



Lexington Commercial Zone

ANALYSIS AND BUILD OUT STUDY



Prepared for:
Town of Lexington

Prepared by:
The Cecil Group
GLC Development Resources

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TABLE OF CONTENTS

1. Executive Summary

- 1.1 Overview
- 1.2 Summary of Key Findings
- 1.3 Recommendations: Additional Steps

2. Methodology

- 2.1 Process
- 2.2 Study Perspective: Development, Markets and the Municipal Interests
- 2.3 Uses Studied
- 2.4 Methods

3. Summary of Relevant Conditions and Trends

- 3.1 Existing Conditions and Site Inventory
- 3.2 Constraints and Opportunities

4. Alternative Scenarios and Evaluations

- 4.1 Site-based Scenarios: Density and Site Development
- 4.2 Area-wide Scenarios
- 4.3 Economic Evaluation

5. Policy and Planning Implications: Implementing Expanded Development Opportunities

- 5.1 Observations on Infrastructure Costs
- 5.2 Observations on Benefits, Impacts and Mitigation
- 5.3 Benefits to be Considered
- 5.4 Detriments to be Considered
- 5.5 Implications for the Town's Regulatory Framework

6. Recommendations

- 6.1 Professional Evaluation of Infrastructure Capacity and Mitigation Potential
- 6.2 Specific Development Scenarios
- 6.3 Preferred Land Use Strategy
- 6.4 Implementation Tools and Actions
- 6.5 Resources to Fund Infrastructure and Mitigation

Appendix

- A.1 Market Overview
 - A.2 Economic Feasibility Analysis
 - A.3 Photo Inventory
 - A.4 Alternative FAR Scenarios (PowerPoint Presentation)
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1. EXECUTIVE SUMMARY

1.1 Overview

This *Commercial Zone Analysis and Build Out Study Report* has been prepared to summarize the information and findings of a study to evaluate the capacity of several commercially-zoned areas within the Town of Lexington to sustain additional development. The theoretical capacity of land to support developed uses is commonly called its “build out” potential. It establishes reasonable limits for full development of the land within the context of its existing conditions, the regional real estate market, regulatory constraints and land planning for existing and potential new development. The study provides insights into the amount and type of development that might reasonably occur under alternative scenarios.

The study area consists of the commercial districts of Hartwell Avenue, Hayden Avenue/Spring Street and Forbes Road, in the Town of Lexington. The review and analyses are focused on the three commercial zones included in the study area: Regional Commercial (CRO), Manufacturing (CM) and Planned Commercial Development (CD). The study area is indicated in *Figure 1-1* and shows the boundaries of the three commercial districts that compose the study area, and their general location relative to the local regional transportation network.

This *Report* has been prepared for the Town’s Economic Development Task Force by The Cecil Group, a planning and design firm, and GLC Development Resources, real estate and development consultants. The firms provided their professional expertise to examine and analyze the commercial zones and their potential capacity for future development.

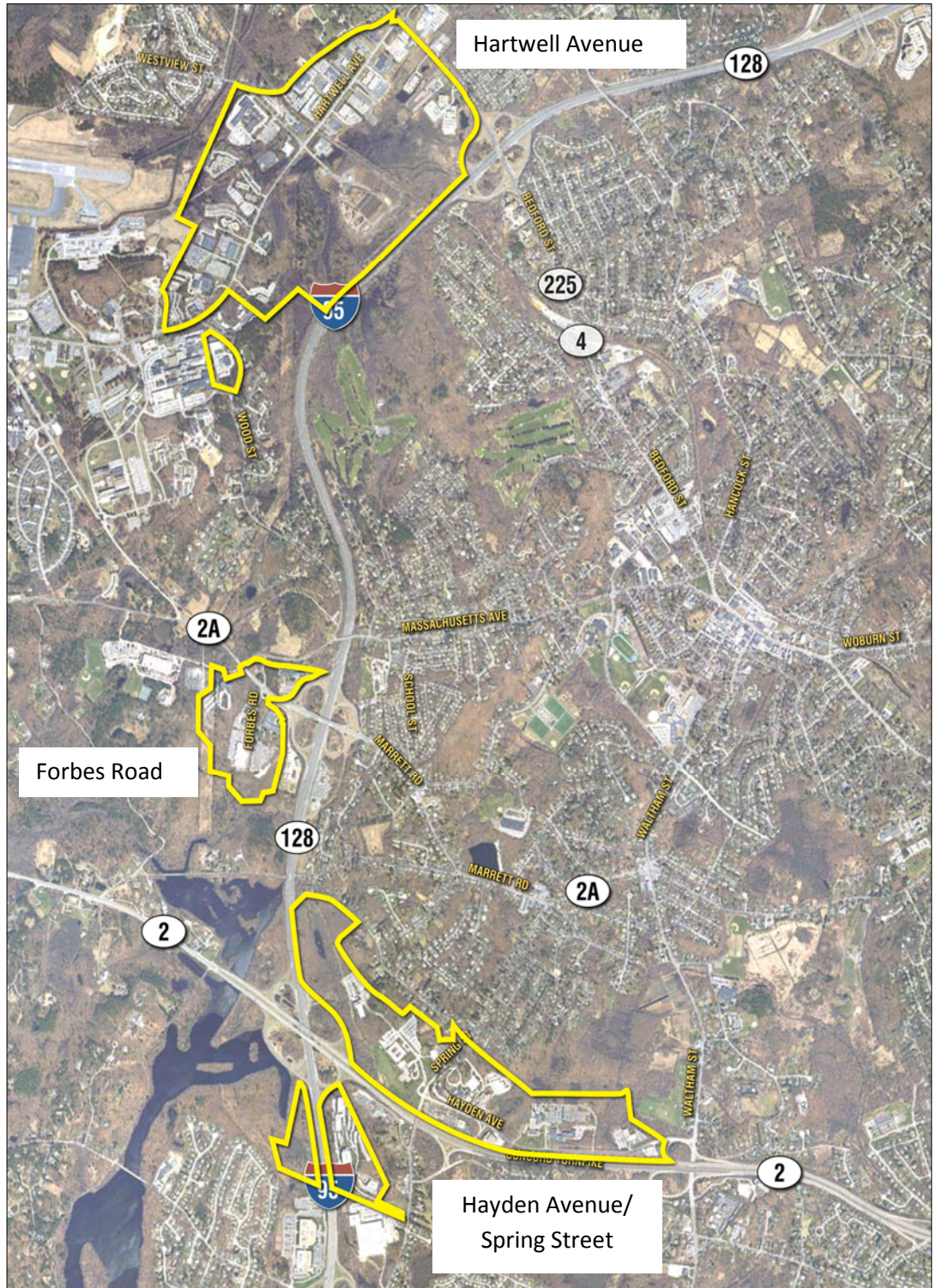


Figure 1-1. Study Area

1.2 Summary of Key Findings

- **The land is substantially underdeveloped relative to its potential.** The commercially zoned areas are substantially underdeveloped relative to the market potential and the physical capacity of the land to support increased density. A review of market conditions for desirable uses indicates high potential for new development over time. Although nearly all of the land is occupied by existing improvements, “build out” potentials for redevelopment and expansion of existing uses within the study area were examined. There are approximately 4.5 million gross square feet of existing commercial development within the study area. This study used a scenario based on typical models of moderate suburban office development densities that are achieved within the market conditions found in Lexington, and illustrates that additional new development of approximately 2.8 million gross square feet could be anticipated over time – if the Town permits it to occur and prefers this density. We must emphasize that this illustration represents one among many possible planning directions the Town could reasonably pursue, including both greater and lesser amounts of development.
- **The land is strategically located to favor new development while limiting traffic impacts within the Town.** Being located immediately adjacent to the interstate and regional highway networks, the land has substantial competitive advantages relative to other locations that might support future high-value development in the region. The locations near highway interchanges also have the relative advantage of supporting additional development while limiting the location and extent of traffic impacts on Town roads; much of the traffic moving to and from new development would need to travel only short distances between the highways and their destinations.
- **The land is favorably located relative to high value clusters of research and development and other uses.** The commercially zoned land examined within this study is well positioned to take advantage of specialized clusters of research and development uses. For example, the Hartwell Avenue area is adjacent to the interrelated complex of specialized military research and development activities and companies linked to Hanscom Air Force Base.
- **The Town’s existing zoning and other regulations are the only critical, controlling constraints on expanded development within the area.** The Town’s regulations have effectively limited development well below its economic and physical “build out” capacity, principally through zoning standards and relatively long and expensive approval processes that discourage new development. For example, the formulas that control density within Lexington’s Zoning Bylaw restrict as-of-right commercial development to a density measure of 0.15 FAR (L) – which effectively caps development at existing levels. An existing special zoning category (CD Districts) is available to increase these densities for parcels and projects, but requires a risky and prolonged process including Town Meeting approval. This diminishes the competitiveness and attractiveness of land for high value, larger scale development.

- **While there are other factors that could ultimately limit the total amount of feasible development, such factors are largely irrelevant relative to the realistic “build out” capacity.** For example, extreme scenarios could be imagined in which the density of development exceeds any reasonable ability to provide access to and from improved roadways and would require rail transit service to continue. Such extreme scenarios are not useful in evaluating the practical “build out” potential of the study area, and have not been investigated.
- **The Town has a wide range of choices available if it wishes to allow and manage the new development.** This study illustrates that, if it so wishes, the Town could decide on a wide range of additional development volumes, locations and characteristics. All of the scenarios examined in this study assume that new development would retain the characteristics of a suburban commercial development. The scenarios further assume continued Town and State preservation of wetlands and flood plain development limitations and the continuation of and substantial open space requirements. Within these assumptions, the Town could establish a wide range of additional development capacity volumes. The Town could conclude that - in keeping with its current regulations – virtually no new development should occur. It could target various amounts of development using standard measures of density. It could also set “performance standards”, where the impacts and benefits associated with new development are used as the basis for regulatory decisions; this approach would not target specific density or square footage calculations as the basis for approvals, but rather focus on the balance of detriments and contributions to the Town’s goals.
- **The Town can “allow” or “facilitate” development if it wishes; it is not in a position to “cause” development to occur.** Lexington is faced with a very different set of issues. The economic evaluation methods employed in this study are necessarily different from those normally applied to specific projects – even very large ones. It is important to underline the Town’s perspective: Lexington may reasonably “allow” development by changing its regulatory policies and setting associated conditions to ensure that net benefits are created. It may “facilitate” accelerated development by providing financial and other assistance in providing infrastructure under a limited number of circumstances. It can “mitigate” if it wishes, by pro-actively allowing or even paying for mitigating measures associated with existing or potential development to reduce potential negative impacts from the Town’s perspective. But Lexington’s actions will not and cannot “cause” development. It can only improve conditions for desirable outcomes. In this sense, the Town’s perspective is not the same as an investor or landowner.
- **The timing of additional development is dependent upon many factors that are not reasonably predictable, nor are directly related to the decisions that the Town may need to make.** This study includes a review of current market conditions and trends for a range of uses that might be considered as appropriate by the Town. It establishes that the existing and projected market conditions will tend to support the scale and type of suburban development such as commercial office or research and development, and underlines that the commercially-zoned properties in the study area are

beneficially located relative to the regional market. The rate at which development potential will be realized will be dependent upon some factors that the Town controls – such as changing its regulations and establishing the types, amounts, performance standards and locations among various portions of the study area. However, the majority of factors associated with the pace of development are associated with factors that the Town cannot control – such as business cycles and the regional economic conditions. As the report points out, however, the Town’s planning framework and interests are much longer-term than investment periods associated with private sector development evaluations. In this regard, the Town is in a position to establish favorable cost-benefit ratios regardless of the timing of development. If the Town wishes to accelerate the pace of development, it may take actions such as investing in necessary infrastructure in concert with specific development proposals under certain conditions.

- **Any zoning changes relative to the permitted densities must be carefully considered to ensure that they will achieve their intended purposes.** This study provides insights into the critical relationships between zoning measures such as Lexington’s Floor Area Ratios (FAR(L)) and their effect on development. There are complex interactions between market feasibility for expanded development and the allowable densities provided through various zoning provisions. So, for example, permitting densities at approximately 0.35 FAR(L) would be very closely aligned with the real estate economics associated with moderate densities of suburban-type commercial development. If permitted densities in some locations is allowed at approximately 0.90 FAR(L), then the conversion of large areas of surface parking into efficient parking structures could be achieved, providing development opportunities for higher value development that still retains the open spaces characteristic of suburban development.
- **Additional development would provide direct and indirect benefits (taxes and jobs).** New development of the types of uses evaluated by this study would result in both gross and net fiscal benefits to the Town due to an expanded tax base, and the relatively high assessed valuation associated with new construction for “high end” uses. Indirect benefits would include new jobs and enhanced conditions for local businesses.
- **The amount of economic and fiscal benefit would be directly related to the amount of new development that the Town may allow through changes in its regulations.** The Town will receive fiscal benefits proportional to the amount of new development that it allows. This study provides an illustrative scenario of estimated potential gross tax revenues of approximately \$11 million, which could be generated by moderate levels of new suburban-scaled commercial development, for example. Assuming that the development is predominately composed of high value commercial uses, then the net fiscal benefit can be expected to be a large proportion of the gross tax revenues, taking into account the incremental municipal costs that would be incurred.
- **Expanding development capacity may require some additional infrastructure capacity; however, the Town can ensure that the net fiscal benefits of development outweigh any incremental expenditures by the Town.** We have found no reason to

believe that infrastructure conditions are a barrier to feasible development, although some additional investment may be required. The Town can set conditions so that incremental costs must be absorbed by the developments that would occur, and not burden the Town. There are many models of appropriate mechanisms to ensure this occurs. However, the Town could also reasonably decide to fund all or part of infrastructure improvements as a productive investment if expenditures would serve to accelerate desirable development resulting in net positive tax benefits. Such investments must to be evaluated on a case-by-case basis in view of specific development proposals.

- **The Town cannot be compelled to make infrastructure investments that would exceed fiscal benefits.** This is the case by virtue of the ability of the Town to simply refuse to allow development to proceed unless incremental infrastructure costs are reimbursed by developers or unless development proposals meet other Town-imposed conditions it finds acceptable in terms of indirect benefits that the Town expects to receive (such as taxes). The Town is fully in control of its own expenditures and investments relative to infrastructure and need not approve projects that it finds are not in its fiscal self-interest by setting appropriate regulatory conditions to that effect.
- **Without appropriate regulation, new development could cause a range of negative impacts to the Town; in practice, many of the potential impacts can be removed or reduced (“mitigated”) as part of the permitting and approval process.** Standard methods are employed by many municipalities to predict potential impacts that might be associated with incremental development and provide measures that eliminate or reduce the impacts before they can occur. For example, studies may predict that a development would lead to increased local traffic. The actual impacts may be reduced or eliminated through measures such as intersection improvements or requirements for traffic demand reduction by staggering work hours, providing transit connection shuttle service, and the like. Traffic impact mitigation such as intersection improvements - like the previously proposed “jug handle” reconstruction of the intersection of Hartwell Avenue and Bedford Street – are typical of such measures.
- **Nevertheless, significant new development is likely to lead to some impacts that cannot be fully mitigated.** It is unreasonable to conclude that there would be no undesirable impacts that would occur within the Town, if significant expansion in development were to be allowed. This *Report* includes a matrix that categorizes the various types of impacts that might be anticipated due to future development proposals so that the net impacts can be understood and properly considered.
- **The degree to which unmitigated impacts become constraints on development is determined through value decisions made by the Town.** The willingness of the Town to absorb net negative impacts would involve value decisions that would need to be established through the Town’s plans and policies and implemented through its regulations. While there are federal and state regulations and processes that could limit development within the study area, these processes are not expected to be significant constraints relative to the Town’s own discretionary role and choices.

- **In conclusion, determining the actual future capacity of the commercially-zoned land to absorb additional development is effectively in the hands of the community.** This study provides professional opinions regarding the theoretical amount of new development that could occur under various realistic development, regulatory and physical capacity scenarios. The study does not and cannot reach conclusions regarding the amount of development that should occur. In other words, the actual “build out” capacity of the land cannot be determined through any objective or analytical process, given Lexington’s circumstances. The Town must reach its conclusion regarding its future “build out” capacity by confirming the acceptable balance point between the benefits of new development and those impacts that cannot be entirely mitigated. We hope that the information within this study contributes to that process.

1.3 Recommendations: Additional Steps

This *Report* provides a particular and limited focus on key questions concerning the prospect of expanded development within the study area. Additional steps must be taken in order to provide a complete picture of the opportunities and implications of new development that are beyond the scope of this study. The final section of this *Report* expands upon a series of recommendations regarding subsequent steps that could be taken to provide a more complete analysis, and help construct growth management tools to direct development. These include:

- Undertaking a professional evaluation of infrastructure capacity and mitigation potential
- Creating additional development scenarios to incorporate the implications of traffic evaluations and mitigation feasibility
- Establishing a preferred land use strategy as Town policy
- Creating implementation tools and taking actions to expand development potential, including revised zoning
- Seeking resources to fund infrastructure and mitigation

2. METHODOLOGY

2.1 Process

This *Commercial Zone Analysis and Build Out Study Report* has been prepared for the Town's 2020 Vision Economic Development Task Force (EDTF). The EDTF has several responsibilities, including engaging the community in education about the Town's existing businesses and the potential future for commercial development in Lexington, while eliciting community opinion on related issues. The Town's Economic Development Officer served as the project manager and provided staff assistance to the EDTF.

In furthering their mission, the EDTF sponsored this study. The Cecil Group, a planning and design firm, and GLC Development Resources, real estate and development consultants, provided their professional expertise to examine and analyze the commercial zones and their potential capacity for future development.

The process employed during the study included the following steps:

- Meetings with the Economic Development Task Force and the consultant team
- Public informational meeting and discussion
- Interviews of various landowners and commercial realtors
- Review of relevant plans, studies, and regulations including the Town's zoning bylaw
- Site visits and photographic inventory of development in the districts
- Map-based evaluation of existing build out and regulatory constraints using Town maps and data
- Review of existing ownership, use, value and municipal tax-related data using information from the Town's Assessor web site
- Preparation of a real estate market review for a range of uses
- Evaluation of various "build out" scenarios based on a typical site basis
- Expansion of the "build out" scenarios to establish implications on an area-wide basis
- Preparation of this *Report*

2.2 Study Perspective: Development, Markets and the Municipal Interests

This study is has adopted the point of view of the municipality in regards to development and real estate economics. In this regard, the market observations provide a broader view than is normally employed by market studies and real estate feasibility analyses prepared for private sector interests, which typically focus on more specific site and development assumptions and shorter time frames.

In the context of a private sector development project, for example, market evaluations typically consider how market conditions and other factors influence the present value of land and development opportunities within a limited site or group of sites, within a clearly defined time frame, and relative to market rates of return. Such studies are intended to

provide insights into the conditions that would allow feasible development of those sites by the private sector.

However, a very different approach is required when considering larger districts and longer time frames that define the municipal economic interests in both development and land. The Town is not seeking to buy land and develop improvements, divest land, or seek a market-based return on investment through ownership of any of the parcels in the study area. Rather, it is seeking to understand how market forces might reasonably interact with the location, size, existing level of development and other factors to shift the amount of development, types of uses and related municipal tax revenues over time. This approach considers the implications of land transactions and new development that would occur incrementally and over time frames extending well beyond existing market conditions.

2.3 Uses Studied

The market review considered current market conditions and trends within both a local and regional context for a number of market segments – office, research and development (including biotechnology), office supporting retail and service uses, and lodging. The market review included interviews and discussions with various landowners and commercial realtors. Existing rental and market value factors were reviewed and used to assess viability of redeveloping existing properties and fiscal benefits.

The review did not include detailed consideration of “lifestyle” mixed use retail, housing, and entertainment development, although this was identified as a preliminary candidate for consideration at the initiation of the study. While such use mixes may be feasible now or in the future, the minimum scale of such developments require special circumstances including substantial land assembly and high volume vehicle access that may not be practical within the study area. In addition, the evaluation of other candidate uses proved to be appropriate and adequate to establish order-of-magnitude development capacity and revenue enhancement estimates.

2.4 Methods

This study has been accomplished using several methods to establish the information base and generate realistic scenarios of potential development capacity. The following procedures have been employed:

- Land Use and Regulatory Mapping – The professional team has relied on the Town’s geographic information system (GIS) as the source of mapped information of parcels size, location, wetlands and open space constraints, and zoning limits. GIS software was used to calculate the extent of certain land use constraints and other factors.
- Regulations – The Cecil Group reviewed applicable Town regulations as they may apply to land use, including the Town Zoning Bylaw and conservation regulations, current through February, 2008.
- Land Use Data – The team relied upon the Town’s Assessor data for the majority of the parcel-based data such as parcel area, land use, building floor areas and other

information. This data was checked against other sources of data and amended where additional information or clarifications were reasonably available.

- Market Reviews - GLC Development Resources employed a range of real estate industry information sources and interviews to generate its observations as described with the discussion of market conditions.
- Susceptibility to Change – All properties were evaluated relative to their susceptibility to be redeveloped under two different assumptions – if existing zoning is not changed, and if zoning limitations were significantly raised. The results of this analysis indicated that nearly all properties are susceptible to change, if the permitted zoning densities are raised significantly.
- Alternative Scenarios – Alternative development scenarios were generated using a “typical site” method. The Cecil Group analyzed the parcel-based information to derive the physical characteristics of a prototypical site within the study area, then applied typical physical development parameters (standard floor plates, parking ratios and the like) to construct development programs that would be associated with various densities of development. GLC Development Resources then applied pro forma real estate development analyses to these density options, based on current market costs, revenues and values that could be expected in Lexington based on their market investigations. These analyses established the relationship between various densities as defined by Lexington’s Floor Area Ratio and the feasibility of redevelopment.
- Area-Wide Evaluations – The positive results of the Alternative Scenarios were used to establish area-wide parameters of density that would likely lead to redevelopment of existing parcels over time. Certain properties were deemed practically undevelopable by virtue of ownership by public entities and utilities, existing densities, environmental constraints, flood plain restrictions and the like. The parameters were then applied to the remaining properties to predict the long term implications of raising allowed development densities to rise to either a density level of 0.35 FAR(L) as calculated using procedures contained in Lexington’s Zoning Bylaw, or 0.90 FAR (L). In the case of the moderate density levels of 0.35 FAR(L), the resulting area-wide development potential was derived by adding together all of the incremental development that would result within the entire area. In the case of more dense development at 0.90 FAR(L), complete redevelopment of the entire area at these densities is highly unlikely. However, the scenarios illustrate that selected redevelopment of certain sites at higher densities could be considered as part of a land use strategy for the study area.
- Fiscal Implications – The fiscal benefits of potential development were illustrated by averaging the per square foot incremental taxable value associated with typical additional high value commercial, research and development or similar uses in locations similar to Lexington. This is a reasonable simplifying assumption appropriate for the level of analysis and the quality of information used for this study. Then, Lexington’s tax rate was applied to the average value on an area-wide basis. This method provided a reasonable approximation of gross incremental tax revenues that would occur.

3. SUMMARY OF RELEVANT CONDITIONS AND TRENDS

3.1 Existing Conditions and Site Inventory

As mentioned in *Section 1* and shown in *Figure 1-1*, the study area consists of three sub-areas: Hartwell Avenue, Hayden Avenue/ Spring Street, and Forbes Road. Hartwell Avenue is the largest sub-area with approximately 400 acres of land (excluding public roads and rights-of-way) followed by Hayden Avenue with approximately 290 acres. Proportionately though, Hartwell Avenue has a greater effective density than Hayden Avenue due to a significantly higher presence of wetlands and open space that reduce the development capacity of the land. Forbes Road, encompassing about 69 acres, is a much smaller area located between the Hartwell and Hayden Avenue sub-areas.

Findings: Land Use and Density

The entire study area encompasses an area of approximately 31 million square feet (about 759 acres), excluding roads and public rights-of-way, and hosts about 3.6 million square feet of net developed building space. Wetlands and dedicated, publicly-owned open space are significant in this area and comprise almost half of the total land area. Developable land is measured as the total amount of land less any wetlands, conservation land, land designated as open space, and land owned by utilities. Given the percentage of wetlands available, about half of the study area is developable for buildings or site improvements such as parking. The effective density (FAR(L)) is the ratio of net building square footage to the total amount of developable land. For the study area in general, this effective density or FAR(L) is 0.22.

These areas are zoned for Regional Office (CRO) and Manufacturing (CM) uses, and Planned Commercial Development (CD), and are adjacent to Interstate 95, enjoying prime access and visibility from the regional transportation network.

As a result of these conditions, commercial development in these districts is generally characterized by large lots, campus settings and extensive parking areas, which sets them apart from the neighborhood scale and local character of other business districts in Lexington.

The Cecil Group has estimated the amount and density of development within the study areas using the Town's GIS mapping of wetlands, GIS-linked database of property areas and improvements, and Town Assessor's building and site area data.

As noted in the Section 3 of this *Report*, the standard method to measure development density is Floor Area Ratio (FAR). For evaluations of site density typically used in planning and regulation, the methods for calculating FAR differ among communities. The FAR is a measure of the built area relative to the site area. Often, FAR is calculated based on the gross floor area of all buildings, not including those portions that are below-grade or that contain structured parking. The site area is normally considered the entire area of the site. The Lexington method considers the building area to be that portion of a building that is considered interior useable space, and sets a factor of 80% of the gross building area as the basis for its calculation. The Lexington method also excludes all wetlands from the calculations. This is not the case in many other communities, where the wetlands can be

contained within required open space or setbacks, and do not necessarily diminish site capacity as a result.

To ensure that the definition and planning reference to density calculations is clear, this study employs the abbreviation FAR(L) to indicate floor area ratio as calculated and employed within Lexington’s zoning bylaw.

It should be noted that the information on existing conditions lists property that has no calculable developable area; however these parcels have not been considered for the calculation of “effective” FAR(L). In addition, the land associated with the municipal compost area on Hartwell Avenue has been assumed to be non-developable. *Tables 3-1 and 3-2* in this section summarize the available information on property areas and building areas based on GIS and assessor’s data provided by the Town.

Table 3-1: Summary of Study Area Land and Building Data (in Square Feet)

	Study Area	Hartwell Ave.	Hayden Ave.	Forbes Rd.
Total Land	30,951,594	16,866,434	11,079,631	3,005,529
Estimated Wetland/Open Space	14,897,591	10,869,387	3,402,495	625,709
Developable Land	16,054,003*	5,997,047*	7,677,136	2,379,820
Gross Building Area (Square Feet)	4,515,741	2,215,464	1,728,297	1,354,436
Net Building Area (Square Feet)	3,586,312**	1,772,371**	1,354,356**	459,584**
Effective Density (FAR(L))	0.22	0.30	0.18	0.19

*Does not include the municipally-owned parcel in the Hartwell Avenue area that is used for town purposes, including the composting operation.

** As calculated for Lexington zoning and density regulation purposes, at 80% of the gross building area.

The study has also compiled and examined the distribution of development among the parcels that have developable land within them. Nearly all of the sites have been developed. *Figures 3-1 to 3-15* in the following pages map the existing conditions in each of the districts that compose the study area, with a particular focus on those characteristics that will most heavily influence future development opportunities and constraints. These include zoning, topography, roadways, wetlands, conservation land, open space and floodplains. Detailed observations on the development constraints caused by these conditions are provided in *Section 3.2*. A photographic inventory illustrating the existing building and urban design character within the three areas is included as an *Appendix*.

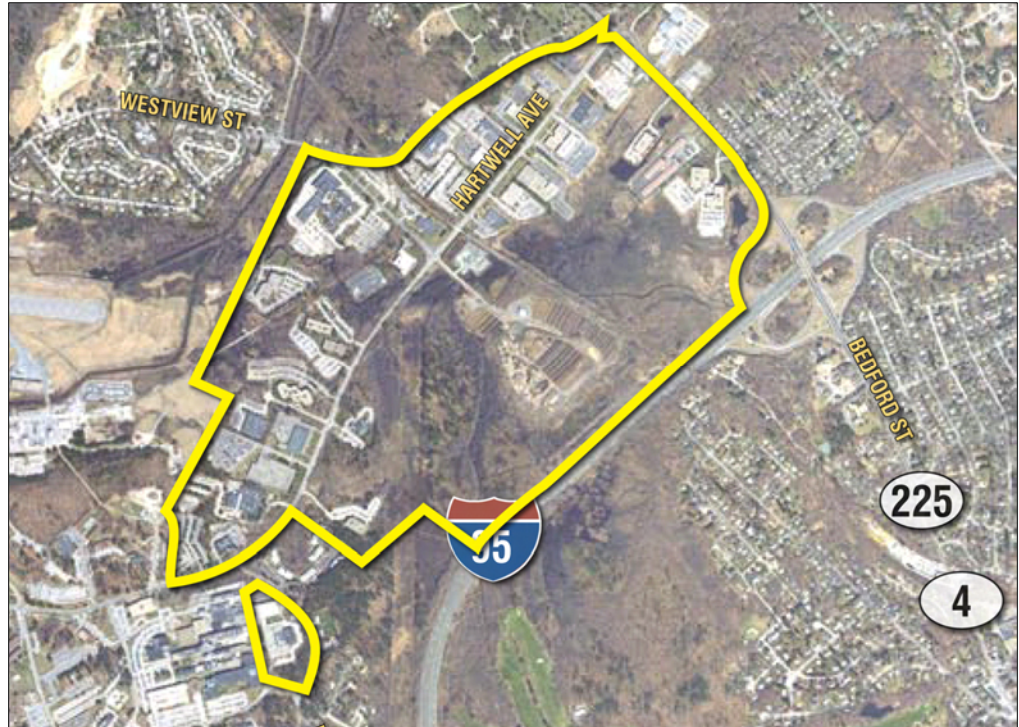


Figure 3-1. Hartwell Avenue – Study Area Boundaries



Figure 3-2. Hayden Avenue/Spring Street – Study Area Boundaries

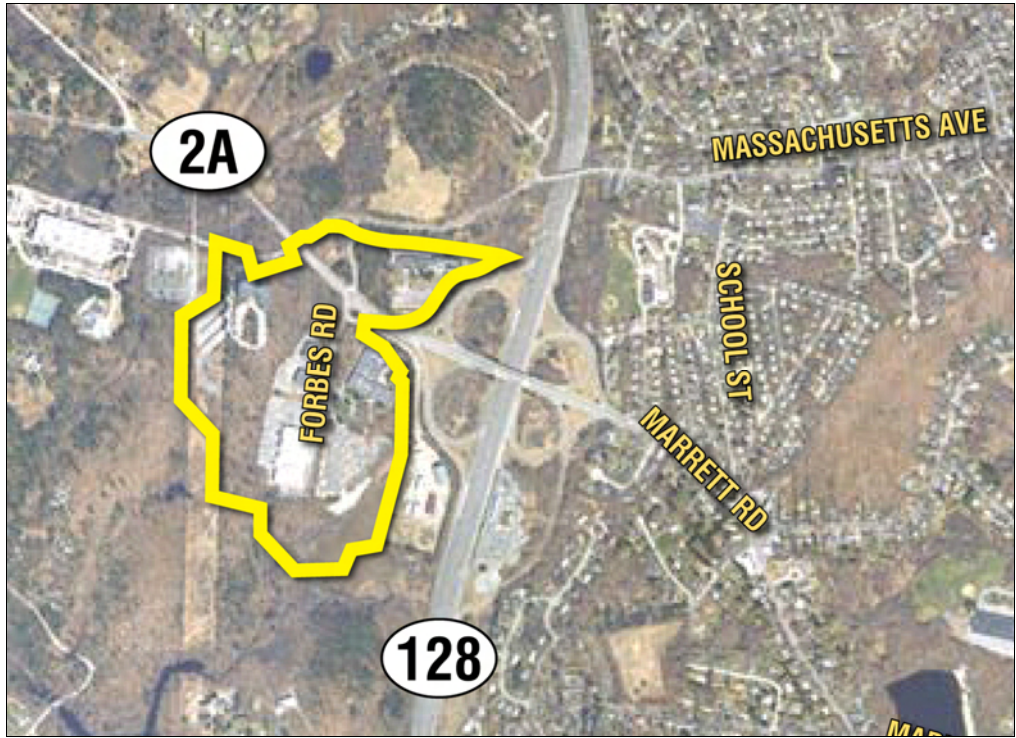


Figure 3-3. Forbes Road – Study Area Boundaries

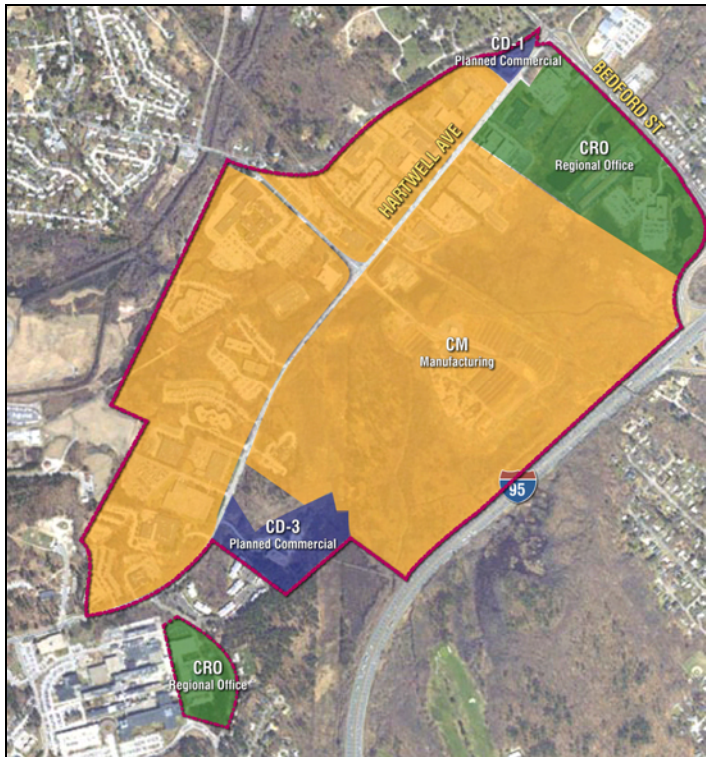


Figure 3-4. Hartwell Avenue – Zoning

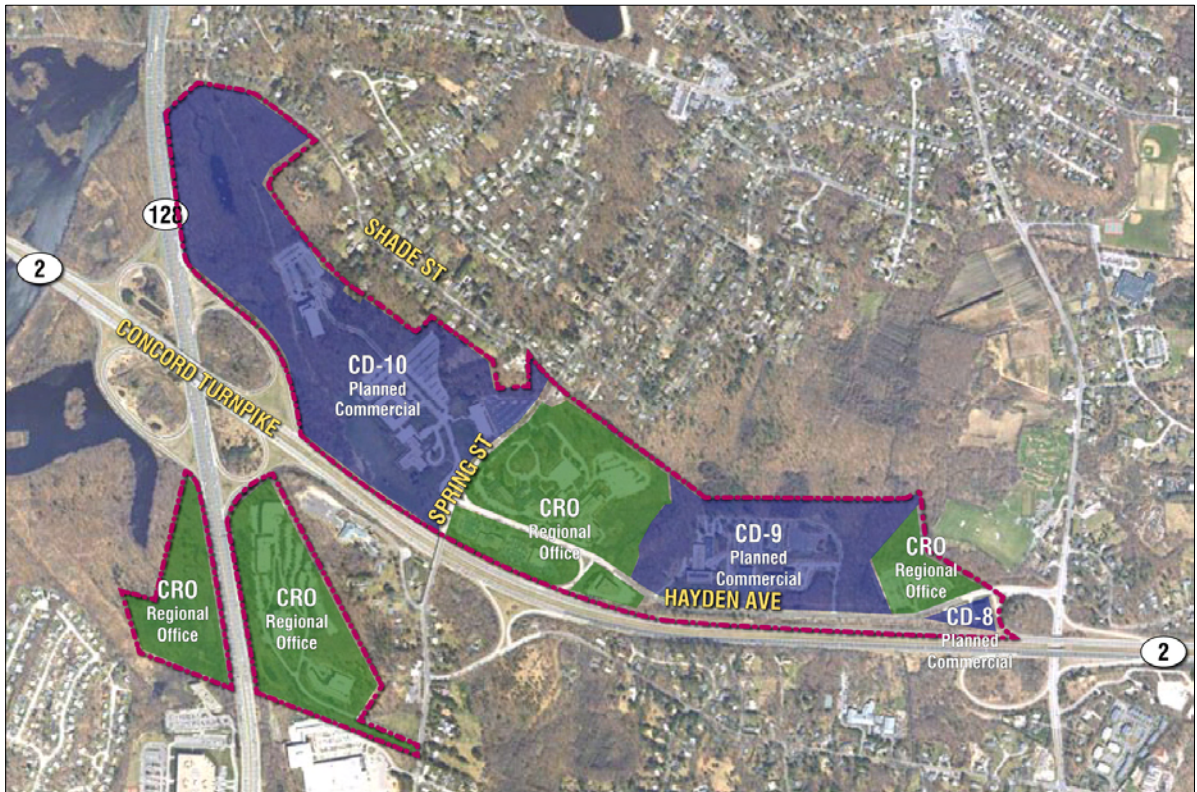


Figure 3-5. Hayden Avenue/Spring Street – Zoning



Figure 3-6. Forbes Road – Zoning

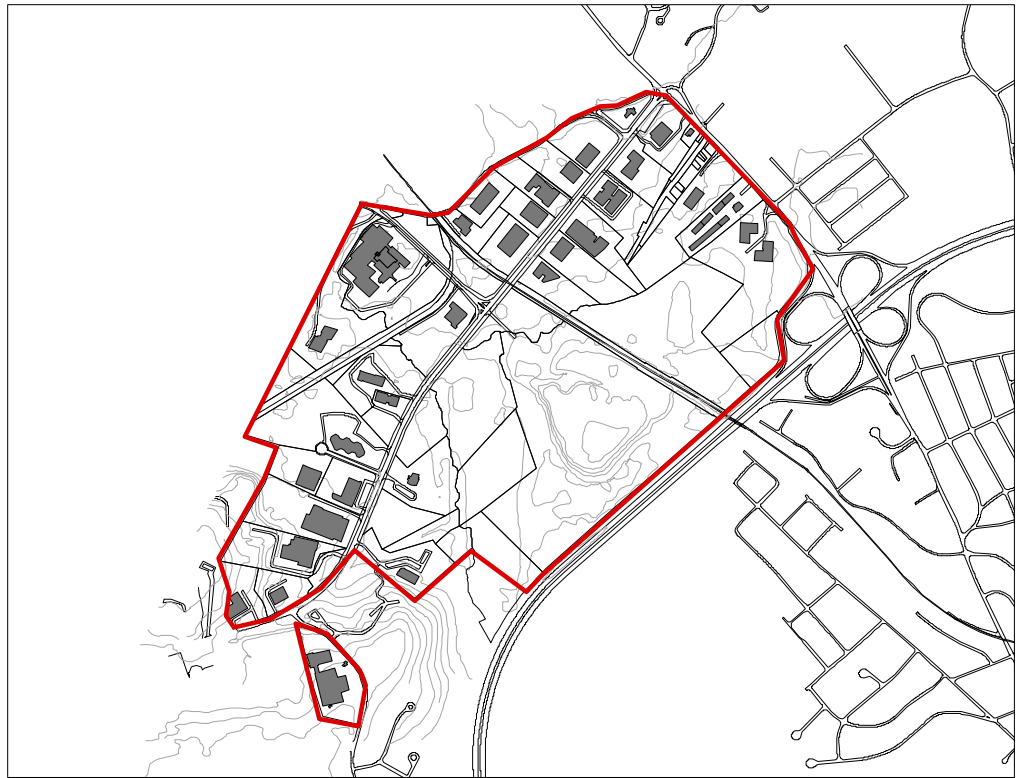


Figure 3-7. Hartwell Avenue – Parcels and Site Contours



Figure 3-8. Hayden Avenue/Spring Street – Parcels and Site Contours

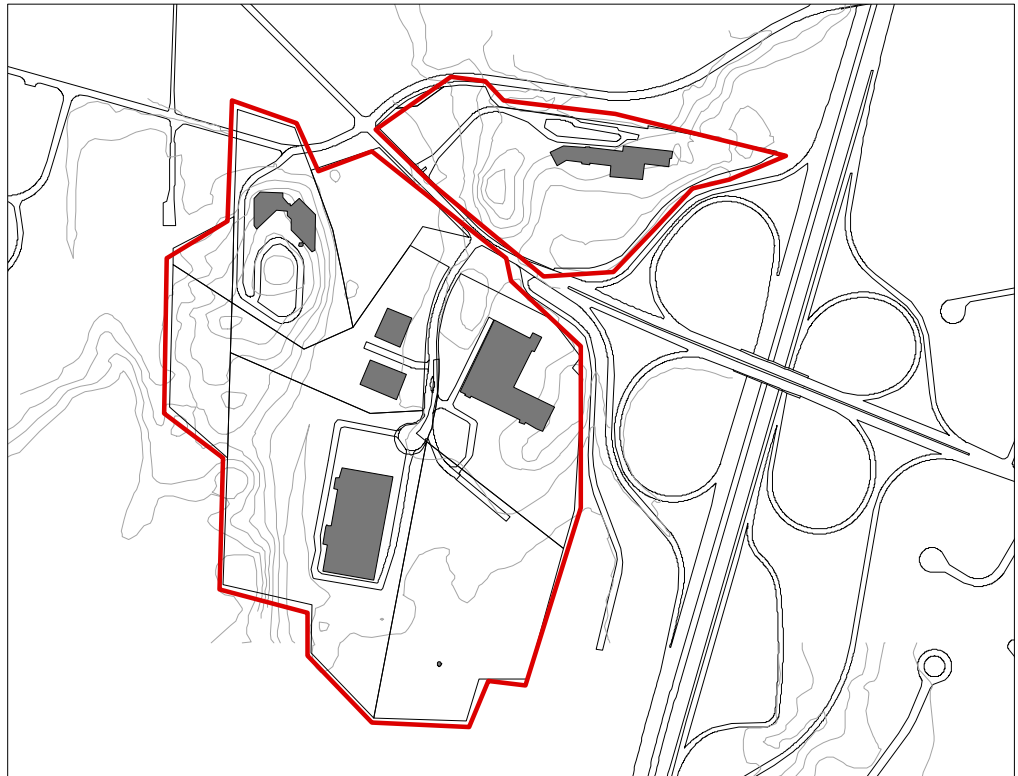


Figure 3-9. Forbes Road – Parcels and Site Contours



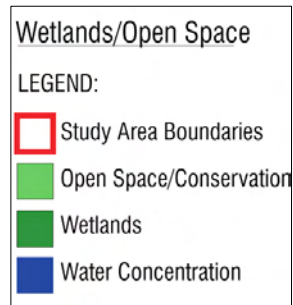
Figure 3-10. Hartwell Avenue – Wetlands and Open Space



Figure 3-11. Hayden Avenue/Spring Street – Wetlands and Open Space



Figure 3-12. Forbes Road – Wetlands and Open Space



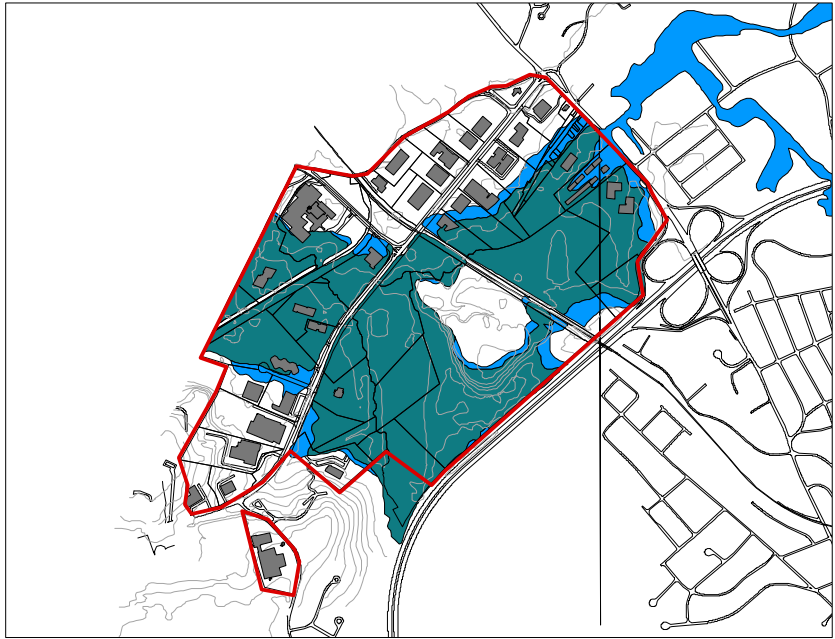
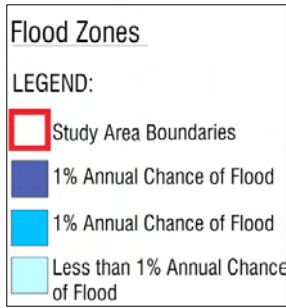


Figure 3-13. Hartwell Avenue – Flood Zones



Figure 3-14. Hayden Avenue/Spring Street – Flood Zones

Figure 3-15. Forbes Road – Flood Zones

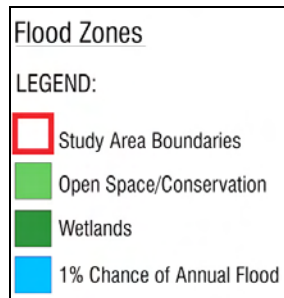
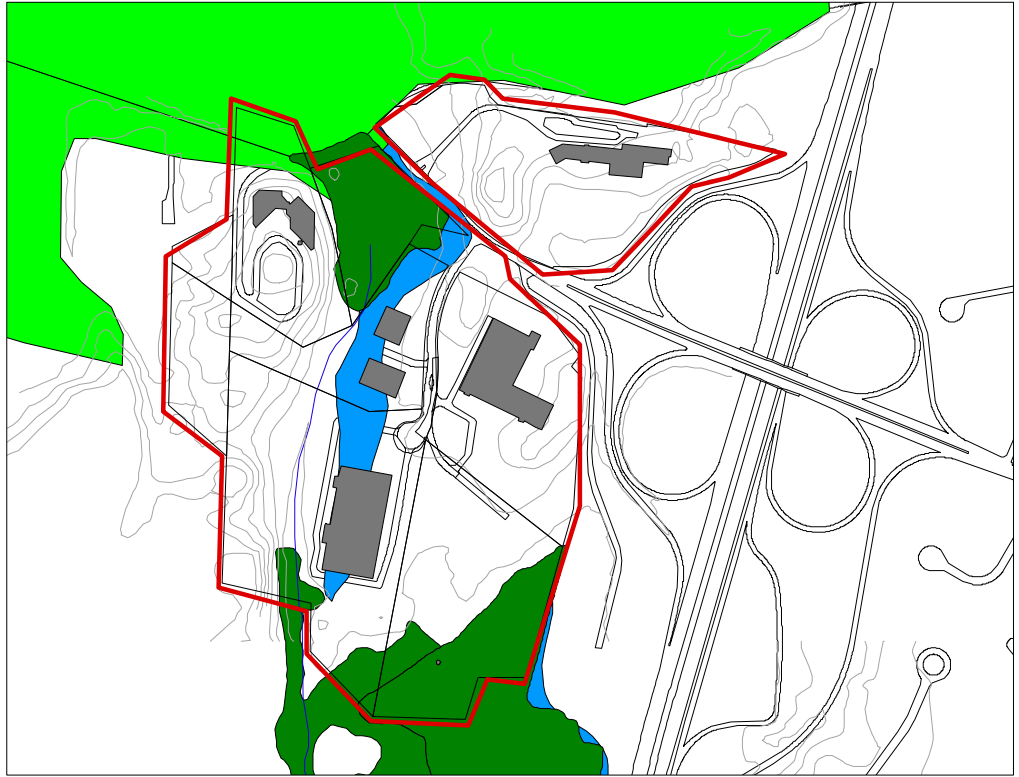


Table 3-2: Summary of Property Information

OBJECT ID_1	LOT	MAP	MAPLOT1	AREA_SQFT	AREA_ACRE	NUMBER	ADDRESS	CURRENT_OWNER	USE_CODE	CLASS	ZONING	BDG_FOOTPRINT	BDG_SF	YEAR_BUILT
1143	40A	84	84-40A	916,702	27.11	420	BEDFORD ST	ELANDZEE TRUST	3400	COMMERC.	CM/CRO	56,581	155,983	1981
3876	41G	0	84-41G	496,148	11.39	450	BEDFORD ST	BEDFORD STREET LIMITED PARTNERSHIP	3400	COMMERC.	CM/CRO	20,495	42,268	1981
4636	57	84	84-57	2,376	0.07	459	BEDFORD ST	BOSTON EDISON COMPANY	4230	INDUSTR.	CRO	-	-	-
3818	69	84	84-69	27,290	0.81	476	BEDFORD ST	SMITH HOWARD A TRUSTEE	3050	COMMERC.	CRO	3,183	2,532	1953
3819	68	84	84-68	3,549	0.10	476	BEDFORD ST	TOWN OF LEXINGTON	9030	EXEMPT	CRO	-	-	-
3820	67	84	84-67	2,139	0.06	476	BEDFORD ST	BOSTON EDISON COMPANY	4230	INDUSTR.	CRO	-	-	-
3822	56	84	84-56	2,139	0.06	476	BEDFORD ST	TOWN OF LEXINGTON	9030	EXEMPT	CRO	-	-	-
3846	70A	84	84-70A	218,495	6.46	482	BEDFORD ST	TRUST FOR THE BENEFIT OF THE BETH I	9050	EXEMPT	CRO	29,035	56,342	1975
4507	41F	84	84-41F	261,360	6.00	436-440	BEDFORD ST	AYUSHI LLC	3010	COMMERC.	CRO	58,735	58,735	-
4326	1A	19	19-1A	1,337,292	30.70		CAMBRIDGE/CONCORD TRACER LANE II REALTY TRUST &		130	RESIDNTL	CRO	-	-	-
2170	11	12	12-11	33,550	30.70		CAMBRIDGE/CONCORD BOSTON PROPERTIES LIMITED PARTNERSH		3920	COMMERC.	CRO	-	-	-
10611	4B	18	18-4B	39,423	1.17		CAMBRIDGE/CONCORD PM ATLANTIC LEXINGTON LLC		3920	COMMERC.	CD	-	-	-
2811	7A	73	73-7A	561,924	12.90		CEDAR ST	TOWN OF LEXINGTON - CONSERVATION	9030	EXEMPT	CM	-	-	-
8281	23	43	43-23	237,838	5.46	1	FORBES RD	BHX LLC TRUSTEE	3400	COMMERC.	CRO	-	49,040	1979
1754	9C	43	43-9C	468,270	10.75	2	FORBES RD	WELLFORD CORP	4040	INDUSTR.	CRO	-	105,504	1968
7850	9	43	43-9	413,820	9.50	2	FORBES RD	WELLFORD CORP	0		CRO	-	-	-
8314	9D	43	43-9D	680,843	15.63	3	FORBES RD	BHX LLC TRUSTEE	4040	INDUSTR.	CRO	82,088	161,202	1979
243	59	84	84-59	4,750	0.14		GARWOOD AVE	BOSTON EDISON COMPANY	4230	INDUSTR.	CRO	-	-	-
4361	61	84	84-61	4,750	0.14		GARWOOD AVE	BOSTON EDISON COMPANY	4230	INDUSTR.	CRO	-	-	-
3260	62A	84	84-62A	40,075	1.19		GARWOOD AVE	BOSTON EDISON COMPANY	4230	INDUSTR.	CM/CRO	-	-	-
3823	66	84	84-66	21,735	0.64		GARWOOD AVE	BOSTON EDISON COMPANY	4230	INDUSTR.	CRO	-	-	-
4040	60A	84	84-60A	51,349	1.52		GARWOOD AVE	BOSTON EDISON COMPANY	4230	INDUSTR.	CRO	-	-	-
4503	63A	84	84-63A	3,937	0.12		GARWOOD AVE	BOSTON EDISON COMPANY	4230	INDUSTR.	CRO	-	-	-
4872	65	84	84-65	3,990	0.12		GARWOOD AVE	BOSTON EDISON COMPANY	4230	INDUSTR.	CRO	-	-	-
3274	81	84	84-81	70,132	1.61	7	HARTWELL AVE	LUSO-AMERICAN LIFE INSURANCE SOCIET	3410	COMMERC.	CD	6,178	10,120	1980
3864	80A	84	84-80A	228,690	5.25	17	HARTWELL AVE	ZUCKERMAN MORTIMER B TRUSTEE	4040	INDUSTR.	CM	29,845	30,104	1966
4502	70E	84	84-70E	283,140	6.50	24	HARTWELL AVE	COLANGELO MICHAEL L & JOSEPHINE	3400	COMMERC.	CM/CRO	53,812	128,672	1975
3844	80B	84	84-80B	182,081	4.18	25	HARTWELL AVE	DUFFY HARTWELL LLC	3400	COMMERC.	CM	25,663	33,339	1966
1147	83B	84	84-83B	265,716	6.10	32	HARTWELL AVE	ZUCKERMAN MORTIMER B TRS MBZ-LEX TR	3400	COMMERC.	CM	70,626	67,568	1967
2793	21	85	85-21	130,680	3.00	35	HARTWELL AVE	ARE-MA REGION NO 27 LLC	3450		CM	37,717	46,784	1972
644	84A	84	84-84A	304,920	7.00	40	HARTWELL AVE	DUFFY HARTWELL LLC	3400	COMMERC.	CM	30,568	30,351	1969
4417	51	79	79-51	209,088	4.80	44	HARTWELL AVE	ARE-MA REGION NO. 16, LLC	4040	INDUSTR.	CM	26,551	26,533	1970
4416	18A	85	85-18A	203,425	4.67	45	HARTWELL AVE	DUFFY HARTWELL LLC	4040	INDUSTR.	CM	50,311	49,880	1961
5111	4C	80	80-4C	361,548	8.30	81	HARTWELL AVE		0		CM	25,209	72,258	-
4938	4B	80	80-4B	144,184	3.31	83	HARTWELL AVE	FARLEY WHITE KILNBROOK ONE LLC	3400	COMMERC.	CM	20,983	41,444	1980
286	10C	80	80-10C	652,093	14.97	91	HARTWELL AVE	85 HARTWELL AVENUE TRUST	3400	COMMERC.	CM	40,974	117,676	1984
2349	9A	73	73-9A	380,279	8.73	94	HARTWELL AVE	HARTWELL REALTY PARTNERS	3260	COMMERC.	CM	10,760	12,827	1985
3952	10B	80	80-10B	199,069	4.57	101	HARTWELL AVE	AMB PROPERTY LP	4040	INDUSTR.	CM	41,889	40,600	1970
2714	11	73	73-11	322,203	9.53	110	HARTWELL AVE	GLENBOROUGH PROPERTIES LP	3400	COMMERC.	CD	18,164	54,345	1984
1	8A	74	74-8A	435,600	10.00	113	HARTWELL AVE	GATESIDE-LEXINGTON COMPANY LLP	4040	INDUSTR.	CM	103,357	102,096	1967
571	9	74	74-9	365,904	8.40	121	HARTWELL AVE		0		CM	75,211	86,677	-
791	10	74	74-10	75,093	2.22	125	HARTWELL AVE	125 HARTWELL TRUST	3400	COMMERC.	CM	19,230	38,022	1979
5723	6A	74	74-6A	217,800	5.00	131	HARTWELL AVE	FARLEY WHITE KILNBROOK THREE LLC	3400	COMMERC.	CM	30,824	79,344	1983
4337	70C	84	84-70C	217,912	6.44	12-18	HARTWELL AVE	JOSCO REALTY TRUST	4040	INDUSTR.	CRO	33,976	33,600	1975
4415	10B	85	85-10B	185,566	4.26	27-33	HARTWELL AVE	ARE-MA REGION NO 8 LLC	3450		CM	47,923	57,942	1972
765	12	73	73-12	83,000	2.45		HARTWELL AVE	TOWN OF LEXINGTON	9000	EXEMPT	CD	-	-	-
4438	49	79	79-49	1,110,780	25.50		HARTWELL AVE	TOWN OF LEXINGTON - SANITARY F	9030	EXEMPT	CM	-	-	-
5155	9	80	80-9	126,324	2.90		HARTWELL AVE	MASSACHUSETTS PORT AUTHORITY	9010	EXEMPT	CM	-	-	-
5165	8	73	73-8	466,092	10.70		HARTWELL AVE	GOODWIN LEON & GOODWIN FRANK &	3920	COMMERC.	CM	-	-	-
4903	50	79	79-50	2,940,300	67.50		HARTWELL AVE	TOWN OF LEXINGTON	9030	EXEMPT	CM	-	-	-
4962	1	80	80-1	236,966	5.44		HARTWELL AVE	BOSTON EDISON COMPANY	4240	INDUSTR.	CM	-	-	-
4965	6	80	80-6	1,152	0.03		HARTWELL AVE	CATALDO ROBERT &	3920	COMMERC.	CM	-	-	-

Table 3-2: Summary of Property Information (Continued)

OBJECT ID_1	LOT	MAP	MAPLOT1	AREA_SQFT	AREA_ACRE	NUMBER	ADDRESS	CURRENT_OWNER	USE_CODE	CLASS	ZONING	BDG_FOOTPRINT	BDG_SF	YEAR_BUILT
5110	2	80	80-2	631,620	14.50		HARTWELL AVE	KANE MARTIN F TRUSTEE	3920	COMMERC.	CM	-		
5112	3	80	80-3	-	0.00		HARTWELL AVE	TOWN OF LEXINGTON - CONSERVATION	9030	EXEMPT	CM	-		
5156	10D	80	80-10D	200,376	4.60	4	HARTWELL PL	HARTWELL LEXINGTON LIMITED	4040	INDUSTR.	CM	40,878	40,000	1975
4301	1A	16	16-1A	93,654	2.12	16	HAYDEN AVE	HAYDEN MEDICAL CENTER LLC	3420	COMMERC.	CD		46,149	1999
1613	1C	16	16-1C	287,060	6.59	33	HAYDEN AVE	HAYDEN OFFICE TRUST	3400	COMMERC.	CRO	27,510	84,283	1977
10586	20B	17	17-20B	503,728	11.56	65	HAYDEN AVE	CUBIST PHARMACEUTICALS INC	3450		CD			
1062	19	17	17-19	81,485	2.41	80	HAYDEN AVE	KOUMANTZELIS ARTHUR G TRUSTEE	3400	COMMERC.	CRO	14,407	43,536	1982
10276	22	17	17-22	1,087,693	24.97	95	HAYDEN AVE	LEDGEMONT RESEARCH PARK ASSOCIATES	3400	COMMERC.	CRO	113,534	200,343	1986
10971	21A	17	17-21A	1,123,717	25.80	45-55	HAYDEN AVE	THE REALTY ASSOCIATES FUND VI LP	3400	COMMERC.	CRO		288,700	1973
10470	4A	18	18-4A	276,170	6.34	92-100	HAYDEN AVE	92 HAYDEN AVENUE TRUST	3400	COMMERC.	CRO	35,789	72,014	1970
1489	3B	18	18-3B	28,363	0.84		HAYDEN AVE	ROSE-MAL REALTY TRUST	3920	COMMERC.	CRO	-		
7192	4A	16	16-4A	222,156	5.10		HAYDEN AVE	TOWN OF LEXINGTON - CONSERVATION	9030	EXEMPT	CRO	-		
643	17A	85	85-17A	143,312	3.29	1	MAGUIRE RD	MAGUIRE ROAD LIMITED PARTNERSH	4040	INDUSTR.	CM	-	25,664	1996
4963	11	80	80-11	241,758	5.55	4	MAGUIRE RD	KILN BROOK SPUR INC	1320	RESIDNTL	CM	-		
4964	5	80	80-5	348,480	8.00	4	MAGUIRE RD	MANNIX JOHN A & POPEO JOHN TRUSTEES	3400	COMMERC.	CM	30,405	54,077	1968
4368	15	85	85-15	696,960	16.00	10	MAGUIRE RD	NORMANDY LEXINGTON ACQUISITION LLC	3400	COMMERC.	CM		296,028	1968
3366	13A	85	85-13A	215	0.01	20	MAGUIRE RD	KILN BROOK REALTY CORP	3400	COMMERC.	CM	-		
3882	13A	85	85-13A	586,753	13.47	20	MAGUIRE RD	KILN BROOK REALTY CORP	3400	COMMERC.	CM	34,316	101,690	1985
4370	16	85	85-16	121,968	2.80		MAGUIRE RD	LEXINGTON CORPORATE CENTER ASSOCIAT	4030	INDUSTR.	CM	-		
7848	56A	51	51-56A	574,992	13.20	727	MARRETT RD	STARWOOD LEXINGTON REALTY LLC	3010	COMMERC.	CD		151,234	Note 1
7795	1A	52	52-1A	139,828	3.21	750	MARRETT RD	MINUTEMAN VOC SCHOOL	3920	COMMERC.	CD	-		
2563	3A	52	52-3A	310,583	7.13	760	MARRETT RD	BATTLE ROAD CAPITAL TRUST	3400	COMMERC.	CD		105,000	
4357	4B	52	52-4B	43,386	1.00		MARRETT RD	BATTLE ROAD CAPITAL TRUST	3370	COMMERC.	CD	-		
8313	1B	44	44-1B	127,369	2.92		MARRETT RD	CRANBERRY ONE LLC	3370	COMMERC.	CD	-		
2337	8	80	80-8	32,670	0.75		MELLEX RD	KILN BROOK ASSOC V LTD PTNRSP	3920	COMMERC.	CM	-		
2105	14B	18	18-14B	270,508	6.21	200	PATRIOT WAY	PATRIOT PARTNERS LEXINGTON LLC	3400	COMMERC.	CD	-		
3110	15	18	18-15	1,084,644	24.90	300	PATRIOT WAY	PATRIOT PARTNERS LEXINGTON LLC	3400	COMMERC.	CD			
3109	44D	26	26-44D	2,505,571	57.52	400-500	PATRIOT WAY	PATRIOT PARTNERS LEXINGTON LLC	4040	INDUSTR.	CD			
9968	113A	25	25-113A	39,850	1.18		SHADE ST	PM ATLANTIC LEXINGTON LLC	1300	RESIDNTL	CD	-		
9982	14A	18	18-14A	220,849	5.07	125	SPRING ST	PATRIOT PARTNERS LEXINGTON LLC	3400	COMMERC.	CD		631,600	1969
10610	3C	18	18-3C	1,665	0.05	128	SPRING ST	PM ATLANTIC LEXINGTON LLC	3920	COMMERC.	CD	-		
10865	13B	12	12-13B	297,515	6.83	181	SPRING ST	LINDE EDWARD H TRS 191 SPRING STREE	3400	COMMERC.	CD	-	56,442	1999
10201	2B	18	18-2B	490,150	14.49	124-130	SPRING ST	LEDGEMONT ASSOCIATES	4040	INDUSTR.	CRO	107,495	133,230	1934
10399	13A	12	12-13A	1,054,588	24.21	191-201	SPRING ST	191 SPRING STREET TRUST	3400	COMMERC.	CRO	45,300	172,000	1970
252	20A	85	85-20A	163,350	3.75	60	WESTVIEW ST	ARE-60 WESTVIEW LLC	3450		CM	40,192	40,200	1975
3883	20C	85	85-20C	144,619	3.32	70	WESTVIEW ST	FARLEY WHITE KILNBROOK FOUR LLC	3400	COMMERC.	CM	21,231	61,324	1986
4371	11	85	85-11	6,400	0.19	75	WESTVIEW ST	USA	9000	EXEMPT	CM	-		
3888	12	85	85-12	9,900	0.29	80	WESTVIEW ST	NEW ENGLAND CAMPING ASSOC., INC.	3400	COMMERC.	CM	-	4,355	1999
5742	29	67	67-29	331,056	7.60	290	WOOD ST	USA CAMB RESEARCH CENTRE	9000	EXEMPT	CRO	116,084	116,084	
2715	10A	73	73-10A	100,300	2.97		WOOD ST	TOWN OF LEXINGTON	9000	EXEMPT	CD	-		
8301	34	43	43-34	8,600	0.25	2			0		CRO	-		
10366		16	RW	-	0.00	16			0		CRO	-		
3796	7	74	74-7	74,052	1.70	113			0		CM	-		
4039	55A	84	84-55A	10,200	0.30	459			0		CRO	-		
TOTALS				30,951,594	759								4,515,741	

Notes:

- 1. Approved building sf under CD zone

3.2 Constraints and Opportunities

Development Strengths

The commercially-zoned land addressed by this study presents many opportunities for feasible redevelopment within the context of market, regulatory and infrastructure conditions. This section provides observations concerning a number of those development strengths that should be considered as future planning for the study area is undertaken.

Underutilized Land

Based on the review of the existing building areas, site coverage, and buildable areas it is apparent that much of the land within all three commercial zones can be considered as “underutilized” relative to the possible and typical development densities that occur in similar circumstances. In general, the land within the three districts has been developed at densities that are below that which market forces would be likely to provide under different regulatory circumstances.

The density of feasible land development is based on a number of factors. In the context of suburban conditions like those found in Lexington, the land capacity and development densities tend to achieve market-driven plateaus that are largely based on the relationship between the land required to provide for parking and the amount of building area that the parking can support.

As a rule of thumb, achieved maximum development densities in suburban settings that include typical landscape, setbacks and open space requirements reach two different plateaus, depending upon the underlying land values. Floor area ratios (FAR's) are used to measure development densities. The Town of Lexington zoning definition of FAR is atypical relative to standard methods for measuring the density of development, as we have noted elsewhere. The following discussion provides an approximate “translation” between typical measurements and Lexington's methods, using some simplifying assumptions.

- Surface parking and density – If it is not cost effective to provide structured parking, then achieved maximum development densities may range from FAR's of 0.35 to 0.45, depending upon the type of use and other factors. This can roughly be translated into FAR(L) densities ranging from 0.28 to 0.36.
- Structured parking and density – Structured parking is much more expensive to build and maintain than surface parking. However, adequately high land values will result in the conversion of surface parking into parking structures in order to gain more area to create revenue-generating buildings (offices, hotels, or whatever use can generate the necessary revenues). When structured parking is feasible, then land is used far more efficiently to support revenue and tax-generating uses. Maximum practical FAR's in similar circumstances range from approximately 0.8

to 1.2. This can roughly be translated into FAR(L) densities ranging from 0.64 to 0.96.

Having adjusted the measurements of density taking into account both the standard methods for calculations and the method used by the Town, it is clear that the achieved development densities within the commercial districts are well below the typical levels reached for suburban development that provide only surface parking, and are far below circumstances where land values allow even more efficient use of the land.

Traffic and Parking Demand Management

There may be opportunities to increase the efficient use of the land and create development potential through traffic and parking demand management.

The number of parking spaces required on a site or within a district can be reduced by:

- Shared parking – Providing parking lots and agreements that allow spaces to be used efficiently because they serve multiple users and support different times of use. Standard examples are hotel parking spaces that are largely used at night, while the same spaces are used by office workers during the day.
- Transit – Transit access through buses or shuttles reduces the number of cars needing to be parked.
- Alternative modes – Provision for bicycles and pedestrian connections can further reduce vehicle parking needs.
- Use management – The mix of uses can reduce the number of vehicles required, by supporting opportunities for shared parking, for example.

Simply put, if some of the land is not needed for parking spaces, it can be put to economically higher and better uses that generate more revenues, and more taxes.

Adjacencies and Buffers

With limited exceptions, the three commercial districts are separated from adjacent residential or other uses that are often considered particularly sensitive to commercial development. This represents a development opportunity relative to districts that are within residential areas.

The Hartwell Avenue district shares a limited boundary with a single family neighborhood across a portion of Bedford Street, and another limited boundary with the residential district along Wood Street. Portions of the neighborhood along Westview Street are proximate to the northwestern corner of the commercial district. The remainder of the Hartwell Avenue district is bordered by the I-95, a cemetery and wetlands, and portions of the Hanscom Airport/Air Base and office, research and development properties that are clustered along the extension of Hartwell Avenue.

The Forbes Road area is effectively isolated from residential areas by the highway and intervening wetlands and open space.

The Hayden Avenue/Spring Street Area has a shared boundary with single family residential neighborhoods along approximately half of its northeastern edge; however, the balance of the district is edged by open space or the Route 2 and Route 128 highway alignments.

Parcel Size and Developable Land

Analyses have shown that the amount of “developable land” is effectively very limited within all three of the study areas unless regulatory changes were to occur - taking into account the extensive wetlands, setbacks, extent of existing development and the effective limitations posed by the existing zoning standards, absent zoning relief or changes. Several factors suggest that a significant amount of new development could occur in the event that a greater density of development is permitted, taking into account the market potential that is described in other sections of this *Report*.

- Most of the existing parcels are adequately sized to provide for building footprints and parking layouts that can efficiently support the range of typical floor plates associated with high value uses, including office, many types of research and development facilities, and hospitality uses and multi-family housing.
- In a few locations, relatively small parcel sizes exist and would be poorly suited to support larger scale footprints and associated parking. However, there appear to be opportunities to assemble several small parcels in a number of locations to support increased density associated with efficient, contemporary floor plates and parking layouts. This is the case for a series of parcels along the Hartwell Avenue corridor between Westview Street and Bedford Street, and several of the smaller parcels along Bedford Street.
- To the extent that parcel assembly is needed to facilitate feasible redevelopment that fulfills the density potential allowed by the Town, the normal real estate market forces can and will accomplish this. The key consideration in terms of land planning and regulatory policies is this: one cannot look at the existing parcel size and ownership patterns as “fixed” – the market will rearrange these patterns as it sees fit to optimize their opportunities.

Proximity to Regional Highway Network

Land that is close and highly accessible to the regional highway network is highly valued for development; the three commercial zones all share this attribute. There are obvious time advantages for the businesses, patrons and occupants of development that is close to the Route 128/Route 2 network.

In addition, commercial development that is located as close as possible to the regional highway network results in short local roadway segments that will be needed to carry the associated vehicle traffic.

Proximity to the Military/Research and Development Cluster at Hanscom Air Force Base

The study area in general – and the Hartwell Avenue area in particular – benefits from nearby clusters of specialized military research and development activities and companies associated with the Hanscom Air Force Base. As many economic development studies have indicated using methods pioneered by Professor Michael Porter of the Harvard Business School, clusters of specialized economic activity support the development of nearby and complementary businesses. The specialized human resources clustered along Route 128 and around Hanscom Air Force Base provide a distinct competitive advantage for the area, including the proximate source of highly trained and educated employees working within related fields and project types.

Proximity to Hanscom Field

Some businesses may be advantaged by close access to the executive and private business aircraft terminal and facilities at nearby Hanscom Field.

Existing Building Stock

The existing building stock within the commercial areas includes some buildings that are outdated relative to contemporary standards for the uses that are within them. These circumstances provide opportunities for redevelopment that will increase the effective use of the land with more efficient buildings.

Image

The character and quality of Lexington as a community is linked to its attractiveness for new development. The Town will tend to draw new uses and users that wish to be associated with the qualities and character that are associated with its positive image.

Opportunities for Low Impact Development

New techniques and tools are emerging that promote environmentally-responsible, “green” building and site development that can reduce impacts and enhance environmental benefits. The application of these techniques can result in new development with significantly lowered impacts relative to past practices. In the context of Lexington, the use of techniques could enhance the ability of the Town to support additional development (with its associated benefits) while absorbing lower direct and indirect costs.

Land Use and Design Controls

New planning methods are being used to ensure that new development is consistent with the desired character, aesthetics and quality of life of the surrounding community. The use of similar land use and design controls may help support expanded commercial zone development in Lexington by helping to ensure that the overall value of the community – including its residential areas – is preserved or enhanced as a result of high quality development.

Zoning and Regulatory Constraints

This summary provides a brief review of bylaws that govern land use within the study area. There are three categories of commercial zones included in the study area: Regional Office (CRO), Manufacturing (CM), and Planned Commercial Development (CD).

Floor Area Ratios

In Lexington development densities in non-residential zones is regulated through a measure which compares the floor area of buildings to the area of sites. Floor Area Ratios as measured by Lexington (abbreviated as FAR(L) within this *Report*) are defined as the ratio of the sum of the net floor area of all buildings on a lot to the developable site area of the lot. The developable area excludes regulated wetlands and certain flood plain areas.

According to *Article 135-41, Intensity of Development of the Zoning Bylaw* in order to simplify the determination of net floor area, 80% of the gross floor area may be used instead.

Net Floor Area excludes the following:

- Areas used for parking or loading
- Areas devoted exclusively to the operation and maintenance of a building such as
- HV/AC and mechanicals
- The thickness of load bearing walls, at each floor
- Elevator shafts, common stairways and hallways
- Porches, balconies, fire escapes
- Areas used for a child care facility

Density Requirements and Existing Zoning

The capacity to expand on the current density of development in the existing office and industrial zones is generally constrained by FAR(L) requirements in the CRO and CM zones. Currently, the allowed FAR(L) in the CM and CRO districts is 0.15 with no incentive based density bonuses (passed by Annual Town Meeting in 1987) and is calculated based on the ratio of net building floor area to the amount of developable land (calculated by total land less wetlands) of a project. An FAR(L) of 0.15 with no incentives is characteristic of a low density development standard relative to typical suburban commercial districts. Adding to the constraints of the relatively low FAR(L) are the setback requirements. The required setbacks for the CRO and CM zones are not atypical for an industrial park. However, when combined with low FAR(L) and other site constraints like wetlands floodplain restrictions and open space, the build out potential of a site can be limited to a significant extent.

There Town provides a zoning mechanism to allow commercial development to exceed the 0.15 FAR(L) limit. The CD zone has been in place since the late 1970's and is a floating district that has no pre-set guidelines. Developers are allowed to propose the site plan and the Town reviews and comments on it, voting on its approval at Town Meeting.

CRO: Commercial Zone, Regional Office.

The Regional Office district allows higher intensity of development for offices and related services, which is appropriate for larger companies that serve a regional clientele. Buildings are set in an open park-like campus.

- Uses allowed by right - Corporate offices, Real Estate, Finance, Medical (not a clinic), professional services (law, architecture, etc.), bank, services (travel, copying, private postal services), laboratory engaged in research and testing, distribution center.
- Uses prohibited - All residential uses, personal services (beauty parlor, dry cleaning, tailor, appliance repair), any sale or rental of goods and/or equipment, fast food, catering service, take-out food, any commercial amusement or entertainment establishment, motor vehicle sales/service, junk yard, dry cleaning, bakery, display and sales of wholesale goods with less than 25% total space used for assembly, contractor shop with sale of materials, office and yard for construction company.
- Uses requiring a Special Permit –Bank drive-up windows, restaurants, hotel/motels, and non-accessory parking lots.

Dimensional Requirements

Minimum lot size	5 acres
Maximum FAR	.15
Maximum site coverage	25%
Maximum height	3 stories or 45 feet
Minimum lot frontage	300'
Minimum front yard setback	100'
Minimum side yard	50'
Minimum rear yard	50'
Minimum side and rear yard adjacent to or front yard facing residential district	100'

Parking Requirements

Office Uses	1/250 ft ²
Research Lab	1/500 ft ²
Distribution	1/1000 ft ²
Hotel/motel	1/ guest room

Parking setback requirements:

- 50' from residential district line
- 50' from the street line
- 10' all other lot lines
- 5' from wall of principal building

CM: Commercial Zone, Manufacturing.

This zone is characterized by low intensity of development for manufacturing, assembly, processing and handling of materials. Approval is subject to performance standards.

- Uses allowed by right: Office uses, services (same as CRO), commercial printing, distribution center, commercial moving and storage, industrial services such as machine shop and welding, light manufacturing, commercial vehicle maintenance facility.
- Uses prohibited: All residential uses, personal services (same as CRO), sale/rental of goods/equipment, fast food, commercial entertainment/amusement, motor vehicle service station, motor vehicle parts sales and installation, junk yard, dry cleaning, bakery, display and sales of wholesale goods with less than 25% total space used for assembly, contractor shop with sale of materials, yard for construction company.
- Uses requiring a Special Permit: Outdoor storage, bank with drive-up window, hotel, motel, restaurant, motor vehicle sales/ maintenance, non-accessory surface parking.

Dimensional Requirements

Minimum lot size	3 acres
Maximum FAR	.15
Maximum site coverage	25%
Maximum height	3 stories or 45 feet
Minimum lot frontage	200'
Minimum front yard setback	75'
Minimum side yard	30'
Minimum rear yard	50'
Minimum side and rear yard adjacent to or front yard facing residential district	100'

Parking requirements

Manufacturing	1/500 ft ²
Office Uses	1/250 ft ²
Research Lab	1/500 ft ²
Distribution	1/1000 ft ²
Hotel/motel	1/ guest room

Parking setback requirements

- 50' from residential district line
- 50' from the street line
- 10' all other lot lines
- 5' from wall of principal building

Use Table (applicable to both CRO and CM zones)

Uses less than 10,000 GFA allowed by right. (Calculation excludes surface parking)

Uses equal or greater than 10,000 GFA require Special Permit with site plan review (SPS)

CD: Planned Commercial Development

This district permits considerable flexibility in the development of land for commercial or mixed use purposes without pre-determined standards. Development standards for this district are approved at Town Meeting. If the development requires a zone change, the change will be addressed through the CD review process.

The CD zone has no pre-set development standards. Developers are expected to propose a set of standards for site development and use which is then voted on at Town Meeting. Uses other than commercial may be located in a CD district provided that they are clearly shown on the submitted use and site plan.

Table 3-3 below is a summary of the seven approved CD districts and their Development Standards that were approved by the Town of Lexington at Town Meeting.

This table summarizes approved development standards and the maximum development that would result. These standards may differ from the amount of development that has actually been constructed.

Table 3.3 CD Zone Development Standards

Development Standards	CD 13 727 Marrett	CD 2 750 Marrett	CD 6 12-18 Hartwell	CD 1 7 Hartwell	CD8 16 Hayden	CD9 55 Hayden	CD 10 125 Spring
Land Use	Hotel	Offices	Hotel	Offices	Medical	Office	Office
Total Area	556,174	609,840	217,912	70,132	93,654	1,627,464	4,172,612
Wetlands	60,300	87,120	27,020	31,312	6,067	446,400	803,950
Net Developable Area	495,893	522,720	190,892	38,820	87,587	1,181,064	3,368,662
Gross Floor Area	151,234	105,000	70,298	10,120	46,149	288,700	631,600
Net Floor Area	120,987	86,000	56,238	9,170	25,718	213,360	505,800
FAR	.24	.165	.294	.098	.29	.185	.15*
Site coverage	44,493 or 8%	30,492 or 5%	39,819 or 18%	5,013 or 7%	Not avail.	112,573 or 6.9%	221,148 or 5.3%
Impervious Surface Coverage	214,000	156,816	99,685	14,592	50,800	414,500	1,039,911
Impervious Surface Ratio	.43	.3	.522	.38	.58	.0004	.249
Parking spaces	282	350	164	50	152	650	3,314
Setbacks	100' front 50' rear	75' front	100' front 150' rear	29' front 145' side 187' side	100' front	100' front	50' front
Height/ No. of stories	47.5'	2 stories	2 stories	2 stories	3 stories	4 stories	54.5**
Year Approved	1989, 2001	1982	1989	1979, 2001	1997	1997	Current review
Other	Being built now	Proposed as 4 stories	Never built	Amended in 2001 for new owner	With parking garage	Cubist offices	Former Raytheon site

Notes:

* Denotes standards allowed by zoning. This CD area is under review currently and is being applied to an existing facility.

** Height of one structure only, the others will conform to the district standards

Of the seven approved CD areas, five were approved after 1987 (one of the five is currently under review). The other four CD areas that were approved after 1987 have an average FAR(L) of 0.25, which is higher than the FAR(L) 0.15 allowed by the underlying zoning. However, the use of the CD zone for permitting has not resulted in substantial increases in densities relative to the average densities that exist within the study area.

Other Districts

WPD: Wetland Protection District

According to the official Zoning Map of the Town of Lexington, there are no WPD's in the study areas.

Traffic Constraints

In general, all three sub-areas addressed by this study have substantial location advantages relative to vehicular access. The areas are located adjacent to major interchanges that connect the interstate highway system (I-95/Route 128) and regional arterials (Routes 2, 2A, and Routes 4/225).

Street and roadway connections to the regional highway network are relatively short, but are congested at various times. The concentration of traffic along roadways leading to, from and through the commercially-zoned land consequently constrains local traffic. The resistance to increased traffic congestion within the Lexington community forms an important constraint on future development, if it is not mitigated in an acceptable manner.

However, the congestion is not a significant deterrent to the development of additional uses at higher densities within the parcels that compose the study area. The traffic problems are concentrated within a limited segment of typical trips to and from commercial businesses, which can readily access the interstate and regional highway system.

Extensive traffic studies have been prepared over many years by the Town and others to evaluate traffic conditions and possible improvements.

The Hartwell Avenue sub-section of the study area in has been a particular focus of study. Various improvement concepts have been advanced over the past two decades, but have not been implemented. The most recent version of the proposed enhancements includes an "at-grade jughandle" reconfiguration of the intersection of Bedford Street and Hartwell Avenue. The past studies have indicated that existing traffic congestion could be improved significantly within the corridor leading between Hartwell Avenue and the Route 128. If the Town agrees to implementing these or other improvements, then increased development in this area would have reduced impacts relative to the existing configuration and operations along this corridor.

The Forbes Road sub-area is small compared to the others and, based on previous traffic studies and recent roadway improvements, there does not appear to be practical opportunities to expand traffic capacity or reduce congestion significantly in this area. The Town would need to balance the amount of new development that occurs relative to its acceptance for incremental traffic.

The Hayden Avenue/ Spring Street area is located right on the Route 128 and Route 2 interchange. It is likely that the traffic capacity within the interchange area is adequate for

future growth within the nearby Lexington parcels. There would likely be a need to add capacity or undertake other mitigation improvements on the short local road network that feeds this interchange system in order to mitigate any future traffic impact associated with development. However, the regional capacity of this roadway system is very high and in its current state is not a limiting factor for future development.

Wetlands and Other Physical Constraints

Wetlands, open space, conservation land, and floodplain areas restrict the development capacity for many parcels within the study areas (see *Figure 3-16, Site Development Constraints*). As shown in the map, part of the Hartwell Avenue study area is constrained by the presence of wetlands and floodplains. Although these floodplain areas are classified by the Federal Emergency Management Administration (FEMA) as low- to moderate-hazard (with 1% chance of annual flood or less), flood insurance is mandatory for properties located in the A and AE zones. These represent many of the parcels located along Hartwell Avenue. In terms of development feasibility, this condition would not be considered to be a strong development constraint under general circumstances. However, the Town's Conservation Regulations set a restriction on structures on the floodplain, indicating that no buildings, parking lots or other temporary facilities should be located below the 10-year flood level. This restriction has been considered in the analysis of site capacity and redevelopment potential of the few parcels affected by the presence of floodplains, which have been considered as "non-developable" beyond the currently existing densities.

Wetlands located in the vicinity of the Forbes Road and Hayden Avenue commercial areas also contribute to limit the amount of developable land for some parcels, although to a lesser extent than they do in the Hartwell Avenue area. The presence of open space and conservation land along the periphery of the study areas also contribute to these limitations.

A more detailed consideration of site physical constraints, including topographical contours was made in order to estimate the susceptibility to change of individual parcels within the study areas. The results of this analysis are summarized in the next section.

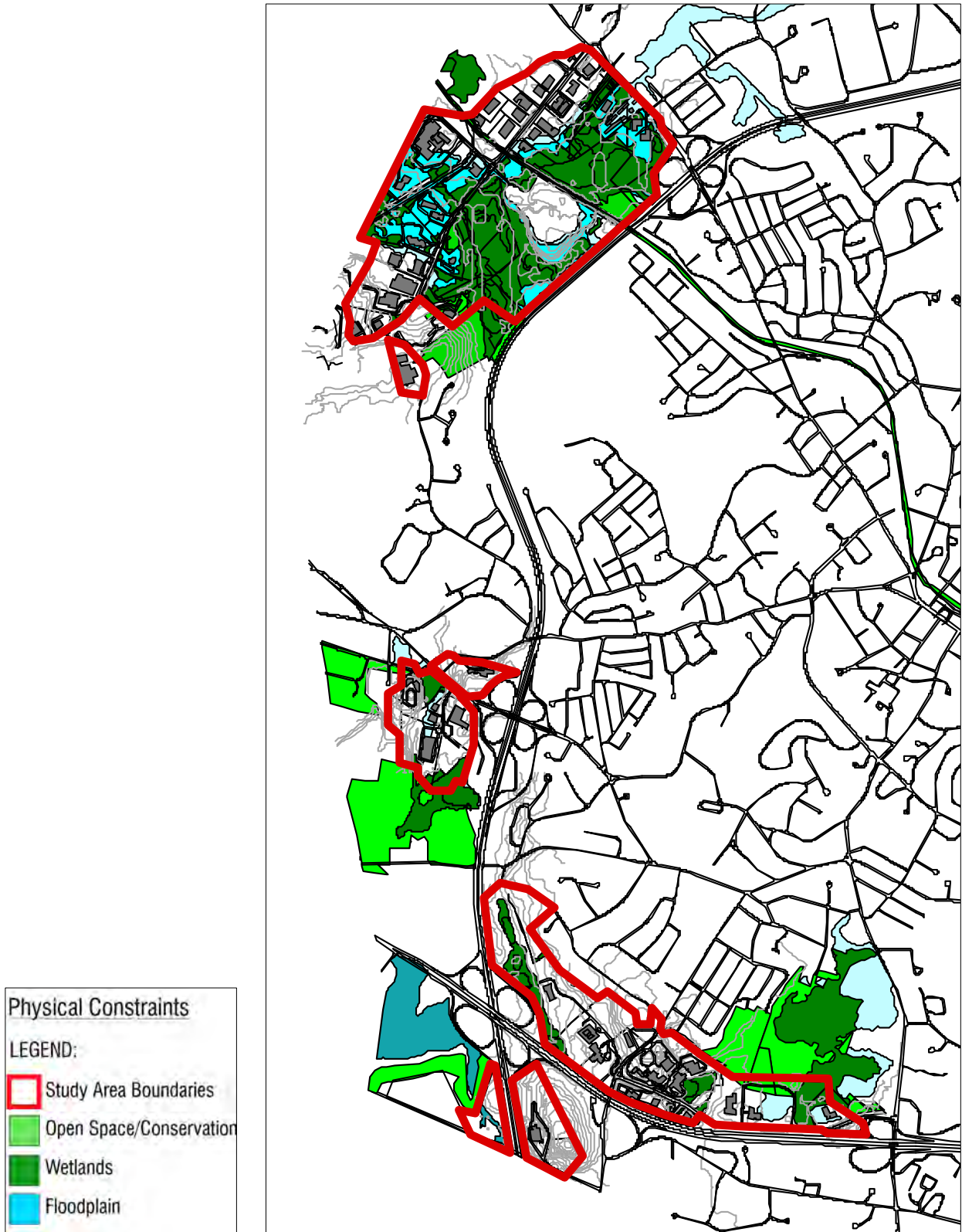


Figure 3-16. Site Development Constraints (Wetlands, Open Space and Floodplains)

Market Opportunities

This portion of the *Report* provides a summary of market opportunities that support additional development potential within the study area. A more complete overview is provided within an appendix, *Market Overview*. The location of commercial space in Lexington along Route 2 and Route 128 offers exceptional access to the region and to a highly educated and skilled workforce in communities such as Wellesley, Weston, Lincoln, and Lexington. This population typically works for companies that rent commercial spaces that command higher rents, such as Class A office, R&D or biotech spaces, with shorter commute times from the homes of their employees. As a result, Lexington competes more with other nearby communities along Route 128 and Route 2. Waltham is probably Lexington's most direct competitor.

Lexington is well positioned, based on its demographics, to compete in the commercial real estate market. The median household income is over \$100,000 and the median home value is approximately \$700,000. In addition, many of the residents have obtained high education levels. Nearby communities with similar demographic characteristics include: Wayland, Weston, Lincoln and Wellesley. Also, as gleaned from discussions with town officials, residents, and local brokers, a large number of professionals living in or near these communities are science and research professionals associated with the strong biotech economy, centered in Cambridge's Kendall Square and associated with the Massachusetts Institute of Technology. Access to Cambridge from Lexington, via Route 2, is a relatively convenient compared to other suburban communities. Demand for Class A space including R&D and biotech facilities is high as companies seek to attract talented employees and professionals living in metro-Boston suburban communities look to reduce commute times.

In terms of other uses, the types of retail uses being generally considered as appropriate at the target sites are restaurants and other small convenience and service retail to be located in suburban style small strip centers or clusters at the base of multi-tenant office buildings. These uses are intended to serve office workers and office uses specifically, and are intended to provide amenity and convenience and make the suburban office area more of a full service environment. Hospitality/lodging is also a use that would assist in the creation of a more full service environment. General market trends for both of these uses in Lexington is also strong, as the only vacant retail properties in Lexington are typically older structures; not purpose-built for modern retail uses. It would be expected that new space in Lexington would likely garner rents similar to newer properties in neighboring communities.

The following summarizes the market opportunities for each of the use types indicated based on current market conditions (A detailed market overview is included in the *Appendix* section). Market opportunities exist for the following product types:

- Office and biotech
- Office-serving retail

- Lodging

Office and Biotechnology

The Arlington/Lexington Submarket has highest average rents in suburban Boston; averaging \$35.12 per square foot annually for space. This includes use-types that command higher rents, such as biotech uses. A well educated and higher paid workforce is the driver for such development types and, in turn results in a local population with more discretionary spending budgets and a more stable housing market. Key opportunities and constraints for this type of uses include the following:

- High rent potential if new development occurs; as current older inventory rents do not equal neighboring communities.
- Proximity to Route 128 and Route 2 is a big advantage; however traffic is a concern, especially at the Route 225/Route 128 interchange.
- Ease of access to biotech and office centers in Cambridge via Route 2 is a positive.
- Well educated workforce residing in Lexington and neighboring communities (including biotech professionals and corporate decision makers) are in close proximity and looking for nearby office locations.
- Generally, if space was available with amenities equivalent to nearby Waltham, similar rents could most likely be garnered.

Office-serving Retail

By and large, Lexington as a whole – and specifically the subject sites for this study – are lacking in small, office serving retail uses. These retailers are smaller retailers focused on a local daytime draw and include quick food, sit down food, or small floorplate commercial catering to office workers. They are typically located in small shopping centers or stand-alone retail buildings.

The Boston suburban retail market is generally stable, especially for new retail as development constraints are greater and shoppers are looking for new, modern outlets. The Suburban/Route 128 submarket commands the highest rents in Suburban Boston (\$28.15 per square foot annually) and also has one of the lowest vacancy rates – 5.4% as of the fourth quarter of 2007. Finally, smaller, stand alone or small retail centers (such as those utilized by office serving retail) are on the higher end of the retail rent spectrum.

Key opportunities and constraints for this type of uses include the following:

- High rent potential due to lack of local competition and general low vacancy rate in newer, modern desirable buildings.
- Potential to reduce vehicle trips during business hours to and from subject sites.
- High levels of disposable income in neighboring communities.
- Rents for new service retail could be on par with neighboring communities.
- Lack of available land for new retail.

- Lack of zoning that allows for freestanding and office-oriented retail.

Lodging

Only three hotel or motel properties exist or are planned in Lexington. Hotel and lodging uses are a key component of a full-service office environment, and as a result, a market opportunity may exist in Lexington at the subject sites.

Other hotel properties are located throughout the Route 128 corridor, with the closest competitors in Waltham and Burlington where average room rates are in the \$175-250 per night range on average for 3- and 4-star properties. Only approximately ten properties exist between Burlington, Lexington, and Waltham.

Key opportunities and constraints for this type of uses include the following:

- Potential to add to the limited supply in the suburban Boston office market.
- Potential to add lodging opportunities closer to subject sites; thereby encouraging more full-service office environments.
- High revenue per available room potential in a growing market.
- Lack of available land for new hotels.
- Lack of zoning that allows for hotel development.

Susceptibility to Change

A useful method to evaluate potential development opportunities is a “susceptibility to change” analysis that considers various factors that may influence the practical development potential on individual sites.

The amount of developable land (defined as land excluding wetlands, open space, conservation land, town-owned and utility-owned land) that exists in the study area is noted on *Table 3-1 (page 3-2)* and includes approximately 138 acres in the Hartwell Avenue area, 55 acres in the Forbes Road area, and 176 acres in the Hayden Avenue area (about 369 acres in total). The majority of this land is already occupied by buildings of different size and character depending on the particular use and intensity of development of each parcel. However, some of these parcels may have site capacity for new development, either in the form of additions to the existing buildings or through demolition and reconstruction. The amount of potential new development that could be accommodated in these areas is quantified in *Section 4* of this report through the analysis of alternative FAR scenarios (refer to *Table 4-1 on page 4-8* for more information).

The “susceptibility to change” analysis in this section is a qualitative process aimed at providing an overview of locations or patterns of development that may emerge under various conditions. This analysis was based on the following methodology:

A database of parcels and GIS mapping layers were provided by the Town to the consultant for the purpose of this study. The database was analyzed using the following conditions: extent of wetlands and contours, floor area ratio (FAR), size, and age of the buildings. A second review was then conducted assuming no FAR or building height limitations. Proposed development and, in some cases, location of the property were qualifying criteria as well. These constraints were applied to the database in order to filter properties based on their susceptibility and potential to change. Properties were then categorized as 1) proposed development, 2) high potential, 3) moderate potential, and 4) low or no potential. Under these assumptions, potential development becomes dependent on the physical site capacity based on lot size, shape and the presence of wetlands or floodplains, and not on regulations. This takes into consideration the potential to add new space to existing buildings if zoning requirements were changed or FAR relief were granted. The results of this analysis are mapped on *Figures 3-17 to 24* and can be easily summarized as follows:

- Change without Regulatory Relief – There is virtually no significant predictable change in the development of the parcels under the current Town regulatory framework or its application, because the area is effectively “built out”.
- Change with Regulatory Relief – Depending upon the extent of the regulatory relief provided and the extent to which increased density is permitted over time, virtually all of the sites within the zones under study are susceptible to substantial reinvestment in line with market opportunities associated with the desirable regional location and other attributes of the sites.

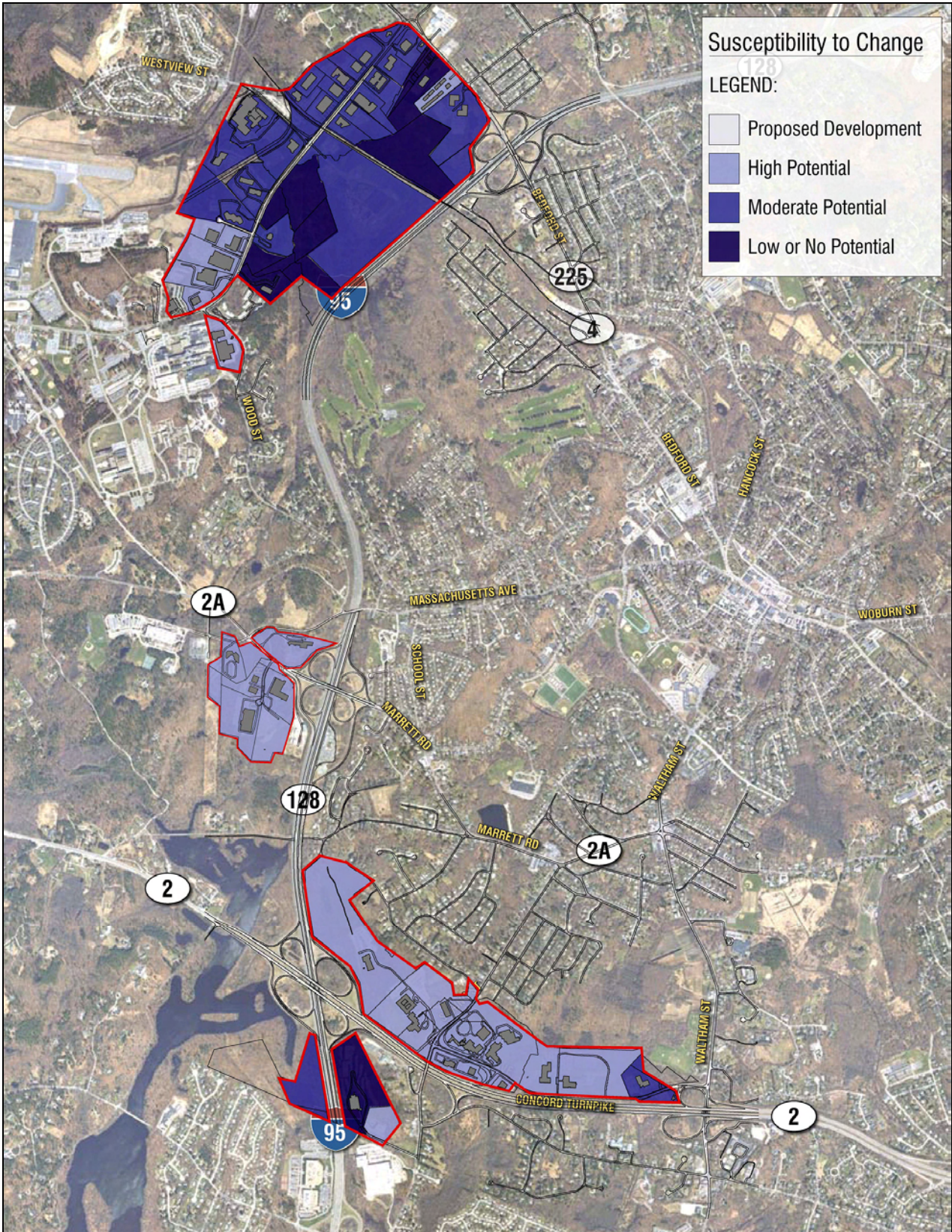


Figure 3-17. Susceptibility to Change on a Parcel-by-Parcel Basis (based on site capacity)

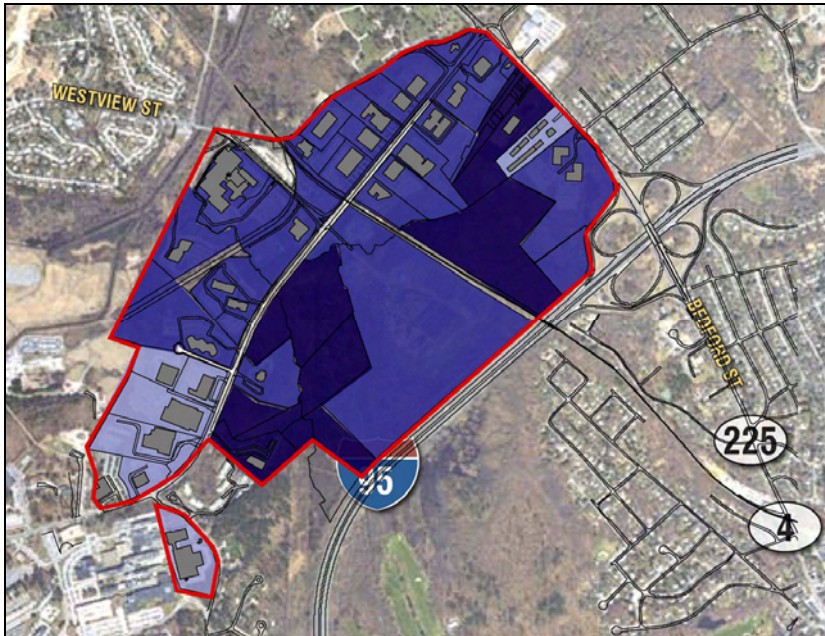


Figure 3-18. Hartwell Avenue - Susceptibility to Change (based on site capacity)

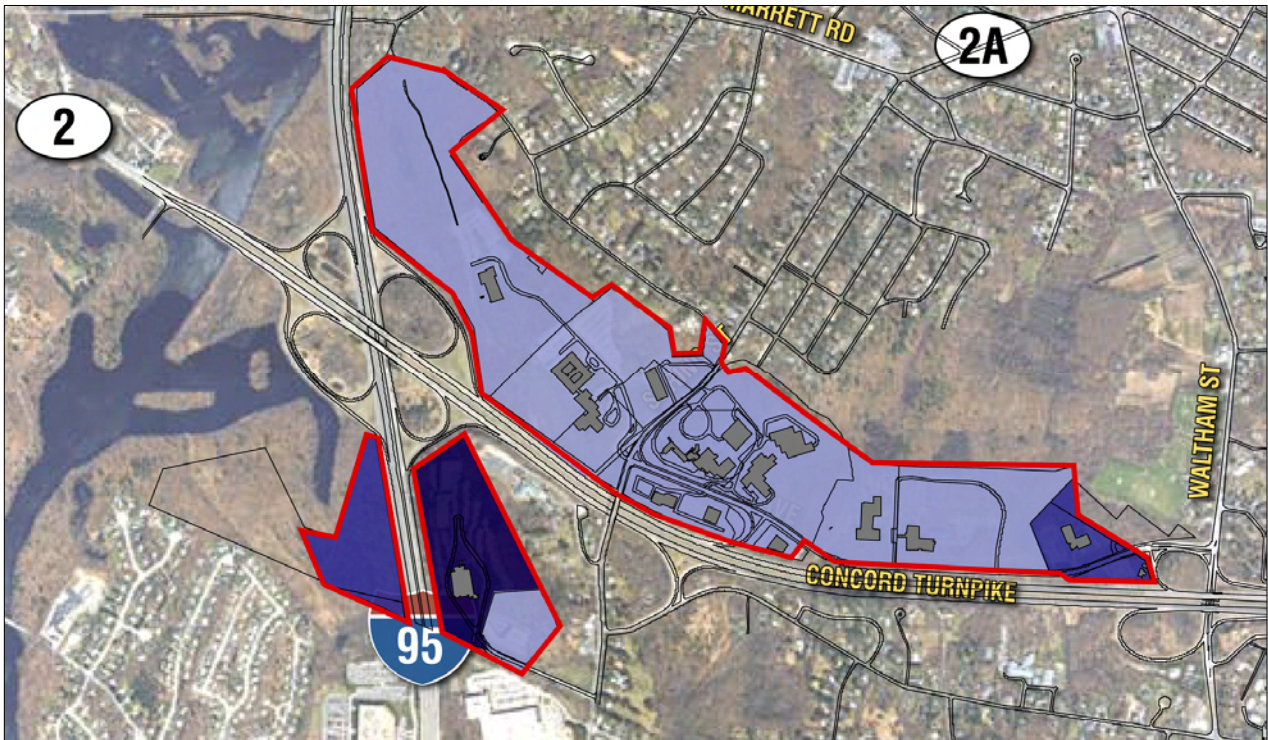


Figure 3-19. Hayden Avenue/Spring Street - Susceptibility to Change (based on site capacity)



Figure 3-20. Forbes Road - Susceptibility to Change (based on site capacity)



4. ALTERNATIVE SCENARIOS AND EVALUATIONS

4.1 Site-based Scenarios: Density and Site Development

This portion of the *Report* summarizes the results of an evaluation of the build out potential of the three commercial districts of Hartwell Avenue, Hayden Avenue/Spring Street and Forbes Road to host additional development. “Build out” is an expression commonly used to identify the maximum capacity of land to support developed uses. Based on the analysis of existing conditions and market overview, this section provides estimates of the amount and type of development that might reasonably occur under alternative scenarios.

The methods employed in this evaluation consider the implications of various assumptions as they would apply to typical parcels of land within the study area. Using the results of this parcel-based approach, the evaluation is expanded to explore the development capacity implications for the entire study area.

The three commercially zoned districts are composed of land that has largely been improved with buildings. Any additional capacity for new development will be dependent on a combination of factors that include physical and natural conditions, market conditions, zoning and other regulatory controls. The physical and natural conditions of the study area result in restrictions to new development based on the presence and location of topography, wetlands, protected open space and floodplains, as described in *Section 3, Existing Conditions and Site Inventory*. These conditions are unlikely to change, and they directly affect the land capacity for new development independently of other variable factors that could be considered in the analysis of alternative scenarios. As discussed in *Section 3* and the *Appendix* to this report, market conditions and trends are highly favorable to the development of additional commercial uses in the study area and, therefore, market potential is assumed to be positive in any likely alternative scenario. The other major factors that will condition the build out capacity of the study area are regulatory controls set by zoning and environmental regulations.

One of the important findings from the analysis of existing conditions indicates that the current zoning sets standards for density and building heights that effectively restrict land densities to relatively low levels, even lower than levels that were achieved prior to the institution of the current zoning. As a result, the study area is practically “built out” under current zoning regulations. However, the existing building densities are below those typically achieved in suburban areas where surface parking is employed, and considerably lower than achieved densities in circumstances where the combination of regulations and market economics permit structured parking to become feasible.

Based on these observations, the analysis of alternative scenarios has been focused on the opportunities for additional new development that would be generated if zoning changes were made to allow for increased density over time. Economic factors indicate that the majority of the sites within the zones under study would be susceptible to substantial reinvestment in line with market opportunities, depending upon the extent of regulatory relief that might be provided. These economic factors include relatively high rental rates, strategic location and access advantages relative to existing markets, relatively low existing

development densities and outmoded building stock, and other considerations described in the overview of market conditions provided in this report.

Effects of the Current Zoning on Density

To ensure that the definition and planning reference to density calculations is clear, this portion of the analysis employs Lexington's methods, using the abbreviation FAR(L) to indicate floor area ratio as calculated and employed within Lexington's zoning bylaw.

The existing zoning regulations for Regional Commercial (CRO) and Manufacturing (CM) limit the amount of development well below either the existing or potential land use densities. Using a Floor Area Ratio ("FAR(L)") that is a relevant measure of density employed in the Town's regulations, the regulated maximum FAR(L) is 0.15; using Town Assessor's data, this study estimates the existing average density in the study area is in the order of 0.22 FAR(L). In other words, the constructed density of uses ("build out") within the study area considerably exceeds that which would be allowed according to the underlying regulations.

It should be noted that the Town's zoning regulations for the CRO and CM zones contain other restrictions that also effectively limit the density of development that may be achieved. These include height, setback and other considerations. These restrictions, however, would generally allow typical land parcels to achieve an as-of-right density of 0.15 FAR(L). It must be understood that increasing densities above this ratio would require associated adjustments the other standards that effectively limit density.

The Cecil Group has prepared a simple illustration indicating the typical site and development characteristics associated with the relatively low density of development associated with the underlying zoning regulations (*Figure 4-1* below).



Figure 4-1. Illustration of “Build Out” of Commercial Use at 0.15 FAR(L) Density

The regulations tend to result in a low, one or two-story commercial building flanked by a surface parking lot. While those portions of the site that may be occupied by wetlands would be undevelopable, other portions of the site outside of regulated wetlands could not be productively used for either revenue producing buildings or parking to support it. These areas are rendered unusable by regulation; such surplus site areas cannot contribute to the market value of the site – or the Town’s tax base.

The Planned Commercial Development (CD) zoning designation allows for densities greater than the CRO and CM zones, but must be approved as a zoning change on a site and project basis. The process for establishing zoning and project approvals can be long and unpredictable in regards to the permitted densities that can be achieved. The review and approval process associated with the CD designation has resulted in some project approvals above the CRO and CM zoning densities; however, on the average, the approved CD-zone projects appear to be below the typical densities that are likely to be achievable on a market basis. As a result, the provisions and project record associated with the CD zoning designation are not useful as a basis for gauging the build out capacity of the study area; a market-based approach was used.

Market-Based Build Out Scenarios on a Parcel Basis

Two different levels of additional development were examined on a parcel basis through scenarios that are likely to be achievable within prevailing market conditions over time. Each scenario would increase the use of developable land without incursions into regulated

wetlands or open space that currently has preservation restrictions. Each scenario would retain on-site landscaping and setbacks similar in proportions to those typically associated with suburban environments.

For reasons that are associated with the economics of land use in suburban locations, market-driven development densities are optimized under two different conditions. Under some market conditions, real estate economics only allow relatively low cost surface parking to be provided to support developed uses. Under more favorable market conditions, revenues derived from developed buildings can support the relatively high cost of structure parking - resulting in a far more efficient use of land. More efficient use of the land through more compact and higher densities results in higher taxable value on a square foot basis, an important consideration from the Town's perspective.

The first scenario evaluated for this study considered the circumstances associated with allowing parcel development at 0.35 FAR (L). Preliminary analyses of site capacity at different FAR values indicated that a balance is achieved between building density, open space and parking at grade for a typical mid-size parcel in the study area at about 0.35 FAR(L). As discussed above, this scenario would result in surface parking lots supporting new or expanded commercial buildings. It would also retain typical aspects of suburban development such as landscaped setbacks. Evaluations of development feasibility at this density conclude that existing property owners, to the extent that existing development is below a density of 0.35 FAR (L), would be adequately incented to attain this level of development over time, if allowed by the Town. The development feasibility scenarios suggest that parcel owners of typical parcels and outmoded buildings could benefit from removing existing buildings ("tear downs"), and replace them with facilities meeting contemporary market needs. In other cases involving newer or recently renovated buildings, owners and developers would be economically benefitted by retaining the existing buildings and providing building additions (vertically and/or horizontal), accompanied by adequate increase in parking areas.

The Cecil Group has prepared a simple illustration (*Figure 4-2*) indicating the typical site and development characteristics associated with densities at 0.35 FAR(L). The diagram is very recognizable as a typical suburban office site composition. The regulations tend to result in a two- or three story commercial building flanked by a surface parking lot.

While those portions of the site that may be occupied by wetlands would remain undevelopable, other portions of the site outside of regulated wetlands could be productively used for buildings or parking to support them – although there would still be landscaped setbacks along the edges of the site.

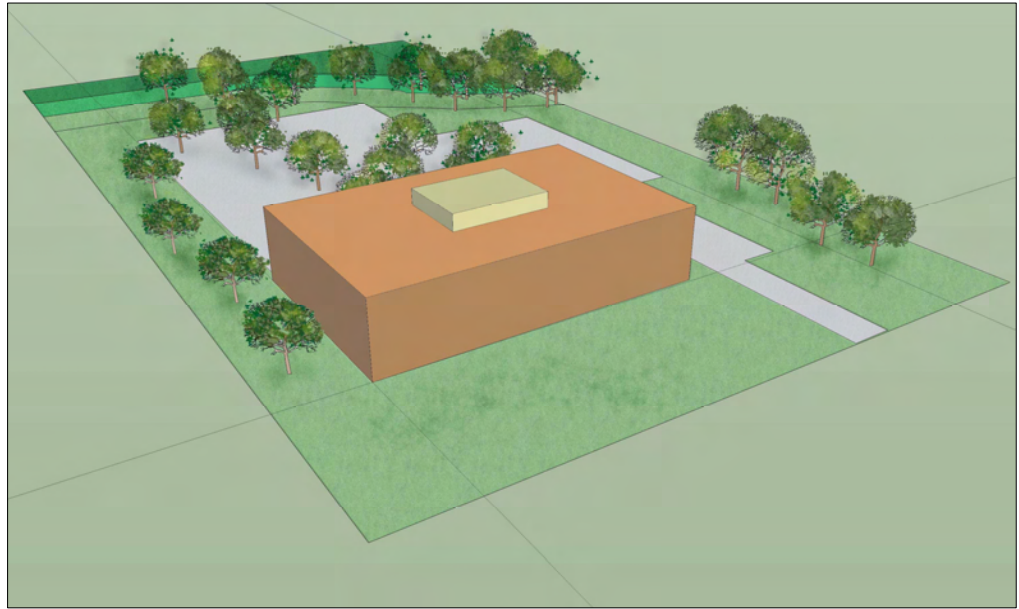


Figure 4-2: Illustration of “Build Out” of Commercial Use at 0.35 FAR(L) Density

A second scenario considered the feasibility of building out parcels at levels that would require structured parking (0.90 FAR(L)). Preliminary analyses of site capacity at different FAR values and their economic evaluation indicated that providing structured parking is not feasible at FAR(L) values lower than 0.90 under current market conditions. These conditions have become prevalent in similarly located parcels along the I-95/Route 128, and other similar corridors around greater Boston, for example. Projects at these densities have occurred and are being developed in Braintree, Waltham, Westwood, Wellesley and other communities. Such densities still retain the qualities of suburban settings, such as landscaped setting, setbacks from property lines and adjacent buildings, and building heights that average from two to five stories - lower than typical of urban settings. The conditions associated with achieving densities of 0.90 FAR(L) or somewhat greater may already exist or will occur over time within the study area. Evaluations of development feasibility at this density also suggest that parcel owners would be adequately incented to attain this level of development over time, if allowed by the Town.

Development densities considerably greater than 0.90 FAR (L) will not be feasible within the market-driven economics of Lexington’s commercially-zoned lands. Significantly higher densities rely on net revenues associated with developed uses that allow parking to be buried in below-grade garages, thus removing them as a constraint on efficient use of the land for other revenue-producing uses. Below grade garages for most or all of the parking requirements are typically associated with very high rental values and locations with very high transit access that reduce total parking demand, and unusual geotechnical conditions. For these and other reasons associated with reasonable maximum capacity of the land, significantly higher densities have been excluded from study.

An important observation should be made about the two analyzed scenarios – 0.35 FAR(L) and 0.90 FAR(L). These scenarios have been selected as appropriate models of

prospective development capacities. These two scenarios reflect important implications regarding land values and the economic feasibility of developing structure parking.

The site capacity to accommodate surface parking of a “typical” parcel within the study area peaks at about 0.35 FAR(L); it becomes difficult or impossible to accommodate all the necessary parking in surface lots at marginally greater FAR(L) values within the confines of a typical suburban site. It is not until the value of the land (as derived from the revenues that can be garnered from development) is considerably higher does it become cost effective to stack parked cars in parking structures, providing the remaining site area for new building development. Development densities typically need to achieve FAR(L) values of approximately 0.90 in order for this conversion to occur.

This is readily understood when comparing typical parking space costs. Surface parking spaces in landscape lots cost approximately \$1,500 to \$2,500 per space. Structured parking in relatively attractive parking structures with landscaped settings may cost between \$22,000 and \$30,000 per space. In suburban settings, there is no revenue associated with parking spaces. As a result, the ability to pay the incremental costs of parking depends on substantially higher net revenues from the other improvements on the site.

The Cecil Group has prepared a simple illustration (*Figure 4-3*) indicating the typical site and development characteristics associated with densities at 0.90 FAR(L). The diagram is very recognizable as a suburban office site composition where a parking structure accompanies a building or building complex. The regulations tend to result in a four or five story commercial building flanked by a somewhat lower parking structure. While those portions of the site that may be occupied by wetlands would be undevelopable, other portions of the site outside of regulated wetlands could be very productively used for more buildings and the relatively high cost parking that far more efficiently uses the land – and still retains substantial areas for landscape setbacks. In fact, the total site coverage by impervious surfaces may be the same or even less than occurs where most of the lot coverage is consumed by surface parking.

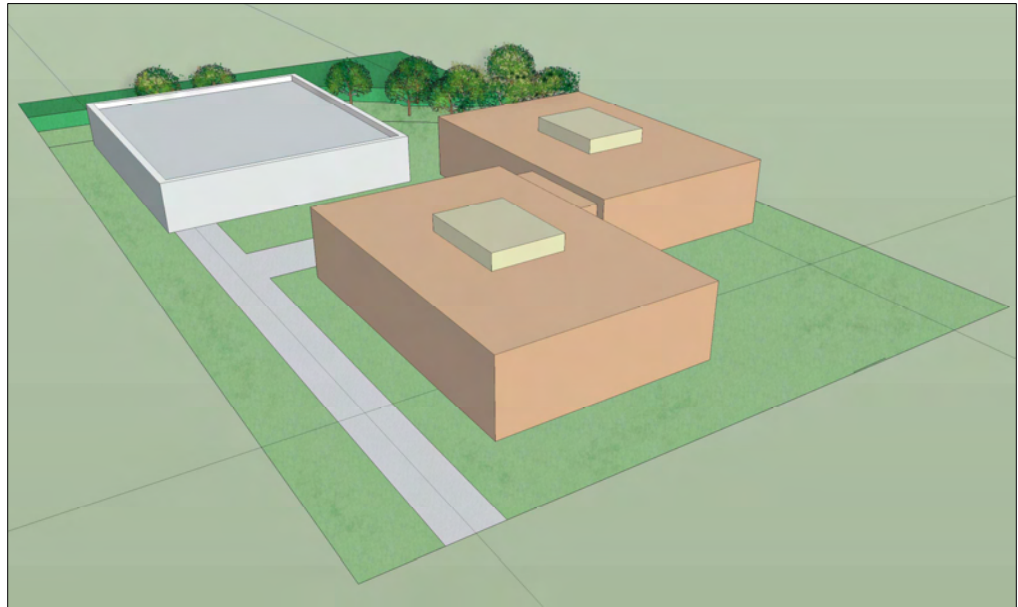


Figure 4-3: Illustration of “Build Out” of Commercial Use at 0.90 FAR(L) Density

Study Area Build Out Implications

As described above, market conditions would very likely provide development at considerably greater densities than currently exist within the study area. So the development capacity of the study area is effectively dependent upon the Town’s regulations and the permission it grants to the private sector to construct additional building area. The Town has the ability to manage the amount, density, location and other aspects of development that are related to value and the Town’s tax base.

The Town could effectively preclude any additional or expanded development in any or all of the districts through its zoning and regulatory practices. Alternatively, the Town could allow expanded use and new development at virtually any level, location and density limitation that it may decide to allow, up to a parcel-based density of about 1.0 FAR(L). Densities above that level would require urban land value conditions and transit service levels that will not occur within the study area within a foreseeable future.

4.2 Area-wide Scenarios

Table 4-1 below generally quantifies the potential for additional development in the study area based on the area-wide application of the analyzed 0.35 FAR(L) and 0.90 FAR(L) values. It should be noted that parcel information is based on GIS and Assessor’s data, and not on land surveys or private documentation. Consequently, the results of the analysis are intended for general planning purposes only, and should not be used for specific parcel-based reference or design purposes.

Table 4-1: Summary of Build Out Potential at .35 FAR(L) (Continued)

Source: Town's GIS Data and Assessor's Records

OBJECTID	LOT	MAP	MAPLOT1	MAP_TXT	AREA_SQFT	AREA_ACRE	NUMBER	ADDRESS	CURRENT_OWNER	ZONING	BDG_FOOTPRINT	GROSS_BDG_SF	NET_BLDG_SF	YEAR_BLT	FAR_STANDARD	FAR_Developable_area	FAR_EFFECTIVE	FAR_LEXINGTON	# of Stories	Available FAR(L) at 0.35 FAR(L)	Additional Buildout Potential Gross at 0.35 FAR(L)	Additional Buildout Potential Gross at 0.90 FAR(L)	Additional Buildout Potential Gross at 0.90 FAR(L)	Note											
																					SF	SF	SF												
Forbes Road Area																																			
8314	9D	43	43-9D	0043	680,843	15.63	3	FORBES RD	BHX LLC TRUSTEE	CRO	82,088	161,202	128,962	1979	0.24	361,000	0.45	0.36	2																
7848	56A	51	51-56A	0051	574,992	13.20	727	MARRETT RD	STARWOOD LEXINGTON REALTY LLC	CD-13		151,234	120,987		0.26	574,992	0.26	0.21	4	0.14	80,260	100,325	0.69	396,506	495,632										
1754	9C	43	43-9C	0043	468,270	10.75	2	FORBES RD	WELLFORD CORP	CRO		105,504	84,403	1968	0.23	468,270	0.23	0.18	2	0.17	79,491	99,364	0.72	337,040	421,300										
8281	23	43	43-23	0043	237,838	5.46	1	FORBES RD	BHX LLC TRUSTEE	CRO		49,040	39,232	1979	0.21	237,838	0.21	0.16	2	0.19	44,011	55,014	0.74	174,822	218,528										
2563	3A	52	52-3A	0052	310,583	7.13	750-760	MARRETT RD	BATTLE ROAD CAPITAL TRUST	CD-2		105,000	86,000		0.17	522,720	0.20	0.16	2	0.19	96,952	121,190	0.74	384,448	480,560										
4357	4B	52	52-4B	0052	43,386	1.00	750-760	MARRETT RD	BATTLE ROAD CAPITAL TRUST	CD-2															Note 4										
7795	1A	52	52-1A	0052	139,828	3.21	750-760	MARRETT RD	MINUTEMAN VOC SCHOOL	CD-2															Note 4										
8313	1B	44	44-1B	0044	127,369	2.92	750-760	MARRETT RD	CRANBERRY ONE LLC	CD-2															Note 4										
7850	9	43	43-9	0043	413,820	9.50	2	FORBES RD	WELLFORD CORP	CRO					0.00	215,000	0.00	0.00		0.35	75,250	94,063	0.90	193,500	241,875										
8301	34	43	43-34	0043	8,600	0.25				CRO															Note 2										
Subtotals												571,980	459,584																					Note 1	
Hayden Avenue Area																																			
1062	19	17	17-19	0017	81,485	2.41	80	HAYDEN AVE	KOUMANTZELIS ARTHUR G TRUSTEE	CRO	14,407	43,536	34,829	1982	0.53	44,000	0.99	0.79	3																
1613	1C	16	16-1C	0017	287,060	6.59	33	HAYDEN AVE	HAYDEN OFFICE TRUST	CRO	27,510	84,283	67,426	1977	0.29	175,000	0.48	0.39	3																
4301	1A	16	16-1A	0016	93,654	2.12	16	HAYDEN AVE	HAYDEN MEDICAL CENTER LLC	CD-8		46,149	25,718	1999	0.49	87,587	0.53	0.29	3	0.06	4,937	6,172	0.61	53,110	66,388										
10276	22	17	17-22	0017	1,087,693	24.97	95	HAYDEN AVE	LEDGEMONT RESEARCH PARK ASSOCIATES	CRO	113,534	200,343	160,274	1986	0.18	702,400	0.29	0.23	2	0.12	85,566	106,957	0.67	471,886	589,857										
10201	2B	18	18-2B	0018	490,150	14.49	124-130	SPRING ST	LEDGEMONT ASSOCIATES	CRO	107,495	133,230	106,584	1934	0.27	490,150	0.27	0.22	1	0.13	64,969	81,211	0.68	334,551	418,189										
10470	4A	18	18-4A	0018	276,170	6.34	92-100	HAYDEN AVE	92 HAYDEN AVENUE TRUST	CRO	35,789	72,014	57,611	1970	0.26	276,170	0.26	0.21	2	0.14	39,048	48,810	0.69	190,942	238,677										
10971	21A	17	17-21A	0017	1,123,717	25.80	45-55	HAYDEN AVE	THE REALTY ASSOCIATES FUND VI LP	CD-9		288,700	213,360	1997	0.18	1,181,064	0.24	0.18	4	0.17	200,012	250,016	0.72	849,598	1,061,997										
10586	20B	17	17-20B	0017	503,728	11.56	65	HAYDEN AVE	CUBIST PHARMACEUTICALS INC	CD-9																Note 4									
10865	13B	12	12-13B	0012	297,515	6.83	181	SPRING ST	LINDE EDWARD H TRS 191 SPRING STREE	CRO		56,442	45,154	1999	0.19	297,515	0.19	0.15	1	0.20	58,977	73,721	0.75	222,610	278,262										
9982	14A	18	18-14A	0018	220,849	5.07	125	SPRING ST	PATRIOT PARTNERS LEXINGTON LLC	CD-10		631,600	505,800		0.15	3,368,662	0.19	0.15	4	0.20	673,232	841,540	0.75	2,525,996	3,157,495										
10610	3C	18	18-3C	0018	1,665	0.05	128	SPRING ST	PM ATLANTIC LEXINGTON LLC	CD-10																Note 4									
2105	14B	18	18-14B	0018	270,508	6.21	200	PATRIOT WAY	PATRIOT PARTNERS LEXINGTON LLC	CD-10																Note 4									
3110	15	18	18-15	0018	1,084,644	24.90	300	PATRIOT WAY	PATRIOT PARTNERS LEXINGTON LLC	CD-10																Note 4									
3109	44D	26	26-44D	0026	2,505,571	57.52	400-500	PATRIOT WAY	PATRIOT PARTNERS LEXINGTON LLC	CD-10																Note 4									
10611	4B	18	18-4B	0018	39,423	1.17			CAMBRIDGE/CON PM ATLANTIC LEXINGTON LLC	CD-10																Note 4									
9968	113A	25	25-113A	0025	39,850	1.18			SHADE ST	CD-10																Note 4									
10399	13A	12	12-13A	0012	1,054,588	24.21	191-201	SPRING ST	191 SPRING STREET TRUST	CRO		172,000	137,600	1970	0.16	1,054,588	0.16	0.13	4	0.22	231,506	289,382	0.77	811,529	1,014,412										
4326	1A	19	19-1A	0019	1,337,292	30.70			CAMBRIDGE/CON TRACER LANE II REALTY TRUST &	CRO																Note 2									
2170	11	12	12-11	0019	33,550	30.70			CAMBRIDGE/CON BOSTON PROPERTIES LIMITED PARTNERSH	CRO																Note 2									
1489	3B	18	18-3B	0018	28,363	0.84			HAYDEN AVE	CRO																Note 2									
7192	4A	16	16-4A	0016	222,156	5.10			HAYDEN AVE	CRO																Note 2									
Subtotals												1,728,297	1,354,356																						Note 1
TOTALS					30,951,594	759					1,563,599	4,515,741	3,586,312		0.25	16,054,003	0.35	0.29			2,209,439	2,761,799				Note 5									

Summary	
EXISTING STANDARD FAR (For all Study Area)	0.15
EXISTING LEXINGTON FAR (For all Study Area)	0.22
Total Gross Bldg. SF	4,515,741
Total Net Bldg. SF	3,586,312
Total Land Area (Parcels)	30,951,594
Total Developable Area	16,054,003
Total Wetlands, Floodplain and O.S.	14,897,591

NOTES
 Note 1 : Information on build out potential at 0.90 FAR(L) is provided for illustrative purposes only; subtotals are not added because the probability of an area-wide "build out" at this FAR is minimal
 Note 2: Parcel considered as nondevelopable due to floodplain (FEMA Zone AE, A1 or A3), wetlands, conservation/open space restrictions, or lack of access
 Note 3: Town-owned parcel used for compost operations
 Note 4: Parcels incorporated as part of the one large CD site area; build out potential for the entire CD site is noted under the main development address
 Note 5: FAR values on this row denote average FAR of existing parcels containing developable land
 Note 6: Including all parcels in the commercial zones, and excluding roadways and public right-of-ways
 Note 7: Estimated developable area based on area measurements from GIS mapping, excluding the Town-owned parcel used for compost operations, wetlands, floodplains, and Town-owned parcels/restricted open space

**THE INFORMATION HEREIN CONTAINED IS BASED ON AVAILABLE GIS MAPPING AND TOWN ASSESSOR'S DATA, AND IS INTENDED FOR GENERAL PLANNING PURPOSES ONLY
 THIS INFORMATION SHOULD NOT BE USED FOR SPECIFIC PARCEL-BASED REFERENCE OR DESIGN PURPOSES**

4.3 Economic Evaluation

An illustrative fiscal benefit and economic evaluation has been assembled using typical real estate development factors effecting feasibility and the review of real estate market conditions in Lexington. The following evaluation considers the implications of revising the Town's regulations to allow higher densities to be created, over time.

Because this evaluation purpose and methods are intended to inform the Town's long-term land use planning and economic development policies, it does not and cannot accurately predict the time frame in which redevelopment would occur. As noted in the Executive Summary of this document, Lexington may reasonably "allow", "facilitate", or "mitigate" development by changing its regulatory policies and setting associated conditions to ensure that net benefits are created. However, the build-out scenarios can be considered reasonable approximations of development that the market forces would create over a mid-term to long-term perspective that looks beyond current market conditions and business cycle.

To place the development potential in context, existing development within the study area is composed of approximately 4.5 million square feet of building area. The approximate supply of commercial office and research & development building area in the Route 128 Northwest segment is about 21 million square feet. The approximate supply of the same uses within Boston and its suburban markets is about 200 million square feet. (Source: Colliers Meredith & Grew, *Greater Boston Market Viewpoint, 1st Quarter, 2008.*)

As an illustration of possible fiscal implications, the study considered the incremental fiscal benefit that would occur if the Town were to allow development up to an FAR (L) of 0.35 across the entire study area. Under these regulatory conditions and over time, parcels that are currently below this density level would be incented to either add space to meet the allowed density, or tear down existing buildings and replace them with new structures, optimizing the use of the sites. Parcels currently developed above the 0.35 FAR(L) level would remain unchanged, having been "grandfathered" at higher densities.

Office and/or research & development uses were considered for this purpose of this evaluation, as they represent the largest market segment that could be expected to fill some or all of the development potential over time. The fiscal benefits would vary with the specific mix of uses allowed and the valuation assessment that would be related to them. For example, hotels would tend to contribute substantially more to the tax base relative to office uses. In addition to property tax, the Town could collect hotel occupancy taxes. An income-based assessment method will tend to show higher valuation per square foot of construction. Finally, hotel parking ratios tend to be somewhat lower on a per square foot basis, so hotels tend to use land more efficiently than offices or research & development uses. This being noted, it is not reasonable to employ hotel use projections as the basis for a fiscal scenario, as it is not conceivable that large proportions of the study area will be converted to such a use. As a result, the use of office/research & development represent both a reasonable and conservative basis of understanding the scale of fiscal benefit that could result from additional development within the study area.

The increment in development that would occur associated with increased entitlements to 0.35 FAR(L) is estimated at approximately 2.8 million square feet distributed within the three districts under study. The gross tax benefit associated with this increase would be approximately \$11.4 million upon build out (2008 dollars). Assuming a straight line absorption rate and ten-year build out, this would represent a gross tax increment of approximately \$1.1 million each year over a ten-year period in constant dollars.

The development of sites at a density of 0.90 FAR(L) would result in a gross tax benefit per square foot of land that would be far greater than would otherwise be achieved for parcels developed at lower densities. This is largely due to the higher value of the constructed improvements associated with more intensive use of the land. Based on typical factors associated with this type of development, the tax revenue enhancement would be much greater relative to the value that would be achieved on the same parcel at a level of 0.35 FAR(L).

This study has used a threshold of a 0.90 FAR(L) to indicate that such densities might reasonably be achieved within the real estate economics that will prevail on at least some of the parcels within the study area, if permitted by the Town. As a practical matter, somewhat higher FAR(L) levels could be reached and still be consistent with suburban office park aesthetics and open space configurations. However, the upper limit of such development is not much greater; at approximately 1.0 FAR(L), site utilization will be effectively maximized.

In theory, the redevelopment of the entire study area could achieve high land efficiencies such as those illustrated for a theoretical 0.90 FAR(L) build out (*Table 4-1*). However, such a large increment would exceed practical limitations associated with the ability to expand traffic access and mitigate congestion - even if it proved to be desirable and acceptable to the Town. As a result, this theoretical maximum incremental development “build out” has not been tallied.

However, the implications of feasible highly efficient, high value parcel development has important policy, planning and regulatory implications. The tax revenues generated by this higher density development would be considerably higher than could be achieved by lower density development at the same location. The Town could reasonably choose to allow a limited number of locations in which to concentrate high density development, while restricting other areas to lower density levels (for example, 0.35 FAR(L) or other lower levels as determined to be desirable by the Town). This approach may have favorable implications. The Town could concentrate development (and resulting impacts) in limited locations where it might be most appropriate.

We should also note that there are certain circumstances in which a “blended” density ratio could theoretically be achieved within Lexington, but under special conditions that are likely to be rare. An unusual set of circumstances would need to be achieved, as further described below.

If sites are large enough, a development could theoretically provide a mix of surface parking and structured parking, and achieve a constructed FAR(L) of an intermediate

value – for example, 0.60 FAR(L). Such sites would require at least several acres of land. Market achievable net revenues would need to rise considerably above those adequate to support surface parking to approximately \$1 million in land cost/acre for the proportion of land that would be converted into structure parking, in order to support substantial proportions of structured parking - but would need to be within a relatively narrow range below those that would support completely structured parking, anyway. The cost of foundations and infrastructure of parking garages reduces the marginal cost of providing additional structured parking spaces, so that the apparent cost advantage of a mix of surface and structured parking spaces is less than might be thought. Efficient parking structures have standard minimum sizes and proportions, as do the buildings that they support. In the context of the typical and predominant size of parcels in Lexington, “blended” densities would require assembly of parcels that are currently occupied by improvements. As a result of these considerations, planning for “blended” density ratios would likely have limited application or effect.

Table 4-2 summarizes the fiscal implications of area-wide adoption of an increased density to a 0.35 FAR. It should be noted that the parcel that contains the municipal compost area located along Hartwell Avenue is not included in this analysis. This parcel has the same potential build out implications as nearby privately-held parcels, but has been excluded from the calculations because of its municipal ownership and use.

The basis of estimating increased average values is an assumption that the improvements would be associated with office and research development uses. Based on typical construction costs and improvement values, these typically range from \$150/gross square foot to \$200/gross square foot. An average of \$175/gross square foot was employed as a reasonable basis for establishing order-of-magnitude projections. It should be noted that this method tends to understate increased values and tax revenues to the degree that redevelopment removes obsolete development and replaces it with new, higher value development. While this is anticipated to occur, the amount of such redevelopment cannot be accurately predicted. The projections also tend to understate increased values and tax revenues that would accrue due to revaluation of land if zoning were changed to allow additional development. This would increase the value of the land as the fair market value of existing properties and could benefit the Town, depending upon the valuation and assessment methods. For example, a general and gradual rise in land and property values in rezoned commercial areas could result in a corresponding shift in the proportion of the Town’s overall tax base and tax payment burden towards the commercial areas from residential areas where zoning would remain unchanged.

Table 4-2: Illustrative Projection of Potential Tax Revenues for Build Out at 0.35 FAR(L)

	Hartwell	Forbes	Hayden	Total All Areas
Additional Square Footage (Gross)	594,035	469,956	1,697,808	2,761,799
<i>Average Assessed Value / Gross Square Feet</i>				\$175
Additional Value				\$483,314,825
<i>Tax Rate per \$1000 of Additional Value</i>				\$23.63
Additional Gross Annual Taxes at “Build Out”				\$11,420,729
Annual Absorption Rate				10%
Annual New Square Footage (Gross)				276,180
<i>Average Assessed Value / Gross Square Feet</i>				\$175
Annual Additional Value				\$48,331,483
<i>Tax Rate per \$1000 of Additional Value</i>				\$23.63
Illustrative Annual Growth in Per Annum Gross Tax Revenue	\$245,648	\$194,339	\$702,086	\$1,142,073

Notes on the Analysis of Economic Feasibility

This section of the report is based on economic feasibility information obtained through a preliminary evaluation of alternative FAR scenarios. The purpose of the economic feasibility analysis has been to determine the probable market response to a change in FAR, based on the properties of an assumed typical parcel in the study area. The analysis indicates that a change in FAR would, over time and under current market conditions, lead to a change in development on existing parcels located in the commercial districts.

A residual land value analysis was used in order to determine development potential for a typical parcel at each alternative FAR level, assuming traditional suburban office uses. The key question that guided the analysis was the following – If a land owner decided to build out to the maximum FAR, would the value gained through additional density outweigh the cost of new development and the potential lost revenue stream of existing space? Value was determined by capitalizing an asset based on projected stabilized net operating income and a capitalization rate at which an investor might evaluate the completed property. Assuming a teardown, existing revenue was subtracted from projected revenue. Costs were based on existing construction costs for suburban office in Boston and appropriate demolition costs, soft costs, and parking costs were also included. If value exceeded costs for a scenario (resulting in positive land value), a scenario was deemed likely to be viable; if value did not exceed costs (resulting in negative land value), a scenario was deemed unlikely.

The results of the analysis indicate the following:

- A change in the FAR(L) to .35 would encourage renovations and additions to existing properties, but would most likely not encourage wholesale teardown and redevelopment, except in those cases where existing properties have outlived their current use-cycle and rents garnered are significantly below market.
- A change in the FAR to a range between .40 and .80 would most likely not encourage renovation or redevelopment of properties in a manner that would fully take advantage of the FAR available, because structured parking would be required in this FAR range. The cost of structured parking and the likely need to remove existing productive building space would outweigh value gained through additional rentable space. An increase to this level of FAR would most likely result in additions or redevelopment to approximately the .35 level for most of the developable parcels.
- A change in the FAR to approximately .90 would encourage redevelopment and re-use of properties that would take full advantage of the additional allowable density. In this FAR range, additional rentable space is sufficient to cover the additional costs of required structured parking and replacement of existing income-generating space.
- FAR is only one measure of density. Height limits, open space requirements, setback requirements, and many other factors inherent in the zoning code have their own effect on the maximum buildable density on a site. These conclusions assume that other controlling codes would not impact the ability for a landowner to build to maximum FAR.
- Economic factors such as achievable market rents and lease turnover would determine the appropriate timing for redevelopment by a landowner.
- Landowners may look to a land assemblage for development projects in order to take advantage of economies of scale. As a result, redevelopment could be based on the economic viability of multiple adjacent parcels.
- Other impacts of development – most notably traffic – were not accounted for as part of the economic feasibility analysis. Significant increases in traffic could affect potential rents and potential values. Likewise, mitigation measures requiring significant public infrastructure may be attached to redevelopment proposals, thereby affecting the economic viability and timing of a development proposal.

5. POLICY AND PLANNING IMPLICATIONS: IMPLEMENTING EXPANDED DEVELOPMENT OPPORTUNITIES

5.1 Observations on Infrastructure Costs

Significant additional development is likely to require infrastructure improvements to directly support the uses that will occur within some parcels in the study area. Examples of typical improvements include sewer extensions, electric service upgrades, or extension of new public streets. Such infrastructure requirements are distinct from impact mitigation that may be required through the public approval process – the implications of impact costs are described separately in *Section 6* of this report.

Except in special cases, the Town need not pay any of the cost for any infrastructure that will be required to directly support increased and feasible development of the land, if the increased development is a consequence of the Town's own decision to increase the development capacity of land above existing zoning limits. This assumes, of course, that the Town requires that the Town requires a net municipal benefit from incremental tax revenues relative to incremental municipal costs.

By definition, market feasible development can only be achieved if the increased value associated with additional development provides at least a competitive market-rate return for the invested capital. If the development entity cannot support the cost of infrastructure improvements directly required to support a revenue-producing development with its large share of the project revenues, then it is normally not possible for the Town to absorb the marginal costs and finance them through the relatively small increment in net revenues allocated for municipal taxes that it may choose to allocate.

As a result, under normal circumstances, the Town should be able to require that incremental development fully fund those infrastructure costs necessary to make the development feasible. This can be established as a baseline condition associated with permitting.

There are a few circumstances discussed below that could result in the Town investing in infrastructure improvements in a manner that would be in its fiscal interest. Each of these circumstances would need to be considered in light of particular projects and infrastructure investment cost/benefit analysis:

- Providing feasibility through District Improvement Financing - There are a very narrow range of financial conditions that could provide the Town with a net tax benefit only the condition that it provides the initial investment in necessary infrastructure that unlocks feasible development for the private sector. The conditions must be such that the infrastructure investment cost is greater than could feasibly be fully afforded or financed by the private sector development that will benefit from that infrastructure. Within these conditions, the Town would also need to determine whether the net increase in tax revenues would offset the costs, taking into account any risks associated with the investment. The state has enabled such financing.
- Accelerated tax revenue enhancement – The Town could reasonably conclude that investing in necessary infrastructure would serve as an inducement for desirable, high value development by reducing the costs of development and establishing feasibility

more rapidly than the market might otherwise provide. The cost and benefits of such an investment would need to be evaluated on a project-specific basis; the Town would need to weigh the net present value of future tax receipts relative to the costs incurred by the Town, and the opportunity cost associated with market-based absorption of the land without Town-funded infrastructure cost inducements.

However, the Town may need to organize and coordinate infrastructure expansion and assist in financing improvements. For example, the Town may need to provide financing methods and undertake improvements that could not be accomplished through private market mechanisms alone when multiple properties are involved, when development occurs over time, and where improvements require Town actions and approvals. In addition, the Town may be able to accelerate the rate at which new development may occur by investing in new infrastructure improvements in advance of new development. Such investment would entail risks and costs that may not be recovered, depending upon market conditions and the type and extent of development that occurs.

It should also be noted that, to the extent that the Town determines that additional development is desirable and permits it to occur, it should then advocate state and federal funding of infrastructure improvements that would serve resulting development and reduce or remove associated impacts. State or federal funding of infrastructure costs can enhance and accelerate development feasibility, providing larger and earlier tax revenue streams to the municipality at no direct cost.

5.2 Observations on Benefits, Impacts and Mitigation

In the context of land development and community policy, the development impacts are those direct and indirect changes that occur off-site relative to specific developments that affect defined interests of the community, either positively or negatively. The benchmarks for assessing impacts are “existing conditions” – those conditions that would persist in the absence of prospective development. Positive impacts are those that contribute to the goals and interests of the community; they result in benefits to the Town. Negative impacts are those that detract from the interests of the community; they result in detriments to the Town. In circumstances like Lexington’s, development normally brings both positive and negative impacts relative to a range of Town interests. The result of balancing benefits and detriments is often called the “net impact”. Most public policies and development decisions seek to compare the benefits and detriments, and seek a result where the balance of conditions after development is at least the same or better.

The balancing of benefits and detriments impacts cannot be achieved as a purely analytical matter, but is driven by public policy and decisions. The categories used to assess benefits and detriments typically compare very different considerations that are not reliably or objectively reducible to comparable terms. So for example, benefits may include tangible projections of tax revenues and less tangible estimates of increased business volume or employment for area citizens. Detriments may consider the community acceptance of traffic conditions or the aesthetic implications on community character.

“Mitigation” refers to measures undertaken to reduce or remove predictable negative impacts that would otherwise occur. If a predictable impact is partially mitigated, it is considered to be reduced in its impact; if it is reduced below thresholds that are acceptable, then the impacts are considered to be insignificant. If a prospective impact is entirely mitigated, then the potential impact is removed from consideration.

The calculation of mitigation “costs” normally applies to public expenditures that are required to completely or partially offset those impacts for which mitigation is not provided by the proponent.

As we discussed elsewhere, the costs and funding of development-supporting infrastructure are addressed separately and should not be confused with development impacts, or the costs associated with mitigating those impacts. For example, if a new road and sidewalks are needed to provide access and allow a site to be redeveloped, that infrastructure is not, in itself, an “impact” of that development. However, development-supporting infrastructure may (like other aspects of development) have direct and/or indirect impacts that may be either positive or negative.

Based on our review of the project area and development conditions, for most categories of public interest, it appears likely that the proponents of new development could mitigate potential impacts within the cost of development. This would be accomplished using contemporary design and operational practices to mitigate most typical categories of negative community impacts either completely or to levels of insignificance, with the possible exception of traffic, as further discussed below.

The following matrix (*Table 5-1* below) lists the categories of community impacts that are considered for the purposes of state review of projects that trigger thresholds requiring state environmental reviews and approvals (MEPA). These categories are similar to those used in other communities to consider potential impacts and mitigation prior to approving entitlements for new development or redevelopment. This matrix provides observations regarding the probable capacity of development to mitigate potential impacts to a level of “no impact” or “no significant impact” without relying on public expenditures. This matrix also recognizes that the state also regulates allowable development that exceeds certain thresholds that would be triggered by qualifying development. The state through the MEPA process also requires mitigation to levels it determines are appropriate through a process that includes local input. However, the Town could seek to establish other thresholds that do not contradict state standards and regulations.

Table 5-1: Categories of Potential Impacts and Mitigation Measures

Category of Impact Evaluation	Possible impact considerations	Methods to Mitigate Impacts below Municipal Thresholds	Cost of Mitigation that May Be Reasonably Required and Paid by Private Development
Creation of additional of impervious area	Impervious area could be increased	Ground water protection measures and other Best Management Practices (BMP)	All
Release of an interest in land held for conservation, preservation or agricultural or watershed preservation purposes	No impacts would occur if development on such lands could be categorically prohibited by the Town	N/A	N/A
Alteration of designated significant habitat	Alterations of habitat greater than those permitted by the state	Replacement habitats or other measures, subject to the review and approval of the Town.	All
Endangered species	Impacts on endangered species below thresholds allowed through state regulation	Replacement habitats or other measures, subject to the review and approval of the Town.	All
Watershed	Impacts on watersheds greater than those permitted by the state	Provision of additional water resource protection measures and associated BMP's. Because the watersheds are typically of regional concern, they are normally best regulated at a state level	All
Transportation	Increased congestion and roadway capacity	Roadway improvements, intersection improvements, operational and technology improvements, traffic management practices, shuttle transportation, other measures	All or partial contribution, depending upon the Town's decisions regarding acceptable levels of traffic congestion and capacity

Category of Impact Evaluation	Possible impact considerations	Methods to Mitigate Impacts below Municipal Thresholds	Cost of Mitigation that May Be Reasonably Required and Paid by Private Development
Air Quality	Localized impacts below thresholds regulated by the state	Additional mitigation measures beyond state or federal regulations; as a practical matter, it is typically unnecessary and impractical to impose additional municipal standards	All
Solid Waste	Net impacts can be prohibited	Additional mitigation measures beyond state or federal regulations; as a practical matter, it is typically unnecessary and impractical to impose additional municipal standards	All
Hazardous Materials	Localized impacts below thresholds regulated by the state	Additional mitigation measures beyond state or federal regulations; as a practical matter, it is typically unnecessary and impractical to impose additional municipal standards	All
Historic Resources	Localized impacts below thresholds regulated by the state	Additional measures could be defined if there is a basis for addressing local special	All

This matrix assumes that the municipal thresholds are reasonably related to established Town interests, are similar to thresholds established by other communities and are not used intentionally to establish onerous conditions and prohibitive costs.

It is in the Town's interest to employ state or federal resources to mitigate impacts of development. To the extent that this is accomplished, there will be a corresponding reduction in the costs that would need to be carried by the Town, and possibly by the proponent. If the mitigation is entirely paid for by state or federal sources, then impacts will not be a barrier to the Town's acceptance of new development.

The methods for the evaluation of impacts and public cost assessment associated with development are designed to be related to specific projects with defined sites and established time frames. For example, the types and extent of impacts vary considerably from one site to another, and are directly dependent upon the amount and type of proposed development. Timing of development and assessment of impacts is also critically important; the benchmark for impact assessment is normally “existing conditions”, so that the degree of change can be evaluated. However, existing conditions change considerably over time. This process could be used to examine Town policy choices based on hypothetical scenarios, but this analysis cannot be performed until other steps are accomplished, in addition to the completion of this build out analysis.

A meaningful impact evaluation and mitigation cost analysis of additional development in Lexington cannot be performed until several key factors are established by the Town, at least for the purposes of more detailed study. These include:

- A framework for decision-making or specific performance standards relative to categories of public interest which can define those impacts which are acceptable to the Town, and for which impacts are judged to exceed acceptable levels and require mitigation. In particular, the Town must establish either meaningful standards or a process to define the level of acceptable traffic impacts that may be associated with new development.
- The Town must complete a technical assessment of key existing conditions – particularly traffic conditions – and establish a basis for projecting background traffic levels over time.
- The Town must engage professional traffic planning services to assess the ability to increase traffic capacity and mitigate congestion through physical or operational improvements at each of the study areas.
- Combined traffic and development scenarios could be employed to establish probable traffic performance levels associated with additional development after mitigation that would be acceptable within the Town’s decision-making framework or standards for each of the sub-areas within the study area.
- The analysis could then establish the cost of mitigation measures that would be employed to compensate for off-site impacts to achieve acceptable levels.
- The analysis could then distinguish between those costs that could reasonably be supported by the proponents, and which costs would require additional public expenditures.

5.3 Benefits to be Considered

As noted in several locations, the ultimate build out capacity of the commercially zoned land within the study area will effectively be determined through the Town’s own regulations and actions that are directly related to the priorities it establishes. The Town must determine the desired balance between benefits and detriments associated with expanded development. Principal benefits to be considered are likely to include:

- Net tax revenues – Different densities, types of uses and timing considerations will affect the net tax revenues garnered by Lexington. In general, the net tax benefits for the candidate use examined within this study would result in a large and positive ratio of incremental revenues relative to incremental costs. This observation is based on analyses in similar circumstances for incremental development for other communities consistently indicate a very large ratio of fiscal benefit to cost for the range of uses that are considered to be likely candidates for additional development in Lexington. Analysis of the detailed fiscal implications (net costs and net benefits) of new development are highly dependent upon the amount, location and mix of uses that may be allowed and which the Town will need to define through related process described below as part of the discussion of implications.
- New employment for citizens – Interest has been expressed in providing uses that would provide jobs for townspeople. Enhanced local employment is likely to occur if additional development is approved and provided within the commercial areas. However, it is not practically possible to direct development towards the local workforce, or require that employees be Lexington citizens.
- Indirect economic benefits such as uses complementary to and supportive of existing businesses – Depending upon the type, amount and location of additional development, the Town will benefit from indirect economic stimulus associated with having a larger market for goods and services provided by existing Town businesses.
- Benefits obtained through development exactions and impact mitigation – In the context of market-driven demand and the Town's control over entitlements, the Town is in a position to require development exactions and impact mitigation that would serve the public's interest. These can take the form of a wide range of public programs, physical improvements or fees applied to purposes defined by the Town.

5.4 Detriments to be Considered

Traffic Impacts

As we have previously noted, the most significant traffic impacts will be those experienced within the community, rather than the impact on existing or future businesses within the commercially zoned areas. Although there may be increased congestion and delays in the roadways and intersections leading to and from the highway and arterials, the net impact on the total trip time to and from the commercial sites will be relatively small, and generally not enough to shift or deter development. Overall, the location of the study area and all three of its sub-areas are in close proximity to the highway network; as such, impacts will be concentrated and more readily mitigated than in locations further from the highway network.

Infrastructure Impacts

Lexington is served by regional utilities and a public water and sewer system. The overall infrastructure of the area appears to be ample and is not a constraint on any future new development in the area. Site by site mitigation may be needed to upgrade the

infrastructure on an as-needed basis, but no information has been discovered to suggest that the utility infrastructure would limit the feasibility of future economic development in the study area.

Environmental Impacts

Much like the infrastructure impacts, this study has not identified any major environmental constraints on the land identified as “developable” land within the study area, using the reports and information provided by the Town. The extensive network of wetlands is well regulated through the Commonwealth and is mitigated on a site by site basis. Any of the requirements for mitigating environmental impacts, wetland or other impacts presented at an individual site can be achieved on a case by case basis.

Aesthetic Changes or Changes in Community Character

The study area has a limited viewshed extending to the areas surrounding it because of significant natural buffers between it and local streets. Any visual impacts that may occur can be mitigated through design controls and landscaping. The character of the town is shaped by the uses and is managed by Lexington’s vision for the future. This area is zoned for a specific mix of uses and it is assumed, unless otherwise specified in the future, that these uses are compatible with the community’s character.

5.5 Implications for the Town’s Regulatory Framework

As a general observation, the Town must determine, through planning, how it wishes to balance various opportunities and interests relative to increased development density within the commercial areas. As this is clarified, then the zoning regulations can be amended accordingly.

As they are currently framed, the underlying zoning regulations effectively limit density well below market potential. The principal limiting factor will be the willingness of the Town to absorb additional traffic and the ability to mitigate those impacts cost-effectively. This can best be achieved through professional traffic studies that consider the wide range of improvements, programs and traffic management techniques. These will be dependent upon and vary considerable among the three different sub-areas of the study. The Town could undertake or direct a professional traffic planning study that would create a menu of different mitigation steps that could be taken associated with different levels of development, and indicate the resulting changes in traffic congestion and other measures of community impact that would be associated with them.

To the extent that the current underlying zoning is altered, the Town should comprehensively alter all related criteria that limit density to ensure that its revised goals are met. As part of such changes, the Town should consider revising the definition of FAR, as the current definition is inconsistent with more common planning and regulatory usage and is a source of possible confusion.

Zoning approval processes that are unpredictable, time consuming, and expensive can be effective barriers that discourage otherwise feasible and desirable development. The Town

should reconsider the CD zoning mechanism and the requirement that a zone change be accomplished with Town meeting approval. The conversion of discretionary approvals of large projects can be accommodated within “Special Permit” mechanisms that reduce time, risk and expense while accomplishing similar goals.

The Town could also consider establishing “performance zoning” methods as a way to manage density. These methods do not use the traditional approach of defining physical dimensions and design factors to establish maximum density. Rather, performance zoning regulates the effects – positive and negative – that are acceptable to the community and the basis for decision. Performance zoning could be applied through a new overlay zone, or could be added to the existing Planned Commercial Development (CD) zone. New standards could be prepared that would articulate acceptable levels of benefits and detriments in categories such as:

- Fiscal impacts – net fiscal benefit to the Town, balancing additional revenues to additional costs
- Traffic impacts – Net changes in traffic conditions, after mitigation
- Visual impacts – The amount of buffering, visibility and architectural character of new development as seen from public ways or neighborhoods.
- Open space and site design – Characteristics of the landscape, open space, drainage and other aspects of design
- Environmental impacts – Impacts on sensitive environments

6. RECOMMENDATIONS

The Scope of this study was established to provide information and analysis that may contribute to a much broader discussions that may lead to resolution regarding the Town's preferred policies, actions and regulations relative to development within the study area. This section of the report provides several specific recommendations regarding how the Town could proceed to implement expanded development potential, in view of the potential identified through the evaluations and scenarios accomplished during this study.

In this regard, the scenarios portray reasonable choices to allow and facilitate substantially increased development potential within a range of use types. The uses evaluated are consistent with the Town's land use and economic development goals, such as commercial office, research & development, hotels and targeted support retail uses or services. The choices would take better of Town's strategic regional location relative to current market conditions and future market demand, and would expand the Town's tax base, net tax revenues and provide other net indirect and economic and fiscal benefits.

The scenarios and market reviews also provide a basis for understanding the degree to which the land is underutilized relative to appropriate models of more typical suburban development densities and the market conditions that favor more intensive land use.

It is important, in this regard, to keep the larger context of regional supply and demand for new development in view. For example, the illustrated result in changes to allow densities to a maximum of 0.35 FAR(L) depicted in *Section 4 Economic Evaluation* result in a scenario that would expand building areas in the study area by approximately 61 percent – while still retaining the characteristics of moderately scaled, suburban development patterns. But such an increase would represent an increase of only about 13 percent increase in the supply of suburban office/research & development space within the northwest market segment of Route 128, about 4 percent of the supply within the Route 128 corridor, and about 1 percent of the regional supply of such space (Source: Colliers Meredith & Grew, *Greater Boston Market Viewpoint, 1st Quarter 2008*).

At the initiation of this study process, we suggested a series of follow-up steps that were outside of the scope of this effort, but which might be needed to complement the results of analyses that would be performed. Having completed the study, this list remains valid. We continue to recommend that the Town proceed with the following additional efforts to reach an informed decision about future development within the study area. We have updated and expanded our description of the next steps to reflect the lessons learned in preparing this *Commercial Zone Analysis and Build Out Study*.

These subsequent tasks could be conducted by Town staff and other participants, or supported with through professional services if resources and priorities allow.

6.1 Professional Evaluation of Infrastructure Capacity and Mitigation Potential

Professional engineering and transportation planning assistance are required to evaluate the feasibility and measure the costs associated with the two different aspects of increased development density: expansion of infrastructure capacity and mitigation of impacts. Any significant increase in development is likely to require expansion of utilities and roadways to directly support the development. The ability to mitigate impacts – such as traffic impacts – must also be considered relative to the feasibility and cost of providing capital and operational improvements or other measures. The following observations suggest key topics for this effort:

- Traffic evaluation measures and performance standards – Professional recommendations regarding the establishment of either standards or a process for projecting and evaluating future traffic impacts associated with new development, establishing acceptable levels of traffic impacts and the process for approving mitigation measures.
- Methods to mitigate traffic impacts – There are many available methods that can be used to reduce traffic impacts that should be considered in establishing performance standards for the streets and roads used by the community in the vicinity of additional development. These include new signal operations technologies, roadway improvements, and traffic management methods that are routinely used to help mitigate increased traffic. Technical evaluation should include consideration of the ability of such measures that can reasonably be required by the Town to reduce potential impacts.
- Background conditions and projected changes – Traffic impacts are measured relative to background traffic conditions and projections of future traffic. These can change substantially over time, and can be influenced by changes in other areas not within the control of the Town. The Town should establish a policy basis for considering how it will consider the interaction of background traffic. For example, should a rise in background traffic due to a rise in “cut through” commuter traffic generated from other communities result in Lexington’s prohibiting additional development within its commercially zoned areas? If background traffic decreases (this can happen), what implications does this have for the Town’s willingness to entitle additional development and additional, associated traffic?
- Levels of service – Reference is often made to “levels of service” as a method of establishing acceptable levels of impacts. However, reliance on this measure as it is often used in a manner (including within the Town’s zoning bylaw) that substantially and detrimentally oversimplifies consideration of traffic conditions, impacts and performance. Levels of service (LOS) are technical measures of the congestion (delays) at intersections for vehicles. Intersections are graded at levels of A through F. The measure “F”, however, is not a threshold of “failure”. Communities can accept levels of service of “F” if they wish for intersections within their purview. Intersection analysis also distinguishes between levels of service among different times of day that may be sensitive (peak hours, typically) and among different approaches. It is possible for an intersection to operate from one direction with limited or no

congestion, while in other directions it is very congested (for example, an intersection might be rated at C/E for westbound versus eastbound traffic during the evening peak hour. Intersections can be managed to favor one direction over another, to manage net impacts. In suburban environments with commuter related traffic this level of consideration is required.

- Roadway capacity – Roadway capacity is a significant determinant of the ability of a roadway system to accommodate traffic volumes and is related to congestion and intersection operation. Technical studies use a method of measuring volume/capacity ratios (V/C). The community's performance standards and future impact evaluations needs to consider capacity as well as intersection operations.
- Different traffic and roadway conditions for the subareas – There are very different conditions and roadway conditions for the subareas that will require specific and separate evaluations of possible capacity, mitigation measures and possible public costs that may be associated with acceptable performance levels.

6.2 Specific Development Scenarios

Specific development scenarios could be created and evaluated to test detailed and more specific concepts for zoning changes after they incorporate the conclusions of traffic and infrastructure evaluations. Scenarios could test the inclusion of a variety of additional uses and then be reviewed and analyzed in conjunction with the professional feedback on the implications for infrastructure capacities and the feasibility of effective mitigating measures.

6.3 Preferred Land Use Strategy

A preferred land use strategy should be identified that takes into account the distinctive characteristics of each of the three sub-areas. The land use strategy should establish target development densities and use characteristics that will promote tax base benefits and accomplish other Town goals. This land use strategy should become a shared reference and basis for subsequent Town land use planning, changes in the regulatory structure, infrastructure investments, and funding and financing planning including seeking state and federal resources to assist in accomplishing the strategy.

6.4 Implementation Tools and Actions

The Town should undertake focused studies to select and create appropriate implementation tools – including revised zoning – that will be needed to direct and manage desirable growth. These should be assigned and coordinated among responsible boards, commissions, and Town staff.

6.5 Resources to Fund Infrastructure and Mitigation

Municipalities in similar circumstances have successfully obtained financial resources to fund infrastructure and mitigation measures that may be needed to accompany new development. Once the preferred land use strategy has been defined and agreed upon, the Town should pursue a coordinated effort to garner grants and participate in programs that will reduce costs. The Town can also play a key role in creating or sponsoring special financing measures such as District Improvement Financing (DIF) or other special assessment mechanisms.

This Appendix provides background market information for the potential redevelopment of the study area in Lexington. Ultimately, the objective of the commercial zone analysis is to determine potential build out scenarios for the subject sites and provide general information for decision-making and potential reuse strategies. Market information offers an understanding of potential sales prices or rents that will inform potential development scenarios. This information represents market conditions in late-2007 and is subject to change over time.

For the commercial sites that are included as part of this study, three key development types are investigated from a market-opportunities perspective. They are:

- Office, including biotech and lab space
- Retail – specifically smaller office-serving retail
- Lodging

Lexington Generalized Market Position

Office, retail, and industrial properties in Lexington are a subset of the greater Boston suburban market. Market data reporting services, such as Reis.com and Costar, define Lexington as part of the “Route 128 West” submarket for these uses. This submarket includes the communities of Lexington, Arlington, Watertown, Waltham, Needham, and Wellesley. A further breakdown of the submarket pairs Lexington with Arlington, resulting in the most specific trending data being for a combined Lexington-Arlington market.

The location of commercial space in Lexington along Route 2 and Route 128 offers exceptional access to the region and to a commercially desirable population base, specifically a highly educated and skilled workforce in communities such as Wellesley, Weston, Lincoln, and Lexington. This population typically works in commercial spaces that command higher rents, such as Class A office or biotech spaces, with shorter commute times from their homes. As a result, Lexington competes more with other communities proximate to Route 128 and Route 2. One of the Town's most direct competitors is Waltham.

Demographics reinforce the perceived strength of Lexington for both retail expenditures and employment base. The median household income is over \$100,000 and the median home value is approximately \$700,000. In addition, many of the residents have obtained high education levels. Nearby communities with similar demographic characteristics include: Wayland, Weston, Lincoln and Wellesley. Also, as gleaned from discussions with town officials, residents, and local brokers, a large number of professionals living in or near the aforementioned communities are science and education professionals associated with the strong biotech economy, centered in Cambridge's Kendall Square and associated with the Massachusetts Institute of Technology campus. Access to Cambridge from Lexington, via Route 2, is relatively convenient. Demand for Class A space including biotech facilities is high as professionals living in metro-Boston suburban communities look to reduce commute times to areas such as Kendall Square in Cambridge.

To summarize, a Lexington location is highly desirable. It has a well educated workforce and has direct access to both Route 128 and Route 2. As a result, demand for commercial space in Lexington is high. The quantitative measurements of demand, price, and vacancy are discussed by product type below.

A-1.1 Subject Sites

As discussed in the report, the three areas that are part of this study are located in the western part of Lexington, adjacent to the major transportation corridors of Route 128 and Route 2 – both major connectors between Boston’s suburban centers and to Boston’s metropolitan core. Each of the areas is relatively distinct in nature and each is fundamentally different from the primary commercial center in Lexington – Lexington Center. The subject sites are each suburban in nature and are thus characterized by suburban market trends and the desires of potential tenants and users that would be located in a suburban setting. These include such features as available parking, access to regional transportation and roadway networks, open space and landscaping, and easily accessible retail services such as nearby shopping or lunchtime options. Ownership of the land at all the sites is a mix of private, single-parcel landowners, property investment and development companies, and more recently, REITs.

Forbes Road

The Forbes Road area is the most discreet and is located off Marrett Road and Route 128. It consists of four suburban-style office buildings, all with surface parking and all accessed off a common, dead end street (Forbes Road). Both lab/biotech users as well as suburban office users are located at this corporate area. The largest user is Antigenics, a biotechnology company that focuses on cancer vaccines and other disease treatments.

Hartwell Avenue

The Hartwell Avenue area is the largest area included in this study in terms of land area and also has the highest number of individual parcels. Hartwell Avenue, which is located off of Route 4/225 approximately one-quarter mile west of Route 128, is the main spine of this commercial area and is also a key access route to Hanscom Air Force Base. The commercial area also includes office structures on Maguire Road. Commercial structures are typically one- to two-story office buildings with surface parking. Generally, each building operates independently from one another in that buildings are not located in a “campus” style setting but as individual parcels. Class B or lesser offices are generally the norm. Such space offers more affordable rents for potential users, especially users with specific space needs – such as research or biotechnology users. Amenities associated with Class A office areas are typically not located here. Also located here is the Town of Lexington’s yard waste and composting facility. IDEO – a progressive design and management consultancy – is located here and is a typical user.

Hayden Avenue/Spring Street

The Hayden Avenue/Spring Street area achieves the highest rents of the three areas studied and represents the most campus-like, suburban office space studied. Amenities – such as open space, parking, and landscaping – are plentiful here and much of the existing office space is categorized as Class A. The properties, adjacent to the intersection of Routes 128 and Route 2, have convenient access to both suburban Boston centers as well as to Cambridge – the biotechnology center of the region – via Route 2. Buildings here are typically two- to four- stories and some structured parking exists. The additional amenities at this commercial location have resulted in a more corporate focus, with some company headquarters located here. Class A office is mixed with lab space as well as non-impactive production uses – most specifically as the location of Vista Print, an online printing and publishing service. More recently, drug maker Shire has planned to develop a manufacturing plant at the Lexington Technology Park off Spring Street. The user cited the location of the site close to Cambridge as a primary driver for its location decision. The user will move some of its existing operations from Cambridge to the new location in Lexington.

Discussions with Property Owners

General discussions were conducted with property owners in the three subject areas. A summary of key points is as follows:

- A mix of tenants exists; tenants include: lab users, communication firms, and technology manufacturers, among others.
- An owner has added a story to one building on Hartwell Avenue in recent years.
- One owner is very interested in Floor Area Ratio (FAR) relief, so long as the permitting process is not onerous.
- Structured parking would be considered if allowable use was intensified.
- Footprints of buildings may shrink as buildings go vertical under higher FAR scenarios.
- Companies may choose Waltham over Lexington because Waltham has a national reputation as a site for technology companies.
- Companies may choose Burlington over Lexington because they may have more visibility along Route 128. The decision might also be price driven.
- The Hartwell Avenue intersection at Route 225 is a particular detriment as it becomes a bottleneck during the morning rush hour.
- Taxes in Lexington are higher than the surrounding communities.
- Regardless of up-zoning, the height restriction in the Hartwell Avenue district could hinder growth and would probably not generate new development there.
- There may be potential to do in-fill and decking on buildings to expand space, but there are property line constraints as well, making further development difficult
- Hard to justify tearing down a building and building new in Lexington now; although there are examples of developers doing this in Waltham; would depend on the amount of the increase in FAR.

- Lexington is doing well in the medical businesses such as bio-med and medical devices because there is a direct route to and from Cambridge along Route 2.
- Waltham has tremendous cache.
- Lexington is less expensive but companies prefer Waltham.
- Lexington has neglected its roads and other infrastructure making the property less valuable than Waltham.
- Waltham's rents are higher but the streets have been improved and the buildings have a nice suburban, campus look.
- Waltham can get more tax revenue for less square footage because the value is higher there.
- Demand definitely exists – new buildings are going up in both Waltham and Burlington.
- One owner interviewed is a long term holder of property and invested in the area. If the FAR changed, they would not likely dispose of their property
- Some properties along Hartwell Avenue have been considered for redevelopment or land assemblage.
- Biotechnology is a good market to focus on in Lexington (from one owner's perspective).
- Direct access on Route 2 from Cambridge is a positive locational characteristic of Lexington.
- Older workforce is more interested in working in a suburban location, closer to home.
- Limited supply of space in Cambridge; therefore suburban options are becoming attractive.
- Biotechnology best to develop on a build-to-suit basis.
- Larger companies need 250,000sf to 400,000sf and this size is difficult to find as existing.
- Less well-capitalized companies are going to the suburbs for rent savings.
- There is a void of services and amenities in Lexington.
- Retail would have to serve more than just the office population in order to survive.
- Retail market and achievable rents are lower than that which can be garnered in Waltham or Burlington.
- Redevelopment is likely to occur if an owner faces empty space and there is the threat of re-leasing not occurring. As long as existing space is well-leased, it is difficult for an owner to take on the risk of redevelopment.

A-1.2 Office Market

Potential office uses are discussed here as the most likely candidate reuse or redevelopment of the subject sites, as well as the use type most likely to spur economic value. Retail uses, discussed later in this study, are also seen as a key potential use but are viewed more through the lens of supporting a new or existing office use.

Context: The Greater Boston Market

Overall, the Boston Metro office market held the 8th largest rent gain nationally for the third quarter (Q3) of 2007. The vacancy rate continued to be moderately high. However, it began dropping at the beginning of the fourth quarter of 2007. The rent gains have been primarily located in Boston’s downtown and desirable suburban office locations including Lexington. According to some sources many tenants who are flexible regarding location are looking to take advantage of remaining opportunities elsewhere in the metropolitan area.

Rents and Vacancy Rates

Rents and vacancy rates are the quantitative value placed on greater demand. Higher rents indicate a more desirable product and location. Rents in the metro Boston market increased 2.7% from Quarter 2 to Quarter 3 of 2007 to an average of \$30.05 per square foot annual asking rent and an increase in effective rent to \$29.97 per square foot annually. The Class A (the highest quality office space locally available) asking average rose 3.1% for the quarter and 11.6% year-over-year, to \$40.95 per square foot, while the Class B/C (buildings that do not have the amenities of Class A space, are typically older, and are consist of either older or lower quality materials) average is up 1.9% and 9.2% to \$24.81 per square foot. According to Reis.com, rents are predicted to rise approximately 6.5% in 2008 and 4% to 5% annually thereafter. For buildings sold during the first nine months of 2007 the mean sales price is \$226 per square foot and the mean cap rate is 6.8%. The third quarter mean cap rate (the rate at which an income stream is capitalized to price an asset) is significantly lower at 5.3%.

From a regional perspective the metro Boston rent picture for commercial space is illustrated in the following table. Although this table does not give specific data for Lexington, it illustrates how Lexington (in the “NW/Route 2” submarket here) is in the top-tier rent category and lowest in vacancy rates for suburban locations.

Table A-1.1 Boston Office Submarkets Overview, Third Quarter 2007 (Reis.com)

Submarket	Inventory (total square ft)	Asking Rent	Vacancy %
CBD	31,889,000	\$46.89	8.9
Back Bay/Fenway	12,940,000	\$41.53	6.8
South Station	5,579,000	\$33.43	10.0
Cambridge	12,786,000	\$34.94	11.2
West/MassPike	8,059,000	\$31.36	6.7
N Shore/Rt 128 N	20,612,000	\$22.06	16.5
NW/Rt 2 (inc Lexington)	11,583,000	\$28.64	11.9
S Shore/S Suburban	9,967,000	\$22.12	16.7
Framingham/W Subrn	5,648,000	\$22.75	16.8

Existing Conditions and Inventory

Supply is generally limited in Lexington to the commercial zones included in this study. Inventory in these areas is limited generally to one or two story facilities with surface parking. As a result, available space is limited. This has created a high demand for existing space; however, many users are looking for higher quality space and larger space, which is challenging to find in Lexington.

The table below illustrates sample current rents and vacancies for properties located in Lexington and neighboring Waltham and Burlington. According to brokers, Burlington is less desirable than Lexington when comparing commercial space, location, and traffic congestion but more desirable in terms of visibility and amenities. Waltham is perceived as more of a direct competitor with Lexington.

Table A-1.2 Sample Rents, Lexington & Neighboring Communities (Costar.com)

Property Address	Town	Class	Annual Rent	Vacancy (%)
67 South Bedford	Burlington	A	Not Listed	10.2
77 S Bedford	Burlington	A	Not Listed	23.3
70 Blanchard	Burlington	A	Not Listed	10.7
10 Burlington Mall Road	Burlington	A	Not Listed	0
20 Burlington Mall Rd	Burlington	A	Not Listed	8.6
1 Burlington Woods	Burlington	A	Not Listed	49.9
3 Burlington Woods	Burlington	A	Not Listed	3.3
5 Burlington Woods	Burlington	A	\$ 32.04	5.9
25 Corporate Drive	Burlington	A	\$ 32.04	26.2
25 Mall Rd	Burlington	A	Not Listed	29.3
154 Middlesex Turnpike	Burlington	A	Not Listed	31.2
65 Network Drive	Burlington	A	Not Listed	98.1
420 Bedford St	Lexington	A	\$ 27.00	1.1
1 Cranberry Hill/750 Marrett Road	Lexington	A	\$ 23.64	7.9
91 Hartwell	Lexington	A	\$ 20.40	0
45-55 Hayden Ave	Lexington	A	Not Listed	1.5
95 Hayden Ave	Lexington	A	Not Listed	19.4
100 Hayden	Lexington	A	Not Listed	100
10 Maguire	Lexington	A	Not Listed	21.9
70 West view	Lexington	A	\$ 29.04	7.1
450 Bedford	Lexington	B	\$ 23.04	8.5
194 Lowell	Lexington	B	\$ 21.48	18.1
60 Hickory	Waltham	A	Not Listed	43.7
610 Lincoln	Waltham	A	\$ 34.56	10.2
51 Sawyer Rd - 2 Univ Office Park	Waltham	A	\$ 37.56	0
1000 Winter	Waltham	A	\$ 36.48	11.3
411 Waverly Oaks	Waltham	B	\$ 17.52	14.2
318-320 Bear Hill	Waltham	B	\$ 22.08	12.9
110 Beaver	Waltham	B	\$ 24.96	100
135 Beaver	Waltham	B	\$ 18.00	16.8

A range of rents is illustrated above. The table illustrates several telling points regarding the office market in Lexington as compared to neighboring communities, including:

- Vacancy rates are typically lower in Lexington.
- There is less inventory in Lexington.
- Listed per square foot annual rents for Class A Lexington properties with vacancies range from \$23.64 to \$29.04. The NW/Route 2 submarket average is \$28.64.
- A constrained market, specifically lack of new space in Lexington, is keeping rents below their market potential. For example, if new Class A facilities could be constructed in Lexington, they would likely garner rents on par with the most desirable Class A properties in neighboring communities.

Biotech/Lab Space in Lexington

Data is not readily available for lab or biotech space in the Lexington submarket. The majority of such space in the west Boston suburban market tends to locate in Lexington or Waltham, if space is available or if existing space can be converted to meet a specific users needs. Demand is high for such space in Lexington based on three key reasons: a) proximity to the biotech workforce living in West Suburban Boston; b) relatively convenient access to the biotech center at Kendall Square/MIT and c) the lack of such space in Burlington due to local use codes. Other locations along the Route 128 corridor, most notably Woburn, have existing lab and biotech space however; the proximity to Route 2 and Cambridge has provided Lexington a market advantage for this use.

Moreover, rent and vacancy data for specific lab or biotech use in the Lexington market is difficult to pinpoint with the accuracy of office rents. Typically, lab space users move into lower quality B or C class space without significant amenities for the purposes of improving those properties and having the flexibility to rework space. The range of these types of developments is great; ranging from low scale, tilt-up industrial and warehousing buildings to full-scale campus-type lab and office facilities. As with traditional office space in Lexington, the demand seems to exist as determined by rent data and discussions among brokers; however, the space available may not meet demand so users look elsewhere.

Summary of Discussions with Local Brokers Regarding the Lexington Office Market

Discussions with local brokers regarding the Lexington market confirmed much of the data available. A summary of their points is as follows:

Colliers Meredith and Grew

- Biotech industry is being priced out of Cambridge and is looking to relocate to Lexington. Lexington is typically a first choice but space is limited.
- The Lexington Submarket has been stable at 15% vacancy.
- Activity in Lexington has tapered off recently.
- The rents in both the Hartwell Avenue District and the Spring Street District are in the high \$20s to the low \$30s annually.
- Rents are higher in Waltham and Burlington.

- Lexington is more desirable because it is less expensive than Waltham and Burlington.
- Retail is missing in the Lexington office/biotech market. The nearest retail outlets are Lexington Center and the Burlington Mall.

Cushman & Wakefield

- Lexington has always been perceived as a niche market and a small market.
- Lexington is close to the bedroom communities and is bolstered by the benefit that it is close to where corporate decision makers live.
- There has always been a premium for Lexington locations.
- Lexington is the logical overflow location from Cambridge.
- Lexington is insulated from competition by Burlington as lab space is not permitted there.
- Improved infrastructure and services would improve demand, including hotels, sports clubs, retail, restaurants, and other amenity-based uses.
- Public transportation could be improved, especially from Cambridge. The shuttle from Alewife is a great start.
- Burlington has better infrastructure in place; recent improvements to Route 3 have been a positive influence.
- Lexington has benefit of being close to Route 2, a great pipeline out of Cambridge.

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- Definitely more demand in Lexington than supply can support.
- Lexington is a very popular place right now.
- Lower cost alternative to Burlington.
- Very popular with life sciences community.
- Huge influx of Cambridge companies over the past 18 months as they are being forced out of Cambridge and prefer the proximity of Route 2.
- Some demand for office buildings as Cambridge office buildings are converted to lab space.

Summary and Lexington Market Position

There is a market opportunity for office, lab, and biotech space in Lexington largely based on by its geographic location. However, with limited space in Lexington, potential tenants and developers may look to neighboring markets. Businesses would locate to Lexington if they could; however, space is not typically available. A summary of opportunities and constraints of office development in Lexington are as follows:

Opportunities/Market Advantages

- High rent potential; general low vacancy.
- Proximity to Route 128 and Route 2.
- Relative ease of access to biotech and office centers in Cambridge.
- Well educated workforce residing in Lexington and neighboring communities; including biotech professionals and corporate decision makers in close proximity looking for nearby locations.

- Opportunity to develop lab and biotech space as such space is not permitted in some neighboring communities; specifically Burlington.
- Macro-level traffic-related advantage as traffic is not as significant an impediment in Lexington as Route 128 near Route 3 in Burlington and near the Mass Pike in Waltham.

Constraints/Market Disadvantages

- Lack of existing Class A space; potential developers and tenants locate elsewhere simply based on available property.
- Lack of office-supporting retail and other amenities; most specifically lodging and restaurants.
- Micro-level traffic related issues, such as access from Route 128 to Hartwell Road.

A-1.3 Retail Market

The types of retail being generally considered as appropriate uses at the target sites are office worker-serving retail uses – such as restaurants or smaller retail outlets in suburban style small strip centers. These uses are intended to serve office workers and office uses specifically, and are intended to make the suburban office area more of a “full service” environment. Hospitality/lodging is also a use that would assist in the creation of a more full service environment; those uses are discussed in a later section of this report.

Context: The Greater Boston Area

In the greater Boston market for retail property, 36.2 million square feet of space is classified as “neighborhood and community centers.” These centers are defined as small strip centers serving neighborhood and local needs to larger community shopping centers, typically anchored by a grocery store. The property market for these centers is typically slowing, coinciding with equivalent declines in consumer spending.

However, for larger retail centers in the greater Boston area, the pipeline of projects is active. This activity is a result of developers looking for opportunities for new retail to replace aging stock, and developers looking for opportunities to introduce new retail formats such as mixed-use and lifestyle centers. Bolstering the activity is an interest in new retail development by suburban jurisdictions in order to improve local tax base. This combination of willing jurisdictions, opportunistic developers, and new retail formats has resulted in the aforementioned pipeline. However, high barriers to entry still exist, and the overall Boston retail market is expected to be stable – without extreme growth or decline – in the near-term.

Rents and Vacancy Rates

In contrast with office and apartment rents typically in excess of the national average, Boston retail space is relatively inexpensive. For neighborhood and community center space, the third quarter average asking rent for metro Boston, \$21.41 per square foot, is only slightly higher than the Northeast (\$20.29 per square foot) and U.S. (\$19.32 per

square foot) averages. The asking average is up 1.0% from the prior quarter and 3.2% year-over-year. However, it is predicted that asking rents will gain 3% to \$22.07 per square foot in 2008. For the neighborhood and community center segment, growth is expected at a 3% pace for the next several years as the demand in the investment markets for high quality assets will continue to remain strong. In terms of sales closings in the twelve months ending in the third quarter of 2007, the mean cap rate is 7.5% and the median cap rate is 7.1%. The mean and median sales prices over those 12 months are \$256 per square foot and \$178 per square foot.

Table A-1.3 Boston Retail Submarkets Overview, Third Quarter 2007 (Reis.com)

Submarket	Inventory (total sq ft)	Asking Rent \$	Vacancy %
CBD	31,889,000	\$46.89	8.9
Back Bay/Fenway	12,940,000	\$41.53	6.8
South Station	5,579,000	\$33.43	10.0
Cambridge	12,786,000	\$34.94	11.2
West/MassPike (Inc Lexington)	8,059,000	\$31.36	6.7
N Shore/Rt 128 N	20,612,000	\$22.06	16.5
Northwest/Rt 2	11,583,000	\$28.64	11.9
S Shore/S Suburban	9,967,000	\$22.12	16.7
Framingham/WV Subrn	5,648,000	\$22.75	16.8

The Boston suburban retail market is generally stable, especially for new retail as development constraints are greater and shoppers are looking for new, modern outlets. The suburban/Route 128 submarket commands the highest rents in suburban Boston (\$28.15 per square foot annually) and also has one of the lowest vacancy rates (5.4% as of the fourth quarter of 2007). Smaller, stand alone or small retail centers (such as those utilized by office-worker serving stores) are on the higher end of the retail rent spectrum.

Defining the Market Area for Retail in Lexington

The market area for retail in Lexington is based on use type and specific retailer. As with any retail area, a specific user would have a specific draw area. Lexington Center works both as a community shopping core but also pulls regionally because of the specialty shops and restaurants located there. The commercial areas included in this study could be viewed generally from three different retail types – regional, community, and local.

A regional center would draw shoppers from essentially all of west metro Boston, simply based on location. To create such a draw a retail use would have to be particularly unique or would have to be large in scale. A regional mall or similar type of retail would fit into this category.

A community center would target consumers in and around Lexington. These shoppers are currently being served by existing groceries and other uses in Lexington or neighboring communities such as Waltham.

Local retail has the most potential in the study areas. Local retail centers target shoppers in smaller trade areas, including local office workers. In the study areas currently, office workers are traveling to Burlington, Lexington Center, or Waltham for retailing activity as these uses are not as readily available adjacent to the subject sites.

Existing Conditions and Inventory

Retail uses in the target areas of this summary are limited to a few restaurants and very few retail stores. The retail areas utilized by workers in all of the study areas are reported to be Lexington Center, the Burlington Mall area, Waltham, and other commercial areas closer to workers homes. In this sense these areas are not seen to be “full service” commercial zones and, it can be argued, a market opportunity exists if such uses were closer. As examples of typical services that are used by office workers: the closest Kinko’s locations are in Burlington and Waltham; the closest dry cleaners are in Lexington Center (although some are located on Route 4 west of Lexington Center); the closest bookstores are in Burlington and Lexington Center, the closest Walgreen’s or CVS is located in Waltham, Lexington Center, and Burlington. This type of development pattern – with very limited retail close to a large number of office workers – typically illustrates a pent up demand for services that is not being met.

In terms of new retail, the most significant project is planned in Waltham. The Related Companies plan to build 1.7 million square feet of office, shops and restaurants on about 120 acres. The development will be called the Commons at Prospect Hill and is intended to include sidewalks and pedestrian amenities, and to utilize neo-traditional design. This type of project illustrates the general pent up demand for new retail in suburban Boston and fills a market void that exists in the geographic area between the Burlington Mall and the Natick Mall. A more detailed market demand analysis, including spending patterns and regression analyses, would be required in order to determine if a market opportunity for a large retail center – such as a regional mall or lifestyle center - exist in Lexington.

The next table illustrates sample current rents for retail properties in Lexington, Burlington, and Waltham. The majority of these sites are neighborhood or freestanding retail properties and many are Class B or below or older properties. According to Costar.com, the properties below represent the only available spaces of 158 listed properties within Burlington, Lexington, or Waltham – thereby illustrating a relatively high demand and a relatively low vacancy rate.

Table A-1.4 Sample Rents, Lexington and Neighboring Communities (Costar.com)

Property Address	Town	Class	Annual Rent	Vacancy
3 Bow St	Lexington	Neighborhood	\$ 17.04	24%
90 Mall Road	Burlington	Neighborhood	Negotiable	15%
279 Cambridge St	Burlington	Neighborhood	Negotiable	100%
376 Cambridge St	Lexington	Neighborhood	\$ 14.40	25%
187 Lexington Street	Waltham	Neighborhood	\$ 22.56	32%
719 Main Street	Waltham	Neighborhood	\$ 15.96	18%
775-781 Main Street	Waltham	Neighborhood	\$ 20.04	100%
875 Main Street	Waltham	Neighborhood	\$ 24.96	22%
1006 Main Street	Waltham	Neighborhood	Negotiable	67%
1265 Main Street	Waltham	Community Center	Negotiable	23%
1275 Main Street	Waltham	Neighborhood	\$ 30.00	18%
68-84 Mall Road	Burlington	Neighborhood	Negotiable	8%
112 Mall Road	Burlington	Community Center	Negotiable	25%
1690 Mass Ave	Lexington	Neighborhood	Negotiable	100%
43 Middlesex Turnpike	Burlington	Community Center	Negotiable	80%
44 Middlesex Turnpike	Burlington	Neighborhood	\$ 23.04	100%
62 Middlesex Turnpike	Burlington	Neighborhood	\$ 18.00	88%
68 Middlesex Turnpike	Burlington	Neighborhood	\$ 15.00	50%
Cronin's Landing	Waltham	Mixed Use	Negotiable	5%
266-278 Moody St	Waltham	Neighborhood	\$ 21.96	5%
269 Moody Street	Waltham	Mixed Use	\$ 15.00	14%
346 Moody Street	Waltham	Neighborhood	\$ 27.96	11%
3 Old Concord Road	Burlington	New Neighborhood	Negotiable	100%
41-49 Waltham St	Lexington	Neighborhood	Negotiable	4%
475 Winter Street	Waltham	Neighborhood	\$ 50.04	0%

Although a range of rents, types, and vacancies is illustrated above, the table illustrates several key points regarding the retail market in Lexington as compared to neighboring communities:

- Of the 158 retail properties listed on Costar.com, only the four properties in Lexington (listed above) have available space.
- The last property listed above – 475 Winter Street in Waltham – is the most similar in type and location to what could be developed near the subject sites included in this study, as it is a small office-worker serving retail development located in part of the office park area near the intersection of Route 128 and Winter Street in Waltham.
- The lower rents and higher vacancies above are typically older structures; not purpose-built for modern retail uses.
- It would be expected that new space in Lexington would likely garner rents on par with the most desirable newer properties in neighboring communities.

Other Retail Opportunities

As discussed above with reference to the redevelopment of the Polaroid site in Waltham, a new modern retail development – such as a “lifestyle” or mixed use development – is a potential market opportunity in Lexington for three primary reasons: (a) potential locations accessible to the more affluent communities of suburban Boston; (b) the high rents currently commanded by such properties; and (c) the lack of such development in suburban Boston currently. Depending on scale, these types of development often require significant transportation infrastructure and access; which do not exist or are at capacity at the subject locations in Lexington. Furthermore, the mixing of uses adheres to neo-traditional zoning practices creating sustainable environments, while at the same time a mix of uses spreads development risk to multiple product types within one development. However, the depth of the market for such retail is unknown and new development in Waltham may saturate the market in the near-term.

Summary and Lexington Market Position

By and large, Lexington as a whole – and specifically the subject sites for this study – are lacking in small retail centers that cater primarily to office workers. These stores are typically smaller retailers focused on a local daytime draw and include quick food, sit-down food, or small floorplate commercial catering to office workers. These retail outlets are typically located in small shopping centers or stand-alone buildings. Currently, workers at the subject site are traveling to neighboring communities or Lexington Center for daytime retail activities.

Opportunities/Market Potential

- High rent potential due to lack of local competition.
- General low vacancy in retail market in Lexington.
- Potential to reduce vehicle trips during business hours to and from subject sites.
- High levels of disposable income in neighboring communities.
- Potential for mixed-use or lifestyle retail due to general lack of competition in suburban Boston and high levels of disposable income; in-depth market analysis would be required.

Constraints/Market Disadvantages

- Existing, available retail is generally not of a high quality and not-purpose built.
- Competition from and a wider range of retail opportunities in adjacent communities could still encourage local workers to go elsewhere.
- Lack of available land for new retail.
- Lack of zoning that allows for freestanding and office-oriented retail.

A-1.4 Hotel and Lodging Market

Only three hotel or motel properties exist or are planned in Lexington. Hotel and lodging uses are a key component of a full-service office environment, as discussed in the earlier sections of this study. As a result, a market opportunity may exist in Lexington at the subject sites and the use-type is discussed here.

Context: The Greater Boston Area

According to Pinnacle Advisors, the Boston lodging market is in the midst of a significant expansion, both in terms of supply and demand. Strong tourism and business traveler markets have buoyed the hotel industry in Greater Boston in recent years, and average room rates are expected continue to grow in 2008. Boston is the nation's fourth most expensive hotel market and it is predicted that increased conference activity will boost reservations in Boston and the suburbs in 2008. Pinnacle projects that revenue per available room (RevPAR) for the Boston/Cambridge core will grow by 4.6 percent in 2008. Strong growth in average daily rates is expected to off-set minor declines in occupancy caused by new supply. In the suburbs, RevPAR is projected to grow by 6.7 percent in 2008. Increased demand combined with limited supply growth are expected to help operators increase occupancy levels and average rates.

Existing Conditions and Inventory

As mentioned, only three hotel or motel properties exist or are planned in Lexington. These are as follows (with typical room rates):

Table A-1.5 Lexington Lodging

Property Name	Property Address	Type	Room Rate Range
Quality Inn & Suites	440 Bedford St	2-Star Budget Hotel	\$80-\$120
aLoft by Starwood	727 Marrett Rd	4-star Modern	TBD/Opens July 2008
Element by Starwood	727 Marrett Rd	4-star Modern /Extended Stay	TBD/Opens July 2008

Both Starwood properties are new hotel prototypes developed by the Starwood group and based on the success of the W Hotel chain. The properties will be located at the site of the former Lexington Sheraton, which closed in late 2006. By locating a hotel prototype in Lexington, Starwood is signaling that it sees the suburban Boston hotel market – and Lexington specifically – as deep and with potential.

Other hotel properties are located throughout the Route 128 corridor, with the closest competitors in Waltham and Burlington, where average room rates are in the \$175-250 per night range on average for 3- and 4-star properties. Only approximately ten properties exist between Burlington, Lexington, and Waltham.

Summary and Lexington Market Position

As signaled by the Starwood Group's decision to launch their "Aloft" and "Element" prototypes in Lexington, and by projections made for suburban Boston, a market opportunity exists at the subject sites.

Opportunities/Market Potential

- Potential to add to the short-supply in the suburban Boston office market.
- Potential to add lodging opportunities closer to subject sites; thereby encouraging more full-service office environments.
- High revenue per available room potential in a growing market.

Constraints/Market Disadvantages

- Lack of available land for new hotels.
- Lack of zoning that allows for hotel development.

A-1. 5 Summary of Market Findings

At the subject sites investigated as part of this study, the Town of Lexington has a unique opportunity to take advantage of positive market trends with the goal of potentially redeveloping or adding value to existing properties. Market trends for all uses discussed in this study – office/biotech, office-serving retail, and lodging – show a market opportunity at the subject sites.

The existence of development potential at the subject sites suggests that if changes in zoning or allowable building capacity occur, new projects would be viable and would most likely occur over time. However, a detailed regression analysis would be required in order to determine the specific depth of the market demand, a specific absorption timeframe, and total development potential by use type.

A-2 Economic Feasibility Analysis

This section of the report includes economic feasibility information and evaluates the proposed development scenarios. The purpose of the economic feasibility analysis is to determine the probable market response to a change in FAR, based on the prototype properties. The analysis illustrates that a change in FAR would, over time and under current market conditions, lead to a change in development on existing parcels located at the subject areas. In summary:

- A change in the FAR to 0.35 would encourage renovations and additions to existing properties, but would most likely not encourage wholesale teardown and redevelopment, except in those cases where existing properties have outlived their current use-cycle and rents garnered are significantly below market.
- A change in the FAR to a range between 0.40 and 0.80 would most likely not encourage renovation or redevelopment of properties in a manner that would fully take advantage of the FAR available as structured parking would be required in this FAR range. The cost of structured parking and the likely need to remove existing productive building space would outweigh value gained through additional rentable space. An increase to this level of FAR would most likely result in additions or redevelopment to approximately the 0.35 level. In effect, such a change would be the same as a change to 0.35.
- A change in the FAR to approximately 0.90 would encourage redevelopment and re-use of properties that would take full advantage of the additional allowable density. In this FAR range, additional rentable space is sufficient to cover the additional costs of required structured parking and replacement of existing income-generating space.

A-2.1 Approach and Assumptions

A residual land value analysis was used in order to determine development potential for the prototype site at each proposed FAR levels, assuming traditional suburban office uses. The methodology is that if a new FAR was allowed, and a land owner then chose to build out to the maximum FAR, would the value gained through additional density outweigh the cost of new development and the potential lost revenue stream of existing space. Value was determined by capitalizing an asset based on projected stabilized net operating income and a capitalization rate at which an investor might evaluate the completed property. Assuming a teardown, existing revenue was subtracted from projected revenue. Costs were based on existing construction costs for suburban office in Boston and appropriate demolition costs, soft costs, and parking costs were also included. If value exceeds costs for a scenario (resulting in positive land value), a scenario is deemed likely to be viable; if value does not exceed costs (resulting in negative land value), a scenario is deemed unlikely.

The following assumptions are used for the feasibility analysis:

Assumptions Used

Costs

- Direct construction costs: \$165/ gross square foot
- Renovation costs: \$50/renovated gross square foot
- Demolition costs: \$7/renovated gross square foot
- Soft costs: 20% of direct construction
- Surface Parking: \$3,000 per space
- Structured Parking: \$22,000 per space
- Financing: 65% Loan at 7% interest

Revenues

- Average Current Rent: \$27/ rentable square foot annually
- Projected Rent: \$32/ rentable square foot annually
(Renovated and new space blended)
- Projected Rent: \$36/ rentable square foot annually
(New space)
- Stabilized Vacancy: 5%
- Operating Expenses: \$10/ rentable square foot annually
- Cap Rate: 6.5%

A-2.2 Scenarios

Each of the development scenarios discussed in this *Report* were analyzed for potential economic viability based on the land residual analysis and the above mentioned assumptions. The assumed typical site is as follows:

- 290,000 square feet (6.65 acres)
- 70,000 square feet of undevelopable wetlands
- 220,000 square feet of developable land
- Existing 57,750 square foot building at 0.21 FAR
- Current Net Operating Income (NOI) of \$868,000 based on \$27/ square foot rents
- \$13,350,000 current value based on 6.5% cap rate

The assumed typical site serves as the model and benchmark upon which other scenarios are based.

Scenario A-1: Add Additional Square Footage in order to Reach Maximum FAR of 0.35

This scenario assumes that a landowner would build out to the maximum allowable FAR but would not tear down existing rent-producing structures. It is assumed, however, that existing space would be renovated and additional appropriate parking would be added. The resultant development would be as follows:

- 96,250-square foot building at 0.35 FAR; would include a mix of new and renovated space.
- New NOI of \$1,885,000 based on \$32/ square foot rents
- Existing NOI of \$867,700 (from baseline scenario)
- Net new NOI of \$1,017,300
- **\$15,650,800 in value based on 6.5% cap rate**

The costs to achieve such a development would be as follows:

- \$6,352,500 in direct construction costs for 38,500 square feet of new space at \$165/ square foot
- \$2,887,500 in renovation costs for 57,750 square feet of existing space at \$50/ square foot
- \$1,270,500 in soft costs
- \$924,000 in parking construction costs for a new surface lot
- \$250,000 in site improvements
- \$630,000 in financing costs
- \$1,168,500 in fees and returns for equity funding sources
- **\$13,168,100 in total development costs**

Subtracting costs from value results in a residual land value of approximately **\$2.5 million**. Accordingly, the positive land value signals that this redevelopment scenario, based on the renovation of existing space and the development of additional space is likely if densities at a 0.35 FAR were allowable.

Scenario A-2: Teardown Existing and Rebuild New to Reach Maximum FAR of 0.35

This scenario assumes that a landowner would build out to the maximum allowable FAR but only after tearing down existing rent-producing structures. The resultant development would be as follows:

- 96,250-square foot new building at 0.35 FAR
- NOI of \$2,258,000 based on \$36/ square foot rents
- Lost existing NOI of \$867,700 (from baseline scenario)
- Net new NOI of \$1,390,300
- **\$21,389,200 in value based on 6.5% cap rate**

The costs to achieve such a development are as follows:

- \$15,881,300 in direct construction costs for a new 96,250-square foot building at \$165/ square foot construction costs
- \$404,300 in demolition costs
- \$3,176,300 in soft costs
- \$924,000 in parking construction costs for a new 308-space surface lot
- \$250,000 in site improvements

- \$1,113,000 in financing costs
- \$2,000,000 in fees and returns for equity funding sources
- **\$23,256,100 in total development costs**

Subtracting costs from value results in a residual land value of approximately **negative \$1.9 million**. Accordingly, the negative land value signals that this redevelopment scenario, based on the teardown of existing space and the construction of new space is unlikely if densities at a 0.35 FAR were allowable. The negative land value is largely a result of the income lost from tearing down existing rent-producing structures. If current rents were lower than the assumption used (\$27/ square foot) then the incremental NOI lost would be reduced, thereby making the scenario more feasible. Under the scenario presented, the project would generate positive land value if the current rents were less than \$24.50 per square foot, with all other assumptions remaining constant.

Scenario B: Teardown Existing and Rebuild New to Reach Maximum FAR of 0.80

This scenario assumes that a landowner would build out to the maximum allowable FAR but after tearing down existing rent-producing structures. The resultant development would be as follows:

- 220,000-square foot new building at 0.80 FAR
- NOI of \$5,161,200 based on \$36/ square foot rent
- Lost existing NOI of \$867,700 (from baseline scenario)
- Net new NOI of \$4,293,500
- **\$66,053,800 in value based on 6.5% cap rate**

The costs to achieve such a development are as follows:

- \$36,300,000 in direct construction costs for a new 220,050-square foot building at \$165/square foot construction costs
- \$404,300 in demolition costs
- \$7,260,300 in soft costs
- \$15,488,000 for a new 704-space structured parking lot at \$22,000 per space
- \$250,000 in site improvements
- \$3,221,000 in financing costs
- \$6,000,000 in fees and returns for equity funding sources
- **\$67,283,000 in total development costs**

Subtracting costs from value results in a residual land value of approximately **negative \$1.3 million**. Accordingly, the negative land value signals that this redevelopment scenario, based on the teardown of existing space and the construction of new space is unlikely if densities at a 0.80 FAR were allowable and that a landowner would most likely not build to the maximum allowable FAR. The negative land value is largely a result of the additional cost incurred by the necessity of structured parking as well as the lost of the current income-producing structure.

Scenario C: Teardown Existing and Rebuild New to Reach Maximum FAR of 0.90

This scenario assumes that a landowner would build out to the maximum allowable FAR but after tearing down existing rent-producing structures. The resultant development would be as follows:

- 247,500- square foot new building at 0.90 FAR
- NOI of \$5,806,300 based on \$36/per square foot rents
- Lost existing NOI of \$867,700 (from baseline scenario)
- Net new NOI of \$4,938,600
- **\$75,978,500 in value based on 6.5% cap rate**

The costs to achieve such a development are as follows:

- \$40,837,000 in direct construction costs for a new 247,500-square foot building at \$165/square foot construction costs
- \$404,300 in demolition costs
- \$8,167,500 in soft costs
- \$17,424,000 for a new 792-space structured parking lot at \$22,000 per space
- \$250,000 in site improvements
- \$3,619,000 in financing costs
- \$6,700,000 in fees and returns for equity funding sources
- **\$75,601,000 in total development costs**

Subtracting costs from value results in a residual land value of approximately **\$377,000**. Accordingly, the positive land value signals that this redevelopment scenario, based on the renovation of existing space and the development of additional space is likely if densities at 0.90 FAR were allowable. In this case, the high cost of structured parking is offset by sufficient additional rentable space to create enough value to cover costs.

Review of Scenarios

Based on the current assumptions, an increase in allowable FAR to 0.35 would encourage site development, most likely via renovations and building of additional square footage. Increases in FAR to a range greater than 0.35 but below 0.90 would most likely result in a buildout only to approximately 0.35 FAR, based on market conditions. Therefore, in effect, allowing 0.85 FAR would be equal in result to a 0.35 FAR. However, at a 0.90 FAR, current market economics would encourage site redevelopment that would take full advantage of allowable density.

In utilizing and evaluating the scenarios presented, it is important to keep in mind two important disclaimers:

- The economic assumptions utilized here for a typical parcel differ from site to site as they exist in Lexington currently. The key assumption that could affect redevelopment potential is existing rent - \$27 per square foot annually is utilized as an average.

However, if a landowner is unable to achieve such rents with their current facility, redevelopment options at a range of FAR levels begin to work economically.

- FAR is only one measure of density. Height limits, open space requirements, setback requirements, and many other factors inherent in the zoning code effect the maximum buildable density on a site. The scenarios presented here assume that other controlling codes would not impact the ability for a landowner to build to maximum FAR.

A-2.3 Retail and Lodging Scenarios

The scenarios discussed above focus only on office uses and the assumed typical parcel is for an office use. The size presented for the typical parcel is unrealistically large for the type of retail use being discussed as part of this study and is potentially inappropriate for a lodging development scenario, which would be based on the size and scope of a proposed facility. It is not possible to simply say whether or not a retail or hotel development scenario would make sense economically without understanding the specifics of a site in question or without developing a prototype site. That considered, based on market comparables for retail space, a high-value retail property (garnering similar rents to neighboring communities) or a high-occupancy hotel property would most likely hold par with office redevelopment, simply based on the smaller scale of development proposed. A more likely scenario might be one in which retail or lodging and office uses are mixed and co-supporting, thereby creating higher values for both product types and increasing development feasibility.

A-2.4 Potential Redevelopment Process

As discussed above, if allowable density were increased to certain levels, reuse or redevelopment of existing properties at the subject sites in Lexington would more than likely occur over time. The assumed typical site described for the project is based on real world conditions; however the existing parcels in the study areas are of a range of shapes, sizes, slope, accessibility, and other factors affecting development feasibility. Also, redevelopment of sites would most likely not occur immediately. The following key points are important to note when analyzing how and when redevelopment could occur if encouraged by changes to the allowable density at the subject sites:

- Economic factors such as achievable market rents and lease turnover would determine the appropriate timing for redevelopment by a landowner.
- Landowners may look to a land assemblage for development projects in order to take advantage of economies of scale. As a result, redevelopment could be based on the economic viability of multiple adjacent parcels.
- A landowner or developer proposing a mix of uses, specifically the development of a retail pad or a hotel, may look to subdivision of existing property.
- Other impacts of development – most notably traffic – are not accounted for as part of the economic feasibility scenarios. Significant increases in traffic could affect potential rents and potential values. Likewise, mitigation measures requiring significant public infrastructure may be attached to redevelopment proposals, thereby affecting the economic viability and timing of a development proposal.



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