees who live south of the city and work at the Brockton VAMC may be willing to commute to either of the fairly centralized campuses of West Roxbury or Jamaica Plain; however, they may not elect to travel to the Bedford campus due to traffic congestion and difficulty accessing public transportation. Similarly, employees who live north of the city and work at the Bedford VAMC may commute to either of the two more centralized campuses in the area, but may not commute to Brockton VAMC because of the greater distance.

Education and Academic Affiliations – Medical education is a significant mission of the Boston study site, and the distance from academic affiliates is a critical assessment driver as commute times for residents and other trainees, as well as jointly appointed faculty, can negatively affect affiliate relationships. BHS trains approximately 2,000 medical professionals annually, including 1,000 residents, 300 medical students, and 700 nurses and allied health professionals. The Bedford facility alone trains approximately 215 to 225 professionals, including 40 residents, 25 to 35 medical students, and 150 nurses and allied health personnel.

The majority (two-thirds to three-quarters) of all residents with BHS and the majority of trainees at Bedford are from either the Boston Medical Center (Boston University School of Medicine) or Harvard (including its affiliates). Additionally, the overwhelming majority of physicians at BHS

and Bedford are faculty at the affiliate organizations which may require them to commute between the affiliate and the VAMC.

Boston Medical Center and Harvard Medical School are between 20 to 25 miles from both Bedford and Brockton, approximately seven or eight miles from West Roxbury, and only between one to three miles from Jamaica Plain. Interviews with Boston study site personnel indicate that commute times for residents and faculty greater than 30 minutes between an academic affiliate and a VAMC may have a negative effect on the education program. Leaders of the BHS education programs have indicated that it is already somewhat difficult for medical residents to travel to West Roxbury VAMC when working 80 hours a week. Therefore, the geographic relation and any increases to commute times between the affiliates and the VAMCs should be considered in evaluating the various options for the Boston study site.

Use of VA Resources – Boston operates four separate VAMCs in the study site's service area. This operational model is not cost effective as it necessitates the duplication of fixed direct and indirect costs such as utilities, maintenance, and administration costs. Boston also provides inter-facility transportation between the site facilities for patients and family members which currently results in a significant expenditure annually. Not only are multiple facilities costly to operate, they also will be expensive to renovate in order to meet modern, safe, and secure standards as set forth in the baseline. Thus, a reduction of VAMC facilities through consolidation of services and campuses may result in more efficient use of VA resources.

Re-Use of Property – The combined acreage of the four Boston campuses is approximately 375 acres. Some of the BPOs, especially those proposing the consolidation into a single campus, allow for a significant portion of this acreage to be available for re-use with the potential to result in significant re-use proceeds. The Brockton campus has a number of positive characteristics that make the campus attractive for redevelopment, including proximity to major state highways, visibility from a well-trafficked road, an established intra-site road network, a significant amount of land area, a relatively flat topography, and a variety of adjacent land uses that lend themselves to multiple re-use opportunities. Re-use opportunities for Brockton include light industrial, retail, and residential. Jamaica Plain is a dense, urban campus with potential for a major urban infill project in a city where developable land is scarce and expensive. The campus's positive attributes include proximity to downtown Boston and the Longwood Medical and Academic Area, access to light rail via the Massachusetts Bay Transportation Authority (MBTA) Green Line, location in a revitalizing neighborhood, on-campus structured parking, and potential to adaptively re-use the main hospital building. West Roxbury has good street visibility and access from two well-trafficked roads allowing for residential or retail re-use. Bedford, although limited by narrow roads and adjacency to wetlands, allows for potential re-use for residential or senior care.

Ease of Implementation – Because of the complexity of the Boston study site (e.g., multiple facilities, significant stakeholders in research, and graduate learning and education, etc.), the implementation of any BPO, including the baseline, is lengthy and is characterized by significant implementation risk. All of the BPOs, other than the baseline, include the consolidation of at least one and often multiple facilities. A consolidation of inpatient services would result in the

redirection of a minimum of 150 projected beds, while a consolidation of ambulatory and outpatient services would result in a minimum redirection of approximately 70,000 projected clinic stops (excluding diagnostics). Therefore, the BPOs developed for the Boston study site have significant implementation risk per the select risk categories. Specifically, risk is associated with the following major risk categories:

- Reputation, since proximity to research collaborators and academic affiliates may compromise VA's image as a research and education-driven organization
- Security, since the consolidation to a single campus in a major metropolitan area reduces the flexibility to effectively respond to emergencies
- Organization and change management, since a consolidation also involves the relocation of several VAMC staff
- Infrastructure, since the ability to secure a large enough parcel of real estate on which to build a single new facility could present a significant obstacle to implementation, and the size of the consolidated facilities may be dissimilar to surrounding structures
- Compliance, as zoning and environmental remediation requirements may pose hindrances to implementing re-use options
- Political, as capital and re-use options may not be favored by the local constituencies
- Project realization, since baseline renovations are scheduled to be completed over eight years and may be prone to delays, additional resource need, and budget variance

Therefore, the ease of implementation of the BPOs should be considered in the selection of those to be studied further.

Business Plan Options

Team PwC considered the major drivers for the Boston study site, along with stakeholder input, when developing healthcare, capital, and re-use options. For the Boston CARES study site, 727 stakeholder comments were received between April 20 and October 2, 2005. Stakeholders were most concerned with maintaining current service/facility, support for veterans, use of facility, and effect on access.

The option development process resulted in a multitude of discrete healthcare, capital, and re-use options, which were subsequently screened to determine whether a particular option had the potential to meet or exceed the CARES objectives (i.e., access, quality, and cost). Overall, in addition to the baseline, there were eight BPOs (comprising healthcare, capital, and re-use components) which passed initial screening and were developed for Stage I. Each BPO was assessed at a more detailed level according to a set of discriminating criteria. A tenth BPO was proposed by the Local Advisory Panel (LAP) at the second LAP Public Meeting. It also passed initial screening.

BPO Recommendations for Assessment in Stage II

Team PwC's recommendation of BPOs to be further assessed in Stage II was determined based on several factors. Team PwC consultants considered the pros and cons of each BPO, together with the results of assessments against discriminating criteria to determine the overall attractiveness of each BPO. Views and opinions of the LAP and oral and written testimony received from veterans and other interested groups were also considered. All of these inputs contributed to the selection of the BPOs to be recommended for further study in Stage II, which are summarized in Table 1.

The BPOs recommended for further study share some key similarities. All of them:

- Consolidate at least one of the VAMC campuses onto another campus
- Right-size the campus for future demand, and achieve modern, safe, and secure facilities through renovation, consolidation, or new construction
- Ensure forecasted need is appropriately met, especially for such specialized services as chronic spinal cord injury services that are not provided for in the community
- Are characterized by significant implementation risk

All of the BPOs which Team PwC eliminated from further consideration also involved consolidating a subset of the Boston campuses; however, they did not yield positive assessments with respect to the assessment drivers.

Table 1: BPO Recommendations

ВРО	Team PwC Recommendation	Rationale for Recommendation	LAP Support
BPO 1 Baseline	Further Study	 Is the BPO against which all other BPOs are to be assessed 	
BPO 2 Consolidate all Services at West Roxbury; Re-use Bedford, Brockton, and Jamaica Plain; Build CBOC at Brockton	No Further Study	 Negatively affects veterans' drive time access to primary care via public transportation Negatively affects research and education programs at the Jamaica Plain campus 	
BPO 3 Consolidate all Services at Jamaica Plain; Re-use Bedford, Brockton, and West Roxbury; Build CBOC at Brockton	No Further Study	 Negatively affects veterans' drive time access to primary care Implementation risk is greater than the baseline, particularly in terms of infrastructure, since the resulting facility will be 20 – 30 stories high and dissimilar to surrounding facilities 	Oppose

ВРО	Team PwC Recommendation	Rationale for Recommendation	LAP Support
BPO 4 Consolidate All Services at Brockton; Re-use Bedford, West Roxbury, and Jamaica Plain; Build CBOC at New Urban Location	No Further Study	 Negatively affects veterans' drive time access to primary care Negatively affects recruitment and retention of human resources as well as education programs Implementation risk is greater than the baseline 	Oppose
BPO 5 Consolidate all Services at New Urban Campus; Re- Use Bedford, Brockton, West Roxbury, and Jamaica Plain; Build CBOC at Brockton	No Further Study	 Negatively affects veterans' access to primary care Implementation risk is greater than the baseline, particularly in terms of infrastructure, since it may be difficult to secure adequate urban property to house all services in a single location 	Oppose
BPO 6 Consolidate Jamaica Plain at West Roxbury; Re-Use Jamaica Plain; Right-Size West Roxbury, Brockton, and Bedford	No Further Study	 May negatively affect recruitment and retention, as well as education programs, since West Roxbury is not conveniently accessible via public transportation and is further away from the academic affiliates Greater capital expenditure is required No significant operating efficiencies are expected, thus resulting in only a similar overall cost effectiveness as the baseline Implementation risk is greater than the baseline 	Favor
BPO 7 Build New Acute Care and Research Facility at Urban Location; Right-Size Bedford and Brockton; Re-Use Jamaica Plain and West Roxbury	No Further Study	 Only maintains overall cost effectiveness as compared to the baseline Implementation risk is greater than the baseline, particularly with regard to infrastructure, since it may be difficult to secure an adequate urban property to house selected services in a single location, which is avoidable in other BPOs that retain either of the urban locations of the Jamaica Plain or West Roxbury 	Favor
BPO 8 Consolidate Bedford at Brockton; Right-Size Jamaica Plain and West Roxbury; Build New CBOCs at Urban Location and North Shore	No Further Study	 May negatively affect recruitment and retention since the Brockton campus is distant from Bedford and would cause disruption to employee commutes Implementation risk is greater than the baseline in terms of organizational and change management, compliance, and political acceptance Only maintains overall cost effectiveness as compared to the baseline 	Oppose

ВРО	Team PwC Recommendation	Rationale for Recommendation	LAP Support
BPO 9 Consolidate Bedford and Brockton at West Roxbury; Consolidate Inpatient, Ambulatory Care and Research at Jamaica Plain; Build New CBOCs at North Shore and South Shore	Further Study	 Consolidation of four facilities to two enhances operating efficiencies, allows for re-use potential, and thus is overall more cost effective Education programs may be enhanced as West Roxbury and Jamaica Plain are in closer proximity to academic affiliates than the distribution of VAMCs in the baseline Research programs are enhanced through collocation of research space and closer proximity to research collaborators West Roxbury and Jamaica Plain are fairly centralized and thus cause less disruption to employee and patient commutes 	Oppose
BPO 10 Consolidate West Roxbury at Jamaica Plain; Re-Use West Roxbury; Right-Size Brockton and Bedford ²	Further Study	 Research and education programs may be enhanced as Jamaica Plain is in closer proximity to research collaborators and academic affiliates than the distribution of VAMCs in the baseline Jamaica Plain is a fairly centralized campus for consolidation and is accessible via public transportation, and thus may enhance recruitment and retention of human resources 	Favor

For those BPOs selected for further study by the Secretary, a more detailed assessment will be conducted in Stage II including a financial analysis with refined inputs and consideration of second-order impacts such as the implications on the local community. After Stage II, Team PwC will recommend a single BPO to the Secretary.

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² BPO added by the LAP at the second public meeting.

1.0 Introduction

CARES is VA's effort to produce a logical, national plan for modernizing healthcare facilities. The objective is to identify the optimal approach to provide current and projected veterans with healthcare equal to or better than is currently provided in terms of access, quality, and cost effectiveness, while maximizing any potential re-use of all or portions of the current real property inventory owned by VA. The Secretary's Decision Document of May 2004 called for additional studies in certain geographic locations to refine the analyses developed in the CARES planning and decision-making process. Team PwC is assisting VA in conducting the VA CARES Business Plan Studies at 17 sites around the United States, which include site-specific requirements for Healthcare Delivery Studies, Capital Plans, and Re-use Plans.

Boston is one of the CARES study sites and includes healthcare delivery, capital planning, and re-use planning studies. The Secretary's CARES Decision for the Boston Study Site provides the following guidance for this study:

- Four existing VAMCs in Boston range in age from 36 to 62 years.
- All require ongoing renovation and upgrades and are in need of modernization.
- Feasibility of consolidating its existing four Boston area medical centers into one state-ofthe-art tertiary care facility that will act as a hub for VA healthcare in the greater Boston area.
- Current fragmented nature of care across the four existing Boston area facilities.
- VA's need to remain competitive in a medical care environment where recruitment and retention of quality staff is difficult.
- The system to be studied would be anchored by a state-of-the-art tertiary care medical center and would include plans for development of strategically located multi-specialty outpatient clinics and CBOCs.
- The study also will analyze the demand for nursing home care services and plan to locate facilities in places that would preserve access for aging veterans and their families.
- The tertiary care medical center would deliver comprehensive inpatient care services, while
 allowing specialty care services such as cardiology, neurology, audiology, as well as primary
 and special VA mental health services to spread out into the community closer to where
 patients live.
- Supported by CBOCs, the system of care would bring VA healthcare into communities throughout the Boston area, improving access to specialty care, primary care, mental healthcare, and nursing home services.

2.0 Purpose of this Report

The CARES studies are being performed in three stages: an initial planning phase and two phases centered on option development and selection. This report presents the results of Stage I (option development). In Stage I, Team PwC develops and assesses a broad range of potentially viable BPOs that meet the forecast healthcare needs for the study sites. Based upon an initial analysis of these BPOs, Team PwC recommends up to six BPOs to be taken forward for further development and assessment in Stage II. VA decides which BPOs should be studied further in

Stage II. During Stage II, a more detailed assessment is conducted including a financial analysis with refined inputs and consideration of second-order impacts such as the implications on the community. After Stage II, Team PwC recommends a single BPO to the Secretary.

Stakeholder input from veterans, veterans advocates, and the community play an important role in BPO development and assessment. A LAP has been established at each study site to ensure veterans' issues and concerns are heard throughout the study process. Veterans' and other stakeholder views are presented at a series of public meetings and through written and electronic communication channels

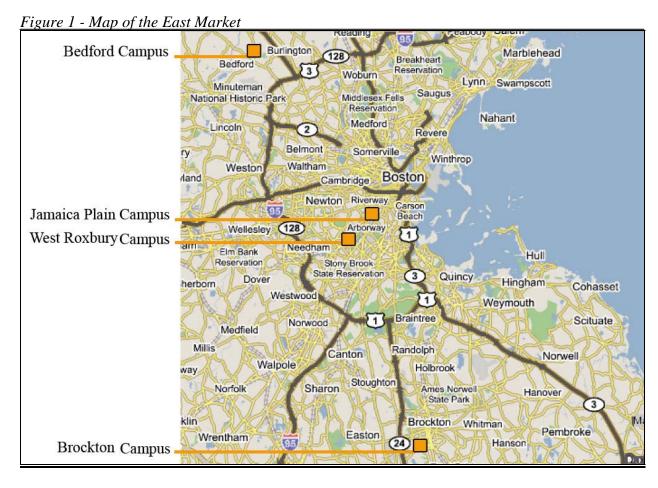
Team PwC has prepared this report in accordance with the CARES Business Plan Studies Methodology and Statement of Work (SOW) for the CARES studies. The SOW calls for submission in Stage I of a range of BPOs that are at the concept stage and represent feasible choices that have the potential to meet VA objectives. In Stage II, Team PwC will further develop selected BPOs into technical data driven analyses and a recommended primary BPO.

3.0 Site Overview

The New England Healthcare System is comprised of eight medical centers and 37 Community-Based Outpatient Clinics (CBOCs) located throughout the New England states. Within this system, there are four markets: the Far North Market (Maine), the North Market (Vermont and New Hampshire), the West Market (Western Massachusetts and Connecticut) and the East Market (East Massachusetts and Rhode Island). The Boston study site is located in the East Market of the New England Healthcare System. In this market, veteran healthcare services are provided for approximately 131,242 veteran enrollees, or 25% of the total East Market veteran population.

BHS, the largest consolidated facility in VISN 1, encompasses nine healthcare sites within a 40-mile radius of the greater Boston area. The system consists of three main medical centers, the Jamaica Plain VAMC, located in the heart of Boston's Longwood Medical community; the West Roxbury VAMC, located on the southwest edge of Boston; and the Brockton VAMC, located south of Boston in the city of Brockton. In addition to the three main medical centers, the system also includes CBOCs. These CBOCs are located throughout the greater Boston area. CBOCs associated with this system include Causeway Street³, Worcester, Framingham, Lowell, Quincy/South Shore, and Dorchester. The Bedford VAMC is located in a suburban setting approximately 15 miles northwest of Boston. Figure 1 illustrates the location of the four VAMCs within the Boston study site.

³ Causeway Street is anticipated to close in 2006; functions are to be absorbed into Jamaica Plain.



Current Healthcare Provision

Boston Healthcare System

The Brockton VAMC offers other inpatient mental health programs (141 beds) and psychiatry and substance abuse programs (50 beds), nursing home care services (151 beds), a chronic spinal cord injury (SCI) unit (30 beds), a domiciliary for homeless veterans (70 beds), and comprehensive primary care. Deemed a Center of Excellence within the VA system for seriously mentally ill veterans, the Brockton VAMC provides extensive inpatient and outpatient care for acute and chronically ill psychiatry and substance abuse veterans. The Brockton VAMC is also a referral center for women veterans across the VISN, offering a complete spectrum of dedicated women's health services ranging from a state-of-the-art outpatient health center to an inpatient psychiatry unit, one of only four women-only units nationally in VA. The VAMC also includes a limited hour urgent care center for residents of the campus. Emergency care and afterhour urgent care services are referred to neighboring community hospital providers. There are no CBOCs associated with the Brockton VAMC.

The West Roxbury VAMC serves as the medical and surgical inpatient care referral center and provides tertiary for all VAMCs in VISN 1. West Roxbury offers inpatient medicine and

observation services (83 beds), inpatient surgery services (64 beds), and acute spinal cord injury services (30 beds). West Roxbury has been recognized as a Center of Excellence within the VA system for both its cardiac surgery and its spinal cord injury programs. Serving as the regional referral center for intensive inpatient surgery, the West Roxbury VAMC also offers general and specialized surgery. There is a 24-hour Level II Trauma Center and emergency department on campus along with urgent care services. There are no nursing home or inpatient mental health beds in operation at West Roxbury.

Jamaica Plain serves the urban veteran population of Boston. As the network hub for ambulatory care, Jamaica Plain offers primary care and outpatient specialty services such as audiology and ophthalmology. This VAMC also has the National Center for Post Traumatic Stress Disorder outpatient program. There is an urgent care center on campus; however, patients who require emergency care and after-hour urgent care services are referred to neighborhood community hospital providers or to the West Roxbury VAMC. All inpatient services were moved from Jamaica Plain prior to this study; however, this campus does maintain a complement of observation beds. The VAMC is located a short distance from Harvard Medical School and several other academic medical centers. The CBOCs associated with this VAMC are Causeway Street⁴, Framingham, Quincy/South Shore, Lowell, and Dorchester.

Edith Nourse Rogers Memorial Veterans Hospital, referred to as the Bedford VA Medical Center

The Bedford VAMC offers primary care, nursing home care (274 beds), acute inpatient psychiatry care (21 beds), inpatient mental health programs (92 beds), a domiciliary (50 beds), substance abuse treatment, and is home to the internationally recognized GEM and GRECC program, which is a research and clinical inpatient and outpatient program for the care and treatment of veterans with dementia and Alzheimer's disease. Ambulatory services and outpatient mental health services are provided. Enrollees are referred to local hospitals for electroconvulsive therapy (ECT), mammography services, and emergency services. Limited special and acute care services are provided on campus. All other inpatient services were moved to West Roxbury prior to this study. Patients needing emergency care and urgent care services are referred to neighboring community hospital providers. Additionally, this medical center manages five CBOCs located in Gloucester, Lynn, Haverhill, Winchendon and Fitchburg. The Bedford VAMC also provides mental health services at the Lowell CBOC, which is organized under Jamaica Plain.

Access

Analysis of drive time information for enrollees in the East market indicates that VA's drive time
guideline is met for primary care, acute care, and tertiary care (see Table 2). Drive time
guidelines at the market level are as follows: 70% of enrollees for primary care and 65% of
enrollees for acute hospital and tertiary care should be within the minimum travel times to a VA
facility.

Ibid.			

Currently in the VISN 1 East market, 96% of the enrollees meet the primary care access guideline. For acute hospital care access, the market also exceeds the guideline, with almost 87% of the enrollees meeting the threshold. For tertiary care, 100% of the veterans residing within the East market are within the access guideline.

Table 2: Percentage of Enrollees Meeting VA Access Guideline Drive Times for the East Market

VA Drive Time Guidelines					
Primary Care		Acute Hospital		Tertiary Care ⁵	
	Meets		Meets		Meets
Current Level	Threshold	Current Level	Threshold	Current Level	Threshold
96%	Yes	87%	Yes	100%	Yes

Quality

The measures listed below (see Table 3) provide a selective description of current healthcare clinical quality at the Boston study sites, along with corresponding results at the VISN and national levels. This set of measures was chosen by PwC and VA experts based on available internal VA data, and compatibility with Centers for Medicare and Medicaid Services (CMS) and industry standard reporting. The primary purpose of these quality measures in relation to the CARES healthcare study is for use as a benchmark in comparison to the various BPOs, to determine any significant quality impacts. Although the quality measures gathered for analysis are based on 2004 data, for the evaluation of quality of care for the year 2023, Team PwC assumes a linear relationship with this current data. Quality data is reported for both BHS and Bedford. The quality data is aggregated for the BHS and cannot be disaggregated by campus.

According to 2004 data, BHS achieved the following for select quality scores as compared to both VISN and overall national scores:

- Higher or comparable scores for inpatient care, ambulatory care, mental health (global index), nursing home (pressure sores), and patient satisfaction (ambulatory care).
- Lower scores for mental health (major depressive disorder), nursing home (physical restraint), and patient satisfaction (inpatient care).

Bedford achieved the following for select quality scores as compared to both VISN and overall national scores:

- Higher or comparable scores for ambulatory care, mental health, and patient satisfaction.
- Lower scores for nursing home

⁵ Tertiary care data is based on 2001 figures. All other information is based on 2003 figures.

Table 3: Quality Measures

Clinical	ality Measures Indicator	Indicator	BHS	Bedford	VISN #1	National
Setting	Indicator	Origin	(#523) '04 Result	(#518) '04 Result	'04 Result	VA '04 Result
Inpatient Care						
Heart Failure	Ace inhibitor for left ventricular dysfunction as a key inpatient measure	VA, CMS ⁶	92%	NA (no IP medicine)	94%	93%
Ambulatory Car	e					
Colorectal Cancer	Screening rate	VA, HEDIS ⁷	81%	77%	77%	72%
Endocrinology	Full lipid profile in the past two years	VA, HEDIS	95%	90%	90%	96%
Mental Health						
Major Depressive Disorder	% of patients with a new diagnosis of depression medication coverage	VA, HEDIS	61%	67%	71%	67%
Global Index	Weighted average of seven mental health indicators ⁸	VA	56%	65%	58%	54%
Nursing Home (
Nursing Home Care	% of high risk patients with pressure sores	VA, CMS	27%	15%	22%	22%
Nursing Home Care	% of residents physically restrained	VA, CMS	0%	0%	3%	1%
Patient Satisfact					_	
Ambulatory Care	% of surveyed patients rating overall Ambulatory Care Services as very good or excellent.	VA, Industry	81%	77%	77%	76%
Inpatient Care	% of surveyed patients rating overall Inpatient Services as very good or excellent.	VA, Industry	73%	87%	87%	74%

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⁶ CMS stands for Centers for Medicare and Medicaid Services.

⁷ HEDIS stands for Health Plan Employer Data and Information Set, which is a set of standardized performance measures used to compare performance of managed health care plans.

⁸ See Glossary for description of indicators.

Patient Wait Times

Patient wait time is measured by using the day the appointment was entered into the scheduling system as the "desired appointment date". The wait time is calculated by taking the difference between the day the appointment was entered into the schedule and the day of the actual appointment encounter. For new patients, the wait time guideline is 80% between 0-30 days of desired appointment date, while for existing patients, the wait time guideline is 95% between 0-30 days of desired appointment date.

Wait times for new patients at the Boston study site are significantly higher than wait times for existing patients. During 2004, an average of 70% of new patients compared to 92% of existing patients met the wait time guideline established by the VA. Table 4 indicates average percentage wait time measures for both new and existing patients for 2004. An analysis was not made of the reason why the wait times did not meet guidelines as it was outside the scope of this study.

Table 4: Average Percent Wait Time Measures for 2004

Note: Yellow indicates the wait time standard was not met

Primary DSS Stop Name	Wait percentage Between 0-30 days New Patients ⁹	Wait percentage Between 0- 30 days Existing Patients ¹⁰
PRIMARY CARE	61.99%	92.40%
SPECIALTY CARE	54.35%	91.68%
WOMEN'S CLINIC	80.39%	84.94%
PRIMARY CARE/MEDICINE	61.35%	92.60%
NUTRITION/DIETETICS-INDIVIDUAL	69.46%	97.26%
PHYSICAL MED & REHAB SVC	78.76%	88.32%
AUDIOLOGY	75.28%	95.39%
SPEECH PATHOLOGY	80.56%	95.21%
PHYSICAL THERAPY	74.10%	94.50%
OCCUPATIONAL THERAPY	89.69%	86.97%
KINESIOTHERAPY		98.15%
GENERAL INTERNAL MEDICINE	93.55%	97.25%
ALLERGY IMMUNOLOGY	45.97%	93.69%
CARDIOLOGY	100.00%	100.00%
DERMATOLOGY	41.15%	84.31%
ENDO/METAB (EXCEPT DIABETES)	42.41%	90.72%
DIABETES	58.55%	92.99%
GASTROENTEROLOGY	47.75%	80.81%
HEMATOLOGY	83.97%	97.99%
INFECTIOUS DISEASE	100.00%	95.60%
PULMONARY/CHEST	100.00%	99.38%
RENAL/NEPHROL(EXCEPT DIALYSIS)	25.59%	87.89%
RHEUMATOLOGY/ARTHRITIS	59.38%	74.92%
NEUROLOGY	56.60%	81.17%

⁹ New patient wait time standard is 80% between 0-30 days of desired appointment date.

¹⁰ Existing patient wait time standard is 95% between 0-30 days of desired appointment date.

Primary DSS Stop Name	Wait percentage Between 0-30 days New Patients ⁹	Wait percentage Between 0- 30 days Existing Patients ¹⁰
ONCOLOGY/TUMOR	96.86%	98.83%
COUMADIN CLINIC	100.00%	99.38%
GI ENDOSCOPY	28.06%	69.17%
GENERAL SURGERY	64.75%	97.78%
ENT	51.81%	97.29%
GYNECOLOGY	51.03%	70.89%
OPHTHALMOLOGY	66.73%	93.13%
OPTOMETRY	71.18%	95.84%
ORTHOPEDICS	47.31%	86.70%
PLASTIC SURGERY	80.67%	91.81%
PODIATRY	63.95%	94.13%
UROLOGY	41.04%	76.12%
VASCULAR SURGERY		100.00%
PAIN CLINIC	48.25%	90.87%
MHC-Ind	88.94%	97.88%
MD-Ind	89.63%	98.92%
PSYCHOLOGY-Ind	95.86%	99.44%
SUB ABUSE - IND	98.41%	99.42%
OPIOD Sub	100.00%	100.00%
PTSD TEAM (PCT) - IND	75%	100%

Human Resources

The four hospitals in the Boston study site employ a total of approximately 3,539 full-time employee equivalents (FTEEs) including 281 physicians; 1,682 clinical staff; and 1,576 administrative staff.

The Bedford VAMC has an estimated staff of 824 FTEEs. Most of the employees are recruited locally, and live within a 30-minute drive of the campus. Wages are considered to be average, but employees feel that the good job security and competitive benefits make it an attractive place to work.

The Brockton VAMC employs approximately 756 FTEEs. This VAMC recruits from the local community, as well as south of Brockton. Brockton is part of the BHS, and compensation is considered better than most employers in the local community. Therefore, it is fairly easy to recruit employees to the Brockton VAMC and there are many long-term employees who have worked at the hospital for 15 years or longer.

The West Roxbury VAMC has approximately 936 staff members, and the Jamaica Plain VAMC has approximately 1,023 FTEEs. The demographics of the staff are similar at these two campuses, but recruiting is more difficult since they are forced to compete with other Boston hospitals for local talent.

Research and Education

The Boston study site research and education programs are some of the largest programs of any site in the system. BHS collaborates with numerous area partners in conducting research including Harvard Medical School, Brigham & Women's Hospital (BWH), Boston University, and Massachusetts Institute of Technology (MIT).

Research Program

BHS operated approximately 550 research protocols conducted by nearly 200 principal investigators and spent approximately \$30.5M of funding for research programs in FY04. Research interests cross a variety of fields including mental illnesses, alcoholism, gastrointestinal disorders, cardiology and cardiovascular diseases, hematology, pulmonary medicine, urology, neurology, spinal cord injury, hemostasis, aphasia, language and memory disorders, post traumatic stress disorder (PTSD), and infectious diseases.

The BHS program has over 20 Centers of Research Excellence, which is twice as many centers as any other VA site. One of these programs is the Massachusetts Veterans Epidemiology Research and Information Center (MAVERIC) housed at the Jamaica Plain campus. The center was established six years ago and conducts epidemiological studies and clinical trials with approximately 30 active studies. MAVERIC has a significant tissue collection program and houses a core laboratory with approximately 200,000 samples from over 15,000 veterans. Additionally, BHS also operates a highly-specialized National Center for PTSD, a Women's Health Science Center, a Memory Disorders Research Center, an Aphasia Research Center, and Neural Imaging Studies of Schizophrenia.

The Bedford VAMC operates approximately 185 protocols conducted by nearly 70 principal investigators and spent almost \$9M of research funding in FY 04. Research interests focus on neuropsychiatry and geriatrics. Bedford operates a brain bank in close collaboration with the GRECC that is used primarily to support dementia research. A similar program is operated in Bedford which is the MIRECC that conducts research and provides educational and vocational rehabilitation services to ill veterans. The MIRECC provides both pharmacological and behavior treatments for PTSD, major depression, problem gambling, and vocational problems. Bedford also hosts a national Alzheimer's disease center funded by the National Institute on Aging. Bedford collaborates with numerous area partners in conducting research including the University of Massachusetts, Dartmouth Medical School, and Tufts University School of Medicine.

The Boston study site also operates one of only 25 nationally recognized GRECC programs at the Bedford, Jamaica Plain, and West Roxbury campuses. This center offers inpatient and outpatient care, conducts research in the areas of Alzheimer's disease and dementias, and studies long-term cardiology and rehabilitation problems

VA uses neuro-imaging services at other local facilities for research purposes because they do not have the appropriate services available onsite. Additionally, VA has a multiphoton

microscope that is of particular interest to outside researchers and is an impetus for collaboration. In fact, researchers at affiliates such as BWH have designed studies with the use of this equipment as the focus.

The largest research funding source is VA itself. In fact, 50% of the research funding at both BHS and Bedford is provided internally by VA, including the Boston VA Research Institute (BVARI). The second largest funding source is the National Institutes of Health (NIH) which provides approximately 40% and 30% of funding to BHS and Bedford, respectively.

Education Programs

The graduate medical education (GME) program at BHS is as important to the institution as its research program. Many of the physicians who have chosen to practice at the Boston study site have done so in order to participate in the rich education and research opportunities there. BHS trains approximately 2,000 medical professionals annually, including 1,000 residents, 300 medical students, and 700 nurses and allied health professionals. The Boston study site has 250 dedicated resident positions which rotate approximately 1,000 residents through VA annually. The residents serve the following specialties: internal medicine (and all standard subspecialties), surgery (and all standard subspecialties), psychiatry, neurology, physical medicine & rehabilitation, and radiology. As noted earlier, two-thirds to three quarters of all Boston residents are from either Boston Medical Center, (Boston University School of Medicine) or Harvard (or any of its affiliates).

Bedford trains approximately 40 medical residents, approximately 25 to 30 medical students and approximately 150 other professionals including nursing and allied health. The trainees at the Bedford campus are primarily from Boston University, Harvard School of Medicine, and the Lahey Clinic. Although the Bedford VAMC could handle the clinical volume of the facility without the residents, they do help to elevate the innovation and standards of the hospital. Many of the staff would not be at Bedford if it were not for the learning opportunities available through the academic programs. Although there are no current plans for changing the programs, it should be noted that if BHS were to increase in capacity, the resident program could similarly expand by an additional 15%.

Local Healthcare Market¹¹

The Boston area's healthcare market is comprised of 56 hospitals having 526,023 annual inpatient discharges and nearly 11,500 licensed beds in 2002, according to the most recent federal hospital Medicare data for 2002. The majority of healthcare is delivered through seven integrated delivery systems. Three of these systems, Partners HealthCare, Caritas Christi Health Care, and CareGroup, are located in the immediate Boston area and four systems, Southcoast Health System, Northeast Health System, Hallmark Health, and the Lahey Clinic, are located in the surrounding Boston suburbs.

¹¹ HealthLeaders Market Overview, Boston, Massachusetts, April 2005

Partners HealthCare

Partners HealthCare is comprised of six acute care hospitals operating 2,399 beds and constitutes the largest health system in the Boston area. The system accounts for almost 26% of hospital discharges, and in 2002, had an average occupancy rate of approximately 91%. The largest hospitals in this system include Massachusetts General Hospital (MGH) operating 900 beds and BWH operating 735 beds. MGH is the primary teaching hospital for Harvard Medical School and operates the largest hospital-based research program in the US. BWH also supports a large research and training program and is a leader in providing women's services.

Other hospitals in this system include the following:

- Faulkner Hospital, a 150-bed community hospital in the Jamaica Plain area that shares services with BWH
- Newton-Wellesley Hospital, a 236-bed community hospital in Newton
- Salem Hospital, a 228-bed community hospital in Salem
- Union Hospital, a 150-bed facility in Lynn

Partners HealthCare also supports a mental hospital, McLean Hospital in Belmont, as well as multiple rehabilitation facilities, a cancer center, and a home health program.

Caritas Christi Health Care (Caritas)

Caritas is the foremost Catholic healthcare provider in the Boston area, operating a total of 1,504 beds through six acute care facilities, and had an average occupancy rate of 73% in 2002. The system accounts for almost 13% of hospital discharges in the Boston area. The primary provider in the Caritas system is Caritas St. Elizabeth's Medical Center of Boston which operates 400 beds and serves as a major teaching facility for Tufts University School of Medicine. Other facilities in the Caritas system include an outpatient clinic providing oncological services, a sleep diagnostic center, and two nursing homes.

CareGroup/Beth Israel Deaconess Medical Center (CareGroup)

CareGroup is comprised of four acute care hospitals operating 938 beds and accounts for approximately 11% of area hospital discharges. In 2002, CareGroup had an average occupancy rate of 80%. The Beth Israel Deaconess Medical Center (BIDMC), the largest of the CareGroup hospitals with 556 beds, is a training facility for Harvard Medical School. BIDMC also operates two outpatient centers and primary offices in over 30 communities. Other CareGroup hospitals include the following:

- Mount Auburn Hospital, a 191-bed teaching hospital in Cambridge, affiliated with Harvard Medical School
- New England Baptist Hospital, a 150-bed hospital in Boston, affiliated with Tufts University School of Medicine
- BIDMC in Needham, a 41-bed community hospital

Southcoast Health System

The Southcoast Health System, accounting for approximately 6% of hospital discharges, was formed through the merger of three acute care hospitals along the south coast of Massachusetts and now operates a combined 762 beds. The system also supports two nursing homes and 41 ancillary facilities to serve 33 communities. St. Luke's Hospital, located in New Bedford, operates 365 beds and provides particular expertise in neurosurgery, cardiology, and general surgery. Charlton Memorial Hospital operates 325 beds in Fall River and offers a full range of inpatient, diagnostics, and rehabilitation services. Tobey Hospital in Wareham operates 72 beds and provides emergency, diagnostic, and obstetric care. Southcoast Health System had an average occupancy rate of 77% in 2002.

Northeast Health System

The Northeast Health System serves the North Shore and Cape Ann regions of the Boston area. The system is comprised of two acute care hospitals, 227-bed Beverly Hospital and 58-bed Addison Gilbert Hospital, as well as a skilled nursing facility, a specialty hospital providing mental health and substance abuse care, a laboratory and diagnostic facility, and a rehabilitation and family care center. Northeast Health System accounts for almost 4% of hospital discharges and had an average occupancy rate of 73% in 2002.

Lahey Clinic

Lahey Clinic is a leading provider in the northern suburbs of Boston and in the north shore region and accounts for approximately 3% of hospital discharges in the area. Lahey Clinic is a large multi-specialty physician network that operates Lahey Clinic Medical Center in Burlington and Lahey Clinic Northshore in Peabody. Lahey Clinic Medical Center is located 15 miles northwest of Boston, and operates 259 beds as well as provides ambulatory services. The Medical Center is a teaching facility for Tufts University School of Medicine and operates a substantial research program. Lahey Clinic Northshore in Peabody is located 20 miles north of Boston, operates ten beds and provides extensive outpatient services. The average occupancy rate for Lahey Clinic in 2002 was 93%.

Hallmark Health

Hallmark Health also provides services in the north suburban communities. The system includes two acute care hospitals with 368 beds, Melrose-Wakefield Hospital in Melrose, and Lawrence Memorial Hospital in Medford, as well Malden Medical Center, which is an outpatient center, Malden Family Health Center, and nursing home care, home health, and diagnostic facilities. Hallmark Health accounts for approximately 3% of hospital discharges in the region and, in 2002, had an average occupancy rate of 76%.

Other Area Hospitals

Other noteworthy area hospitals are described below:

- Boston Medical Center (BMC) is the 547-bed, privately-owned, primary teaching facility for Boston University Medical School. BMC offers the largest 24-hour Level I trauma center in Boston and also supports an extensive research program. BMC also accounts for approximately 6% of discharges in the Boston area and in 2002 had an average occupancy rate of 84%
- Tufts-New England Medical Center is the 451-bed primary teaching facility for Tufts University Medical School and includes the 80-bed Floating Hospital for Children. The hospital accounts for just over 3% of hospital discharges and had an average occupancy rate of 72% in 2002.
- South Shore Hospital is a 305-bed hospital in Weymouth and is one of the top rated hospitals in the state. The hospital also provides home health and hospice services.
- Winchester Hospital is a 176-bed facility that serves communities in the northwest suburban Boston area. The hospital provides acute and specialty care, including pediatrics and obstetrics.
- Brockton Hospital is a 268-bed community teaching hospital that serves 20 communities in southeastern Massachusetts. The hospital also operates 26 adult primary care and specialty outpatient clinics.
- Jordan Hospital is a 139-bed community hospital serving 12 communities in Plymouth and Barnstable counties and operates centers of excellence in cancer care, cardiac services, surgery, and maternity services.

Current Property and Facilities

The Boston study site consists of the three medical center facilities in BHS, specifically Jamaica Plain, West Roxbury, and Brockton VAMCs, and the Bedford VAMC. The four campuses encompass over 116 buildings located on approximately 375 acres within a 40-mile radius of downtown Boston. The following discusses the current property and facilities for each of the four Boston study site campuses.

Bedford

Location

The Edith Nourse Rogers Veterans Memorial Hospital ("Bedford") campus is located at 200 Springs Road, in the Town of Bedford, MA. Bedford, MA is approximately 14 miles northwest of the center of the city of Boston, 21 miles north of the West Roxbury VAMC, 22 miles northwest of the Jamaica Plain VAMC, and 39 miles north of the Brockton VAMC, respectively. Furthermore, the campus is less than four miles (less than a ten-minute drive) from the Hanscom Air Force Base.

Size and Shape

The Bedford campus is roughly square in shape, containing a total area of approximately 181 acres, including a 54-acre golf course and driving range maintained by the United States Air Force. The campus's only frontage is along Springs Road. An aerial map of the campus is included in Figure 2.

Topography and Drainage

The Bedford campus is slightly rolling with grade changes no greater than 40 feet from the lowest to highest points on campus.

Environmental Constraints

Initial discussions with VAMC engineering staff revealed no significant environmental issues oncampus.

Utilities

All utilities are available to the campus.

Street and Off-Campus Improvements

Springs Road is a two-lane "country road" that divides the campus into two separate parts with the majority of VA-owned land located on the eastern side of the road. Springs Road connects the northern part of the town of Bedford to Great Road and the town's commercial center. There are no traffic lights on the Bedford VA campus.

Title Policy and Easement

Team PwC has conducted a preliminary review of title policy documents provided by VA for the subject property. For this report, it is assumed that the title is clear of any encumbrances that impede redevelopment of the property. However, VA property records denote the existence of typical easements for sewer, storm water, right-of-way, and utility access. Further research will be needed to clarify the impact of title issues on highest and best use.



Figure 2 - Aerial Map, Edith Nourse Rogers Veterans Memorial Hospital, Bedford, MA¹²

¹² Aerial maps provided by Commonwealth of Massachusetts Office of Geographic and Environmental Information

Adjacent Use

North:

Directly north of the VA campus on the western side of Springs Road is a five-acre surface parking lot that was conveyed to Middlesex Community College in 1973 for student and faculty use. Further north, single-family homes are situated on one-acre lots.

South:

On the western side of Springs Road, between the southern boundary of the VA campus and Pine Mill Road, there are two sites comprising approximately 11 acres that have been identified by the town of Bedford 2001 Affordable Housing Plan as potential locations for 30 new housing units. Half of the units are proposed to be rentals, with 25% set aside as affordable, and another 15 units are proposed as affordable for first-time homebuyers. Below Pine Mill Road, land use is entirely residential in nature, with single-family detached homes situated on half-acre to one-acre lots.

East:

Protected wetlands, that cannot be developed, border the entire eastern length of the VA campus, including areas adjacent to the 54-acre golf course and driving range.

West:

Adjacent to the VA property, the town of Bedford owns a walking trail that was once the Boston and Maine Railroad line, as well as adjacent recreational open space. Beyond the open space is a single-family residential neighborhood.

Access and Visibility

Access to the campus is from Springs Road with no other points of access. The Bedford VAMC is approximately 0.9 miles from Great Road, which passes through the town's commercial center, and approximately three miles from I-95. Due to the heavily wooded area surrounding the VAMC, visibility of the VAMC is limited to Springs Road.

There is a bus stop on-campus for the Route 62 MBTA bus route. This bus stop provides access to the Boston subway system (via the Alewife Station). The buses run until 8:00 PM Monday to Friday and until 6:00 PM on Saturday. There is no bus service on Sunday.

Site and Adjacent Zoning

Zoning of the Edith Nourse Rogers Veterans Memorial Hospital property, as well as land adjacent to the property, will influence the re-use potential of the campus. Review of the *Town of Bedford Zoning Bylaws* shows that the VA property is currently zoned Residence-A, and the current use at the campus appears to be a legally non-conforming use under this classification. This indicates that the hospital was built prior to the zoning of the property. However, any new development at the campus would have to adhere to regulations under the Residence-A zone.

Other uses allowed as-of-right under Residence-A include single-family and two-family housing development as well as churches, schools and related institutions, agriculture, forestry, and land conservation. Conditional Residence-A uses (i.e., uses allowable in a particular zone, but subject

to review by the Town Planning Department) include planned residential developments, clustered residential developments, nursing homes and housing for the elderly, lodges and clubs, philanthropic uses, private recreation, cemeteries, and wireless communication towers.

The Residence-A zone does not appear to support commercial activities, including retail and office uses, hotels and motels, and industrial activity. Therefore, these types of uses cannot be developed at the campus without a zoning variance. Residence-A zoning is generally consistent for the parcels adjacent to the Bedford VAMC with the exception of some parcels dedicated to preserving open space and wetlands.

Improvement Description

The Bedford VAMC consists of approximately 61 buildings (on-campus only), including the heavily trafficked hospital facility, Building 78. Figure 3 illustrates the location of the majority of buildings on the campus. Approximately half of the buildings were constructed over a period of seven years beginning in 1928. The remaining buildings were all constructed in the period between the late 1940s and early 1960s. The buildings have received ratings between 2.2 and 3.9 on a scale of "5" for critical values such as accessibility, code, layout, adjacencies, and privacy, with the majority in the 3.0 to 3.9 range. The 61 buildings combined comprise over 1.1 million gross square feet (GSF) of vertical development, of which close to 63,000 square feet (SF) sits vacant, translating into a vacancy rate of less than 6%.

There are 34 "historically significant" buildings located on-campus comprising some 836,000 square feet, none of which are listed on the National Register of Historic Places, but have been deemed eligible since 1980. The buildings are currently being used for a variety of functions, including healthcare services, engineering and administrative offices, pharmaceutical storage, and desk and wet lab research. Figure 3 presents a site plan for the Bedford campus. A list of the buildings on campus, their size and function are presented in Table 5.

The campus layout for Bedford VA is designed in a low-density (one to three stories) campus setting with landscaped open space for patient use. Buildings 2 and 78 are the only exceptions, with each of these buildings rising five stories. Springs Road divides the campus east-to-west with the western portion comprising almost 90% of the total gross building area on approximately 75 acres of land. All buildings serving some type of medical use are located on the western portion of the campus.

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¹³ VA Capital Asset Inventory Database.

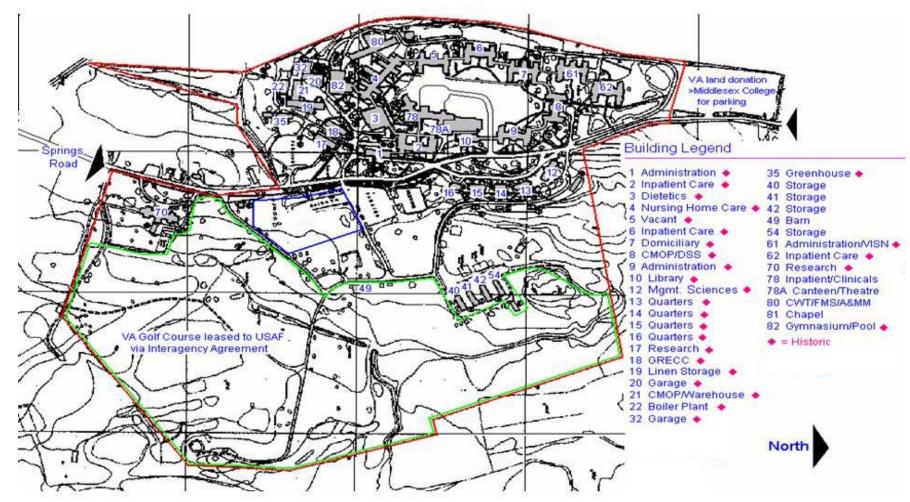


Figure 3 - Existing Building Distribution - Edith Nourse Rogers Veterans Memorial Hospital, Bedford, MA¹⁴

¹⁴ The building location maps are provided by VA and do not necessarily depict all of the buildings located on the campuses and contained in the CAI database. Buildings omitted from the maps do not comprise a significant square footage of the campuses.

Table 5 - Existing Departmental Distribution by Building – Bedford¹⁵

Building	Floor	Function	Year Built	Year Renovation	Floors	Building Total GSF
1	11001	Administrative Offices	1928		2	13,784
		Medical; Mental Health; Administrative;	-,			,,
2		Engineering	1928		5	95,669
	В	SPD Service, Pathology, Engineering	-7-0			,,,,,,,
	1	Pathology, Nutrition/Food, Radiology, Dental				
		Psychology, Clinical Service Administration,				
		Engineering, Nutrition / Food, Outlease,				
	2	Vacant				
	3	Nursing Home, Hospice				
	4	Education				
3		Administrative; Main Kitchen	1928	1952	2	39,789
		Nursing Home; Recreational Therapy;				
4		Administrative	1929	1996	3	102,575
5		Mental Health; ½ Vacant	1932		3	53,689
6		Mental Health; Engineering	1937		3	53,860
		Mental Health; Research; Homeless				
7		Domiciliary	1937		3	63,088
8		CMOP; Administrative	1930		3	48,011
9		Mental Health; Social Work; Administrative	1928		3	41,680
10		Library; Administrative	1928		2	17,575
12		Office Space	1928		3	16,770
13		Residential Quarters	1928		3	10,181
14		Residential Quarters	1930		1	8,789
15		Residential Quarters	1930		1	11,302
16		Residential Quarters	1928		1	4,753
17		Animal Research; Clinical Research	1930		3	16,483
18		Research (GRECC)	1928		3	16,386
19		Laundry; Recycling; Administrative	1928	1965	2	19,230
20		Engineering/Mechanical	1928		1	4,383
21		Recycling; Pharmaceutical/ CMOP Storage	1928		2	11,721
22		Boiler Plant	1928		2	8,657
28T		Greenhouse	1994		1	1,960
32		Engineering/Mechanical	1929		1	3,240
33		Administrative Offices	1930		2	5,453
35		Greenhouse	1929		1	2,568
40		Vacant (Storage)	1929		1	4,232
41		Vacant (Storage)	1939		1	3,276
42		Vacant (Storage)	1939		1	2,948
49		Barn	1896		1	3,276
54		Vacant (Storage)	1939		1	5,880
61		Administrative	1939		3	52,249
62		Nursing Home (Alzheimer's); Medical	1939		1	51,768
63		Storage (Engineering)	1939		1	2,640
64		Residence Garage	1939		1	1,148
65		Residence Garage	1939		1	1,148

¹⁵ Buildings, Quonset huts, sheds, and similar structure under 1,000 GSF have been excluded from this table.

Building	Floor	Function	Year Built	Year Renovation	Floors	Building Total GSF
66	11001	Residence Garage	1939	Renovation	1	1,148
69		Vacant (Storage)	1930		1	1,714
70		Research; Wet Lab	1946		3	63,958
78		Medical; Mental Health; Social Work; HOPTEL; Pharmacy; Administrative	1959		5	128,416
	Ground	Pharmacy, Medical Administration, Police / Security, Environmental Management, Canteen Service, Credit Union				
		ACS – Primary, Specialty, and Urgent Care,				
	1	Cardiology, On-Call Program, Medical Administration, Eye Clinic				
	2	Mental Health Clinic, Rehab Medicine, Psychiatry Administration, Nursing Home, Social Work, Psychology				
	3	Psych Rehab, SPD Service, Psychology, Nursing Service Administration, ACS – Primary Care, Nutrition / Food, HOPTEL				
	4	Substance Abuse Clinic, Mental / Behavioral Health, Psychiatry Administration				
78A		Auditorium; Canteen Storage	1960		1	25,299
80		Medical; Engineering	1960		2	38,950
81		Chapel	1960		1	8,350
82		Therapy Pool; Gymnasium	1962		1	35,580

With slightly more than 100 acres of land, the eastern side of Springs Road is primarily dedicated to parking and open space, including a 54-acre, nine-hole golf course with a driving range, chipping and putting green, and a full-service golf shop and snack bar. The few buildings located on the eastern side of Springs Road are primarily used for research, staff residence quarters, and storage purposes. Most of the occupied buildings on the eastern side are located close to Springs Road. Five vacant structures are located in the northeast corner of the property, all of which had been used as storage or bathroom facilities when VA maintained farming activities on-campus in the early half of the 1900s. Furthermore, initial discussions with VAMC staff indicate that there is great potential to release excess open space from this portion of the property.

For the purposes of this report, and in order to provide additional detail, Team PwC divided the campus into four major segments: Main Campus (west of Springs Road), Research Building (east of Springs Road), Staff Quarters (east of Springs Road), and Golf Course/Open Space (east of Springs Road).

Main Campus

Most of the Bedford campus buildings are clustered on the western side of Springs Road with the buildings sited in an oval forming a great central lawn. There are 39 buildings comprising close to 982,000 SF of gross building area. These buildings tend to be in poor to fair condition, which reflects their age and moderate level of past maintenance; however, there are some upgrades such as the Building 4 nursing home and the ambulatory care area.

Buildings dedicated to health services are connected by enclosed corridors. The facilities were developed primarily for health services uses including nursing home care, substance abuse, acute inpatient psychiatry care, Alzheimer's inpatient and outpatient care, domiciliary for homeless veterans, ambulatory care, and outpatient specialty care. Other functions include the Consolidated Mail Outpatient Pharmacy (CMOP) in Building 8. However, the CMOP is scheduled to move to a new off-campus facility in Chelmsford, MA. Also, Middlesex Community College occasionally uses a conference room in Building 61 as a classroom. There is approximately 43,000 SF of vacant space in this portion of the campus, of which close to 26,000 SF is located in Building 5. While Building 5 sits three-quarters vacant, Team PwC understands that an agreement exists with a non-profit organization to convert this space into single resident occupancy (SRO)¹⁶ housing.

The Bedford campus is also home to the VISN 1 Network office, the VISN 1 Decision Support System (DSS) offices, the VISN 1 Office of Research Oversight (ORO), and The Department of Defense (DoD), Delegated Examining Unit (DEU) on the second floor of Building 2.

Research Building

The southernmost tip on the eastern side of Springs Road is dedicated to the 64,000 SF of Building 70 and associated surface parking. Building 70 is completely occupied and includes desktop and wet lab research uses. The building is in relatively fair condition, and, much like other buildings on the Bedford campus, its age complicates regular maintenance. To the north, a guardhouse, well-pumping station, and a surface parking lot separate the building from the Staff Quarters portion of the campus. Immediately to the east of Building 70 is the golf course.

Staff Quarters

On the northern end of the eastern side of Springs Road, Buildings 13-16 comprise 35,000 GSF and offer 15 housing units. These units are leased to VA staff at market rate rents. Three parking garages serve Buildings 13-15. These buildings are also fairly old (built in the 1920s and 30s) and, as a result, are in fair condition. Just north of the residential quarters is Building 12, a 17,000 SF administrative building occupied by the US Office of the Inspector General.

Golf Course/Open Space

The easternmost portion of the Bedford campus is mostly dedicated to open space, including a nine-hole golf course managed, maintained, and operated by the United States Air Force (USAF). VA still holds title to the 54 acres of land dedicated to the golf course. In addition, an open space sharing agreement exists between VA and the town of Bedford to host a number of community events on-campus such as the annual Native American Pow-Wow, Independence Day Fireworks, and other cultural and recreational activities. VA receives no financial reimbursement for the arrangement. The only buildings located on this portion of the campus are either related to the golf course or sit vacant. In particular, four empty storage sheds and a bathroom facility are located in the northeast corner of the campus.

¹⁶ An SRO facility is a facility with more than five sleeping rooms that is kept, used, maintained, advertised, or held out to the public as a place where sleeping rooms are offered on a single room occupancy basis and intended for use as a primary residence for residential guests for a period of more than thirty days.

Recent and Planned Capital Improvements

Recent and ongoing capital improvement projects within the past five years include a range of renovations and upgrades such as roof replacements on Buildings 1, 17, 18, 20 and 32; renovation and expansion of the nursing home care unit in Building 4 comprising some 58,000 SF of space on two floors; retiling of the connecting corridors; renovation of approximately 3,400 SF on the second (offices) floor and approximately 1,800 SF on the fourth floor (women's DOM) in Building 2; and the conversion of the respiratory ward in Building 78 to offices.

In addition to recent improvements, there are two proposed projects expected to result in revenue-generating opportunities for VA. The first project involves the renovation of vacant space in Building 5 to accommodate a non-profit SRO. This project is on hold until the non-profit entity obtains necessary funding to move forward.

The second project, which is on hold and awaiting the results of CARES, would result in the ground lease of the land now occupied by a parking lot south of Building 17 on the east side of Springs Road. As part of a 75-year ground lease, VA would allow Hearthstone Associates to develop and operate an 80-bed Alzheimer's assisted living community. The terms of the ground lease have not been decided, but VA will likely be compensated through a mix of annual ground rent payments and in-kind services.

Outleased Area

The Bedford campus supports outleases with 16 separate VA and non-VA entities. Combined, these tenants occupy approximately 106,600 SF of space in 14 buildings. Outleases provide the Bedford VA with over \$1.1M in annual revenue either through internal funds transfers or monthly rent payments. A summary of these outleases follows:

Department of Defense, Delegated Examining Unit (DoD), DEU)

The DoD, DUE occupies 2,364 SF on the second floor of Building 2. There is no lease, other written agreement, or financial reimbursement.

VA Office of Research Oversight/Office of Resolution Management (ORO/ORM)

The ORO occupies 1,443 SF in the basement of Building 7. There is no lease, other written agreement, or financial reimbursement. In addition to ORO, the ORM is located in 6,126 SF of space on the second floor. While there is no formal lease, Bedford VA receives \$83,321 through an internal funding transfer.

Consolidated Mail Outpatient Pharmacy (CMOP)

Bedford is home to the VISN 1 CMOP. The CMOP occupies almost the entire first floor in Building 8 (12,317 SF) for its main packaging and shipping operation. CMOP also uses 2,949 SF of space in the basement for storage. Additional CMOP storage is located in 2,958 SF of space on the first floor of Building 21. While there is no formal lease, the Bedford VA receives \$104,000 through an internal funding transfer. The CMOP is scheduled to relocate to an off-campus facility in Chelmsford, MA.

VA Decision Support System (DSS)

The VA DSS group is also located in Building 8 and occupies close to 10,000 SF on the second floor and a negligible amount of storage space in the basement. While there is no formal lease, the Bedford VA receives \$100,775 through an internal funding transfer.

VISN 1

Administrative offices for VISN 1 are located in three buildings on the Bedford campus. VISN 1 occupies close to 24,000 SF on the first and second floors of Building 61; 2,000 SF in Building 9; and 380 SF in Building 12. While there is no formal lease, the Bedford VA receives \$429,106 through an internal funding transfer.

Office of Inspector General (OIG)

The OIG occupies close to 10,000 SF on the basement and first floors of Building 12. While there is no formal lease, the Bedford VA receives \$180,443 through an internal funds transfer.

Management Science Group

With the exception of common areas, the VA Management Science Group occupies the entire second floor in Building 2 (4,640 SF). While there is no formal lease, the Bedford VA receives \$34,750 through an internal funding transfer.

Boy Scouts of America

The Boy Scouts use one of the Quonset huts on-campus for storage. As a non-profit, the Boy Scouts pay no rent but are subject to a revocable license agreement.

Emergency Medical Preparedness Office (EMPO)

The EMPO occupies 3,100 SF in Buildings 19 and 36, has no formal lease agreement, and offers the Bedford VA no financial reimbursement for use of this space.

VA Regional Counsel

The Regional Counsel is also located on-campus and occupies 4,500 SF on the second floor of Building 61. While there is no formal lease, the Bedford VA receives \$166,595 through an internal funding transfer.

Burdenko Water and Sports Therapy Institute (BWASTI)

BWASTI is a private provider of sports medicine and physical therapy and is the only non-internal agency lease at the Bedford VAMC. BWASTI occupies over 13,400 SF of space in Building 82 and has access to the VA swimming pool and gymnasium. The BWASTI lease began in May 2002 and is scheduled to expire in April 2011. BWASTI pays the Bedford VA \$23,664 annually, but has an option to provide services in lieu of payment.

Brockton

Location

The Brockton Division of the BSH is located 20 miles south of the city of Boston, 19 miles south of the West Roxbury VAMC, 21.5 miles south of the Jamaica Plain VAMC, and 39 miles south of the Bedford VAMC, respectively. The VAMC address is 940 Belmont Street (Route 123) in the southwest corner of the city of Brockton, MA. The campus has open space buffers to the east and south that separate the hospital grounds from neighboring residential and commercial uses. An aerial map of the campus is included in Figure 4.

Size and Shape

The Brockton campus is generally rectangular in shape (with a narrower frontage on Belmont Street to the north), containing a total area of approximately 146 acres. Initial discussions with VAMC staff indicate that 43 acres of land in the Southwest corner of the campus have been released to the city of Brockton and have since been developed with a variety of commercial and industrial uses. The campus has frontage along Belmont and Manley Streets.

Topography and Drainage

The Brockton campus is relatively flat with no significant grade change.

Environmental Constraints

Interviews with VAMC staff identified no significant environmental issues on-campus.

Utilities

All utilities are available to the campus.

Street and Off-Campus Improvements

Belmont Street (Route 123) is the primary access route to the Brockton campus. Access to the campus is through a curb cut on Belmont Street; the intersection is signalized. Secondary access is available from Manley Street to the west and West Chestnut Street to the south. These entrances primarily serve VA staff and are gated in the evenings.

On the campus itself, a ring road runs along the perimeter of the campus with smaller interior roads providing access to centrally located buildings. Importantly, the southern extension of the ring road, McGauley Way, links with West Chestnut Street, a public neighborhood street.



Figure 4 - Aerial Map, Brockton Division, VA Boston Healthcare System, Brockton, MA¹⁷

 $^{^{17}}$ Aerial maps provided by Commonwealth of Massachusetts Office of Geographic and Environmental Information

Title Policy and Easement

A preliminary review of title policy documents provided by VA for the subject property was conducted. For this report, it is assumed that the title is clear of any encumbrances that impede redevelopment of the property.

VA property records also denote the existence of typical easements for sewer, storm water, and utility access. Further research will be needed to clarify the impact of title issues on highest and best use.

Adjacent Use

North

The Brockton campus fronts directly onto Belmont Street. There are a variety of land uses across the street including a Federal Express distribution center, a power substation, and the Belmont West rental apartment complex. Scattered along Belmont is a mix of low-density convenience retail, fast food, and personal service establishments.

South

A landscaped buffer separates the southern boundary of the Brockton campus from a mix of light industrial uses to the southwest and single-family homes to the southeast.

East

A landscaped buffer separates the Brockton VAMC from a middle-class single-family residential neighborhood. The neighborhood is comprised of two-story homes on one-quarter-acre lots. The homes appear to be of good quality despite the perceived age of construction.

West

Auto dealerships, an auto rental establishment, and a gas station with frontage on Belmont Street are located in between Route 24 and the Brockton campus. South of Belmont Street, along Manley Street, there is a mix of light industrial and flex space including a used car lot, a warehouse, a fresh fish outlet, manufacturing, laboratories, and a US Army Reserve Center, among others. Three single-family lots are sandwiched between Route 24 and Manley Street, and appear incompatible with the surrounding uses.

Access and Visibility

The most direct access to the campus is from Belmont Street, with secondary access from Manley Street and West Chestnut Street. The campus is approximately 0.1 miles from State Route 24, 10 miles from I-95 via Route 24, has strong visibility from Belmont Street (Route 123), and moderate visibility from State Route 24.

The campus is also served by the final stop of the Brockton Area Transit Authority Bus Route 3. Bus service is available Monday through Friday from 6:00 AM to 9:00 PM and Saturdays from 7:00 AM to 6:00 PM. There is no service on Sunday.

Campus and Adjacent Zoning

Zoning of the Brockton VA property, as well as land adjacent to the property, will influence the reuse potential of the campus. The Brockton VA and adjacent parcels to the east are currently zoned R-1-B-Single Family Residential under the city of Brockton's current zoning ordinance. The R-1-B zone allows, as-of-right or as a special use, single-family homes on 30,000 SF lots, all types of schools, churches, museums, libraries, public parks, municipal buildings, public utility installations, philanthropic institutions, private nursery schools and day care, and mobile home senior communities. Review of the ordinance shows that the current use at the campus appears to be a legally non-conforming use under this classification. This indicates that the hospital was built prior to the zoning of the property. However, any new development at the campus would have to adhere to the regulations under the R-1-B zone. A zoning change would be required to accommodate other uses not listed above.

Adjacent parcels to the west and south are zoned I-1-Industrial Park, C-2-General Commercial, or R-1-C-Single Family Residential. These zones permit additional uses that are not allowed as-of-right or as special use under the R-1-B zone including most types of service, retail, wholesale, recreation, and light industrial uses.

Improvement Description

Located in the southwest corner of the city of Brockton, near West Bridgewater and Easton, the Brockton Division of the BHS was initially constructed in 1955. Brockton serves as the central kitchen for the BHS, the Bedford VAMC, and the Providence VAMC. It also provides laundry services for all VISN 1 facilities. There are a total of 33 buildings on the campus comprising over 1.1 million SF of space located on 146 acres. An enclosed corridor connects most of the buildings used for health services. The buildings have received ratings between 2.2 and 4.3 on a scale of "5" for critical values such as accessibility, code, layout, adjacencies, and privacy, with the majority in the 3.0 to 3.9 range. While many buildings housing health services have undergone recent renovation, the most recent additions to the facility are five mechanical buildings constructed in the 1970s and another constructed in 1998. Figure 5 presents a site plan for the Brockton campus. A list of the buildings on campus, their size and function are presented in Table 6.

The campus layout is designed in a low-density campus setting with most buildings containing no more than three floors. The grounds are well landscaped and include baseball fields, a soccer field, and other passive and active recreational amenities for VA patients, staff, and the outside community. Initial discussions with VA staff indicate that several two- to four-acre parcels that act as buffers outside the internal ring road, to the east and west, could potentially be released from the campus.

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¹⁸ VA Capital Asset Inventory Database.

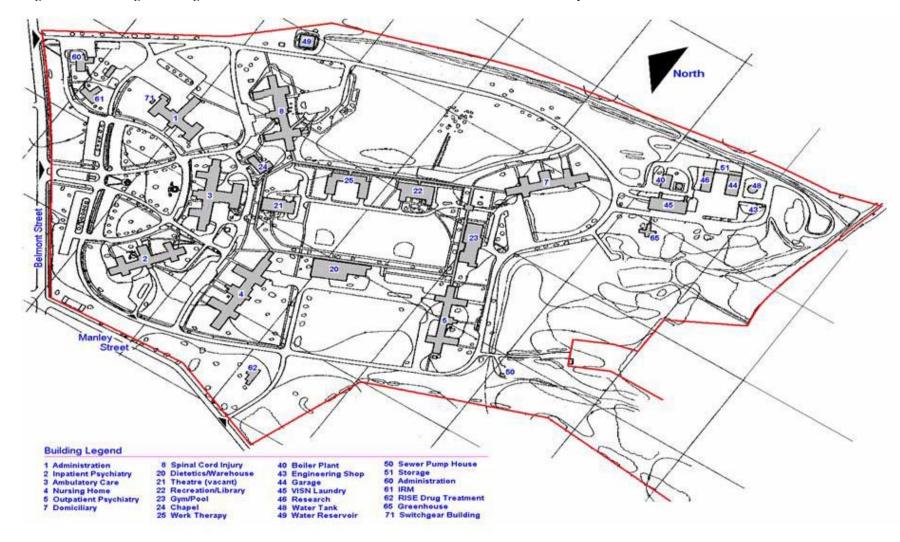


Figure 5 - Existing Building Distribution - Brockton Division, VA Boston Healthcare System, Brockton, MA¹⁹

¹⁹ The building location maps are provided by VA and do not necessarily depict all of the buildings located on the campuses and contained in the CAI database. Buildings omitted from the maps do not comprise a significant square footage of the campuses.

Table 6 - Existing Departmental Distribution by Building – Brockton²⁰

Building	Floor	g Departmental Distribution by Building Function	Year Built	Year Renovation	Floors	Building Total GSF
1	11001	Administrative	1955	1955	3	50,095
		Medical; Mental Health; Social Work;	1700	1900		20,072
2		Substance Abuse; Administrative	1955	1989	5	183,100
		Library, Pharmacy, IRM, Education, Nutrition	1700	1707		105,100
	В	/ Food, Medical Administration				
		Substance Abuse Clinic, Psych Rehab, ACS –				
	1	Specialty Care, Vacant				
		Mental / Behavioral Health, Medical Research				
	2	/ Development				
		Social Work, Mental / Behavioral Health, Day				
	3	Hospital,				
		Psych Rehab, Mental / Behavioral Health,				
	4	Rehab Medicine, Social Work				
		Medical; Administrative; Mental Health;				
3		Social Work; Canteen Services; Engineering	1955	1955	7	228,766
		Pathology, Canteen Service, IRM, Medical	1700	1900	,	220,700
		Administration, Radiology, SPD Service,				
	В	Vacant				
		Medical Administration, ACS – Primary,				
		Specialty, and Urgent Care, Police / Security,				
		Mental Health Clinic, Pathology, Vacant,				
	1	Pharmacy				
		Rehab Medicine, Canteen Service, Radiology,				
		Education, Engineering, ACS – Primary Care,				
	2	Dental, IRM, Cardiology				
		Eye Clinic, ACS – Primary and Specialty				
		Care, Pharmacy, Medical Administration,				
	3	Education, Engineering				
		Rehab Medicine, Education, Social Work,				
		Clinical Services Administration, Digestive /				
		Endoscopy, Pulmonary / Respiratory Care,				
	4	EEG / Neurology, Audiology, Vacant				
		Psychology, Geriatrics, Cardiology, Police /				
	5	Security, Vacant				
		On-Call Program, Credit Union, IRM,				
		Engineering, Psychiatry Administration,				
	6	Outlease, Vacant				
4		Medical; Administrative	1955	1997	3	117,608
		Medical; Mental Health; Administrative;				
5		Engineering	1955	1998	3	81,489
7		Domiciliary; Mental Health; Administrative	1955	1986	3	113,504
8		Medical (SCI Unit); Administrative	1955	1965	2	75,422
20		Kitchen/Warehouse (central cook-chill)	1955	1955	2	55,881
21		Theater (vacant)	1955	1955	1	39,736
22		Recreation/Library ²¹	1955	1955	2	30,572

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 $^{^{20}}$ Buildings, Quonset huts, sheds, and similar structure under 1,000 GSF have been excluded from this table.

Building	Floor	Function	Year Built	Year Renovation	Floors	Building Total GSF
23		Gymnasium; Therapy Pool	1955	1955	1	40,957
24		Chapel	1955	1955	2	15,720
25		Administrative; Storage	1955	1955	1	21,140
40		Boiler Plant	1955	1997	1	4,500
44		Garage/Storage	1955	1990	1	7,140
45		VISN 1 Central Laundry	1955	1990	2	22,639
46		Animal Research	1955	1985	1	5,567
51		Storage	1960	1960	1	2,640
60		Office	1920	1955	3	17,185
61		Administrative	1955	1955	3	13,646
62		RISE Drug Treatment Residence	1955	1955	1	6,784
63		Storage	1955	1955	1	1,632
65		Greenhouse	1955	1955	1	2,348

Major buildings located on the Brockton campus can be divided into spatially related groups as described below.

Buildings 1, 2, and 3 (Main Entrance)

Upon entering the Brockton campus from Belmont Street, three buildings form a northward facing semicircle. Buildings 1-3 comprise a combined 462,000 GSF, representing over 40% of the campus' total gross building area. These buildings are in fair condition, which reflects their age and moderate level of past maintenance. Located on the eastern side of the semicircle, Building 1 is the smallest of the three (50,000 SF on three floors) and primarily serves as administrative office space. Building 1 is completely occupied.

Building 2 is located on the western side of the semicircle and houses mental health programs, psychiatry beds, social work, and related heath services. The five-floor building contains over 183,000 SF and has 4,000 SF of vacant space.

Building 3 is the largest on the Brockton campus, with seven floors containing over 228,000 SF of gross building area. The building houses a variety of functions ranging from administrative offices to primary and specialty care. An unused ICU and patient ward sit vacant on the fourth floor of Building 3. There is over 23,000 SF of vacancy in Building 3, most of which is located on the fourth floor

Buildings 4 and 8

Buildings 4 and 8 flank the three buildings visible from the Brockton main entrance. These buildings are in fair condition, which reflects their age and moderate past maintenance. Building 4 houses administrative offices, recreational therapy, rehabilitative medicine, and nursing home beds. The building has three floors that contain close to 118,000 SF of gross building area.

The SCI unit is located on both floors of the 75,000 SF Building 8. Initial discussions with VAMC engineers indicate that the building is inadequate for this purpose. Plans exist to build a

new SCI unit adjacent to Building 8 that will replace the current structure. There is 10,000 SF of vacant space in the existing Building 8.

Buildings 5, 7, 20-25

A cluster of seven buildings comprising 398,000 GSF forms an enclosed courtyard immediately south of the buildings that are visible from the main entrance. While Building 5 is in good condition, the others range from poor to fair condition.

Buildings 5 and 22 are the only buildings of the seven dedicated to some type of health use including a day clinic for PTSD and other mental health services. Building 7 has a 46-bed homeless domiciliary on the first floor as well as rehab medicine, mental health day treatment, and administrative uses on other floors throughout the building. The other buildings serve administrative or other operational purposes including the following:

- Building 20 central cook/chill kitchen for the East market
- Building 21 vacant theater in complete disrepair
- Building 23 gymnasium and therapy pool
- Building 24 hospital chaplain
- Building 25 storage and administrative offices.

Buildings 40, 43-46, 51, and 65

In the southeast corner of the campus, outside the main ring road, is a cluster of seven buildings containing mostly mechanical and non-clinical uses totaling slightly more than 45,000 SF. The two buildings of most significance are Buildings 45 and 46. Building 45 houses the VISN 1 central laundry facility, and Building 46 is dedicated to animal research. In addition to these functional facilities, a vacant greenhouse (Building 65) is also located in this small cluster of buildings. The boiler plant located in this cluster (Building 40) is in very good condition. On the other hand, Building 51, currently used for storage, is in very poor condition. The other buildings range from fair to good condition.

Buildings 60-61, and 63

Located in the northeast corner of the campus, with frontage on Belmont Street, is a small cluster of three buildings comprising 32,000 SF of gross building area. Building 60 was built in 1920 and is considered historically significant but is not listed on the National Register of Historic Places. It contains only 17,000 SF of outleased office space. It should also be noted that Building 61 has 4,400 SF of vacant space in the basement. These buildings are in poor to fair condition, which reflects their age and moderate level of past maintenance.

Building 62

On the western edge of the campus, located on Mayflower Road (internal campus access road), is a building that houses the RISE drug treatment program. The building contains 3,200 SF and eight beds for program members. Building 62 is in fair condition, which reflects its age and moderate level of past maintenance.

Recent and Planned Capital Improvements

Recent capital improvements (in the last five years) include the renovation of the third floor in Building 3 resulting in the following: a conversion of a ward area into ambulatory care exam rooms and a renovation of one and one-half floors in Building 5 resulting in the conversion of a ward area into mental health space.

In addition to recent improvements, there are two major planned projects waiting for funding. According to discussions with Brockton VA staff, the old theater located in Building 21 is in disrepair and needs to be demolished. The second project involves the construction of a more modern building to house the SCI unit to replace the antiquated facility that exists today. The project would be located on three acres just south of the existing Building 8 and would include a new 105,000 SF building, ancillary parking, and a connection to the enclosed corridor system. It is anticipated that the old Building 8 would then be converted to some other commercial use consistent with the mission of the Brockton VA.

Outleased Area

The Brockton VAMC supports four outleases, two of which are rent-paying tenants. McLean Hospital leases the entire second floor of Building 7 and occupies 23,700 SF. McLean is a psychiatry hospital associated with Harvard University and MGH offering services for both juveniles and adults. Half of the space that McLean is leasing at the Brockton VA is dedicated to long-term juvenile care and the other half is dedicated to adult care. The McLean lease generates \$474,080 annually for the BHS. The lease began in January 2004 and is scheduled to expire in December 2008.

Catholic Charities, which operated a non-profit substance abuse program in Building 60, was another rent-paying tenant that occupied space at the Brockton VA. The Catholic Charities lease provided VA with \$154,000 annually. However, if VA patients utilized Catholic Charities services, a mechanism in the lease agreement considered these services in-kind, a value for this service was determined, and that value was then deducted from the annual rent payment. The Catholic Charities lease was scheduled to end July 2005 when another substance abuse program, High Point, was set to take over.

Two non-revenue generating leases include the child care center in Building 4 and the City of Brockton Emergency Center in Building 22.

Jamaica Plain

Location

The Jamaica Plain Division of the VA BHS is located at the intersection of South Huntington Avenue and Heath Street in the southwest part of Boston, Massachusetts. The VAMC address is 150 South Huntington Avenue, and is approximately 6 miles northeast from the West Roxbury

VAMC, 21.5 miles north of the Brockton VAMC, and 22 miles southeast of the Bedford VAMC, respectively. An aerial map of the campus is included in Figure 6.

Size and Shape

The Jamaica Plain campus is trapezoidal in shape (wider at the northern boundary of Heath Street and slightly tapering to the southern edge), containing a total area of approximately 16 acres. The campus has greater frontage along South Huntington Avenue than Heath Street.

Environmental Constraints

Due to creosote and diesel fuel contamination issues, an Activities and Use Limitation (AUL) has been assigned to the Jamaica Plain campus that restricts future development of more sensitive exposure uses such as a residence, garden, day care, school, or playground.

Utilities

All utilities are available to the campus.

Street and Off-Campus Improvements

South Huntington Avenue is the primary access route to the Jamaica Plain campus on its western frontage, with MBTA rail tracks dividing two lanes of automobile traffic running north to south. A traffic signal directs pedestrian traffic across South Huntington Avenue to the entrance of the main hospital building. Heath Street borders the campus to the north and provides secondary access via two curb cuts.

Title Policy and Easement

Team PwC has conducted a preliminary review of title policy documents provided by VA for the subject property. For this report, it is assumed that the title is clear of any encumbrances that impede redevelopment of the property, with the following exception:

• The MBTA has a 100-year lease on a 14,200 SF portion of the northwest corner of the campus. This parcel is used as the terminal stop and turn-around tracks for the Green E-Line trolley.

VA property records also denote the existence of typical easements for sewer, storm water, pedestrian right-of-way between Buildings 1 and 9, and utility access. Further research will be needed to clarify the impact of title issues on highest and best use.



Figure 6 - Aerial Map, Jamaica Plain Division, VA Boston Healthcare System, Boston, MA²²

 $^{^{22}\} Aerial\ maps\ provided\ by\ Commonwealth\ of\ Massachusetts\ Office\ of\ Geographic\ and\ Environmental\ Information$

Adjacent Use

North

A mix of single and multifamily residential, office, local retail, some light industrial (including the conversion of the historic Roxbury Brewing Company to office use), and several hospitals and medical-related uses are within 0.5 miles of the campus. The New England Baptist Hospital is particularly close to the campus. Also, the Jefferson School, located on Heath Street and adjacent to the northeastern side of the VA campus, has since been converted into a multifamily residential building.

South

Parcels to the south of the campus are primarily residential in nature, including a mix of single and multifamily properties. The properties vary in age and condition. The Massachusetts Society for the Prevention of Cruelty to Animals (MSPCA) animal hospital is also nearby, just beyond the residential parcels. Importantly, four lots containing a mix of single and multifamily homes are located in the northeast quadrant of the intersection corner of South Huntington Avenue and Evergreen Street. The lots front South Huntington Avenue and are adjacent to the VA campus, just west of Building 9. The four residential lots and the Building 9 lot combined represent a significantly sized parcel of land.

East

A chain-link fence separates the VA campus from ball fields, a playground, and single and two-to-three-family homes. There is an open entrance through the fence that allows pedestrians access to the right-of-way between Building 9 and the main hospital. Some of the homes in the adjacent neighborhood appear to have undergone recent renovation, indicating reinvestment in a transitional neighborhood.

West

Across South Huntington Avenue, to the west of the VA campus, there are a number of multifamily residential and institutional buildings, including the Sherill House Apartments, the Home for Little Wanderers, and the Goddard House for the Elderly. Beyond these buildings is the Jamaicaway and recreational open space.

Access and Visibility

The most direct access to the campus is from South Huntington Avenue and Heath Street. The campus is approximately 0.5 miles from Route 9, three miles from Route 3 (Southeast Expressway), and approximately 2.5 miles from the Mass Pike. It should also be noted that the campus is less than a 10-minute walk from Harvard Medical School. The campus is also served by the final stop of the MBTA Green E-Line.

Due to its urban location, the campus has excellent visibility from South Huntington Avenue and Heath Street.

Campus and Adjacent Zoning

Jamaica Plain VA property is currently zoned Neighborhood Institution (NI) under the city of Boston's current zoning ordinance. Review of the ordinance indicates that the current use at the campus appears to be conforming under this classification. The NI zone also allows either as-of-right or conditionally, any type of community use, most types of cultural uses, most types of schools, fitness centers, funeral homes, all types of medical uses, a bed and breakfast, open space, research labs, all types of residential uses, and animal hospitals. Redevelopment of the Jamaica Plain campus with uses forbidden under NI zoning, such as commercial and industrial uses, would require a zoning variance.

Adjacent parcels are zoned either 2F-Two-family Residential, 3F-Three-family Residential, or as Open Space. These zones are generally more restrictive than the NI zone and primarily allow for residential development and related uses.

Improvement Description

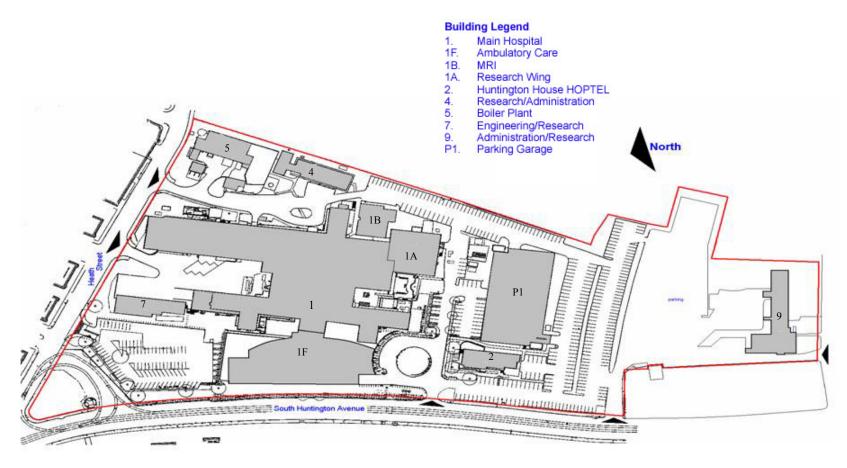
Located in Boston's Longwood Medical Community, the Jamaica Plain VAMC of the BHS was initially constructed as a 1,000-bed hospital in 1952. There are a total of nine buildings on the campus with approximately 953,000 GSF of space located on 16 acres. See Figure 9. The most recent addition to the campus is the four-floor, 115,000 SF ambulatory care addition, also known as Building 1F, completed in 2000. Most of the buildings are in fair condition, which reflects the age and moderate maintenance of the Jamaica Plain campus. The buildings have received ratings between 3.5 and 4.4 on a scale of "5" for critical values such as accessibility, code, layout, adjacencies, and privacy,. The ambulatory care center addition is a major exception. The building remains in excellent condition. In addition, there are three VA-owned residential care houses (Psychosocial Residential Rehabilitation Treatment Program (PRRTP) Houses) located in the community, a three-story concrete parking structure offering 210 spaces, and 33,000 SF of leased space in downtown Boston (Causeway Clinic²⁴). Figure 7 presents a site plan for the Jamaica Plain campus. A list of the buildings on campus, their size and function are presented in Table 7.

The campus layout is designed in a high-density setting with almost no landscaped open space. If Building 9 were excess to VA's mission at the Jamaica Plain VAMC, the portion of the campus that contains the building and the associated surface parking could potentially be parceled and released.

²³ VA Capital Asset Inventory Database.

²⁴ Causeway Clinic is anticipated to close in 2006; functions are to be absorbed into Jamaica Plain.

Figure 7 - Existing Building Distribution - Jamaica Plain Division, VA Boston Healthcare System, Boston, MA²⁵



²⁵ The building location maps are provided by VA and do not necessarily depict all of the buildings located on the campuses and contained in the CAI database. Buildings omitted from the maps do not comprise a significant square footage of the campuses.

Table 7 - Existing Departmental Distribution by Building – Jamaica Plain²⁶

		g Departmental Distribution by Building	Year	Year		Building Total
Building	Floor	Function	Built	Renovation	Floors	GSF
		Medical; Mental Health; Social Work				
1		Administrative; Engineering; Research;	1052		1.6	605 597
1		Storage	1952		16	695,587
		Linen Service, IRM, Medical Administration,				
		Radiation Therapy, Environmental Management, Prosthetics, Engineering,				
		Medical Media, Nuclear Medicine, Education,				
		Canteen, Medical Research / Development,				
	В	Outlease, Vacant				
		Police / Security, Medical Administration,				
		VSO / Veteran Assistance, ACS – Primary,				
		Specialty, and Urgent Care, Pathology,				
		Prosthetics, Pharmacy, Social Work, Fiscal,				
		Voluntary Service, Substance Abuse Clinic,				
		Canteen Service, Geriatrics, Medical Research				
	1	/ Development, Vacant				
		Pathology, Engineering, Radiology, SPD				
	2	Service, Dental, Nuclear Medicine				
		IRM, Surgical, Canteen, Voluntary Service,				
	_	Social Work, Clinical Service Administration,				
	3	Recreational Therapy, Outlease				
	4	Mental Health Clinic, Rehab Medicine				
		Engineering, Environmental Management, SPD Service, Surgical, Digestive /				
	5	Endoscopy, Vacant				
	3	EEG / Neurology, Surgical, Social Work,				
		Clinical Service Administration, Digestive /				
	6	Endoscopy, ACS – Specialty Care				
		Dialysis, ACS – Primary Care, Clinical				
	7	Service Administration, Mental Health Clinic,				
	8	Audiology, Eye Clinic, Outlease				
		Medical Administration, Eye Clinic,				
		Pulmonary / Respiratory Care, Engineering,				
		Home Care, Administration, VSO / Veteran				
	9	Assistance, Vacant				
		Administration, Education, Human Resources,				
	10	Pharmacy				
	,.	Medical Research / Development, Canteen				
	11	Service, Outlease				
	1.0	Medical Research / Development, Police /				
	12	Security, Outlease				
	13	Medical Research / Development, Outlease				
	14	Medical Research / Development, Outlease				
	15	IRM			<u> </u>	

²⁶ Buildings, Quonset huts, sheds, and similar structure under 1,000 GSF have been excluded from this table.

Building	Floor	Function	Year Built	Year Renovation	Floors	Building Total GSF
1A		Medical; Research	1971		4	44,189
		Medical Research / Development, Radiation				
	В	Therapy				
	1	Medical Research / Development				
	2	Medical Research / Development				
	3	Medical Research / Development				
1B		Medical (MRI/Mammography)	1987		1	4,793
1F		Medical; Surgical	2000		4	115,245
	В	Medical Administration, Radiology				
		ACS – Primary and Urgent Care, Surgical,				
	1	Education				
	2	ACS – Primary and Specialty Care, Education				
	3	Common Space, Surgical				
2		Huntington House (HOPTEL)	1952		6	21,372
4		Research / Administration	1952		1	7,874
5		Boiler Plant	1952		2	5,168
7		Animal Research; Engineering	1952		1	8,311
9		Administrative; Research	1927	1993	5	50,752

Further description of non-mechanical buildings is provided below.

Building 1- Main Hospital

The main hospital, built in 1952, is approximately 695,600 SF and contains 16 floors (including basement.) The building is close to being completely occupied, with the exception of 8,700 SF of marginal space in the basement and 2,900 SF scattered across various floors. Numerous primary care, specialty care, ancillary/diagnostic, mental health, research, and administrative uses are located on floors 1-10. Floors 11-14 are completely occupied and have been dedicated to research activities. The top two floors are dedicated to building mechanics. Designs are underway to consolidate services on floors 1, 3, 4, 6, 7, 8 and 9 to accommodate the transition of the Causeway Clinic from leased space in downtown Boston. When transitioned, the Causeway Clinic services will occupy almost all of the floors mentioned above.

Buildings 1A and 1B

Built in 1971, Building 1A is attached to the main hospital building on the southeast corner and includes four floors (including a basement) comprising 44,000 SF of research space. Medical research is conducted on all four floors and radiation therapy is conducted in the basement. Building 1B is just north of Building 1A and is dedicated to an MRI and mammography unit. Building 1B is close to 5,000 GSF and was built in 1987.

Building 1F-Ambulatory Care Center Expansion

The most recent addition to the Jamaica Plain VAMC is the 115,200 SF ambulatory care facility (Building 1F) that was completed in 2000. The four-floor building is connected to the main hospital on its western side facing South Huntington Avenue. The top floor houses an operating suite and a recovery area plus waiting space for ambulatory surgery. Exam rooms and outpatient

clinics are located on floors 1 and 2, and the basement is primarily used as storage. Building 1F is completely occupied.

Building 2- Huntington House

Huntington House serves as a HOPTEL for all patients traveling long distances to access health services at any one of the three BHS hospitals that require overnight stays. The HOPTEL has six floors (including a basement) with slightly more than 21,000 SF and can accommodate up to 30 patients and family members. Huntington House was first built in 1952 and has undergone upgrades within the past three years. The building has prime visibility from South Huntington Avenue.

Buildings 4 and 7

Building 4 is located in the northeast corner of the campus and contains approximately 5,300 SF of space and 19 Substance Abuse Residential Rehabilitation Treatment Program (SARRTP) beds on one floor. Building 4 was built in 1952 and is completely occupied. Located in the northwest portion of the Jamaica Plain campus, Building 7 is a one-floor building housing both maintenance and an animal research lab. It contains approximately 8,300 SF and is completely occupied.

Building 9

Building 9 is five-floor structure that was built on the southernmost portion of the campus in 1927. The building contains close to 50,800 SF of space and contains the on-campus child care center and research programs on the fourth floor. Building 9 is the oldest building on the Jamaica Plain campus and was last renovated in 1993.

Recent and Planned Capital Improvements

The most significant capital improvement project to have occurred at the Jamaica Plain VAMC in recent years is the \$28M ambulatory care addition completed in 2000. Additional significant projects that have been completed, planned, or are underway include the following:

- Completion of the three-floor parking garage in 1997
- Construction is currently underway on two separate projects to consolidate the prosthetics department as well as the audiology and speech pathology department (a similar project is in the design stages for the dental department)
- Planned relocation of Causeway Clinic primary care and mental health clinics to several floors of Building 1 at the Jamaica Plain campus
- Ongoing roof and elevator repairs on Building 1.

Outleased Area

The Jamaica Plain VAMC does not support any outleases that generate monetary value for VA BHS. Most of the tenants occupying outleased space are connected to research programs funded by VA grant monies including the BVARI and the Memory Disorders Research Center (MDRC), which make up 50,000 SF of the total 55,000 SF occupied by outleased tenants. Other outleases

include a child care center in Building 9 and several smaller space users in Building 1 such as the VA Regional Council, the VISN 1 Prosthetics Lab, and the VA Credit Union.

West Roxbury

Location

The West Roxbury Division of the VA BHS is located in the northeast quadrant of the intersection of VFW Parkway and Spring Street in the West Roxbury neighborhood in the city of Boston, Massachusetts. The VAMC address is 1400 VFW Parkway and is approximately six miles southwest of the Jamaica Plain VAMC, 19 miles north of the Brockton VAMC, and 21 miles south of the Bedford VAMC, respectively. An aerial map of the campus is included in Figure 8.

Size and Shape

The West Roxbury campus is generally rectangular in shape (longer on the east and west sides), containing a total area of close to 30 acres. The campus has slightly greater frontage along VFW Parkway than along Spring Street.

Topography and Drainage

The campus has a gentle slope running northeast to southwest that should not be a barrier to redevelopment.

Utilities

All utilities are available to the campus.

Street and Off-Campus Improvements

VFW Parkway, a four-lane highway divided by a landscaped median, is the primary access route to the West Roxbury VA campus on its western frontage. Meanwhile, Spring Street, a four-lane undivided street, runs parallel to the campus on its eastern frontage. A traffic signal directs traffic at the intersection of Spring Street and Gould Street, a two-lane neighborhood arterial street. Traffic from VA can travel across Spring Street directly through to Gould Street.

A traffic signal also directs traffic at the intersection of VFW Parkway and Spring Street at the southern tip of the West Roxbury campus. To the south, Spring Street crosses a bridge over Cow Island Pond to the town of Dedham, MA.



Figure 8 - Aerial Map, West Roxbury Division, VA Boston Healthcare System, Boston, MA²⁷

²⁷ Aerial maps provided by Commonwealth of Massachusetts Office of Geographic and Environmental Information

Title Policy and Easement

Team PwC has conducted a preliminary review of title policy documents provided by VA for the subject property. For this report, it was assumed that the title is clear of any encumbrances that impede redevelopment of the property, with the following exception:

• VA property records denote the existence of typical easements for sewer, storm water, right-of-way for a non-existent road that once ran through the campus, and utility access. Further research will be needed to clarify the impact of title issues on highest and best use.

Adjacent Use

North

A chain-link fence separates a parking lot and Building 3 on the campus from a single-family residential neighborhood. The homes, located along Gardner Street and Wycliff Avenue, are of modest size and quality. West Roxbury High School and a commercial center including a Home Depot, Enterprise Rent-a-Car, a liquor store, a Chinese restaurant, and flex-office space is located less than 0.5 miles northwest of the VFW Parkway at the intersection with Charles Park Road.

South

The intersection of VFW Parkway and Spring Street is located at the southern tip of the West Roxbury campus. The northeastern and southeastern quadrants of this intersection are populated with a mix of discount furniture and party supply stores, a Dunkin Donuts, a diner and cafe, and also a lumberyard.

The Dedham side of Spring Street is lined with fast food restaurants, pubs, personal service establishments, and a vacant gas station, as well as a park offering basketball, tennis, and passive recreation.

East

Single-family homes of modest quality and size are located along Moville and Webster Streets, adjacent to the West Roxbury campus, on the west side of Spring Street. The east side of Spring Street is lined with a low-density mix of modest quality personal service offices, convenience retail, and single and multifamily residences.

West

Most of the area directly west of the West Roxbury campus is dedicated to VFW Parkway, well-landscaped open space, and a walking path/bike trail. Beyond the open space is Cow Pond Island, separating West Roxbury from the towns of Dedham and Needham.

Access and Visibility

Access to the campus is from both VFW Parkway and Spring Street. There are two curb cuts on VFW Parkway facilitating access to buildings located on the northern and southern portion of the

campus. One curb cut is located on Spring Street at the intersection of Gould Street. The campus is approximately three miles from I-95. The MBTA Bus Route 36 also serves the campus. Bus service is available Monday through Friday from 6:00 AM to 11:00 PM, Saturdays from 8:30 AM to 7:30 PM, and Sundays from 6:50 AM to 8:50 PM.

The campus has excellent visibility from VFW Parkway and good visibility from Spring Street.

Campus and Adjacent Zoning

West Roxbury VA is currently zoned NI under the City of Boston's current zoning ordinance. Review of the ordinance shows that the current use at the campus appears to be a legally conforming use under this classification. The NI zone also allows, either as-of-right or conditionally, any type of community use, most types of cultural uses, most types of schools, fitness centers, funeral homes, all types of medical uses, a bed and breakfast, open space, research labs, all types of residential uses, and animal hospitals.

Adjacent parcels are zoned either 1F-One-family Residential or as Open Space. These zones are generally more restrictive than the NI zone and primarily allow for residential development and related uses

Improvement Description

The West Roxbury Division of BHS is located on the southwest edge of the city of Boston. The VAMC is located on a 30-acre campus with 13 buildings totaling approximately 519,000 GSF and a cluster of auxiliary trailers totaling an additional 14,000 GSF. Initial discussions with VA staff indicate that 12,000 SF of trailers used as office space are replacements for a building that fell into disrepair and was demolished. The most recent addition to the campus is the three-floor, 149,300 SF outpatient building completed in 1989. The three main buildings on-campus are attached by walkways and, combined, represent over 90% of the total gross building area. The buildings on the campus reflect their age and past level of maintenance, and have received ratings between 2.7 and 4.3 on a scale of "5" for critical values such as accessibility, code, layout, adjacencies, and privacy,. Figure 9 presents a site plan for the Jamaica Plain campus. A list of the buildings on campus, their size and function are presented in Table 8.

The campus layout is designed in a moderate-density setting with some landscaped open space separating the three primary buildings from surface parking lots. Due to the abundance of surface parking, there is very little potential to subdivide or parcel any of the campus. However, if structured parking were cost effective, a garage could potentially free sufficient land for parceling or new VA construction.

²⁸ VA Capital Asset Inventory Database.

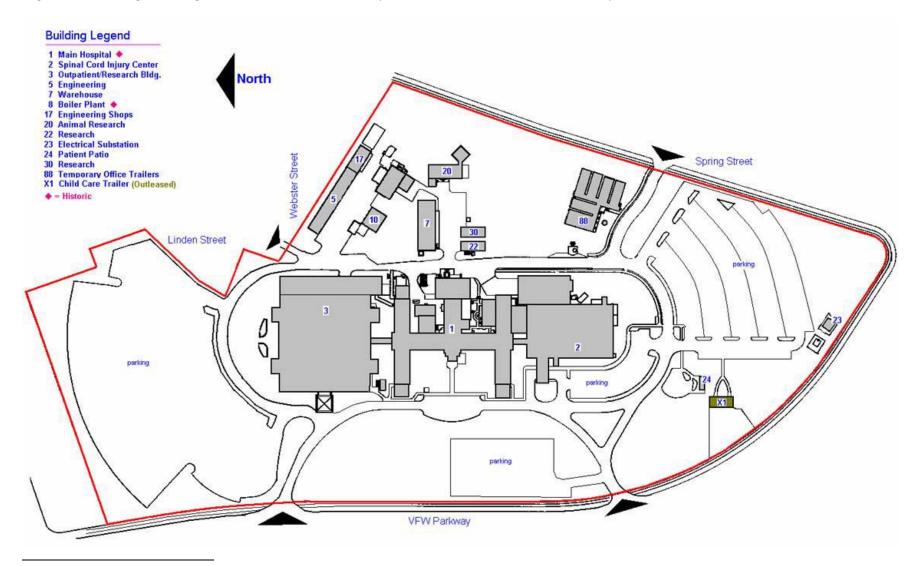


Figure 9: Existing Building Distribution - West Roxbury Division, VA Boston Healthcare System, Boston, MA²⁹

²⁹ The building location maps are provided by VA and do not necessarily depict all of the buildings located on the campuses and contained in the CAI database. Buildings omitted from the maps do not comprise a significant square footage of the campuses.

Table 8 - Existing Departmental Distribution by Building – West Roxbury³⁰

Tuble 0 -	Laisiin	ig Departmental Distribution by Buildin	g – West	Roxbury		Building
			Year	Year		Total
Building	Floor	Function	Built	Renovation	Floors	GSF
<u>S</u>		Medical; Surgical; Mental Health; Social				
1		Work; Administrative; Engineering	1943		6	187,264
		Linen, Engineering, VSO / Veteran				,
		Assistance, Administration, Library,				
		Environmental Management, Psychology,				
		ACS – Primary and Specialty Care,				
		Prosthetics, Home Care, Mental Health,				
	G	Surgical, Social Work, Radiology				
		Education, Medical Media, Radiology,				
		Administration, ACS – Specialty Care,				
		Audiology, Cardiology, Surgical, EEG /				
		Neurology, Digestive / Endoscopy, Social				
	1	Work				
		ACS – Specialty Care, IRM, Environmental				
	2	Management, Engineering, Nutrition / Food				
		On-Call Program, Education, Surgical, Social				
	3	Work, Rehab				
		Rehab, Education, Social Work, ICU,				
		Cardiology, Administration, Digestive /				
	4	Endoscopy, On-Call Program				
	5	Cardiology				
		Medical; Surgical; Social Work; Therapy				
2		Pool; Administrative	1978	1988	5	150,800
	В	IRM, Surgical, SPD Service, Linen Service				
		Rehab, Surgical, Social Work, IRM, VSO /				
	_	Veteran Assistance, Voluntary Service,				
	G	Administration				
		Surgical, Social Work, Dialysis, Radiology,				
	1	Rehab, Surgical				
	2	Social Work, Education, SCI				
	3	SCI, Surgical	1000		-	110
3		Medical; Surgical; Administrative	1989		3	149,300
5		Engineering Shops	1977		1	5,100
7		Engineering Shops; Storage	1945		2	8,620
8		Boiler House	1943	1989	1	5,594
10		Garage	1945		1	1,932
17		Engineering Shops	1945		1	1,800
20		Animal Research	1950		1	5,218
22		Research	1960	1996	1	1,474
30		Research	1960	1995	1	1,540
88		Office Trailers	1986		1	12,000
X1		Child Care Trailer	NA		1	1,990

Two buildings are considered historically significant including the main hospital building and a boiler plant, both constructed in 1943. These buildings are not listed on the National Register for

³⁰ Buildings, Quonset huts, sheds, and similar structure under 1,000 GSF have been excluded from this table.

Historic Places. Further research may be warranted to ascertain potential redevelopment complexities that may arise due to historic preservation issues.

Further description of non-mechanical buildings is provided below.

Building 1- Main Hospital

Originally built in 1943 and renovated in 1988, the main hospital is approximately 187,300 SF, totals six floors (including a basement), and is completely occupied. Numerous administrative and clinical functions are housed in this building including audiology, neurology, cardiology, endoscopy, ambulatory surgery, radiology, psychology, pulmonary, and respiratory care. This building has been identified as historically significant; however, it is not listed on the National Register of Historic Places.

Building 2

Building 2 is a five-floor (including a basement) structure that was built as a southern addition to the main hospital building in 1978. The building contains a total 150,800 SF of gross building area and is completely occupied. Building 2 houses an inpatient special care unit (SCU), close to 24,000 SF of surgical space, and other diagnostic and administrative uses.

Building 3

The most recent addition to the West Roxbury VAMC is the 149,300 SF Building 3 that was completed in 1989. The completely occupied three-floor building is connected to the main hospital on its northern side. The building houses administrative offices, the hospital canteen, some specialized surgery, clinical research, diagnostics, and primary and urgent care.

Buildings 20, 22 and 30—Research

Located to the east of Buildings 1, 2, and 3 is a 31,200 SF cluster of smaller one-floor buildings. Within this cluster there are three buildings entirely dedicated to research including Building 20 (built in 1950), Building 22 (built in 1960), and Building 30 (built in 1960).

Recent and Planned Capital Improvements

There are several recently completed, planned, or underway capital improvement projects at West Roxbury that include a planned ward renovation in the northern section of Building 1; completed upgrades to electrical systems and chiller replacement in Buildings 2 and 3; and a proposed \$7M replacement and consolidation of research Buildings 20, 22, and 30 into one 15,000 SF building.

Outleased Area

The West Roxbury VAMC does not support any revenue generating outleases for BHS. Two outlease spaces include the VA Credit Union in Building 1 and a 2,000 SF trailer housing a child care center. Given that all space on the West Roxbury campus is completely occupied, it appears difficult for the hospital to support additional outleases without consolidation of services.

Environment

Based on a review of available documents, database searches, and on-campus tours and interviews, the following statements, conclusions, and recommendations pertaining to the Boston study site are outlined.

Brockton

The Brockton VAMC may contain lead in the potable water and surface paint due to the age of the facilities, especially the buildings and structures built prior to 1978; however, this should be validated with further study. Asbestos was identified as being present for which abatement might be required in order to implement re-use options. Additionally, an Activity and Use Limitation (AUL) was implemented due to the existence of residual contaminated soil following a release of approximately 50 gallons of transformer (mineral) oil near Building 2 on October 27, 1994. The area on the AUL is probably limited to the transformer area.

The Federally designated wetlands near the Brockton VAMC should be taken into consideration during any re-use option development. Also, it should be noted that the Brockton VAMC is a short distance to a 100-year flood zone reported on the Federal Emergency Management Agency (FEMA) flood plain map. Finally, the Brockton VAMC is designated as a federal EPA Radon Zone 2 (moderate) for potential elevated indoor radon levels. Zone 2 counties have a predicted average indoor radon screening level between 2 and 4 pico curies per liter (pCi/L), which does not exceed the Environmental Protection Agency (EPA) action level of 4 pCi/L. However, radon is a potential problem at the Brockton VAMC.

West Roxbury

Two buildings or structures at the West Roxbury VAMC are listed as historically significant which should be considered in implementing any asset realignment. The campus may contain lead in the potable water and surface paint (LBP) due to the age of the West Roxbury VAMC, especially any buildings and structures built prior to 1978; however, this should be validated with further study. The asbestos-containing materials (ACM) surveys at the West Roxbury VAMC identified the presence of ACMs in the buildings and structures built in the 1950s. It may be necessary to conduct ACM abatement for any potential re-use consideration.

The West Roxbury VAMC discharges both sanitary and process wastewaters to the combined Massachusetts Water Resources Authority/Boston Water and Sewer Commission (MWRA/BWSC) sewage system. Although the West Roxbury VAMC is in substantial compliance with applicable wastewater regulations, the campus has unmet obligations concerning the storage of chemicals that could reach the sewer and posting requirements related to the permit.

The nearby Federally designated wetlands should be taken into consideration during any re-use option development. Additionally, the West Roxbury VAMC is a short distance to a 100-year flood zone reported on the FEMA flood plain map. Finally, potential soil contamination exists at the West Roxbury VAMC due to a release of diesel fuel in April 1999 and a second related release in December 2000

Jamaica Plain

The potential of soil contamination exists at the Jamaica Plain VAMC. An AUL environmental deed restriction for the Jamaica Plain VAMC was placed in the Suffolk Registry District of the Land Court to restrict the disposal site for more sensitive exposure uses, such as the following: a residence, vegetable garden, day care, school, or playground. The disposal site comprised areas of the parking garage, the clinic addition, and the diesel release area. The campus may contain lead in the potable water and surface paint due to the age of the facilities, especially any buildings or structures built prior to1978; however, this should be validated with further study. Although asbestos survey results were not available, ACM is a concern at the Jamaica Plain VAMC.

Bedford

The long history of the Bedford VAMC has qualified it as a cultural resource under the National Historic Preservation Act. There are 34 buildings that are "historically significant", and some buildings are still being used for patient care and use. Any asset realignment and re-use requires evaluation and considerations. The campus may contain lead in the potable water and surface paint due to the age of the facilities, especially in the buildings and structures built prior to 1978; however, this should be validated with further study.

The Bedford VAMC has removed and closed in-place 19 underground storage tanks (USTs). The Bedford VAMC must also upgrade or replace four 50,000-gallon tanks, which are now over 25 years old, to conform to design upgrade requirements. The ACM surveys in 1992 at the Bedford VAMC identified the presence of ACMs in the buildings and structures. It may be necessary to conduct ACM abatements at these buildings and structures, which are not yet abated, for any potential re-use consideration.

The subject property is not reported on the FEMA flood plain map. However, a 100-year flood zone is located approximately 0.25-mile east of the Bedford VAMC. No Federally protected wetlands are within a 1.0-mile radius of the Bedford VAMC; however, Spring Creek is just south of the campus. A locally designated wetland is west of the Bedford VAMC near the railroad.

There is a potential for the existence of soil contamination at the Bedford VAMC (such as the Bedford VA landfill and septic field) based on the existing data provided by VA and database searches. The entire county (including the subject property) is designated as a federal EPA Radon Zone 1 for potential elevated indoor radon levels. Zone 1 counties have a predicted average indoor radon screening greater than 4 pico curies per liter (pCi/L), which is EPA action level. Therefore, radon could be a potential issue.

Real Estate Market and Demographic Overview

Relevant demographic, economic, and real estate market analysis is summarized for each campus of the Boston study site.

Regional Demographic Overview

Population & Households

An overview of demographic trends in the greater Boston area, defined as the Boston New England County Metropolitan Area (NECMA)³¹, provides insight into changes in population and households that may affect all four of the VA hospital campuses. The estimated population of the Boston NECMA is 6,221,800 residents, an increase of almost 164,000 since the 2000 census. Population forecasts indicate that the area is expected to add another 167,000 residents by 2010. The rate of household formation has historically outpaced population growth, a trend forecast to continue through to 2010. This implies that household size is decreasing, and could be attributable to a combination of lower birth rates and an aging population.

Labor Force

As of year-end 2004, the Boston NECMA labor force is close to 3.3 million, with a 5% rate of unemployment, down 0.8 percentage points from 2003. This marks a departure from recent trends in the regional economy that experienced a steady increase in unemployment that began in 2000 when unemployment was at a 15-year low. On a less positive note, this improvement is in large part due to a shrinking labor force, with fewer people employed in the region today than in 1999. The number of people looking for jobs is still almost twice that in 2000, sending mixed signals about a regional economic recovery.

Geographic Definitions for Local Demographics

While it is critical to understand regional demographic and economic trends, the four campuses are located in diverse locations throughout the Boston NECMA and will therefore be influenced by local trends as well. The data presented in the following sections identifies key demand drivers affecting re-use potential for each campus and reflect county-level information. The following lists each campus and its respective county:

- Bedford Middlesex County (MA)
- Jamaica Plain Suffolk County (MA)
- West Roxbury Suffolk County (MA)

³¹ The US Census Bureau defines the Boston NECMA by the following counties: Bristol County (MA); Essex County (MA); Middlesex County (MA); Norfolk County (MA); Plymouth County (MA); Suffolk County (MA); Hillsborough County (NH); Rockingham County (NH); and Strafford County (NH).

 Given Brockton's location in Plymouth County and proximity to Bristol and Norfolk Counties, it is anticipated that economic and demographic trends affecting the three counties will influence re-use potential at the campus.

Data and discussion on real estate market conditions will reflect geographies relevant to each use type, ranging from the relevant neighborhood, town, or city for residential uses, to clustered submarkets for commercial uses that may include more than one municipality or county.

Real Estate Overviews and Market Demand Drivers

To the extent that the information was made readily available, this section provides insight into real estate market conditions that would affect near term re-use options. Team PwC cautions that real estate is an extremely volatile industry and current market conditions could be influenced by a variety of financial and economic factors that would affect potential re-use opportunities at the four study sites.

Growth and sustainability in the markets for the various land uses considered as re-use options for the four VA hospital campuses will be driven by a variety of demographic and economic factors. Many of these factors will influence markets for more than one type of land use (e.g., employment growth will spur demand for office space as well as new housing for employees working in new buildings). However, for the purposes of this study, we concentrate on those market demand drivers most commonly associated with each type of land use.

Market Rate Residential

Real Estate Market - National Trends

According to the National Association of Home Builders (NAHB), housing has led the nation's economic expansion for the past three years, with the production of housing and the value of housing services accounting for more than 16% of national gross domestic product (GDP). NAHB and National Association of Realtors (NAR) economists forecast that long-term interest rates will remain around 6% to 6.5% in the near term, fueling continued demand for owner-occupied housing.

Bedford

Trends in the volume of market activity, the number of annual home sales, indicate that an average of 200 housing units are sold per year in Bedford, with single-family detached homes accounting for approximately two-thirds of total sales volume. Sales volume peaked in 1995 when 278 units were sold. Market activity remains strong as 209 and 219 units were sold in 2003 and 2004, respectively. An overwhelming majority of the housing stock built in the last five years were Colonial-style, single-family detached homes that range in size from 2,600 SF for a three bedroom unit to 3,900 SF for a home with five or more bedrooms. The majority of the new single-family homes contain four bedrooms and average 3,500 SF. Much of this development is occurring in high-priced subdivisions where the size of new homes dwarfs the town's historic housing stock.

Between 1990 and 2000, Middlesex County added .52 new housing units per new resident. The national and state benchmarks are 0.46 and 0.56, respectively, pointing to a relatively stable housing market that is neither undersupplied nor oversupplied.

Affordable housing is a top priority of the Town of Bedford. The Bedford Comprehensive Affordable Housing Plan states that in the Commonwealth of Massachusetts, if a municipality has less than 10% of year-round occupied housing set-aside for low-income residents, according to a Commonwealth standard, it is not meeting the need for affordable housing. Not meeting this standard can result in a state override of local zoning, and if a developer opts to provide affordable housing through the state-run Chapter 40B permit process, projects can achieve higher densities than allowed under local code. A proposed 60-unit SRO facility for Building 5 of the Bedford VAMC would help the town achieve the mandated 10% affordable housing requirement. Furthermore, it is anticipated that any residential development that would potentially occur at the VA campus under a re-use scenario would require an affordable component, built either on- or off-campus.

Middlesex County added over 42,000 households between 1990 and 2000. According to ESRI Business Solutions, between 2000 and 2010, another 22,500 households are expected to be added in Middlesex County. At an average annual growth rate of 0.4%, this represents a much slower rate of household formation than that experienced during the previous decade (0.8%). Between 2000 and 2010, the county will have to add 2,600 new for-sale housing units on an annual basis to accommodate forecast demand. Meanwhile, countywide demand for rental units is expected to decrease, requiring 360 less units per year.

Brockton

An average of approximately 2,000 housing units are sold per year in Brockton, with single-family detached homes accounting for slightly more than half of total sales volume. Sales volume reached a record high in 2004 when 2,150 units were sold. This marks the first time in the past 15 years that sales volume surpassed 2,000 units. Approximately 75% of the housing stock built and sold in the last five years was single-family detached homes, ranging in size from 980 SF for a three-bedroom split level unit to 2,300 SF for a four-bedroom colonial. Sales prices for newer single-family houses (i.e. built in the last five years) range from \$207,000 for an average split level home, \$235,500 for an average raised ranch, and up to \$333,500 for a colonial-style home. On a per SF basis, this translates into a selling price of approximately \$150 to \$210 per SF.

Between 1990 and 2000, the Greater Brockton Area added .54 new housing units per new resident. Based on the national and state benchmarks of 0.46 and 0.56, respectively, historic housing supply growth in the three counties comprising this area appears to have been adequate. As housing continues to become prohibitively expensive in the northern part of the Boston region, households have begun to migrate south in search of cheaper accommodations. Assuming that this trend continues, the current rate of residential construction will have to increase in order to meet new housing demand and sustain relatively affordable prices.

The number of households in the Greater Brockton Area increased by over 58,300 between 1990 and 2000. According to ESRI Business Solutions, between 2000 and 2010, another 46,200 households are expected to be added to Middlesex County, translating into an average annual growth rate of 0.7 %. The rate of household formation in these counties south of the City of Boston is significant when compared to Middlesex County (north of Boston), which is forecast to add new households at annual average rate of only 0.4 %. Historic tenure data indicates that between 2000 and 2010, the Greater Brockton Area will have to add 3,900 new for-sale housing units and an additional 721 rental units on an annual basis to accommodate forecast demand.

In terms of the rental market, the 2000 US Census indicates that there were 15,290 rental units in Brockton (45% of the total housing stock). Census data also shows that 70% of these units are located in buildings with fewer than ten units. Asking rents have been increasing at an annual rate of 4.6% over the past five years, faster than the Boston region and nation as a whole. However, rent growth has tapered significantly, increasing by 0.3% between 2003 and 2004.

Between 2000 and 2004, the five-year average multifamily vacancy rate is reported at 3.2%. As a result of new supply coming online, coupled with renters taking advantage of historically low interest rates to purchase homes, multifamily rental vacancy has since increased to 7% as of the first quarter of 2005.

While the City of Brockton already meets its state-mandated affordable housing quota, the Brockton Housing Partnership, a coalition of local banks and lenders, seeks to maintain an inventory of affordable homes for low-to-moderate income households. Much of the Partnership's current efforts are focused on revitalizing downtown Brockton. Still, it is possible that a residential project at the VA campus could have an affordable component, although it would not necessarily be required.

Jamaica Plain

Suffolk County permitting data reflects recent strength in the housing market, with an average of 1,016 units permitted annually since 2000. The past two years have been particularly robust, as the number of multifamily units permitted in 2003 was three times greater than in 2000. Single-family permitting has remained relatively flat, averaging around 100 units per year. Between 1990 and 2000, less than 0.2 residential building permits were issued per new resident, as compared to the national and state benchmarks of 0.46 and 0.56, respectively. In order to house new residents in a city where there is little land available for new home construction, existing sites could potentially be redeveloped with medium- to high-density multifamily projects.

Since 2000, median home sales prices in Jamaica Plain have increased at an average annual rate of 13.1%, as compared to 4% in the 1990s. Multifamily condos have led pricing growth, with median sales value increasing at an average annual rate of 15.6%. As the Jamaica Plain neighborhood continues to revitalize and attract new residents, sales volume has steadily increased since the 1990s, and in 2004, 747 homes were sold. Condo units have become increasingly popular, representing over two-thirds of 2004 total sales volume. Townhouses and condos account for nearly 90% of the housing stock built and sold in Jamaica Plain in the last five years.

In a neighborhood where the median sale price for all types of homes was \$101,000 in 1994, property values have soared, with the median sales price reaching \$359,900 in 2004. While single-family homes continue to command the highest prices, condos have experienced far greater appreciation, with a 583% increase in median sale price between 1994 and 2004. New single-family houses, while rare, command the highest sales prices in the neighborhood, ranging from \$422,000 for a three-bedroom home, and up to \$770,000 for a four-bedroom home. Townhouses sell at the second highest price, averaging \$444,000 per unit. The average condominium unit sells for \$338,000 to \$344,000.

In terms of the rental market, the 2000 US Census indicates that 70% of the housing units in Jamaica Plain are renter-occupied (out of a total 16,117 units). Census data also shows that one-third of neighborhood rental units are in buildings with three to four units ("decker" buildings), and another 20% are found in larger multifamily buildings (50 or more units). According to Reis Reports, Inc. Boston currently achieves a citywide average asking rent of approximately \$1,380, with a range of \$1,100 to \$1,600. Asking rents have been increasing at an annual rate of only 2.3% over the past five years, reflecting a relatively soft rental market. However, vacancy rates remain low and currently stand at 4.4% as of the first quarter of 2005. Conversations with the Boston Redevelopment Authority indicate that any residential project built on the Jamaica Plain campus would have to be 15% affordable.

Between 1990 and 2000, Suffolk County added 15,300 new households. ESRI Business Solution household formation forecasts indicate modest household growth, with the county expected to add less than 3,500 householders between 2000 and 2010. Assuming historic tenure data remains relatively consistent, it is anticipated that Suffolk County can support up to 350 new residential units annually, of which 300 units would be for-sale and the remaining 50 rentals. Team PwC believes that additional demand could be induced if a sufficient quantity and quality of housing were introduced to the market.

West Roxbury

Suffolk County permitting data reflects strength in the multifamily market, with an average of 1,016 units permitted annually since 2000. The past two years have been particularly robust, as the number of multifamily units permitted in 2003 was three times greater than in 2000. Single-family permitting has remained relatively flat, averaging around 100 units per year.

West Roxbury reports similar growth in home sale prices as Jamaica Plain, increasing at an average annual rate of 12.5% since 2000. Again, multifamily condos have led pricing growth, with median sales value increasing at an average annual rate of 14.6%. Between 500 to 600 homes are sold per year in West Roxbury, and unlike in Jamaica Plain, this been a relatively consistent

³² A "decker" style building is a housing type found throughout Boston consisting of two or three stacked units in a brownstone building, offering units ranging in size from 1,000 SF for a one or two-bedroom unit to 1,300 SF for a three-bedroom.

³³ Provider of real estate data, analytics, trends, and news for residential and commercial properties in U.S. metropolitan areas.

trend since the mid-1990s. Approximately half of the units sold annually are single-family homes, another one-third condo units, and the balance consisting of other unit types (e.g., townhouses and row homes). Townhouses and single-family units are the most common new construction units, representing 85% of the homes built and sold in West Roxbury in the last five years.

West Roxbury home sale data indicates that the neighborhood, while located in Boston, is more affordable than areas closer to the central business district (i.e., Jamaica Plain). Median sales prices in 2004 for single-family homes and condos were \$415,000 and \$233,000, respectively. New single-family homes command the highest prices in West Roxbury, ranging from \$475,000 to \$555,000. This represents a significant premium over townhouses and condos, which on average sell for \$375,000 and \$345,000, respectively.

As of the 2000 census, only 30% of the 11,925 occupied housing units in West Roxbury are rented. The majority of the neighborhood's rental units are located in small buildings (less than ten units) or single-family homes. Given the general softness in the Boston rental market, it is unlikely that a private developer would consider a major rental residential project in a neighborhood that is predominantly owner-occupied.

Senior Housing

Real Estate Market - National Trends

Senior housing trends nationwide are increasingly positive. Research from the National Investment Center (NIC)³⁴ indicates that 2004 occupancy rates for the major types of senior housing (independent, assisted living, nursing home, and continuing care retirement communities (CCRCs)) range from the high 80s to the low 90s. Research conducted by national real estate investment firm, Marcus & Millichap, shows even greater demand for independent senior housing in the Northeast where occupancy rates reached 96% in 2004, the highest in the nation.

Investment trends are also favorable for most types of senior housing, with cap rates decreasing and per unit sales prices increasing for independent living facilities, assisted living facilities, and nursing homes. Given the significant presence of non-profit operators, investment trends remain flat for CCRCs.

Bedford

Between 1990 and 2000, the senior population in the county increased by only 6,200, with all of the growth driven by those over the age of 70. Forecast growth of the senior population indicates a significant "graying" of Middlesex County, with an expected 23,000 additional seniors living in the area by 2010. This represents an average annual growth of 0.9 % between 2000 and 2010, a rate more than three times greater than that experienced between 1990 and 2000. Much of this growth is attributable to the aging baby boomers, as the population between 60 and 64 years of

³⁴ The National Investment Center (NIC) for the Seniors Housing & Care Industries is a non-profit entity that "facilitates efficient capital formation for the seniors housing and care industries through research, networking, and providing business and financial information."

age will increase at an average annual rate more than twice the rate for the entire senior population. Another fast growing segment of senior population are residents 80 years of age and older. This suggests that senior living facilities offering long-term care will be in greater demand.

The Bedford Comprehensive Affordable Housing Plan identifies two senior facilities located in the town. Ashby Place is an 80-unit senior housing project managed by the Bedford Housing Authority that caters to low-income seniors and handicapped individuals of all ages. There was a waiting list of 25 applicants at the time the Comprehensive Affordable Housing Plan was published. Carleton-Willard Village, the other option for senior housing in Bedford, is a self-managed, not-for-profit seniors complex that offers a range of accommodations including, independent living, assisted living, skilled nursing and rehabilitation, and Alzheimer's and Related Dementia. Units at Carleton-Willard Village are in high demand with a reported two-year waiting list.

The propensity of a senior to live in some type of senior housing is highly correlated with age. National Investment Conference data shows that only 1.9 % of the national population between the ages of 60 and 64 live in senior housing; this figure increases to approximately 11% for the population 85 years of age and older. The implications for senior housing demand are important, as different age cohorts will require various levels of service. While few 60-to-64-year olds will choose to live in senior housing, it is likely that they will seek proximity to amenities as opposed to healthcare services. Therefore, this segment drives demand for independent living communities that offer outdoor recreation, on-site shopping, and other activities. As the senior population ages, demand for assisted living and long-term care facilities increases.

If Middlesex County seniors choose to live in senior housing at the national average rate, the region will require 99 new senior units annually. Demand is particularly strong in the age 80 and above segment, indicating scope for the development of new assisted living, skilled nursing, or CCRC facilities.

As previously noted, Hearthstone Associates proposes to develop and operate an 80-bed Alzheimer's Assisted Living Community on VA owned land. The terms of the ground lease have not been decided, but it is likely that VA will be compensated through a mix of annual ground rent payments and in-kind services. Team PwC believes that this is a viable use for the Bedford campus and should be considered as part of the redevelopment program for any re-use option. Of the four campuses, Team PwC believes that senior housing will most likely be a primary re-use candidate for Bedford. However, it is possible that senior housing could potentially be a small component of a larger housing program at the other three campuses under consideration.

Retail

Regional Overview

The Boston NECMA retail market is focused in part on the continued success of urban shopping districts, such as Boston's Newberry Street, and Cambridge and Harvard Squares in Cambridge.

Various types of suburban retail concentrations have evolved in places north and south of Boston, with lifestyle projects such as the Derby Street Shoppes in Hingham (430,000 SF); brownfield redevelopment projects such as the Gateway Center in Everett (643,000 SF); and more traditional shopping centers like the Shoppes at Blackstone Valley in Milbury (775,000 SF) having been developed since 2000.

Since 2000, close to 11.8 million SF of retail space has been added or renovated in the Boston NECMA, of which nearly 22% is attributable to retail projects in Middlesex County. Retail centers in the counties comprising the Greater Brockton Area (Bristol, Norfolk, and Plymouth) account for an additional 4.5 million SF (38%) of new supply.

Brockton

According to CoStar Group Inc., a nationally reputable provider of commercial real estate market data, the Brockton VAMC is located in the Route 24 retail submarket. The submarket consists of over 5.6 million SF of retail space, and offers a diverse range of shopping experiences from small convenience centers (under 30,000 SF), to massive regional malls, such as the 713,000 SF Westgate Mall in Brockton.

Demand for retail space is driven by the demand for retail goods. As retail sales increase, stores typically expand and open new locations. The US Economic Census provides insight into retail sales volume for the Greater Brockton Area. Between 1997 and 2002, total sales volume in the three counties increased from \$19.1 billion to \$24.6 billion, representing an annual average sales growth of 5.3 %. With regional inflation reported by the US Department of Labor, Bureau of Labor Statistics to have been around 3.2 %, this translates into real sales growth of approximately 2.1 %.

This level of sales growth could be sufficient to support 1.5 million to 2.2 million SF of new / existing retail space per year from residents in the three counties. This is slightly higher than the recent supply growth of approximately 1.1 million SF of new retail space per year. Within this context, the market could support a large regional level-retail package. However, the ability to achieve this type of retail project at the Brockton campus is severely limited by its proximity to the 713,000 SF Westgate Mall.

Overall vacancy in the Route 24 submarket is only 3.4%, reflecting a very healthy retail environment. Convenience-oriented centers report the highest level of vacancy of just over 10%. Many of the convenience-oriented vacancies are located in older buildings, and may not accurately reflect the convenience market segment. Retail leases in this submarket are generally triple-net ³⁵, and range from \$12 to \$22 for space in a smaller shopping center.

The Brockton VAMC is in close proximity to such centers, including a 24,400 SF center at 1285 Belmont Street that offers a Bertucci's Pizza, Starbucks, H&R Block, a tanning salon, and a Wells

³⁵ A lease where the tenant is solely responsible for all of the costs relating to the asset being leased. Examples are utilities, insurance, taxes, and maintenance costs.

Fargo Bank. Despite the center's age (built in 1965), the average rent reported for 1285 Belmont is \$21.50 per SF. Given the campus's street-level visibility and accessibility, a small pad-site fronting Belmont Street would be ideal for food-oriented convenience retail.

Jamaica Plain

The Jamaica Plain campus is located in the CoStar-defined Roxbury/Dorchester retail submarket. There are 33 shopping centers comprising a total of 1.2 million SF of space, including the 450,500 SF South Bay Center in Dorchester. Most of the retail within immediate proximity to the hospital is located to the south on Centre Street. Given that the CoStar data only captures stores located in shopping centers, and not necessarily street-level establishments typical of denser urban environments, Team PwC believes that the data underestimates the size of the retail inventory in this submarket. Further research is required to determine the amount of street-level retail around the Jamaica Plain campus.

During the five-year time period, retail sales volume in Suffolk County increased from \$6.2 billion to \$7.8 billion, translating into an annual average sales growth of 4.5%. In terms of real dollars, retail sales increased by only 1.3%. Extrapolating this growth, Suffolk County could potentially accommodate 310,000 SF to 430,000 SF of new / existing retail space per year, well above recent annual supply growth of approximately 145,000 SF.

Current submarket vacancy, estimated at 3.7%, is indicative of a healthy retail market in the Roxbury/Dorchester area. However, it should be noted that much of the submarket's vacancy is concentrated in convenience-oriented centers that contain almost 75% of dark space. Retail leases in this submarket are generally triple net, and range from \$18 to \$22 for space in a smaller shopping center. When combined with a demand-inducing use, such as housing or office space, a retail component could be envisioned at the Jamaica Plain campus. Team PwC envisions a minor retail component where one or two convenience-oriented tenants occupy ground floor space in a redeveloped Building 1.

West Roxbury

The West Roxbury campus is located in the CoStar-defined South Suffolk retail submarket, which contains 33 shopping centers and close to 605,000 SF of store space. Convenience centers are the predominant type of shopping center, representing 27 of the total centers. Most of the establishments located on Spring Street and the VFW Parkway are food and convenience oriented, indicating limited co-tenancy potential with comparison retail (i.e., apparel, home furnishings, etc.).

Relative to other Boston-area submarkets, South Suffolk reports a high vacancy rate of 14.3%, with convenience-oriented centers reporting a particularly high vacancy rate of 28.3%. Retail leases in this submarket are generally triple-net, and appear to range from \$15 to \$20 for space in smaller shopping centers. While the retail market in the immediate submarket is softer than those surrounding Jamaica Plain and Brockton, a convenience-based retail component anchored by a drugstore or similar tenant would complement a redevelopment project with a heavy emphasis on housing. Of the two VA hospitals located in the City of Boston, West Roxbury's campus

configuration suggests that it is more appropriate for a neighborhood-level retail package of approximately 50,000 SF.

Commercial Office

Regional Overview

The office market in the Boston Region (defined as all NECMA counties, excluding Strafford County, NH) includes 292 million SF of space in over 6,800 buildings. The overall Boston office market turned in a positive performance through to the second quarter of 2005, posting net absorption of 1.9 million SF. Historically (Q4 2000 through to Q4 2004), average absorption has been negative, with close to 180,000 SF of unoccupied space entering the market annually. The vacancy rate in Q2 2005 of 13.2% remains unchanged from Q4 2004, a sign of increasing stability in the Boston office market.

Approximately 45% of the office space in Boston is located in 723 Class A buildings. As of Q2 2005, average asking rents for Class A space was \$28.58 per SF, compared to \$19.41 for Class B space and \$16.92 for Class C space. The average asking rent across all three types of office properties remains \$10 below peak asking rents in 2000 of over \$33 per SF. While rents are higher for Class A space, so was the overall vacancy rate (16.92%), as compared to Class B (12.9%) and Class C space (6.1%). Furthermore, building size varies drastically across class segment, with the average Class A building reported at approximately 180,000 SF, the average Class B building slightly less than 43,000 SF, and a typical Class C building only 15,000 SF.

Brockton

Research into employment sectors that typically use office space in the cluster of submarkets surrounding the City of Brockton³⁶, including professional services, public administration, real estate, information services, and finance and insurance was significant. According to the Boston Metropolitan Area Planning Council (MAPC), finance, insurance and real estate (FIRE), services, and government sectors combined added over 7,700 jobs between 2001 and 2005, and are forecast to add almost 9,300 jobs over the next five years. Assuming industry standards for the amount of office space each employment sector requires, this growth curve would point to demand for approximately 180,000 SF of new and existing office space per year across the nearby office submarkets.

In order to analyze the market for office space at the Brockton VA campus, Team PwC focused on a smaller geographical market area, referred to as the competitive office submarket. Several factors were considered in defining the competitive office market for the project site: office product type (distribution of Class A, B, and C buildings and layouts), existing tenants by major industry type, labor supply area, transportation corridors and commuting patterns. Based on

³⁶ The Brockton employment region includes the following towns and cities: Abington, Avon, Braintree, Brockton, Canton, Cohasset, Dedham, Hanover, Hingham, Holbrook, Hull, Marshfield, Milton, Norwell, Norwood, Quincy, Randolph, Rockland, Scituate, Sharon, Stoughton, Westwood, and Weymouth.

these factors, Team PwC concluded that the Route 24 submarket, as defined by CoStar Group, Inc, is most appropriate for the Brockton campus.

The Route 24 submarket represents over 3.1 million SF of office space, or slightly more than 1% of the total Boston Area office inventory. In the fourth quarter of 2004, the submarket did not fare as well as the overall Boston office market. Vacancy rates were close to 14.5% in the Route 24 submarket, compared to 13.7% for all of Boston. Absorption in the competitive office market was a negative 127,000 SF through to Q4 2004. Performance as of Q2 2005 in the Route 24 submarket was much improved over 2004. Vacancy rates were just over 13.6%, down by almost one-percentage point from Q4 2004. Absorption through to Q2 2005 improved over 2004, reported by CoStar Group at approximately 28,000 SF.

The submarket is comprised mostly of Class B and Class C buildings, which represents 41% and 50%, respectively, of total submarket inventory. As of Q2 2005, rents for Class A buildings in the submarket were \$19.65 per SF, over \$8 lower than the overall Boston Class A average rent, where premiums are driven by higher value office sites in downtown Boston. Competitive market Class A vacancies were notably high, reported by CoStar Group at 30.4%, almost 15% higher than the overall Boston Class A market.

The office market south of Boston, particularly in the Route 24 submarket, remains soft with vacancy rates in the mid-teens and rents below their peak rates of the late 1990s. Given current market conditions, it is unlikely that the Brockton campus would lend itself to a pure speculative office development. However, Team PwC envisions a small office component for the campus if it were part of a larger, mixed-use project that incorporated other commercial and industrial uses in a campus-like setting.

Jamaica Plain

Office using employment trends in the City of Boston, and to a lesser extent, Brookline, show that the FIRE, services, and government sectors combined added approximately 6,400 jobs between 2001 and 2005, and are forecast to add almost 10,600 jobs over the next five years. Much of the forecast employment growth is in the services sector, which of the three office using employment sectors requires the least amount of office space. As a result, it is anticipated that the City of Boston's office market can support 123,000 SF of new and existing office space per year.

Team PwC has determined that the most appropriate office submarket for the Jamaica Plain campus is defined by CoStar as the Roxbury/Dorchester submarket area. The Roxbury/Dorchester office submarket consists of 60 buildings containing over 2.6 million SF of building area. The submarket vacancy rate has remained below 5% since 2000, and is currently reported at 1% as of 2Q 2005, indicating a very tight supply. Net absorption in the submarket has been positive since the end of 2000, with 396,000 SF absorbed in 2004. Roxbury/Dorchester has been averaging 117,000 SF of net new demand annually.

Office square footage is generally distributed uniformly across the three major classes of buildings, with each class type comprising 30% to 35% of the total submarket inventory. While

there is no available data on Class A rents, overall average asking rent in the submarket is \$24.28, over \$1 higher than Q4 2004, and almost \$6 higher than Q4 2002 when asking rents were at a five-year low. Meanwhile, asking rents in the overall Boston office market are only \$0.30 higher than the five-year low.

Team PwC believes that the greatest re-use opportunity for the Jamaica Plain campus is the redevelopment of the main hospital (Building 1) as either commercial or residential. Market fundamentals in the Roxbury/Dorchester submarket suggest that there may be scope for new office development. However, the conversion of Building 1 into commercial office space would flood the market with an additional 600,000 SF of space. Given the significant amount of available space in existing buildings (over 38 million SF) in the Boston region, it would take several years to absorb a project of this scale. Near term market conditions indicate that residential is a more appropriate use of Building 1.

Light Industrial

Regional Overview

For the purposes of this study, light industrial market analysis focuses on flex space (use type requiring a significant amount of office space in addition to an assembly area) and warehousing and distribution facilities. The Boston area flex market comprises approximately 115.4 million SF in 2,125 buildings. Overall vacancy remains high at 18.6%. A healthy flex market would report a vacancy rate between 8% and 10%, at the highest. Positive net absorption of 1.4 million SF in 2004 indicates the beginning of a recovery that may increase overall occupancy and spur new construction.

Triple-net asking rents currently average \$9 per SF. There is a significant premium for locations north of Boston, where average asking rents are reported to be closer to \$20 to \$25 per SF. From an occupancy perspective, Boston's warehouse and distribution market is performing better than the flex market, reporting a vacancy rate of 14.8%. However, the asking rent for warehouse and distribution space is much lower than flex, averaging only \$5.58 per SF.

Brockton

Boston MAPC employment projections indicate that typical employment sectors using light industrial space (manufacturing, transportation, communication, and public utilities (TCPU), and wholesale trade) experienced modest job growth between 2001 and 2005, adding only 880 jobs between 2001 and 2005. Employment forecasts for these sectors show a reversing trend, with a decrease of 890 jobs over the next five years. However, the forecast decline in employment in these sectors is misleading, and does not necessarily correlate with future demand for light industrial space. Fewer workers are required to make more products due to productivity gains.

Similar to the office market, the Brockton campus is situated in the Route 24 light industrial submarket, as defined by CoStar. The Route 24 flex market consists of 32 buildings comprising over 1 million SF of space. Over the past five years, submarket vacancy was highest in 2002, reaching a rate of 15.4%, but has since shown steady improvement and is reported at 8.5% as of

Q2 2005 – almost 10% lower than the vacancy rate for the entire Boston flex market. Available space continues to be leased, with net absorption showing positive gains since 2003.

Increasing demand for flex space has had a positive effect on asking rents, which increased to \$9 per SF in Q2 2005, up from \$8.60 per SF at the end of 2004. A closer review of the submarket reveals that newer space located in buildings with immediate highway access achieves rents closer to the \$10 to \$12 per SF range.

The Route 24 warehouse and distribution market is relatively soft compared to the flex market, with over 1.3 million SF of vacant space (out of a total 8.4 million SF), representing a vacancy rate of almost 16%. During the first half of 2005, the market has begun showing signs of improvement, with 366,000 SF of net new absorption. Asking rents are also improving and currently stand at \$5.15 per SF. Modern buildings that offer higher floor heights (16 feet and over), greater column spacing, and more efficient loading areas command a significant rent premium, increasing rents by \$7 to \$10 per SF in some parts of the Route 24 submarket.

Developers are looking to areas south of Boston for cheaper land to build horizontal products such as flex and warehouse. Brockton's significant land bank, proximity to major highways, adjacency to existing light industrial uses, and relatively cheap land suggests that a flex office/industrial park is an ideal re-use candidate for the campus. Given the space needs of a contemporary warehousing operation, an appropriately configured warehouse facility would also be a viable re-use option, despite an apparent softness in the market.

Hospitality

Regional Overview

The Boston hotel market, defined by PKF Consulting as the Boston NECMA region, consists of 63,498 rooms in 226 properties. Approximately 71% of the rooms are found in full-service hotels, which are properties that offer a complete amenity package including food and beverage service, meeting space and a concierge, among others. This type of hotel typically appeals to business travelers. The remaining rooms are located in hotels classified as limited-service that offer few amenities and appeal to the more budget conscious leisure traveler.

Key market performance highlights from the *Summer2005 Boston Hotel Outlook Report*, prepared by PKF Hospitality Research and Torto Wheaton Research should be noted. In particular, occupancy rates for all property types have begun to recover from the recent national downturn in the hospitality industry. 2004 occupancy for full-service hotels was reported at 66%, up from 61.2% in 2003. Limited-service hotels experienced a more modest improvement, with a 2004 occupancy rate of 60.6%, as compared to 58.2% in 2003.

Additionally, average daily room rates have also shown improvement, with full-service rates increasing from \$129.31 in 2003, to \$136.35 in 2004, a 5% improvement. Limited-service hotels also achieved higher daily room rates in 2004, reported at \$77.34, a 3% increase over the 2003 daily room rate of \$75.26.

Finally, the combined improvements in occupancy and room rates across all hotel segments indicate a sustainable turnaround in the Boston hotel market. PKF and Torto Wheaton market demand forecasts support this trend, as the number of annual room nights are expected to increase at an annual average rate of 2.7% for full-service properties and 3.2% for limited-service properties, respectively.

Overnight travel to Boston and the surrounding region is the primary hotel demand driver. Visitation data from the Greater Boston Convention and Visitors Bureau indicates that travel to the region has been steadily increasing since 1999, when an estimated 14.6 million visitors arrived in the area. Since then, an average of 350,000 new visitors travel to the Boston region each year; total annual visitors for 2005 is expected to reach over 16.7 million. Between 1999 and 2004, the leisure segment led the growth in overall area visitation.

Looking forward, in the near term it is anticipated that the recent opening of the Boston Convention and Exposition Center will result in business travelers driving future visitor growth. The local hospitality industry is prepared to accommodate this expanding segment, as a number of large-scale hotel projects have been built, are under construction, or are planned for development over the next few years. Market timing would be a significant hurdle preventing new hotel development at either the Brockton or Jamaica Plain campuses.

Brockton

Historically, hotels to the south of Boston have benefited from proximity to several major companies including Reebok International (Canton), MediTech (Westwood), FM Global (Norwood), and Analog Devices (Norwood). Some of the hotels in the Brockton area also cater to leisure and business travelers seeking an alternative to higher-rated hotels in Boston. While it is reasonable to assume that some room night demand would be generated by businesses and destinations in Brockton and Plymouth County, the potential for a hospitality use at the Brockton VA campus will likely be influenced by pricing and occupancy trends throughout the Boston region.

According to PKF, Brockton is located in the South submarket of the greater Boston hotel market, which includes hotels closer to Boston in Randolph, Braintree and Dedham. This submarket generally performs below the Boston market average in terms of both occupancy and room rate. There are close to 1,400 hotel rooms under construction or planned in the South submarket, which should place further downward pressure on the performance of existing properties.

Although the Brockton campus has great access to the regional highway network, its distance from a major employment or entertainment center suggests that hotel development may be premature for the campus, especially given the amount of new supply scheduled to come online in the competitive submarket. To the extent that future market conditions can support a large-scale office park or industrial complex at the campus, a business hotel would be an appropriate complementary use.

Jamaica Plain

Jamaica Plain is located in the southernmost portion of the Downtown/Airport hotel submarket, the largest in the Boston market area, comprising over 16,500 limited and full-service rooms. According to PKF, the Downtown/Airport submarket has historically been the top performer in the Boston area in terms of rate and occupancy. Demand is fueled by proximity to Logan International Airport, the downtown business district, Boston's many tourist attractions, and major universities as well as the Boston Convention and Exposition Center that opened in 2004.

As a result of the new Boston Convention and Exposition Center, several convention center hotels are currently under construction or planned in the Downtown/Airport submarket, including the 790-room Westin Boston Convention Center Hotel. A total of 2,242 rooms are scheduled to be complete in the next two to three years, affectively increasing room inventory by over 13%.

Given the lack of major supporting commercial or retail uses around the South Huntington Avenue and Heath Street intersection, as well as its proximity to hotel concentrations in the downtown area, initial prioritization of a hotel would be difficult. Looking to the long term, as the immediate submarket adjusts to a substantial increase in room inventory, Team PwC could envision a smaller hotel project built as part of a mixed-use re-use plan for the entire campus.

Re-Use Opportunities and Challenges

Team PwC considered the presence and strength of key market demand drivers for specific uses, as well as the appropriateness of the campus (i.e., size, configuration, access, visibility, etc.) to accommodate such uses in developing re-use options. Regulatory constraints were not addressed in the Stage I assessment of the re-use potential. Discussions of regulatory constraints and interested third parties will be addressed in Stage II as applicable. The results of this analysis, including specific opportunities and challenges for each of the campuses of the Boston study site, are described below.

Bedford

Re-use of the Bedford campus is limited by two main factors: 1) Springs Road is a narrow two-lane road with insufficient capacity to accommodate land uses requiring street-level visibility and heavy traffic; and 2) land adjacent to the VAMC is primarily dedicated to wetland preserves and low-density single family housing, both of which are incompatible with commercial or industrial uses that generate high traffic volume, harmful emissions, or other disturbances. Due to current zoning and surrounding areas, low-density residential development becomes the most viable reuse option, and eliminates such re-use options as light and heavy industrial uses, and commercial uses such as retail and office space, as well as any type of hospitality use.

Existing site characteristics suggest that residential development (i.e., market rate, affordable, and senior) is the most appropriate re-use option for the VAMC. However, it should be noted that residential uses are generally incompatible with the delivery of healthcare services and would require sufficient buffering from remaining medical facilities if campuses were to be

partially re-used. The marketability of a residential project will be severely limited by close proximity to healthcare and related uses. Residents typically associate healthcare uses (either real or perceived) with noise, traffic, and hazardous materials. This sentiment is typically stronger in a community that attracts families with children, such as Bedford.

Additional uses that are compatible with healthcare could be appropriate for re-use. These include an SRO facility, auxiliary classroom space for Middlesex Community College or other educational institutions, and research labs similar to those found in Building 70. It is anticipated that these uses would occupy vacated space in an existing building and, therefore, would be appropriate for re-use options that partially vacate medical buildings. Based on current outlease agreements supported at the Bedford VAMC, it is anticipated that these uses of partially vacated buildings would only generate a marginal amount of income for VA.

Another alternative re-use option would be for VA to donate land to the town of Bedford in an effort to preserve open space. VA has previously made such donations from the Bedford VAMC campus. This option would eliminate the cost of future maintenance of the property and facilities; however, it would not result in any additional re-use proceeds.

Opportunities

As indicated earlier, the Bedford campus' primary re-use potential is for residential development, specifically for-sale housing. Although rental apartment re-use would generate annual income (e.g., from a ground lease), a for-sale project may better capture the campus's value. Adjacent single-family development surrounding the campus would provide positive reinforcement with an upper income redevelopment program.

The tabled deal with Hearthstone Associates to develop and operate an 80-bed Alzheimer's Assisted Living Community is not only consistent with VA's mission but would also help fulfill an increasing need for this type of facility in the Boston Metro Area. Team PwC understands that the facility is proposed for a parcel south of Building 17, on the western side of Springs Road, which is currently used for surface parking. However, it is recommended that the project be sited on the northeastern side of Springs Road where Buildings 12 to 16 now stand, taking advantage of better visibility from Springs Road and immediate access to open space. Also, if the need were to arise, the alternative location preserves the land south of Building 17 for future expansion of the hospital, adjacent to existing medical buildings.

Unused open space is plentiful at the Bedford campus, which would be beneficial in the development of either traditional residential or senior housing. Use of the golf course acreage for additional home lots would also generate more value.

It is anticipated that the town of Bedford, in its efforts to meet mandated affordable housing requirements, would require a potential developer to designate a number of housing units as affordable. Low density, multifamily rental properties would be the most appropriate approach to fulfill on-site affordable housing requirements.

Challenges

The Bedford VAMC is an old facility with 34 "historically significant" buildings on campus. There is a risk that any re-use option requiring the demolition of these buildings could evoke an historic/environmental review which could impact the re-use value of the campus. Expense would be associated with demolition and removal of asbestos or contamination from lead-based paints of these buildings.

A significant portion of the eastern side of the campus is dedicated to surface parking which limits maximum developable land area. An alternative location for parking should be considered in order to maximize the value of the 100 acres east of Springs Road. Given the limited amount of developable area on the western portion of the campus, this may require more expensive structured parking.

As the property is currently zoned Residence A (low density housing), a zoning change would be needed to support higher density residential development. Additionally, wetlands bordering the golf course could limit development potential on the easternmost portion of the campus. The campus gently slopes downward from Springs Road to the bordering wetlands, suggesting that protective measures such as an embankment would be required to mitigate runoff from new development.

As noted earlier, affordable housing requirements may adversely impact housing development economics. While it is likely that a combination of local, state, and federal money would be available to offset some of these costs, the process of obtaining project approval would still be timely and expensive. Also, should VA choose to divest the 54-acre golf course, the current agreement between VA and the USAF that grants Air Force personnel access to the course would need to be terminated.

The amount of land available for re-use at the Bedford campus suggests that any re-use option would be completed in phases under the guidance of a master redevelopment plan. This would increase a master developer's exposure to fluctuations in the market, and, as result, would increase land-carrying costs and reduce the amount a master developer would be willing to pay for the land. While a modified development approach (with the developer acquiring the property in several phases) would reduce developer risk, it would increase carrying costs for VA.

Brockton

The Brockton campus has a number of positive characteristics that make the campus attractive for private development including the following: proximity to major state highways, visibility from a well-trafficked road, campus access from roads to the north, south and west, established on-campus roads, a significant amount of land area, a relatively flat topography, and a variety of adjacent land uses that lend themselves to multiple re-use options. One of the few limiting campus characteristics is zoning. As the campus is currently zoned R-1-B-Single Family Residential (low density housing), it is anticipated that a zoning change would be required to maximize re-use potential.

Existing campus characteristics suggest that there is opportunity for a range of re-use options, including the following: residential development (i.e., market rate, affordable, and senior), retail, speculative office space, light industrial (flex, warehousing, distribution, etc.), and appropriately priced hospitality uses such as a limited service hotel. It should be noted that many of these uses, residential in particular, are generally incompatible with the delivery of healthcare services and, as a result, would require sufficient buffering from medical buildings in the case of partial re-use of the campus.

Similar to the Bedford campus, the additional uses would be appropriate for re-use, including an expanded McLean Hospital program, non-profit office space, and community facilities similar to the City of Brockton Emergency Center in Building 22. Again, it is anticipated that these uses would occupy vacated space in an existing building and, therefore, would be appropriate for re-use options that partially vacate medical buildings. Based on current outlease agreements supported at the Bedford VAMC, it is anticipated that these uses of partially vacated buildings would only generate a marginal amount of income for VA.

Another alternative re-use option would be for VA to donate land to the city of Brockton. VA has previously made such donations from the Bedford VAMC campus, as a 43-acre parcel to the southwest of the campus was released to the city of Brockton and has since been developed with commercial and light industrial uses. This option would eliminate the cost of future maintenance of the property and facilities; however, it would not result in any additional re-use proceeds.

Opportunities

Of the four study campuses, Brockton presents the greatest opportunity for VA to lease land to a developer and collect an annual ground lease payment. Flex, warehouse, and commercial retail are the most appropriate re-use options for the campus, and if the entire campus were made available for re-use, there is opportunity for a master planned office/industrial business park that combines all three uses in a state-of-the-art, mixed-use campus.

Forecasted growth in offices suggests that offices could be considered as a long-term priority since it would be a complementary use to a mixed commercial/industrial campus. If the campus develops into a regional employment center, there may be scope for a small, limited service hotel catering to on-site business visitors. As part of a master planned office/industrial campus, a hotel would come online in one of the later phases of the project. For-sale residential is a viable alternative to light industrial, commercial, and hospitality uses.

Challenges

Current zoning does not support the mix of land uses proposed for the Brockton campus. Either a new zoning district will need to be established, or the campus will have to be subdivided into separate lots and zoned accordingly. The campus's roads may need to be expanded to accommodate higher traffic volumes and larger vehicles associated with an office/light industrial park. If this requires rerouting the existing roads, the cost to do so could be very expensive. Additional off-campus improvements may also be required, such as traffic signals, signage, or

roadway improvements. Funding for these improvements could potentially come from public sources, but some developer contribution is likely.

An office/industrial park at the campus would not only compete for tenants within the Route 24 area but would also compete with similar projects in established areas north of Boston that are in proximity to a number of world-renowned research & development / technology firms and educational institutions. Landscaping and other amenities may become important in competition for tenants. Some flex and warehouse tenants prefer to own their buildings rather than lease space from a developer. Owner-occupied, built-to-suit light industrial developments would prevent VA from maximizing capital investment and utilization.

The amount of land available at the Brockton campus under a complete re-use option suggests that any project would be completed in phases and under the guidance of a master redevelopment plan. This would increase a master developer's exposure to fluctuations in the market and, as a result, would increase land-carrying costs and reduce the amount a master developer would be willing to pay for the land. While a modified development approach (with the developer acquiring the property in several phases) would reduce developer risk, it would increase carrying costs for VA.

Jamaica Plain

Jamaica Plain is a dense, urban campus with potential for a major urban infill project in a city where developable land is scarce and expensive. The campus's positive attributes include the following: proximity to downtown Boston and the Longwood Medical and Academic Area, access to light rail via the MBTA Green Line, location in a revitalizing neighborhood, oncampus structured parking, and potential to adaptively re-use the main hospital building. Development costs related to campus cleanup, adaptive re-use and the city of Boston's regulatory process could severely limit re-use potential of the Jamaica Plain campus.

Based on campus characteristics alone, the following three types of land uses represent the most significant opportunity for re-use: residential (for-sale or rental), speculative office, and a limited service hotel. An ancillary retail package would complement one of the three primary re-use options. As noted above, housing and hospitality uses are generally incompatible with healthcare services and, as a result, would require sufficient buffering from medical buildings in the case of partial re-use of the campus.

Another likely re-use option is a non-profit healthcare service provider (i.e., a university or public hospital). The terms of such an arrangement are difficult to quantify and could be influenced by many factors, but could potentially offer a competitive alternative to private sector development. It should be noted that the cost to modernize the facility to meet current healthcare standards or to replace the facility entirely may be prohibitively expensive and would deter a non-profit healthcare provider from considering the location for a new hospital.

Opportunities

Building 1 presents the greatest re-use opportunity for the Jamaica Plain campus. While the current market could support a number of uses, a residential condominium conversion would maximize the building's re-use potential. There is precedence for residential conversion of institutional buildings in the neighborhood as well as significant demand for for-sale housing. The building would also contain a service retail component on the ground floor, serving new condo residents and the surrounding neighborhood.

The area currently occupied by Building 9 also lends itself to residential development. This part of the campus is well removed from the main hospital facility and is adjacent to existing residential blocks. However, additional land area may be required for surface parking. Demolition of the aging building will be required to make room for what would potentially be a small, "decker" condominium project. Access to MBTA light rail is viewed as a top amenity for the campus and should drive price premiums for new condo units.

Current on-campus parking, structured and surface, should be able to accommodate some of the demand from a residential-based re-use program, although we anticipate that additional structured parking will be required. This directly translates into significant cost savings for a developer, which in turn should enhance VA's position if it chooses to negotiate a land sale.

Challenges

A residential conversion of Building 1 will result in a density over five times greater than the asof-right zoning of adjacent parcels. A project of this scale may be dissimilar to the surrounding neighborhood and will likely require an intensive public process and the involvement of the Boston Redevelopment Authority. Also, a condominium re-use approach will require VA to sell land outright to a developer, while an apartment project would allow VA to lease land to a developer and collect an annual ground lease payment.

The public process will result in developer concessions to the community, which may include public open space, funding for community facilities, or upgrades to the MBTA Green Line infrastructure (i.e., renovation of the terminal stop located on the northwest corner of the campus).

Remediation costs associated with creosote and diesel fuel contamination are likely, but unknown. It is possible a developer will look to VA participation to offset the costs associated with environmental remediation.

Preliminary review of Building 1 suggests that it is suitable for a complete renovation and residential conversion. Renovation and conversion costs are currently assumed to be similar to complete demolition and new construction. A more thorough review of the building may reveal that new construction is a more cost effective approach. In this case, it is unlikely that a developer could achieve the level of density that the current building envelope permits, drastically reducing the value of the campus's re-use potential.

Affordable housing requirements may adversely impact housing development economics. While it is likely that a combination of local, state, and federal money would be available to offset some of these costs, the process of obtaining project approval would still be timely and expensive.

West Roxbury

Given the density and limited amount of open land at the West Roxbury campus, this campus only lends itself to a complete re-use of the entire campus. Located at the intersection of VFW Parkway and Spring Street, the campus has good street visibility and access from two well-trafficked roads. Although West Roxbury is part of the city of Boston, the neighborhood has a more suburban character and is further from the central business district than Jamaica Plain, and, as a result, the market for commercial office space or a hotel is limited. Proximity to residential blocks to the north of the campus would also restrict industrial uses likely to generate heavy truck traffic and other noise.

Land uses on adjacent parcels suggest that the campus is well suited for residential re-use with the potential for an ancillary retail program serving households in the immediate area as well as vehicular traffic on VFW Parkway and Spring Street. Housing would have to be set back from VFW Parkway to ensure the safety and comfort of potential occupants.

The age and configuration of the existing buildings would prevent the transfer of the property to another medical user. Also, the campus's relative isolation from other hospitals, research facilities, and universities suggests that another medical user would be unwilling to assume the cost of building a new facility at the campus.

Opportunities

Adjacent land uses suggest that the primary re-use potential of the West Roxbury campus is for residential development, specifically for-sale housing. A convenience-based retail component, anchored by a drugstore or similar tenant, would complement a re-use option with a heavy emphasis on housing.

Since the campus is adjacent to two heavily trafficked streets, residential development would have to be inward facing with a low-rise multifamily or townhouse product centered on interior parking. Retail should be located near the intersection of VFW Parkway and Spring Street, capitalizing on vehicular traffic as well as on-site customers. The re-use value could be enhanced by providing access to the park located across the VFW Parkway.

Challenges

The existing hospital buildings are fully occupied, leaving little room available for re-use. The approximately 30-acre campus is fully built out, and, while development sites could be created, it would come at the expense of VA parking. The lack of public transportation suggests that adequate parking will be a necessity. Surface parking, while relatively cost effective, requires a significant amount of land area and would limit the amount of revenue-generating development at the campus. Conversely, a vertical parking deck would free land area for denser development but at the expense of higher development costs. Striking a balance between parking costs and building density will be a crucial factor in determining the success of the campus's re-use.

Demolition of the "historically significant" Building 1 could trigger an historic/environmental review. The cost of such a process could potentially have a negative impact on the re-use value of the campus. Additional off-campus improvements may be required, such as traffic signals, directional signage, or roadway improvements. Funding for these improvements could potentially come from public sources but some developer contribution is likely.

Softness in the West Roxbury retail market suggests that if a near term redevelopment program were to include convenience-oriented retail, the project's developer might have to consider offering rent concessions in order to attract a suitable tenant. As before, a for-sale residential reuse approach will require VA to sell land outright to a developer while an apartment project would allow VA to lease land to a developer and collect an annual ground lease payment.

Re-Use Potential

Team PwC's approach to re-use assumes that the four hospital campuses are programmed with the "highest and best" land uses that maximize combined re-use value potential for all locations, given local zoning and forecast market conditions. Partial re-use options result from the right sizing of a facilities, and are applicable to the Bedford, Brockton, and Jamaica Plain campuses. Given the current density and configuration of the West Roxbury campus, right sizing of this facility does not facilitate partial re-use. Complete re-use options result when all healthcare services at a particular campus are consolidated at another facility (i.e., either at an existing VA facility or a new location) and are applicable for all Boston study site campuses.

Team PwC developed seven re-use options for the four Boston study site campuses, shown in Table 9. For many of the BPOs, more than one campus will be available for partial or complete re-use.

Table 9: Boston Study Site Re-Use Options

Option	Description
Bedford – Partial Re-use	Springs Road is rerouted to create a 100-acre re-use parcel on the east side of Springs Road. Twelve acres are designated for an 80-bed Alzheimer's assisted living community. The remaining land is developed with 95 units of single family residential.
Bedford – Complete Re-use	Complete re-use creates a 183-acre re-use site. The re-use option includes 12 acres retained for an 80-bed Alzheimer's assisted living community. The remaining land is developed with 185 units of single family residential.
Brockton – Partial Re-use	Creates two re-use parcels. First, Cape Cod Road is realigned to create a 30-acre re-use site east of Manley Street. This site will be programmed with 525,000 SF of light industrial/flex space built in a business park setting. Second, a 2.3 acre re-use parcel fronting Belmont Street is created to accommodate 50,000 SF of convenience retail space.
Brockton – Complete Re-use	Complete re-use creates a 146-acre re-use site. The re-use option includes 1,150,000 SF of light industrial/flex space in a business park in the western portion of the campus. An additional 75,000 SF of convenience retail is built fronting Belmont Street. The remaining portion of the campus is developed with 87 single family homes and a 200-unit for-sale multifamily building. The site will include a significant amount of open space to create a buffer between the three uses.

Option	Description
Jamaica Plain – Partial Re-use	Creates a 1-acre re-use parcel in the current location of Building 9. The redevelopment program includes 15 units of "decker" style for-sale condominiums in five buildings.
Jamaica Plain – Complete Re-use	Complete re-use creates a 16-acre re-use site. Building 1 is converted into multifamily for-sale residential housing comprising 490 units and 15,000 SF of ground floor retail. The re-use option also includes 15 units of "decker" style for-sale condominiums in five buildings.
West Roxbury – Complete Re-use	Complete re-use creates a 30-acre re-use site. The re-use program includes a 35,000 SF shopping center located at the intersection of VFW Parkway and Spring Street and 410 units of for-sale townhouse units.

Bedford - Partial Re-Use

This re-use option is associated with the right sizing of the Bedford facility. The option creates an approximate 4.4 million-SF / 100-acre generally rectangular development campus on the east side of Springs Road (see Figure 10). As part of the re-use option, 12 acres are to be retained for open space and Hearthstone Associates' proposed 80-bed Alzheimer's Assisted Living Community in the current location of Buildings 12 to 16. Remaining land on the east side of Springs Road is developed with 95 units of single-family residential housing.

Other key considerations for this option include the following:

- Thirty-four of the existing buildings are designated as historically significant, although they are not included on the National Registry of Historical places.
- Team PwC assumes the land currently occupied by the golf course can be redeveloped with single-family homes.
- This parcel borders protected wetlands that may be affected by new development. It is not known if this adjacency would limit or prevent the residential development program.
- The town of Bedford could potentially require a developer to build affordable housing.
- In order to ensure the marketability of the re-use of the eastern portion of the campus, all surface parking is to be relocated west of Springs Road. If insufficient land area is available for surface parking, VA could potentially enter into a sharing agreement with Middlesex Community College for access to the existing surface lot north of the hospital site.
- An alternative solution would require rerouting of Springs Road to create a larger parcel
 on the west side of the campus to accommodate hospital-related parking demand.
 Springs Road may also need to be widened to accommodate higher traffic volumes from
 the VA hospital and new residential development.

Bedford – Complete Re-Use

This re-use option is associated with closing the Bedford facility, making over 7.9 million-SF / 186 acres available for re-use. Similar to the partial re-use option for Bedford, this option retains 12 acres for open space and Hearthstone Associates' proposed 80-bed Alzheimer's Assisted Living Community in the current location of Buildings 12 to 16. Remaining land on the east and west of Springs Road is to be developed with 185 units of single-family residential housing.

This option will have the same key considerations as the partial re-use option of Bedford, with additional differences noted as follows:

- Complete re-use does not require rerouting or widening of Springs Road, a potentially significant cost of the partial re-use option for Bedford
- 185 units may be difficult to build and sell in a short period of time; thus, a developer may wish to purchase portions of the site over a period of several years

Brockton - Partial Re-Use

This re-use option is associated with the right sizing of the Brockton facility (see Figure 11). Cape Cod Road, an intra-campus ring road surrounding the main hospital buildings, is realigned to create a 1.3 million SF/30-acre development zone east of Manley Street. Light industrial/flex space would be built in a business park setting with landscaping and other amenities on this reuse parcel. The complex would comprise approximately 525,000 SF with associated surface parking. Additionally, a second re-use parcel (approximately 2.3 acres) fronting Belmont Street in the northeast corner of the campus, the current location of Buildings 60 and 61, would be developed with 50,000 SF of food and convenience retail as well as associated surface parking.

Key considerations for this option include the following:

- A re-use option with an emphasis on light industrial/flex and commercial retail provides VA with the greatest opportunity for an enhanced use lease agreement
- Building 60 is designated as historically significant.
- Existing zoning (R-1-B) will need to be changed to allow for commercial and light industrial/flex uses.
- The re-use options will need to meet GSA security standards, which dictate minimum setbacks from hospital buildings and related gathering areas.
- The Manley Street entrance to the light industrial/flex parcel may need to be redesigned. Also, a new entrance is required to provide access to the retail center fronting Belmont Street. The intra-campus road network may need to be redesigned and widened to accommodate truck traffic and parking demand from the light industrial/flex and commercial uses

Brockton – Complete Re-Use

This re-use option is associated with the closing of the Brockton facility, creating an approximate 6.3 million SF / 145.7-acre development site. This re-use option includes light industrial/flex space, commercial retail, for-sale residential, with open space serving as a buffer between the three different land uses. Light industrial/flex space is built in a business park setting with landscaping and other amenities on the western portion of the campus. The complex would comprise approximately 1,150,000 SF with associated surface parking. A small site (approximately 3.4 acres) fronting Belmont Street in the northeast corner of the campus would be developed with 75,000 SF of food and convenience retail as well as associated surface parking. The remaining portion of the site would be comprised of a mix of 87 single-family homes on 0.68-acre lots, as well as a multifamily for-sale building containing 200 units.

This option will have the same key considerations as the partial re-use option of Brockton, with additional differences noted as follows:

- Development of a portion of the campus with for-sale residential units would require VA to divest this land.
- As noted earlier, well-designed park space is necessary for a buffer between the light industrial/flex, commercial, and residential uses.
- The industrial/flex and residential programs are of significant size and could take several years to build, lease, and sell. Therefore, a developer may wish to purchase portions of the site over a period of several years.

Jamaica Plain - Partial Re-Use

This re-use option is associated with the right sizing of the Jamaica Plain facility. Building 9 on the southern portion of the campus is demolished to allow for five buildings of "decker-style" for-sale residential housing (see Figure 12). Units would be developed at roughly 14 units to the acre and would comprise approximately 15 units and associated parking.

Key considerations for this option include the following:

- Development of a portion of this site with for-sale residential units would require VA to divest the re-use parcel currently housing Building 9.
- A new entrance will need to be created to provide access from Evergreen Street.
- Existing zoning (NI) will need to be changed to allow for this level of residential density.

Jamaica Plain – Complete Re-Use

This re-use option is associated with the closing of the Jamaica Plain facility. In this option, Building 1 is converted into multifamily for-sale residential housing comprising 490 units and 15,000 SF of ground floor retail. In addition to the existing 210-space parking garage, another 553 spaces of structured parking are built to accommodate new resident demand. Building 9 on the southern portion of the campus is demolished to allow for five buildings of "decker-style" for-sale residential units. These units would be developed at roughly 14 units to the acre and would comprise approximately 15 units and associated parking. Additional on-campus improvements could potentially include public open space and upgrades to MBTA infrastructure.

This option will have the same key considerations as the partial re-use option of Jamaica Plain, with additional differences noted as follows:

- Renovation and conversion costs of Building 1 are currently assumed to be similar to complete demolition and new construction. It is unlikely that a developer could achieve the level of density that the current building permits, which drastically reduces the value of the campus's re-use potential.
- The potential of soil contamination exists at the Jamaica Plain VAMC
- A developer may make concessions to the community, such as the inclusion of public open space, funding for community facilities, or upgrades to the MBTA Green Line infrastructure (i.e., renovation of the terminal stop located on the northwest corner of the campus).
- The city of Boston would likely require that residential re-use contain affordable housing.
- Per initial discussions with the Boston Redevelopment Authority, the conversion of Building 1 to residential would not require a zoning change as long as total building area does not exceed its current size.
- A condominium re-use approach for Building 1 will require VA to sell land outright to a
 developer, while an apartment project would allow VA to lease land to a developer and
 collect an annual ground lease payment.

West Roxbury – Complete Re-Use

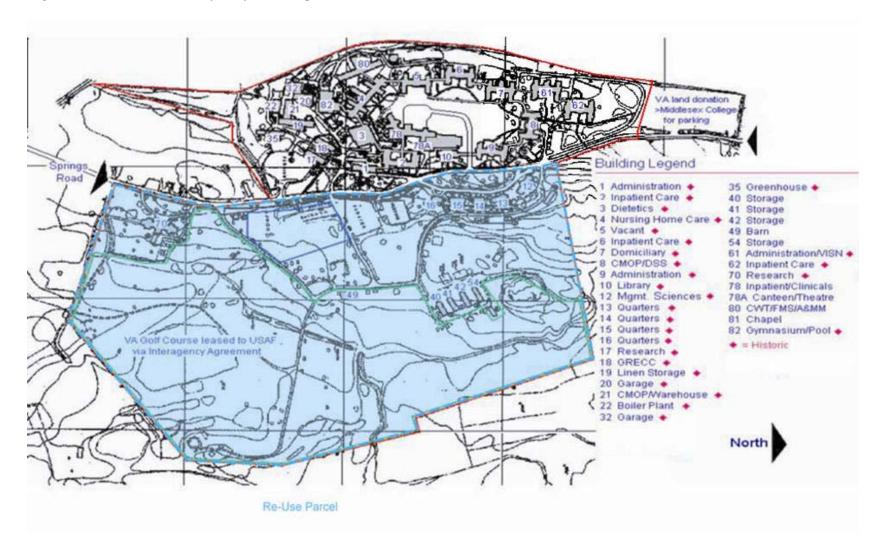
This re-use option is associated with the closing of the West Roxbury facility. The campus's current density and configuration do not permit partial re-use of the campus, and, therefore, complete re-use is the only viable re-use option for the West Roxbury campus. The option creates an approximate 6.3 million SF / 145.7-acre development site which would house a small retail and multi-restaurant shopping center (35,000 SF) located at the intersection of VFW Parkway and Spring Street and 410 units of for-sale townhouse style residential development centered on interior surface parking.

Key considerations for this option include the following:

• Development of a portion of the campus with for-sale residential units would require VA to divest this land.

- Additional off-campus improvements may be required, such as traffic signals, directional signage, or roadway improvements.
- Softness in the West Roxbury retail market suggests a developer might have to consider offering rent concessions in order to attract a suitable tenant for convenience-oriented retail uses.
- The value of this re-use option could be enhanced by providing access to the park located on the other side of VFW Parkway.
- A condominium re-use approach will require VA to sell land outright to a developer, while an apartment project would allow VA to lease land to a developer, and collect an annual ground lease payment.

Figure 10: Partial Re-Use of Bedford Campus



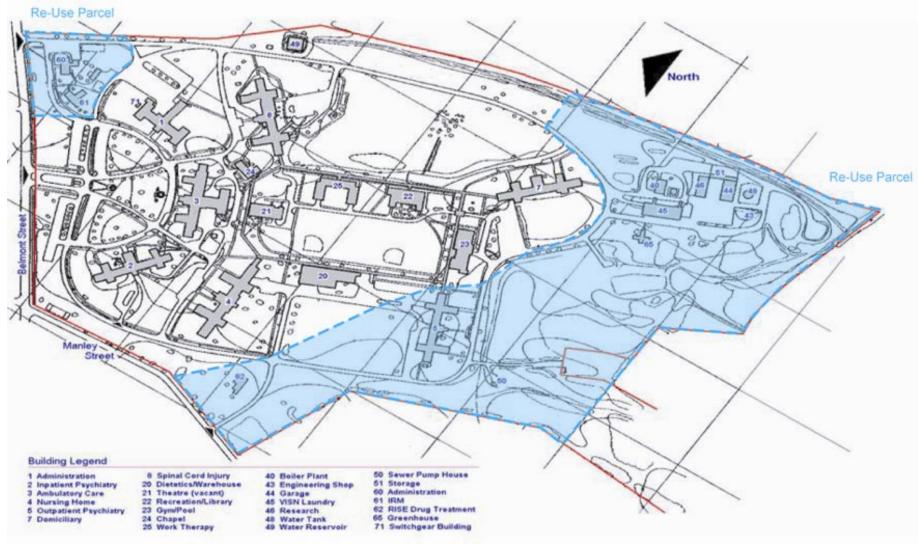
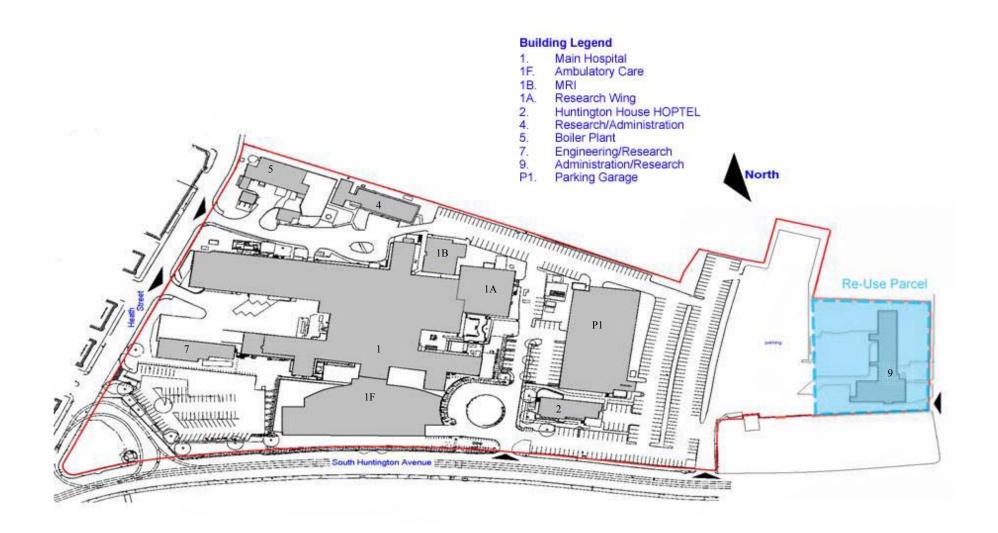


Figure 11: Partial Re-Use of Brockton Campus

Figure 12: Partial Re-Use of Jamaica Plain Campus



4.0 Overview of Healthcare Demand and Trends

Veteran enrollment and utilization for healthcare services was projected for 20 years, using 2003 data as supplied by VA as the base year and projecting through 2023. Projected utilization data is based upon market demand allocated to the Boston facilities. The following section describes these long-term trends for veteran enrollment and utilization for healthcare services at the Boston facilities.

Enrollment Trends

As of 2003, approximately 131,000 enrolled veterans resided in the East Market of VISN 1. Over the next 20 years, the number of enrolled veterans for this market is expected to decline 25% to approximately 98,500.

Enrollment projections for the market differ by priority group. Enrollment of Priority 1-6 veterans (those veterans with the greatest service-connected needs) is projected to decrease by 9% by 2023, while enrollment for Priority 7-8 veterans is projected to decrease by 58% for the same period (see Table 10). The enrollment forecast for Priority 7-8 veterans assumes an annual enrollment fee, and the continued freeze on P8 enrollment.

Table 10:	Projected Veteran	Enrollment	for the	East Market	of VISN 1 h	v Priority Group
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Fiscal Year	2003	2013	% Diff	2023	% Diff
Priority 1-6	87,970	97,220	11%	80,338	-9%
Priority 7-8	43,272	25,102	-42%	18,245	-58%
Total	131,242	122,322	-7%	98,583	-25%

Utilization Trends

Utilization data was analyzed for those CARES Implementation Categories (CICs) for which the Boston VAMCs have projected demand.³⁷ A summary of utilization data is provided for each CIC in the following tables. Acute inpatient utilization is measured in number of beds, while both ambulatory and outpatient mental health utilization is measured in number of clinic stops. A clinic stop is a visit to a clinic or service rendered to a patient.

Considering overall demand for inpatient and outpatient services (Table 11) outpatient clinic stops (including radiology and pathology) are expected to increase by 12% over the next 20 years. Overall, acute inpatient bed need is projected to decrease by 16% over the 20-year time period.

³⁷ Due to the complexity of the coding systems used by the VHA in tracking utilization, the vast array of services provided by the four Boston facilities, and the strategic planning decisions made by the network in reallocation of workload, these utilization projections will be revalidated before the beginning of Stage II.

Table 11: Inpatient and Outpatient Utilization Summary - All Four Boston Campuses Combined

				%	%	%
				Change	Change	Change
	2003	2013	2023	(2003 to	(2013 to	(2003 to
Boston Study Site	Actual	Projected	Projected	2013)	2023)	2023)
Total Acute Inpatient Beds	451	426	379	-6%	-11%	-16%
Total Clinic Stops	892,706	1,000,713	918,128	12%	-8%	3%

Inpatient Utilization Trends

Projected utilization for inpatient services declines across the VAMCs for most CICs, with the exception of nursing home, which remains constant, and acute and chronic spinal cord injury (SCI) which actually increase. Due to a planning decision made by VA, the nursing home capacity of 425 beds total at Bedford and Brockton is maintained over the 20-year projection period. West Roxbury is projected to experience a 12% decrease in inpatient beds (decrease of 20 beds) due to the expected decrease in inpatient medicine and observation beds as well as inpatient surgery beds. Bedford is projected to experience approximately a 7% decrease in inpatient beds (decrease of 30 beds) due to the expected decreases in inpatient psychiatry and substance abuse beds as well as domiciliary beds. The decrease in domiciliary beds is due to a planned decentralization by the VISN to establish bed capacity in other parts of VISN 1. Brockton is projected to experience decreases in demand similar to Bedford; however, a 247% increase (increase of 74 beds) in chronic SCI yields a net 9% increase of inpatient beds. Tables 13 through 16 illustrate the projected inpatient utilization according to major CIC groupings.

Table 12 - Total Boston Study Site – Inpatient Utilization Trends (Beds)

	2003 Actual Beds	2013 Beds Needed	2023 Beds Needed	% Change (2003 to 2013)	% Change (2013 to 2023)	% Change (2003 to 2023)
Inpatient Medicine and Observation	Dous	riceaea	Trocucu	2010)		2020)
West Roxbury	83	83	69	0%	-17%	-17%
TOTAL	83	83	69	0%	-17%	-17%
Inpatient Psychiatry and Substance Abuse						
Bedford	21	17	16	-19%	-5%	-23%
Brockton	50	39	36	-22%	-8%	-28%
TOTAL	71	56	52	-21%	-7%	-27%
Inpatient Surgery						
West Roxbury	64	54	41	-16%	-24%	-36%
TOTAL	64	54	41	-16%	-24%	-36%
Other: VA Mental Health Inpatient Programs						
Bedford	92	92	79	0%	-14%	-14%
Brockton	141	141	138	0%	-2%	-2%
TOTAL	233	233	217	0%	-7%	-7%

Table 13 - Total Boston Study Site – Nursing Home Utilization Trends (Beds)

Nursing Home	2003 Actual Beds	2013 Beds Needed	2023 Beds Needed	% Change (2003 to 2013)	% Change (2013 to 2023)	% Change (2003 to 2023)
Bedford	274	274	274	0%	0%	0%
Brockton	151	151	151	0%	0%	0%
TOTAL	425	425	425	0%	0%	0%

Table 14 - Total Boston Study Site – Domiciliary Utilization Trends (Beds)

Domiciliary	2003 Actual Beds	2013 Beds Needed	2023 Beds Needed	% Change (2003 to 2013)	% Change (2013 to 2023)	% Change (2003 to 2023)
Bedford	50	50	38	0%	-25%	-24%
Brockton	70	70	52	0%	-25%	-25%
TOTAL	120	120	90	0%	-25%	-25%

Table 15 - Total Boston Study Site – Spinal Cord Injury Utilization Trends (Beds)

Acute SCI ³⁸	2003 Actual Beds	2013 Beds Needed	2023 Beds Needed	% Change (2003 to 2013)	% Change (2013 to 2023)	% Change (2003 to 2023)
West Roxbury	23	40	40	74%	0%	74%
TOTAL	23	40	40	74%	0%	74%
Chronic SCI						
Brockton	30	86	104	187%	21%	247%
TOTAL	30	86	104	187%	21%	247%

Ambulatory Utilization

Projected utilization for ambulatory services varies by CIC and across the four VAMCs. The CICs projected to experience the greatest increases in demand are cardiology (expected to increase by 141%) and urology (expected to increase by 209%). CICs projected to experience decreases in demand include primary care and related specialties (4%), non-surgical specialties (15%), surgical and related specialties (22%), and eye clinic (26%). Rehabilitation medicine remains constant during the projected period due to a planning assumption made by VA. Overall, West Roxbury and Bedford are projected to experience minimal increases in ambulatory clinic stops (1% and 4% respectively) as compared to Brockton which is expected to increase by 13%. Ambulatory utilization at Jamaica Plain is expected to decrease by 5%.

³⁸ VISN 1 is a referral center for acute SCI needs from adjacent VISN 2 that does not provide acute SCI services.

Table 16 - Total Boston Study Site – Ambulatory Utilization Trends (Clinic Stops)

Table 10 - Total Boston		Imbulai		%	% (Cume	%
	2003	2013	2023	Change	Change	Change
	Actual	Projected	Projected	(2003 to	(2013 to	(2003 to
<u> </u>	Stops	Stops	Stops	2013)	2023)	2023)
Cardiology	Сторо	στορο	στορσ	2010)	2020)	2020)
Bedford	2,045	5,626	5,126	175%	-9%	151%
Brockton	4,664	9,097	8,383	95%	-8%	80%
West Roxbury	10,281	29,821	27,367	190%	-8%	166%
TOTAL	16,990	44,544	40,876	162%	-8%	141%
Eye Clinic	10,770	11,311	10,070	10270	070	11170
Bedford	6,629	4,908	4,688	-26%	-4%	-29%
Brockton	8,653	6,675	6,432	-23%	-4%	-26%
Jamaica Plain	19,969	16,082	15,306	-19%	-5%	-23%
West Roxbury	3,984	2,945	2,779	-26%	-6%	-30%
TOTAL	39,235	30,610	29,205	-22%	-5%	-26%
Non-Surgical Specialties	37,233	30,010	29,203	-22/0	-3 /0	-20 /0
Bedford	3,071	2,821	2,593	-8%	-8%	-16%
Brockton	9,710	10,313	9,583	6%	-7%	-1%
Jamaica Plain	42,366	43,282	39,584	2%	-9%	-7%
West Roxbury	16,457	10,306	9,433	-37%	-8%	-43%
			i			
TOTAL	71,604	66,722	61,193	-7%	-8%	-15%
Orthopedics Bedford	5.059	5,975	5,544	0%	-7%	70/
Brockton	5,958 3,278	4,654	4,362	42%	-6%	-7% 33%
Jamaica Plain				19%	-7%	11%
	14,048	16,784	15,595			
TOTAL	23,284	27,413	25,501	18%	-7%	10%
Primary Care & Related Sp		22.007	20.110	120/	120/	20/
Bedford	20,574	22,987	20,119	12%	-12%	-2%
Brockton	29,218	38,152	34,016	31%	-11%	16%
Jamaica Plain	57,539	62,908	54,545	9%	-13%	-5%
West Roxbury	28,643	25,682	22,367	-10%	-13%	-22%
TOTAL	135,974	149,729	131,047	10%	-12%	-4%
Rehab Medicine						
Bedford	23,556	23,556	23,556	NA	NA	NA
Brockton	4,717	4,717	4,717	NA	NA	NA
Jamaica Plain	9,690	9,690	9,690	NA	NA	NA
West Roxbury	1,071	1,071	1,071	NA	NA	NA
TOTAL	39,034	39,034	39,034	NA	NA	NA
Surgical & Related Specialt						
Bedford	1,668	2,023	1,836	21%	-9%	10%
Brockton	1,665	2,784	2,569	67%	-8%	54%
Jamaica Plain	49,390	41,640	38,083	-16%	-9%	-23%
West Roxbury	8,527	1,912	5,387	-78%	182%	-37%
TOTAL	61,250	48,359	47,875	-21%	-1%	-22%
Urology						
Bedford	1,027	3,615	3,466	252%	-4%	237%
Jamaica Plain	5,264	17,086	16,380	225%	-4%	211%
West Roxbury	878	2,362	2,274	169%	-4%	159%
TOTAL	7,169	23,063	22,120	222%	-4%	209%

Outpatient Mental Health Utilization

Additionally, projected utilization for outpatient mental health services varies by CIC and across the four VAMCs. The CICs projected to experience the greatest increases in demand are day treatment (expected to increase by 40%) and homeless care (expected to increase by 12%). CICs projected to experience decreases in demand include methadone treatment (19%), work therapy (21%), community mental health residential program (22%), and MHICM (42%). Due to a planning decision by VA, projections for behavioral health will remain constant over the 20-year projection period. The demand for outpatient mental health services for both West Roxbury and Brockton is projected to range from no change to a minimal increase, while Bedford and Jamaica Plain are projected to experience greater decreases in demand (9% and 14% respectively).

Table 17 - Total Boston Study Site – Outpatient Mental Health (Clinic Stops)

iuay Siie -	- Ошранеп	ient Mental Health (Clinic Stops)					
			%	%	%		
2003	2013	2023	Change		Change		
		Projected			(2003 to		
					2023)		
53,207	53,207	53,207	0%	0%	0%		
44,353	44,353	44,353	0%	0%	0%		
58,199	58,199	58,199	0%	0%	0%		
1,548	1,548	1,548	0%	0%	0%		
157,307	157,307	157,307	0%	0%	0%		
l Care							
2,700	2,971	1,925	10%	-35%	-29%		
433	883	560	104%	-37%	29%		
50	23	13	-54%	-43%	-74%		
3,183	3,877	2,498	22%	-36%	-22%		
	,	,					
3	4,042	2,490	>300%	-38%	>300%		
0	4,055	2,494	X	-38%	X		
4,211	1,607	934	-62%	-42%	-78%		
4,214	9,704	5,918	130%	-39%	40%		
ĺ		,					
2,982	3,729	2,917	25%	-22%	-2%		
2,046	3,422	2,736	67%	-20%	34%		
5,028	7,151	5,653	42%	-21%	12%		
se Managei							
14,268	8,611	6,230	-40%	-28%	-56%		
2,264	4,558	3,329	101%	-27%	47%		
16,532	13,169	9,559	-20%	-27%	-42%		
·							
28,235	36,058	22,933	28%	-36%	-19%		
28,235	36,058	22,933	28%	-36%	-19%		
		,					
45,498	53,439	40,873	17%	-24%	-10%		
11,017	10,840	8,077	-2%	-25%	-27%		
12,788	7,983	5,867	-38%	-27%	-54%		
69,303	72,262	54,817	4%	-24%	-21%		
	2003 Actual Stops 53,207 44,353 58,199 1,548 157,307 I Care 2,700 433 50 3,183 0 4,211 4,214 2,982 2,046 5,028 se Manager 14,268 2,264 16,532 28,235 28,235 45,498 11,017 12,788	2003 Actual Stops 2013 Projected Stops 53,207 53,207 44,353 44,353 58,199 58,199 1,548 1,548 157,307 157,307 157,307 1Care 2,700 2,971 433 883 50 23 3,183 3,877 3 4,042 0 4,055 4,211 1,607 4,214 9,704 2,982 3,729 2,046 3,422 5,028 7,151 5e Management (MHIC 14,268 8,611 2,264 4,558 16,532 13,169 28,235 36,058 28,235 36,058 28,235 36,058 45,498 53,439 11,017 10,840 12,788 7,983	2003 Actual Stops 2013 Projected Stops 2023 Projected Stops 53,207 53,207 53,207 44,353 44,353 44,353 58,199 58,199 58,199 1,548 1,548 1,548 157,307 157,307 157,307 1Care 2,700 2,971 1,925 433 883 560 50 23 13 3,183 3,877 2,498 3 4,042 2,490 0 4,055 2,494 4,211 1,607 934 4,214 9,704 5,918 2,982 3,729 2,917 2,046 3,422 2,736 5,028 7,151 5,653 se Management (MHICM) 14,268 8,611 6,230 2,264 4,558 3,329 16,532 13,169 9,559 28,235 36,058 22,933 28,235 36,058 22,933 <	2003 Actual Stops 2013 Projected Stops 2023 Projected (2003 to 2013) 53,207 53,207 53,207 0% 2013) 53,207 53,207 53,207 0% 2013) 58,199 58,199 58,199 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0	2003 Actual Stops 2013 Projected Stops 2023 Projected (2003 to 2013) Change (2013 to 2023) 53,207 53,207 53,207 0% 0% 44,353 44,353 44,353 0% 0% 58,199 58,199 58,199 0% 0% 1,548 1,548 1,548 0% 0% 157,307 157,307 157,307 0% 0% 157,307 157,307 157,307 0% 0% 157,307 157,307 157,307 0% 0% 157,307 157,307 10% -35% 433 883 560 104% -37% 50 23 13 -54% -43% 3,183 3,877 2,498 22% -36% 3 4,042 2,490 >300% -38% 4,211 1,607 934 -62% -42% 4,214 9,704 5,918 130% -39% 2,982 3,729		

The following summarizes the demand projections per VAMC through 2023:

- West Roxbury demand is projected to experience the greatest decrease in inpatient demand (12% or 20 beds),
- Brockton inpatient demand is expected to slightly increase, most notably a 247% increase (74 beds) in chronic SCI, combined with a 13% increase in ambulatory demand,
- Jamaica Plain demand for both ambulatory utilization is projected to decrease by 5% and outpatient mental health services is expected to decline by 14%, and
- Bedford inpatient demand is expected to decline by 7% or 30 beds and outpatient mental health is projected to decline by 9%, while ambulatory demand is expected to increase by 4%.

The varying utilization data demonstrates that different facilities will experience significant growth over the next 20 years, but others will experience some reduction in services. The analysis of the projected enrollment and utilization data for the Boston VAMCs highlights the need for capital realignment.

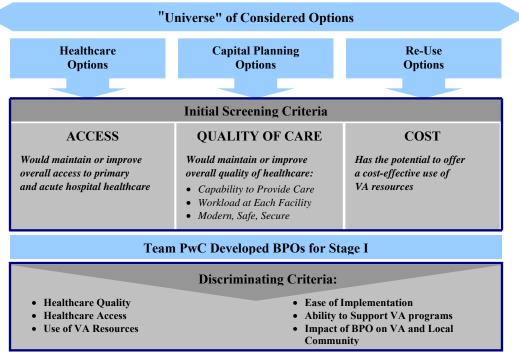
5.0 Business Plan Option Development

Options Development Process

Using VA furnished information, site tours and interviews, as well as stakeholder and LAP member input, Team PwC developed a broad range of discrete and credible healthcare and capital planning options and associated re-use options. Each healthcare and capital planning option that passed the initial screening served as potential components of BPOs. A review panel of experienced Team PwC consultants, including medical practitioners, capital planners, and real estate advisors considered the assessment results and recommended the BPOs. Each of the BPOs was then assessed at a more detailed level according to a set of discriminating criteria.

The following diagram illustrates the complete options development process:

Figure 13: Options Development Process



Initial Screening Criteria

Discrete healthcare and capital planning options were developed for the Boston study site and were subsequently screened to determine whether or not a particular option had the potential to meet or exceed the CARES objectives. The following describes the initial screening criteria that were used during this process:

- Access: Would maintain or improve overall access to primary and acute hospital healthcare During Stage I, primary care access is evaluated using VA's Primary Care Access Tool and a base year of 2001. If an option resulted in a change in location for primary care, the new location would be evaluated using the Primary Care Access Tool. Acute Care access was evaluated using data provided by VA using its ArcView Tool to recalculate the new location's impact on access.
- Quality of Care: Would maintain or improve the overall quality³⁹ of healthcare This is assessed by consideration of the site's ability to provide services and the level of workload at any facility compared to utilization thresholds. Quality concerns may also occur if it is assumed that VA would contract with a non-VA provider for specific services but there is no current proven healthcare provider for those required services within that particular location. In such a case, assumptions may be required regarding the

³⁹ Quality includes clinical proficiency across the spectrum of care, safe environment, and appropriate facilities.

likelihood of such a provider emerging. Therefore, any option that relied upon patient care being provided by an emergent third party failed this quality test. An option would pass the quality test only in cases when a compelling reason could be identified to assert that services would be provided.

Additionally, the following was included as part of the quality measure:

• Modern, Safe, Secure: Would result in a modernized, safe healthcare delivery environment that is compliant with existing laws, regulations, and VA requirements – This was assessed by consideration of the physical environment proposed in the option and any material weaknesses identified in VA's space and functional surveys, facilities' condition assessments, and seismic assessments for existing facilities, and application of a similar process to any alternative facilities proposed.

It should be noted that the disruption to continuity of care is not an explicit criteria utilized in the initial screening process; however, the impact on continuity of care was used to further narrow the broad range of options to be assessed in Stage I. A separate study of the impact on continuity of care for each of the options will be conducted in the Stage II assessments of the options.

• Cost: Has the potential to offer a cost-effective use of VA resources – This was assessed as part of Team PwC's initial cost effectiveness analysis. A 30-year planning period was used in the cost effectiveness analysis. Any option that did not have the potential to provide a cost effective physical and operational configuration of VA resources as compared to the baseline 40 failed this test.

All identified options were screened against these criteria. If an option failed the initial access test, then no other tests were applied. Those passing the access test were then further screened against quality and cost. Screening was halted when the option failed to meet one of the initial screening criteria.

Discriminating Criteria

After passing the initial screening, BPOs were developed and the following discriminating criteria were applied to assess the overall attractiveness of the BPO.

- **Healthcare Quality** These criteria assess the following:
 - How the BPO sustains or enhances the quality of healthcare delivery.
 - If the BPO can ensure that forecasted healthcare need is appropriately met.
 - Whether each BPO will result in a modernized, safe, and secure healthcare delivery environment.

⁴⁰ Baseline describes the current state applying utilization projected out to 2023, without any changes to facilities, programs, or locations. Baseline assumes same or better quality, and accounts for any necessary maintenance for a modern, safe, and secure healthcare environment.

- **Healthcare Access** These criteria assess how the BPO impacts the percentage of the patients meeting access guidelines by describing the current percentage and the expected percentage of patients meeting this guideline.
- **Impact on VA and Local Community** These criteria assess the impact on staffing, as well as research and clinical education programs.
- Use of VA Resources These criteria assess the cost effectiveness of the physical and operational configuration of the BPO over a 30-year planning horizon. Costs were assessed at an "order of magnitude" level of analysis in Stage I. Detailed costing will be conducted in Stage II. These criteria include:
 - Operating Cost Effectiveness: The ability of the BPO to provide recurring/operating cost increases or savings as compared to the baseline.
 - Level of Capital Expenditures: The amount of investment required relevant to the baseline based on results of initial capital planning estimates.
 - Level of Re-use Proceeds: The amount of re-use proceeds and/or demolition/clean-up cost based on results of the initial re-use study.
 - Cost Avoidance: The ability to obtain savings in necessary capital investment as compared to the baseline BPO.
 - Overall Cost Effectiveness: The initial estimate of net present cost as compared to the baseline.
- **Ease of Implementation** These criteria assess the risk of implementation associated with each BPO. The following major risk areas were considered:
 - Reputation
 - Continuity of Care
 - Organization & Change
 - Legal & Contractual
 - Compliance
 - Security

- Political
- Infrastructure
- Financial
- Technology
- Project Realization
- **Ability to Support VA programs** These criteria assess how the BPO would impact the sharing of resources with DoD, enhance One-VA integration, and impact special considerations, such as DoD contingency planning, Homeland Security needs, or emergency need projections.

Capital Planning

The focus of the capital planning study of the CARES study is to define spatial needs for design year 2023. The capital options were derived utilizing several parameters, including criteria for a safe, modern, and secure healthcare environment, current building vacancy, consideration of historic designation of buildings, and timing of funding availability, as described below.

Due to the planned CARES implementation, many capital improvement projects for the Boston facilities have been deferred. Facilities with building assessment scores less than 4.0 were determined to need renovation to meet standards for modern, safe, and secure. Most building components have a finite life expectancy and require cyclical repair or replacement. Elements which will require attention between the present date and the design year include such items as IT/communications, major medical equipment, interior finishes, roofing, cooling systems, plumbing fixtures, lighting, heating systems, windows/doors, electrical switchgear/panels, and masonry. If no capital improvements are made prior to the design year, it is probable that all buildings will be in need of major renovation by 2023.

Safety issues related to capital planning are limited to fire and life safety (building code) issues. Existing conditions are typically permitted to remain; however, current code compliance is typically triggered by a major renovation project. The renovations to be conducted in the baseline and other BPOs will require correction of current code deficiencies. The capital plans involving new construction also consider these current building code requirements and provides for adequate capacity to meet code. Therefore, all BPOs are able to be meet current safety standards.

Buildings identified as being vacated or mothballed will not support any occupancy; however, some utilities, including mechanical, electrical, and plumbing (MEP) systems, will remain activated in order to maintain their physical condition.

Although VA has designated 34 buildings in Bedford and two buildings in West Roxbury to be historic in nature, none are listed on the National Register of Historic Places. Such buildings may be modified or demolished without restriction, although VA prefers that any building modifications be consistent with local and national historic guidelines.

For the purposes of this planning exercise, it is assumed that the first funding cycle for a new project would occur after January 2009. Subsequently, the design and construction of any significant capital project could not be completed until 2012, assuming 12 months for design and 24 months for construction.

Operational Costs

The objective of the cost analysis in Stage I is to support the comparison of the estimated cost effectiveness of the baseline with each BPO. The Study Methodology calls for an "order of magnitude" level of analysis in Stage I and detailed costing in Stage II. The total estimated costs include operating costs, initial capital costs, re-use opportunities, and any cost avoidances. The operating costs for the baseline and each BPO are a key input to the financial analysis for Stage II. Operating costs considered for the Stage I analysis include direct medical care, administrative support, engineering and environmental management, and miscellaneous benefits and services.

The baseline operating costs were provided to Team PwC by VA. The 2004 costs were obtained from the Decision Support System (DSS), VA's official cost accounting system. This information was selected for use because DSS provides the best available data for identifying

fixed direct, fixed indirect, and variable costs. The data can be rolled up to the CIC level and the data is available nationally for all VAMCs and CBOCs. These costs are directly attributable costs and generally do not reflect the total costs of the operation.

The costs were obtained for each facility within the study scope and were aggregated into the CICs. The costs were categorized as total variable (per unit of care), total fixed direct, and total fixed indirect costs. The definition of each cost category is as follows:

- <u>Total Variable (Direct) Cost</u>: The costs of direct patient care that vary directly and proportionately with fluctuations in workload. Examples include salaries of providers and the cost of medical supplies. Variable direct cost = variable supply cost + variable labor cost. The cost of purchased care is considered a variable direct cost.
- <u>Total Fixed Direct Cost</u>: The costs of direct patient care that do not vary in direct proportion to the volume of patient activity. The word "fixed" does not mean that the costs do not fluctuate, but rather that they do not fluctuate in direct response to workload changes. Examples include depreciation of medical equipment and salaries of administrative positions in clinical areas.
- <u>Total Fixed Indirect Cost</u>: The costs not directly related to patient care, and, therefore, not specifically identified with an individual patient or group of patients. These costs are an allocation of the total other costs (i.e. not direct costs) associated with the operation of the facility. These costs are allocated to individual medical departments through VA's existing indirect cost allocation process. Examples of indirect costs include utilities, maintenance, and administration costs.

FY 2004 operating costs from DSS were deflated to FY 2003 dollars to create the costs for FY 2003 which is the base date for current cost comparison. These costs (fixed and variable) were then inflated for each year of the study period. Variable costs were multiplied by the forecasted workload for each CIC and summed to estimate total variable costs. Variable costs were also provided by VA for non-VA care. These are based on VA's actual expenses and are used in the BPOs where care is contracted.

These costs are used together with initial capital investment estimates as the basis for both the baseline option and each BPO with adjustments made to reflect the impact of implementation of the capital option being considered. Potential re-use proceeds are added to provide an overall indication of the cost of each BPO.

Summary of Business Plan Options

The individual healthcare, capital planning, and re-use options that passed the initial screening were further considered as options to comprise a BPO. A BPO is defined as consisting of a single healthcare option, combined with at least one associated capital planning option and re-use option. Therefore, the formula for a BPO is:

BPO = Healthcare option + Capital Planning option + Re-use option(s)

The following diagram illustrates the final screening results of all options given consideration:

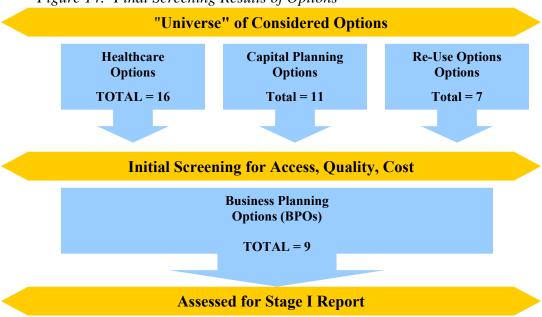


Figure 14: Final Screening Results of Options

Options Not Selected for Assessment

Several of the options created during the option development process did not pass the initial screening criteria. Table 18 lists those options that either did not pass the initial screening criteria or were deemed inferior to other options that did pass the initial screening. The table details the results of the initial screening and the reasons why these options were not selected.

Tal	ble	18:	O_{l}	otions	Not	Sel	lected	for	Assessment
-----	-----	-----	---------	--------	-----	-----	--------	-----	------------

Description	Reason(s) Not Selected
Consolidate all services at the Bedford campus and designate Brockton, Jamaica Plain, and West Roxbury campuses for re-use. Add one additional CBOC at a new urban location.	The Bedford campus was deemed unsuitable to support such a dense, consolidated facility since the property is located in a residential setting with limited vehicular and public transportation access. The implementation risk associated with securing an
Close Bedford, Brockton, Jamaica Plain, and West Roxbury campuses and consolidate all services from those campuses onto a new suburban campus.	appropriately sized suburban campus for the new facility is extremely high. Additionally, the density required for the consolidated facility would likely exceed suburban zoning regulations.
Consolidate the Jamaica Plain and West Roxbury campuses and consolidate all services from those campuses at a new urban campus. Right-size the Bedford and Brockton campuses and contract out the VISN 1 support services currently on the Brockton	This option is similar to BPO 7, except that support services would be contracted for in this option. This option was considered inferior to BPO 7 since contracting the support services may adversely impact other VISN 1 facilities outside this study that utilize the

Description	Reason(s) Not Selected
campus.	support functions provided by Brockton.
Consolidate the Brockton services at the Bedford campus. Right-size and maintain services at Jamaica Plain and West Roxbury.	The Bedford campus was deemed unsuitable to support such a dense, consolidated facility since the property is located in a residential setting with limited vehicular and public transportation access.
Close the Bedford and Brockton campuses and consolidate those services at a new suburban campus. Right-size and maintain services at Jamaica Plain and West Roxbury.	The implementation risk associated with securing an appropriately sized suburban campus for the new facility is extremely high. Additionally, the density required for the consolidated facility would likely exceed suburban zoning regulations.
Consolidate Jamaica Plain ambulatory services including research at the West Roxbury campus. Contract the inpatient acute care services provided at West Roxbury to the community. Right-size and maintain services at Bedford and Brockton.	This option was not selected for assessment as it is not compliant with VA policy that ensures provision of inpatient spinal cord services by VA
Consolidate Jamaica Plain ambulatory services at the West Roxbury. Contract the inpatient acute care services provided at West Roxbury to the community. Right size Bedford and Brockton. Construct a new urban research center.	This option was not selected for assessment as it is not compliant with VA policy that ensures provision of inpatient spinal cord services by VA.

Baseline BPO

Based upon Team PwC's methodology, the baseline BPO advances in the Stage I process. The baseline is the BPO under which there would not be significant change in either the location or type of services provided in the study site. In the baseline BPO, the Secretary's Decision and forecasted healthcare demand and trends from the demand forecast for 2023 are applied to the current healthcare provision solution for the study site. Additionally, capital improvements required to meet modern, safe, and secure standards are factored into the current state assessment to develop this BPO.

Specifically, the baseline BPO is characterized by the following:

- Healthcare continues to be provided as currently delivered, except to the extent that healthcare volume for particular procedures fall below key quality or cost effectiveness threshold levels.
- Capital costs allow for current facilities to receive such investment as is required to rectify any material deficiencies (e.g., in safety or security) such that they would provide a safe healthcare delivery environment as required in the Secretary's Decision.
- Life cycle capital costs allow for ongoing preventative maintenance and life-cycle maintenance of major and minor building elements.
- Re-use plans use such vacant space in buildings and/or vacant land or buildings that
 emerge as a result of the changes in demand for services and the facilities in which they
 sit.

Evaluation System for BPOs

Each BPO is evaluated against the baseline BPO in an assessment table providing comparative rankings across several categories and an overall attractiveness rating. The results of the BPO assessment and the Team PwC recommendation are provided in subsequent sections.

Table 19: Evaluation System Used to Compare BPOs to baseline BPO

Ratings to assess Access, Quality, Local Community, and Ability to Support VA Programs					
↑	The BPO has the potential to provide a slightly improved state compared to the				
	baseline BPO for the specific discriminating criteria (e.g., access, quality, etc)				
\leftrightarrow	The BPO has the potential to provide materially the same state as the baseline BPO				
	for the specific discriminating criteria (e.g., access, quality, etc)				
	The BPO has the potential to provide a slightly lower or reduced state compared to				
↓	the baseline BPO for the specific discriminating criteria (e.g., access, quality, etc).				
Operating cost	t effectiveness (based on results of initial healthcare/operating costs)				
ተተተ	The BPO has the potential to provide significant recurring operating cost savings				
	compared to the baseline BPO (>15%)				
A A	The BPO has the potential to provide significant recurring operating cost savings				
^	compared to the baseline BPO (>10%)				
^	The BPO has the potential to provide some recurring operating cost savings				
T	compared to the baseline BPO (5%)				
_	The BPO has the potential to require materially the same operating costs as the				
	baseline BPO (+/- 5%)				
•	The BPO has the potential to require slightly higher operating costs compared to the				
•	baseline BPO (>5%)				
$oldsymbol{\Psi}oldsymbol{\Psi}$	The BPO has the potential to require slightly higher operating costs compared to the				
	baseline BPO (>10%)				
$\Delta \Delta \Delta$	The BPO has the potential to require slightly higher operating costs compared to the				
T 1 0 11	baseline BPO (>15%)				
	al expenditures estimated				
$\psi\psi\psi\psi$	Very significant investment required compared to the baseline BPO (≥ 200%)				
44	Significant investment required compared to the baseline BPO (121% to 199%)				
_	Similar level of investment required compared to the baseline BPO (80% to 120%				
	of Baseline)				
^	Reduced level of investment required compared to the baseline BPO (40%-80%)				
<u> </u>	Almost no investment required (≤ 39%)				
	proceeds relative to baseline BPO (based on results of initial re-use study)				
<u> </u>	High demolition/clean-up costs, with little return anticipated from re-use				
-	No material re-use proceeds available				
^	Similar level of re-use proceeds compared to the baseline (+/- 20% of baseline)				
ተ	Higher level of re-use proceeds compared to the baseline (e.g., 1-2 times)				
ተ ተተ	Significantly higher level of re-use proceeds compared to the baseline (e.g., 2 or				
	more times)				
Cost avoidance	Cost avoidance (based on comparison to baseline BPO)				
-	No cost avoidance opportunity				
^	Significant savings in necessary capital investment compared to the baseline BPO				
<u> </u>	Very significant savings in essential capital investment compared the baseline BPO				
	1 J 2-g and out mgs in too and a suprime in too and a suprime bit of				

Overall cost effectiveness (based on initial net present cost calculations)				
Very significantly higher net present cost compared to the baseline BPO (>1.1				
	times)			
$\Psi\Psi$	Significantly higher net present cost compared to the baseline BPO $(1.10 - 1.15)$			
	times)			
•	Higher net present cost compared to the baseline BPO (1.05 – 1.09 times)			
-	Similar level of net present cost compared to the baseline (+/- 5% of baseline)			
^	Lower net present cost compared to the baseline (90-95% of Baseline)			
^	Significantly lower net present cost compared to the baseline BPO (85-90% of baseline)			
ተተተተ	Very significantly lower net present cost compared to the baseline BPO (<85% of baseline)			
Ease of Implementation of the BPO				
	The BPO has the potential to provide a slightly improved state compared to the			
1	baseline BPO based upon the level of impact and likelihood of occurrence of risks to			
	its implementation plan.			
\leftrightarrow	The BPO has the potential to provide materially the state of the baseline based upon			
. , ,	the level of impact and likelihood of occurrence of risks to its implementation plan.			
	The BPO has the potential to provide a slightly lower or reduced state compared to			
\	the baseline BPO based upon the level of impact and likelihood of occurrence of			
Overell 6 A 44ma	risks to its implementation plan.			
Overall "Attra	ctiveness" of the BPO Compared to the baseline			
	Very "attractive" – highly likely to offer a solution that improves quality and/or access compared to the baseline while appearing significantly more cost effective			
ተተተተ	compared to the baseline.			
	"Attractive" - likely to offer a solution that at least maintains quality and access			
^	compared to the baseline while appearing more cost effective compared to the			
1.1	baseline.			
-	Generally similar to the baseline.			
	Less "attractive" compared to the baseline - likely to offer a solution that while			
$oldsymbol{\Psi}oldsymbol{\Psi}$	maintaining quality and access compared to the baseline appears less cost effective			
	compared to the baseline.			
	Significantly less "attractive" – highly likely to offer a solution that may adversely			
+	impact quality and access compared to the baseline and appearing less (or much less)			
	cost effective compared to the baseline.			

Stakeholder Input: Purpose and Methods

VA determined at the beginning of the CARES process that it would use the Federal Advisory Committee Act (FACA) process to solicit stakeholder input and to provide a public forum for discussion of stakeholder concerns because "[t]he gathering and consideration of stakeholder input in this scope of work is of great importance." According to the Statement of Work, the purpose of LAP appointed under the FACA is to

provide the Contractor with a perspective on previous CARES local planning products, facility mission and workload, facility clinical issues, environmental factors, VISN referral and cross cutting issues in order to assist the Contractor in the refinement of the

options the Contractor shall recommend. The Federal Advisory Committee will also provide feedback to the Contractor on proposed options and recommendations.

The Local Advisory Panel is required to hold at least four public meetings at which stakeholders would have an opportunity to present testimony and comment on the work performed by Team PwC and the deliberations of the LAP.

Team PwC also devised methods for stakeholders to communicate their views without presenting testimony at the LAP meetings. Throughout Stage I, a comment form was available electronically via the CARES website and in paper form at the first LAP public meeting. In addition, stakeholders were advised that they could submit any written comments or proposals to a central mailing address, and a number of stakeholders used this method as well.

The time in which stakeholder input was collected during Stage I can be divided into two input periods – Input Period One and Input Period Two. The intent of Input Period One was to collect general stakeholder input to assist in the development of potential BPOs, while Input Period Two allowed stakeholders to comment on the specific BPOs presented at the public LAP meeting. Input Period One started in April 2005 and ended on the day that the comment form with specific BPOs was available for public comment on the CARES website. For both periods, stakeholder input was reviewed and categorized into nine categories of concern which are summarized in Table 20.

For Input Period Two, stakeholders were provided with a brief description of the BPOs and asked to indicate whether they favored the option, were neutral about the option, or did not favor the option. Ten days after the second LAP meeting was held, Team PwC summarized all of the stakeholder views that were received during Input Period Two (Input Period One had been previously summarized), and this information is included in this report.

Table 20: Definitions of Categories of Stakeholder Concern

Stakeholder Concern	Definition		
Effect on Access	Involves a concern about traveling to another facility or the location of the present facility.		
Maintain Current Service/Facility	General comments related to keeping the facility open and maintaining services at the current site.		
Support for Veterans	Concerns about the federal government/VA's obligation to provide health care to current and future veterans.		
Effect on Healthcare Services & Providers	Concerns about changing services or providers at a site.		
Effect on Local Economy	Concerns about loss of jobs or local economic effects of change.		
Use of Facility	Concerns or suggestions related to the use of the land or facility.		
Effect on Research & Education	Concerns about the impact a change would have on research or education programs at the facility.		
Administration's Budget or Policies	Concerns about the effects of the administration's budget or other policies on health care for veterans.		
Unrelated to the Study Objectives	Other comments or concerns that are not specifically related to the study.		

Summarized stakeholder views were available to LAP members for their review and consideration when evaluating BPOs as well as in defining new BPOs.

Stakeholder Input to Business Plan Option Development

Approximately 115 members of the public attended the first LAP meeting held on May 13, 2005 and approximately 130 members of the public attended the second LAP meeting held on September 27, 2005. A total of 727 forms of stakeholder input (general comments on the study as well as specific BPOs) were received between April 20 and October 7, 2005. The concerns of stakeholders who submitted general comments not related to specific BPOs are summarized in the Table 21:

Table 21: Analysis of General Stakeholder Concerns (Periods One and Two)

Key Concern	Number of Comments		
	Oral	Written and Electronic	Total
Effect on Access	14	136	150
Maintain Current Service/ Facility	12	279	291
Support for Veterans	14	184	198
Effect on Healthcare Services and Providers	7	67	74
Effect on Local Economy	1	6	7
Use of Facility	10	147	157
Effect on Research and Education	3	11	14
Administration's Budget or Policies	9	10	19
Unrelated to the Study Objectives	2	8	10

6.0 Business Plan Options

The option development process resulted in a multitude of discrete healthcare, capital planning, and re-use options, which were subsequently screened to determine whether a particular option had the potential to meet or exceed the CARES objectives (i.e., access, quality, and cost). Overall, the baseline and an additional eight BPOs (comprising healthcare, capital planning, and re-use components) passed initial screening and were developed for Stage I (see Figure 14). Therefore, a total of nine BPOs were developed and assessed at a more detailed level according to the discriminating criteria. The BPOs reflect options related to the consolidation of the four campuses to three or fewer campuses as well as the establishment of CBOCs in the Boston service area (see Table 22). The placement of CBOCs in the various BPOs was designed to resemble the current locations of care provision throughout urban Boston and suburban North and South Shore areas. This intent of this design was to allow the BPOs to meet one of the CARES primary objectives of maintaining access.

One additional BPO (BPO 10) was proposed by the LAP at the second LAP Public Meeting. This BPO is a modification of BPO 6; where BPO 6 moves Jamaica Plain to West Roxbury, BPO 10 moves West Roxbury to Jamaica Plain.

Table 22: Business Plan Options

BPO 1: Baseline

Current state projected out to 2013 and 2023 without any changes to facilities or programs, but accounting for projected utilization changes, and assuming same or better quality, and necessary maintenance for a modern, safe, and secure healthcare environment. All services currently being provided at each of the four campuses will continue. Re-use potential is not addressed in the baseline.

BPO 2: Consolidate all Services at West Roxbury; Re-use Bedford, Brockton, and Jamaica Plain; Build CBOC at Brockton

All services currently located at Bedford, Brockton, and Jamaica Plain will be closed and moved to West Roxbury. In addition to maintaining the existing CBOCs, an additional CBOC will be established in Brockton. A new 15-story tower and three- story building will be constructed adjacent to existing Buildings 2 and 3 at the West Roxbury campus. Three new parking structures and one new surface parking area also will be constructed. Bedford, Brockton, and Jamaica Plain campuses will be designated for complete re-use.

BPO 3: Consolidate all Services at Jamaica Plain; Re-use Bedford, Brockton, and West Roxbury; Build CBOC at Brockton

All services currently located at Bedford, Brockton, and West Roxbury will be consolidated at Jamaica Plain. In addition to the existing CBOCs, an additional CBOC will be established in Brockton. Existing buildings on the Jamaica Plain campus will be demolished and three new towers (at heights of 5, 13, and 13 stories) will be constructed along with two new parking towers (both at heights of 10 stories) and two surface parking areas. Bedford, Brockton, and West Roxbury campuses will be designated for complete re-use.

BPO 4: Consolidate All Services at Brockton; Re-use Bedford, West Roxbury, and Jamaica Plain; Build CBOC at New Urban Location

All services currently located at Bedford, Jamaica Plain, and West Roxbury will be consolidated at Brockton. In addition to existing CBOCs, an additional CBOC will be established at an urban location. Buildings 2, 3, 4, and 20 will remain at the Brockton campus and two new five-story buildings will be constructed. Three new parking structures and four surface parking areas will also be constructed. Bedford, Jamaica Plain, and West Roxbury campuses will be designated for complete re-use.

BPO 5: Consolidate all Services at New Urban Campus; Re-Use Bedford, Brockton, West Roxbury, and Jamaica Plain; Build CBOC at Brockton

All services currently located at Bedford, Brockton, Jamaica Plain, and West Roxbury will be consolidated at a new urban campus. In addition to existing CBOCs, an additional CBOC will be established at Brockton. A new multi-tower facility will be constructed at the new urban location along with two parking structures and four surface parking areas. Bedford, Brockton, Jamaica Plain, and West Roxbury campuses will be designated for complete re-use.

BPO 6: Consolidate Jamaica Plain at West Roxbury; Re-Use Jamaica Plain; Right-Size West Roxbury, Brockton, and Bedford

All services currently located at Jamaica Plain will be closed and moved to the West Roxbury campus. Some primary care services will be moved to Brockton and Bedford. In addition to maintaining existing CBOCs, an additional CBOC will be established at an urban location. At West Roxbury, Buildings 1, 2, and 3 will remain and three additions will be constructed, as well as two new parking structures and two new surface parking areas. Bedford and Brockton will be right-sized through the addition of a five-story building and three-story parking structure at Bedford, and three-story building and multiple surface parking areas at Brockton. The Jamaica Plain campus will be designated for complete reuse. Bedford and Brockton will be designated for partial re-use.

BPO 7: Build New Acute Care and Research Facility at Urban Location; Right-Size Bedford and Brockton; Re-Use Jamaica Plain and West Roxbury

Consolidate West Roxbury and Jamaica Plain services at a new, urban campus. Bedford and Brockton campuses will be right-sized to meet the projected utilization demand. In addition to maintaining existing CBOCs, an additional CBOC will be established at an urban location. The VISN 1 support services currently located at the Brockton campus will remain. A six-story building will be constructed at the new urban campus, as well as two parking structures and three surface parking areas. Bedford and Brockton are right-sized as in BPO 6. The Jamaica Plain and West Roxbury campuses will be designated for complete re-use. Bedford and Brockton will be designated for partial re-use.

BPO 8: Consolidate Bedford at Brockton; Right-Size Jamaica Plain and West Roxbury; Build New CBOCs at Urban Location and North Shore

All services currently located at Bedford will be consolidated onto the Brockton campus. Services currently located at the Jamaica Plain and West Roxbury campuses will remain. In addition to existing CBOCs, an additional CBOC will be established at an urban location, and one CBOC will be established at a North Shore location. Buildings 2, 3, 4, and 20 will remain at Brockton and two new five-story buildings will be constructed as well as a parking structure and three surface parking areas. Jamaica Plain will be right-sized by vacating Buildings 2 and 9, and the West Roxbury campus will be right-sized by constructing a three-story addition to Building 2 and a new parking structure. The Bedford campus will be designated for complete re-use. Jamaica Plain will be designated for partial re-use.

BPO 9: Consolidate Bedford and Brockton at West Roxbury; Consolidate Inpatient, Ambulatory Care, and Research at Jamaica Plain; Build New CBOCs at North Shore and South Shore

All services currently located at Bedford and Brockton will be consolidated at the West Roxbury campus. All services currently located at the West Roxbury campus will be moved to Jamaica Plain. In addition to existing CBOCs, an additional CBOC will be established at a South Shore location, and an additional CBOC will be established at a North Shore location. The existing buildings at Jamaica Plain will be demolished and three new buildings (at heights of three, five, and eight stories), two new parking structures (at both at heights of four stories), and two new surface parking areas will be constructed. At West Roxbury, a ten-story tower and three-story building will be constructed adjacent to Buildings 2 and 3. Additionally, three new parking structures and a new surface parking area will be constructed. The Bedford and Brockton campuses will be designated for complete re-use. The Jamaica Plain campus will be designated for partial re-use.

BPO 10: Consolidate West Roxbury at Jamaica Plain; Re-Use West Roxbury; Right-Size Brockton and Bedford All services currently located at West Roxbury will be closed and moved to the Jamaica Plain campus. Some primary care services will be moved to Brockton and Bedford. In addition to existing CBOCs, add one CBOC at an urban location. The West Roxbury campus will be designated for re-use.

BPO 1: Baseline

"Baseline" describes the current state projected out to 2013 and 2023 without any changes to facilities or programs or locations thereof. Baseline state accounts for projected utilization and enrollment changes, and assumes same or better quality, and necessary maintenance for a safe, secure, and modern healthcare environment. All services currently provided at each of the four campuses will continue. ⁴¹ Re-use potential is not addressed in the baseline.

Assessment

Table 23 summarizes the assessment of the baseline BPO according to the discriminating criteria.

Table 23: Baseline Assessment

Assessment of Baseline	Description	
Healthcare Access		
Primary	96% of enrollees are within the drive time guidelines. The primary care access threshold is 70%. Therefore, the Boston study site meets the drive time access guideline for primary care.	
Acute	87% of enrollees are within the drive time guidelines. The acute care access threshold is 70%. Therefore, the Boston study site meets the drive time access guideline for acute care.	
Tertiary	100% of enrollees are within the drive time guidelines. The tertiary care threshold is 65%. Therefore, the Boston study site meets the access guideline for tertiary care.	
H M O P		
Healthcare Quality	BHS achieved the following for select quality scores as compared to	
Quality of medical services	 both VISN and overall VA national scores: Better or comparable scores for inpatient care, ambulatory care, mental health (global index), nursing home (pressure sores), and patient satisfaction (ambulatory care). Worse scores for mental health (major depressive disorder), nursing home (physical restraint), and patient satisfaction (inpatient care). Bedford achieved the following for select quality scores as compared to both VISN and overall VA national scores: Better or comparable scores for ambulatory care, mental health, and patient satisfaction. Worse scores for nursing home. 	
Modern, safe, and secure environment	Boston facilities have ratings in the range of 2.2 to 4.4 out of 5 for critical values such as accessibility, code, layout, adjacencies, and privacy. The baseline assumes all facilities will receive the necessary investment to rectify any material deficiencies in order to provide a modern, safe, and secure healthcare delivery environment.	

⁴¹ The baseline cannot accommodate the projected chronic spinal cord injury bed requirement. However, all of the proposed BPOs will be designed and costed to meet this requirement in the Stage II analysis.

Assessment of Baseline	Description
Ensures forecast healthcare need is appropriately met	The baseline assumes the percentage of in-house and contracted care is maintained. Additionally, baseline assumes that in order to maintain quality of care and meet VA thresholds for clinical volume, VA will make necessary operational adjustments (e.g., staffing or contract arrangements) as necessary and available. The baseline facilities cannot accommodate the projected increases in the SCI services over the projection period, specifically a 247% projected increase for chronic SCI utilization at Brockton. This service is not provided for in the community; therefore, the baseline cannot ensure the forecast healthcare need is appropriately met. ⁴² .
Impact on VA and Local Community	
Human Resources:	
FTEE need (based on volume)	With the projected changes in utilization, it is anticipated that the baseline results in an increase from the current state.
Recruitment / retention	Bedford and Brockton experience little difficulty recruiting and retaining human resources due to competitive wages, benefits, and job security. West Roxbury and Jamaica Plain must compete with local Boston hospitals for healthcare talent. The current recruitment environment is expected to be maintained in the baseline
Research	In FY04, Boston conducted approximately 635 research protocols, lead by nearly 270 principal investigators and spent approximately \$39.5M of funding on research programs. Research interests cross a variety of fields including mental illness, alcoholism, gastrointestinal disorders, cardiology and cardiovascular diseases, hematology, pulmonary medicine, urology, neurology, spinal cord injury, hemostasis, aphasia, language and memory disorders, post traumatic stress disorder (PTSD), infectious diseases, neuropsychiatry, and geriatrics.
Education and Academic Affiliations	Every year, BHS and Bedford train approximately 2,000 medical professionals. The principal academic affiliates for the Boston site are Boston University and Harvard University along with other surrounding universities and colleges. These affiliations and training programs are assumed to be maintained in the baseline.
Use of VA Resources	
Operating cost effectiveness	Boston operating costs include those costs associated with providing care onsite at the four Boston VAMC campuses, as well as purchasing care contracted from other providers.
Level of capital expenditures estimated	Level of capital expenditures estimated includes the costs identified by the facility and captured in the CAI database reflecting essential maintenance and capital required to achieve a modern, safe, and secure environment.
Level of re-use proceeds	There is no re-use in the baseline.
Cost avoidance	In the baseline, it is assumed that the amount of money identified by the facility in the CAI database as essential maintenance would be fully expended.

The baseline cannot accommodate the projected chronic spinal cord injury bed requirement. However, all of the proposed BPOs will be designed and costed to meet this requirement in the Stage II analysis.

Assessment of Baseline	Description		
Overall cost effectiveness	Not applicable for the baseline.		
Ease of Implementation Ease of BPO Implementation	The baseline presents implementation risk in terms of the following major risk categories:		
Ability to Support VA Programs			
DoD sharing	The 54-acre golf course and driving range at the Bedford VAMC is maintained by the United States Air Force.		
One-VA Integration	The baseline has the potential to provide the same level of current One-VA integration.		
Special Considerations	No special considerations are noted.		

Figures 15 through 18 provide a summary of the site plans for BPO 1.

Figure 15: BPO 1 Site Plan - Bedford VAMC

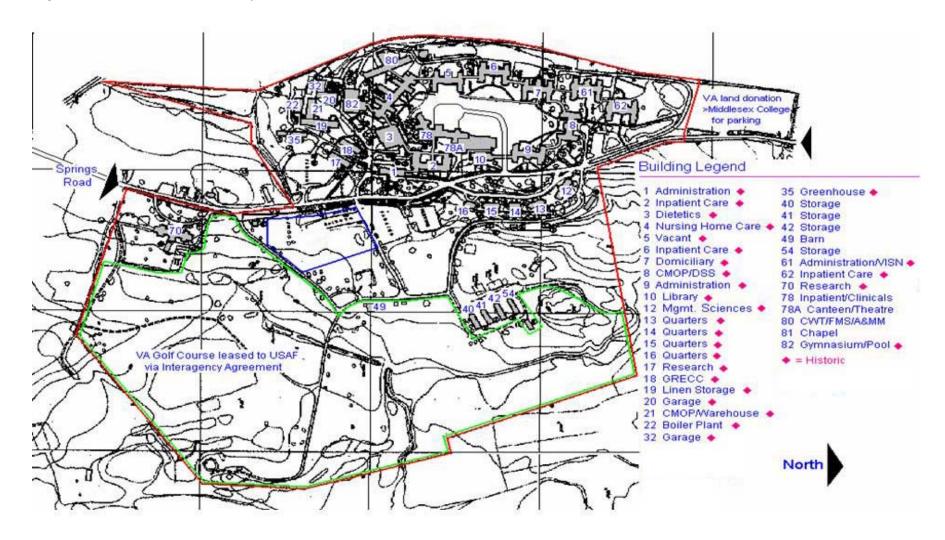


Figure 16: BPO 1 Site Plan for Brockton VAMC

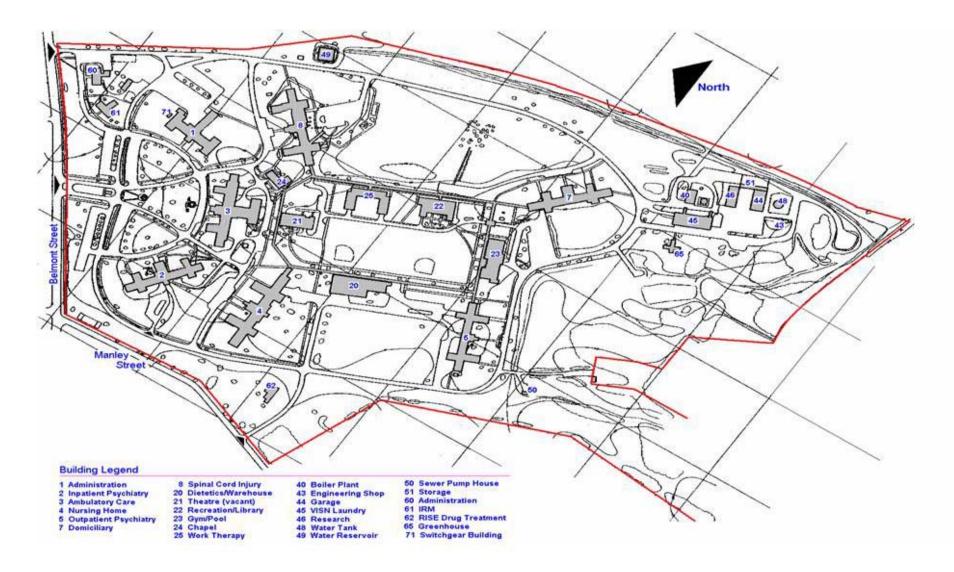


Figure 17: BPO 1 Site Plan - Jamaica Plain VAMC

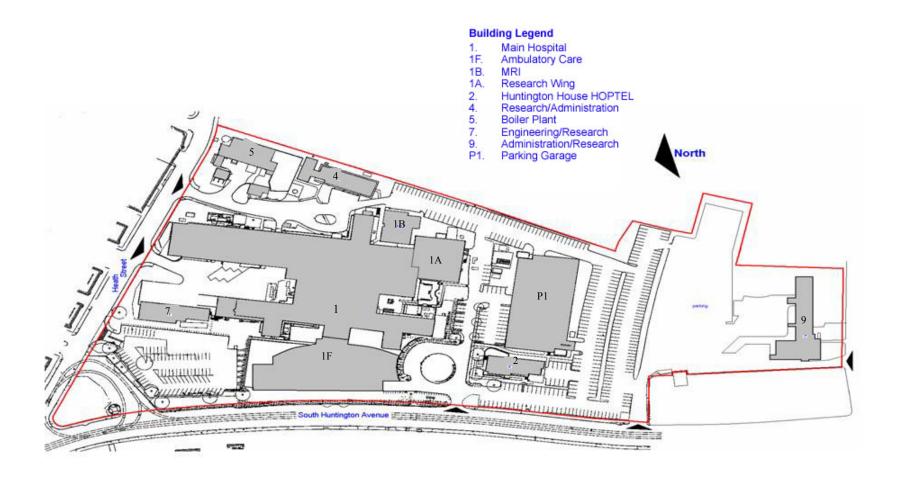
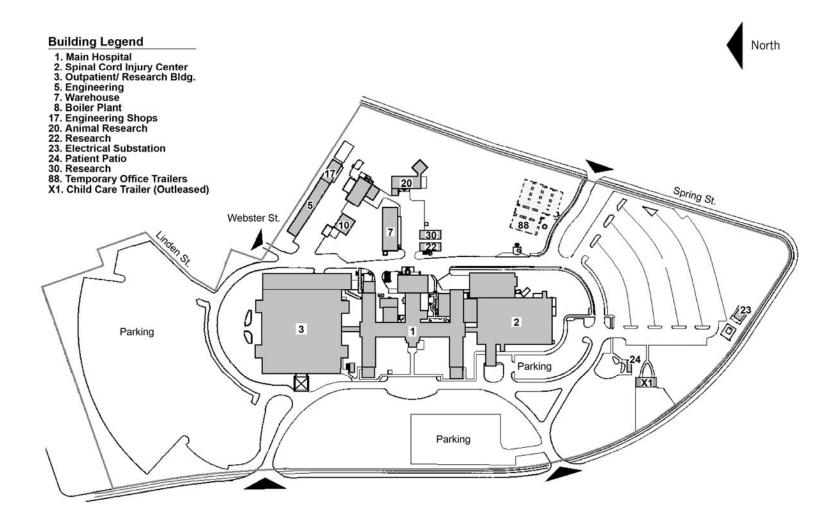
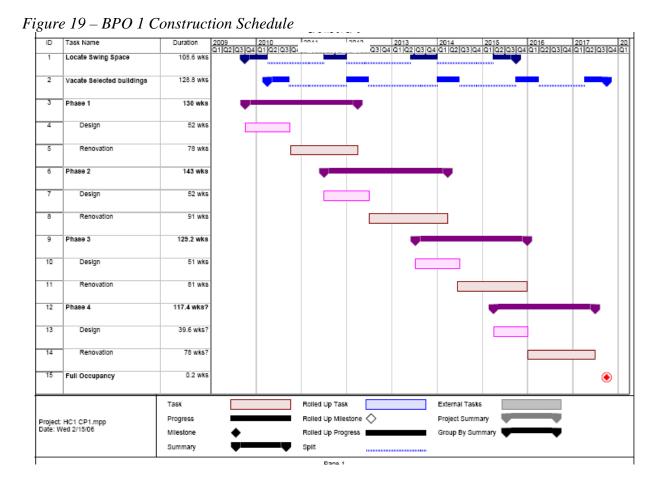


Figure 18: BPO 1 Site Plan - West Roxbury VAMC



Schedules for development in Stage I are intended to identify relative duration of new or renovated work in order to calculate the occupancy date for utilization of space and escalation costs. Figure 19 indicates the construction duration for this BPO. The phases shown in the schedule are ordered in terms of clinical complexity with Phase 1 representing the timing for the West Roxbury campus, Phase 2 for the Jamaica Plain campus, Phase 3 for the Bedford campus, and Phase 4 for the Brockton campus.



<u>BPO 2</u>: Consolidate all Services at West Roxbury; Re-use Bedford, Brockton, and Jamaica Plain; Build CBOC at Brockton

All services currently located at Bedford, Brockton, and Jamaica Plain will be closed and moved to West Roxbury. In addition to maintaining existing CBOCs, an additional CBOC will be established in Brockton. A new 15-story tower and three-story building will be constructed adjacent to existing Buildings 2 and 3 at the West Roxbury campus. Three new parking structures and one new surface parking area also will be constructed. Bedford, Brockton, and Jamaica Plain campuses will be designated for complete re-use.

Assessment

Table 24 summarizes the assessment of the baseline BPO according to the discriminating criteria.

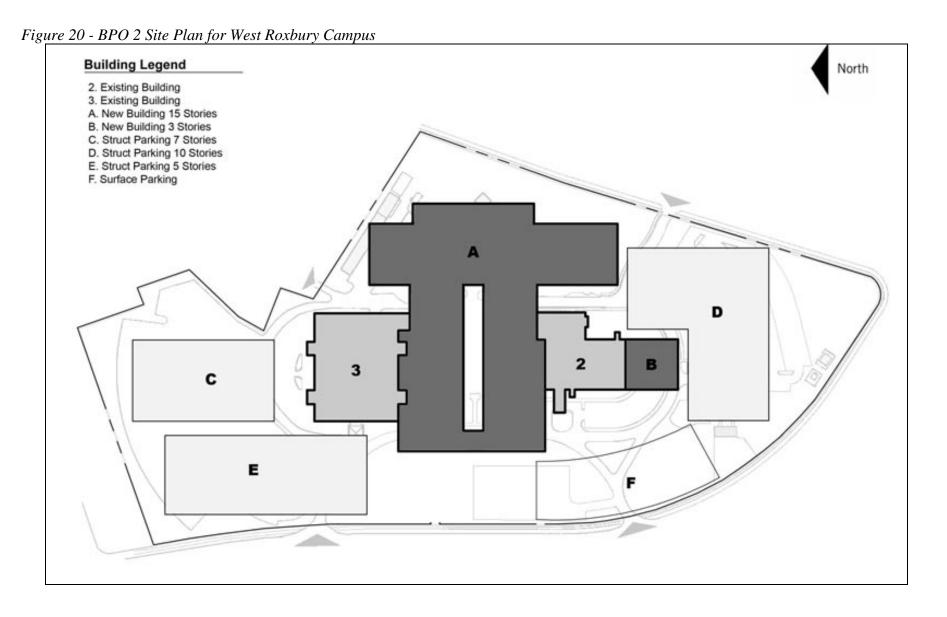
Table 24: BPO 2 Assessment

Assessment of BPO 2	Comparison to baseline	Description of Impact
Healthcare Access		
Primary	↓	This BPO is expected to decrease the percentage of enrollees meeting VA drive time access guidelines for primary care by 1% (equivalent to approximately 985 enrollees) from the baseline. This is due to the relocation of the majority of primary care services from all four VAMCs to just the West Roxbury campus, except those retained at Brockton through the establishment of a CBOC. It should be noted that although negatively impacted, the percentage of enrollees meeting drive time standards is still above VA thresholds.
Acute	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for acute care. Although the consolidation locates all acute services on the West Roxbury campus, a significant portion of acute care services were already provided at this campus. Therefore, the drive time for enrollees to acute care services should not be materially affected.
Tertiary	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for tertiary care despite the consolidation of services to the West Roxbury campus.
Healthcare Quality		
Quality of medical services	<u></u>	The consolidation of all services provided by the Boston study site onto a single location has the potential to improve quality of medical services over the baseline in which services are dispersed among four campuses.

Assessment of BPO 2	Comparison to baseline	Description of Impact
Modern, safe, and secure Environment	1	Newly constructed facility will have the ability to provide for a more modern, safe, and secure environment than renovated facilities in the baseline.
Ensures forecast healthcare need is appropriately met	↑	The facility has the capacity to meet the 2023 projected utilization for the Boston study site. Since the baseline cannot accommodate the projected growth in chronic spinal cord injury and the community cannot provide for this service, this BPO better ensures that the forecast healthcare need is appropriately met.
Impact on VA and Local Community		
Human Resources:		
FTEE need (based on volume)	Decrease	The BPO will result in a slight decrease in FTEEs as some duplicative positions (i.e. administrative, engineering, etc.) would no longer be required when services are consolidated into a single campus. Any new staff required for the CBOC should not offset the reduction due to the consolidation.
Recruitment / retention	\leftrightarrow	No change from the baseline is expected. West Roxbury is located in a fairly central location which should be relatively accessible for staff relocating from all four campuses. Thus, the relocation should not have a significant effect on recruitment and retention.
Research	1	BPO 2 has the potential to improve collaboration among VA researchers since all research programs will be collocated on a single campus. Although the consolidation relocates Jamaica Plain research programs further away from many research collaborators, research programs at Bedford and Brockton are relocated closer to research collaborators. The BPO also provides new, modern research space.
Education and Academic Affiliations	1	Although the consolidation relocates Jamaica Plain education and training programs further away from the academic affiliates, education and training programs at Bedford and Brockton are relocated closer to academic affiliates. Thus, overall, the BPO has the potential to result in improved education and academic affiliations.
Cost Effectiveness		
Operating cost effectiveness	ተ ተተ	The consolidation of services onto a single campus and new construction allow for the site to achieve operating efficiencies as compared to the baseline.
Level of capital expenditures estimated	44	The capital expenditure required for renovations and new construction to meet 2023 projected utilization at the West Roxbury campus is significantly greater than baseline renovations to the existing space at the Boston study site.

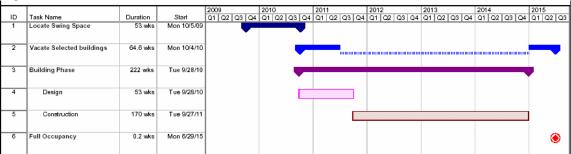
Assessment of BPO 2	Comparison to baseline	Description of Impact
Level of re-use proceeds	ተው baseline	This BPO allows for the complete re-use of the Bedford, Brockton, and Jamaica Plain campuses. The re-use of these three campuses is expected to result in significant re-use proceeds as compared to the baseline.
Cost avoidance opportunities	-	Since the level of capital expenditures estimated is significantly greater than the baseline, there are no cost avoidance opportunities with respect to capital investment.
Overall cost effectiveness	ተ ተተተ	As noted previously, operating costs are expected to be significantly lower and re-use proceeds are expected to be significantly higher than the baseline. Although a higher level of capital expenditure is anticipated, this increased cost does not offset the operating cost savings and the increased re-use proceeds. Therefore, the BPO results in very significantly lower net present cost compared to the baseline (<85% of baseline).
Ease of Implementation		
Ease of BPO Implementation	1	The BPO is riskier than the baseline in terms of the following major risk categories: • Security, since the consolidation to a single campus reduces the flexibility to effectively respond to national emergencies • Organizational and change management, since consolidation involves significant displacement of VAMC staff • Compliance, zoning and environmental remediation requirements may pose hindrances to implementing re-use options • Political acceptance, given political support will be required for successful implementation
Widow VA Duoguom Cunnout		
Wider VA Program Support DoD sharing	\	The DoD sharing arrangement of the golf course located at the Bedford campus would be eliminated due to the re-use of the entire Bedford campus.
One-VA Integration	\leftrightarrow	Consolidation to the West Roxbury campus neither promotes nor precludes the furthering of One-VA integration.
Special Considerations	\	Consolidation to the West Roxbury campus eliminates the flexibility that enables the ability to respond to national emergencies.
Overall Attractiveness	ተ ተተተ	This BPO impacts access to primary care; however, it significantly improves quality and cost effectiveness. Therefore, BPO 2 is very attractive as compared to the baseline.

Figure 20 provides a summary of the proposed conceptual site plan for BPO 2.



Schedules for development in Stage I are intended to identify relative duration of new or renovated work in order to calculate the occupancy date for utilization of space and escalation costs. Figure 21 indicates the construction duration for this BPO.

Figure 21 – BPO 2 Construction Schedule



BPO 3: Consolidate all Services at Jamaica Plain; Re-use Bedford, Brockton, and West Roxbury; Build CBOC at Brockton

All services currently located at Bedford, Brockton and West Roxbury will be consolidated at Jamaica Plain. In addition to maintaining existing CBOCs, an additional CBOC will be established in Brockton. Existing buildings on the Jamaica Plain campus will be demolished and three new towers (at heights of 5, 13, and 13 stories) will be constructed along with two new parking towers (both at heights of 10 stories) and two surface parking areas. Bedford, Brockton and West Roxbury campuses will be designated for complete re-use.

Assessment

Table 25 summarizes the assessment of the baseline BPO according to the discriminating criteria.

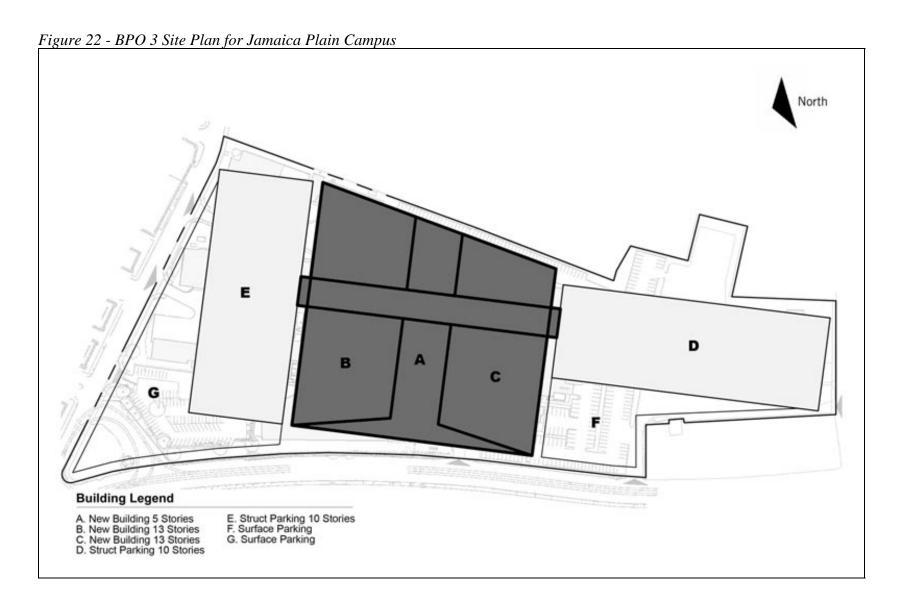
Table 25: BPO 3 Assessment

Assessment of BPO 3	Comparison to baseline	Description of Impact
Healthcare Access		
Primary	\	This BPO is expected to decrease the percentage of enrollees meeting VA drive time access guidelines for primary care by 2% (equivalent to approximately 1,970 enrollees) from the baseline. This is due to the relocation of primary care services from all four VAMCs to just the Jamaica Plain campus, except for those retained at Brockton through the establishment of a CBOC. It should be noted that although negatively impacted, the percentage of enrollees meeting drive time standards is still above VA thresholds.
Acute	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for acute care despite the consolidation of services to the Jamaica Plain campus.
Tertiary	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for tertiary care despite the consolidation of services to the Jamaica Plain campus.
Healthcare Quality		
Quality of medical services	↑	The consolidation of all services provided by the Boston study site onto a single location has the potential to improve quality of medical services over the baseline in which services are dispersed among four campuses.
Modern, safe, and secure environment	1	Newly constructed facility will have the ability to provide for a more modern, safe, and secure environment than renovated facilities in the baseline.

Assessment of BPO 3	Comparison to baseline	Description of Impact
Ensures forecast healthcare need is appropriately met	1	The facility has the capacity to meet the 2023 projected utilization for the Boston study site. Since the baseline cannot accommodate the projected growth in chronic spinal cord injury and the community cannot provide for this service, this BPO better ensures that the forecast healthcare need is appropriately met.
Impact on VA and Local Community		
Human Resources:		
FTEE need (based on volume)	Decrease	The BPO will result in a slight decrease in FTEEs as some duplicative positions (i.e., administrative, engineering, etc.) would no longer be required when services are consolidated into a single campus. Any new staff required for the CBOC should not offset the reduction due to the consolidation.
Recruitment / retention	1	The Jamaica Plain campus is a very centrally located site in the Boston metropolitan area and is very accessible via public transportation. This BPO is expected to have a positive effect on the ability to recruit and retain human resources.
Research	1	This BPO has the potential to improve collaboration among VA researchers since all research programs will be collocated on one campus. Additionally, the consolidation of programs onto the Jamaica Plain campus locates programs within close proximity to research collaborators. Finally, the BPO also provides new, modern research space.
Education and Academic Affiliations	1	The consolidation relocates education and training programs to the Jamaica Plain campus which is the campus within closest proximity to the academic affiliates. Thus, the BPO has the potential to result in improved education and academic affiliations.
Cost Effectiveness		
Operating cost effectiveness	ተተተ	The consolidation of services onto a single campus and new construction allow for the site to achieve operating efficiencies as compared to the baseline.
Level of capital expenditures estimated	44	The capital expenditure required for renovations and new construction to meet 2023 projected utilization at the Jamaica Plain campus is significantly greater than baseline renovations to the existing space at the Boston study site.
Level of re-use proceeds	ተተተ	This BPO allows for the complete re-use of Bedford, Brockton, and West Roxbury campuses. The re-use of these three campuses is expected to result in significant re-use proceeds as compared to the baseline.
Cost avoidance opportunities	-	Since the level of capital expenditures estimated is significantly greater than the baseline, there are no cost avoidance opportunities with respect to capital investment.

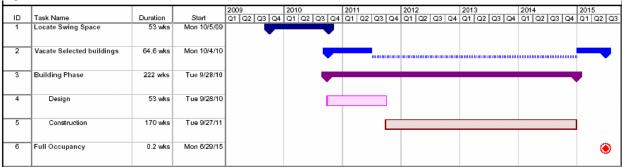
Assessment of BPO 3	Comparison to baseline	Description of Impact
Overall cost effectiveness	ተ ተተተ	As noted previously, operating costs are expected to be significantly lower and re-use proceeds are expected to significantly higher than the baseline. Although a higher level of capital expenditure is anticipated, this increased cost does not offset the operating cost savings or increased re-use proceeds. Therefore, the BPO results in very significantly lower net present cost compared to the baseline (<85% of baseline).
Ease of Implementation		
Ease of BPO Implementation	1	The BPO is riskier than the baseline in terms of the following major risk categories: • Security, since the consolidation to a single campus reduces the flexibility to effectively respond to national emergencies • Organizational and change management, since consolidation involves significant displacement of VAMC staff • Infrastructure, since the size of the consolidated facilities may be dissimilar to surrounding structures • Compliance, zoning, and environmental remediation requirements may pose hindrances to implementing re-use options • Political acceptance, given political support will be required for successful implementation
Wider VA Program Support		
DoD sharing	↓	The DoD sharing arrangement of the golf course located at the Bedford campus would be eliminated due to the re-use of the entire Bedford campus.
One-VA Integration	\leftrightarrow	Consolidation to the Jamaica Plain campus neither promotes nor precludes the furthering of One-VA integration.
Special Considerations	↓	Consolidation to the Jamaica Plain campus, located downtown in a major metropolitan area, eliminates the flexibility that enables the ability to respond to national emergencies.
		TI: ppo:
Overall Attractiveness	ተተተተ	This BPO impacts access to primary care; however, it significantly improves quality and cost effectiveness. Therefore, BPO 3 is very attractive as compared to the baseline.

Figure 22 provides a summary of the proposed conceptual site plan for BPO 3.



Schedules for development in Stage I are intended to identify relative duration of new or renovated work in order to calculate the occupancy date for utilization of space and escalation costs. Figure 23 indicates the construction duration for this BPO.

Figure 23 - BPO 3- Construction Schedule



BPO 4: Consolidate all Services at Brockton; Re-use Bedford, West Roxbury, and Jamaica Plain; Build CBOC at New Urban Location

All services currently located at Bedford, Jamaica Plain, and West Roxbury will be consolidated at Brockton. In addition to existing CBOCs, an additional CBOC will be established at an urban location. Buildings 2, 3, 4, and 20 will remain at the Brockton campus and two new five-story buildings will be constructed. Three new parking structures and four surface parking areas will also be constructed. Bedford, Jamaica Plain, and West Roxbury campuses will be designated for complete re-use.

Assessment

Table 26 summarizes the assessment of the baseline BPO according to the discriminating criteria.

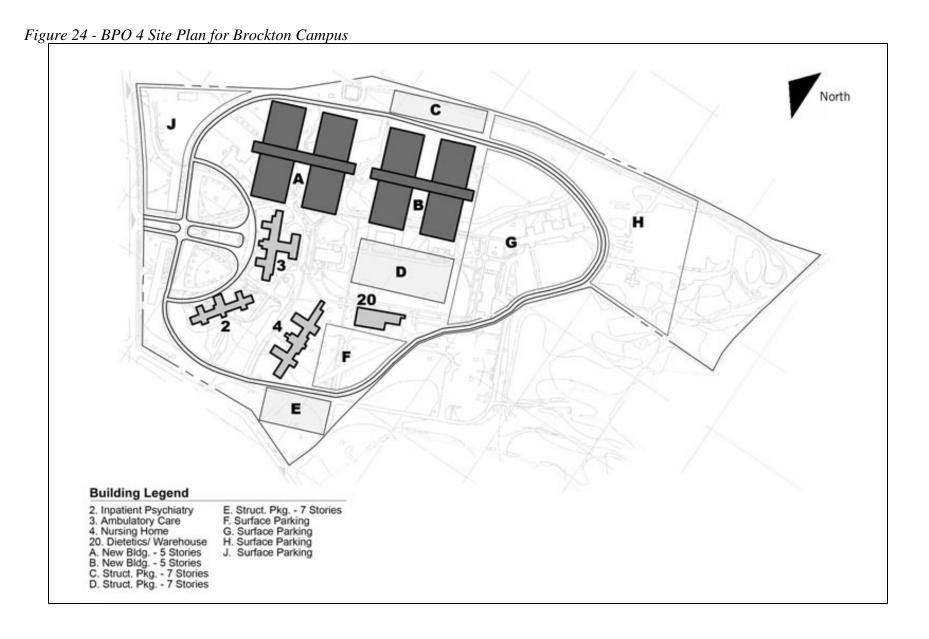
Table 26: BPO 4 Assessment

Assessment of BPO 4	Comparison to baseline	Description of Impact
Healthcare Access		
Primary	\	This BPO is expected to decrease the percentage of enrollees meeting VA drive time access guidelines for primary care by 1% (equivalent to approximately 985 enrollees) from the baseline. This is due to the relocation of primary care services from all four VAMCs to just the Brockton campus, except for those retained at an urban location through the establishment of a CBOC. It should be noted that although negatively impacted, the percentage of enrollees meeting drive time standards is still above VA thresholds.
Acute	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for acute care despite the consolidation of services to the Brockton campus.
Tertiary	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for tertiary care despite the consolidation of services to the Brockton campus.
Healthcare Quality		
Quality of medical services	↑	The consolidation of all services provided by the Boston study site onto a single location has the potential to improve the quality of medical services over the baseline in which services are dispersed among four campuses.
Modern, safe, and secure environment	1	Newly constructed facilities will have the ability to provide for a more modern, safe, and secure environment than renovated facilities in the baseline.

Assessment of BPO 4	Comparison to baseline	Description of Impact
Ensures forecast healthcare need is appropriately met	1	The facility has the capacity to meet the 2023 projected utilization for the Boston study site. Since the baseline cannot accommodate the projected growth in chronic spinal cord injury and the community cannot provide for this service, this BPO better ensures that the forecast healthcare need is appropriately met.
Impact on VA and Local Community Human Resources:		
FTEE need (based on volume)	Decrease	The BPO will result in a slight decrease in FTEEs as some duplicative positions (i.e., administrative, engineering, etc.) would no longer be required when services are consolidated into a single campus. Any new staff required for the CBOC should not offset the reduction due to the consolidation.
Recruitment / retention	\	The Brockton campus is located 20 miles south of Boston and is not conveniently accessible via public transportation. Therefore, this BPO is expected to have a negative effect on the ability to recruit and retain human resources.
Research	↔	This BPO has the potential to improve collaboration among VA researchers since all research programs will be collocated on one campus in new, modern research space. However, all programs are located further away from research collaborators located closer to downtown Boston. Therefore, there is not expected to be a net effect on the Boston study site research programs.
Education and Academic Affiliations	↓	The BPO relocates education and training programs farther away from the academic affiliates onto the Brockton campus. Therefore, there is an expected negative effect on the education and academic affiliations.
Cost Effectiveness		
Operating cost effectiveness	ተተተ	The consolidation of services onto a single campus and new construction allow for the site to achieve operating efficiencies as compared to the baseline.
Level of capital expenditures estimated	44	The capital expenditure required for renovations and new construction to meet 2023 projected utilization at the Brockton campus is significantly greater than baseline renovations to the existing space at the Boston study site.
Level of re-use proceeds	ተተተ	This BPO allows for the complete re-use of Bedford, Jamaica Plain, and West Roxbury campuses. The re-use of these three campuses is expected to result in significant re-use proceeds as compared to the baseline.
Cost avoidance opportunities	-	Since the level of capital expenditures estimated is significantly greater than the baseline, there are no cost avoidance opportunities with respect to capital investment.

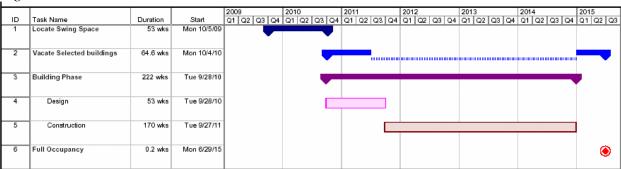
Assessment of BPO 4	Comparison to baseline	Description of Impact
Overall cost effectiveness	ተተተተ	As noted previously, operating costs are expected to be significantly lower and re-use proceeds are expected to be significantly higher than the baseline. Although a higher level of capital expenditure is anticipated, this increased cost does not offset the operating cost savings or increased re-use proceeds. Therefore, the BPO results in a very significantly lower net present cost as compared to the baseline (<85% of baseline).
Ease of Implementation		
Ease of BPO Implementation	1	 This BPO is riskier than the baseline in terms of the following major risk categories: Security, since the consolidation to a single campus reduces the flexibility to effectively respond to national emergencies Organizational and change management, since consolidation involves significant displacement of VAMC staff Reputation, since proximity to academic affiliates may compromise VA's image as an education-driven organization Compliance, zoning, and environmental remediation requirements may pose hindrances to implementing re-use options Political acceptance, given political support will be required for successful implementation
Wider VA Program Support		
DoD sharing	1	The DoD sharing arrangement of the golf course located at the Bedford campus would be eliminated due to the re-use of the entire Bedford campus.
One-VA Integration	\leftrightarrow	Consolidation to the Jamaica Plain campus neither promotes nor precludes the furthering of One-VA integration.
Special Considerations	↓	Consolidation to the West Roxbury campus eliminates the flexibility that enables the ability to respond to national emergencies.
		This BPO impacts access to primary care; however,
Overall Attractiveness	ተተተተ	it significantly improves quality and cost effectiveness. Therefore, BPO 4 is very attractive as compared to the baseline.

Figure 24 provides a summary of the proposed conceptual site plan for BPO 4.



Schedules for development in Stage I are intended to identify relative duration of new or renovated work in order to calculate the occupancy date for utilization of space and escalation costs. Figure 25 indicates the construction duration for this BPO.

Figure 25 - BPO4 - Construction Schedule



BPO 5: Consolidate all Services at New Urban Campus; Re-Use Bedford, Brockton, West Roxbury, and Jamaica Plain; Build CBOC at Brockton

All services currently located at Bedford, Brockton, Jamaica Plain, and West Roxbury will be consolidated at a new urban campus. In addition to maintaining existing CBOCs, an additional CBOC will be established at Brockton. A new multi-tower facility will be constructed at the new urban location along with two parking structures and four surface parking areas. Bedford, Brockton, Jamaica Plain, and West Roxbury campuses will be designated for complete re-use.

Assessment

Table 27 summarizes the assessment of the baseline BPO according to the discriminating criteria.

Table 27: BPO 5 Assessment

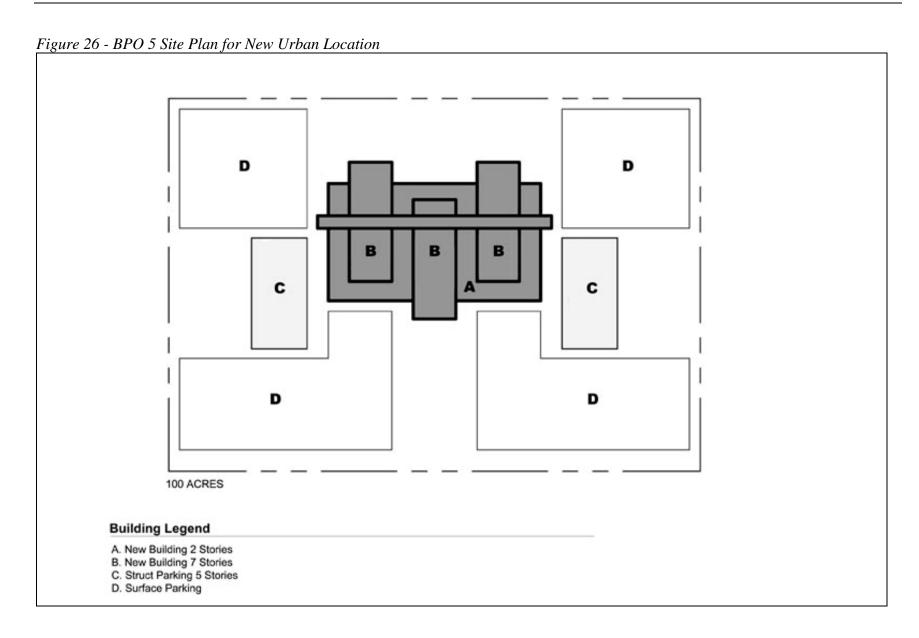
Assessment of BPO 5	Comparison to baseline	Description of Impact
Healthcare Access		
Primary		This BPO is expected to decrease the percentage of enrollees meeting VA drive time access guidelines for primary care by 2% (equivalent to approximately 1970 enrollees) from the baseline. This is due to the relocation of primary care services from all four VAMCs to a new urban campus, except for those retained at Brockton through the establishment of a CBOC. It should be noted that although negatively impacted, the percentage of enrollees meeting drive time standards is still above VA thresholds.
Acute	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for acute care despite the consolidation of services to a new urban campus.
Tertiary	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for tertiary care despite the consolidation of services to a new urban campus.
Healthcare Quality		
Quality of medical services	1	The consolidation of all services provided by the Boston study site onto a single location has the potential to improve the quality of medical services over the baseline in which services are dispersed among four campuses.
Modern, safe, and secure environment	<u></u>	Newly constructed facilities will have the ability to provide for a more modern, safe, and secure environment than renovated facilities in the baseline.

Assessment of BPO 5	Comparison to baseline	Description of Impact
Ensures forecast healthcare need is appropriately met	1	The facility has the capacity to meet the 2023 projected utilization for the Boston study site. Since the baseline cannot accommodate the projected growth in chronic spinal cord injury and the community cannot provide for this service, this BPO better ensures that the forecast healthcare need is appropriately met.
Impact on VA and Local Community		
Human Resources:		
FTEE need (based on volume)	Decrease	The BPO will result in a slight decrease in FTEEs as some duplicative positions (i.e., administrative, engineering, etc.) would no longer be required when services are consolidated into a single campus. Any new staff required for the CBOC should not offset the reduction due to the consolidation.
Recruitment / retention	1	The new urban campus is expected to be a very centrally located campus in the Boston metropolitan area and is very accessible via public transportation. This BPO is expected to have a positive effect on the ability to recruit and retain human resources.
Research	1	The BPO has the potential to improve collaboration among VA researchers since all research programs will be collocated on one campus. Additionally, the consolidation of programs onto a new urban campus locates programs within close proximity to research collaborators. Finally, the BPO also provides new, modern research space.
Education and Academic Affiliations	1	The consolidation relocates education and training programs to a new, urban campus which will most likely be in closer proximity to the academic affiliates. Thus, the BPO has the potential to result in improved education and academic affiliations.
Cost Effectiveness		
Operating cost effectiveness	ተተተ	The consolidation of services onto a single campus and new construction allow for the site to achieve operating efficiencies as compared to the baseline.
Level of capital expenditures anticipated	₩	The capital expenditure required for renovations and new construction to meet 2023 projected utilization at a new urban campus is significantly greater than baseline renovations to the existing space at the Boston study site.
Level of re-use proceeds	ተ ተተ	This BPO allows for the complete re-use of the Bedford, Brockton, Jamaica Plain, and West Roxbury campuses. The re-use of all four campuses is expected to result in significant re-use proceeds as compared to the baseline.
Cost avoidance opportunities	-	Since the level of capital expenditures estimated is significantly greater than the baseline, there are no cost avoidance opportunities with respect to capital investment.

Assessment of BPO 5	Comparison to baseline	Description of Impact
Overall cost effectiveness	ተተተ ተ	As noted previously, operating costs are expected to significantly lower and re-use proceeds are expected to be significantly higher than the baseline. Although a higher level of capital expenditure is anticipated, this increased cost does not offset the operating cost savings and increased re-use proceeds. Therefore, the BPO results in a very significantly lower net present cost as compared to the baseline (<85% of baseline).
Ease of Implementation		
Ease of BPO Implementation	↓	 The BPO is riskier than the baseline in terms of the following major risk categories: Security, since the consolidation to a single campus reduces the flexibility to effectively respond to national emergencies Organizational and change management, since consolidation involves significant displacement of VAMC staff Infrastructure, since the ability to secure a large enough parcel of real estate on which to build a new facility could present a significant obstacle and the size of the consolidated facilities may be dissimilar to surrounding structures Compliance, zoning, and environmental remediation requirements may pose hindrances to implementing re-use options Political acceptance, given political support will be required for successful implementation
Wider VA Program Support		
DoD sharing	1	The DoD sharing arrangement of the golf course located at the Bedford campus would be eliminated due to the re-use of the entire Bedford campus.
One-VA Integration	\leftrightarrow	Consolidation to a new urban campus neither promotes nor precludes the furthering of One-VA integration.
Special Considerations	1	Consolidation to a new campus, located downtown in a major metropolitan area, eliminates the flexibility that enables the ability to respond to national emergencies.
Overall Attractiveness	ተተተተ	This BPO impacts access to primary care; however, it significantly improves quality and cost effectiveness. Therefore, BPO 5 is very attractive as compared to the baseline.

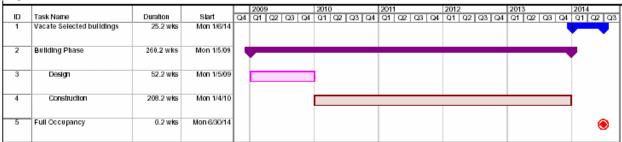
Capital	Plann	ing In	nform	ation
Cupitut			., 0	

Figure 26 provides a summary of the proposed conceptual site plan for BPO 5.



Schedules for development in Stage I are intended to identify relative duration of new or renovated work in order to calculate the occupancy date for utilization of space and escalation costs. Figure 27 indicates the construction duration for this BPO.

Figure 27 - BPO 5 Construction Schedule



<u>BPO 6</u>: Consolidate Jamaica Plain at West Roxbury; Re-Use Jamaica Plain; Right-Size West Roxbury, Brockton, and Bedford

All services currently located at Jamaica Plain will be closed and moved to the West Roxbury campus. Some primary care services will be moved to Brockton and Bedford. In addition to existing CBOCs, an additional CBOC will be established at an urban location. At West Roxbury, Buildings 1, 2, and 3 will remain and three additions will be constructed, as well as two new parking structures and two new surface parking areas. Bedford and Brockton will be right-sized through the addition of a five-story building and three-story parking structure at Bedford and three-story building and multiple surface parking areas at Brockton. The Jamaica Plain campus will be designated for complete re-use. The Bedford and Brockton campuses will be designated for partial re-use.

Assessment

Table 28 summarizes the assessment of the baseline BPO according to the discriminating criteria

Table 28: BPO 6 Assessment

Assessment of BPO 6	Comparison to baseline	Description of Impact
Healthcare Access		
Primary	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for primary care since primary care services are either moved to West Roxbury (approximately six miles away) or remain downtown in a CBOC.
Acute	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for acute care, since acute care services remain in their current location of provision.
Tertiary	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for tertiary care since the consolidation does not significantly relocate tertiary services.
Healthcare Quality		
Quality of medical services	\leftrightarrow	Although the Jamaica Plain campus consolidates to West Roxbury, the collocation of services is not expected to improve the quality of medical services as does consolidation into a single campus.
Modern, safe, and secure environment	\leftrightarrow	No change from the baseline is expected since most of the capital improvements will be renovations similar to the baseline. Some new space will be constructed on the West Roxbury campus to accommodate the workload relocated from the Jamaica Plain campus that may be more modern, safe, and secure; however, the overall effect is expected to be similar to the baseline.

Assessment of BPO 6	Comparison to baseline	Description of Impact
Ensures forecast healthcare need is appropriately met	1	The facility has the capacity to meet the 2023 projected utilization for the Boston study site. Since the baseline cannot accommodate the projected growth in chronic spinal cord injury and the community cannot provide for this service, this BPO better ensures that the forecast healthcare need is appropriately met.
Impact on VA and Local Community		
Human Resources:		
FTEE need (based on volume)	Decrease	The BPO will result in a slight decrease in FTEEs as some duplicative positions (i.e., administrative, engineering, etc.) would no longer be required when services are consolidated into three campuses.
Recruitment / retention	↓	Jamaica Plain is accessible via public transportation, and although West Roxbury is located in a fairly central location, the campus is not accessible via public transportation. Therefore, a relocation of services from the Jamaica Plain campus to the West Roxbury campus may disrupt employee commutes and therefore negatively affect recruitment and retention.
Research	\leftrightarrow	No change from the baseline is expected. The research programs on the West Roxbury and Jamaica Plain campuses will be consolidated which should have a positive effect; however, the programs displaced from the Jamaica Plain campus will be further away from research collaborators downtown. Therefore, overall, there is no net effect on research. The BPO relocates education and training programs
Education and Academic Affiliations	1	farther away from the academic affiliates. Therefore, there is an expected negative effect on education and academic affiliations.
G . Day		
Operating cost effectiveness	-	The BPO does involve the consolidation of two campuses and some new construction; however, most services remain in existing facilities with renovations. Thus, the operating cost effectiveness is similar to the baseline.
Level of capital expenditures anticipated	ΨΨ	The capital expenditure required for renovations and new construction to meet 2023 projected utilization at the West Roxbury, Brockton, and Bedford campuses is significantly greater than baseline renovations to the existing space at the Boston study site.
Level of re-use proceeds	ተተተ	The BPO allows for the partial re-use of the Bedford and Brockton campuses and complete re-use of the Jamaica Plain campus. The re-use of this property is expected to result in significant re-use proceeds as compared to the baseline.

Assessment of BPO 6	Comparison to baseline	Description of Impact
Cost avoidance opportunities	-	Since the level of capital expenditures estimated is significantly greater than the baseline, there are no cost avoidance opportunities with respect to capital investment.
Overall cost effectiveness	-	As noted previously, operating costs are similar to the baseline. A higher level of capital expenditure is anticipated that may be offset by the significantly higher re-use proceeds. Overall, these expected variations from the baseline do not significantly impact the overall costs for the BPO. Therefore, the BPO results in similar net present cost as compared to the baseline (+/- 5% of baseline).
Ease of Implementation		
Ease of BPO Implementation	↓	This BPO is riskier than the baseline in terms of the following major risk categories: Reputation, since proximity to research collaborators and academic affiliates may compromise VA's image as a research and education-driven organization Organization and change management, since a consolidation also involves the displacement of a significant number of FTEEs Compliance, as zoning and environmental remediation requirements may pose hindrances to implementing re-use options Political, as capital and re-use options may not be favored by the local constituencies
Wider VA Program Support		
DoD sharing	\leftrightarrow	The consolidation of Jamaica Plain onto the West Roxbury campus neither promotes nor precludes the furthering of DoD sharing.
One-VA Integration	\leftrightarrow	The consolidation of Jamaica Plain onto the West Roxbury campus neither promotes nor precludes the furthering of One-VA integration.
Special Considerations	\leftrightarrow	The consolidation of Jamaica Plain onto the West Roxbury campus neither promotes nor precludes any special considerations regarding emergency preparedness.
_		
Overall Attractiveness	ተተ	This BPO maintains access yet improves quality while maintaining baseline cost effectiveness. Therefore, BPO 6 is more attractive than the baseline.

Figures 28, 29, and 30 provide a summary of the proposed conceptual site plan for BPO 6. The shaded areas of the property indicate the land designated for re-use per the partial campus re-use options.

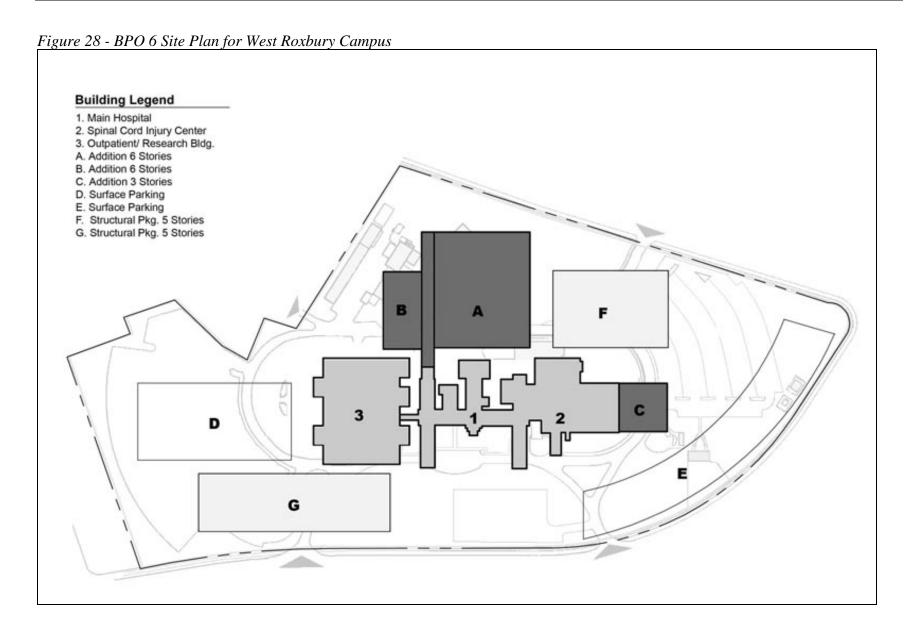
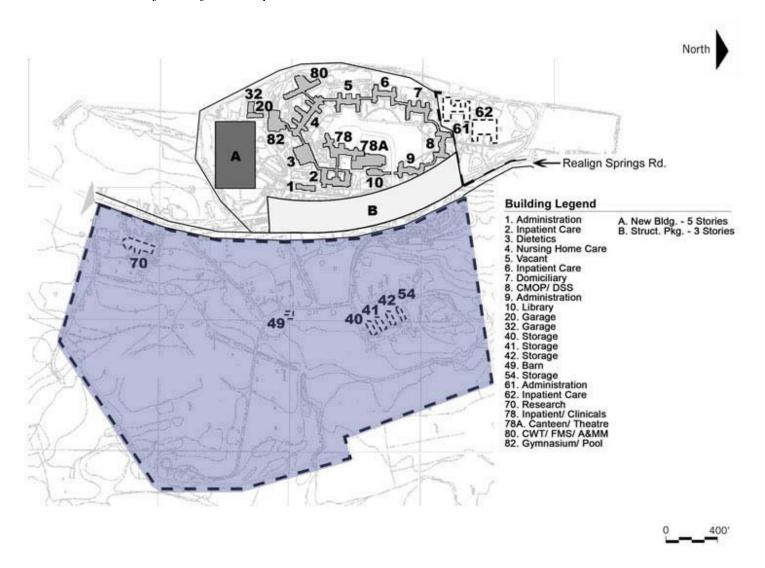


Figure 29 - BPO 6 Site Plan for Bedford Campus



□49 50 **Building Legend** 51. Storage
60. Administration
61. IRM
62. RISE Drug Treatment
65. Greenhouse
71. Switchgear Building 1. Administration 20. Dietetics/ Warehouse 43. Engineering Shop 2. Inpatient Psychiatry 3. Ambulatory Care 22. Recreation/ Library 45. VISN Laundry 45. VISN Laundry 46. Research 50. Outpatient Psychiatry 24. Chapel 48. Water Tank 7. Domiciliary 25. Work Therapy 8. Spinal Cord Injury 40. Boiler Plant 50. Sewer Pump House

Figure 30 - BPO 6 Site Plan for Brockton Campus

Schedules for development in Stage I are intended to identify relative duration of new or renovated work in order to calculate the occupancy date for utilization of space and escalation costs. Figure 31 indicates the construction duration for this BPO. The phases shown in the schedule are ordered in terms of clinical complexity with Phase 1 representing the timing for the West Roxbury campus, Phase 2 for the Bedford campus, and Phase 3 for the Brockton campus.

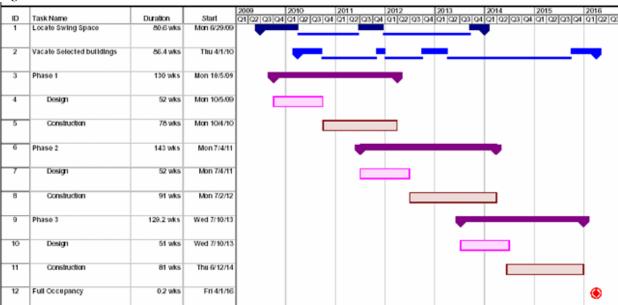


Figure 31 - BPO 6 Construction Schedule

<u>BPO 7</u>: Build New Acute Care and Research Facility at Urban Location; Right-Size Bedford and Brockton; Re-Use Jamaica Plain and West Roxbury

Consolidate West Roxbury and Jamaica Plain services at a new, urban campus. Bedford and Brockton campuses will be right-sized to meet the projected utilization demand. In addition to existing CBOCs, an additional CBOC will be established at an urban location. The VISN 1 support services currently located at the Brockton campus will remain. A six-story building will be constructed at the new urban campus, as well as two parking structures and three surface parking areas. Bedford and Brockton are right-sized as in BPO 6. The Jamaica Plain and West Roxbury campuses will be designated for complete re-use. Bedford and Brockton will be designated for partial re-use.

Assessment

Table 29 summarizes the assessment of the baseline BPO according to the discriminating criteria.

Table 29: BPO 7 Assessment

Assessment of BPO 7	Comparison to baseline	Description of Impact
Healthcare Access		
Primary	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for primary care since primary cares services are expected to remain within close proximity to their current location of provision and a CBOC is to be established at a new urban campus.
Acute	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for acute care, since acute cares services are expected to remain within close proximity to their current location of provision at a the new urban campus.
Tertiary	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for tertiary care since tertiary cares services are expected to remain within close proximity to their current location of provision at a the new urban campus.
Healthcare Quality		
Quality of medical services	↔	Although the Jamaica Plain campus and West Roxbury campus consolidate, the collocation of services is not expected to improve the quality of medical services as does consolidation into a single campus.
Modern, safe, and secure environment	1	Newly constructed facilities will have the ability to provide for a more modern, safe, and secure environment than renovated facilities in the baseline.

Assessment of BPO 7	Comparison to baseline	Description of Impact
Ensures forecast healthcare need is appropriately met	1	The facility has the capacity to meet the 2023 projected utilization for the Boston study site. Since the baseline cannot accommodate the projected growth in chronic spinal cord injury and the community cannot provide for this service, this BPO better ensures that the forecast healthcare need is appropriately met.
Impact on VA and Local Community Human Resources:		
FTEE need (based on volume)	Same	The consolidation will result in a slight decrease in FTEEs as some duplicative positions (i.e., administrative, engineering, etc.) would no longer be required when services are consolidated into two campuses. However, the staff at the CBOC may offset this reduction, resulting in materially the same FTEE need as the baseline.
Recruitment / retention	↑	As this BPO is located on an urban campus, it may be easier to recruit and retain staff because of its central location and public transit access.
Research	1	The BPO has the potential to improve collaboration among VA researchers since research programs at West Roxbury and Jamaica Plain will be collocated onto a single campus. Additionally, the consolidation of programs onto a new urban campus locates programs within close proximity to research collaborators. Finally, the BPO also provides new, modern research space.
Education and Academic Affiliations	\leftrightarrow	Healthcare services, and thus education and training programs, will remain in relatively similar locations as the baseline. Depending on the exact urban location, some education programs may be located further away from the academic affiliates. However, there is not expected to be an overall negative effect on the academic affiliations.
Cost Effectiveness		
Operating cost effectiveness	Λ	The BPO does involve the consolidation of two campuses into a newly constructed facility that should provide for greater operating efficiencies. Thus, the operating cost effectiveness is improved over the baseline.
Level of capital expenditures anticipated	4 4	The capital expenditure required for renovations and new construction to meet 2023 projected utilization at the Brockton, Bedford, and new urban campuses is significantly greater than baseline renovations to the existing space at the Boston study site.
Level of re-use proceeds	ተተተ	The BPO allows for the partial re-use of Bedford, partial re-use of Brockton, and complete re-use of the Jamaica Plain and West Roxbury campuses. The re-use of this property is expected to result in significant re-use proceeds as compared to the baseline.

Assessment of BPO 7	Comparison to baseline	Description of Impact
Cost avoidance opportunities	-	Since the level of capital expenditures estimated is significantly greater than the baseline, there are no cost avoidance opportunities with respect to capital investment.
Overall cost effectiveness	-	As noted previously, operating costs are expected to be lower and re-use proceeds are expected to be significantly higher than the baseline. However, the level of capital expenditure is anticipated to be greater than the baseline and offsets some of the operating cost savings and increased re-use proceeds. The net impact of these costs is an overall similar net present cost as compared to the baseline (+/- 5% of baseline).
Ease of Implementation		
Ease of BPO Implementation	↓	 This BPO is riskier than the baseline in terms of the following major risk categories: Organization and change management, since a consolidation also involves the displacement of several VAMC staff Infrastructure, since the ability to secure a large enough parcel of real estate on which to build a new facility could present a significant obstacle Compliance, as zoning and environmental remediation requirements may pose hindrances to implementing re-use options Political, as capital and re-use options may not be favored by the local constituencies
Wider VA Program Support		
DoD sharing	\leftrightarrow	The consolidation of Jamaica Plain and West Roxbury onto a new urban location neither promotes nor precludes the furthering of DoD sharing.
One-VA Integration	\leftrightarrow	The consolidation of Jamaica Plain and West Roxbury onto a new urban location neither promotes nor precludes the furthering of One-VA integration.
Special Considerations	\leftrightarrow	The consolidation of Jamaica Plain and West Roxbury onto a new urban location neither promotes nor precludes any special considerations regarding emergency preparedness.
Overall Attractiveness	ተ ተ	This BPO maintains access and baseline cost effectiveness while improving quality. Therefore, BPO 7 is attractive as compared to the baseline.

Capital Planning Information

Figures 32, 33, and 34 provide a summary of the proposed conceptual site plan for BPO 7. The shaded areas of the property indicate the land designated for re-use per the partial campus re-use options.

Figure 32 - BPO 7 Site Plan for New Urban Location

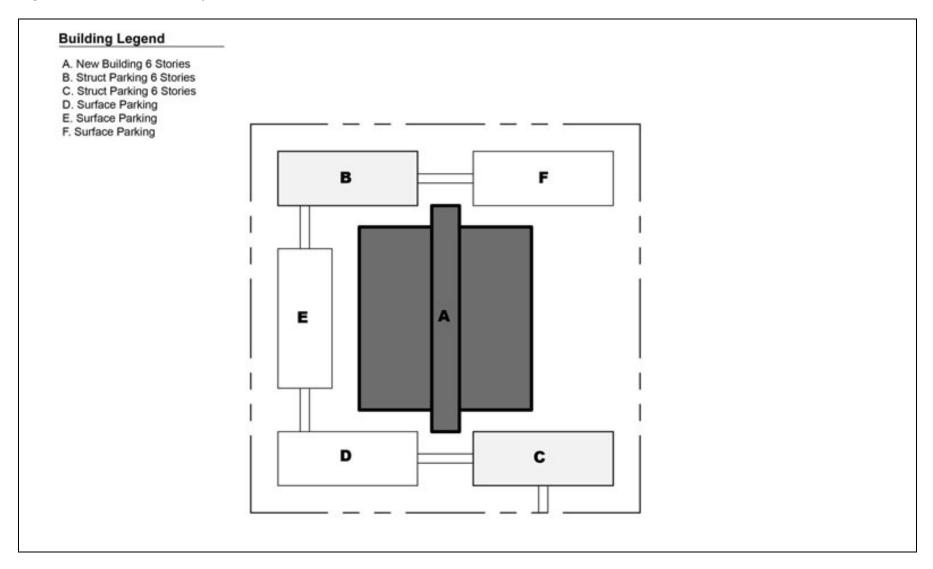


Figure 33 - BPO 7 Site Plan for Bedford Campus

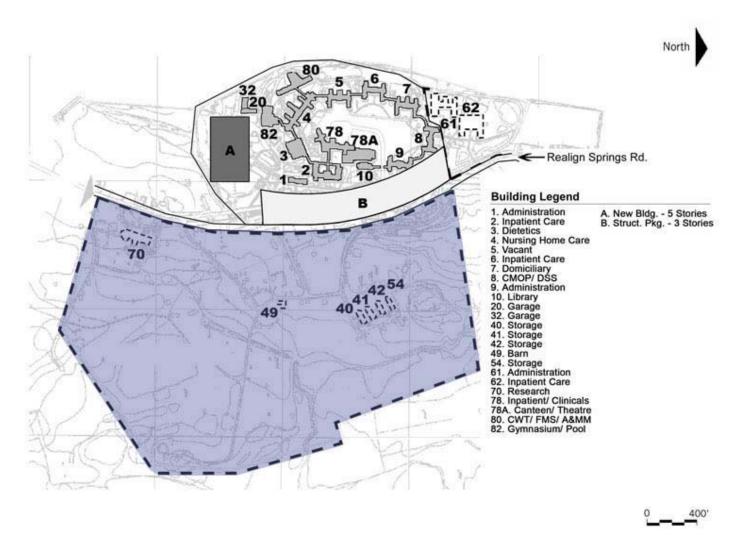
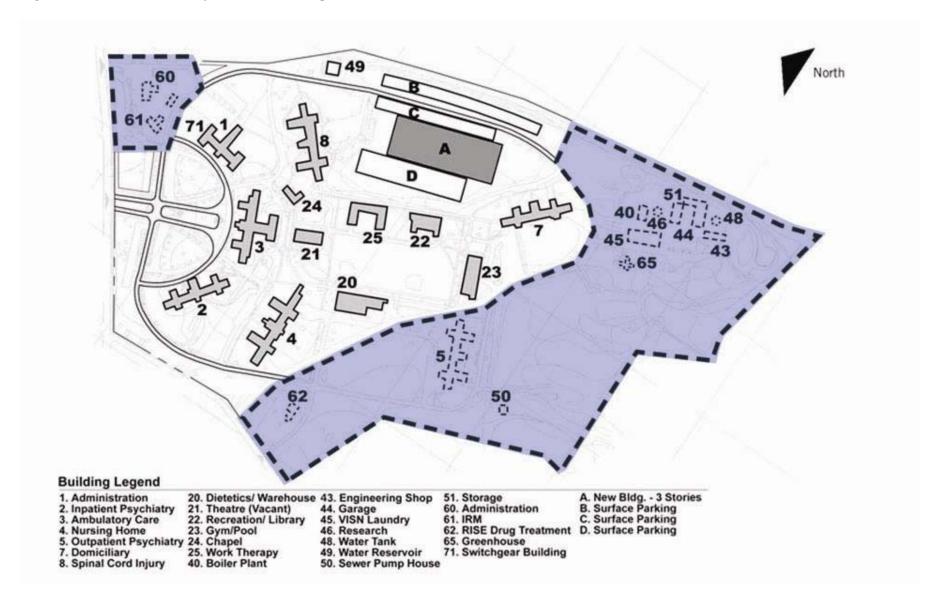
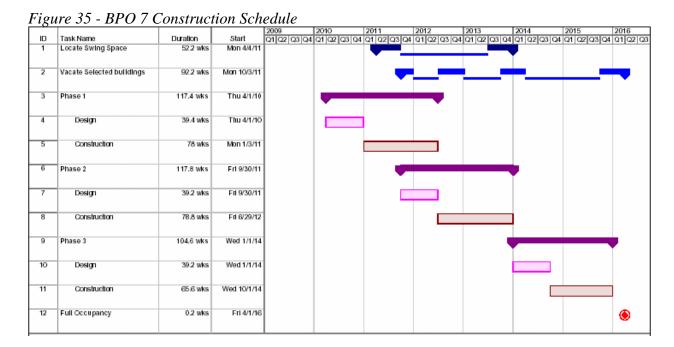


Figure 34 - BPO 7 Site Plan for Brockton Campus



Schedules for development in Stage I are intended to identify relative duration of new or renovated work in order to calculate the occupancy date for utilization of space and escalation costs. Figure 35 indicates the construction duration for this BPO. The phases shown in the schedule are ordered in terms of clinical complexity with Phase 1 representing the timing for the new urban location campus, Phase 2 for the Bedford campus, and Phase 3 for the Brockton campus.



BPO 8: Consolidate Bedford at Brockton; Right-Size Jamaica Plain and West Roxbury; Build New CBOCs at Urban Location and North Shore

All services currently located at Bedford will be consolidated onto the Brockton campus. Services currently located at the Jamaica Plain and West Roxbury campuses will remain. In addition to existing CBOCs, an additional CBOC will be established at an urban location, and one CBOC will be established at a North Shore location. Buildings 2, 3, 4, and 20 will remain at Brockton and two new five-story buildings will be constructed as well as a parking structure and three surface parking areas. Jamaica Plain will be right-sized by vacating Buildings 2 and 9, and the West Roxbury campus will be right-sized by constructing a three-story addition to Building 2 and a new parking structure. The Bedford campus will be designated for complete re-use. Jamaica Plain will be designated for partial re-use.

Assessment

Table 30 summarizes the assessment of the baseline BPO according to the discriminating criteria

Table 30: BPO 8 Assessment

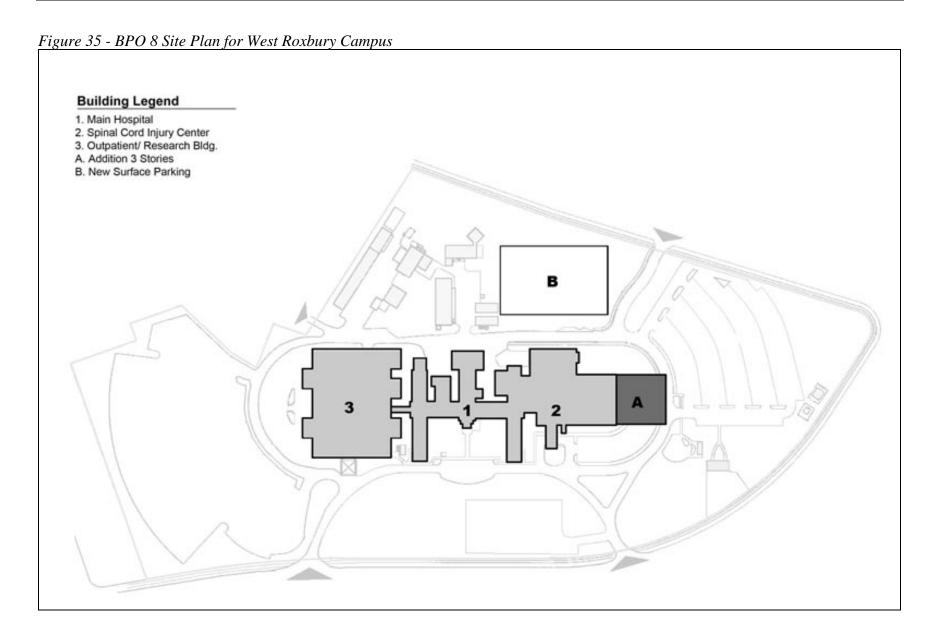
Assessment of BPO 8	Comparison to baseline	Description of Impact
Healthcare Access		
Primary	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for primary care. Although Bedford is consolidating onto the Brockton campus, CBOCs will be established on the North Shore and in an urban location to provide primary care services.
Acute	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for acute care since acute care services all remain in their current location of provision except for those relocating from Bedford to Brockton.
Tertiary	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for tertiary care since tertiary care services all remain in their current location of provision except for those relocating from Bedford to Brockton.
Healthcare Quality		
Quality of medical services	\leftrightarrow	Although the Bedford campus consolidates onto the Brockton campus, the collocation of services is not expected to improve the quality of medical services as does consolidation into a single campus.

Assessment of BPO 8	Comparison to baseline	Description of Impact
Modern, safe, and secure Environment	\leftrightarrow	No change from the baseline is expected since most of the capital improvements will be renovations similar to the baseline. Some new space will be constructed on the Brockton campus to accommodate the relocation of workload from the Bedford campus, and some on the West Roxbury campus to accommodate the projected increases in workload. This construction may result in being more modern, safe, and secure; however, the overall effect is expected to be similar to the baseline.
Ensures forecast healthcare need is appropriately met	1	The facility has the capacity to meet the 2023 projected utilization for the Boston study site. Since the baseline cannot accommodate the projected growth in chronic spinal cord injury and the community cannot provide for this service, this BPO better ensures that the forecast healthcare need is appropriately met.
Impact on VA and Local Community		
Human Resources: FTEE need (based on volume)	Same	The consolidation will result in a slight decrease in FTEEs as some duplicative positions (i.e., administrative, engineering, etc.) would no longer be required when services are consolidated into three campuses. However, the staff at the CBOC may offset this reduction, resulting in materially the same FTEE need as the baseline.
Recruitment / retention	↓	The Brockton campus is located 20 miles south of Boston and is not conveniently accessible via public transportation. This results in a negative effect on the commute for human resources at Bedford that are relocated to Brockton. Therefore, this BPO is expected to have a negative affect on the ability to recruit and retain human resources.
Research	\leftrightarrow	No change from the baseline is expected. The research programs on the Bedford and Brockton campuses will be consolidated which should have a positive effect; however, the programs are not any closer to research collaborators downtown. Therefore, overall, there is no effect on research.
Education and Academic Affiliations	\leftrightarrow	The consolidation of the Brockton and Bedford campuses does not change the relative proximity of the education and training programs from major affiliates. Therefore, there is no expected impact on the education and academic affiliations.
Cost Effectiveness		
Operating cost effectiveness	^	The BPO does involve the consolidation of two campuses into a newly constructed facility that should provide for greater operating efficiencies. Thus, the operating cost effectiveness is improved over the baseline.

Assessment of BPO 8	Comparison to baseline	Description of Impact
Level of capital expenditures anticipated	44	The capital expenditure required for renovations and new construction to meet 2023 projected utilization at the West Roxbury, Brockton, and Jamaica Plain campuses is significantly greater than baseline renovations to the existing space at the Boston study site.
Level of re-use proceeds	ተተተ	The BPO allows for the complete re-use of Bedford and partial re-use of the Jamaica Plain campus. The re-use of this property is expected to result in significant re-use proceeds as compared to the baseline.
Cost avoidance opportunities	-	Since the level of capital expenditures estimated is significantly greater than the baseline, there are no cost avoidance opportunities with respect to capital investment.
Overall cost effectiveness	-	As noted previously, operating costs are expected to be lower and re-use proceeds are expected to be significantly higher than the baseline. However, the level of capital expenditure is anticipated to be greater than the baseline and offsets some of the operating cost savings and increased re-use proceeds. The net impact of these costs is an overall similar net present cost as compared to the baseline (+/- 5% of baseline).
Ease of Implementation		
Ease of BPO Implementation	↓	This BPO is riskier than the baseline in terms of the following major risk categories: Organization and change management, since a consolidation also involves the minimum displacement of several VAMC staff Compliance, as zoning and environmental remediation requirements may pose hindrances to implementing re-use options Political, as capital and re-use options may not be favored by the local constituencies
Wider VA Program Support		
DoD sharing	↓	The DoD sharing arrangement of the golf course located at the Bedford campus would be eliminated due to the re-use of the entire Bedford campus.
One-VA Integration	\leftrightarrow	The consolidation of Bedford onto the Brockton campus neither promotes nor precludes the furthering of One-VA integration.
Special Considerations	\leftrightarrow	The consolidation of Bedford onto the Brockton campus neither promotes nor precludes any special considerations regarding emergency preparedness.
Overall Attractiveness	ተተ	This BPO maintains access and baseline cost effectiveness while improving quality. Therefore, BPO 8 is attractive as compared to the baseline.

Capital Planning Information

Figures 35, 36, and 37 provide a summary of the proposed conceptual site plan for BPO 8. The shaded areas of the property indicate the land designated for re-use per the partial campus re-use options.



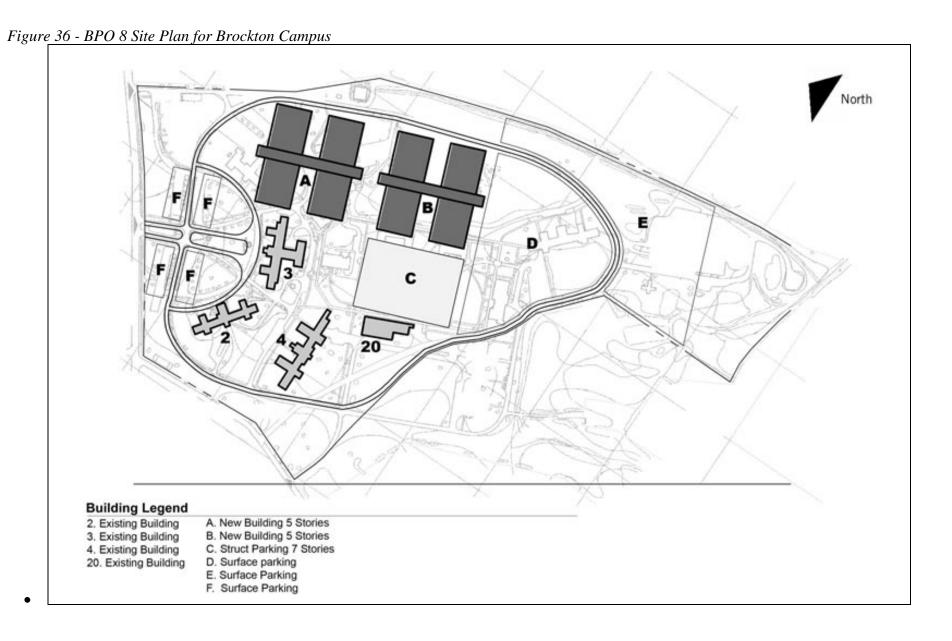
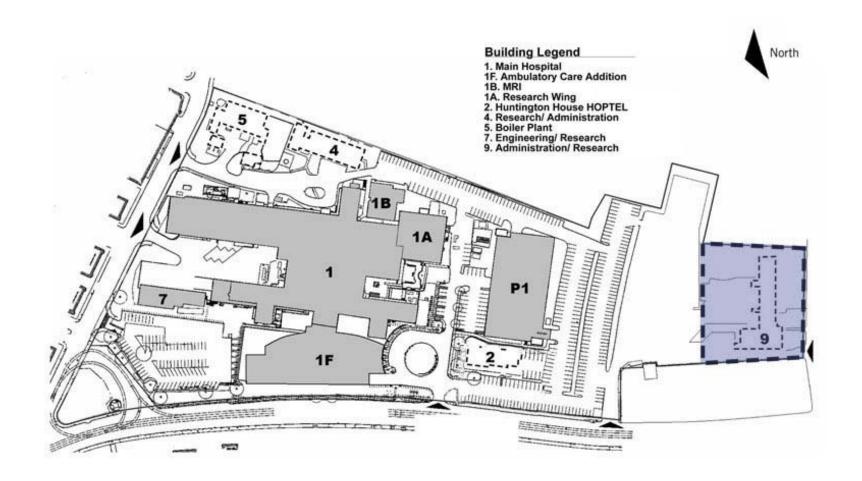
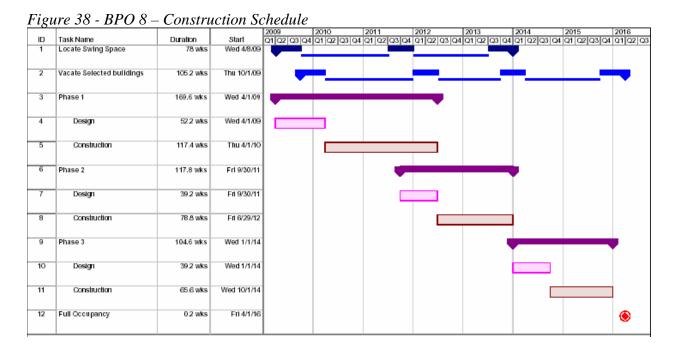


Figure 37 - BPO 8 Site Plan for Jamaica Plain Campus





Schedules for development in Stage I are intended to identify relative duration of new or renovated work in order to calculate the occupancy date for utilization of space and escalation costs. Figure 38 indicates the construction duration for this BPO. The phases shown in the schedule are ordered in terms of clinical complexity with Phase 1 representing the timing for the West Roxbury campus, Phase 2 for the Jamaica Plain campus, and Phase 3 for the Brockton campus.



<u>BPO 9</u>: Consolidate Bedford and Brockton at West Roxbury; Consolidate Inpatient, Ambulatory Care, and Research at Jamaica Plain; Build New CBOCs at North Shore and South Shore

All services currently located at Bedford and Brockton will be consolidated at the West Roxbury campus. All services currently located at the West Roxbury campus will be moved to Jamaica Plain. In addition to existing CBOCs, an additional CBOC will be established at a South Shore location, and an additional CBOC will be established at a North Shore location. The existing buildings at Jamaica Plain will be demolished and three new buildings (at heights of three, five, and eight stories), two new parking structures (at both at heights of four stories), and two new surface parking areas will be constructed. At West Roxbury, a ten-story tower and three-story building will be constructed adjacent to Buildings 2 and 3. Additionally, three new parking structures and a new surface parking area will be constructed. The Bedford and Brockton campuses will be designated for complete re-use. The Jamaica Plain campus will be designated for partial re-use.

Assessment

Table 31 summarizes the assessment of the baseline BPO according to the discriminating criteria.

Table 31: BPO 9 Assessment

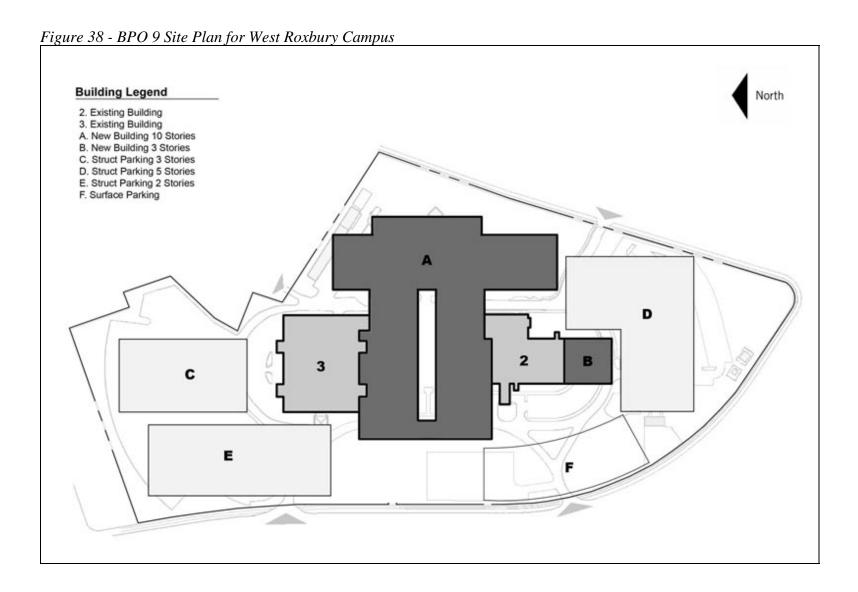
Assessment of BPO 9	Comparison to baseline	Description of Impact
Healthcare Access		
Primary	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for primary care since primary care services are retained in the North and South Shores through the establishment of CBOCs in these areas.
Acute	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for acute care, despite the consolidation of acute care at the Jamaica Plain campus.
Tertiary	\leftrightarrow	No material change is expected to the percentage of enrollees meeting VA drive time access guidelines for tertiary care. Most of the tertiary care is provided on the Jamaica Plain campus currently and thus would not be relocated in this consolidation.
Healthcare Quality		
Quality of medical services	\leftrightarrow	Although the Bedford and Brockton campuses consolidate onto the West Roxbury campus, the collocation of services is not expected to improve the quality of medical services as does the consolidation into a single campus.

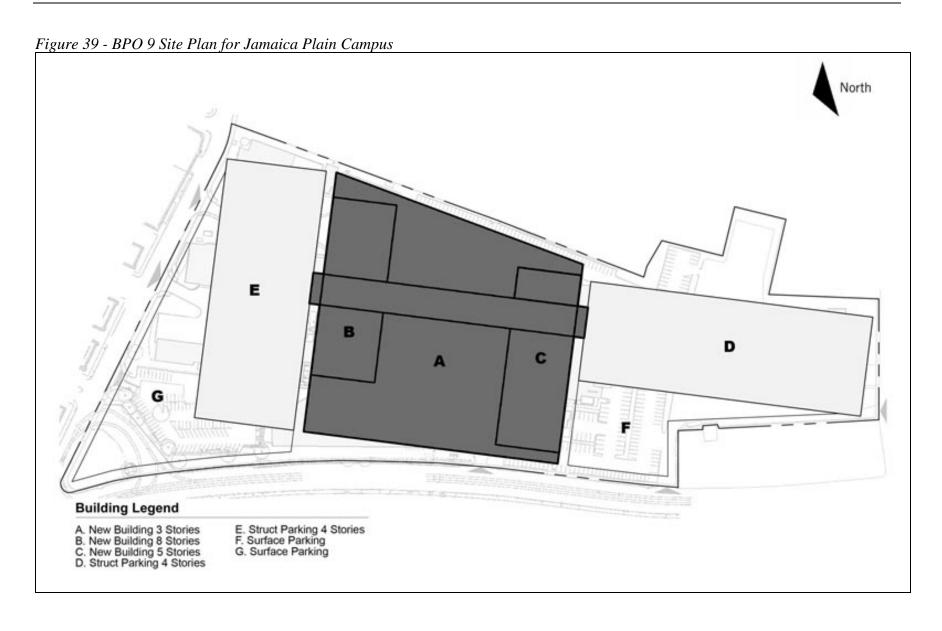
Assessment of BPO 9	Comparison to baseline	Description of Impact
Modern, safe, and secure environment	1	There will be significant new construction on the Jamaica Plain and West Roxbury campuses which will have the ability to provide for a more modern, safe, and secure environment than renovated facilities in the baseline.
Ensures forecast healthcare need is appropriately met	↑	The facility has the capacity to meet the 2023 projected utilization for the Boston study site. Since the baseline cannot accommodate the projected growth in chronic spinal cord injury and the community cannot provide for this service, this BPO better ensures that the forecast healthcare need is appropriately met.
Impact on VA and Local Community		
Human Resources: FTEE need (based on volume)	Same	The consolidation will result in a slight decrease in FTEEs as some duplicative positions (i.e., administrative, engineering, etc.) would no longer be required when services are consolidated into two campuses. However, the staff at the CBOC may offset this reduction, resulting in materially the same FTEE need as the baseline.
Recruitment / retention	↔	No change from the baseline is expected. West Roxbury and Jamaica Plain campuses are located in fairly central locations which should be relatively accessible for staff relocating from the Bedford and Brockton campuses. Additionally, the CBOCs in the North and South Shore will allow some staff to retain similar commutes. Thus, the relocation should not have a significant effect on recruitment and retention.
Research	1	The BPO has the potential to improve collaboration among VA researchers since all research programs will be collocated on one campus. Since the research programs will be at the Jamaica Plain campus, they will be closer to the research collaborators located downtown. The BPO also provides new, modern research space.
Education and Academic Affiliations	1	The majority of the services, and thus education and training programs, are being consolidated onto the West Roxbury and Jamaica Plain campuses, which are closer to the academic affiliates. Therefore, it is expected that this BPO would have a positive effect on education and academic affiliations.
Cost Effectiveness		
Operating cost effectiveness	ሶ ሶሳ	The BPO does involve the consolidation of three campuses and significant new construction to accommodate the consolidation that should provide for greater operating efficiencies. Thus, the operating cost effectiveness is significantly improved over the baseline.

Assessment of BPO 9	Comparison to baseline	Description of Impact
Level of capital expenditures anticipated	44	The capital expenditure required for renovations and new construction to meet 2023 projected utilization at the West Roxbury and Jamaica Plain campuses is significantly greater than baseline renovations to the existing space at the Boston study site.
Level of re-use proceeds	ተተተ	The BPO allows for the complete re-use of the Bedford and Brockton campuses and partial re-use of the Jamaica Plain campus. The re-use of this property is expected to result in significant re-use proceeds as compared to the baseline.
Cost avoidance opportunities	-	Since the level of capital expenditures estimated is significantly greater than the baseline, there are no cost avoidance opportunities with respect to capital investment.
Overall cost effectiveness	↑ ↑	As noted previously, the operating costs are expected to be significantly lower and re-use proceeds are expected to be significantly higher than the baseline. However, the level of capital expenditure is anticipated to be greater than the baseline. Although the increased level of capital expenditure does offset some of the operating cost savings and increased re-use proceeds, the net result is still a significantly lower net present cost as compared to the baseline (85-90% of baseline).
Ease of Implementation		
Ease of BPO Implementation	↓	This BPO is riskier than the baseline in terms of the following major risk categories: Organization and change management, since a consolidation also involves the displacement of several VAMC staff Compliance, as zoning and environmental remediation requirements may pose hindrances to implementing re-use options Political, as capital and re-use options may not be favored by the local constituencies
Wider VA Program Support		
DoD sharing	↓	The DoD sharing arrangement of the golf course located at the Bedford campus would be eliminated due to the re-use of the Bedford campus.
One-VA Integration	↔	The consolidation of Bedford onto the Brockton campus neither promotes nor precludes the furthering of One-VA integration.
Special Considerations	\leftrightarrow	The consolidation of Bedford onto the Brockton campus neither promotes nor precludes any special considerations regarding emergency preparedness.
Overall Attractiveness	ተተተተ	This BPO maintains access; however, it significantly improves both quality and cost effectiveness. Therefore, BPO 9 is very attractive as compared to the baseline.

Capital	Pla	nning	In	form	ation
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Figures 38 and 39 provide a summary of the proposed conceptual site plan for BPO 9.





Schedules for development in Stage I are intended to identify relative duration of new or renovated work in order to calculate the occupancy date for utilization of space and escalation costs. Figure 40 indicates the construction duration for this BPO. The phases shown in the schedule are ordered in terms of clinical complexity with Phase 1 representing the timing for the West Roxbury campus and Phase 2 for the Jamaica Plain campus.

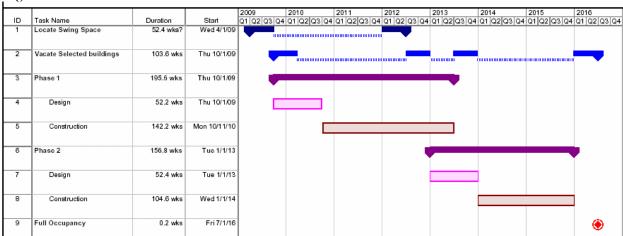


Figure 40 -BPO 9 Construction Schedule

7.0 BPO Summary and Recommendations

Assessment Drivers

Over the projection period, the number of enrolled veterans for the Boston market is expected to decline 25% to approximately 98,500 by 2023. However, enrollment of Priority 1-6 veterans is projected to decline by only 9% over the same period.

Overall, the projected utilization for acute inpatient services declines by 16% for the Boston study site. Most of the inpatient CICs are projected to decline except for nursing home, which remains constant due to a planning decision made by VA to maintain capacity over the 20-year projection period, and acute and chronic spinal cord injury (SCI) services which actually increase by 74% and 247%, respectively, over the projection period. Ambulatory utilization is projected to experience only a slight increase of 1%. The ambulatory CICs projected to experience the greatest increases in demand are cardiology (expected to increase by 141%) and urology (expected to increase by 209%), which are balanced by decreases in the remaining ambulatory CICs. Projected utilization for outpatient mental health services varies by CIC and across the VAMCs and results in an overall decrease of 9%.

These long term healthcare trends for the market, together with six major drivers were considered for the Boston study site. These drivers represent factors particularly noticeable at the Boston study site that must be balanced in the development and evaluation of BPOs. They are:

- 1. Potential exists to improve quality of care through the collocation of services that would result from a consolidation of campuses and significant levels of new construction
- 2. Recruitment and retention efforts may be more difficult if relocation of facilities significantly alters commute times and access via public transportation for employees
- 3. The Boston study site is affiliated with over 100 area institutions of learning and annually provides graduate medical education programs to over 2,000 medical residents, medical students, and other allied health professionals. These education programs could be affected if length and ease of commutes between affiliates and VAMCs is compromised.
- 4. The operation of multiple VAMCs reduces cost effectiveness and thus results in a less efficient use of VA resources
- 5. The four Boston campuses total approximately 375 acres in urban and suburban settings which could result in significant re-use proceeds if made available for re-use
- 6. The BPOs for the Boston study site have significant implementation risk

These six drivers are described further below

Healthcare Quality – The baseline configuration of services provides acute inpatient care at West Roxbury, ambulatory care at Jamaica Plain, and inpatient psychiatry, nursing home, and domiciliary care at the Brockton and Bedford campuses. Additionally, the Boston study site supports multiple Centers of Excellence, including the Geriatric Research, Education and Clinical Center (GRECC), Mental Illness Research, Education, and Clinical Center (MIRECC),

and Geriatric Evaluation and Management (GEM) programs located among the various campuses. The consolidation of these four campuses has the potential to improve quality through the collocation of services onto one or two campuses. Specifically, the collocation of inpatient psychiatry currently provided at Brockton and Bedford, with inpatient medicine, currently provided at West Roxbury, may have a positive effect on quality. Additionally, the collocation of the extensive diagnostic services currently provided at Jamaica Plain with other service lines at the other campuses may also have a positive effect on quality of care.

Human Resources - Consolidation of even one facility requires a significant number of FTEEs to change their work location. Commuting distance and access to public transportation may adversely affect recruitment and retention of human resources. Employees who live south of the city and work at the Brockton VAMC may be willing to commute to either of the fairly centralized campuses of West Roxbury or Jamaica Plain; however, they may not elect to travel to the Bedford campus due to traffic congestion and difficulty accessing public transportation. Similarly, employees who live north of the city and work at the Bedford VAMC may commute to either of the two more centralized campuses in the area, but may not commute to Brockton VAMC because of the greater distance.

Education and Academic Affiliations – Medical education is a significant mission of the Boston study site, and the distance from academic affiliates is a critical assessment driver as commute times for residents and other trainees, as well as jointly appointed faculty, can negatively affect affiliate relationships. BHS trains approximately 2,000 medical professionals annually, including 1,000 residents, 300 medical students, and 700 nurses and allied health professionals. The Bedford facility alone trains approximately 215 to 225 professionals, including 40 residents, 25 to 35 medical students, and 150 nurses and allied health personnel.

The majority (two-thirds to three-quarters) of all residents with BHS and the majority of trainees at Bedford are from either the Boston Medical Center (Boston University School of Medicine) or Harvard (including its affiliates). Additionally, the overwhelming majority of physicians at BHS and Bedford are faculty at the affiliate organizations which may require them to commute between the affiliate and the VAMC.

Boston Medical Center and Harvard Medical School are between 20 to 25 miles from both Bedford and Brockton, approximately seven or eight miles from West Roxbury, and only between one to three miles from Jamaica Plain. Interviews with Boston study site personnel indicate that commute times for residents and faculty greater than 30 minutes between an academic affiliate and a VAMC may have a negative effect on the education program. Leaders of the BHS education programs have indicated that it is already somewhat difficult for medical residents to travel to West Roxbury VAMC when working 80 hours a week. Therefore, the geographic relation and any increases to commute times between the affiliates and the VAMCs should be considered in evaluating the various options for the Boston study site.

Use of VA Resources – Boston operates four separate VAMCs in the study site's service area. This operational model is not cost effective as it necessitates the duplication of fixed direct and indirect costs such as utilities, maintenance, and administration costs. Boston also provides inter-facility transportation between the site facilities for patients and family members which

currently results in a significant expenditure annually. Not only are multiple facilities costly to operate, they also will be expensive to renovate in order to meet modern, safe, and secure standards as set forth in the baseline. Thus, a reduction of VAMC facilities through consolidation of services and campuses may result in more efficient use of VA resources.

Re-Use of Property – The combined acreage of the four Boston campuses is approximately 375 acres. Some of the BPOs, especially those proposing the consolidation into a single campus, allow for a significant portion of this acreage to be available for re-use with the potential to result in significant re-use proceeds. The Brockton campus has a number of positive characteristics that make the campus attractive for redevelopment, including proximity to major state highways, visibility from a well-trafficked road, an established intra-campus road network, a significant amount of land area, a relatively flat topography, and a variety of adjacent land uses that lend themselves to multiple re-use opportunities. Re-use opportunities for Brockton include light industrial, retail, and residential. Jamaica Plain is a dense, urban campus with potential for a major urban infill project in a city where developable land is scarce and expensive. The campus's positive attributes include proximity to downtown Boston and the Longwood Medical and Academic Area, access to light rail via the Massachusetts Bay Transportation Authority (MBTA) Green Line, location in a revitalizing neighborhood, on-campus structured parking, and potential to adaptively re-use the main hospital building. West Roxbury has good street visibility and access from two well-trafficked roads allowing for residential or retail re-use. Bedford, although limited by narrow roads and adjacency to wetlands, allows for potential re-use for residential or senior care.

Ease of Implementation – Because of the complexity of the Boston study site (e.g., multiple facilities, significant stakeholders in research, and graduate learning and education, etc.), the implementation of any BPO, including the baseline, is lengthy and is characterized by significant implementation risk. All of the BPOs, other than the baseline, include the consolidation of at least one and often multiple facilities. A consolidation of inpatient services would result in the redirection of a minimum of 150 projected beds, while a consolidation of ambulatory and outpatient services would result in a minimum redirection of approximately 70,000 projected clinic stops (excluding diagnostics). Therefore, the BPOs developed for the Boston study site have significant implementation risk per the select risk categories. Specifically, risk is associated with the following major risk categories:

- Reputation, since proximity to research collaborators and academic affiliates may compromise VA's image as a research and education-driven organization
- Security, since the consolidation to a single campus in a major metropolitan area reduces the flexibility to effectively respond to emergencies
- Organization and change management, since a consolidation also involves the relocation of several VAMC staff
- Infrastructure, since the ability to secure a large enough parcel of real estate on which to build a single new facility could present a significant obstacle to implementation, and the size of the consolidated facilities may be dissimilar to surrounding structures
- Compliance, as zoning and environmental remediation requirements may pose hindrances to implementing re-use options

- Political, as capital and re-use options may not be favored by the local constituencies
- Project realization, since baseline renovations are scheduled to be completed over eight years and may be prone to delays, additional resource need, and budget variance

Therefore, the ease of implementation of the BPOs should be considered in the selection of those to be studied further.

Assessment Results

The following tables (32 and 33) detail the results of applying discriminating criteria and comparison against the baseline in accordance with the Evaluation System for BPOs (Table 10).

Table 32: Baseline Assessment

Assessment of Baseline	Description
Healthcare Access	
Primary	96% of enrollees are within the drive time guidelines. The primary care access threshold is 70%. Therefore, the Boston study site meets the drive time access guideline for primary care.
Acute	87% of enrollees are within the drive time guidelines. The acute care access threshold is 70%. Therefore, the Boston study site meets the drive time access guideline for acute care.
Tertiary	100% of enrollees are within the drive time guidelines. The tertiary care threshold is 65%. Therefore, the Boston study site meets the access guideline for tertiary care.
Healthcare Quality	True 1: 14 01 : 0 1 : 12
Quality of medical services	 BHS achieved the following for select quality scores as compared to both VISN and overall VA national scores: Better or comparable scores for inpatient care, ambulatory care, mental health (global index), nursing home (pressure sores), and patient satisfaction (ambulatory care). Worse scores for mental health (major depressive disorder), nursing home (physical restraint), and patient satisfaction (inpatient care). Bedford achieved the following for select quality scores as compared to both VISN and overall VA national scores: Better or comparable scores for ambulatory care, mental health, and patient satisfaction Worse scores for nursing home.
Modern, safe, and secure environment	Boston facilities have ratings in the range of 2.2 to 4.4 out of 5 for critical values such as accessibility, code, layout, adjacencies, and

Assessment of Baseline	Description
Ensures forecast healthcare need is appropriately met	The baseline assumes the percentage of in-house and contracted care is maintained. Additionally, baseline assumes that in order to maintain quality of care and meet VA thresholds for clinical volume, VA will make necessary operational adjustments (e.g., staffing or contract arrangements) as necessary and available. The baseline facilities cannot accommodate the projected increases in the SCI services over the projection period, specifically a 247% projected increase for chronic SCI utilization at Brockton. This service is not provided for in the community; therefore, the baseline cannot ensure the forecast healthcare need is appropriately met. ⁴³ .
Impact on VA and Local Community	
Human Resources:	
FTEE need (based on volume)	With the projected changes in utilization, it is anticipated that the baseline results in an increase from the current state.
Recruitment / retention	Bedford and Brockton experience little difficulty recruiting and retaining human resources due to competitive wages, benefits, and job security. West Roxbury and Jamaica Plain must compete with local Boston hospitals for healthcare talent. The current recruitment environment is expected to be maintained in the baseline
Research	In FY04, Boston conducted approximately 635 research protocols, lead by nearly 270 principal investigators and spent approximately \$39.5M of funding on research programs. Research interests cross a variety of fields including mental illness, alcoholism, gastrointestinal disorders, cardiology and cardiovascular diseases, hematology, pulmonary medicine, urology, neurology, spinal cord injury, hemostasis, aphasia, language and memory disorders, post traumatic stress disorder (PTSD), infectious diseases, neuropsychiatry, and geriatrics.
Education and Academic Affiliations	Every year, BHS and Bedford train approximately 2,000 medical professionals. The principal academic affiliates for the Boston site are Boston University and Harvard University along with other surrounding universities and colleges. These affiliations and training programs are assumed to be maintained in the baseline.
Use of VA Resources	
Operating cost effectiveness	Boston operating costs include those costs associated with providing care onsite at the four Boston VAMC campuses, as well as purchasing care contracted from other providers.
Level of capital expenditures estimated	Level of capital expenditures estimated includes the costs identified by the facility and captured in the CAI database reflecting essential maintenance and capital required to achieve a modern, safe, and secure environment.
Level of re-use proceeds	There is no re-use in the baseline.
Cost avoidance	In the baseline, it is assumed that the amount of money identified by the facility in the CAI database as essential maintenance would be fully expended.

⁴³ The baseline cannot accommodate the projected chronic spinal cord injury bed requirement. However, all of the proposed BPOs will be designed and costed to meet this requirement in the Stage II analysis.

Assessment of Baseline	Description		
Overall cost effectiveness	Not applicable for the baseline.		
Ease of Implementation Ease of BPO Implementation	The baseline presents implementation risk in terms of the following major risk categories:		
Ability to Support VA Programs			
DoD sharing	The 54-acre golf course and driving range at the Bedford VAMC is maintained by the United States Air Force.		
One-VA Integration	The baseline has the potential to provide the same level of current One-VA integration.		
Special Considerations	No special considerations are noted.		

Table 33 provides an overall summary of the BPOs assessed for comparative purposes.

Table 33: BPO Assessment Summary 44

Assessment Summary	BPO 2	BPO 3	BPO 4	BPO 5
	Consolidate all Services at West Roxbury; Re-use Bedford, Brockton, and Jamaica Plain; Build CBOC at Brockton	Consolidate all Services at Jamaica Plain; Re-use Bedford, Brockton, and West Roxbury; Build CBOC at Brockton	Consolidate all Services at Brockton; Re-use Bedford, West Roxbury, and Jamaica Plain; Build CBOC at New Urban Location	Consolidate all Services at New Urban Campus; Re-Use Bedford, Brockton, West Roxbury, and Jamaica Plain; Build CBOC at Brockton
Healthcare Access				
Primary care	↓	\downarrow	↓	↓
Acute care	\leftrightarrow	\leftrightarrow	\leftrightarrow	\leftrightarrow
Tertiary care	\leftrightarrow	\leftrightarrow	\leftrightarrow	\leftrightarrow
Healthcare Quality				
Quality of medical services	1	1	1	1
Modern, safe, and secure environment	1	↑	<u> </u>	<u> </u>
Ensures forecast healthcare need is appropriately met	1	↑	1	1
Impact on Local Community				
Human Resources: FTEE need (based on volume)	Decrease	Decrease	Decrease	Decrease
Recruitment / retention	\leftrightarrow	<u> </u>	\downarrow	<u> </u>
Research	1	1	\leftrightarrow	<u> </u>
Education and Academic Affiliations	1	1	↓	1

⁴⁴ BPO 10 is not included in the Assessment Summary Table. It was created during the second LAP meeting at the suggestion of the LAP and, therefore, only the initial screening criteria of access, quality, and cost were applied to determine if the BPO has the potential to meet or exceed the CARES objectives. If BPO 10 is selected for Stage II, a more detailed analysis will be completed.

Assessment Summary	BPO 2	BPO 3	BPO 4	BPO 5
	Consolidate all Services at West Roxbury; Re-use Bedford, Brockton, and Jamaica Plain; Build CBOC at Brockton	Consolidate all Services at Jamaica Plain; Re-use Bedford, Brockton, and West Roxbury; Build CBOC at Brockton	Consolidate all Services at Brockton; Re-use Bedford, West Roxbury, and Jamaica Plain; Build CBOC at New Urban Location	Consolidate all Services at New Urban Campus; Re-Use Bedford, Brockton, West Roxbury, and Jamaica Plain; Build CBOC at Brockton
Use of VA Resources				
Operating cost effectiveness	ተተተ	ተተተ	ተተተ	ተተተ
Level of capital expenditures estimated	VV	44	VV	↓ ↓
Level of re-use proceeds	ተተተ	ተተተ	ተተተ	ተተተ
Cost avoidance opportunities	-	-	-	-
Overall cost effectiveness	ተተተተ	ተ ተተተ	<u> ተተተተ</u>	ተ ተተተ
Ease of Implementation				
Ease of BPO Implementation	\	↓	\	↓
Ability to Support VA Programs				
DoD sharing		<u></u>		<u> </u>
One-VA Integration	\leftrightarrow	\leftrightarrow	\leftrightarrow	\leftrightarrow
Special Considerations	↓	↓	\	↓
Overall Attractiveness	ተተተተ	ተ ተተተ	ተተተተ	ተ ተተተ

Assessment Summary	BPO 6	BPO 7	BPO 8	BPO 9
	Consolidate Jamaica Plain at West Roxbury; Re-Use Jamaica Plain; Right-Size West Roxbury, Brockton, and Bedford	Build New Acute Care and Research Facility at Urban Location; Right-Size Bedford and Brockton; Re-Use Jamaica Plain and West Roxbury	Consolidate Bedford at Brockton; Right-Size Jamaica Plain and West Roxbury; Build New CBOCs at Urban Location and North Shore	Consolidate Bedford and Brockton at West Roxbury; Consolidate Inpatient, Ambulatory Care, and Research at Jamaica Plain; Build New CBOCs at North Shore and South Shore
Healthcare Access				
Primary care	\leftrightarrow	\leftrightarrow	\leftrightarrow	\leftrightarrow
Acute care	\longleftrightarrow	\longleftrightarrow	\longleftrightarrow	\leftrightarrow
Tertiary care	\leftrightarrow	\leftrightarrow	\leftrightarrow	\leftrightarrow
Healthcare Quality				
Quality of medical services	\leftrightarrow	\leftrightarrow	\leftrightarrow	\leftrightarrow
Modern, safe, and secure environment	\leftrightarrow	↑	\leftrightarrow	1
Ensures forecast healthcare need is appropriately met	1	1	1	1
Impact on Local Community				
Human Resources: FTEE need (based on volume)	Decrease	Same	Same	Same
Recruitment / retention	\	^	\	\leftrightarrow
Research	\leftrightarrow	<u> </u>	\leftrightarrow	<u> </u>
Education and Academic Affiliations	↓	\leftrightarrow	\leftrightarrow	1

Assessment Summary	BPO 6	BPO 7	BPO 8	BPO 9
	Consolidate Jamaica Plain at West Roxbury; Re-Use Jamaica Plain; Right-Size West Roxbury, Brockton, and Bedford	Build New Acute Care and Research Facility at Urban Location; Right-Size Bedford and Brockton; Re-Use Jamaica Plain and West Roxbury	Consolidate Bedford at Brockton; Right-Size Jamaica Plain and West Roxbury; Build New CBOCs at Urban Location and North Shore	Consolidate Bedford and Brockton at West Roxbury; Consolidate Inpatient, Ambulatory Care, and Research at Jamaica Plain; Build New CBOCs at North Shore and South Shore
Use of VA Resources				
Operating cost effectiveness	-	↑	↑	ተተተ
Level of capital expenditures estimated	ΨΨ	ΨΨ	ΨΨ	↓ ↓
Level of re-use proceeds	ተተተ	ተተተ	ተተተ	ተተተ
Cost avoidance opportunities	-	-	-	-
Overall cost effectiveness	-	-	-	^
Ease of Implementation				
Ease of BPO Implementation	1	↓	1	↓
Ability to Support VA Programs				
DoD sharing	\leftrightarrow	\leftrightarrow	\downarrow	
One-VA Integration	\leftrightarrow	\leftrightarrow	\leftrightarrow	\leftrightarrow
Special Considerations	\leftrightarrow	\leftrightarrow	\leftrightarrow	\leftrightarrow
Overall Attractiveness	^	ተ ተ	^	ተተተተ

BPO 10: Consolidate West Roxbury at Jamaica Plain; Re-Use West Roxbury; Right-Size Brockton and Bedford

The initial screening criteria of access, quality, and cost were applied to this new BPO to determine if this BPO, created by the LAP, has the potential to meet or exceed the CARES objectives. The results of the application of these initial screening criteria are summarized in Table 34.

Table 34: Screening Results for BPO 10

Criteria	Screening Result		
Access	Since West Roxbury and Jamaica Plain are only six miles apart, services will continue to be provided in close proximity to the baseline location of provision. Therefore, this BPO is expected to provide the same level of drive time access as the baseline.		
Quality	Compared to the baseline, this BPO should improve quality because the campuses would be right-sized to adequately accommodate the projected utilization for 2023. The baseline cannot accommodate all of the workload and some protected special clinical programs are at risk of being not provided by a VA facility.		
Cost	The BPO does involve the consolidation of two campuses and some new construction; however, most services remain in existing facilities with renovations. Thus, operating cost effectiveness is expected to be similar to the baseline. Capital expenditures are anticipated to be greater than the baseline while re-use of the West Roxbury campus is expected to result in significant re-use proceeds as compared to the baseline. Overall, BPO 10 is expected to have similar cost effectiveness as the baseline.		

Local Advisory Panel and Stakeholder Reactions/Concerns

Local Advisory Panel Feedback

The Boston LAP consists of nine members: Joyce A. Murphy; Michael J. Miller, M.D.; Vince Ng; Thomas Materazzo; Thomas Moore, M.D.; Thomas Kelley; Henry (Hank) Bradley; Diane Gilbert and Ray Dolin, M.D.

At the second LAP meeting on September 27, 2005, following the presentation of public comments, the LAP conducted its deliberation on the BPOs. At that time, the LAP proposed one new BPO, BPO 10. Table 35 presents the results of the LAP deliberations. While a formal vote was not taken, there was consensus by the LAP on the BPOs recommended for further study. The LAP Chair indicated in her summarization that Bedford and Brockton must be kept open. BPOs 1, 6, 7, and 10 were recommended by the LAP, while BPOs 2, 3, 4, 5, 8, and 9 were not. All of the BPOs not recommended for further study by the LAP involve the closing of the Bedford campus, and three of these BPOs (BPOs 2, 3, and 5) involve closing both the Bedford and the Brockton campuses. Both the Bedford and Brockton campuses remain open in all of the BPOs recommended by the LAP for further study.

Table 35: LAP BPO Recommendations

		Recommended for
BPO	Label	Further Study?
1	Baseline	Yes
	Consolidate all Services at West Roxbury; Re-use Bedford,	
2	Brockton, and Jamaica Plain; Build CBOC at Brockton	No
	Consolidate all Services at Jamaica Plain; Re-use Bedford, Brockton,	
3	and West Roxbury; Build CBOC at Brockton	No
	Consolidate all Services at Brockton; Re-use Bedford, West	
4	Roxbury, and Jamaica Plain; Build CBOC at New Urban Location	No
	Consolidate all Services at New Urban Campus; Re-Use Bedford,	
	Brockton, West Roxbury, and Jamaica Plain; Build CBOC at	
5	Brockton	No
	Consolidate Jamaica Plain at West Roxbury; Re-Use Jamaica Plain;	
6	Right-Size West Roxbury, Brockton, and Bedford	Yes
	Build New Acute Care and Research Facility at Urban Location;	
	Right-Size Bedford and Brockton; Re-Use Jamaica Plain and West	
7	Roxbury	Yes
	Consolidate Bedford at Brockton; Right-Size Jamaica Plain and	
	West Roxbury; Build New CBOCs at Urban Location and North	
8	Shore	No
	Consolidate Bedford and Brockton at West Roxbury; Consolidate	
	Inpatient, Ambulatory Care, and Research at Jamaica Plain; Build	
9	New CBOCs at North Shore and South Shore	No
45	Consolidate West Roxbury at Jamaica Plain; Re-Use West Roxbury;	
10^{45}	Right-Size Brockton and Bedford	Yes

Stakeholder Feedback on BPOs

In addition to raising specific concerns, stakeholders were provided with the opportunity to provide feedback regarding the specific BPOs presented at the second LAP meeting. Through the VA CARES website and comment forms distributed at the public meeting, stakeholders were able to indicate if they "favor", are "neutral", or are "not in favor" of each of the BPOs. The results of this written and electronic feedback are provided in Figure 41.

Stakeholders reviewed the BPOs before the second public LAP meeting and were most supportive of the baseline option (BPO 1) that keeps services on site. Stakeholders also showed some support for BPO 8 which will consolidate Bedford and Brockton onto the Brockton campus, and BPO 7 which will consolidate Jamaica Plain and West Roxbury into a new acute care facility with research capabilities on an urban campus. Given that BPO 10 emerged as a result of LAP deliberations, stakeholders did not have the opportunity to provide feedback specific to this BPO.

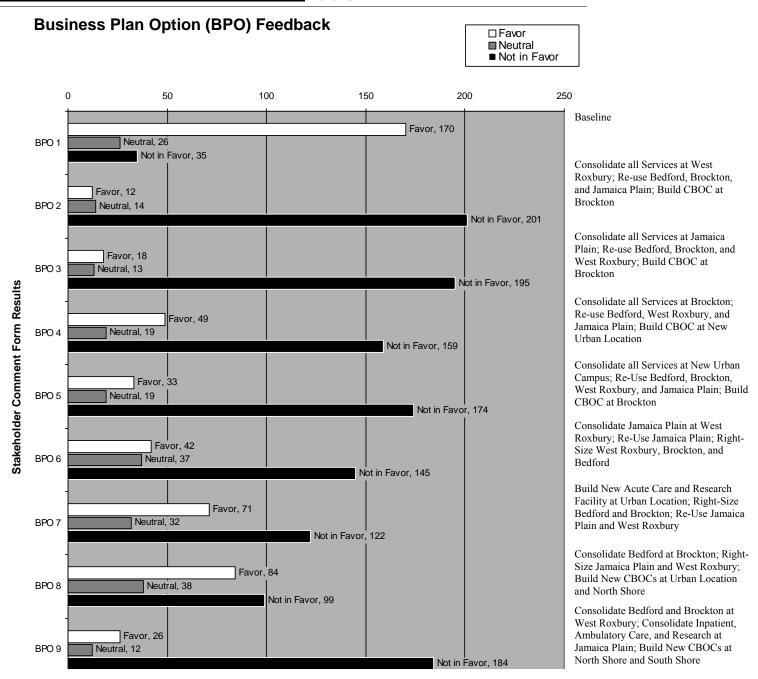
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⁴⁵ New BPO added by the LAP

Figure 41: Stakeholder Feedback on BPOs⁴⁶

Analysis of Written and Electronic Inputs (Written and Electronic Only):

The feedback received from the Options Comment Forms for the Boston study site is as follows:



⁴⁶ Stakeholder feedback is reflected in this chart only for the BPOs which were presented by Team PwC at the LAP meeting (BPOs 1-9), and not the one created by the LAP at the second public LAP meeting. Any stakeholder feedback regarding additional BPOs was captured in the open text boxes on the comment form

BPO Recommendations for Assessment in Stage II

Team PwC's recommendation of BPOs to be further assessed in Stage II was determined based on several factors. Team PwC considered the pros and cons of each option, together with the results of assessments against discriminating criteria to determine the overall attractiveness of each BPO. Views and opinions of the LAP and oral and written testimony received from veterans and other interested groups were also considered. All of these inputs contributed to the selection of the BPOs to be recommended for further study in Stage II, which are summarized in Table 36 with pros and cons identified for each BPO.

With the exception of the baseline, the BPOs recommended for further study share some key similarities. All of them:

- Consolidate at least one of the area VAMC campuses onto another campus
- Right-size the campus for future demand, and achieve modern, safe, and secure facilities through renovation, consolidation, or new construction
- Ensure forecasted need is appropriately met, especially for such specialized services as chronic spinal cord injury services that are not provided for in the community; and
- Are characterized by significant implementation risk

All of the BPOs which Team PwC eliminated from further consideration also involved consolidating a subset of the Boston campuses; however, they did not yield positive assessments with respect to the assessment drivers.

Table 36: BPO Recommendations

Recon	Pros	Cons	Rationale
BPOs Recommended by Team PwC for Further Study			
BPO 1: Baseline	Maintains current drive time access which exceeds VA thresholds Facility renovations improve adherence to modern, safe, and secure standards Sustains current medical education programs and affiliations with over 100 institutions Sustains research programs and associated Centers of Excellence	Cannot accommodate all of 2023 projected utilization, placing protected specialized clinical programs at risk of not being provided by a VA facility Operating model of four VAMCs results in duplication of fixed costs, and thus is not a cost-effective use of VA resources Implementation risk associated with continuity of care, and project realization	Is the BPO against which all other BPOs are to be assessed
BPO 9: Consolidate Bedford and Brockton at West Roxbury; Consolidate Inpatient, Ambulatory Care, and Research at Jamaica Plain; Build New CBOCs at North Shore and South Shore	Newly constructed facility improves adherence to modern, safe, and secure standards and meets forecasted service demand Enhances research and education programs through collocation of research programs and proximity to affiliates and collaborators Overall significantly more cost effective than the baseline Less implementation risk with respect to continuity of care	Greater implementation risk associated with organizational and change management, compliance, and political acceptance Requires greater capital expenditure than the baseline	Consolidation of four facilities to two enhances operating efficiencies, allows for re-use potential, and thus overall is significantly more cost effective Education programs may be enhanced as West Roxbury and Jamaica Plain are in closer proximity to academic affiliates than the distribution of VAMCs in the baseline Research programs are enhanced through collocation of research space and closer proximity to research collaborators West Roxbury and Jamaica Plain campuses are fairly centralized and thus cause less disruption to employee and patient commutes
BPO 10: Consolidate West Roxbury at Jamaica Plain; Re-Use West Roxbury; Right-Size Brockton and Bedford	May improve recruitment and retention of human resources since Jamaica Plain is accessible via public transportation Enhances research and education programs through collocation of research space and most likely close proximity to research collaborators and affiliates Most likely provides a greater level of reuse proceeds then the baseline; however, overall cost effectiveness may only be similar to baseline Less implementation risk with respect to continuity of care	Greater implementation risk associated with organizational and change management, compliance, and political acceptance Requires greater capital expenditure than the baseline	Research and education programs may be enhanced as Jamaica Plain is in closer proximity to research collaborators and academic affiliates than the distribution of VAMCs in the baseline Jamaica Plain is a fairly centralized campus for consolidation and is accessible via public transportation, and thus may enhance recruitment and retention of human resources

ВРО	Pros	Cons	Rationale	
	BPO Not Recommended by Team PwC for Further Study			
BPO 2: Consolidate All Services at West Roxbury; Re-use Bedford, Brockton, and Jamaica Plain; Build CBOC at Brockton.	May improve quality through collocation of all services on a single campus Newly constructed facility improves adherence to modern, safe, and secure standards and meets forecasted service demand Overall, enhances research and education programs through collocation of research programs and proximity to affiliates and collaborators Overall, significantly more cost effective than the baseline Less implementation risk with respect to continuity of care and project realization	Negatively affects veterans' drive time access to primary care Negatively affects research and education programs at Jamaica Plain since current location is near to collaborators and affiliates Greater implementation risk associated with organizational and change management, security, compliance, and political acceptance Requires greater capital expenditure than the baseline	Negatively affects veterans' drive time access to primary care via public transportation Negatively affects research and education programs at the Jamaica Plain campus Implementation risk is greater than the baseline specifically in terms of infrastructure, since the resulting facility may be dissimilar to those found in the suburban West Roxbury neighborhood	
BPO 3: Consolidate All Services at Jamaica Plain; Re-use Bedford, Brockton, and West Roxbury; Build CBOC at Brockton.	May improve quality through collocation of all services on a single campus Newly constructed facility improves adherence to modern, safe, and secure standards and meets forecasted service demand Central location and accessibility via public transportation may improve recruitment and retention of human resources Enhances research and education programs through collocation of research programs and proximity to affiliates and collaborators Overall, significantly more cost effective than the baseline Less implementation risk with respect to continuity of care and project realization	Negatively affects veterans' drive time access to primary care Greater implementation risk associated with security, organizational and change management, infrastructure, and political acceptance Requires greater capital expenditure than the baseline	 Negatively affects veterans' drive time access to primary care Implementation risk is greater than the baseline, specifically in terms of infrastructure, since the resulting facility will be 20 – 30 stories high and dissimilar to surrounding facilities 	

BPO	Pros	Cons	Rationale
BPO 4: Consolidate All Services at Brockton; Re-use Bedford, West Roxbury, and Jamaica Plain; Build CBOC at New Urban Location.	May improve quality through collocation of all services on a single campus Newly constructed facility improves adherence to modern, safe, and secure standards and meets forecasted service demand Overall, significantly more cost effective than the baseline Less implementation risk with respect to continuity of care and project realization	Negatively affects veterans' drive time access to primary care Location of campus and inaccessibility via public transportation may negatively affect ability to recruit and retain human resources May negatively affect education programs since the Brockton campus is a further distance from academic affiliates. Greater implementation risk associated with organizational and change management, compliance, security, reputation, and political acceptance Requires greater capital expenditure than the baseline	Negatively affects veterans' drive time access to primary care Negatively affects recruitment and retention of human resources as well as education programs Implementation risk is greater than the baseline
BPO 5: Consolidate All Services at New Urban Campus; Re-Use Bedford, Brockton, West Roxbury, and Jamaica Plain; Build CBOC at Brockton.	May improve quality through collocation of all services on a single campus Newly constructed facility improves adherence to modern, safe, and secure standards and meets forecasted service demand Central location and accessibility via public transportation may improve recruitment and retention of human resources Enhances research and education programs through collocation of research space and most likely close proximity to research collaborators and affiliates Overall, significantly more cost effective than the baseline Less implementation risk with respect to continuity of care and project realization	Negatively affects veterans' drive time access to primary care Implementation risk associated with security, organizational and change management, infrastructure, compliance, and political acceptance Requires greater capital expenditure than the baseline	Negatively affects veterans' access to primary care Implementation risk is greater than the baseline, specifically in terms of infrastructure, since it may be difficult to secure an adequate urban property to house all services in a single location

BPO	Pros	Cons	Rationale
BPO 6: Consolidate Jamaica Plain at West Roxbury; Re-Use Jamaica Plain; Right-Size West Roxbury, Brockton, and Bedford	Provides greater level of re-use proceeds than the baseline; however, overall cost effectiveness is only similar to the baseline Ensures forecasted need for services is appropriately met Less implementation risk with respect to continuity of care and project realization	May negatively affect ability to recruit and retain human resources as the campus is not accessible using public transportation May negatively impact some education programs since some services are moving further away from academic affiliates Implementation risk associated with organizational and change management, compliance, reputation, and political acceptance Requires greater capital expenditure than the baseline	May negatively affect recruitment and retention, as well as education programs, since West Roxbury is not conveniently accessible via public transportation and is further away from the academic affiliates Greater capital expenditure is required No significant operating efficiencies are expected, thus resulting in only a similar overall cost effectiveness as the baseline Implementation risk is greater than the baseline
BPO 7: Build New Acute Care and Research Facility at Urban Location; Right-Size Bedford and Brockton; Re-Use Jamaica Plain and West Roxbury	Newly constructed facility improves adherence to modern, safe, and secure standards and meets forecasted service demand May improve recruitment and retention of human resources since an urban campus would be accessible via public transportation Enhances research programs through collocation of research space and most likely close proximity to research collaborators Provides some operating efficiencies and a greater level of re-use proceeds than the baseline; however, overall cost effectiveness is only similar to the baseline Less implementation risk with respect to continuity of care and project realization	Greater implementation risk associated with organizational and change management, infrastructure, compliance, and political acceptance	Only maintains overall cost effectiveness as compared to the baseline Implementation risk is greater than the baseline, particularly with regard to infrastructure, since it may be difficult to secure an adequate urban property to house selected services in a single location, and avoidable in other BPOs that retain either of the urban locations of the Jamaica Plain or West Roxbury
BPO 8: Consolidate Bedford at Brockton; Right-Size Jamaica Plain and West Roxbury; Build New CBOCs at Urban Location and North Shore	 Provides some operating efficiencies and a greater level of re-use proceeds than the baseline; however, overall cost effectiveness is only similar to the baseline Ensures forecasted need for services is appropriately met Less implementation risk with respect to continuity of care and project realization 	Implementation risk associated with organizational and change management, compliance, and political acceptance May negatively affect recruitment and retention since the Brockton campus is distant from Bedford and would cause disruption to employee commutes	May negatively affect recruitment and retention since the Brockton campus is distant from Bedford and would cause disruption to employee commutes Implementation risk is greater than the baseline in terms of organizational and change management, compliance, and political acceptance Only maintains overall cost effectiveness as compared to the baseline

Appendix - Glossary

Acronyms

AFB Air Force Base

AMB Ambulatory

BPO Business Plan Option

CAI Capital Asset Inventory

CAP College of American Pathologists

CARES Capital Asset Realignment for Enhanced Services

CBOC Community Based Outpatient Clinic

CIC CARES Implementation Category

DoD Department of Defense

FTEE Full Time Employee Equivalent

GFI Government Furnished Information

HEDIS Health Plan Employer Data and Information Set

ICU Intensive Care Unit

IP Inpatient

JCAHO Joint Commission on Accreditation of Healthcare Organizations

OP Outpatient

MH Mental Health

MOU Memorandum of Understanding

N/A Not Applicable

NFPA National Fire Protection Association

PTSD Post Traumatic Stress Disorder

SOW Statement of Work

VA Department of Veterans Affairs

VACO VA Central Office

VAMC Veterans Affairs Medical Center

Veterans Benefits Administration **VBA**

VHA Veterans Health Administration

VISN Veterans Integrated Service Network

Definitions

Access is the determination of the numbers of actual enrollees Access

who are within defined travel time parameters for primary care,

acute hospital care, and tertiary care after adjusting for differences in population and density and types of road.

Alternative Business Plan

Options

Business Plan Options generated as alternatives to the baseline

Business Plan Option providing other ways VA could meet the

requirements of veterans at the Study Site.

Ambulatory Services Services to veterans in a clinic setting that may or not be on the

> same station as a hospital, for example, a Cardiology Clinic. The grouping as defined by VA also includes several diagnostic

and treatment services, such as Radiology.

Baseline Business Plan

Option

The Business Plan Option for VA which does not change any

element of the way service is provided in the study area.

"Baseline" describes the current state projected out to 2013 and 2023 without any changes to facilities or programs or locations and assumes no new capital expenditure (greater than \$1

million). Baseline state accounts for projected utilization changes, and assumes same or better quality, and necessary maintenance for a safe, secure, and modern healthcare

environment

Business Plan Option (BPO) The options developed and assessed by Team PwC as part of the

Stage I and Stage II Option Development Process. A business plan option consists of a credible healthcare plan describing the types of services, and where and how they can be provided and a

related capital plan, and an associated re-use plan.

Capital Asset Inventory

(CAI)

The CAI includes the location and planning information on owned buildings and land, leases, and agreements, such as enhanced-use leases, enhanced sharing agreements, outleases, donations, permits, licenses, inter- and intra-agency agreements, and ESPC (energy saving performance contracts) in the VHA capital inventory.

CARES Implementation

Category (CIC)

One of 25 categories under which workload is aggregated in VA

demand models. (See Workload)

Clinic Stop A visit to a clinic or service rendered to a patient.

Clinical Inventory The listing of clinical services offered at a given station.

Code Compliance with auditing/reviewing bodies such as JCAHO,

NFPA Life Safety Code or CAP.

Community Based

Outpatient Clinic (CBOC)

An outpatient facility typically housing clinic services and associated testing. A CBOC is VA operated, contracted, or leased and is geographically distinct or separate from the parent

medical facility.

Cost Effectiveness A program is cost-effective if, on the basis of life-cycle cost

analysis of competing alternatives, it is determined to have the lowest costs expressed in present value terms for a given amount

of benefits.

Domiciliary A VA facility that provides care on an ambulatory self-care basis

for veterans disabled by age or disease who are not in need of acute hospitalization and who do not need the skilled nursing

services provided in a nursing home.

Enhanced Use Lease A lease of real property to non-government entities, under the

control and/or jurisdiction of the Secretary of Veterans Affairs, in which monetary or "in-kind" consideration (i.e., the provision of goods, facilities, construction, or services of the benefit to the Department) is received. Unlike traditional federal leasing authorities in which generated proceeds must be deposited into a general treasury account, the enhanced-use leasing authority

provides that all proceeds (less any costs than can be reimbursed) are returned to medical care appropriations.

Good Medical Continuity A determination that veterans being cared for a given condition

will have access to the appropriate array of primary, secondary,

and tertiary care services required to treat that condition.

whether or not a particular Business Plan Option has the

potential to meet or exceed the CARES objectives.

Inpatient Services Services provided to veterans in the hospital or an inpatient unit,

such as a Surgical Unit or Spinal Cord Injury Unit.

Market Area Geographic areas or boundaries (by county or zip code) served

by that Network's medical facilities. A Market Area is of a sufficient size and veteran population to benefit from coordinated planning and to support the full continuum of

healthcare services. (See Sector)

Mental Health Indicators See the end of this document.

Multispecialty Clinic A VA medical facility providing a wide range of ambulatory

services such as primary care, specialty care, and ancillary

services usually located within a parent VA facility.

Nursing Home The term "nursing home care" means the accommodation of

convalescents or other persons who are not acutely ill and not in need of hospital care, but who require nursing care and related medical services, if such nursing care and medical services are prescribed by, or are performed under the general direction of, persons duly licensed to provide such care. Such term includes

services furnished in skilled nursing care facilities, in

intermediate care facilities, and in combined facilities. It does

not include domiciliary care.

Primary Care Healthcare provided by a medical professional with whom a

patient has initial contact and by whom the patient may be referred to a specialist for further treatment. (See Secondary

Care and Tertiary Care)

Re-use An alternative use for underutilized or vacant facility space or

VA owned land.

Risk Any barrier to the success of a Business Planning Option's transition and implementation plan or uncertainty about the cost or impact of the plan. Medical care provided by a specialist or facility upon referral by Secondary care a primary care physician that requires more specialized knowledge, skill, or equipment than the primary care physician has. (See Primary Care and Tertiary Care) Sector Within each Market Area are a number of sectors. A sector is one or more contiguous counties. (See Market Area) Stakeholder A person or group who has a relationship with VA facility being examined or an interest in what VA decides about future activities at the facility. Tertiary care High specialized medical care usually over an extended period of time that involves advanced and complex procedures and treatments performed by medical specialists. (See Primary Care and Secondary Care) Workload The amount of CIC units by category determined for each market and facility by the Demand Forecast.

Mental Health Indicators

Indicator	Description
New Dx Dep - F/U X3 (mdd6n)	Percentage of patients with a new diagnosis of depression who have at least three clinical follow-up visits in the 12 acute periods after diagnosis (current PM)
New Dx Dep - Meds (mdd7n)	Percentage of patients with a new diagnosis of depression who have medication for at least 84 days in the acute treatment period (current PM)
Homeless Dchg Indep (fnct2n)	Percentage of veterans discharged from a domiciliary care for homeless veterans (DCHV), grand and per diem program, or healthcare for homeless veterans community-based contract residential care program to independent living
Screen for Alcohol (sa3)	Percentage of patients screened for high risk alcohol use with the AUDIT-C instrument (past and current PM)
Screen for MHICM (mhc1)	Percentage of psychiatry patients with high utilization of inpatient psychiatry services who are screened for mental health intensive care case management (past and current PM)
Screen for PTSD (ptsd1)	Percentage of all veterans screened for post traumatic stress disorder (PTSD) in the previous 12 months (SI)
SUD Cont of Care (sa5)	Percentage of patients entering specialty substance abuse treatment who maintain continuity of care for at least 90 days (past and current PM)