Allen Property Master Plan Report

February 2009
(Updated March 2009)

Prepared for:
Town of Shrewsbury
Shrewsbury Development Corporation

Consultants:
Community Opportunities Group, Inc.

Engineering Study Summaries and Concept Plan Provided by BETA Group, Inc.

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Executive Summary

The Shrewsbury Development Corporation (SDC), Assistant Town Manager Michael Hale, and consultants from BETA Group, Inc., and Community Opportunities Group, Inc. have been working on a master plan for the Allen Property on South Street since January 2008. The purpose of this project was to prepare a plan for the Board of Selectmen's approval so that the SDC can market the Allen Property, recruit and select qualified developers, and enter into land disposition agreements on the Town of Shrewsbury's behalf.

The Allen Property is a 66-acre tract of land identified in the Shrewsbury Master Plan (2001) as an important site for industrial, office, and research and development uses. After unsuccessful efforts to market the land for light industrial development, the former owners entered into a purchase and sale agreement with a national rental housing developer, AvalonBay Communities, Inc., in 2002. Ironically, the Town had just obtained a state grant to begin implementing several of the Shrewsbury Master Plan's commercial and industrial zoning recommendations. Since the property had been assessed as Chapter 61A land, the Town had a 120-day right of first refusal period to match AvalonBay's $6.1 million purchase offer. Hoping to secure the land for the kinds of uses described in the Master Plan, the Town pursued a three-part strategy: exercising the right of first refusal and purchasing the property, creating the SDC, and changing the Allen Property's zoning from Limited Industrial and Rural B to Office-Research. By January 2003, Shrewsbury owned the Allen Property and the SDC had been appointed.

The special act of the legislature that allowed Shrewsbury to create the SDC – Chapter 493 of the Acts of 2002 – includes two provisions that make it crucial for the Board of Selectmen and the SDC to agree on a site development plan:

- The legislation requires the SDC to obtain approval from the Board of Selectmen before carrying out a development project on the Allen Property. The purpose of this provision is to ensure that the Board has a say in the eventual development of the land. The SDC needs the Board of Selectmen's concurrence in order to market the property for uses that can realistically be built there.

- The legislation allows Shrewsbury to issue bond anticipation notes (BAN) for the land acquisition cost for a much longer period than is normally allowed by law. The ten-year BAN window ends in FY 2012. Thereafter, the Town will be required to issue a long-term bond and make annual principal and interest payments.

At the time of the 2002 special town meeting, Shrewsbury officials hoped that the SDC and Worcester Business Development Corporation (WBDC) would be able to collaborate on a development and disposition plan for the Allen Property. WBDC is the developer of CenTech Park and other industrial projects in the Worcester area. In 2004, WBDC presented a conceptual site plan that anticipated a broader mix of industrial uses than the Town allows in the Office-Research District. WBDC had commissioned a market analysis and determined that the most likely options for the Allen Property consisted of light industrial uses, including warehousing and distribution: uses the Town had hoped to preclude by rezoning the land for higher-value development.

According to WBDC, it might be possible to lure some research and development companies to the site, but it could take many years to market the land for these uses and there was no guarantee that they would ever materialize. As a result, WBDC said the Town should shift its focus from office, research and development uses to light industry and that by doing so, Shrewsbury would probably be able to sell most of the land within five years. However, expediting disposition of the Allen Property under the terms outlined by WBDC involved significant trade-offs: substantially less tax revenue and fewer jobs. After discussing WBDC's proposal, the Board of Selectmen and SDC decided to wait for market conditions to improve.

Four years have passed since the Board of Selectmen declined to pursue WBDC's recommendations, and the market has not improved. Until a year ago, the Town did not have the funds to revisit options for the Allen Property and develop a new plan. Access to a Chapter 43D grant has made it possible for Shrewsbury to conduct an independent assessment of the land's potential, explore the impacts of some development possibilities, and prepare a plan for the Board of Selectmen's consideration in accordance with the requirements of Chapter 493. The *Allen Property Master Plan Report* examines the market for office and industrial space in Shrewsbury's area, analyzes local trends, describes the proposed conceptual development plan and its rationale, and provides "next step" considerations for the Town.

HIGHLIGHTS: CONCEPTUAL SITE DEVELOPMENT PLAN

The Allen Property conceptual site development plan is based on engineering services provided by BETA Group, Inc., an analysis of local and regional development conditions prepared by Community Opportunities Group, Inc., and guidance from the SDC. Important points about the concept plan include:[1]

- **Development Potential.** The maximum development potential of the Allen Property is approximately 611,000 sq. ft. of floor area under Shrewsbury's density, dimensional, and off-street parking regulations.

- **Site Characteristics.** Due to wetland constraints and frontage on two roads, the Allen Property is divisible into three development envelopes: a north pod, which abuts the Charles River Laboratories facility on South Street; a west pod, which is adjacent to Thomas Farm Circle and relies on the north pod for access; and a south pod, which includes the frontage on Route 20. This natural division of the site creates advantages because the land can support a mix of uses with few if any use conflicts.

- **North Section.** The north pod contains more valuable land and it has the potential to attract higher-value developments to this part of the site. However, the higher-value uses that Shrewsbury has hoped to attract all along will still take many years to secure. Since the west pod's access must come from the roadway serving the north pod, the north and west pods need to be thought of as a contiguous unit and developed accordingly. Together, they can support up to 405,000 sq. ft. of gross floor area.

- **South Section.** The most likely market for the south pod, light industrial uses, are currently prohibited because the land is located in the Office/Research District. The Town needs a process for considering proposals to develop these types of uses because they will make it possible to expedite some land sales and initiate activity on the site. The south pod has capacity to support up to 206,000 sq. ft. of gross floor area for office and industrial uses.

- **West Section.** Building out the site to its maximum potential will require a wetlands crossing to provide access to the west pod, a sewer connection, water distribution system improvements, the filing of an Environmental Notification Form (ENF), and an Environmental Impact Report (EIR).

[1] BETA Group's technical memoranda, data, and plans have been submitted separately to the Town. Report summaries and the conceptual site development plan appear in Appendix D of this report, courtesy of BETA Group.

- **Traffic Impacts.** In addition, development of the Allen Property, together with other projects planned nearby, will require road widening and signalization on South Street and Route 20, and ultimately improvements on Route 9 in the vicinity of South Street.

HIGHLIGHTS: PROPOSED ZONING

To utilize the Conceptual Site Development Plan as a master plan for the Allen Property, Shrewsbury needs to amend its Zoning Bylaw by providing more flexibility for the types of uses that can be developed on the site. Appendix C of the *Allen Property Master Plan Report* provides the text regulations for an overlay district that would supplement – but not replace – the existing Office/Research District.

Under the proposed **Flexible Development Overlay District,** the following types of activities would be allowed by special permit from the Planning Board:

- Manufacturing, including up to fifteen percent accessory retail (measured by gross floor area).
- Warehousing and distribution;
- Medical office building, medical clinic, ambulatory surgery facility, or hospital;
- Assisted living residence or continuing care retirement community, including an adult day care facility as an accessory use;
- Corporate conference or training center, which may include guest rooms or dormitory facilities as an accessory use;
- For-profit educational use;[2]
- Indoor athletic facility or health club;
- Restaurant; and
- A Campus Master Plan Development, which provides a special permit mechanism for master planning large parcels that will be constructed in phases and increasing building heights for buildings with sub-grade parking or alternative energy systems. A project approved as a Campus Master Plan Development would be able to "lock in" zoning rights as long as at least one building permit is issued within two years of the special permit decision. Each project in a Campus Master Plan Development would be subject to site plan review.

WHY NOW?

Shrewsbury took a bold step when it acquired the Allen Property. Moreover, establishing the SDC to manage the development process created numerous advantages both for the Town and prospective developers. The Board of Selectmen's decision to forego WBDC's proposal four years ago is understandable because the Town hoped that the regional market for office and research and development space would improve. Worcester has become a magnet for life science and bioscience research, development, and production companies, and its success has clearly influenced the regional economy. Shrewsbury's appeal to Charles River Laboratories speaks to the potential that exists in the Worcester suburban sub-market for biomedical research and allied industries. However, several factors suggest that Shrewsbury needs to be open to changing its approach to development of the Allen Property:

- **Market Conditions**. Despite some positive regional trends, the office market between Worcester and Boston remains weak, particularly in the Worcester metro area. Research and development vacancies have increased, absorption has declined, and rents have softened. According to recent data from industry sources, the projected fourth-quarter vacancy rate for office space in the Boston-Worcester metropolitan area is approximately 11 percent and for industrial space, 15 percent. By contrast, warehouse and distribution and general industrial facilities have experienced modest positive ab-

[2] Author's Note: except for reasonable regulations concerning building height, setbacks, lot area, open space, parking, and building coverage requirements, public and non-profit educational uses are exempt from local zoning under M.G.L. c. 40A, § 3.

sorption and asking rents have remained relatively stable.

- **Limited Options.** Today, rising unemployment, restricted access to credit, and extraordinarily high construction costs do not bode well for new development. To maximize its prospects for land sales or long-term land leases at the Allen Property, Shrewsbury needs the flexibility to respond to market demand for a variety of building products and to compete for a range of businesses by type and size. By placing all of the Allen Property in the Office-Research District, Shrewsbury created opportunities for high-end uses but also limited its options.

- **Debt Service.** In four years, Shrewsbury will have to begin making principal and interest payments on the $6.1 million borrowed to acquire the Allen Property. The actual debt service per year will depend on the general obligation bond's interest rate and whether the note is repaid in equal principal installments with interest or level payments over 20 years, but the annual debt service is likely to range from $510,000 to $600,000.

- **Clear Direction.** Shrewsbury needs to take a more activist approach to marketing the Allen Property. Unless the Town can communicate its desires clearly to brokers and developers, it will be very difficult for the SDC to carry out an effective marketing plan. Defining and describing acceptable development concepts for the Allen Property hinges on approval of the conceptual site development plan by the Board of Selectmen and zoning flexibility to provide for more types of uses than Shrewsbury allows in the Office-Research District.

- **Need for Positive Action.** To make the Allen Property as competitive as possible in the office and industrial land market, Shrewsbury needs to move forward with actions that will bring the land closer to construction readiness. Pre-permitting the site, verifying and beginning to address the state's environmental impact requirements, and possibly carrying out some initial site improvements would help to achieve this end.

- **Need for Resources.** However, actions such as these will require additional resources: grants or low-interest loans from state government and, if the Board of Selectmen conveys the land to the SDC, financing that can be obtained from the corporation's independent borrowing powers, which are wholly separate from the Town. A plan approved by the Board of Selectmen will be crucial for the SDC to engage effectively with state agencies and quasi-public organizations. However, ultimately the SDC will need to have site control in order to obtain financing from public or private lenders.

Introduction

Background

In September 2002, Shrewsbury Town Meeting voted to acquire a 66-acre tract of land known as the Allen Property, located on South Street and U.S. Route 20. At the time, the property was under a purchase and sale agreement between the owners and AvalonBay Communities, Inc., a national rental housing developer. Since most of the site was taxed as agricultural land under M.G.L. c. 61A, the owners had to notify the town of their intent to sell. Notification from the owners initiated a 120-day right of first refusal period in which the town could elect to acquire the property on the same terms and conditions and for the same purchase price offered by the buyer. Local officials realized that if the town did not intervene, AvalonBay would seek a comprehensive permit to develop apartments on the site, and Shrewsbury would lose its last significant parcel of industrial land. Further, the Planning Board had just adopted a new master plan for the town in 2001, and the plan identified the Allen Property as a priority for research and development and office uses.

When Town Meeting members agreed to purchase the Allen Property, they approved rezoning the land from Light Industrial and Rural "B" to Office/Research and authorized the Board of Selectmen to file a home rule petition to establish an economic development and industrial corporation (EDIC). The EDIC's purposes were two-fold: first, to create a town-sponsored, quasi-public organization that would handle planning and disposition of the Allen Property, and second, to establish a legal basis for the town to make interest-only payments on the acquisition debt for a longer period than is normally allowed by state law. By the end of December 2002, the General Court had enacted Shrewsbury's home rule petition and outgoing Governor Jane Swift signed it into law.[3] Shrewsbury purchased the land for $6.1 million, the price that AvalonBay had offered to the sellers. The land acquisition bonds authorized by Town Meeting on September 9, 2002, required a debt exclusion vote under Proposition 2 ½, and on September 23, 2002, Shrewsbury residents overwhelmingly approved the debt exclusion by a vote of 1,613-199.

As the home rule petition moved through the legislature, the Board of Selectmen appointed an interim EDIC Steering Committee so the town could begin to evaluate its options for the Allen Property. The EDIC Steering Committee became the first board of directors of the EDIC, renamed the Shrewsbury Development Corporation (SDC), in February 2003. The SDC spent several months organizing, gathering information, consulting with industry contacts, and reaching agreement about its goals for the Allen Property's development. This preparatory work was important because eventually, the SDC would have to communicate its expectations to prospective development partners. The SDC arrived at three goals for the project:

- Increase and strengthen Shrewsbury's commercial/industrial tax base;
- Create new, high-quality jobs; and
- Facilitate development that respects the interests of adjacent landowners.

In August 2003, the SDC issued a Request for Proposals (RFP) to recruit developers. Approximately

[3] Chapter 493 of the Acts of 2002.

two months later, the SDC selected the Worcester Business Development Corporation (WBDC), also a quasi-public organization. WBDC is the developer of CenTech Park in Grafton and Shrewsbury and several other industrial projects in the Worcester area.

TABLE 2-1
SUMMARY OF MARKET ANALYSIS CONCLUSIONS, 2004

Development Criteria	Office	Research & Development	Industrial
Estimated Buildout Tax Revenue	$580,677	$491,397	$292,997
Estimated Buildout Period	10+ Years	7-8 Years	4-5 Years
Estimated Job Creation	1,200	800	500
Probability of Success	Low	Low-Moderate	High

Source: WBDC, Executive Summary of Market Analysis for Potential Development of Allen Property (CenTech Park North), June 2004.

INITIAL PLANNING AND MARKET RESEARCH

WBDC was engaged to prepare a market study and a master plan for the Allen Property, and to market the land for development in accordance with the master plan. From the SDC's point of view, the master plan was a crucial component of WBDC's work. The home rule petition placed conditions on Shrewsbury's authority to transfer the Allen Property or any other real estate to the SDC, and the key condition was approval of a site master plan by the Board of Selectmen. After several months of study and consultation with the SDC and town officials, WBDC provided an analysis of regional market data and a conceptual site plan showing approximately 600,000 sq. ft. of space in several buildings. Although the town had hoped to secure office and research and development uses for the Allen Property, WBDC questioned whether this objective could be met, at least in the near term.

WBDC's analysis concluded that the site would be more attractive for uses such as light manufacturing, warehouse, and distribution due to regional market demand. WBDC did not rule out the possibility of attracting professional office tenants or research and development companies as well, but its June 2004 report to the SDC indicated that these types of higher-end uses could take many years to recruit, as shown in Table 2-1.

Ultimately, WBDC recommended a flexible mixed-use development plan that would allow the site to be marketed for a combination of research and development and light industrial uses. This would have required a zoning change because Shrewsbury does not allow warehouse and distribution facilities in the Office/Research District. It also would have compromised the town's longer-term tax revenue objectives for the Allen Property. Aside from Shrewsbury's interest in economic development and tax base expansion, the town faced the prospect of making principal and interest payments on the land acquisition bonds issued in 2002. Although the goals for this project did not include recovering all of Shrewsbury's investment in the property, the Town hoped to pay for some of the acquisition cost with proceeds from lot sales and cover its remaining debt service with tax revenue generated by development of the site.

In August-September 2004, the SDC and Board of Selectmen decided they would rather wait for improved market conditions than pursue the multi-use development plan recommended by WBDC. By the end of the year, WBDC had receded from its involvement with the Allen Property and the project went into a "holding pattern," though the town and the SDC continued to explore and pursue possibilities on their own.

OTHER ECONOMIC DEVELOPMENT INTERESTS

At the same time that the SDC and Board of Selectmen declined to pursue WBDC's plan, some town officials began to look at the Allen Property as a potential candidate for mixed residential and commercial development.[4] Shrewsbury Town Meeting had recently adopted an incentive overlay district for mixed-use redevelopment on the west end of Route 9, Westborough had just approved new zoning for a mixed-use development near the commut-

[4] J. Barrett, Community Opportunities Group, Inc., to M. DePalo, Shrewsbury Board of Selectmen, "Allen Property Discussion Document," 4 October 2004.

er rail station, and state government's emerging "smart growth" policy had spawned the enactment of M.G.L. c. 40R, a new housing production law. Disagreements about the fate of the Allen Property and the town's progress toward implementing the 2001 Master Plan led to a joint meeting of the Board of Selectmen, Planning Board, and SDC on January 12, 2005, known as the Land Use Summit. As a result of the meeting, participating leaders agreed to focus the town's planning, zoning, and economic development efforts on several Master Plan recommendations while keeping the door open to proposals for the Allen Property:[5]

- Increasing the minimum lot size in some of Shrewsbury's residential districts in order to reduce its future build-out potential;
- Adopting an inclusionary (affordable housing) zoning bylaw;
- Establishing an incentive overlay district for the Edgemere business area;
- Revisiting the existing zoning on Route 20 in light of the Boston Hill development, the expressed interests of some landowners on Route 20, the recently completed connector road, and economic conditions;
- Exploring ways to preserve Shrewsbury's small downtown village business district; and
- Eliminating the special permit provision for senior housing developments in nonresidential zoning districts.

With continued guidance from the Master Plan Implementation Group (MPIG), most of these projects came to fruition by the end of 2005. However, intense controversy surrounding the inclusionary zoning bylaw, which Town Meeting adopted in October 2005, convinced many town officials to set aside additional zoning changes for a while. Instead, they decided to concentrate on implementing the new zoning bylaws that had been enacted since 2002. The Town Manager's office and the SDC developed an informational brochure about the Allen Property and focused on building relationships with brokers and outside agencies and organizations that had the resources to help market the land to prospective businesses. The arrival of Charles River Laboratories in 2006, which acquired the former Hewlett-Packard facility at 343 South Street, inspired hope that a major research and development company next door would increase the Allen Property's visibility and attractiveness for higher-end uses. While the town received occasional inquiries about the Allen Property, no serious proposals materialized. Shrewsbury found itself in the difficult position of owning a significant asset – developable industrial land – and no financial resources to market it or to assemble the kinds of information that brokers and potential buyers want to see in a prospectus.

Chapter 43D

In 2007, state government unveiled a new grant program to support communities that demonstrated significant interest in promoting economic development. The grant funds came at the heels of action by the legislature to make M.G.L. c. 43D (Chapter 43D), the expedited permitting law, more attractive to cities and towns. In May 2007, Shrewsbury Town Meeting voted to designate the Allen Property as a Chapter 43D Priority Development Site (PDS), a move that positioned Shrewsbury to be one of the first communities in the Commonwealth to compete for a Chapter 43D grant. The Interagency Permitting Board subsequently approved Shrewsbury's request for $150,000. A majority of the funding has been used for services that Shrewsbury officials have sorely needed for the past five years: physical and environmental site studies, a traffic impact analysis, and a conceptual site development plan prepared for the town by BETA Group, Inc. All of BETA Group's reports, studies, and plans have been submitted to the town.

This report represents a relatively small component of the overall Chapter 43D work plan. It includes

[5] Minutes, Joint Meeting of the Board of Selectmen, Planning Board, and Shrewsbury Development Corporation, 12 January 2005.

background demographic and economic data, a survey of regional economic development activity, and the results of a focus group about the Allen Property's potential, including industry leaders, representatives of the town, and others knowledgeable of the region. The appendix contains zoning recommendations to make the land marketable for a wider variety of uses, consistent with the conceptual site development plan prepared by BETA Group, Inc.

The development plan is aggressive because the town and the SDC needed an analysis of the maximum amount of development the site can support (approximately 611,000 sq. ft.). However, it will take many years to achieve buildout of the Allen Property at the scale that is technically possible. The concept plan is also a flexible plan that recognizes the distinct "faces" of the Allen Property from Route 20 and South Street, for the land is quite different at each access point. The fact that the site is virtually divided by wetlands means that it can be conceived as two or three distinct development nodes. In turn, this means that Shrewsbury could consider a mix of nonresidential uses, including traditional light industrial uses on the Route 20 portion of the land and higher-value office, research and development, or other uses for the South Street side. The zoning has been written to accomplish several objectives:

- To provide flexibility for Shrewsbury to entertain a wider variety of uses than the present zoning scheme permits;
- To encourage master planning large portions of the site;
- To create a permitting process that enables Shrewsbury to review proposed plans on a case-by-case basis for overall site suitability, design, and environmental, municipal, neighborhood, and traffic impacts, and to impose enforceable conditions on approved plans, including off-site mitigation; and
- To establish a zoning framework consistent with the purposes of Chapter 43D at the individual project review stage.

Market Trends

Worcester and the surrounding suburbs define Boston's westernmost real estate market area. The Worcester area differs as much from the suburbs east of I-495 as from Boston proper, and this can be seen in differences in home prices and rents, the size and make-up of the employment base and the commercial and industrial property inventory, asking rents for commercial space, and vacancies. In turn, the Worcester commercial and industrial markets consist of two geographic submarkets: Worcester metro, composed of the City of Worcester's central business district and a five-mile radius around it (including part of Shrewsbury), and the Worcester non-metro area, which includes the rest of Worcester County west of Devens (**Map 1**). Not surprisingly, these submarkets are not alike. The differences range from total population and the size, composition, and skills of the labor force to transportation access, utilities, and physical features that influence the development capacity and cost of land. Together, these characteristics affect not only what is built, but how much and at what pace, and the quality and value of real estate investments.

Differences also exist within defined submarkets. For example, the concentrated core of bioscience and life science research and development firms in Worcester diffuses outside the city limits. As a percentage of total industrial floor area, production and distribution facilities are more pronounced around Worcester than within the city itself. Worcester's urban land use pattern, high population density, government, educational, and cultural institutions, and multi-modal transportation facilities make it sufficiently distinct that some market analysts regard the city as a stand-alone submarket and assign all of the adjacent suburbs to non-metro submarkets.

Due to Shrewsbury's proximity to Worcester and its highway connections to Westborough and the I-495 corridor, its economic statistics are not reported consistently by publishers of real estate market data. This is important because it underscores the degree to which Shrewsbury competes within geographically overlapping yet quite different office, industrial, and retail markets. On one hand, Shrewsbury does not have the urban form, density, institutional development, access, or public resources to mimic Worcester, but on the other hand, it is just far enough from I-495 that it has not attracted the substantial commercial and industrial investments witnessed in communities along the arc from Southeastern Massachusetts to the Lowell/Chelmsford and Andover markets.

Building out the Allen Property for office, research and development, or light industrial space needs to be considered in the context of activity in Worcester, the suburban markets west of Boston, and to some extent, the Boston region as a whole. Although the Worcester market area has qualities that distinguish it from settings closer to Boston, all of these areas are trying to compete for companies, and companies seeking space in Eastern and Central Massachusetts foster competition among developers, property owners, brokers, and municipalities for the best deals. By virtue of its location, demographics, and position within the regional economy, Shrewsbury has competitive advantages and disadvantages that will affect the development of the Allen Property, and the Town needs to make an objective, realistic assessment of its opportunities.

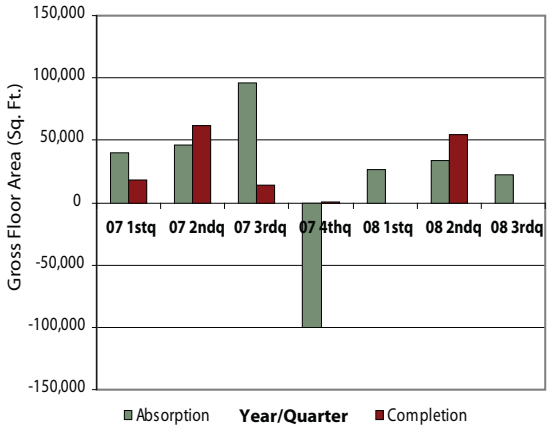
Office Market

The Worcester market area's inventory of office space currently includes 11.7 million sq. ft. of leasable floor area in 492 buildings.[6] Measured on the basis of leasable floor area, office space in the Worcester market represents just 3.4 percent of the total office inventory in the Boston region. Well over half of the Worcester market's inventory consists of Class B office space, a condition that is quite different from Boston region overall, where Class A office space accounts for 43 percent of the total inventory and Class B space, 38 percent. Table 3-1 provides a third-quarter and year-to-date profile of the office market in the Boston region, the Worcester market area, and Worcester's two submarkets.

Absorption and Vacancies. The vacancy rate in the Worcester office market is 10.1 percent, comparable to that of the Boston region, with a larger percentage of vacant space in the metro submarket (11.9 percent) than the non-metro submarket (5.8 percent). Vacancies in the Worcester metro submarket stems from a relatively large percentage of vacant Class B office space, which is consistent with a study of office space in Worcester's central business district more than a year ago.[7] A modest drop in vacancies and a cumulative net absorption of approximately 85,000 sq. ft. have occurred since January 2008, but this net positive absorption over the first three quarters of 2008 came at the heels of a net negative of more than -100,000 sq. ft. at the end of 2007. (**Fig. 3.1**) Most of the recent net positive absorption in Worcester's office market occurred in non-metro communities and in Class B and Class C office buildings. In general, the office market is much tighter in the non-metro area than in Worcester.

FIG. 3-1: OFFICE ABSORPTION & COMPLETIONS WORCESTER MARKET, 2007-2008

Source: CoStar Office Report, Third Quarter 2008



Elsewhere in the Boston region, suburban office vacancies range from a low of 6.5 percent in communities just north of Boston to a high of 14.7 percent along Route 128 North. For Class A office space, the region's highest suburban vacancy rates exist in Southeastern Massachusetts (I-495 South), where a large amount of new office space has been constructed, little of it pre-leased. The Worcester market area has a comparatively low Class A vacancy rate, 9.7 percent, but its Class A office inventory is comparatively small and has not increased this year. For Class B space, the Worcester market is also regionally strong, at 10.7 percent, ranking fourth among the region's thirteen market areas. As for Class C office space, however, Worcester has a larger share of vacancies than any market in the Boston region except Route 128 North.

New Construction and Completions. Among projects under construction, there are noteworthy differences between the Boston market as a whole and its suburban markets and submarkets. Considering year-to-date construction activity and all classes of office space, new multi-tenant office buildings constructed in Boston, Cambridge, and along Route 128 North have ranged from a low of 120,000 sq. ft. to a high of nearly 278,000 sq. ft. By contrast, new buildings constructed along and west of I-495 are smaller, ranging from 23,000 sq. ft. to 88,000 sq. ft. This is largely attributable to differences in the class of office space and tenant demand. The vast majority of new buildings constructed in and around Boston and Cambridge qualify as Class A offices,

[6] Market data reported throughout this section are from The CoStar Group, *The CoStar Office Report: Boston Office Market* and its counterpart, *The CoStar Industrial Report: Boston Industrial Market*, both for Third Quarter 2008 [Electronic Version]. CoStar data have been supplemented with information from other primary and secondary sources, where available, as identified in footnotes.

[7] The Research Bureau: *Downtown Worcester Office Occupancy: 2007 Survey* (September 2007), 3.

TABLE 3-1
BOSTON OFFICE MARKET: YEAR-TO-DATE AND 3RD QUARTER 2008 ACTIVITY BY MARKET/SUBMARKET

	Third Quarter Inventory			Year-to-Date Activity		
Geographic Area	**No. of Buildings**	**Leasable Floor Area**	**Percent Vacant**	**Net Absorption**	**Completed Space**	**Under Construction**
Boston Region						
Total	9,371	341,914,771	10.1%	3,637,809	3,355,165	2,591,615
Class A	832	146,020,886	10.4%	2,425,391	2,719,210	2,112,841
Class B	3,361	128,199,619	11.8%	826,258	581,855	418,195
Class C	5,178	67,694,266	6.4%	386,160	54,100	60,579
Worcester Market						
Total	492	11,663,264	10.1%	83,365	54,100	0
Class A	21	1,887,147	9.7%	-14,739	0	0
Class B	206	6,478,444	10.7%	30,722	0	0
Class C	265	3,297,673	9.3%	67,382	54,100	0
Submarkets:						
Worcester Metro						
Total	282	8,307,059	11.9%	-2,403	54,100	0
Class A	17	1,571,067	10.9%	-12,649	0	0
Class B	123	4,469,643	13.6%	-21,622	0	0
Class C	142	2,266,349	9.1%	31,868	54,100	0
Worcester Non-metro						
Total	210	3,356,605	5.8%	85,768	0	0
Class A	4	316,480	3.7%	-2,090	0	0
Class B	83	2,008,801	4.1%	52,344	0	0
Class C	123	1,031,324	9.6%	35,514	0	0

Source: The CoStar Group, The CoStar Office Report: Boston Office Market, Third Quarter 2008.

as shown in Table 3-2, but new offices in outlying suburban locations and the Worcester area include a mix of building types, sizes, and price bands. Less than three percent of all floor area in projects completed this year and one percent of all floor area in projects under construction are designed for single users. In Boston's suburban markets, approximately 3.2 million sq. ft. of new office space is expected to enter the market between the fourth quarter of 2008 and the end of 2010.[8]

Region-wide, the highest rates of growth in office space have occurred in communities along the northern stretch of Route 128 from Burlington to Gloucester, Boston, Cambridge, the west suburbs, and the I-495/South area, which generally includes the southern end of Norfolk County, Southeastern Massachusetts (Attleboro/Taunton to New Bedford) and Plymouth. The Worcester market has not fared as well. Since 2004, the Worcester market's office inventory (all classes) has increased by 13 buildings with a combined total of 233,000 sq. ft. of leasable floor area, very little of it composed of Class A office space. Only one office project was completed in 2008: 54,100 sq. ft. of Class C space at 630 Plantation Street, Worcester, which began construction in the last quarter of 2007. There were no construction starts for new projects in 2008.

[8] Jones Lang LaSalle, *The Credit Crisis' Impact on Greater Boston* (October 2008), 5.

TABLE 3-2
YEAR-TO-DATE NET ABSORPTION AND INVENTORY GROWTH BY OFFICE MARKET AREA (2008)

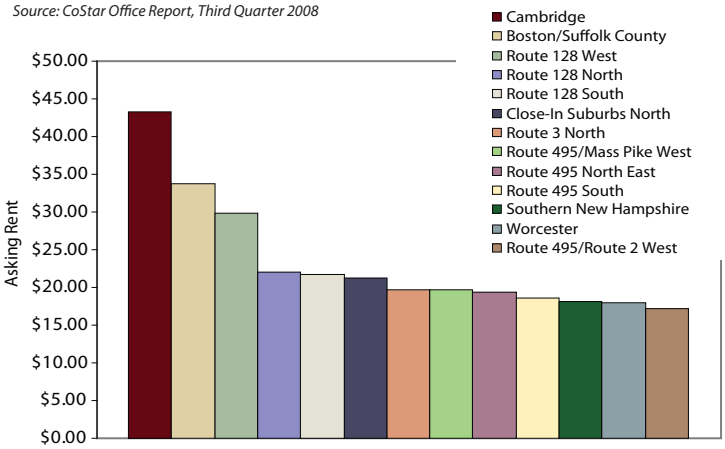
	Class A		Class B		Class C	
Market Area	**Net Absorption**	**Completed Space**	**Net Absorption**	**Completed Space**	**Net Absorption**	**Completed Space**
Boston/Suffolk County	1,042,325	916,306	94,248	248,886	23,026	0
Cambridge	70,406	417,130	114,559	0	29,319	0
Inner-Core Suburbs	71,116	0	25,808	57,000	-21,578	0
Route 128 N	202,834	453,000	-60,917	0	-7,511	0
Route 128 S	62,995	160,000	29,085	103,000	75,543	0
Route 128 W	72,702	484,000	154,704	84,360	48,150	0
Route 3 N	242,618	75,000	224,792	29,500	5,990	0
I-495 NE	76,215	0	79,741	0	50,796	0
I-495 S	63,743	111,374	71,465	5,300	34,897	0
I-495/I-90 W	35,990	0	-17,727	0	53,713	0
I-495/Route 2 W	476,619	0	73,071	0	-16,511	0
Southern N.H.	22,567	102,400	6,707	53,809	42,944	0
Worcester	-14,739	0	30,722	0	67,382	54,100
Totals	2,425,391	2,719,210	826,258	581,855	386,160	54,100

Source: The CoStar Group, The CoStar Office Report: Boston Office Market, Third Quarter 2008. "Completed space" represents floor area in projects for which a certificate of occupancy has been issued.

Rents. Except for Class A office space, quoted asking rents are higher in Worcester's non-metro market. The average non-metro asking rent for Class B space is $18.06 per sq. ft. compared with $17.86 per sq. ft. in the Worcester metro submarket. Average Class A asking rents are very similar: $20.09 per sq. ft. in the non-metro submarket and $20.86 per sq. ft. in the metro submarket. By contrast, the average Class A asking rent in the Boston region is $29.00 per sq. ft. and in the Boston central business district, $39.04.

FIG. 3-2: BOSTON OFFICE MARKET ASKING RENTS: 3RD QUARTER 2008

Source: CoStar Office Report, Third Quarter 2008



While the average asking rent for Class B and C office space in the Worcester non-metro area is close to that of the Boston region, this is not the case in the Worcester metro market, which has noticeably lower asking rents. Considering both Worcester submarkets and all classes of office space, asking rents have changed in the past two years, from $18.20 per sq. ft. in the first quarter of 2007 to a high of $18.72 per sq. ft. in the fourth quarter, and declining steadily in 2008 to $17.98 per sq. ft. in the third quarter. This pattern is different from that of nearly all other suburban market areas around Boston, where asking rents have trended upward since January 2007.[9] Decline in the Worcester office market's asking rents has run parallel to a decline in vacancies, construction starts, and completions. (**Fig. 3-2**)

[9] Denise Magnell, "Burb rents rise as Hub vacancy rates hang tight," *Boston Business Journal*, 5 May 2008.

Building Characteristics. The office product in Worcester's market is different from that found in the urban commercial centers in Boston, Cambridge, or along Route 128. Both in the Worcester market area overall and within each submarket, Class A office buildings tend to be smaller, with an inventory-wide average of less than 90,000 sq. ft. per building compared with more than 175,000 sq. ft. per building throughout the Boston region. The Worcester market's Class A office buildings, especially those within the metro submarket, are more like those found in some of the suburban employment centers along and just inside I-495 south of the Massachusetts Turnpike. Class B office buildings also are smaller, though the difference is less noticeable. On average, Class B office buildings in the Worcester market and the Boston region range from 31,000 sq. ft. to 38,000 sq. ft., with the smallest buildings found in the non-metro submarket (about 24,000 sq. ft.).

Leased Space and Lease Expirations. A plurality of the region's office tenants are small operations occupying less than 5,000 sq. ft., with an average of about 315 sq. ft. per employee. However, floor area per employee figures vary significantly depending on the type of business. Nearly one-fourth of the Boston market's occupied space is leased to tenants in the finance, insurance, and real estate industries, while manufacturing and business services firms hold leases on another 33 percent. The most obvious concentrations of large tenants, i.e., tenants occupying more than 75,000 sq. ft., exist within Boston, Cambridge, and the suburban markets north and just west of Boston. The same locations marshaled a majority of the region's recent (2008) large leases and are being sought by several tenants needing 200,000+ sq. ft. of office and research and development space.[10] In the Worcester market, the largest single lease reported in 2008 was Flagship Bank's lease renewal of 44,000 sq. ft. at 120 Front Street in Worcester (City Square).

By the end of 2010, existing leases will expire for about 30 percent of the Boston region's office space. Some 4 million sq. ft. of floor area is scheduled to become available for occupancy in 2009, and under 250,000 sq. ft. in 2010 – not including projects in the pipeline or permitted but not yet under construction.

Office-Related Employment. Since employment growth is a key determinant of demand for any type of commercial space, employment trends in the Boston region and each of its market areas provide a useful perspective on the locations that have tended to attract new office space and absorb existing and new product. Three industries generate a majority of office-related employment: information, financial services, and professional and business services.[11] While the number of office-related jobs increased in and around Boston over the past five years, the annual rate of office employment growth did not keep pace with national trends and, since 2007, the growth rate has declined – though not as sharply as the decline in the same period for the country as a whole. The major sources of office-related job creation in the Greater Boston area are the professional and business services, education, and health services industries.[12]

In the Worcester market area, employment in the information industry increased by 266 jobs between 2005 and 2007, including 140 in the City of Worcester and 44 in Shrewsbury. However, the financial, professional and technical services industries experienced a net loss of nearly 500 jobs, or roughly two percent of each industry's 2005 employment in the Worcester market area as a whole. Just under half of these jobs were based in the City of Worcester. Office-related jobs make up a comparatively small part of Shrewsbury's employment base even under

[10] Colliers Meredith and Grew, *Greater Boston Market Viewpoint, Third Quarter 2008*, 6.

[11] Note: the health care, social assistance, and education industries generate some office employment, too, but mainly they generate demand for institutional space, e.g., hospitals and educational buildings. Due to the way employment data are reported by state and federal agencies, it is difficult to divide employment in these industries in a way that would support useful estimates of office space demand. However, the health care and social assistance industries generated more net job growth in the Worcester market area, the City of Worcester, and Shrewsbury than any other industry between 2005 and 2007.

[12] Colliers Meredith and Grew, *Greater Boston Market Viewpoint*, Third Quarter 2008, 6-7.

strong economic conditions. Its gain of 19 professional and technical services jobs and loss of 14 financial services jobs between 2005 and 2007 did not represent a significant three-year change in either industry,[13] yet these changes did play a part in a much larger pattern of job "destruction" or job dislocation within the local economy. (See Section 4, Economic Development Trends.)

Outlook. While more than 2.5 million sq. ft. of new office space has been under construction year-to-date in the Boston region as a whole, most of the space was not pre-leased. Projections for the fourth quarter of 2008 indicate that from 2003-2008, the Boston market fell below long-term (1982-2008) annual completion rates. Going forward, projects slated for completion in 2009 include less than a total of 200,000 sq. ft. A slower rate of office-related employment growth throughout the Boston metropolitan area, credit constraints, a decrease in commercial property sales, and the volume of unleased first-generation office space have hampered production throughout Eastern and Central Massachusetts.

The Boston office market is in better shape than urban markets across the country, but the decline in anticipated completions in 2009 is consistent with industry projections for the nation as a whole. Industry sources predict that for the fourth quarter of 2008, the Boston regional vacancy rate will increase to 11.3 percent, but this is still below projections for other urban areas outside of New England.[14] However, the office vacancy rate in Boston's suburban markets is predicted to grow more dramatically: as high as 14 percent by the close of fourth quarter 2008 and 18 in 2009, declining thereafter to 17 percent in 2010.[15] The Worcester market may be more stable. Its existing vacancy rate is close to equilibrium, and the City of Worcester will gain some economic stability from its educational and health care employment base. Further, the financial services industry does not dominate the office market in Worcester as much as in Boston.

Industrial Market

The Worcester industrial market currently includes more than 36 million sq. ft. of leasable floor area, or approximately eight percent of the total inventory of industrial space in the Boston region. Table 3-3 reports third-quarter and year-to-date summary statistics for the industrial market in the Boston region, the Worcester market area, and Worcester's two submarkets.

The types of industrial properties in the Worcester market area differ from regional norms, and they are quite different from the buildings that dominate suburban employment centers along Route 128 and north of Boston. Notably, the Worcester market's industrial inventory includes a much larger share of warehouse space than "flex space," or buildings designed to accommodate several types of tenants – offices, research and development, light manufacturing, and warehouse facilities – with at least half of the space devoted to office or research and development uses. Flex space commands higher rents per sq. ft. and represents a higher-value real estate investment. It accounts for slightly less than 14 percent of the Worcester market area's total industrial inventory and more than 27 percent of the industrial inventory for the entire Boston region. At the submarket level, flex space represents nearly 15 percent of all leasable industrial floor area in the Worcester metro market and nearly 13 percent in the Worcester non-metro market. Both the Boston region and the Worcester area have a dearth of vacant flex space, and only five of the Boston region's 40 submarkets currently have any flex space under construction. The Worcester market area is not among them.

Absorption and Vacancies. Since January 2008, industrial vacancies in the Worcester area have declined from 16.5 percent to 15.7 percent, with a

[13] Commonwealth of Massachusetts, Department of Labor and Workforce Development, ES-202: Worcester NECTA, City of Worcester, and Town of Shrewsbury, Annual Data, 2005-2007.

[14] National Association of Realtors, *Commercial Real Estate Outlook*, December 2008.

[15] Jones Lang LaSalle, "Credit Crisis Impact," (October 2008), 6. See also, C. Bagli, "As Vacant Office Space Grows, So Does Lenders' Crisis," *New York Times*, 5 January 2008.

TABLE 3-3
BOSTON INDUSTRIAL MARKET: INVENTORY AND YEAR-TO-DATE ACTIVITY BY MARKET/SUBMARKET AREAS

	Existing Third Quarter Inventory			Year-to-Date Activity		
Geographic Area	**No. of Buildings**	**Leasable Floor Area**	**Percent Vacant**	**Net Absorption**	**Completed Space**	**Under Construction**
Boston Region						
Total	9,242	452,038,949	11.9%	2,459,888	736,891	1,762,073
Flex Space	2,490	123,176,424	14.5%	634,172	22,500	453,945
Warehouse Space	6,752	328,862,525	10.9%	1,825,716	714,391	1,308,128
Worcester Market						
Total	723	36,112,549	15.7%	966,853	239,750	0
Flex Space	123	4,920,110	20.9%	-61,650	0	0
Warehouse Space	600	31,192,439	14.9%	1,028,503	239,750	0
Submarkets:						
Worcester Metro						
Total	353	16,070,267	14.2%	322,136	18,000	0
Flex Space	63	2,350,739	17.4%	35,230	0	0
Warehouse Space	290	13,719,528	13.6%	286,906	18,000	0
Worcester Non-metro						
Total	370	20,042,282	16.9%	644,717	221,750	0
Flex Space	60	2,569,371	24.1%	-96,880	0	0
Warehouse Space	310	17,472,911	15.9%	741,597	221,750	0

Source: The CoStar Group, The CoStar Industrial Report: Boston Industrial Market, Third Quarter 2008.

smaller percentage of vacant space in the metro submarket (14.2 percent) than the non-metro submarket (16.9 percent). The Worcester market's experience is fairly consistent with that of the larger Boston region, where vacancies have been declining slightly over the past two years. However, recent trends mask what has happened in the Boston industrial market since 1998. Ten years ago, both flex and warehouse market vacancy rates were less than half of today's rate. Flex market vacancies peaked at 18.2 percent in 2004, following a year with net negative absorption of well over 2 million sq. ft., and have been declining at a rate of less than one percent per year.

Around Worcester, the percentage of vacant flex space is much larger (20.9 percent) than that of vacant warehouse space (14.5 percent), and while higher flex space vacancies also exist regionally, the difference is more dramatic in the Worcester industrial market. In fact, the Worcester market has the second largest percentage of vacant flex space and the largest percentage of vacant warehouse space of all market areas in the Boston region. For Worcester, the first three quarters of 2008 witnessed a cumulative net positive absorption of nearly 1 million sq. ft. of industrial space, mainly warehouse and distribution space. A notable exception is the lease-up of 130,000 sq. ft. of flex space at 100 Simplex Drive in Westminster. The Worcester market's net positive absorption followed a net negative absorption of nearly -300,000 sq. ft. in 2007, modest positive absorption of 38,000 sq. ft. in 2006, and a net negative of -430,000 sq. ft. in 2005.

New Construction and Completions. As with new office space, differences can be seen in the characteristics of industrial space currently under construction in the Boston market and its suburban markets and submarkets. Including both flex and warehouse space, the region's largest industrial projects are under construction in the I-495/Route 2

TABLE 3-4
YEAR-TO-DATE NET ABSORPTION AND INVENTORY GROWTH BY INDUSTRIAL MARKET AREA (2008)

	Flex Space		Warehouse Space	
Market Area	**Net Absorption**	**Completed Space**	**Net Absorption**	**Completed Space**
Boston/Suffolk County	44,435	0	-18,296	0
Cambridge	3,979	0	-28,275	0
Inner-Core Suburbs	-95,501	0	27,028	0
Route 128 N	265,424	0	-132,825	0
Route 128 S	-356,557	14,500	-917,270	40,000
Route 128 W	261,889	0	-412,406	0
Route 3 N	776,883	0	98,120	0
I-495 NE	-157,757	0	1,244,512	323,316
I-495 S	14,183	0	-281,131	82,500
I-495/I-90 W	-28,852	0	190,721	0
I-495/Route 2 W	84,903	0	239,147	0
Southern N.H.	-117,207	8,000	787,888	28,825
Worcester	-61,650	0	1,028,503	239,750
Totals	634,172	22,500	1,825,716	714,391

Source: The CoStar Group, The CoStar Industrial Report: Boston Industrial Market, Third Quarter 2008.

West and Route 128/West markets: areas that include Devens, Ayer, Fitchburg/Leominster, and Maynard on one hand, and Lexington, Waltham, and Newton on the other hand. These projects are fully pre-leased. A considerable amount of new industrial space is under construction along I-495 south of I-95 and across Southeastern Massachusetts to Plymouth, too, including 13 buildings with a combined total of 775,000 sq. ft. of leasable floor area. About 30 percent of the space is pre-leased, but most of these are speculative projects.[16]

Regionally, Southeastern Massachusetts and the I-495/Massachusetts Turnpike market (e.g., Framingham, Hopkinton, and Westborough) have experienced the highest rates of industrial growth, expressed as the ratio of floor area under construction to floor area in the existing inventory. During the first three quarters of 2008, the Boston region witnessed completions totaling 737,000 sq. ft. of floor area, nearly all of it warehouse space. In the past three years, 17 buildings with a combined total of just less than 1 million sq. ft. of leasable floor area have been added to the Worcester industrial market's inventory, for a 1.8 percent increase. Recent additions have varied considerably in size, with buildings as small as 5,800 sq. ft. and two as large as 210,000 sq. ft. However, most of the newer industrial buildings are small, offering less than 15,000 sq. ft. of leasable floor area. Three new buildings with a combined total of 239,750 sq. ft. had been completed since the beginning of 2008: in the Worcester metro market, 18,000 sq. ft. at 14 Commerce Road in Shrewsbury, and in the non-metro market, 210,000 sq. ft. at 26 Millbury Street in Auburn, and 11,750 sq. ft. at Boulder Park in Oxford.

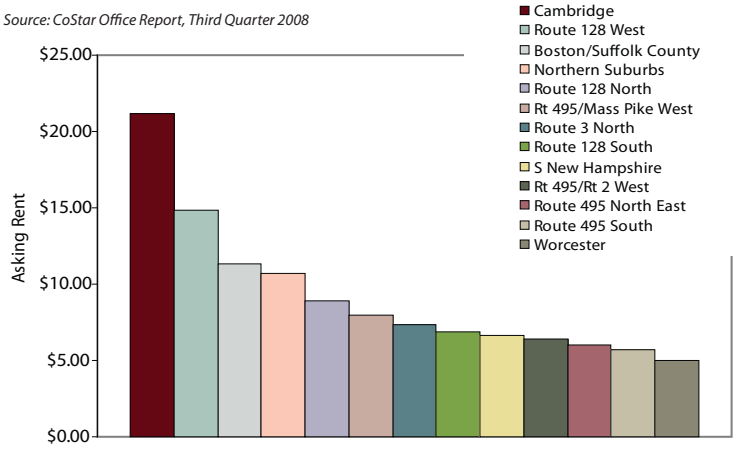
Rents. Asking rents for industrial space in the Worcester metro submarket are higher than in the non-metro submarket. For the third quarter of 2008, the metro submarket's average asking rent for flex space was $8.80 per sq. ft., which is roughly 83 percent of the average asking rent for flex space throughout the Boston region. For warehouse space in the metro submarket, the average asking rent was $5.04 per sq. ft., or 85 percent of the Boston regional average. By contrast, the non-metro sub-

[16] Cushman and Wakefield, *Marketbeat: Boston Industrial Market*, Third Quarter 2008 [Electronic Version].

market's asking rents ranged from $7.88 per sq. ft. for flex space to $4.19 per sq. ft. for warehouse space. Including both submarkets and all types of industrial space, today's asking rents mirror industrial rents quoted in the first quarter of 2007 -- $5.03 per sq. ft. – but represent an overall pattern of decline in the past two years, during which the Worcester industrial market's asking rents rose to a high of $5.33 per sq. ft. in the fourth quarter of 2006. In the same two-year period, however, asking rents for industrial space moderately increased region-wide, from $6.86 per sq. ft. to $7.11 per sq. ft. (**Fig. 3-3**)

FIG. 3-3: BOSTON INDUSTRIAL MARKET ASKING RENTS: 3RD QUARTER 2008

Source: CoStar Office Report, Third Quarter 2008



Building Characteristics. The size of existing industrial buildings in and around Worcester is similar to buildings found closer to Boston. For the Worcester market area overall, the average industrial building's leasable floor area is approximately 50,000 sq. ft., with flex buildings of about 40,000 sq. ft. and warehouse and distribution facilities of 52,000 sq. ft. Industrial buildings inside the Worcester metro submarket tend to be smaller than in the non-metro areas outside the City. For the Boston region as a whole, the average leasable floor area in flex space and warehouse buildings is very similar: approximately 49,000 sq. ft. Average building sizes tend to be larger in market areas that have experienced most of the region's new industrial development: I-495/Route 2 West, which includes Devens, Ayer, Fitchburg/Leominster, and Maynard; Route 128/West, with Lexington, Waltham, and Newton; I-495 South, or Southeastern Massachusetts and Plymouth; and I-495/Massachusetts Turnpike, namely Framingham, Hopkinton, and Westborough.

Leased Space and Lease Expirations. Approximately one-fourth of the region's flex space and warehouse tenants occupy 10,000 to 24,999 sq. ft. of floor area, and the average suburban lease is under 20,000 sq. ft. Flex space tenants are more likely to lease smaller amounts of floor area, for nearly 60 percent occupy under 10,000 sq. ft. and 22 percent occupy under 2,499 sq. ft. By contrast, 42 percent of warehouse tenants lease under 10,000 sq. ft., and 32 percent lease more than 25,000 sq. ft. All of the industrial space added to the Boston region's inventory this year is designed for multi-tenant occupancy, though about 12 percent of the floor area currently under construction consists of build-to-suit projects for single-user tenants. Region-wide, a considerable amount of occupied industrial floor area is subject to lease agreements that expire in the next two years. Among flex tenants, leases for 38 percent of existing floor area (approximately 46 million sq. ft.) will expire by 2010, and among warehouse tenants, 34 percent (approximately 112 million sq. ft.).

Industrial Employment. Compared with the nation as a whole, the Boston region has experienced much slower employment growth in the industries that create demand for industrial space: manufacturing, transportation, and utilities. While the number of industrial jobs increased in the past five years, the overall growth rate was just 2.5 percent. Since 2005, there has been a moderate absolute decrease in the number of transportation and manufacturing jobs and a moderate increase in utilities employment throughout the Boston region. However, employment in all of these industries is in a general state of decline throughout the Commonwealth.[17] In addition, the most recently published employment statistics do not account for major layoffs announced throughout the Boston region during the third and

[17] MassBudget and Policy Center, *The State of Working Massachusetts 2008: Entering a Recession After a Recovery that Missed Many* (January 2009), 13-16.

fourth quarters of 2008. The closure of facilities at Devens, in communities along the northwestern arc of I-495, and in the City of Boston will simply exacerbate the challenges of trying to fill existing vacancies and near-term available industrial space.[18]

In the Worcester area, overall industrial employment increased by 2.9 percent between 2005 and 2007. The industrial space inventory increased by 1.2 percent in the same period. The difference, 1.7 percent, is fairly consistent with the employment-inventory growth gap that occurred regionally. Employment in transportation and warehousing increased by 727 jobs between 2005 and 2007 in the Worcester area, including 130 in Shrewsbury. Durable goods manufacturing and utilities employment also increased by 530 and 41 jobs respectively, and slightly more than half of these jobs were attributable to employment growth in the City of Worcester. However, non-durable goods employment decreased in the Worcester market area, with most of this loss occurring in the City, which also lost transportation jobs. By contrast, durable goods manufacturing declined significantly in Shrewsbury in the same period. By 2007, Shrewsbury had lost nearly one-fifth of the durable goods manufacturing jobs that existed in 2005. The town also gained a modest number of jobs in non-durable goods manufacturing, but the employment pattern in this industry was erratic.[19] (See Section 4, Economic Development Trends.)

Outlook. At the end of third quarter 2008, the Boston region had 1.7 million sq. ft. of industrial floor area under construction, including 1.3 million sq. ft. of warehouse facilities and 435,000 sq. ft. of flex/research and development space. Published forecasts indicate that demand for flex, warehouse, and general industrial space will be flat for the next two years, and industrial vacancies are likely to be volatile.[20] However, volatility will be more challenging for industrial markets closer to Boston due to the greater presence of large tenants in those locations. Worcester tenants tend to be smaller operations in terms of average leased floor area.

LONGER-TERM REGIONAL PERSPECTIVE

Shrewsbury acquired the Allen Property in order to preserve the land for development of office space and research and development facilities: high-end buildings for high-end tenants that would provide good jobs. While it may seem that these objectives should have substantially materialized by 2008, market statistics from 2002 provide a sobering look at the conditions Shrewsbury faced at the time and still faces today. They also shed light on why the former owners, unable to sell their land for industrial development, found a willing buyer in the multi-family housing market.

Office Market. Table 3-5 shows that net negative absorption persisted in the Boston regional office market from 2001 through 2003. This period of negative absorption coincided with a recession in the U.S. economy and came at the heels of a four-year construction spree (1998-2001) that delivered 30.2 million sq. ft. of office space to the market, for total inventory growth of 8.3 percent. Most of the region's new office construction produced Class A facilities in Boston, Cambridge, and Boston's suburban markets along Route 128, I-495, and Route 3 North. In the same period, the amount of vacant office space region-wide nearly doubled. A declining pace of delivery of new office product after 2003 gradually led to growth in occupancies, yet the positive absorption of 2.8 million sq. ft. of office space in 2007 bears no resemblance to the office market's absorption of more than 10 million sq. ft. in 1999.

Although asking rents for Class A office space in the Boston region improved somewhat over the past year, they are about $11 per sq. ft. *below* the asking rents quoted in 2000, when rents peaked and vacancies fell below five percent. Orbiting at the periphery of the Boston region, the Worcester market has seen some improvement in office absorption and occupancies, and its inventory has grown, too. However, it has not grown at a rate even close to that of the Boston region overall, and much of

[18] Grubbs and Ellis, *Industrial Market Trends: Boston*, Third Quarter 2008 [Electronic Version].

[19] ES-202: Worcester NECTA, City of Worcester, and Town of Shrewsbury, Annual Data, 2005-2007.

[20] Jones Lang LaSalle, *Marketscape Monthly: Boston, MA*, October 2008 [Electronic Version].

TABLE 3-5
BOSTON OFFICE MARKET: INVENTORY TRENDS, 1998-2008

	Existing Inventory		Percent	Net	Completions		Under Construction	
Period	Buildings	Floor Area	Vacant	Absorption	Buildings	Floor Area	Buildings	Floor Area
2008 3q	9,242	452,038,949	11.9%	1,757,393	5	212,546	31	1,762,073
2008 2q	9,239	451,976,753	12.3%	-1,060,009	6	188,020	32	1,896,975
2008 1q	9,233	451,788,733	12.0%	1,762,504	8	336,325	23	1,413,684
2007 4q	9,225	451,452,408	12.3%	3,020,354	9	246,588	22	983,437
2007 3q	9,217	451,296,820	13.0%	532,635	5	110,694	24	865,275
2007 2q	9,213	451,305,426	13.1%	528,736	9	363,379	22	888,144
2007 1q	9,205	451,233,463	13.2%	-531,411	13	387,238	23	1,065,156
2006	9,195	451,412,182	13.1%	2,599,551	49	2,523,141	22	933,817
2005	9,155	449,654,466	13.3%	584,200	46	2,040,260	42	2,637,504
2004	9,120	448,682,830	13.3%	-4,164,483	62	3,228,170	41	1,853,071
2003	9,081	446,377,482	11.9%	-5,806,321	37	2,223,559	44	2,931,483
2002	9,052	444,667,373	10.3%	-6,264,998	78	3,825,790	35	2,453,160
2001	8,988	442,238,057	8.3%	-242,315	73	6,586,602	66	3,938,924
2000	8,920	435,878,710	7.0%	1,835,848	74	5,421,421	68	6,390,191
1999	8,846	430,457,289	6.2%	2,564,462	74	4,308,972	52	4,962,446
1998	8,777	426,547,969	6.0%	-377,134	75	3,741,733	57	3,541,463

Source: The CoStar Group, The CoStar Industrial Report: Boston Office Market, Third Quarter 2008.

its inventory growth has been composed of Class B and Class C office space.

Industrial Market. Table 3-6 shows that for three consecutive years, from 2002 through 2004, the Boston region posted net negative absorption of industrial floor area exceeding -4 million sq. ft. per year. Much like conditions in the office market, the industrial market's negative absorption partially coincided with the recession and followed a four-year period of intensive construction activity that that produced 20 million sq. ft. of industrial space. The result was a 79 percent increase in vacant industrial floor area throughout the Boston region between 1998 and 2002. Flex space construction starts slowed dramatically as completed projects came on line, many built on spec or with very little preleased space. The market began to adjust by 2005, notably in response to demand for flex/research and development space in Cambridge and Boston's suburban markets along Route 128, I-495, and Route 3 North. The Worcester industrial market experienced a relatively modest share of the region's recovery in absorption rates, but most of the growth in absorption involved warehouse and general industrial space outside the metro area.

New development along I-495 during the late 1990s responded to pent-up demand for suburban housing, and as employment continued to move outward from the Greater Boston area, so did the housing market. Multi-family projects began to fill the region's housing pipeline in 2000, following several years of sustained single-family home development once the housing market had recovered from the recession. Between 2002 and 2006, 34 percent of all housing and 80 percent of all apartments built along and inside I-495 came about because of Chapter 40B comprehensive permits.[21] Many of these projects were constructed on vacant, industrially zoned land. With the industrial market unable to absorb the sheer volume of available space, vacancies on the rise, and investment sales oriented primarily toward existing industrial buildings, Chapter 40B became a relief valve for property

[21] Citizens Housing and Planning Association, "40B Housing Production Update," December 2008.

TABLE 3-6
BOSTON INDUSTRIAL MARKET: INVENTORY TRENDS, 1998-2008

	Existing Inventory		Percent	Net	Completions		Under Construction	
Period	Buildings	Floor Area	Vacant	Absorption	Buildings	Floor Area	Buildings	Floor Area
2008 3q	9,242	452,038,949	11.9%	1,757,393	5	212,546	31	1,762,073
2008 2q	9,239	451,976,753	12.3%	-1,060,009	6	188,020	32	1,896,975
2008 1q	9,233	451,788,733	12.0%	1,762,504	8	336,325	23	1,413,684
2007 4q	9,225	451,452,408	12.3%	3,020,354	9	246,588	22	983,437
2007 3q	9,217	451,296,820	13.0%	532,635	5	110,694	24	865,275
2007 2q	9,213	451,305,426	13.1%	528,736	9	363,379	22	888,144
2007 1q	9,205	451,233,463	13.2%	-531,411	13	387,238	23	1,065,156
2006	9,195	451,412,182	13.1%	2,599,551	49	2,523,141	22	933,817
2005	9,155	449,654,466	13.3%	584,200	46	2,040,260	42	2,637,504
2004	9,120	448,682,830	13.3%	-4,164,483	62	3,228,170	41	1,853,071
2003	9,081	446,377,482	11.9%	-5,806,321	37	2,223,559	44	2,931,483
2002	9,052	444,667,373	10.3%	-6,264,998	78	3,825,790	35	2,453,160
2001	8,988	442,238,057	8.3%	-242,315	73	6,586,602	66	3,938,924
2000	8,920	435,878,710	7.0%	1,835,848	74	5,421,421	68	6,390,191
1999	8,846	430,457,289	6.2%	2,564,462	74	4,308,972	52	4,962,446
1998	8,777	426,547,969	6.0%	-377,134	75	3,741,733	57	3,541,463

Source: The CoStar Group, The CoStar Industrial Report: Boston Industrial Market, Third Quarter 2008.

owners with land they couldn't sell. These conditions formed the backdrop for AvalonBay's entry into Shrewsbury in 2002.

Outlook for Industrial Land. For many reasons, market analysts seem to agree that in the near term, there will be very little demand for industrial land in the Boston region. First, rising unemployment rates will eventually translate into growth in vacancies. As vacancies increase, stabilization or softening of rents will follow and this, in turn, will shift the negotiating advantage to tenants. Property owners seeking to retain good tenants are likely to agree to concessions in order to remain competitive. Moreover, tenants are likely to stay where they are instead of incurring costs to relocate, especially large tenants. Second, limited access to credit is a critical barrier to new construction and investment sales.

Many analysts predict that in addition to credit constraints, uncertainty about the regional and national economy will discourage investment. Third, where sales have occurred in the last two years, they almost always involved acquisition and redevelopment of existing buildings. Very few industrial land transactions are reported for the Boston region, and in particular for the Worcester market. The preference for acquiring existing properties over vacant land appears to stem, in part, from concerns about time in development review and permitting. Finally, the commercial property foreclosure rate is expected to rise from defaults triggered by rising vacancies, reduced rental income, and difficulty refinancing commercial mortgages. Foreclosed properties are likely to be a preferred opportunity in the investment market because they will offer existing built space at a discount.[22]

Survey of Worcester and I-495/W Development Pipeline

A survey conducted for this report identified a considerable amount of office, industrial, and retail space that is planned, under review by local per-

[22] Grubb and Ellis, *Real Estate Forecast 2009: Boston Investment Market* [Electronic Version].

mitting authorities, recently approved, and in some cases already constructed, within a 10- to 12-mile radius of Shrewsbury. The survey focused on projects of more than 50,000 sq. ft. of floor area, and it was based on communications with city and town planners, developers, and a private planning consultant. Viewed in their entirety, the projects identified during the survey process illustrate the degree of interest that exists in commercial and industrial development in the suburban markets between Worcester and I-495. Still, it has been challenging for several of the "pipeline" and approved projects to move forward with construction, and in some cases projects under construction have made slow progress toward delivery.

PROJECTS BY TYPE AND LOCATION

Office Space. Excluding office space in mixed-use developments, planned office projects represent between 560,000 and 1.4 million sq. ft. of space at various stages of development. The largest are in the I-495/Mass. Turnpike market. The City of Marlborough has two corporate/business parks, each with up to 500,000 sq ft. of office space approved or under construction. In addition, up to 2.5 million sq. ft. of office/industrial space is planned for the same general area. This includes 2.2 million sq. ft. in the EMC Corporation's planned expansion on the border of Westborough and Southborough, which is still in permitting.[23]

Research and Development. Noteworthy research and development projects near Shrewsbury include:

- **Grafton Science Park** consists of 106 acres in an approved commercial subdivision on the grounds of the former Grafton State Hospital property, opposite the Grafton MBTA commuter rail station. The site master plan for this project provides for up to 702,000 sq. ft. of research and development, pilot manufacturing, and other activities related to the biotechnology, medical and pharmaceutical industries. Tufts University's Cummings School of Veterinary Medicine, the developer of Grafton Science Park, recently received federal funding to construct a Regional Biosafety Level (RBL) 3 laboratory on the property.

- In nearby **CenTech Park**, a 21-acre technology park, WBDC is marketing two additional lots for research and development uses.

- **Gateway Park**, an 11-acre brownfields redevelopment project in Worcester, is located near the campus of Worcester Polytechnic Institute (WPI). The Life Sciences and Bio-Engineering Center for WPI is Gateway Park's flagship building.

For Grafton and Worcester, research and development activity has been closely related with nearby educational institutions.

Mixed-Use Developments. The survey identified six mixed-use developments, including four "lifestyle" mixed-use projects, i.e., a combination of retail, office, and residential space, and sometimes restaurant uses as well. Located in Worcester, Ashland, Westborough, and Hopkinton, all but one of these projects are in downtown locations or adjacent to a transportation node. Hopkinton's Legacy Farms, currently in permitting, is the exception. This large mixed-use project will occupy portions of the former Weston Nurseries property in the northeast section of town, approximately two miles from the Southborough and Ashland MBTA stations. If approved as proposed, Legacy Farms will include housing, an assisted living facility, neighborhood-scale retail, and office or flex space. In addition, Marlborough has approved expansion space for an office and industrial mixed-use project, The Campus at Marlborough, at 100 Campus Drive.

Retail Development. The survey revealed two large retail projects, one built and occupied and the other permitted but not under construction. In Millbury, the Shops at Blackstone Valley was completed in 2005. At 790,000 sq. ft. of floor area, the Shops at Blackstone Valley is a power/lifestyle center with big-box retail and higher-end specialty stores arranged in an open-air, "Main Street" layout. The second project, known as "The Loop," is an ap-

[23] See Appendix A for a complete list of projects included in the survey.

proved for a site north of the U.S. Route 20/Route 9 interchange by the Northborough/Shrewsbury town line. It was originally permitted under a use variance for 560,000 sq. ft. of retail space. The Northborough Zoning Board of Appeals recently granted a second variance to increase the project to 620,000 sq. ft. A proposal for a related retail development on the opposite side of the Southwest Connector is currently in the permitting process.

In addition to these retail developments, the mixed-use projects described above will add a substantial amount of retail space as well as offices in Shrewsbury's area. The near-term effects of so much new retail space may not be as beneficial to the region's economy as it appears. It is not clear how quickly the suburban Worcester market will be able to absorb all of the proposed, permitted, and recently constructed retail space.[24] The larger Worcester retail market area, including metro and non-metro communities, has the third highest vacancy rate in the Boston region and its year-to-date retail absorption is a net negative of -21,000 sq. ft. On a quarterly basis, the Worcester retail market has posted net negative absorption for six out of the past eleven quarters for which published data are available.

FACTORS INFLUENCING DEVELOPMENT

The survey participants were asked to comment on factors that enabled or encouraged these developments to take place. Several themes that emerged from this consultation process may provide useful guidance to Shrewsbury in its disposition planning for the Allen property:

Zoning. Zoning that either allows or encourages a certain type of use was an influential factor for several projects in the development survey. Specific examples include Ashland, where downtown, railroad/transit-oriented development, and general mixed-use zoning districts supplied the key enabling factors in the three major development projects there. The zoning district that includes the site of the Jefferson at Ashland Station Project also provides a density bonus to developers as an incentive to develop those areas. Similarly, the proposal to develop Legacy Farms hinged on town meeting approval of a mixed-use overlay district.

Favorable or flexible zoning was also seen as an incentive in Grafton's Science Park development. The Campus Overlay District zoning for this area allows the type of uses potential developers want as of right, including research and development uses and other uses related to biotechnology, medicine, and the life sciences. In addition, the overlay regulations provide an expedited 60-day permitting process to encourage development in this area, although the expedited permitting process applies only to projects on individual lots. The development as a whole is governed by a master plan special permit that Tufts had to obtain first, and the university was recently required to renew it.

While not the only factor in the development of the Shops at Blackstone Valley, zoning was reportedly an attractive and helpful feature. The town created a Route 146 Overlay District to encourage development appropriate at major highway interchanges, allowing by right such uses as retail, professional offices, hotel/motel, restaurant, entertainment, and some residential uses as well.

Construction Readiness. A site equipped with necessary public infrastructure is a major incentive—and in some cases a requisite feature—for development. An infrastructure-ready site was important factor in the development of the Shops at Blackstone Valley. Additionally, the Grafton Science Park parcels either have or will have all infrastructure in place to market the sites. In the case of "The Loop" project, the site currently has access to public water but not to the town's sewer service. However, Avalon Bay is developing 382 apartments on land adjacent to the retail project, and AvalonBay is extending sewer mains from the center of town to the site. The ability to finance infrastructure and utilities was a key reason for this joint development project and critical to the success of the project.

[24] The model that has been developed for the Department of Revenue to project *net* growth in state revenue for the I-Cube program assumes a small percentage of sales tax and income tax growth from new retail development. This is due to the probability of retail closures or consolidations elsewhere in the economy.

Access and Visibility. Not surprisingly, highway access and, in some cases, visibility, were mentioned as a key factor (and for some projects the only factor) in the decision to develop a site. This is especially true for projects with a retail component, where high visibility and vehicular traffic volumes mean more access to retailers. The developer of Bay State Commons, a 500,000 sq. ft. lifestyle center with about 42 residential condominiums, was attracted to a difficult-to-develop, contaminated site near downtown Westborough because of its proximity to a major rotary, I-90 and I-495, and the center of town. The Loop in Northborough expects to capitalize on high traffic volumes on Routes 9 and 20, just south of the site, and The Shops at Blackstone Valley is situated at the interchange between Route 146 and I-90.

Location. Location has both geographic and demographic meanings. The demographics of a community often influence location decisions, and this is particularly evident for new retail development. In addition to highway access, a key reason that Bay State Commons decided to develop in Westborough is the town's affluence and high levels of disposable household income. Westborough's high housing values also played a role in Bay State Commons, too, for the developer anticipated high sale prices for the project's residential condominiums.

Industry Synergies. A less tangible but nevertheless important factor that influences location decisions is the ability to have a mutually beneficial relationship — or "synergy"— with surrounding companies or institutions. This pattern applies mainly to industries that depend on ideas, creativity, and a skilled workforce, such as research and development, biotech, pharmaceuticals, high-tech, and similar fields. According to an article on the economic development potential of biotech in *Planning*, a professional journal published by the American Planning Association, a key requirement for a successful biotechnology industry is a cluster of similar businesses or institutions. Grafton Science Park, affiliated with the Cummings School of Veterinary Medicine, attests to this relationship. A planning consultant for the Grafton Science Park and the nearby CenTech Industrial Park described Tufts as a "workforce in training," a highly attractive feature for prospective companies that need access to a high-skilled and specialized labor pool. In general, the cluster of colleges and universities in Worcester as well as Tufts University in Grafton have been a major catalyst for business development in the area.

Allen Property Focus Group

In addition to market data and a regional projects survey, this report is informed by the results of a focus group conducted in May 2008. The purpose of the focus group was to move beyond industry publications and data and tap the wisdom of people familiar with Shrewsbury and the Worcester area. Several important themes emerged from the focus group process:[25]

- Shrewsbury has a favorable reputation in the region. It has worked aggressively to provide adequate infrastructure, it has good schools, and in general, it is demographically competitive with neighboring communities.

- Future uses of the Allen Property could focus on being complementary to major industries in the area, rather than competing directly for the same types of industries. MassDevelopment pursued this strategy in the early phases of developing Devens, and it worked.

- Shrewsbury's vision for the Allen Property should account for site and architectural design considerations. The abutting land uses provide clues to appropriate building forms; the north side near Charles River Laboratories could support taller buildings, and the portion of the site closest to Route 20 is likely to develop as one-story buildings. Development near the adjacent residential areas needs careful planning.

- Shrewsbury should be open to a mix of uses that includes workforce housing because the cost of transportation will motivate more people to live closer to work. Limiting the focus to

[25] See Appendix B for more detailed discussion notes from the focus group.

office and industrial space is a hard sell; there needs to be something more.

- Shrewsbury needs to be realistic about its capacity to deliver water. Some industries are large water users, notably biotech.

- Shrewsbury needs to decide what it wants to accomplish with the Allen Property: near-term revenue and job creation, or a longer-term vision that may take years to achieve, given the amount of competition in the region for the same types of uses (office and research and development).

Market Opportunities and Constraints for the Allen Property

OPPORTUNITIES

Despite the economic downturn, Shrewsbury has opportunities that can be capitalized upon to market the Allen Property:

- **Business-Friendly.** Shrewsbury is a business-friendly community that prides itself on the cooperative spirit of town boards and customer-oriented staff. For Shrewsbury, receiving a Chapter 43D grant reaffirmed the Town's customary approach to expedited, predictable permitting for commercial and industrial development.

- **Reputation.** Shrewsbury is gaining visibility outside the region as a good place for business. *Mass High Tech: The Journal of New England Technology* recently recognized Shrewsbury as one of the state's top ten friendly communities for high-tech companies.[26]

- **SDC.** The SDC has authority to market the land, act as the town's agent, negotiate land disposition agreements, and operate almost as quickly as a private landowner or developer – once the Board of Selectmen approves a master plan for the Allen Property. Most towns attempting to sell public land do not have a non-profit organization that can represent them in complicated land sales. The efficiencies built into its powers and duties under Chapter 493 mean that the SDC will be seen as a distinct advantage to potential buyers.

- **Regional Partnerships.** Shrewsbury could work strategically in partnership with Grafton, as the two communities have done in the past, on a joint development vision and a joint marketing endeavor for the Allen Property and Grafton's Chapter 43D Priority Development Sites.

- **Tax Increment Financing.** Due to its participation in the Framingham-Marlborough Economic Target Area (ETA), Shrewsbury has the ability to use Tax Increment Financing (TIF) agreements as a means of luring new investment. The trade-off is a near-term reduction in property tax revenue from projects at the Allen Property, but the goal of employment growth has always been as important to the town as tax base expansion.

- **Activity in Route 20.** The Route 20 corridor and South Street have changed since the Allen Property was acquired in 2002. This part of Shrewsbury is evolving and attracting new investment. Growth and change in the vicinity of the Allen property convey the message that the site is located in an opportunity area, and this will make the land more appealing to prospective developers and companies.

- **Residential Uses.** While not supported by the Town and not provided for in the proposed overlay district (Appendix C), the Allen Property has capacity to support a mix of uses that includes some residential uses. The opportunity exists to situate a moderate-scale rental housing development on the west pod, which lies adjacent to existing neighborhoods. Shrewsbury could take a leading role in promoting workforce housing by choosing to lo-

[26] "10 Best and Worst Mass. Towns and Cities for High-Tech Companies," *Mass High Tech: The Journal of New England Technology* [Online Version], 20 November 2008.

cate apartments within easy walking distance of its own planned industrial projects.

CONSTRAINTS

Several factors will make it challenging for Shrewsbury to market the Allen Property in the near future, and some of these factors are beyond the town's control:

- **Zoning.** The Allen Property's existing zoning, Office/Research, allows a limited set of higher-end industrial uses. While they may represent the town's preferred option, it will take many years to sell the land for the kinds of uses allowed in the Office/Research District. There are no indicators of enough demand for flex/research and development space in the Worcester market to suggest that Shrewsbury will be able to sell 66± acres of vacant industrial land for the purposes the town had hoped to achieve. Ironically, the zoning change that was intended to build value in the property is a barrier to development.

- **Market.** Activity in the investment market has declined considerably. According to industry sources, the number of transactions has decreased from 50 in the first quarter of 2008 to 40 in the second quarter and 13 during the third quarter. Nearly all of these transactions involved existing built space, including the third-quarter sales of I-290 Industrial Park in Northborough and a 101,500 sq. ft. building in Millbury. Over the past 12 months, the Boston region's average sale price per sq. ft. for existing industrial buildings has fallen slightly, though reported capitalization rates have been lower than in 2007.

- **Water.** While Shrewsbury has enough sewer capacity to support development of the Allen Property under a maximum build-out scenario, its public water system does not have capacity to meet the needs of high volume water users. Recent communications from the Department of Conservation and Recreation (DCR) indicate that Shrewsbury's water withdrawal privileges will remain a major constraint to new growth because its wells are located in a stressed watershed, as defined by Department of Environmental Protection (DEP). This condition will limit the types of industrial uses that can be developed on the Allen Property and other industrial land in Shrewsbury.

- **Traffic.** Even without any development of the Allen Property, there are enough projects under construction, permitted, or in the pipeline in the vicinity of the site that by 2018, all but one of the signalized intersections nearby will have dropped to a Level of Service (LOS) "F" due to traffic growth. The traffic impacts of building out the Allen Property for up to 611,000 sq. ft. of mixed office, industrial, and flex/research and development space, coupled with all of the other projects occurring in the background, will cause all of the signalized intersections to decline to LOS "F." These impacts will have to be addressed through mitigation. Planning, project coordination, and funding will present significant challenges for the Town and private developers.

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Local Trends

Population

Shrewsbury is bounded by the City of Worcester and the towns of Grafton, Westborough, Northborough, Boylston, and West Boylston. Other communities within a 10-mile radius include Holden, Auburn, Upton, Millbury, Hopkinton, Ashland, Southborough, Marlborough, and Berlin. The entire area is well-served by major highways, including Interstate Routes I-495, I-90, I-290, I-395, U.S. Route 20, and State Routes 9, 140, and 146. Together, Worcester and the surrounding suburbs and towns form an area of influence for residential, commercial, and industrial development in Shrewsbury, though transportation improvements will continue to alter the boundaries of economic subregions in Central Massachusetts.

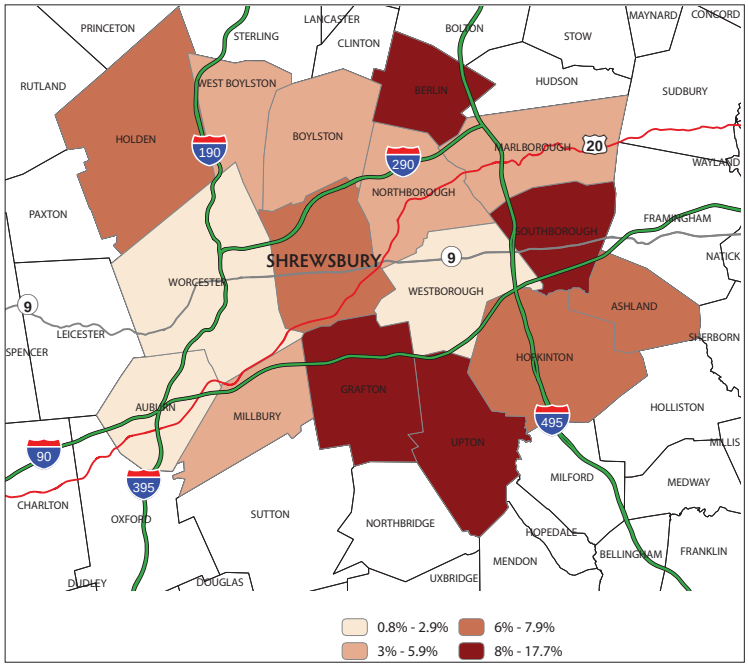

FIG. 4-1. ESTIMATED POPULATION GROWTH RATES, 2000-2007.

Source: Bureau of the Census.

The communities in Shrewsbury's area currently have a combined population of about 403,000, which represents a 3.9 percent rate of growth for the region since the last decennial census. According to intercensal population estimates from the Bureau of the Census, the highest rates of post-2000 population growth have occurred in Grafton, Upton, Berlin, Southborough, Ashland, and Hopkinton. (**Fig. 4-1**) Shrewsbury's 5.8 percent growth rate falls roughly in the middle for the region as a whole.[27]

The City of Worcester, the Commonwealth's second largest city and Shrewsbury's western neighbor, is the largest economic center in the region, with a current population of 174,000[28] and 4,700 establishments with nearly 99,000 payroll employees. After three decades of population decline, Worcester entered a renaissance during the 1990s and has attracted considerable economic growth. Today, education and health care account for well over one-third of its total employment.[29] Shrewsbury has undeniable economic ties with Worcester, for according

[27] U.S. Department of Commerce, Bureau of the Census, Population Division, Population Estimates Program, "County Subdivision Population Estimates," 2001- 2007. Shrewsbury's population growth rate may be somewhat higher, however. The Bureau of the Census recently released American Community Survey (ACS) demographic estimates for all communities with populations of 20,000 or more, based on sample population surveys conducted from 2005-2007. The ACS data sets are not the same as the annual population estimates published by the Bureau's Population Division.

[28] Ibid, and Claritas, Inc., Site Reports, 2008.

[29] Commonwealth of Massachusetts, Department of Labor and Workforce Development, ES-202: City of Worcester, 2007.

to the most recent journey-to-work data, Worcester generates more workers in Shrewsbury than the town itself. In addition, Shrewsbury is the second largest generator of workers in Worcester.[30]

Shrewsbury also is influenced by economic activity in Eastern Massachusetts. Located just one town west of the I-495 corridor, Shrewsbury lies at the periphery of the Boston metropolitan area. Employment and journey-to-work data show that an increasingly large share of the Eastern Massachusetts workforce commutes from the I-495 area and Central Massachusetts, where housing is less expensive. Shrewsbury's own population statistics are indicative of this trend. About forty-three percent of the town's labor force travels to a job inside the Boston metropolitan area, generally along I-495 and Route 128, or in Boston and Cambridge.[31]

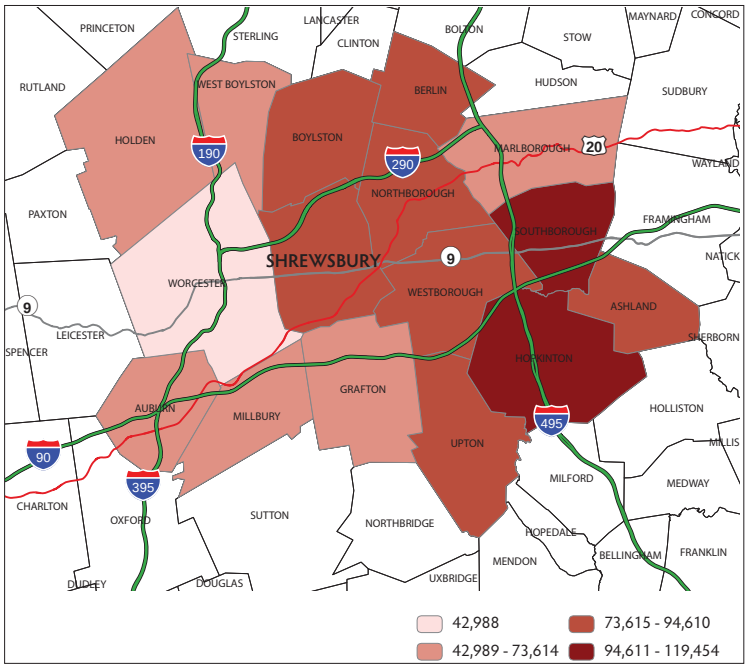

FIG. 4-2. MEDIAN HOUSEHOLD INCOME (2000).

Source: Bureau of the Census.

HOUSEHOLD WEALTH

The geographic distribution of household wealth has shifted somewhat since 1980. In a pattern that mimics the outward migration of housing and population from Boston, some communities around Shrewsbury have experienced conspicuous growth in household income while others have essentially retained the same economic position over the past twenty to thirty years. In 1990, Westborough's state rank for median household income was 120 out of 351 cities and towns, but by 2000, its state rank had risen to fifty-nine: an enormous change in a single decade. Hopkinton's state rank also increased, from forty-nine in 1990 to twenty-three in 2000. In contrast, Northborough's state rank slipped incrementally from thirty-three in 1990 to forty-one in 2000. A similar downward adjustment in state rank occurred in all of the towns adjacent to Shrewsbury except Westborough, while Shrewsbury's median income rank inched upward from 116 to 100.[32]

These changes tend to correlate with population growth, for communities that absorbed relatively little change in population between 1990 and 2000 also experienced no change or a slight decline in income rank. Shrewsbury, Westborough, and Hopkinton were among the state's most rapidly growing towns during the 1990s,[33] and this growth affected the make-up and wealth of their households. An important difference between these three communities is that Shrewsbury was a relatively mature suburb by 1990. Despite the amount of land developed for new single-family homes in Shrewsbury during the 1990s, its housing inventory already included many types of housing. As a result, its households reflected a greater degree of economic diversity. Further, while Shrewsbury's housing prices rose dramatically at the end of the 1990s, its homes were (and still are) less expensive than the homes in nearby communities to the east.

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30 Bureau of the Census, Census 2000 MCD/County to MCD/County Worker Flow Files.

31 Ibid.

32 "Change in Median Household Income, 1980-2000, Massachusetts Cities and Towns" [Chart], *Boston Globe*, 22 May 2002, citing U.S. Bureau of the Census, Census 2000 Demographic Profile (DP) Release. Rankings by author.

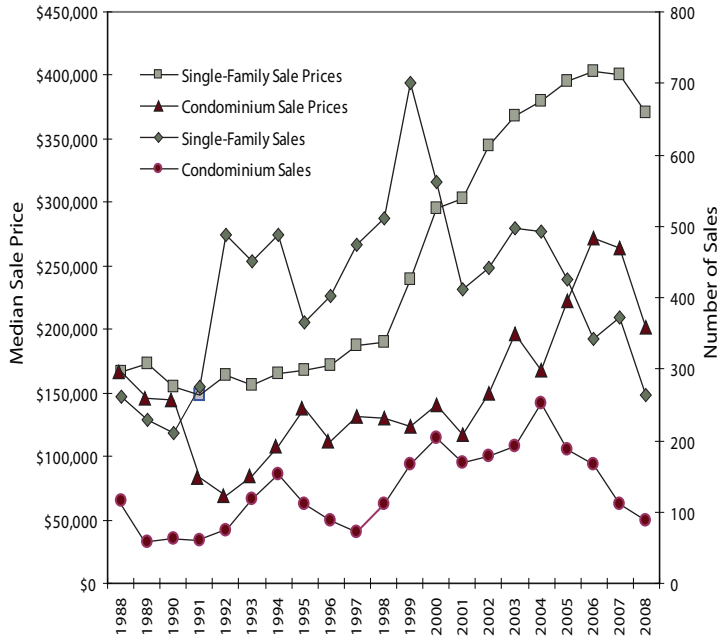
33 "Population Counts: Actual and Estimated, 1930-2000, Massachusetts Cities and Towns," Massachusetts State Data Center, Donohue Institute, University of Massachusetts.

HOUSING AND HOME VALUES

Shrewsbury's housing inventory has grown from 12,600 units in 2000 to about 13,500 today.[34] Single-family homes constitute sixty-seven percent of the total housing inventory – a smaller percentage than in other Worcester-area suburbs – but Shrewsbury has had multi-family dwellings, condominiums, and some large apartment developments for many years. Its median single-family home sale price has dropped from a high of $415,000 in 2006 to $371,000 in 2008 (year-to-date sales). The town also has seen a significant decline in median condominium sale price, which peaked at $291,500 in 2006 and is currently $201,250.[35] (**Fig. 4-3**) These changes mirror conditions in the regional housing market, with falling home prices, extraordinarily long absorption periods, restricted access to credit, and growth in foreclosures. Since January 2007, twenty-six foreclosure auctions have occurred in Shrewsbury and another twenty-eight foreclosure petitions are in process.[36]

FIG. 4-3. HOUSING SALE PRICES, 1998-2008

Source: The Warren Group



Shrewsbury's experience is not unique. Its housing challenges can be seen throughout the Worcester area, and in some cases the incidence of subprime mortgages and mortgage defaults is higher in affluent communities closer to I-495. Overall, Shrewsbury seems to have been affected by the region's troubled housing market in the same way as its neighbors. An important difference for communities like Shrewsbury, where high rates of housing growth persisted for several years, is the greater likelihood that a decline in new-home construction will adversely affect the town's budget process due to the impact of "new growth" under Proposition 2 ½.

The *Shrewsbury Master Plan* (2001) paints a daunting picture of housing growth in Shrewsbury only a decade ago. In 1999, the Building Department issued permits for 243 new housing units, nearly all detached single-family dwellings. The smallest number of housing units permitted in any year during the 1990s was 130 in 1991, coinciding with the recession.[37] In contrast, the Building Department issued permits for only thirty-four new single-family homes in 2007 and thiryt-nine in 2006, along with a modest number of condominiums.[38] In 2005, the town also witnessed construction of its first Chapter 40B development since the late 1980s: the 251-unit Avalon Shrewsbury apartment complex on Route 20 – ironically not far from the Allen Property, where AvalonBay had hoped to develop a 300-unit project in 2002. Excluding Avalon Shrewsbury, however, new housing construction has dropped

[34] Bureau of the Census, "Housing Characteristics," Shrewsbury, Massachusetts, *American Community Survey*, 2005-2007 American Community Survey 3-Year Estimates, 9 December 2008, American FactFinder, www.census.gov.

[35] "Town Stats" [online database], *The Warren Group*, http://www.thewarrengroup.com/portal/.

[36] "Foreclosures" [online database], *The Warren Group*.

[37] *Shrewsbury Master Plan* (2001), 47.

[38] *Annual Town Report*, 2006, 2007, Department of the Building Inspector.

significantly and almost steadily in Shrewsbury since 2001, when 132 new homes were permitted.[39]

Not surprisingly, housing development has decreased. In 2007, the Planning Board processed less than half the number of subdivisions heard in 2006. By the end of 2007, the number of remaining (unbuilt) lots in approved but unfinished subdivisions had dropped by just 11, from 270 lots in 2006 to 259 in 2007.[40] Further, special permit and site plan applications for residential development declined, with three projects approved in 2006 and only one – a three-unit townhouse – in 2007. When communities make enough progress toward buildout that the remaining land supply contains few large parcels, the rate of development sharply declines. This, coupled with the region's depressed housing market, explains Shrewsbury's slower rate of housing development. In fact, the town was already showing signs of slower production as early as 2000 and 2001, just as many towns in Massachusetts were absorbing an acceleration in housing starts. Recently, Shrewsbury has seen some renewed interest in new multi-family housing, including expansion of the Ashford Crossing development and a small project on North Quinsigamond Ave. Still, the town expected that AvalonBay would seek approval to build a second large apartment complex in the next few months, on land near the Grafton MBTA station, but the project has been placed "on hold" and its future is uncertain.[41]

Local Economy

EMPLOYMENT BASE

Approximately 62 percent of the people who work in Shrewsbury each day live in Shrewsbury, Worcester, or another "area of influence" town nearby. However, excluding Shrewsbury and Worcester, which together account for some 45 percent of all people employed in Shrewsbury, the town's employer establishments depend heavily on labor from towns west and south of Worcester and to a lesser extent, in north-central Worcester County. Relative to the size of its own population, Shrewsbury does not have a large employment base and overall, its wages are similar to wages in Worcester and the wider Worcester metropolitan area.[42] In the past three years (2005-2007), Shrewsbury has seen very little employment growth: about 0.50 of one percent, noticeably below the average for the Worcester metro area and the state as a whole.[43] It also has experienced an erratic pattern of growth and decline in number of employer establishments. Employment and wages shed light on the position of particular industries in a community or region. While these statistics alone do not measure market demand for commercial and industrial land, trends gleaned from employment data in and around Shrewsbury speak to the strength and make-up of the economy as a whole. In turn, the trends support some conclusions about the probability of near-term employment growth and demand for types of nonresidential space.

Shrewsbury's employment base differs from Worcester's and that of the Worcester metropolitan area. Table 4-1 reports total employment in Worcester and Shrewsbury in 2007, along with a set of ratios known as location quotients. They represent the ratio of the percentage of an industry's employment in each community to the percentage of the same industry's employment in a larger comparison area, in this case the state and the Worcester metro

[39] "Permit Records," 2001-2004, Shrewsbury Building Department, http://www.shrewsbury-ma.gov/inspector/index.asp.

[40] *Annual Town Report*, 2006-2007, Planning Board.

[41] M. Roberts, AvalonBay Communities, to D. Morgado, Town Manager, 16 December 2008.

[42] "Worcester Metropolitan Area" means the Worcester New England City and Town Area (NECTA), which includes most of Worcester County west of I-495, from Route 2 south to the Connecticut border, and eight small towns in northern Connecticut.

[43] Commonwealth of Massachusetts, Department of Labor and Workforce Development, ES-202: Town of Shrewsbury, 2005-2007. Note: Charles River Laboratories recently reported a one-year increase of about 250 jobs between 2007 and 2008, but most of these jobs have been relocated from the company's other facilities. Actual gains in employment for Shrewsbury residents include six local hires between 2007 and 2008, and 16 local hires since the town entered into a Tax Increment Financing (TIF) agreement with Charles River Laboratories in 2006.

TABLE 4-1
LOCATION QUOTIENTS (LQ): EMPLOYMENT BY INDUSTRY, WORCESTER AND SHREWSBURY (2007)

	City of Worcester			Shrewsbury		
Industry	**Total Jobs**	**State LQ**	**Metro LQ**	**Total Jobs**	**State LQ**	**Metro LQ**
Construction	3,728	0.82	0.85	576	0.97	1.01
Manufacturing	8,459	0.94	0.74	1,071	0.92	0.72
Utilities	332	0.82	0.63	NR	0.00	0.00
Wholesale Trade	3,323	0.79	0.79	418	0.76	0.77
Retail Trade	8,181	0.77	0.72	2,033	1.47	1.38
Transportation	1,233	0.40	0.36	2,891	7.16	6.47
Information	1,654	0.58	0.91	181	0.49	0.76
Finance & Insurance	6,032	1.08	1.27	275	0.38	0.45
Real Estate, Rental & Leasing	803	0.60	1.00	137	0.79	1.32
Professional Services	4,274	0.56	0.93	307	0.31	0.51
Management of Companies	1,540	0.82	0.92	9	0.04	0.04
Administrative Services	4,558	0.86	0.84	220	0.32	0.31
Educational Services	13,566	1.41	1.23	NR	0.00	0.00
Health Care, Social Assistance	25,741	1.72	1.56	2,144	1.11	1.00
Arts, Recreation	1,242	0.76	0.78	186	0.88	0.90
Food Service	6,455	0.83	0.89	844	0.84	0.89
Other Services	4,332	1.12	1.14	436	0.87	0.88
Public Administration	3,241	0.79	0.82	NR	0.00	0.00

Source: Mass. Department of Labor and Workforce Development, ES-202, and Community Opportunities Group, Inc. "NR" means "not reported."

area. A ratio greater than 1.05 generally indicates an industry that is stronger locally than in the comparison area, and a ratio lower than .95 indicates an industry that is a smaller contributor to the local economy. It is not surprising to see transportation location quotients of 6.47 to 7.16 in Shrewsbury due to the prevalence of warehouse and distribution facilities on Route 20 and elsewhere in town.

Some of Shrewsbury's strongest industries – transportation, retail, and health care and social assistance – pay weekly wages that fall slightly below the average for the town as a whole ($895). An exception is a subset of the manufacturing industry – durable goods manufacturing employment – which, while not shown in Table 4-1, is as strong in Shrewsbury as in the Worcester metro area and stronger than across the state. The average weekly wage for durable goods manufacturing in Shrewsbury is very competitive: higher than the average in Worcester, the region, and the state. A second exception, real estate, rental and leasing, which has a stronger presence in Shrewsbury than the surrounding region, also pays a high average weekly wage, comparable with that of the Boston metro area. In general, Shrewsbury's employment base is dominated by three industries – transportation, retail, and health care and social assistance – collectively providing more than 55 percent of all local employment in 2007. A significant shift in any of these industries would most likely be felt elsewhere in the local economy, both in direct and indirect employment impacts.

Job Creation and Job Churning. According to state data sources, employment throughout the Worcester metro area increased by approximately 5,000 jobs between 2005 and 2007, or 1.9 percent. Employment in the City of Worcester represented 23 percent of the region's total employment growth. However, the increase of 5,000 jobs masks underlying fluc-

tuations in the economy – fluctuations that occur in times of economic expansion as well as contraction. While 12 industries generated a regional increase of 7,300 jobs during these three years, another 10 industries lost (or "destroyed") 2,300 jobs.[44] This "job churning," or the overall turnover in employment that occurred in much of Worcester County, represents about five percent of the region's total 2007 employment base. The industries producing most of the region's actual net job growth include health care, transportation, wholesale trade, durable goods manufacturing, educational services, food services, and information services. In contrast, retail trade, construction, financial services, and professional services witnessed the largest number of dislocated jobs.

The City of Worcester experienced a similar rate of job turnover – about five percent – though the industrial make-up of net job creation in Worcester was somewhat different than that of the region. In Worcester, construction companies produced a modest increase in jobs while a slight contraction occurred in educational services. The City's retailers, professional and technical service firms and other types of services absorbed a majority of the job dislocation. Compared with Worcester and the region, Shrewsbury's three-year change in employment was quite different. Here, "churned" jobs represented 12 percent of the town's 2007 employment base – higher than the national average – with the largest number of created jobs found in health care and social services, transportation, non-durable goods manufacturing, and food services, and the largest number of dislocated jobs occurring in durable goods manufacturing, wholesale and retail trade, real estate, and construction. In general, the town lost more higher-wage than lower-wage jobs. As a barometer of the nation's weakening economy and a virtual crisis in the housing market, the largest absolute declines in number of employer establishments occurred in construction and retail trade.[45]

[44] ES-202: Worcester NECTA, 2005-2007.

[45] ES-202, City of Worcester, Town of Shrewsbury, 2005-2007.

EXISTING BUSINESSES

Shrewsbury's 840 employers – including for-profit businesses, non-profit organizations, and government – tend to be small establishments. The town has some large companies, including two distribution facilities (UPS and the U.S. Postal Service), three research, technology, and manufacturing concerns with 175 to 485 employees, a regional mental health center, and two large retail stores.[46] The vast majority of the for-profit companies are small to mid-size, with an overall average <13 employees per firm, but the town-wide average is distorted by the presence of a few large establishments. Excluding these larger companies, the average is <8 employees per establishment, with many industries such as professional services dominated by two- or three-person shops. Small companies are particularly prevalent in the industries that pay higher-than-average wages. The town also has numerous self-employed workers, but current self-employment estimates are not available. According to Census 2000, however, Shrewsbury had a comparatively large percentage of self-employed individuals and a small percentage of self-employed owners of companies with payroll employees.[47]

The image of Shrewsbury from Route 9, the town's retail corridor, is not really indicative of the size, strength, or make-up of its businesses. Despite the number of retail jobs in Shrewsbury (an industry that lost nearly 100 jobs between 2006 and 2007), transportation and distribution, health care, professional and technical services, the construction trades, food services, and a variety of business services and personal service establishments make up a majority of the town's businesses, large and small. Shrewsbury prides itself on being a business-friendly community, yet it is not a "corporate headquarters" town with major office buildings, single-user industrial or research and development facilities, and hotels and conference centers. It is a community with

[46] Town of Shrewsbury, General Obligation Bond Prospectus, 7 February 2008.

[47] Bureau of the Census, Census 2000, Summary File 3, Table P51, Sex by Industry by Class of Worker for the Employed Civilian Population 16+, and Table P60, Self Employment Income in 1999 for Households, American FactFinder, http://factfinder.census.gov/home/.

some large businesses and non-profit employers, hundreds of small businesses, and many people who work for themselves. Crossed by Route 9 and U.S. Route 20, Shrewsbury is essentially encased by four interstate highways, with direct access only to one along its northern boundary (I-290), where the land is fairly constrained. As a result, its major roads function more as carriers of traffic through town, interconnecting with the region's interstates elsewhere, than as an efficient means of delivering traffic to local employment centers.

COMMERCIAL AND INDUSTRIAL DEVELOPMENT

The depressed economic conditions that exist both statewide and nationally today are hardly a product of 2008. The slow market reported by WBDC five years ago had some regional and state roots, but national data reported by the Bureau of Economic Analysis and Bureau of Labor Statistics since 2000 largely foretold the evolution of a troubled economy – well before the effects of subprime mortgage lending became obvious to many analysts. Most towns around Worcester have hoped to capitalize on the city's efforts to lure biotechnology companies and high-paying jobs to the region. Still, a survey of recently constructed, permitted, and pipeline projects indicates that for the most part, measurable interest in developed new space for offices and research and development companies between the I-495 corridor and Worcester has occurred in urban centers such as Worcester and Marlborough and affluent communities such as Westborough and Hopkinton.[48]

In the past two years, Shrewsbury has attracted some new commercial development and reinvestment in existing commercial and industrial space. However, except for redevelopment of the former Hewlett-Packard facility by Charles River Laboratories, Shrewsbury's commercial and industrial projects tend to be small or moderate-size developments, typically involving expansion of existing facilities or new construction on a parcel previously occupied by another business.

In 2006, the Planning Board approved site plans for modifications to the Memorial Drive Business Park; retail expansion at Shrewsbury Crossing, which is anchored by a Super Stop & Shop and located on Route 9; a small retail facility with a Dunkin Donuts on Route 20 (adjacent to Avalon Shrewsbury); and a drive-through to accommodate an existing Dunkin Donuts in the center of town. Last year, the Planning Board approved three commercial site plans: a child care facility on Route 140; a retail store and gas station at the corner of Route 20 and CenTech Boulevard, which required both a special permit and site plan review under the new Route 20 Overlay District regulations; and a new industrial development with eight buildings and a combined total of 190,000 sq. ft. of space at Route 20 and Cherry Street. The Planning Board also approved two new auto dealerships on Route 9. At the end of the year, a proposed Value Place Motel, also on Route 9, was still in the permitting process. Since January 2008, the Planning Board has received site plan review applications from Price Chopper supermarket (65,000 sq. ft.) on Route 9, and Rainbow Motel, for a redevelopment project involving 50 rooms and 4,000 sq. ft. of retail space.[49]

Statistics from the Building Department reinforce that most commercial and industrial projects in Shrewsbury are of relatively small scale. In 2006, nine new construction permits were issued for commercial projects and one for an industrial project with a combined construction value of $7.7 million. In addition, 62 commercial properties were renovated or altered, with an average construction value of $670,000 per project, along with six small industrial alterations. The Charles River Laboratories renovations were completed in 2006 as well. The total number of building permits for all types of projects fell by nearly one-third in 2007, again as a barometer of the market. Only two new commercial projects, 51 commercial alterations, and eight industrial alterations went forward in 2007.[50] While these permit statistics indicate a recent decrease in commercial and industrial investment in

[48] See Appendix A.

[49] *Annual Town Report*, 2006-2007, Planning Board, and E. Denoncourt, Shrewsbury Engineering Department, to J. Barrett, Community Opportunities Group, Inc., 17 November 2008.

[50] *Annual Town Report*, 2006-2007.

Shrewsbury, it is important to note that even before 2006 when the market had more vitality, permitting for commercial and industrial space occurred at a moderate pace, with eight to 11 new projects and 34 to 40 reconstruction projects per year between 2001 and 2004.[51]

Zoning

Shrewsbury has 14 use districts and several protective and incentive overlay districts. Six of the use districts are intended for commercial and industrial development:

- Limited Business (93 acres)
- Commercial Business (825 acres)
- Neighborhood Business (3 acres)
- Limited Industrial (912 acres)
- Office-Research (230 acres)
- Limited Office-Research (74 acres)

A total of 2,140 acres (rounded) fall within these zoning districts, or roughly 15 percent of the town's total area.[52] Not all of the land is actually usable due to wetlands and other site constraints. Most but not all of Shrewsbury's nonresidentially zoned land has access both to public water and sewer service.

One reason that Shrewsbury's business base is small is that the amount of land zoned for commercial and industrial uses is somewhat limited and it tends to be configured in linear strips. A large portion of Shrewsbury's nonresidentially zoned land is in a single district, Limited Industrial, which shapes and reinforces the character of business activity on Route 20. Since 2001 when the *Shrewsbury Master Plan* was completed, the town has made several changes to its Zoning Bylaw in an effort to accommodate and encourage business growth and also diversify its employment base:

- Amending the **Commercial (C) District**, which lies primarily along Route 9, to allow more uses by right and moderately liberalize the district's dimensional rules;
- Rezoning of the **Allen Property** to the Office/Research District, and adjusting the district's use and dimensional requirements;
- Establishing the **Lakeway Overlay District** on the west end of Route 9 (2004) in order to allow mixed residential and commercial development in this area;
- Establishing the **Route 20 Overlay District**, which covers the Limited Industrial District, to allow a broader mix of nonresidential uses, including some retail, subject to design and environmental standards; and
- Establishing the **Edgemere Overlay District** at the southerly end of Route 20, also to spur neighborhood business development mixed with moderately high-density housing.

The *Shrewsbury Master Plan* contemplated many of these changes, but it also proposed that Shrewsbury reallocate a considerable amount of land in the Limited Industrial District to the Office-Research District. A central premise of the *Master Plan's* land use plan was a concern that Shrewsbury had zoned its land for overdevelopment, and that the town would soon witness the negative environmental impacts of sprawl. The recommendation to transfer Limited Industrial land to the Office-Research District embraced the idea that if Shrewsbury attracted more office and research and development uses, the town could meet its tax revenue objectives and simultaneously reduce its overall buildout potential. Unfortunately, Shrewsbury's experience with the Allen Property shows that rezoning land to a higher-end class of uses provides no guarantee that

[51] "Permit Records," 2001-2004.

[52] Area calculations based on a digitized zoning map prepared by the Central Massachusetts Regional Planning Commission (CMRPC) in 2004.

a town's land use goals will align well with market reality.

Infrastructure and Utilities

Shrewsbury maintains approximately 162 miles of public roadways and operates several municipal utilities. Although many communities operate light departments and provide water and sewer service, Shrewsbury offers light, cable service, high-speed internet access, and telephone service under a unique municipal enterprise, Shrewsbury Electric, Light and Cable Operations (SELCO), an outgrowth of the Shrewsbury Light Department that was first established in 1908. Shrewsbury also provides water and sewer service in most parts of town. All of these services are fully self-supporting from ratepayer revenue.

Shrewsbury's economic development interests have been compromised by infrastructure and utility constraints because the town has neither townwide sewer service nor an abundance of public water. These conditions have a great deal to do with the size and make-up of Shrewsbury's business base. Limited sewer service will remain a challenge for economic growth because the town's access to wastewater treatment is capped under an inter-local agreement with Westborough, where the treatment plant is located. The plant's design capacity is 7.68 million gallons per day (gpd), and the excess capacity available to Shrewsbury is approximately 680,000 gpd.[53] Pursuant to a Wastewater Allocation Study prepared for the town by Fay, Spofford, and Thorndike in March 2005, Shrewsbury took steps to protect its remaining wastewater treatment capacity at the Westborough plant for industrial and commercial development. In 2006, the town secured a special act of the legislature that allows the Sewer Commission to deny sewer connections to residential users.[54]

Shrewsbury's ongoing struggle to deliver adequate drinking water will play a significant role in the town's future development, particularly industrial development. Under the Massachusetts Water Management Act, cities and towns with public drinking water supplies must obtain a water withdrawal permit from DEP and comply with its conditions. Spliced nearly in half by the divide that separates the Blackstone River and Concord River basins, Shrewsbury remains challenged both by Water Management Act requirements as well as the water resource objectives of the Inter-Basin Transfer Act. While not the only town that has to juggle state environmental policies with local economic needs, Shrewsbury's geographic relationship with two watershed boundaries is different than that of most neighboring communities, which tend to lie entirely or substantially within a single watershed.

Shrewsbury provides drinking water from six groundwater wells in the northwest corner of town, located within the Blackstone River watershed. Its sewer collection system transports wastewater to a regional treatment facility in Westborough, located in the Concord River watershed. The effect of transporting Shrewsbury's wastewater to Westborough is a loss of recharge capacity in the Blackstone River watershed. Since the Massachusetts Water Resources Commission classifies the Blackstone River basin as a high stress basin, Shrewsbury must comply with rigorous water conservation standards. In addition, by 2010, the town must reduce its "unaccounted for" water to a maximum of 10 percent of the total amount of water pumped from its wells each year.

In 2006 and 2007, the most recent calendar years for which water consumption statistics are available from the Massachusetts Department of Environmental Protection (DEP), the Shrewsbury Water Department's unaccounted for water was 17 percent and 21 percent respectively.[55] Today, Shrewsbury is subject to a Water Management Act permit that limits aggregate water withdrawal to

[53] Town of Shrewsbury to Massachusetts Alliance for Economic Development (MAED), Request for Information: Project Genesis, 10 October 2008, 13.

[54] Chapter 51 of the Acts of 2006.

[55] Department of Environmental Protection, "Residential Gallons per Capita Day (RGPCD) and Unaccounted-for Water (UAW)," http://www.mass.gov/dep/water/resources.

3.91 million gallons per day (gpd). The permit also imposes various monitoring and environmental performance requirements that stem, in part, from an earlier DEP administrative consent order to curb excessive water withdrawals from the Home Farm wells.[56]

Fiscal Conditions

Shrewsbury is a $98 million organization with a history of fiscal conservatism, exceptionally strong management, and investments in public facilities and infrastructure. The town takes pride in its affordability and the quality of services it provides to residents and businesses. Shrewsbury has the lowest tax rate of all cities and towns in the surrounding area, and according to a "market basket" study completed in 2006, the total cost to live in Shrewsbury - including property taxes, utility charges, and other fees - is the 12th lowest of the 46 communities surveyed.[57] Despite its affordability, Shrewsbury provides a wider range of services than a majority of its neighbors. Shrewsbury has a board of selectmen-town manager-representative town meeting form of government that operates under a charter adopted in 1953. Since then, the town has had only three town managers, and many of its selectmen have made long-term commitments to public service. Shrewsbury's political, management, and fiscal stability seem to go hand-in-hand.

However, Shrewsbury is not immune to the fiscal stresses faced by other cities and towns in Massachusetts and beyond. Like all communities, Shrewsbury is contending with significant fiscal challenges in FY 2009 and it faces a bleak fiscal picture in FY 2010 due to a decline in revenue growth stemming from the recession. A sharp decrease in new residential development and only a handful of commercial and industrial property improvements will make it very difficult for Shrewsbury to retain the kind of local government that residents have come to expect and which they appreciate. Economic and fiscal conditions in present-day Shrewsbury form an important backdrop for the town's choices about the Allen Property, yet for all of the reasons described in Section 3 of this report, the disposition and development of the Allen Property will remain challenging for Shrewsbury even when the economy rebounds.

Assessed Valuation. Shrewsbury's FY 2009 total assessed valuation of $4.97 billion represents a 134 percent increase since FY 2000 (87 percent in 2008 constant dollars). Since FY 2007, however, the town's total assessed valuation has decreased, mainly due to softening in the housing market. Industrial values have fallen as well. Statewide, assessed values in all classes of real estate have continued to grow despite the weak economy, though the rate of growth in property values has dropped significantly. Relative to affluent towns and suburbs with a strong commercial base, middle-class communities with a substantially residential tax base have been more susceptible to the effects of falling market prices, and this is can be seen in Shrewsbury. The town's average single-family home value has decreased 4.9 percent in the past two years, but its average industrial property value has decreased by 10 percent. Commercial property values have been more resilient, yet the combined value of Shrewsbury's commercial, industrial and personal property has declined by 1.3 percent. (**Fig. 4-4**)

Approximately seven percent of Shrewsbury's total assessed valuation is based on the value of eighteen high-value properties, including Charles River Laboratories, seven apartment complexes and an assisted living facility, four retail developments, a large health care organization, and several owner-occupied or investor-owned industrial parcels.[58] Although it is not uncommon to find large apartment developments in a list of top taxpayers, the number of apartment developments that rank among Shrewsbury's top taxpayers is an indicator of the town's limited presence of large commercial and industrial developments. It also is an indicator of Shrewsbury's housing diversity.

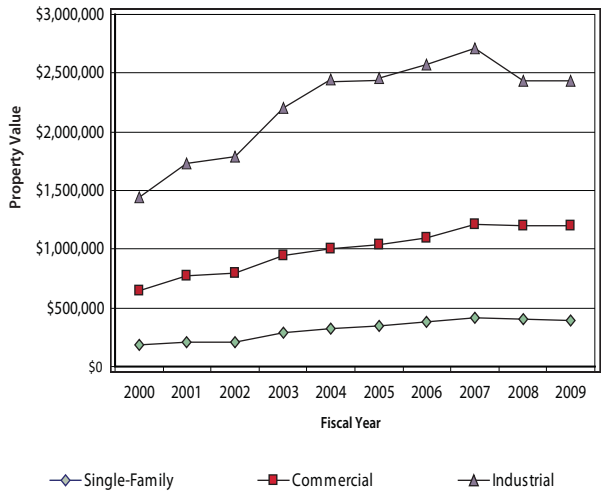
[56] Department of Environmental Protection to Shrewsbury Board of Selectmen, Water Management Act Permit for Shrewsbury Water Department, 21 May 2008.

[57] Daniel Baker, Clark University, "Municipal Market Basket Project," 2006. See Market Basket #4.

[58] Town of Shrewsbury, General Obligation Bond Prospectus, 7 February 2008, 20.

FIG. 4-4. AVERAGE ASSESSED VALUE, 2000-2009

Source: The Warren Group



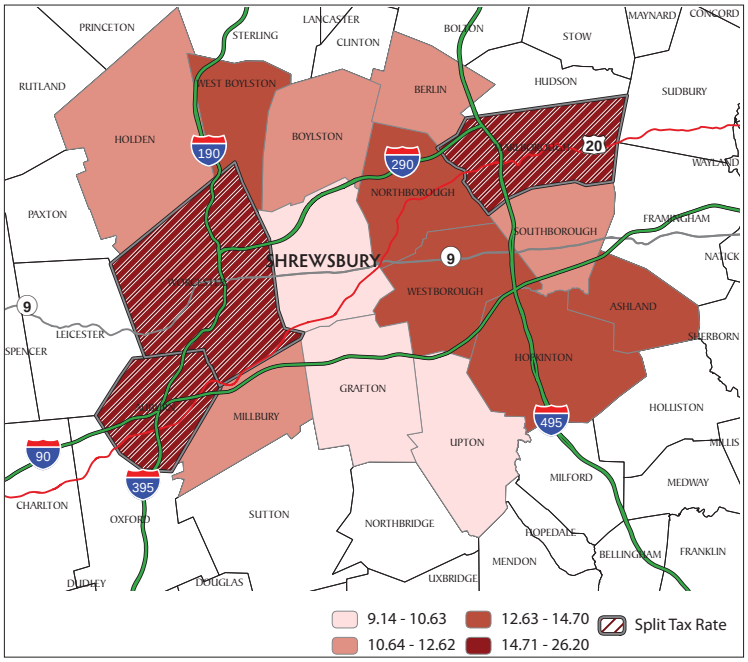
By contrast, the University of Massachusetts acquired 333 South Street, the former home of the Maxtor Corporation, in April 2007. While the presence of U-Mass administrative offices could boost the Allen Property's desirability for some types of development, it is important to note that Shrewsbury lost a large amount of taxable property value as a result of the U-Mass acquisition. Since the U-Mass property qualifies as an educational use, the land and buildings are no longer subject to real or personal property taxes. As a result, some $550,000 in revenue previously generated by a nonresidential use was redistributed across the town's tax base. This is a classic example of a land use that can bring economic development benefits to a community without any direct revenue benefits.

Tax Rate. Massachusetts cities and towns have the option to establish a uniform tax rate or different tax rates for three classes of property: residential, open space, and nonresidential (commercial, industrial, and personal property). State law allows communities to transfer a sizeable share of the levy to nonresidential taxpayers, and toward this end, just under one-third of the Commonwealth's 351 communities have adopted a split tax rate.[59] Until FY 1998, Shrewsbury taxed residential and nonresidential property at the same rate and applied a lower tax rate to open space, but differentiated rates for residential property and open space have ceased in all but two towns in the state. Nonetheless, Shrewsbury has adhered to a long-standing policy of taxing residents and businesses at the same tax rate, much like a majority of its neighbors.

Tax Levy. Under Proposition 2 ½, cities and towns have authority to increase each year's tax levy by 2.5 percent over the previous year's levy plus the value of "new growth," or real property improvements not included in the previous year's tax base. This presents challenges both for high-growth and maturely developed communities. In high-growth towns, keeping pace with new demands for community services often costs more than the revenue derived from tax levy growth, and in maturely developed towns, the annual revenue gains allowed under Proposition 2 ½ often fall short of ordinary or "background" growth in the cost to maintain traditional levels of service. On average, annual new growth revenue in Shrewsbury has represented

FIG. 4-5. TAX RATES, FY 2008.

Source: The Warren Group

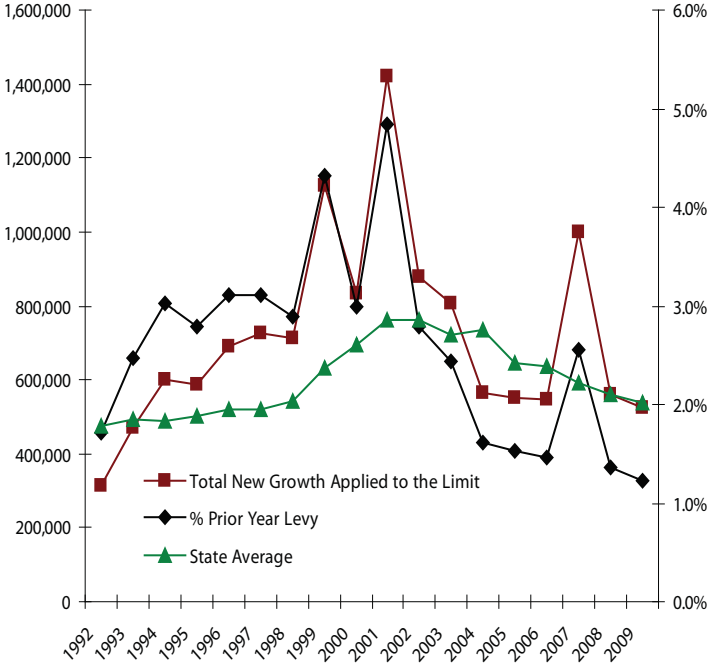


[59] Massachusetts Department of Revenue (DOR), Division of Local Services (DLS), "Tax Burden Shift from Residential and Open Space to Commercial, Industrial and Personal Property," Municipal Data Bank, http://www.dls.state.ma.us/mdm.htm.

about 2.3 percent of the previous year's tax levy since 2000, somewhat below the state average. Not surprisingly, new growth has declined since FY 2007 due to troubled conditions in the housing market. (**Fig. 4-6**) By contrast, Shrewsbury exceeds the state average for use of its tax levy capacity, i.e., it has very little excess or unused levy capacity, yet the levy as a percentage of Shrewsbury's total assessed valuation has gradually decreased.

FIG. 4-6. NEW GROWTH REVENUE TRENDS IN SHREWSBURY COMPARED WITH STATE AVERAGE, FY 1992-2009

Source: Department of Revenue



Although Shrewsbury has approved several Proposition 2 ½ debt exclusions for school buildings, equipment for the fire department, and land acquisitions (including the Allen Property), voters have consistently signaled their reluctance to override the levy limit.[60] Since 2000, Shrewsbury's tax levy has increased at a rate of roughly six percent per year, though the nine-year average is distorted by two years of extraordinary growth (FY 2001-2002) associated with new residential development. In 2008 constant dollars, however, Shrewsbury's levy growth rate has been closer to three percent, including a slight decline in FY 2008. Compared with the state as a whole, Shrewsbury's tax levy has increased at a slower rate overall in the past decade, but this was not the case during the 1990s due to the sheer volume of new residential development that occurred in Shrewsbury at the time.

Revenue Sources. Shrewsbury has managed to preserve the quality of its core municipal services and schools through a combination of careful management, a higher-than-average rate of growth in local aid (mainly Chapter 70 aid), increasing fees to pay for many services and programs, using some cash reserves, and generally "doing more with less." Net local aid has more than doubled since FY 2000, largely due to a greater commitment from the state to Shrewsbury's public schools. While local aid as a percentage of total revenues has decreased statewide, in Shrewsbury it has increased significantly, from 16.5 percent in FY 2000 to 27.2 percent in FY 2009.

Shrewsbury also has relied on revenue surpluses to maintain local services, e.g., unbudgeted growth in receipts from fee-based programs and building permits or unexpended balances left over from prior years. Since FY 2002 when Shrewsbury's year-end "free cash" position peaked at $6.9 million, free cash as a percentage of the total operating budget has fluctuated from a low of 2.3 percent to a high of 4.7 percent.[61] Sources other than the property tax provide approximately half of Shrewsbury's total operating revenue, but they are hardly "recession proof," as evidenced in local aid cuts imposed by the Romney Administration midway through FY 2003 and most recently by the Patrick Administration in January 2009.

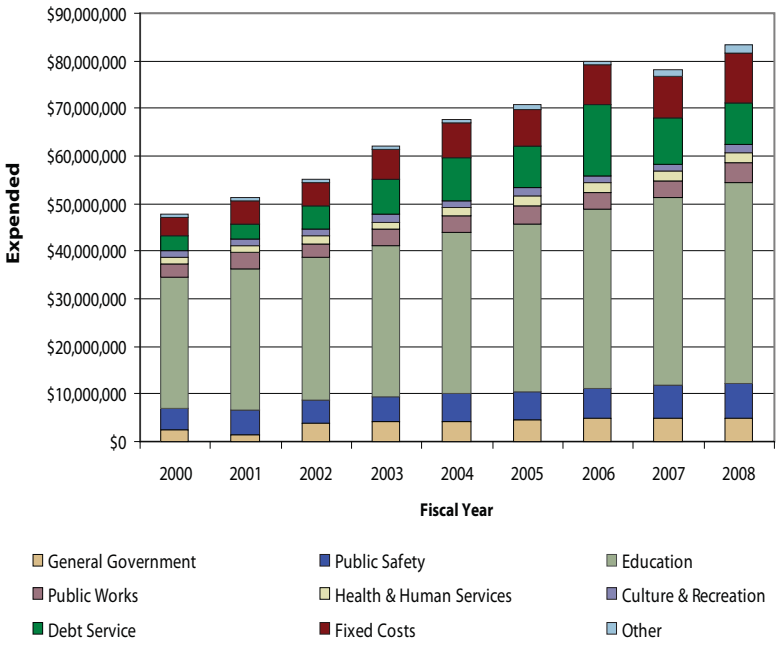
[60] Proposition 2 ½ overrides failed in May 2004, June 2005, May 2007, and May 2008. Source: DOR, Municipal Data Bank.

[61] See D. Morgado to Shrewsbury Board of Selectmen, "Fiscal Year 2009 Budget," Fig. 8, 25 January 2008, and DOR, "Free Cash and Stabilization Fund Balances as a Percentage of Budget," Municipal Data Bank. The town's high free cash position at the end of FY 2002 included a $2.4M bond premium.

Municipal Services. Shrewsbury's customer-oriented, efficient approach to service delivery can be seen both in historic service cost trends and the results of a community survey conducted in 2005. Residents responding to the survey gave very high marks to all town services except road maintenance, and in most cases they said taxpayers receive their money's worth for the quality of Shrewsbury's municipal services and public schools. The overall impression created by the survey results is that Shrewsbury residents think very highly of the town as a place to live and to raise children, but they are not necessarily willing to pay higher taxes to preserve what they have.[62] Mixed feelings about taxes could be seen most dramatically in Shrewsbury's May 2007 town election, when a $5 million Proposition 2 ½ override question failed by 411 votes.[63]

FIG. 4-7. GENERAL FUND EXPENDITURES, FY 2000-2008

Source: Department of Revenue



Shrewsbury provides municipal services through a traditional departmental structure, but the structure is remarkably "flat," i.e., a limited hierarchy. It has a department head and professional, technical, and support staff in each department, and at all levels the organization seems remarkably attuned to the town's commitment to public service. In addition to the town office building, which houses all general government operations, Shrewsbury operates three fully staffed fire stations, a central police station, a multi-purpose senior center, a public library, facilities for public works and the town's public utility network, a high school, two middle schools, four elementary schools, an early childhood education center (kindergarten), and a pre-K school. The town employs approximately 1,525 full- and part-time people, 64 percent associated with the public schools.[64]

Expenditures for municipal services and the schools have increased 74 percent since FY 2000 (39 percent in 2008 constant dollars). Fixed costs – the so-called "budget busters" in municipal finance – along with debt service and intergovernmental assessments have increased more rapidly than other components of the general fund operating budget, yet expenditures for services such as culture and recreation have experienced very little growth (**Fig. 4-7**). While the school budget increased 52 percent between FY 2000 and FY 2008, total school operating expenditures -- including the town's contributions to school employee benefits and school property insurance and the allocated cost of municipal administration and finance -- increased 87 percent.[65] In FY 2009, Shrewsbury's Actual Net School Spending (Actual NSS) per student is $9,190 and of that amount, the local contribution is approximately $6,000. Actual NSS does not include debt service on long-term school construction bonds or the cost of out-of-district educational services. School con-

62 "2005 Shrewsbury Town Survey Final Report," December 2005, 4-7.

63 Shrewsbury Town Clerk, "Town of Shrewsbury, Annual Town Election, May 1, 2007," http://www.shrewsbury-ma.gov/townclerk/index.asp.

64 General Obligation Bond Prospectus, 40.

65 Massachusetts Department of Education, "Chapter 70 Profile: Shrewsbury Public Schools," http://www.doe.mass.edu/.

struction projects account for about 85 percent of the town's outstanding indebtedness, but the state has provided reimbursement for a significant share of the cost of these capital improvements.

In FY 2007, the most recent year for which year-end expenditure reports are available for all 351 cities and towns in the Commonwealth, Shrewsbury spent $2,330 per capita for general fund services compared with $2,559 for the state as a whole. Except for funding new positions in public safety and the schools, Shrewsbury has not added personnel to its municipal departments in the past ten years, and in some areas the town's internal capacity has been reduced.[66] Considering total revenue, which accounts for all of the resources available to cities and towns to carry out the functions of local government, including functions not classified as general fund activity, Shrewsbury's total revenue per capita falls below the state average and it is the fourth lowest of the 16 communities in the immediate region.

FISCAL IMPACT OF RESIDENTIAL AND NONRESIDENTIAL DEVELOPMENT

In 2001, Shrewsbury commissioned a study of the land use proposals in its new *Master Plan* in order to understand the plan's fiscal impact on the town. The authors of the study concluded that under FY 2000 conditions, Shrewsbury was spending about $1.12 on residential services for every $1.00 in property taxes and other revenues generated by existing residential development. In addition, they said Shrewsbury's cost to serve existing commercial development was approximately 53 cents for every $1.00 in revenue, and for existing industrial development, 45 cents for every $1.00 in revenue. By implementing the *Master Plan's* land use recommendations, notably proposals to rezone some industrial land to the Office/Research District and diversifying the allowed uses on portions of Route 20, the authors estimated that Shrewsbury could obtain more net revenue from industrial development. However, they also reported that while moving to a larger-lot zoning scheme for single-family homes would reduce the town's overall buildout potential, it would not necessarily curb the rate of growth in residential service costs. At the time, Shrewsbury's cost to serve new single-family homes was about $1.42 for every $1.00 in single-family residential revenues.[67]

Today, it appears that none of the major land use classes in Shrewsbury has held to the ratio of service costs to revenue that could be discerned at the beginning of the decade. Since FY 2000, the town's tax base has not grown at the same rate as the increase in expenditures for municipal and school services, and service expenditures have not increased in Shrewsbury at the same rate as that experienced in most communities nearby. People often assume that slow growth in government spending is an expression of fiscal responsibility, but slow growth that is out of sync with regional norms may signal degradation in financial and operating capacity and eventually, it could lead to resident unhappiness with the services they receive. In lieu of tax levy growth, Shrewsbury seems to have become increasingly dependent on local aid, which is composed of formula-driven revenue sources that typically attempt to account for population and housing growth and a community's comparative local wealth. Local aid also depends on decisions made by the state legislature, for regardless of programmatic formulas, ultimately local aid is determined by appropriations over which Shrewsbury has very little control.

Restoring greater reliance on own-source revenues in Shrewsbury will require continued efforts to promote redevelopment of underutilized properties and new development in areas with access to water and sewer service. The present recession will impede these efforts, but the same can be said for other communities. The intensity of competition among cities and towns for commercial and industrial growth is such that communities with an interest in economic development should not retreat from working to attract businesses.

[66] D. Morgado to Shrewsbury Board of Selectmen, "Annual Financial Workshop," 23 November 2007, 4.

[67] Connery and Barrett, *The Fiscal Implications of Growth and Change*, May 2001, 35-48 passim.

Discussion

Faced with the prospect of losing a large tract of industrially zoned land to a multi-family housing development, Shrewsbury turned a difficult situation into an opportunity when it acquired the Allen Property in 2002. Since then, town officials and the Shrewsbury Development Corporation (SDC) have found it challenging to decide how to market and dispose of the land for its intended purposes. Hoping to lure high-value office and research and development facilities to Shrewsbury, the Board of Selectmen declined to pursue a plan proposed by the Worcester Business Development Corporation (WBDC) because it was not aligned well with the Town's goals for the site. Shrewsbury's reluctance to consider a near-term solution for the Allen Property at the expense of long-term, more powerful fiscal and economic advantages made sense at the time. However, it no longer seems prudent for Shrewsbury to hold out for a market miracle that is unsupported by available data and industry forecasts for the Worcester area.

Issues

ALLEN PROPERTY DEBT SERVICE

More than four years have passed since WBDC prepared its assessment of the Allen Property's market potential, and none of the land has been sold. Furthermore, Shrewsbury is approaching the point that it will no longer be able to make interest-only payments on land acquisition notes. By FY 2013, Shrewsbury will be required to make principal and interest payments on the $6.1 million that town meeting authorized to purchase the land.[68] Depending on the interest rate and type of repayment schedule, Shrewsbury's debt repayments for a 20-year, $6.1 million bond could range from approximately $510,000 per year to a 20-year average of nearly $600,000, with a first-year payment of about $640,000. Although the Allen Property debt service is excluded from the Proposition 2 ½ levy limit, it is not clear how the Town will absorb this additional cost given the fiscal challenges it is already operating with, let alone the severe revenue constraints anticipated in the coming fiscal year. While conditions could improve significantly by 2013, it is important to note that after the recession of the early 1990s, Shrewsbury's total assessed valuation did not recover to pre-1991 levels until 1997, and total revenue growth was conspicuously weak until 1996.[69] In short, the official end point of an economic recession does not bring about rapid fiscal recovery.

BOARD OF SELECTMEN AND SDC

Chapter 493 establishes a process for transferring control of the Allen Property from the Town to the SDC. A crucial step in the process involves approval of a site development plan by the Board of Selectmen. This "gatekeeper" provision gives the Board a say in the land's development. It is in addition to, not in place of, the development review and permitting functions of the Planning Board, Conservation Commission, and other boards and departments of the Town. By approving the conceptual site development plan, the Board of Selectmen would position the SDC to proceed with marketing the property for one or more projects that are substantially consistent with the plan. Absent the Board's approval, however, it is unrealistic to expect that the SDC can market the land successfully.

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[68] C. Marcotte, Town Treasurer, email, to M. Hale, Assistant Town Manager, 22 December 2008.

[69] DOR, "Assessed Values," 1981-2009, and "Revenues by Source," 1981-2009, Municipal Data Bank.

The SDC was created to act as Shrewsbury's agent in the land development and disposition process. Under the real property acquisition and disposition procedures in Chapter 493, the SDC can act more efficiently than a government organization, but part of its charge is to represent the Town's interests. The "gatekeeper" role of the Board of Selectmen was written into the special act in order to guide the SDC's work and avoid misunderstandings. The SDC needs direction in order to perform its duties effectively. It needs an approved plan, and it needs site control in order to be able to function as designed and authorized by Chapter 493.

COMPETITION

As discussed in Section 2 of this report, companies in relocation or expansion modes often find it more advantageous to purchase or lease existing space than to acquire and develop vacant land. Working with existing space avoids delays associated with permitting, and under current market conditions, owners anxious to fill vacant space are more likely to agree to lease terms and conditions that prospective tenants will find attractive. Shrewsbury has the potential to overcome some concerns about costly, inefficient permitting procedures by capitalizing on the Town's track record as a business-friendly community, but Shrewsbury does not have a monopoly on expedited permitting. Many communities that yearn for business growth are willing to cut "red tape," and many of the communities that have adopted Chapter 43D have some advantages over Shrewsbury: direct access to interstate highways, fewer constraints on water and sewer service, a wealthier demographic profile, and location within or adjacent to areas the state wants to promote as growth districts.

Shrewsbury will need to work hard to position the Allen Property as a desirable asset in the office and industrial land markets. For research and development uses, it faces significant competition from two projects in Grafton: the Grafton Science Park, which already has a permitted master plan and commercial subdivision plan and enjoys the advantages of academic affiliation with Tufts University and direct access to commuter rail, and WBDC's CenTech Park. Grafton is also a Chapter 43D community and, like Shrewsbury, it has adopted expedited permitting regulations. Further, both of Grafton's sites are privately owned, so the Town has no marketing responsibilities. In addition, a significant contributor to permitting delays – the environmental impact process – has been completed for the Grafton sites, but the Allen Property is not locally pre-permitted or subject to an approved Environmental Impact Report (EIR).

Since Shrewsbury adopted Chapter 43D in May 2007, more than 50 communities throughout the Commonwealth have followed suit. Some of these communities also created Chapter 40R housing development overlay districts for the same properties. In addition, cities and towns whose Chapter 43D Priority Development Sites involve redevelopment of existing facilities have access to designation under the state's Growth Districts Initiative, and they have pursued it. Many communities have full-time economic development directors, too: professional staff devoted to networking, marketing, recruitment, and negotiating. In short, there is enormous competition throughout the Commonwealth, particularly in Eastern and Central Massachusetts, for business development.

Recommendations

Against the backdrop of the recession on one hand and such intense competition on the other, Shrewsbury could decide to put disposition planning for the Allen Property on hold and continue to wait for more favorable market conditions. However, this is not advisable. In fact, Shrewsbury will have to take more aggressive steps to market the Allen Property even though the economy is weak, and it will have to make a sustained commitment seeing the project through to completion.

- **Conceptual Site Development Plan.** The SDC needs to be empowered to market the Allen Property, and the first step toward doing so requires the Board of Selectmen's approval of the conceptual site development plan. A concept plan does not identify or prescribe the particular industries or tenants that will occupy a project. Rather, it depicts the physical form of a de-

velopment – the approximate location of roads, buildings, parking, and open space – and establishes the maximum amount of construction that can occur. Zoning will determine the uses allowed within the physical form represented on the plan, and the market will determine both absorption and the particular tenants that occupy space on the site. However, environmental regulations will hold more sway over the total amount of development that occurs on the Allen Property than any other factor, and environmental regulations will also exert indirect control over the tenant mix. For example, Shrewsbury's water restrictions make it very unlikely that the Allen Property will ever attract large-volume water users.

- **Outreach to Brokers and Developers.** Shrewsbury needs to work effectively with brokers and commercial and industrial developers. Forming and maintaining relationships with these groups will be instrumental to the SDC's success and, in turn, the Town's success. At the most basic level, the Town should have a high-quality prospectus for the Allen Property, in a format that can be updated easily or tailored to particular audiences, with sufficient details about the site that brokers and potential buyers will be able to determine whether the site meets their needs.

- **Regional Partnerships.** Shrewsbury should explore and solidify regional partnerships that could make the site visible to a wider audience of brokers and developers. Shrewsbury's own competitors could be leads to opportunities that the Town may not discover on its own. Furthermore, a coherent regional strategy will help to educate state government about the needs of Worcester-area suburbs.

- **Industries.** Shrewsbury has to balance its aspirations for the Allen Property with market realities. The market for any type of nonresidential space is inextricably linked to business and employment growth. The growth industries in Central Massachusetts include health care and social assistance, retail, wholesale trade, accommodations and food services, transportation, warehousing, and information. These industries are not equally strong, with varied rates of employment growth, but in general they have gained jobs and are predicted to grow in the future.

  Longer-term employment growth for the state as a whole includes the health care and social assistance industries, professional and business services, education, software development, leisure, hospitality, and food services, and computer systems design.

  Some industries that have lost jobs due to the economy will begin to grow again under recovery conditions. Construction, engineering and architectural services, and financial services are obvious examples of industries that experience early and enduring impacts from a slowdown in real estate development.

  While it is important for the Town to remain conscious of industry conditions and tailor some of its marketing information to industries in a growth mode, direct outreach will occur primarily with brokers and developers more than company representatives. What Shrewsbury needs most is a flexible development plan that can respond to the needs of a variety of industries over time.

- **State Support.** State government has worked progressively toward instituting a consistent approach to smart growth. Programs such as the Growth Districts Initiative, Chapter 40R, transit-oriented development, the "fix it first" policies in place at MassHighway, the smart growth/smart energy toolkit, water resources management, and many others have helped to build a framework favorable to redevelopment and infill development, preferably near public transportation. Although development of the Allen Property is consistent with the *Shrewsbury Master Plan's* major land use recommendations, it may be less compelling to the state than redevelopment/reuse projects in established urban centers. Shrewsbury is going to need coopera-

tion not only from state permitting authorities, but also from agencies with financial resources, e.g., infrastructure grants and construction and end financing.

The more Shrewsbury can do to make the Allen Property a marketable asset, the more likely it is that the Town will be able to attract the types of businesses it wants. Pre-permitting the site would be an important first step, and readiness for pre-permitting at the Town's level is within reach given the engineering services already provided by BETA Group, Inc. The project's real permitting challenges involve requirements that may be imposed by the Massachusetts Environmental Policy Act (MEPA) Office. Shrewsbury would benefit by hosting a "round table" meeting with state environmental, highway, and finance officials to present its plans for the Allen Property and seek a commitment of resources to further the Town's goals. A forum such as this should be coordinated through the Town's legislative delegation.

Concept Plan Summary

A reduced-scale version of BETA Group's conceptual site development plan appears at the end of this section. In addition, BETA Group has provided executive summaries of all of the engineering studies that were conducted as part of the project, and they may be found in Appendix D. The full reports and all plans and data are on file in the Town Manager's Offfice. Key information about the Allen Property master plan includes the following points:

- The Allen Property consists of approximately 46 acres of developable upland, or 70 percent of the site's total area.

- The maximum development potential of the Allen Property is approximately 611,000 sq. ft. of floor area, given Shrewsbury's density, dimensional, and off-street parking regulations.

- The environmental, infrastructure, and traffic impacts of developing the Allen Property are based on its maximum development potential of 611,000 sq. ft. and assumptions about the mix of uses that would work well on the site.

- Due to wetland constraints and frontage on two roads, the Allen Property can be divided into three development envelopes: a north pod, including the portion of the site that abuts Charles River Laboratories on South Street; a west pod, which lies adjacent to Thomas Farm Circle and relies on the north pod for access; and a south pod, which includes the frontage on Route 20. This natural division of the site creates advantages because the land can support a mix of uses with few if any use conflicts.

- The north pod contains more valuable land, and the Town should not abandon its desire to bring higher-value developments to this part of the site. It has the potential to be attractive for research and development and office space. However, these higher-value uses will still take many years to secure. Since the west pod's access must come from the roadway serving the north pod, the north and west pods should be thought of as a contiguous unit and developed accordingly. They do not have to be developed for the same uses, but they should be developed with an eye toward compatibility.

- Together, the north and west pods can support up to 405,000 sq. ft. of gross floor area. For illustrative purposes, the conceptual site development plan depicts development on the north pod as three four-story buildings ranging from 40,000 to 200,000 sq. ft., and a single four-story building on the west pod with 80,000 to 110,000 sq ft.

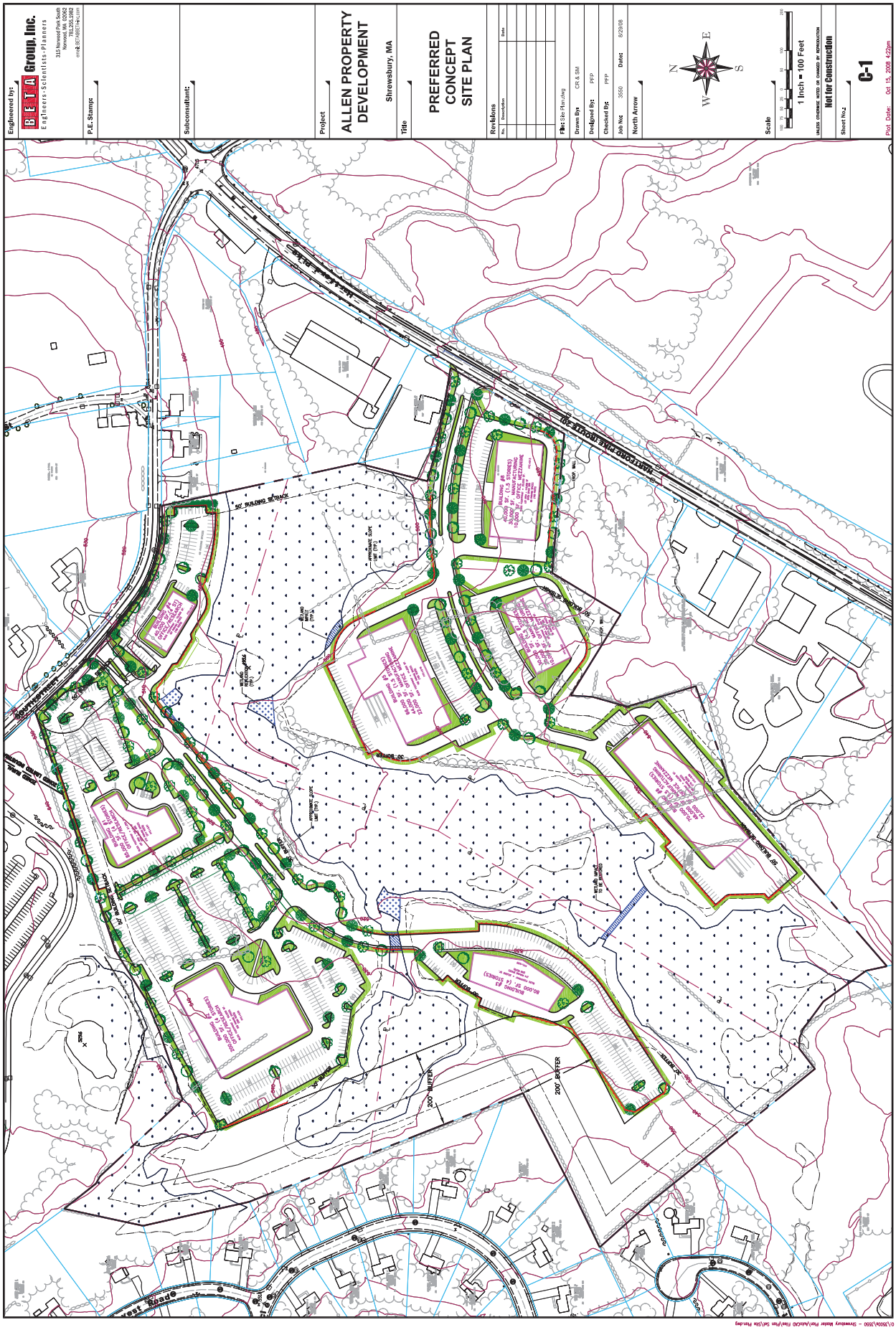
- The most likely market for the south pod, light industrial uses, are currently prohibited because the land is located in the Office/Research District. The Town needs a process for considering proposals to develop these types of uses because they will make it possible to expedite some land sales and initiate activity on the site. The south pod has capacity to support up to 206,000 sq. ft. of gross floor area for offices, manufacturing, and warehouse/distribution uses. The conceptual site development plan depicts the south pod's regulatory buildout capacity as four buildings, each at 1.5 stories, ranging from 30,000 to 70,000 sq. ft. of floor area.

- The buildings and parking facilities shown on the site development plan are schematic representations of buildout capacity, but they do not necessarily reflect what will be built under "actual" conditions. Since all of the site development plan's buildings would comply with Shrewsbury's zoning, they are realistic from a land use regulatory perspective. Ultimately, zoning, environmental requirements, infrastructure, and the market will determine the specific building sizes and space configurations that work best on the site.

- Limitations in Shrewsbury's Water Management Act permit could reduce the Allen Property's actual development potential, depending on the mix of uses. The water and wastewater analysis prepared as part of the master plan process assumes relatively low-volume water users.

- Building out the site to its maximum potential will require a wetlands crossing to provide access to the west pod, a sewer extension, water distribution system improvements, the filing of an Environmental Notification Form (ENF), and an Environmental Impact Report (EIR).

- In addition, development of the Allen Property, together with other projects planned nearby, will require road widening and signalization on South Street and Route 20, and ultimately improvements on Route 9 in the vicinity of South Street.


Engineered by:
BETA Group, Inc.
Engineers-Scientists-Planners
315 Norwood Park South
Norwood, MA 02062
781.255.1982
www.BETAGROUP.com
P.E. Stamp:
Subconsultant:
Project
ALLEN PROPERTY DEVELOPMENT
Shrewsbury, MA
Title
PREFERRED CONCEPT SITE PLAN
Revisions
No. Description Date
File: Site Plan.dwg
Drawn By: CR & SM
Designed By: PFP
Checked By: PFP
Job No: 3550 Date: 8/28/08
North Arrow
Scale
1 Inch = 100 Feet
Not for Construction
Sheet No.:
C-1
Plot Date: Oct 15, 2008 4:22pm
BUILDING #1
80,000 SF (6 FLOORS)
BUILDING #2
80,000 SF (6 FLOORS)
BUILDING #3
80,000 SF (6 FLOORS)
BUILDING #4
80,000 SF (6 FLOORS)
BUILDING #5
80,000 SF (6 FLOORS)
BUILDING #6
80,000 SF (6 FLOORS)
BUILDING

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Appendix

Appendix A: Regional Development Survey
Appendix B: Focus Group Summary
Appendix C: Proposed Flexible Development Overlay District
Appendix D: Executive Summaries, Allen Property Engineering Studies
Appendix E: Worcester Market/Submarket Map

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APPENDIX A
MAJOR DEVELOPMENT PROJECTS IN SHREWSBURY'S REGION

City or Town	Project	Location	Type	Size	Stage
Ashland	125 Front Street	125 Front Street	Mixed use: single-family residential, retail	156 acres	Proposed
Ashland	Jefferson at Ashland Station	North side of West Union Street, south side of MBTA RR tracks	Mixed use: multi-family residential, retail, & office	200-500,000 SF	Permitting
Ashland	Village of America	Chestnut Street	Light industrial	50-100,000 SF; 70 acres	Under construction (50% complete)
Auburn	Liberty Properties	26 Millbury Street	Industrial – warehouse	210,000 SF	Approved
Westborough	Bay State Commons	Brigham Street	Mixed-use: multi-family residential and retail	500,000+ SF	Completed
Westborough	EMC	Southborough/Westborough border	Light industrial	2.2 Mil SF	Proposed
Grafton	CenTech Park	CenTech Boulevard	Research & development	2-lot expansion	Marketing
Grafton	Grafton Science Park	Westboro Road	Research & development	106 acres	Marketing
Hopkinton	Legacy Farms	East Main Street	Mixed use: single-family, multi-family, assisted living residential, with retail, office and flex space	700 acres (most preserved as open space)	Permitting
Marlborough	413 South Street Business Park	413 South Street	Office	200-500,000 SF (2 bldgs)	Under construction
Marlborough	100 Campus Drive Office Park	100 Campus Drive	Mixed use: office and industrial	500,000 - 1 Mil SF (600K SF is new)	Approved
Marlborough	Crane Meadow Corporate Center	Crane Meadow Road	Office	200-500,000 SF	Approved
Marlborough	Pre-Clinic Research Lab	Sassaville Way	Research & development	50-100,000 SF (78,747 is new)	Permitting
Marlborough	Fore Kicks II Recreation Center	Forest Street	Recreation	134,000 SF	Permitting
Marlborough	Chestnut Ridge Technology Park	Crowley Drive	Office	101,700 SF	Completed 2008
Millbury	Shops at Blackstone Valley		Retail: big box, lifestyle	790,000 SF	Completed 2005

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APPENDIX A
MAJOR DEVELOPMENT PROJECTS IN SHREWSBURY'S REGION

City or Town	Project	Location	Type	Size	Stage
Northborough	"The Loop"	Southwest Connector	Retail: big box, with adjacent multi-family residential (40B)	600,000+ sq. ft. retail; 382 hsng units	Approved
Worcester	CitySquare	Downtown Worcester	Mixed-use: residential, retail, office, entertainment	2.2 Mil SF	Approved
Worcester	UMASS Medical Advanced Education and Clinical Practice Center	55 Lake Ave North, Worcester	Education, medical	258,000 SF	
Worcester	Gateway Park (with Worcester Business Development Coporation)	I-190 & I-290 intersection, Worcester	Research & development, bio-tech	11 acres	
Worcester	WPI Life Sciences & Bio-Engineering Center at Gateway Park	I-190 & I-290 intersection, Worcester	Education, bio-tech	124,600 SF	
Worcester	Mass College of Pharmacy & Health Sciences Expansion	Downtown Worcester	Education	4 buildings adjacent to downtown campus	

Source: Community Opportunities Group, Inc. 2008 regional conditions survey, projects with 50,000 sq. ft. or more of floor area. Projects listed for Worcester represent a limited selection of significant pipeline or recently completed commercial, industrial, mixed-use, and institutional projects. Communities without major development projects do not appear on the list.

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Appendix B: Focus Group Notes

In May 2008, the consultants organized a focus group for developers and others with knowledge of regional development trends, representatives of state agencies, and various engineering and architectural consultants who frequently work in Shrewsbury. The purpose of the meeting was to elicit ideas about the Allen Property's potential, given local and regional development trends and the site's location and characteristics. Below is an edited summary of comments from the participants.[1]

(a) Opportunities and Constraints

- The site's major assets are that it is composed of assembled parcels along a state highway, with political support of town.

- Shrewsbury needs to decide what it wants this site to be or to do, and this will determine how to approach the disposition process:

  - The town could wait for the right buyer that fits the community's vision. There is a lot of competition for the type of development Shrewsbury wants. Waiting for the right buyer means not getting an immediate financial return, but it will further the development vision of the town.
  - The town could zone the land for light industrial development, which is most obvious use of the land. Through this approach, Shrewsbury will get a faster financial return (though not as high as hoped). However, it will not fulfill the town's initial vision, and could put town in the position of competing with private property owners in the same area.
  - If the town wants to achieve its original vision, it has to be willing to wait.
  - The Town needs to decide what this parcel is: a revenue generator or vehicle to advance a long-range economic vision?

- Route 20 is a commercial highway; this may change, but right now, it's an industrial area and not really a commuter road.

- The Avalon Bay developments nearby will influence perceptions of site.

- The Loop project in Northborough will kill any potential for retail development.

- The Allen Property is not a destination site.

- Future uses of site could focus on being complementary to major industries in area, rather than competing directly with them; e.g., the MassDevelopment experience at Devens.

- The site is relatively close to Grafton Science Park and may be able to share synergies with this area.

- Also, Gateway Park and Mass Biotech park are very close by, could be advantageous to look this entire area as a cluster and as sharing synergies

[1] The focus group participants included Edward Flynn; Attorney Mark Donohue, Fletcher, Tilton, & Whipple; Christopher Reidy, Maurice F. Reidy & Co.; Andrew Murray, The Katz Companies; Wayne Belec and Randy Waterman, Waterman Design Associates, Inc.; Claire O'Neill, Massachusetts Office of Business Development; Douglas Kehlhem, Massachusetts Alliance for Economic Development; Michael Miller, MassDevelopment; and Attorney Robert Buckley, Reimer & Braunstein.

- Site is close enough to the Grafton MBTA station that perhaps a shuttle could run between the sites as an amenity to residents, if housing is a possibility.

- Shrewsbury is looked on favorably within the region:

  - It has been aggressive on infrastructure;
  - It has good schools; and
  - Its demographics are comparable to and competitive with neighboring communities.

(b) Industrial Uses

- If the Allen Property hosts industrial uses, the industrial condos could be in the 30,000-50,000 sq. ft. range.

- Most of the industrial sites on the parcels would be for distribution centers; there is weak demand for this now, but demand may pick up four or five years down the road.

- Light industrial/manufacturing uses will be slow to develop; they could take a few years.

(c) Infrastructure & Site Preparation

- Different industries need different amounts of water. For instance, biotech needs a lot of water. This is a key constraint and consideration for possible buyers. Can the town provide enough water?

- State water withdrawal certificates (Water Management Act) are out of date.

- If the town decides it wants to focus on Route 20, it could begin site prep work on its own in order to expedite the disposition process and attract development.

- The site really needs to be ready for development upon sale. Infrastructure is absolutely essential.

- The availability of sewer service and water supply constraints must be verified by the town.

(d) Site Design & Sequencing

- Abutting land uses give indication to appropriate building forms on site:

  - The portion near Charles River Laboratories could have multi-story buildings;
  - The portion near residential uses needs a lot of thought. It may need to be conceived as a third section of the property.
  - The portion along Route 20 would be more like one-story industrial buildings.
- The town could look for a way to connect north and southern parcels, but this would mean a wetlands crossing.

- For the lower portion (assuming the use is industrial), it may be possible to create a loop road that cuts through an adjacent industrial parcel with another Route 20 access point. It would be worthwhile talking to the landowners about this possibility.

- Development should start with lower portion because it will host the most obvious uses, and wait to develop the upper portion.

(e) Mixed Use (including residential)

- Is there a possibility of looking at this as a mixed-use project?
- The biotech industry will be looking at quality of life issues for workers. The Allen Property could be a place to house them.
- The costs of fuel/transportation is going to make more people seek to live closer to work.
- The town could consider something like the concept of workforce housing.
- Think about designing the site with a "village" concept that offers high quality of life and lower costs of living. Office and industrial space is a hard sell; something else is needed.
- Would a more specialized residential use be a possibility – one that caters to Charles River Laboratories or UMass workers? Is there demand for this?

(f) Other Possible Uses & Considerations

- Possibility of using land for:
  - Water/sewer discharge?
  - A recreational opportunity, e.g., a higher-end recreational facility with tennis, pool, and health club amenities.
- A high-end health club with dining could be a complementary use for research and development.
- What about the possibility of a continuing care retirement community?
  - No: incomes aren't high enough in this area or the town.
  - Yes, because other facilities in the area have waiting lists. However, you couldn't put a distribution center next to that use.
- It might be worthwhile to have some discussion with U-Mass, which just finished a master plan and will have sense of what its off-site development needs are, plus, they are already "here" (near the Allen Property).
- Shrewsbury could take a more flexible approach and prepare the site by:
  - Providing utilities;
  - Providing flexible zoning;
  - See what takes root. Let the market decide.
- Transfer of development rights to another area could make sense given the town's zoning and the development constraints on the Allen Property.

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Appendix C: Flexible Development Overlay District

To see if the Town will vote to amend The Zoning Bylaw, Section VII. Development of Sites and Location of Buildings and Structures, by adding the following new Subsection P, Flexible Development Overlay District.[1]

P. FLEXIBLE DEVELOPMENT OVERLAY DISTRICT

1. Purposes and Intent.

   The purposes of the Flexible Development Overlay District are to:

   a. Encourage planned developments that provide employment and fiscal benefits to the Town;

   b. Provide flexibility to develop office, research, health care, light industrial, and accessory uses;

   c. Consolidate development review and permitting procedures, as appropriate, for a Priority Development Site designated by the Town under the provisions of G.L. c. 43D; and

   d. Facilitate shared access and appropriate links to adjoining properties, thereby reducing the need for curb cuts and improving traffic safety on Route 20.

2. Applicability.

   The Flexible Development Overlay District applies to land located within the Office/Research District on South Street and Route 20, as shown on the Flexible Development Overlay District map dated March 17, 2009, on file with the Town Clerk. The Flexible Development Overlay District Map amends and is hereby made part of the Official Zoning Map of the Town of Shrewsbury.

   In the Flexible Development Overlay District, all requirements of the underlying district shall remain in effect except where these provisions provide an alternative to such requirements, in which case these provisions shall supersede. In the event that a applicant wishes to develop in accordance with the regulations hereunder, the rules and regulations of the Flexible Development Overlay District shall apply, and by filing an application for a Special Permit, site plan review or building permit under this Section VII.P, the owner shall be deemed to accept and agree to them. In such event, where the provisions of the Flexible Development Overlay District are silent on a zoning regulation that applies in the underlying district, the requirements of the underlying district shall apply.

   If the applicant elects to proceed under the zoning provisions of the underlying district, the zoning bylaws applicable in the underlying district shall control and the provisions of the Flexible Development Overlay District shall not apply.

3. Use Regulations

   a. The following uses are permitted in the Flexible Development Overlay District:

      1) All uses permitted in the Office-Research District.

      2) Accessory uses customarily incidental to a permitted use.

      3) Uses exempt under G. L. c. 40A, s. 3.

[1] This copy of the proposed bylaw includes revisions made by the Town as of March 16, 2009.

b. Uses and Structures Allowed by Special Permit. The Planning Board may grant a Special Permit for the following uses in accordance with Section VII.P(6):

1) In Subdistrict A:

a) Uses allowed by Special Permit in the Office-Research District.

b) Manufacturing enterprise, which may include up to 15 percent accessory retail, measured by gross floor area, and warehouse space as an accessory use.

c) Health care facility, such as a medical office building, medical clinic, ambulatory surgery facility, or hospital.

d) Assisted living residence or continuing care retirement community, which may include an adult day care facility.

e) Corporate conference or training center with reception areas, meeting rooms or meeting halls equipped for conferences and training programs, and which may include accessory uses such as a function hall, guest dining facilities, and guest rooms for overnight occupancy. As used in this bylaw, corporate conference or training center shall not be construed to mean a hotel or motel, an apartment hotel or extended stay hotel, or a lodging house.

f) For-profit educational use. As used in this bylaw, for-profit educational use means an educational use that is not exempt under G.L. c. 40A, s. 3.

g) Campus Master Plan Development on ten (1) or more acres of land, in accordance with Section VII.P(7).

h) Other accessory uses customarily incidental to a Special Permitted use.

2) In Subdistrict B:

a) Any use allowed by Special Permit in Subdistrict A.

b) Warehousing and distribution.

c) Restaurant, with food service limited to the interior of the building, except that an outdoor dining area directly adjacent to the building may be allowed as an accessory use.

d) Indoor athletic facility or health club as a principal use.

c. Use variances shall not be granted in the Flexible Development Overlay District.

4. Dimensional and Intensity Regulations

a. Uses in the Flexible Development Overlay District shall comply with the following requirements except as provided under subsection 4(b) below:

Minimum Lot Area:	80,000 sq. ft., except for lots created within a Campus Master Plan Development, for which the minimum lot area shall be 40,000 square feet
Minimum Frontage:	150 feet
Yard Setbacks	
Minimum Front Yard Setback:	50 feet
Minimum Side Yard Setback:	50 feet *
Minimum Rear Yard Setback:	50 feet *
Minimum Open Space % Lot Area:	25%
Maximum Lot Coverage:	50%
Maximum Height:	50 feet and 4 stories

* Except that Table II, footnote 8, shall also apply in the Flexible Development Overlay District.

b. Alternatives Allowed by Special Permit. The Planning Board may grant a Special Permit for the following alternatives to VII.P(4)(a):

1) A minimum lot frontage of 100 feet for a development that provides consolidated or shared access for two or more adjoining parcels.

2) For a Campus Master Plan Development: An increase in height up to 60 feet and five stories, provided that the Planning Board may require an increase in yard setbacks, stepping-down of building elevations, visual buffering, screening, or other appropriate measures to provide a height transition between the development and adjacent uses. Such increase in height shall not be approved except for a proposed building that meets one or both of the following conditions:

a) A building with parking for at least 100 cars to be located at grade under the building, with the parking facility constituting one story; or

b) If the increase in building height is necessary to accommodate one or more renewable energy sources or manufacturing processes.

5. Site Plan Approval

Section VII.F of this Bylaw shall apply to all uses in the Flexible Development Overlay District. For uses requiring a Special Permit from the Planning Board, Site Plan Approval under Section VII.F(3) shall be combined with the Special Permit application and the Special Permit decision shall include any Site Plan conditions or modifications imposed by the Planning Board. In such cases, the public hearing, review and decision timeline for Site Plan Approval shall be in accordance with G.L. c.40A, s. 9 and Section IX of this Bylaw.

6. Special Permits in the Flexible Development Overlay District

a. The Special Permit Granting Authority (SPGA) in the Flexible Development Overlay District shall be the Planning Board. The application, review, decision and appeal procedures shall be in accordance with G.L. c.40A, Section 9 and Section IX of this Bylaw, and the rules and regulations of the Planning Board.

b. Special Permit Granting Criteria. The Planning Board may grant a Special Permit in the Flexible Development Overlay District only upon finding that the proposed development:

1) Complies with all applicable requirements of the Zoning Bylaw;

2) Provides adequate space for vehicular access to the site and off-street parking and loading/ unloading on the site;

3) Provides adequate water supply and distribution for domestic use and fire protection;

4) Complies with DEP and Town of Shrewsbury stormwater management requirements;

5) Provides adequate methods of storage and disposal for sewage, refuse and other wastes resulting from the uses permitted on the site; and

6) Provides for water conservation by incorporating low-impact development techniques in the design of the site and buildings, to the maximum feasible extent given the development's location, size, and proposed use(s).

7) For a Campus Master Plan Development, the Planning Board shall further find that the proposed development complies with Section VII.P(7)(d) below.

c. Uses requiring a Special Permit shall be subject to this Section VII.P(6). However, if such uses are proposed for ten (10) or more acres of land, the applicant may elect to apply under the provisions of Section VII.P(7), Campus Master Plan Development.

7. Campus Master Plan Development.

a. Purposes and Intent. The purposes of this Campus Master Plan Development provision are to encourage planned, unified developments that make efficient use of land; to protect abutting properties and natural resources; to increase employment in the Town of Shrewsbury; and to establish a process for reviewing and permitting major developments that will be constructed in phases. For a Campus Master Plan Development, the Planning Board may grant a Special Permit for a concept plan subject to the provisions of this Section VII.P(7), and shall be the issuing authority for Site Plan Approval as provided below.

b. Campus Master Plan Special Permit; Procedures.

1) The applicant is strongly encouraged to meet with the Planning Board prior to submitting a Campus Master Plan Development Special Permit application. The purpose of the pre-application meeting is to provide an opportunity for the applicant to discuss plans for the site with the Planning Board and to receive feedback and guidance from the Planning Board at an early stage in the development process. The Planning Board shall invite other boards with issuing authority to participate in the meeting and shall conduct the meeting as a scoping session.

2) The applicant shall submit a Campus Master Plan Special Permit application to the Planning Board. The Special Permit application shall be in accordance with Section IX of this Bylaw and the rules and regulations of the Planning Board, and shall include a concept plan for the proposed development. The concept plan may be prepared from existing data, such as deed information, USGS topographical maps, FEMA floodplain maps, assessor's maps, orthophotographs, soil maps, and Department of Environmental Protection (DEP) Wetlands Conservancy Program maps, unless the applicant has already obtained approval of a resource area delineation from the Shrewsbury Conservation Commission under G.L. c.131 Section 40.

3) The concept plan shall be prepared by a registered civil engineer and a registered landscape architect, and shall include all of the following:

   a) A title block with the name of the owner of record, name of applicant, address of the property, the assessors' map and lot number; name of the individual or firm preparing the plan, address and phone number, and date of plan;

   b) The location of the proposed development;

   c) The size of the site in acres;

   d) The proposed use(s) of the site;

   e) The total number and approximate locations of the proposed buildings, the approximate size of each building in square feet, the approximate height of each building, and schematic elevation drawings;

   f) The approximate delineation of areas that will be used for buildings, access, and parking, including calculation of the required and proposed number of off-street parking spaces;

   g) The areas and approximate acres to be reserved as open space;

   h) A preliminary landscaping plan;

   i) A general description of how stormwater and drainage will be handled, and the general area of the site to be used for stormwater management facilities;

   j) A narrative submission that describes existing conditions on the site, the applicant's water and energy conservation plans for the development, and a description of how the proposed development addresses or will be designed to address the Development Standards in Section VII.P(7)(d); and

   k) A traffic impact analysis, unless waived by the Planning Board.

4) The Planning Board shall hold a public hearing within 65 days of receipt of a complete Campus Master Plan Development Special Permit application. Notice of the public hearing shall be in accordance with G.L. c.40A, s. 11.

5) The Planning Board shall invite other boards, commissions, or departments of the Town with authority to issue permits for any aspect of the proposed development to attend the public hearing. In addition, the Planning Board may conduct its public hearing process jointly with any other permitting authority that also is required to conduct a public hearing.

6) The Planning Board shall issue a written decision no later than 90 days from the close of the public hearing. For a site designated as a Priority Development Site under G.L. c.43D, the Planning Board shall make every reasonable effort to expedite its decision process.

7) The Planning Board may grant a Campus Master Plan Special Permit, subject to any conditions or limitations it deems appropriate, or deny the Special Permit in accordance with the decision criteria in Section VII.P(6) and Section IX of this Bylaw.

8) The Campus Master Plan Special Permit shall lapse no later than two years from the date of issuance if a substantial use thereof has not commenced sooner, except for good cause. For a Priority Development Site, the Special Permit shall lapse in accordance with the provisions of G.L. c. 43D. The issuance of a building permit or commencement of any construction activity in the development shall be deemed to constitute substantial use of rights under the Campus Master Plan Special Permit.

c. Special Permit Amendments. The applicant may propose to amend, modify or supplement a Campus Development Master Plan Special Permit in order to bring the plan into conformity with changed circumstances, ongoing development, and information disclosed through detailed study and engineering of particular development sites within the Campus Master Plan Development. The Planning Board may approve such amendments and shall hold a public hearing, with notice given under G.L. c.40A, s. 11, if it deems the proposed modification to be substantial.

d. Relationship to Subdivision Control. For any project requiring subdivision approval, the applicant shall submit a subdivision plan to the Planning Board under the Planning Board's Subdivision Rules and Regulations. A decision on the Special Permit shall not constitute a decision on the subdivision plan.

e. Site Plan Approval; Procedures.

1) No building permit shall be issued for a Campus Master Plan Development unless a Site Plan has been approved by the Planning Board in accordance with the provisions of this section.

2) For Site Plans submitted under an approved Campus Development Master Plan Special Permit, the submission requirements shall be the same as for Site Plan Approval under Section VII.F(3). In addition, the applicant shall provide written statements that the project for which a building permit is sought complies with (a) the Campus Development Master Plan Special Permit, and (b) all requirements of this Section P, and shall provide such plans, information, analyses, computations and other data as are reasonably necessary to document such statements.

3) The Planning Board shall review the Site Plan within 45 days of the date of submission.

4) The Planning Board shall approve the Site Plan, subject to any conditions or modifications it deems appropriate, or disapprove the site plan if (a) the applicant fails to furnish adequate information for the Planning Board to render a decision or (b) if the Site Plan does not comply with the Campus Development Master Plan Special Permit. The Board's decision shall be based on the criteria in Section VII.F(3) and this Section P.

5) If no action is taken on the Site Plan within sixty (60) days of the date of submission, the application shall be deemed approved as submitted except where the Planning Board and the applicant have agreed in writing to extend the review period and such extension has been filed with the Town Clerk.

f. Campus Master Plan Development Standards. A Campus Master Plan Development shall address the following standards:

1) Overall unity of site design and attention to the public realm, including coordinated patterns for streets, ways and pedestrian paths; distributed open space, appropriate landscaping; aesthetic harmony of features including building architecture, street furniture, pedestrian amenities and signage.

2) Preservation and integration of open spaces, wetlands, mature trees and other features of environmental significance into the design of the site.

3) Drainage systems that protect and appropriately employ open spaces and wetlands, utilizing best management practices and other measures to manage stormwater runoff in accordance with the Town of Shrewsbury's stormwater management bylaw and requirements of the Massachusetts Department of Environmental Protection (DEP).

4) Underground utilities, except for existing above ground electric and telephone lines.

5) Mitigation of the adverse effects of development on traffic circulation and street capacity; air quality; noise (including that generated by traffic); stormwater runoff on adjacent and downstream surface water bodies; flooding, erosion, sedimentation, changes in water tables; wildlife, wildlife habitat, rare or endangered plant or animal species; water supply, including adverse impacts on aquifers and the public water distribution system; and adverse effects of sewage disposal on ground water, aquifers, surface water and, where applicable, the municipal sewer system.

6) Compatibility with uses of abutting properties, including aesthetic compatibility; or appropriate separation and buffers from such abutting property by plantings or terrain.

7) Availability of public services and impacts on municipal services, including but not limited to police and fire services, public road maintenance, traffic control and solid waste disposal.

8) Facilities for meeting transportation needs, and planning for control and reduction of vehicle trips by means such as ride sharing, car pooling or use of vans or shuttles.

9) Organizational and management arrangements and documents pursuant to which the master plan will be implemented and common facilities will be maintained, including provisions for architectural review and control, enforcement of applicable restrictions, and the planning with respect to transportation.

8. Severability. If any portion of this Bylaw is declared to be invalid, the remainder shall continue to be in full force and effect.

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APPENDIX D

EXECUTIVE SUMMARIES
OF
ENGINEERING REPORTS

CONCEPTUAL SITE DEVELOPMENT
ALLEN PROPERTY
SHREWSBURY MASSACHUSETTS

Prepared for:
TOWN OF SHREWSBURY
Office of the Town Manager
100 Maple Street
Shrewsbury, MA 01545

Prepared by:

BETA Group, Inc.
Engineers • Scientists • Planners
315 Norwood Park South, Norwood, MA 02062 781.255.1982 fax: 781.255.1974
6 Blackstone Valley Place, Lincoln, RI 02865 401.333.2382 fax: 401.333.9225
750 Old Main Street, Rocky Hill, CT 06067 860.513.1503
email: BETA@BETA-inc.com

December 19, 2008

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ENVIRONMENTAL IMPACT EXECUTIVE SUMMARY
CONCEPTUAL SITE DEVELOPMENT - ALLEN PROPERTY, SHREWSBURY MA

Introduction

In developing the conceptual site development plan for the Allen property BETA Group, Inc. studied environmental impacts and issues. The Project is located at 384 – 386 South Street on a 60-acre parcel between Route 9 and Route 20 adjacent to the Charles River Labs Property and University of Massachusetts Administrative Offices.

The proposed conceptual layout consists of two office / industrial parks physically separated by wetlands. The north side of the parcel consists of 405,000 sf of office / research space to be accessed via a driveway on South Street approximately ¼ mile west of the South St/ Route 20 intersection. The south side of the parcel consists of 206,000 sf of office / manufacturing space to be accessed via a driveway on Route 20 (Hartford Pike) approximately 800' south of the South St/ Route 20 intersection

Wetland Resources

The project will impact wetland resources as defined in the Wetlands Protection Act. The majority of these impacts are located in the 100 foot buffer of bordering vegetated wetlands. The Preferred Concept Plan also shows work within the bordering vegetated wetland not to exceed 5,000 sq. ft. This includes a limited driveway crossing to access the west portion of the site and a water service crossing to loop the waterline through the entire project. Minor impacts are shown for roadway construction and site development. The site will be designed to meet the Stormwater Management Standards. The project is not located within riverfront protection zone. This project will require filing of a Notice of Intent with the Shrewsbury Conservation Commission and DEP. Wetland impacts (totaling 4,915 sq. ft.) shown on the Preferred Concept Plan are below the 5,000 sq. ft. threshold therefore it is not anticipated that additional wetland related permits will be required.

Flood Zone

The project is not located within proximity of a mapped FEMA 100 year flood zone.

Natural Heritage & Endangered Species Program

The project is not located within proximity of a NHESP mapped priority and estimated habitats.

Critical Areas

The project is not located within proximity of critical areas including ACEC, outstanding resource waters, aquifer zones, beaches, cold water fisheries, etc...

Hazardous Materials

See Phase I – Environmental Assessment under separate cover.

Historical and Archaeological

The State Register of Historic Places GIS layer hosted by MassGIS has been removed at the request of the Massachusetts Historical Commission (MHC) as it updates locational inaccuracies and omissions in this layer dating to 1997. BETA did check the site from the old layer information and

found that the project is not located within proximity of registered historical sites, however verification with the MHC and local historical commission should be obtained prior to final design of the site.

Traffic Impacts

See Traffic Impact Analysis under separate cover.

Water & Wastewater Service

See Water and Wastewater Analysis under separate cover.

Stormwater Management

See Stormwater Management Analysis under separate cover.

Erosion and Sedimentation Control

This project will require disturbance of land in excess of 5 acres and require a National Pollutant Discharge Elimination System (NPDES) Permit.

Massachusetts Environmental Policy Act (MEPA)

The preferred concept will exceed a number of MEPA thresholds and require filing of an Environmental Notification Form (ENF) and an Environmental Impact Report (EIF).

TRAFFIC IMPACT EXECUTIVE SUMMARY

CONCEPTUAL SITE DEVELOPMENT - ALLEN PROPERTY, SHREWSBURY MA

Introduction

In developing the conceptual site development plan for the Allen property BETA Group, Inc. studied the traffic impacts and transportation issues. The Project is located at 384 – 386 South Street on a 60-acre parcel between Route 9 and Route 20 adjacent to the Charles River Labs Property and University of Massachusetts Administrative Offices.

The proposed conceptual layout consists of two office / industrial parks physically separated by wetlands. The north side of the parcel consists of 405,000 sf of office / research space to be accessed via a driveway on South Street approximately ¼ mile west of the South St/ Route 20 intersection. The south side of the parcel consists of 206,000 sf of office / manufacturing space to be accessed via a driveway on Route 20 (Hartford Pike) approximately 800' south of the South St/ Route 20 intersection

Study Area

In addition to the proposed site driveways, the study area includes the following signalized intersections that are likely to sustain a measurable level of traffic impact from the proposed development/ expansion as specified in the scope of work for this project:

- Route 9 (Boston Turnpike) / South Street
- Route 20 (Hartford Turnpike) / South Street/ Green Street
- Cherry Street / Centech Boulevard / Route 20

Traffic Counts

Updated 48-hour ATRs were collected along Route 20 and South St near the proposed site drives which showed an average total of 22,607 vehicles traveling on Route 20 and 4,943 vehicles traveling on South Street during the average weekday.

2018 Future Conditions

BETA coordinated with Town officials to identify an annual background growth rate to use for this study. It was agreed that 1% annual growth would be utilized for analysis purposes. Therefore, the 2008 traffic volumes were increased by approximately 10% (1% compounded for 10 years).

In addition, several other additional projects were proposed for this area and were included as part of the No Build scenario. Based on consultation with the Town of Shrewsbury staff, there are eight (8) development projects planned for the surrounding area which may generate considerable peak hour traffic increases through the study area intersections. The development projects identified are as follows:

- Supermarket at Route 9 / South Street
- Hotel at Route 9 / Lake Street (489 Turnpike)
- Ashford Crossing
- Cumberland Farms at Route 20 / Centech Boulevard
- Borgatti Property
- Farmview Estates
- Polito Industrial Park
- Avalon Development

TRAFFIC IMPACT EXECUTIVE SUMMARY

CONCEPTUAL SITE DEVELOPMENT - ALLEN PROPERTY, SHREWSBURY MA

Project Impacts

By 2018, there is expected to be significant development already in this area due to these additional planned projects. In fact, before the addition of the Allen Property Project, the levels of service will drop to LOS F during the No Build conditions at each of the signalized intersections within this study area (with the exception of Route 20/Cherry St/Centech Blvd during the AM).

Based on the project trips, this project will add an additional 1000 trips (875 in / 125 out) to the roadway in the AM peak hour and 901 trips (152 in / 749 out) in the PM peak hour. Based on the analysis results, this proposed project, in addition to the eight other future planned projects in the area, will have considerable traffic impacts to the to the study area; however, the proposed mitigations will provide significant improvements.

Recommended Mitigations

- Signalize the proposed North Site Drive at South St, providing a left and right turn lane at the site drive and 100' turn bays from both South St approaches
- Signalize the proposed South Site Drive at Route 20, providing a left turn and a right turn lane at the site drive. This proposed signal should be coordinated with the existing signal at Route 20/ Green St/ South St
- Provide continuous four lanes of travel (two lanes each direction) on Route 20 between Route 140 and Route 9. This will provide an additional lane of travel westbound along Route 20 at the intersection of Cherry St/Centech Blvd. This will also provide an additional lane of travel on Route 20 eastbound at the intersection of South St/Green St. Widening of this corridor will require right of way verification and coordination with MHD.
- At the signalized intersection of Route 20/Green St/South St, a southbound right turn lane and phase should be added. The timing and phasing for this intersection should be coordinated with the proposed South Site Drive signal and optimized to accommodate the additional southbound left lane added from South St and eastbound lane added on Route 20.
- The signal timing and phasing at the intersection of Route 20/Cherry St/Centech Blvd should be optimized to accommodate the additional westbound travel lane on Route 20.
- As an interim mitigation for Route 9/South St, the feasibility of widening Route 9 to provide an additional left turn eastbound, thru eastbound lane and left turn westbound lane should be considered. Widening of this corridor will require right of way verification and coordination with MassHighway.
- Long-term solutions to improve traffic operational capacity at Route 9 / South St should consider grade separation at this location and should be coordinated with MassHighway.

WATER & WASTEWATER SERVICES EXECUTIVE SUMMARY
CONCEPTUAL SITE DEVELOPMENT - ALLEN PROPERTY, SHREWSBURY MA

Introduction

In developing the conceptual site development plan for the Allen property BETA Group, Inc. studied the water and wastewater infrastructure impacts and alternatives to be able to serve the site. The Project is located at 384 – 386 South Street on a 60-acre parcel between Route 9 and Route 20 adjacent to the Charles River Labs Property and University of Massachusetts Administrative Offices.

The proposed conceptual layout consists of two office / industrial parks physically separated by wetlands. The north side of the parcel consists of 405,000 sf of office / research space to be accessed via a driveway on South Street approximately ¼ mile west of the South St/ Route 20 intersection. The south side of the parcel consists of 206,000 sf of office / manufacturing space to be accessed via a driveway on Route 20 (Hartford Pike) approximately 800' south of the South St/ Route 20 intersection

WATER SERVICE ANALYSIS

Existing Condition

There currently is an existing 12" asbestos cement water main on Hartford Turnpike and a 12" PVC main on South Street. Based on Town's Water System Map, the Allen Property Development is located in the reduced high pressure system which has a hydraulic grade line elevation of 670 feet.

Two fire flow tests were conducted on August 18, 2008 to determine the capacity of the system. The first flow test was conducted near #375 South Street and it indicated a static pressure of 74 psi and available flow of 3,432 gallons per minute (gpm) at 20 psi. The second test was conducted near Shrewsbury Transmissions on Hartford Pike and it indicated a static pressure of 54 psi and available flow of 2,307 gpm at 20 psi. Results of the flow tests are located on the following pages. Based on system elevation and looping an 8" main through the site, anticipated fire flow at the development should be between 2,000-2,500 gpm at 20 psi.

Proposed Condition

The analysis was conducted for the mixed office & light industrial concept. Using the guidelines of Title 5 (310 CMR 15.203) and assuming that sewer flow is 85% of total water consumption, the calculated average day water demand is 46,535 gallons per day (gpd) and maximum day demand is 93,070 gpd.

Water pressure at ground level on site would be approximately between 55-67 pounds per square inch (psi), with approximately 37 psi on the top floor of the highest building. Discussions with the Town have indicated that the water system has capacity for the anticipated demand.

The proposed water main layout provides an 8" water main loop through the development, through the wetlands and connect to both the 12" water main on South Street and Hartford Turnpike. There is also a proposed 8" loop around Building #2 to provide additional hydrants in the rear of Buildings #1 and #2. Locations for hydrants are based on having at least 2 hydrants within 300 feet of each building.

Fire flow, fire suppression, and plumbing pressure requirements need to be evaluated with each building Architect and the Fire Department. There is the potential that an available fire flow of 2,000 gpm is not adequate in which case a secondary source (i.e. fire pond) may be necessary based on the type of building construction. There is also the potential that the plumbing system will require a minimum of 60 psi to seat valves, which would require a booster pump in each building. It is also possible that booster pumps for each building fire suppression system may be required.

It should be noted that uses that require high water usage were not considered in this analysis. Initial indications from the Town indicate that these uses would not be allowed based on DEP permitting required.

The total length water main is approximately 5,200 feet with 14 hydrants. The estimated cost for pipe and hydrant construction only (excluding paving and police) is $500,000.

WASTEWATER SERVICE ANALYSIS

Existing Condition

There is no municipal sewer service available on Route 20 or South Street Properties adjacent to the site are serviced by septic systems.

Proposed Condition

Using the guidelines of Title 5 (310 CMR 15.203), the proposed concept would generate an average of 39,555 gallons per day (gpd) of wastewater. A peak sewer flow of 221,508 gpd was calculated using a peaking factor of 5.6 as provided by NEIWPCC's TR-16. The Projected Water and Sewer Usage table on the following page shows a breakdown of the calculations.

Several alternatives were evaluated for conveying wastewater from the development to the municipal sewer system. Options considered included installation of an on-site pumping station, installation of a pumping station at the intersection of Hartford Pike and South Street, gravity connection to the pump station at the intersection of South Street and Brook Street, and gravity connection to a pump station at the intersection of Hartford Pike and Walnut Street. Following discussions with the Town, it was determined that the pump station at the intersection of South Street and Brook Street does not have enough capacity and they would prefer not to have to maintain another pump station. The preferred option is to run a gravity connection to the existing pump on Hartford Pike at Walnut Street, approximately 2,500 feet east of the intersection of South Street. Town officials have indicated that the existing sewer pump station has the capacity to receive the additional flow.

The preferred sewer plan includes installation of a new 8" PVC gravity sewer on South Street, Hartford Turnpike, and within the development. On South Street, the sewer main would begin at the intersection of South Street and the entranceway to the development. Sewer would flow by gravity from this point to the intersection of South Street and Hartford Turnpike. Buildings #1-#4 would be serviced by a sewer main running from the parking lot of building #3 to the intersection of South Street and the entranceway to the development.

On Hartford Turnpike, the sewer main would begin at the intersection of Hartford Turnpike and the entranceway to the development. Sewer would flow by gravity from this point to the existing gravity sewer 2,500 feet east of South Street. Buildings #5-#8 would be serviced by a sewer main running from the parking lot of building #6 to the intersection of Hartford Turnpike and the entranceway to the development. The proposed layout is shown on the Preferred Concept Utility Plan.

The total length of sewer is approximately 7,300 feet with approximately 30 manholes. Anticipated sewer depth should range between 7 feet and 14 feet. The estimated cost for pipe and manhole construction only (excluding paving and police) is $875,000 and would be higher if there is a concrete sub-base or extensive State Road requirements on Hartford Pike.

Comments and Conclusions

Water service is available off South Street and Route 20 and appears to be adequate for the Preferred Concept. Although sewer service will require offsite improvements down gradient infrastructures will be sufficient to accommodate this project.

STORMWATER MANAGEMENT EXECUTIVE SUMMARY
CONCEPTUAL SITE DEVELOPMENT - ALLEN PROPERTY, SHREWSBURY MA

Introduction

In developing the conceptual site development plan for the Allen property BETA Group, Inc. studied the stormwater management impacts and alternatives. The Project is located at 384 – 386 South Street on a 60-acre parcel between Route 9 and Route 20 adjacent to the Charles River Labs Property and University of Massachusetts Administrative Offices.

The proposed conceptual layout consists of two office / industrial parks physically separated by wetlands. The north side of the parcel consists of 405,000 sf of office / research space to be accessed via a driveway on South Street approximately ¼ mile west of the South St/ Route 20 intersection. The south side of the parcel consists of 206,000 sf of office / manufacturing space to be accessed via a driveway on Route 20 (Hartford Pike) approximately 800' south of the South St/ Route 20 intersection

EXISTING CONDITIONS

The project area includes a total of 66.1± acres of land known as the Allen Property. The wetland areas in the center of the parcel divide the buildable land into three sections, north, west and south.

North Area – Off South Street (18.4 acres of upland) has about 640 feet of frontage off the west side of South Street. Except for the wetland area, the eastern half of this area was previously cleared and utilized as farmland and is predominately an open meadow. The remaining portion is wooded. With the exception of a few knolls on the northwest boundary, the topography slopes (from elevation 542 to 506) to the south and east toward the wetland.

The West Area (9.7 acres of upland) does not front on a street and will require a wetland crossing and access through the North Area. This portion of the site abuts the Thomas Farm Circle and Joyce Circle residential developments. Current zoning requires maintaining a 200-foot buffer zone from these properties. This area is wooded and the topography slopes (from elevation 565 to 518) to the south and east in the direction of the wetland.

South Area – Off Route 20 (17.8 acres of upland) has about 340 feet of frontage off the north side of Route 20. The majority of this area was previously cleared and utilized as farmland and is predominately an open meadow. The topography slopes (from elevation 542 to 498) to the north and east toward the wetland.

PROPOSED CONDITIONS AND MITTIGATION

The Preferred Concept Plan is an maximum build alternative for this property. Stormwater runoff impacts will be significant and must be mitigated. The project will be required to meet the new Stormwater Management Standards to control the peak flow and volume of runoff and water quality. There are a number of possible design options for the project as a whole or for each individual site. Low impact development for this site are possible from green roofs to rain gardens, however for this concept, conventional systems are proposed.

Subsurface Roof Recharge Systems

For the Preferred Concept Plan each building will rout roof stormwater runoff to an onsite infiltration system. The systems shown are general in nature and conservative in a number of ways. They were sized to infiltrate the 10-year storm event. The soils for this project are sandy loams and it is anticipated that the groundwater elevations are high; therefore most systems are located in proposed fill sections. Systems shown are also shallow in section. It is possible that the design of individual systems could be smaller in size.

Subsurface Detention System

The Preferred Concept Plan currently shows subsurface detention systems due to topographic constraints for lot 8. Should the design of this site be reduced construction of a surface detention basin may be possible. Deep sump catchbasins and proprietary water quality structures will treat runoff prior to entering the systems. The outlet will be directed to the wetland.

Surface Detention System

For the Preferred Concept Plan each lot on the north and west portions of the site are shown to have their own individual detention basin. These basins are typically 4 to 5 feet deep and due to the anticipated high groundwater elevation these basins will be created with berms. Deep sump catchbasins and proprietary water quality structures will treat runoff prior to entering the systems. The outlet will be directed to the wetland.

COMMENTS AND CONCLUSIONS

This preliminary analysis has demonstrated that there will be no measurable increase in peak rate of stormwater runoff or stormwater runoff volume due to the proposed project. The proposed stormwater management system has been designed in accordance with DEP's Stormwater Management Standards as follows:

ASTM PHASE I - ENVIRONMENTAL SITE ASSESSMENT
EXECUTIVE SUMMARY
CONCEPTUAL SITE DEVELOPMENT - ALLEN PROPERTY, SHREWSBURY MA

Introduction

This report documents findings from the Phase I Environmental Site Assessment (ESA) of sixty acres of undeveloped land in Shrewsbury, Massachusetts (the Site, see Figure 1). The land is currently owned by the Town of Shrewsbury. The Site is improved by three on-Site structures (two barns and a shed) located along South Street. One barn that was originally used for dairy farming is currently being used for storage for an auctioneering company. The barn further to the north is currently vacant and was used as a stable and later as a dried flower shop since its construction sometime after 1953. A shed, formerly used for cattle and later used for the storage of farm equipment, resides just south of the auctioneering barn. Refer to Appendix A for a copy of the Assessor's Map and Figure 2 for the locations of site buildings.

The purpose of this Phase I Environmental Site Assessment was to assess current Site conditions and render an opinion as to the presence of Recognized Environmental Conditions* (RECs) in connection with the property, within the scope and limitations of the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process E1527-05 and BETA's Agreement with the Town of Shrewsbury. Any exceptions or deletions from the ASTM practice or Scope of Work are described in Section 2.0 of this Report. Refer to Section 10.0 for a list of acronyms and their definitions.

Site History

Historically, a portion of the property has been used as a farm for cattle and horses. The rest of the property is undeveloped forest and wetlands. Three structures are present at the site and were all built after 1953. Several previous structures were destroyed in 1953 by a tornado.

Site Reconnaissance

BETA conducted a Site visit on Wednesday April 2nd and Monday April 7th, 2008. Refer to Appendix B for photographic documentation of the Site. BETA did not observe the storage of oil and/or hazardous materials (OHM), the generation of hazardous waste, or any evidence of underground storage tanks at the Site. One aboveground storage tank is located in the basement of the barn currently used by an auctioneering company. Additionally, BETA did not observe any evidence of a release of OHM at the Site.

Adjacent and Surrounding Properties

The property is located to the north of a municipal ash landfill, to the south of an office park, to the east of a residential area, and to the west of residential and undeveloped areas.

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* Recognized Environmental Conditions are defined in the American Society for Testing and Materials (ASTM) Standard E1527-05 as, "...the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimus conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."

Previous Site Investigations

GZA GeoEnvironmental, Inc. of Worcester, Massachusetts completed a Phase I Environmental Site Assessment in December 2002. The assessment concluded that "… available historical and surficial evidence does not indicate the presence of reportable concentrations of hazardous materials in the environment at this Site."

Database Search

The search of environmental databases did not identify the Site as a release or spill site, as having underground storage tanks, or as a generator of hazardous waste.

The database search identified releases of OHM in the Site vicinity; however, based on the information reviewed, none of these releases likely poses a threat of release of OHM to the Site.

Data Gaps

BETA did not identify any significant data gaps in the research for this Phase I ESA.

Phase I ESA Findings and Conclusions

BETA has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-05 the property located at 384 South Street, Shrewsbury, Massachusetts. Any exceptions to, or deletions from, this practice are described in Section 2 of this report.

This assessment has revealed no evidence of any recognized environmental conditions in connection with the Site.

GEOTECHNICAL EXECUTIVE SUMMARY
CONCEPTUAL SITE DEVELOPMENT - ALLEN PROPERTY, SHREWSBURY MA

Introduction

In developing the conceptual site development plan for the Allen property BETA Group, Inc. studied preliminary geotechnical issues. The Project is located at 384 – 386 South Street on a 60-acre parcel between Route 9 and Route 20 adjacent to the Charles River Labs Property and University of Massachusetts Administrative Offices.

The proposed conceptual layout consists of two office / industrial parks physically separated by wetlands. The north side of the parcel consists of 405,000 sf of office / research space to be accessed via a driveway on South Street approximately ¼ mile west of the South St/ Route 20 intersection. The south side of the parcel consists of 206,000 sf of office / manufacturing space to be accessed via a driveway on Route 20 (Hartford Pike) approximately 800' south of the South St/ Route 20 intersection

Overview

Geotechnical and soil data was collected to provide information on the feasibility of developing the proposed Allen Property Parcel. A conceptual plan was sketched to show a possible build-out scenario and data contained in this report was compiled to support assumptions for supporting and constructing roadways, buildings, parking areas, stormwater management facilities and utilities. This data was used in conjunction with other data to support the concept plan. Further investigations will be needed to complete an engineered site plan for construction.

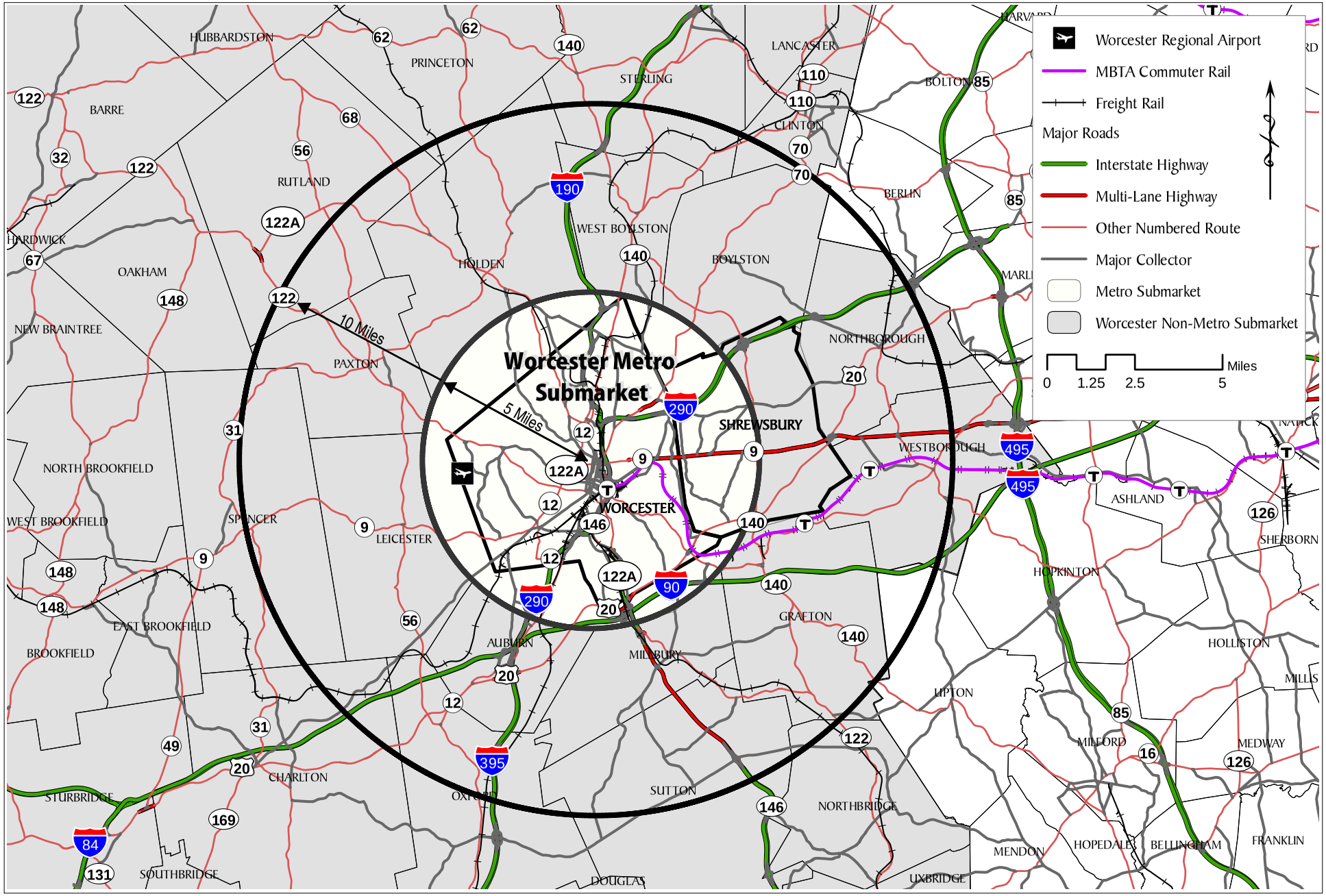
Data Collection and Review

Preliminary research of NRCS Soils Map indicated the presence of Hydrologic Group C (poorly draining) soils in upland areas and D soils in wetlands. Research of USGS Surficial Geology Map indicated glacial till and bedrock underlying the surface with high groundwater elevations were expected.

Soil tests were planed to coincide with the development sketch however, wetlands, stone walls and dense vegetation prevented the testing of some of the western portion of the lot without damage to these features. Due to the fact that the test pits reflected closely with assumptions gathered from the map data, additional testing was not conducted.

Summary and Conclusions

As noted in the memo from Pete Majeski dated October 2, 2008, foundations will be founded on glacial till, bedrock, compacted fill and possibly altered glacial fill. Settlement and bearing capacity are not expected to be an issue. Stormwater management systems (infiltration and detention) should be constructed in fill areas to maximize groundwater separation and infiltration. Granular soil (gravel) will need to be imported for building and pavement area base. Due to soil handling issues associated with glacial till and other soils found on site, a detailed soil disturbance and erosion control plan should be developed for construction.



Worcester Market and Metro Submarket

Allen Property Master Plan Report

Appendix E