

11.360 Land Use Planning and Community Growth -- Final Report

Strategic Land Use Plan for Needham Center

Vision for a Contemporary Village



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Thomson Hall, Princeton, 1900-1902

Chapter 1

OVERVIEW

Chapter One – Overview



PURPOSE

This document, commissioned by the Town of Needham Planning Board, is intended as guide to inspire, encourage, and engage the town, including its municipal officers, citizens, property owners, business interests, and where appropriate outside state and federal authorities. This plan was prepared by a group of eight graduate students at the Massachusetts Institute of Technology Department of Urban Studies and Planning in the Fall of 2003.

INTRODUCTION

The Needham Center Strategic Land Use Plan provides a framework for change in the town's Center and Chestnut Street Business Districts. The proposed strategy aims to reinforce the positive qualities of downtown while promoting enhancements that can improve the quality of life of residents that live, work, shop, and meet in downtown Needham.

In the seventeenth century, Needham was founded as a farming community. From its incorporation in 1711, Needham nurtured a variety of agricultural and industrial uses, eventually emerging as a prosperous and community-conscious suburb in the dynamic and fast-paced Metropolitan Boston region. Drawn to the town's attractive residential character, the people that compose modern Needham maintain a lifestyle grounded in work, relaxation, family, and education. Today the diversity of people and uses

created by the union of these values remains a strong and desirable asset for the future.

Needham, like many of Boston's nearby suburbs, is approaching the residential and business build out capacity allowed by present regulations. The result is a rising cost of living that keeps many of Needham's most visible or desired community members – be they teachers, business operators or young families – from residing in the town. Likewise, the town's business districts cannot expand to meet changing local needs and become a more source of greater tax revenue. Without intervention, Needham may ultimately lose some of the diversity, opportunity, and civic character that it developed in the past and are vital to its present identity.

The Needham Center Strategic Land Use Plan targets a specific area in which diversity, opportunity and civic character may all be enhanced through innovation, leadership and cooperation. As the heart of Needham, the Center and Chestnut Street Business Districts provide a logical place in which to create the town's future. The plan is not by any means a prescription, but rather a document meant to inspire the creativity of which Needham's residents and businesses are fully capable. The plan is the product of this understanding of the community.

OUTLINE

This document is organized as follows:

Chapter One, Overview, gives an overview of the Needham Center Strategic Land Use Plan.

Chapter Two, Existing Conditions Analysis, presents the observed physical and economic character of the town, along with identified opportunities and constraints.

Chapter Three, The Plan for Needham Center, advances the various elements of the plan.

Chapter Four, Implementation, offers implementation recommendations.

VISION

The Needham Strategic Land Use Plan envisions the revitalization of the Center and Chestnut Street Business Districts as a relaxing and enticing village that serves contemporary needs. We believe in the town's ability to foster identity, opportunity and enjoyment in targeting the future civic structure of Needham center.

The idea of a 'contemporary village' may at first seem contradictory, given Needham's departure from its nineteenth century agricultural character and its present status as a thriving component of a large metropolitan region. We believe, however, that the town's future ability to adequately reflect the diversity, opportunity and civic character valued by its residents lies specifically in a reconsideration of the village aesthetic as a mechanism for contemporary growth. An identifiable and concentrated village is in character with dominant themes of New England's built heritage, and it provides the ability to serve private and public interests in a comprehensive and targeted manner. Having built many of its residential districts to capacity, Needham should now look to the town center as the logical place to excavate its future.

A Legible Sense of Place

Needham deserves a center accessible and comforting to the pedestrian who uses its shops, services, transportation and public places. This can be achieved through the construction of an attractive and legible civic network of pathways and open spaces that guide the individual through a relaxing and fulfilling experience. Such a network creates a coherent public realm communicative of the town's pride and values.



Increasing Local Opportunities

The plan illustrates examples of how the town may promote development that will enhance its identity as a prosperous community. Each example is both a realistic development project and an effort to visualize the kind of residential and commercial development needed to sustain and reinforce Needham's present character.

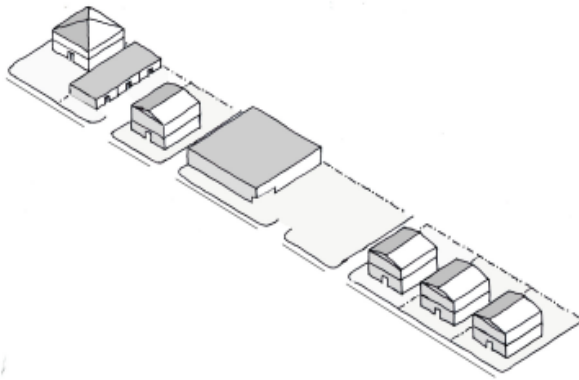


An Accessible and Adaptive Place

Attractive future growth in Needham Center necessitates the reconsideration of zoning bylaw, as well as regulations affecting parking, traffic, and the public realm. The 'contemporary village' of Needham Center cannot be realized until the needs of the town are properly addressed.



Chapter 2



EXISTING CONDITIONS ANALYSIS

Chapter Two – Existing Conditions Analysis



THE PROCESS OF OBSERVATION

We divided our observations of Needham Center into the following areas in order to gain an accurate picture of the Center's existing assets and evaluate the need for change:

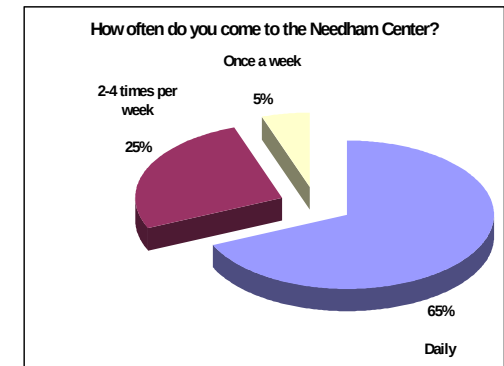
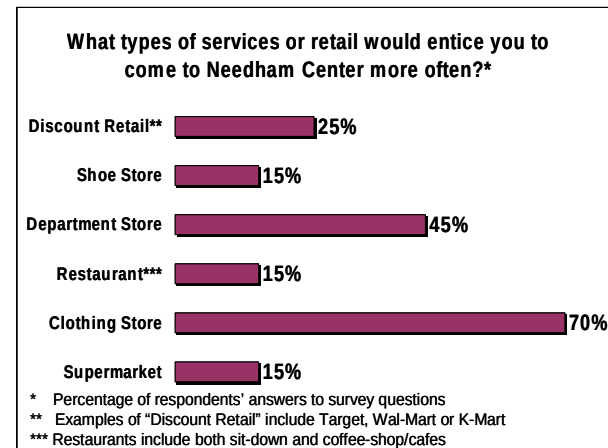
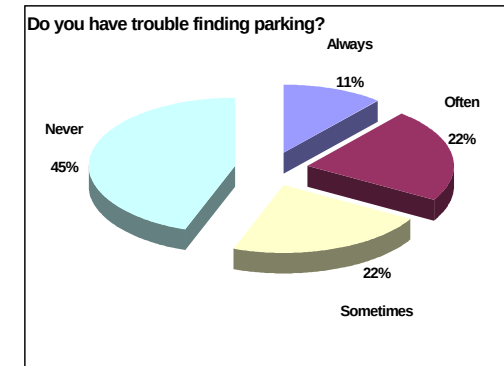
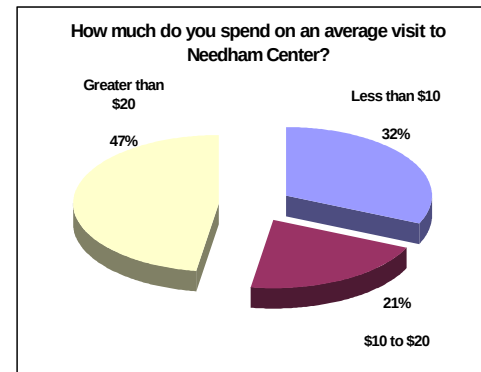
- **Site Observation** – Collection of visual and statistical information regarding the physical and economic condition of downtown.
- **Parking Conditions** – Evaluation of perceived parking constraints through analysis of potential causes and intercept surveys with members of the public.
- **Economic Analysis** – An analysis of Needham Center's economic well-being and potential by estimating the capacity of its businesses to serve town residents and intercept surveys with members of the public.
- **Zoning Bylaw Analysis** – Assessment of the zoning code's need for re-consideration in order to precipitate change.
- **Historical Analysis** – Analysis of information on the town's history to ensure a plan informed by traditions, past precedents, and trends.
- **Community Commitment** – Examination of community perspectives on environment, art, and education through interviews.

MARKET ASSESSMENT

Retail Survey Results

Retail Market Conditions:

- Low vacancy in the retail and commercial markets
- Retail stores service almost exclusively short duration trips
- Activity is principally between the hours of 9:00 a.m. to 5:00 p.m.
- Minimal mixed-use development
- Perceived lack of parking in the Center Business District
- Inefficient use of available parking
- Apparent shortage of specific services and businesses such as Clothing and Department Stores
- Commercial rent is between \$17/sf–\$23/square foot (sf)
- Tenant improvement costs approximately \$25/sf
- Shell construction costs approximately \$100/sf



Residential Real Estate Market:

- A recent 27 unit, ½ acre residential development on Chestnut Street has 25 parking spaces with 4 for visitors. A parking waiver was issued for the development, and its lot is typically filled to 80% of capacity.
- Needham has an excellent school system, but decreasing residential opportunities for young families
- Needham has a severe shortage of affordable housing; the town is 663 units below the 10% allocation under Massachusetts 40B regulations.
- Teardowns of less expensive housing are frequent.
- Market for owner-occupied units is tight.
- Multiple owners usually do not cooperate in development.
- Parcels in Center and Chestnut Street Business Districts are often small and irregularly sized.
- Owner-occupied units in multifamily buildings sell for \$250,000 to \$350,000.
- Units in multifamily buildings rent at \$1,200 to \$1,500 a month.
- The median price of a single family dwelling is \$500,000.

- The median price of a unit in a multifamily building is \$300,000

PHYSICAL CONDITIONS ASSESSMENT

Use of Parcels:

As a whole, the parcels in the Chestnut Street Business District and Center Business District have not been built to their allowable potential as determined by floor-area ratio (FAR).

Parking, almost all of which is surface parking, comprises 52% of private property in the Center Business District and 64% of private property in the Chestnut Street Business District.

Buildings account for 34% of private property in the Center Business District and 24% of private property in the Chestnut Street Business District.

Public and private open space comprises 14% of the Center Business District and 12% of the Chestnut Street Business District.

Streetscape Conditions

In general, Needham Center and Chestnut Street suffer from a limited sense

of physical identity. The quality of the public realm in downtown is diminished by the following factors:

- Inconsistent building setbacks, particularly along Chestnut Street
- Varying building heights around the Common
- Inconsistent sidewalk treatments and streetscape elements
- A lack of trees and greening along Chestnut Street
- A shortage of crosswalks along Chestnut Street
- An absence of continuous, visible pathways between different centers of activity

Historically, Needham Center's buildings consisted of two to three floors of mixed use. The buildings surrounded the street, providing a sense of enclosure for pedestrians and visually deemphasizing the roadway. Part of our vision is to recreate this in a contemporary setting.

Current zoning also affects streetscape and parcel use. Potential development outcomes shown for Chestnut Street and Needham Center illustrate the inconsistency of building setbacks and building heights allowed with current zoning.

Table 1. FAR use in Districts

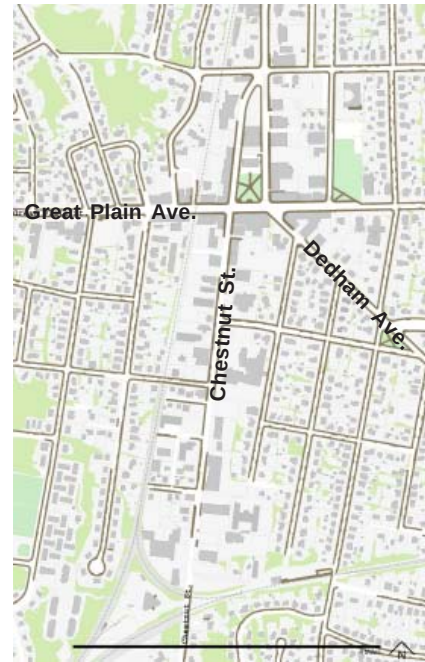
<u>FAR</u>	<u>Center Business District</u>	<u>Chestnut Street Business District</u>
Existing	0.7	0.3
Allowed	1.0	0.5

Table 2. Parcel Composition (Percentages)

<u>Land Use Type</u>	<u>Center Business District</u>	<u>Chestnut Street Business District</u>
Parking	52%	64%
Buildings	34%	24%
Open Space (public and private)	14%	12%

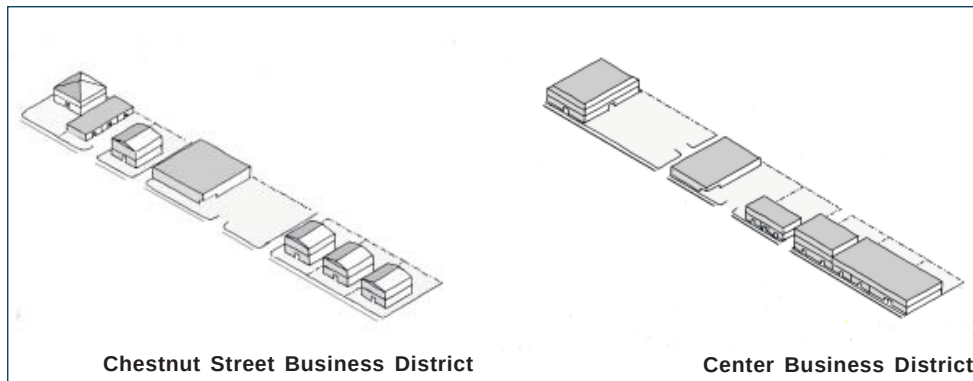


Existing Building Edges

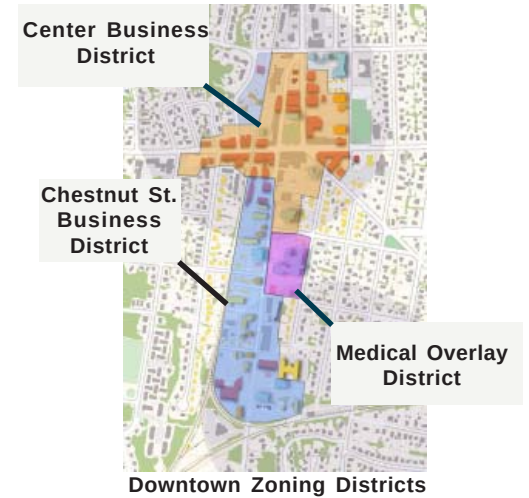


Existing Sidewalk Network

Potential Building Scenarios: Current Zoning



Existing dimensional and use regulations for the Chestnut Street and Center Business Districts permit an inconsistent streetscape marked by wide gaps between buildings, varying building heights, and discontinuous sidewalks. These impacts are exacerbated by low Floor to Area Ratios (FAR) and burdensome parking requirements.



Existing Land Use

Regulatory Conditions Assessment

A principal barrier to change lies in the zoning code. Its present language lacks any adaptation of the generic structure to impart a unique sense of place in Needham. For example, the code contains no specific purpose statement for the Center Business District or the Chestnut Street Business District. Thus, owners and potential redevelopers are left to deduce the town's vision by engaging in a comparison of use regulations and dimensional schedules, or extrapolating from existing conditions, yielding inconsistent interpretation. Current zoning also discourages residential and larger-scale civic projects. While homogeneity is desirable in some respects, use codes may have gone too far in limiting the ability of Needham Center to meet the present needs of its residents and flourish economically. This is visible in the limited retail, small service, and redundant uses that currently occupy the Center and Chestnut Street Business Districts. Other provisions deter uses by setting unreasonable requirements given the town center's physical conditions; in other words, they are too broad for the purpose they are intended to achieve, i.e., to prevent undesirable development.

The following is an assessment of specific aspects of the town's current approach to regulating the built environment:

Purpose Statements:

- Traditional Euclidean general purpose statements lack adaptation to Needham's unique values
- Absence of district purpose statements differentiating multiple business districts

Permitted Uses:

- Highly-stratified use matrix
- Special permit requirements for apartments, most classes of restaurants, entertainment venues, and parking on a different parcel than the primary development
- Existence of multiple overlay districts (Flood Plain, Aquifer Protection, Medical Overlay, Adult Uses, and Wireless Communications Facilities Towers)
- Inconsistent treatment of new versus old business districts

Dimensional Schedules:

- Prohibitively low FAR and height limitations
- Apartment schedule incompatible with Needham Center apartment development

Parking Regulations:

- Justifications for waivers inconsistent among districts
- Lack of specific values for which waivers will be granted

Historic Village Character



Great Plain Avenue at the turn of the 20th century

(Source: *Images of America: Needham*)



Needham Center during the storm of 1898

(Source: *Images of America: Needham*)



Needham Village Common, 1919
(Source: Sanborne Maps)



Chapter 3

A PLAN FOR NEEDHAM CENTER



Chapter Three – A Plan for Needham Center

To achieve the contemporary village vision for Needham Center, we are calling for change in several areas: streetscape, zoning and design guidelines, parking requirements, and the financing of public improvements and infrastructure. The following chapter is divided into three sections. The first, “A Legible Sense of Place” proposes a new civic network for Needham Center. The second, “Increasing Local Opportunities”, examines how the Center may accommodate appropriate development in the future. The final section, “An Accessible and Adaptive Place”, explains the changes necessary in zoning and parking practices to achieve the vision outlined in this plan.

PART I - A LEGIBLE SENSE OF PLACE

Currently, Needham Center provides a disjointed and unclear sense of place for pedestrians, shoppers, and drivers. The fundamental element of our vision for Needham Center is the resurrection of a legible sense of place for the town center, connecting coherent public spaces with greenways and pathways and furthering a sense of civic identity. This section describes the civic network and streetscape character proposed in our contemporary village vision.



Identify Clear Civic Networks linking existing and potential activity centers

To bring downtown and its surroundings together in a coherent fabric, the town can define an improved civic network: a coherent sequence of attractive streets, public spaces, and commercial and civic buildings. The network proposed in this report links existing and potential centers of commercial, civic, and recreational activity with a comfortable public realm that will make downtown a more pleasant place for residents,

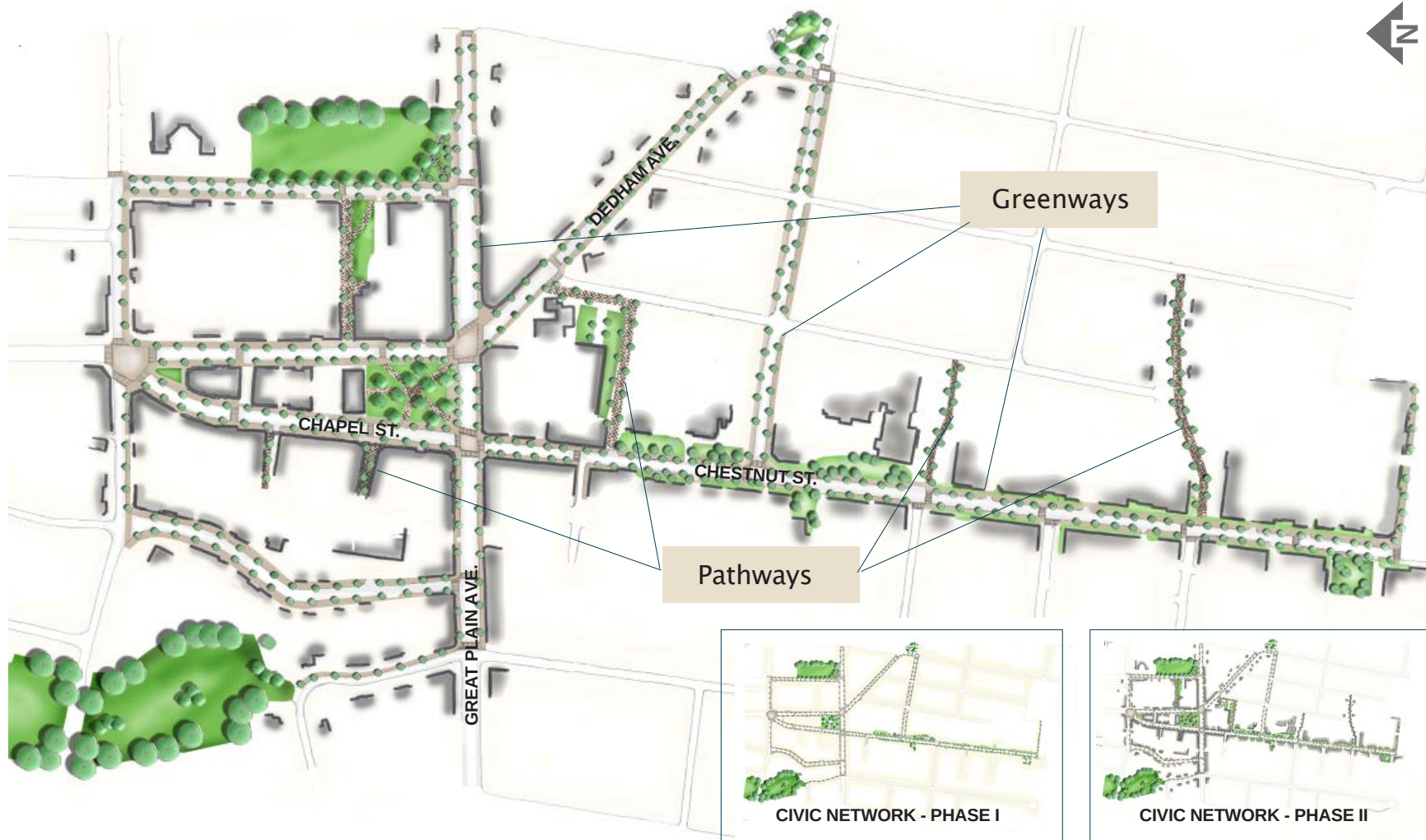


shoppers, and businesses alike. This network would reinforce the positive aspects of downtown while transforming Chestnut Street into a pedestrian-friendly space and improve connections between surrounding neighborhoods, public spaces, and downtown. Public leadership in improving the public realm will encourage people to spend more time in the Center; support businesses; and act as a catalyst for private investment in individual parcels. In sum, the network will transform Needham Center into a navigable, pleasant setting for shopping, living, working, driving, taking a walk or beginning or ending a commute.

The enhanced civic network would need to become an official part of the town's vision for its future development to be realized. Through the formal identification of the following elements of an improved civic network, the town can begin to strategically fund and promote public and private improvements in the Center and Chestnut Street Business Districts:

- **Greenways** – tree-lined streets with wide sidewalks, street furniture, pedestrian-scale lighting, and frequent crosswalks.
- **Pathways** – comfortable, appropriately lit pedestrian passages. Pathways fill gaps in the pedestrian network that remain after the creation of greenways due to the large size of many town blocks. These passages provide neighbors with

PROPOSED CIVIC NETWORK



improved access to Chestnut Street, increase pedestrian mobility around the common, and bring the visual sphere of the common toward the Needham Center MBTA Station.

- **Public Spaces** – These spaces include everything from small ‘pocket parks’ to the Common, and act as destinations in their own right. They provide sitting places and passive recreation for neighbors, workers and citizens spending an afternoon in the Center. We have identified several potential long-range locations for intimate public spaces at key points in the civic network.

Civic Network Implementation Phases

We envision the enhanced civic network developing in three potential phases:

- First, sidewalk improvements including street furniture, pedestrian lighting, and street trees.
- Second, greening of the area between sidewalks and building setbacks along Chestnut Street through plantings.
- Third, building edges begin to strengthen the public realm around the Common and define a pedestrian setting along Chestnut Street. The future development process will also allow the town to begin to complete its civic network with the addition of pathways and public spaces.

Financing an Enhanced Civic Network

Financing the streetscape improvements involved in the creation of greenways will be discussed in Chapter 4. In order to construct the pathways and public spaces identified in the proposed civic network, the town would either: a) purchase the property; or b) provide attractive incentives to property owners and developers to provide these areas as public easements.

Visualizing Changes



GREAT PLAIN AVE - BEFORE



GREAT PLAIN AVE - AFTER

This is how the intersection of Chestnut and Great Plain might look after the creation of a civic network complemented by attractive redevelopment featuring street furniture, pedestrian lighting, and signage.



CHESTNUT ST - BEFORE



CHESTNUT ST - AFTER

This is the new pedestrian realm envisioned for Chestnut Street, including public art, widened sidewalks, green space, and street trees.

PART II – INCREASING LOCAL OPPORTUNITIES

The Concept and Results of Appropriate Development

Shown in this section are two hypothetical redevelopments that demonstrate potential opportunities for bringing new commercial and residential opportunities into Needham Center. Each scenario is economically feasible, but neither can be built under present zoning and parking regulations. Recommended changes to zoning and parking practices that would accommodate these two redevelopments are detailed in the next section of the chapter. Both projects are in design and scale intended to reflect and enhance the character of Needham Center. These projects build upon the history of larger-scale mixed-use development in the Center. They realize the value of the Center as a potentially larger market for retailers and a site for needed residential development in the town. If built, such projects would serve as catalysts for improvements on adjacent parcels as well.

Potential Catalyst One – The Theatre Block

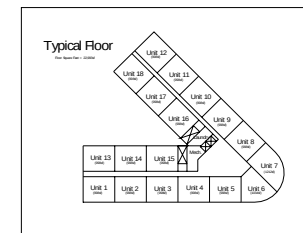
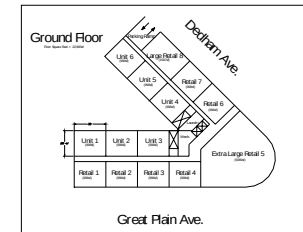


The redevelopment project shown here could serve as a catalyst, or model, for the form of appropriate redevelopment in the downtown area. The proposed project incorporates two parcels at the SE corner of Great Plain and Dedham Avenues, including one parcel occupied by an old theatre. This site has a combined area of 31,107 sf (0.714 acres). Two iterations were explored for the proposed development:

- Option 1: Underground parking, ground floor retail, and residential units on two upper floors. This option includes 42 residential units, 8 retail units, and 67 parking spaces.
- Option 2: Ground floor parking, ground floor retail, and residential units on two upper floors. This option includes 36 residential units, 8 retail units, and 36 parking spaces.

PROJECT FEATURES		
	Option 1	Option 2
Parking	Underground: 67 spaces	Ground Floor: 36 spaces
Retail	Ground Floor: 8 units	Ground Floor: 8 units
Residential	Upper Floors: 42 units	Upper Floors: 36 units

THEATRE BLOCK



parking spaces.

Potential Catalyst Two



– Needham Village Common

Needham Village Common, the second hypothetical development explored in the plan, is bounded by Chapel Street to

the East, Needham MBTA Center Station to the West, a municipal parking lot to the North, and Great Plain Avenue to the South. This potential catalyst project is situated on 2.3 acres of land (approximately 100,000 sf). The site consists of seven existing parcels currently utilized for parking and retail. Ownership of the parcels is divided between private individuals, the MBTA, and the Town of Needham.

The Needham Village Common project would create a mixed-use transit oriented development through the construction of:

- Two 3½ story buildings featuring architectural qualities that reinforce the positive aspects of historic development around Needham Common.
- 41,000 sf of ground floor retail space, a 30% increase over the amount currently spread across the site's seven parcels.
- 100 new residential units on upper floors.
- 449 structured parking spaces, consolidating existing parking on the site while adding sufficient space to serve residents, employees, and shoppers. The parking scenario depicts a public/private partnership, whereby the private developer will pay for 20% of the structured parking costs, while the city will foot the remaining costs.
- A pathway through the center of the

development providing a new, more visually legible connection between Needham Center Station, the Common, and the existing shops around the Common. This would complete a critical piece of the enhanced civic network proposed above.

Project Features	
Parking	Structured: 449 spaces
Retail	Ground Floor: 41,000 SF
Residential	Upper Floors: 100 Units



Benefits of Catalyst Projects

The potential catalyst projects explored above would benefit Needham Center by:

- Adding a significant number of new residential units. This would provide an instant 'retail boost' for downtown businesses and infuse life on the street at off-peak hours.
- Providing additional retail space to meet changing local and area needs.
- Increasing the parking supply in downtown without compromising the quality of the public realm.
- Allowing multi-family housing, which can assist the town in meeting State of Massachusetts' 40B requirements on its own terms. The town is 663 units below its required allocation.

Financial Analysis of Catalyst Projects

Included in Appendix II and IV is an in-depth analysis of both potential catalyst projects. Various developers were contacted to obtain accurate information regarding rents, tenant improvements, construction costs, etc. The analyses shown in Appendix III and IV demonstrates the feasibility of both redevelopment projects. However, it must be noted that the proposed projects are only feasible if the recommendations prescribed in the following section of the chapter are made (i.e., increased FAR and height limitations

PART III - AN ACCESSIBLE AND ADAPTIVE PLACE

Creating the civic network and catalyst developments described above will require significant changes in Needham's regulatory scheme. The following analysis outlines necessary amendments to the town's Zoning Bylaw in the areas of use, dimensions, and design, emphasizing mixed use and redevelopment incentives.

ZONING BYLAWS

The following represent proposed alterations to the town's approach to regulating and promoting development in downtown:

Purpose Statements

Purpose provisions can induce desirable changes by sending a clear, receptive message to property owners and developers. Such statements can also control undesired development by making strong, legally enforceable statements about the character and priorities of the town and its districts. A revised General Purpose Statement and new District Purpose Statements for the Center and Chestnut Street Business Districts can, by encouraging mixed-use, stimulate the realization of Needham's diverse character in the Center. Examples that may guide Needham's revisions are provided in Appendix I.

Overlay Districts

Needham may use overlay districts to further encourage mixed-use development. More importantly, overlay districts can help the town achieve preferred and efficient uses of space in the Center. It does so by creating a systematic and predictable framework for promoting public purposes through cooperation with the private sector. Needham has extensive experience with overlay districts already in the form of the Flood Plain, Aquifer Protection, Medical Overlay, Adult Uses and Wireless Communications Facilities Towers Overlay Districts. Two recommended overlay districts are as follows.

The proposed "Transit Overlay District," supports the objective of orienting the town center to the pedestrian by promoting public transportation use and walking. An area approximating the Center and Chestnut Street Business Districts, within a ¼ mile radius of the Center and Needham Junction MBTA stations, is an appropriate location for this district. Within the district, renovators and developers would receive dimensional bonuses, fee waivers, and expedited review for projects.

An "Arts and Education Overlay District" could cover a smaller area including the Center Business District and a portion of Chestnut Street. Currently, Needham is home to several arts-related organizations and has a strong commitment to education as exemplified in its excellent public schools. The goal of the Arts and Education Overlay District is

to bring together these assets into one core geographic area. Here, public, semi-public, and private organizations can support each other and become more visible and accessible to residents, who in turn would enjoy new venues for civic and social interaction. The district would encourage uses that fill an existing gap in non-retail establishments and create activity beyond the 9-to-5 hours. As in the Transit Overlay District, business owners or developers would receive dimensional bonuses, fee waivers, and expedited review for projects that promote arts and education. The District can also serve an aesthetic function by granting development bonuses to property owners who create public art.



TRANSIT OVERLAY DISTRICT

Ideal uses generated by this overlay district would include:

- An auditorium serving as a community theater house, concert venue, and civic meeting space;
- First-floor gallery and non-profit office space;
- Upper level classrooms for after-school children's art classes, academic tutoring, morning / evening adult continuing education classes, and senior events; and
- Upper level live-work artists' studios and affordable housing for public school teachers and town employees.



ARTS AND EDUCATION OVERLAY DISTRICT

Use Codes

Use schedules control undesirable development by defining which uses of property will be allowed in a given district. There may be statements about the types of use that a community wishes to prohibit, or about the relative physical impact of a given use. They may, however, result in overly-broad prescriptions of potentially valuable uses, leading to the lengthy and ad hoc special permit process.

Many towns have historically taken a negative view toward the mixing of uses on the basis that certain uses are inherently incompatible, neglecting the synergistic benefits of combining uses. An alternative, more modern and potentially less costly approach to use regulation takes an open view of uses while relying on performance standards, dimensional regulations, design guidelines, and parking requirements to ensure acceptable form and minimized physical impact. Numerous Massachusetts towns have turned to mixed-use as a strategy for animating downtowns to meet contemporary needs. One particularly successful example is seen in Northampton, where a regional planner cites the promotion of housing in the downtown as a key to the town center's turnaround. Other examples include Newton, Lexington, and Medford. A more open use schedule can function as a flexible and effective tool for encouraging the best use of individual parcels in keeping with Needham's values.

In Needham's Bylaw, this outcome can be accomplished by reconfiguring the schedule's structure, increasing its narrative quality, and amending the schedule's content. In the short-run, the town may write two new use provisions outlining schedules for the Center and Chestnut Street Mixed-Use Districts (analogous to Sections 3.2.3 – 3.2.6 of the Bylaw.) A long-term approach would consist of writing district-by-district provisions incorporating purpose statements along with new allowed as-of-right and special permit schedules. Either approach may be accompanied by district-specific performance standards.

In terms of content, Needham can take the following steps. It should first designate the Center and Chestnut Street Business Districts as mixed use. Next, Needham should remove barriers to the creation of potentially desirable uses such as restaurants, apartments, and various entertainment venues by changing these three categories to as-of-right uses subject to performance standards, dimensional regulations, and design review. The town also can promote mixed-use by explicitly supporting the combination of uses within the same structure. Finally, Needham may create a more legible use schedule by simplifying highly-stratified use categories. For example, Needham currently divides eating establishments into six different categories; a more user-friendly schedule can be seen in Cambridge, which presumptively allows "eating and/or

drinking establishment[s], whether or not liquor is sold or consumed, including restaurant, bar, lunchroom, cafeteria and food commissary.” This lenient approach to restaurant development is in keeping with Needham residents’ desire for increased restaurant choice.

Dimensions

Dimensions are a major element in enabling improvements and creating usable spaces. Currently both the Center and Chestnut Street Business Districts fall below their maximum allowable FAR. Detailed conversations with developers indicate that this shortfall is not due to a lack of interest in or need for larger structures. The belief that current FAR and height levels are set because larger structures are not financially feasible is therefore inaccurate. ‘Larger’ specifically means three-floor structures needed to profitably build living space above retail as seen in traditional downtowns. In order to allow for this, Needham should increase the maximum allowable height to 3 ½ stories or 45 feet and the maximum as-of-right FAR to be at least 2.0. In the context of an overlay district, FAR bonuses may be linked to desired uses such as mixed-use development, affordable housing, or pedestrian amenities. A new schedule of apartment dimensions specifically designed for the districts is highly recommended. The current A1 schedule is inconsistent with dimensional requirements for structures in the Center

and Chestnut Street Business Districts, as the former requires a minimum lot size of 20,000 sf and the latter 10,000 sf. The A1 schedule may therefore prohibit developers from using smaller lots in the study area for apartment development.

Design Regulations

The current design provisions of the zoning Bylaw speak in terms of preservation and consistency with existing conditions. While aimed at the laudable goals of continuity and context sensitivity, this approach is not design-forcing and may be less desirable if Needham desires character-based standards. Needham could initiate a three-pronged strategy to improving design; the first two points create a desired regulatory tone, while the third point goes to design incentives for the private sector.

- Rephrase the Bylaw’s design criteria to emphasize innovation by (a) stating that consistency is the minimum requirement, and (b) requiring that the Design Review Board give special consideration to “best design” proposals (see left)
- Adopt a theme concept in the Bylaw to guide design such as a “Colonial Aesthetic” which can be described in detail in the Design Guidelines.
- Grant fee waivers, expedited review, and FAR bonuses for projects that comply with the Design Guidelines.

Here “Best Design” refers to the most desirable aspects of design as determined by the Design Review Board after taking into account public comment. Best design may be conveyed through the Design Guidelines, which would also include tiers of acceptable but less favored design alternatives.

A matrix of specific recommendations for the existing design regulations is located in Appendix II.

In addition, a large portion of existing buildings are out of compliance with Needham's existing design guidelines, as the buildings were built prior to 1995. The town should make updating an attractive option to current owners through a prescriptive design review process that may induce turnover in ownership. The money that redevelopers save from lower permit costs can be used to offer more attractive prices to current owners. Changes in the review process may include (1) separate processes for major and minor projects; (2) a (mandatory) pre-review informal meeting with the Design Review Board to tailor and correct applications; (3) an expedited review for projects that employ recommended design components; and (4) waiver of design review fees for "best" design. In addition to procedural incentives, Needham may tie dimensional bonuses to best-design projects. Redevelopment projects would thus fall under the current design guidelines. By giving current owners clear guidelines and an expedited review process at a reduced cost, the town may encourage current owners to voluntarily update their properties. The town should establish a threshold for site review. An appropriate threshold allows developers to make minimum changes to their land without being delayed and incurring additional costs. Land owners will be more willing to make small upgrades to their property if

they know that they will not be subject to costly, timely site reviews.

Relaxing Parking Requirements

There is much debate about whether parking is sufficient for current and potential downtown development. Several concerns with parking may be alleviated in the short term by (1) reconsidering which uses may require less parking than currently required; (2) amending the district-specific component of the special permit waiver requirements; and (3) encouraging creative parking solutions among property owners, as well as between property owners and the town. The town should consider, for example, relaxed requirements for mixed-use and residential, in particular affordable housing. As-of-right reductions should be considered for a business within a small, perhaps ¼ mile distance from public transportation – in connection with the proposed transit overlay district. Shared parking, in practice in other business districts, should be extended to the Center and Chestnut Street Business Districts. Furthermore, businesses should be further encouraged to reorient their customer parking to either the sides or rears of their establishments, so that cars no longer dominate the streetscape as they currently do in the Chestnut Street Business District.

Short Term Parking Recommendations (Achievable within the next year)

- **Install signage** indicating locations of parking lots open to the public.

- **Update parking study** for Center and Chestnut Street Business Districts. The last parking study was completed in 1988 and only examined the Center Business District.

- **Implement a formal Shared Parking Program** where establishments engage in a written contract process which outlines their commitment to the program.

- **Develop a cash-out program** in which businesses pay employees not to drive to work, as well as, carpool programs, in order to minimize the number of parking spaces that are used by employees.

- **Revise mixed-use parking space requirements** – Calculate the number of spaces based on a shared parking requirement instead of the aggregate of each separate use.

- **Relax Multi-family structure parking restrictions** from 1.5 spaces per dwelling unit to 1.0 space per dwelling unit. This gives land owners significant incentive to redevelop because they can build out their development more instead of building more parking.

- **Give commercial developers the option to buy a waiver** of the 0.33 spaces/100 sf requirement that allows them to use space from the municipal structured parking lot. A developer can thus build out the development more and increase revenues from rent. The town can use the waiver money to provide funding for long-term parking strategies.

- **Initiate a Parking Fund** in which businesses contribute money to the town in lieu of providing an off-street parking

space. The fund would be used to finance a structured parking garage, as well as, other enhancements to the Center and Chestnut Street Business Districts.

Long Term Parking Recommendations

In the long term, the town needs to be proactive in constructing a municipal structured parking garage in the downtown. When more development comes to Needham Center, there is not going to be enough parking available; developments' very existence would be based upon the availability structured parking. Parking spaces should be geared towards the needs of a variety of users, so there should be a mix of long-term (commuter) and short-term (convenience) spaces in the garage. The blend of timed spaces can be achieved through hourly rates that quickly increase past certain time limits. Structured parking does not have to be ugly and obtrusive, as examples in Harvard Square and High Hanover, NH show. Two potential sites for conversion from surface parking to structured parking in the Center districts are the Chestnut Street and Chapel Street Municipal Lots. The current capacities of the lots are listed in the next column:



HIGH HANOVER, NH
(SOURCE: MAGUIRE GROUP)

Chestnut Street Municipal Lot

- 182 total spaces
- 110 Spaces until 5:00 pm for non-permit holders
- On average, 100 spaces are used during the peak hours of lunch time.



Chapel Street Municipal Lot

- 133 total spaces
- 63 spaces until 5:00 pm for non-permit holders
- On average, 60 spaces are used during peak hours of lunch time



The numbers show that among these two municipal lots, there are only 13 spaces available for parking during peak hours. As the Center Business District becomes more of a destination for shoppers, workers, residents, etc., the parking crunch will only worsen.

Structured parking is an expensive undertaking, but Needham is not unfamiliar with the costs. A multi-level above ground structure would cost between \$13,000 and \$20,000 per space, or between \$40 and \$60 per sf. If underground parking is more desirable, the costs increase to \$30,000–\$50,000 per space. In the 1980s, when it was considering building a parking garage, state matching funds were available. Through innovative financing tools such as a Parking Fund, as well as others described in the next Chapter, Needham can make structured parking a reality in the downtown.



HARVARD SQUARE, CAMBRIDGE
(SOURCE: MAGUIRE GROUP)

Chapter 4



IMPLEMENTATION



Chapter Four – Implementation

In many ways, Needham Center is well on its way towards the contemporary village vision described in this plan. Public art is appearing on the Common; new businesses are bringing evening activity to the Center Business District; and much more is planned to enliven the entire area. Yet Needham needs to secure funding in order to realize the full potential of the town center and our vision for a legible network connecting public spaces, retail, and residential areas.

This chapter begins by describing necessary public leadership and the continued commitment of citizen groups and businesses, which will be crucial to the implementation and funding of this plan. Next, we offer several viable options for financial implementation.

I. EXISTING PRIVATE COMMITMENT

Needham Center has already benefited from generous public realm improvements brought about by the private sector and dedicated citizens. Specifically, the Needham Business

Association and the Needham Community Revitalization Trust Fund (NCRTF) should be recognized for the creation of many new amenities including the trees on Great Plain Avenue, statues on the Common, and other artful elements such as murals. NCRTF has many more projects planned to improve the town center, including community-designed street light banners and a historic pedestal project.

II. NEED FOR PUBLIC FINANCIAL LEADERSHIP

While the efforts of civic organizations have been invaluable, the Town of Needham needs to take the lead in setting priorities and securing funding for long-term streetscape improvements. Despite its current fiscal crisis, Needham can use grants and innovative funding tools to implement the recommendations in this plan. Needham should not only provide incentives for appropriate development, but also create special districts, parking trusts, and linkage funds to help pay for infrastructure, streetscape, parking, and other public improvements.

III. COMPETITIVE GRANTS

Hire a Grant Writer

We recommend that Needham consider hiring a part-time grant writer. Some surrounding towns including Wellesley have full-time staff in this capacity, and have found it essential to their capacity to raise money. A part-time grant writer that aggressively identifies and applies for grants will recoup their salary many times over with the increased funding that they secure for the town.

Take Advantage of Grant Opportunities

While funding is very tight for infrastructure and streetscape improvements, it is nonetheless available. The town has historically used funds from Public Works Economic Development (PWED), and is considering adopting the Community Preservation Act. Employing a grant writer will allow Needham to competitively apply for more grant funding, including sources such as:

- Transportation Enhancement Act (TEA-21)
- National Trust for Historic Preservation

The Needham Community Revitalization Trust Fund, founded in 1999, is run by a committee of members representing the historical society, board of selectmen, business association, town center, town heights and other key stakeholders. The committee identifies projects for town improvement; works up a proposal with costs; and obtains approval from town boards for implementation. Many of the public realm improvements in Needham Center can be attributed to the NCRTF, including bronze statues on the Common, public benches, street plantings and the bronze water fountain on the Common.



- National Endowment for the Arts
- New England Foundation for the Arts
- Environmentally focused foundations and public funding in community forestry, environmental education, and storm-water management for suburban communities

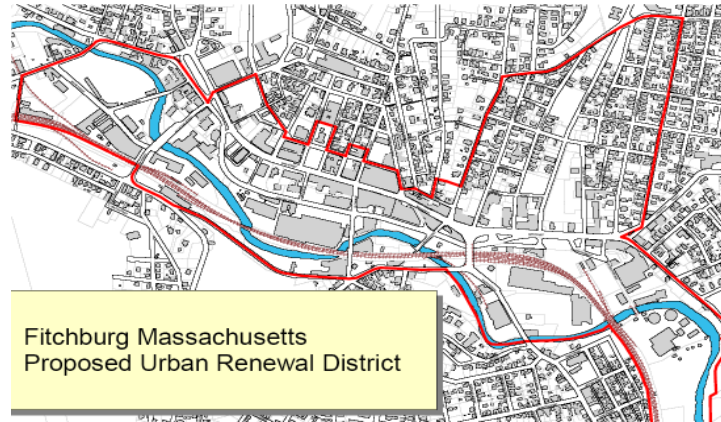
IV. INNOVATIVE FUNDING TOOLS

Incentives to Increase Tax Revenue

Proper incentives such as those outlined in the zoning section will spur private development, thereby increasing property values and local sales, augmenting tax revenue for the city budget.

Tax Increment Financing

Tax increment financing (TIF) is not a new tax. Instead, a TIF district is a geographically defined area that earmarks an increment in increased property tax revenue to fund projects that have delineated “public purposes.” TIF has been employed successfully throughout the country to build structures and infrastructure adjacent to new development. However, in Massachusetts, only a handful of communities have utilized TIF districts. This funding tool can be used for the specific public purpose of revitalizing the town center by enabling projects such as parking and streetscape improvements.



The City of Fitchburg, Massachusetts is using tax increment financing districts within their urban renewal district
(Source: City of Fitchburg)

Linkage Fees

Other Massachusetts communities faced with affordable housing shortages have utilized linkage fees to generate funds for affordable housing development projects. With a linkage fee program, a developer would pay a certain fee per square foot to the affordable housing trust fund. The trust fund in turn could be invested in the affordable component of residential development projects to help add more affordable units in Needham.



APPENDICES

- I. APPENDIX ONE – GENERAL AND DISTRICT PURPOSE STATEMENTS**
- II. APPENDIX TWO – SPECIFIC DESIGN REGULATION RECOMMENDATIONS**
- III. APPENDIX THREE – THEATRE PARCEL ANALYSIS**
- IV. APPENDIX FOUR – NEEDHAM VILLAGE COMMON DEVELOPMENT ANALYSIS**

I. APPENDIX ONE – GENERAL AND DISTRICT PURPOSE STATEMENTS

An example of a general purpose statement that sets the tone for mixed use is visible in Arlington, MA: "...to protect and preserve open space as a natural resource, for the conservation of natural conditions for flora and fauna and to serve as urban amenity for scenic and aesthetic enjoyment and recreational use; to conserve the value of land and buildings; to encourage the most appropriate use of land throughout the Town; to achieve optimum environmental quality through review and cooperation by the use of incentives, bonuses and design review; and to preserve and increase its amenities and to encourage an orderly expansion of the tax base by utilization, development, and redevelopment of land...with reasonable consideration to the character of the district and to its peculiar suitability for particular uses, with a view to giving direction or effect to land development policies and proposals of the Redevelopment Board,

including the making of Arlington a more viable and more pleasing place to live, work, and play.”

The following are examples of district-specific purpose statements:

Mixed Use Development District: Town/City Center, model code provision developed by the Pioneer Valley Planning Commission

Purpose:

“to foster a greater opportunity for creative development by providing guidelines which encourage a mix of uses compatible with existing and neighboring properties; to provide housing and business uses in locations where town services are available; to promote utilization of existing buildings and property, and to encourage the provision of open areas... to encourage interaction among activities located within [the District], to enhance business vitality, reduce vehicular traffic, provide employment opportunities for residents close to home, ensure the compatibility with each other of the commercial, industrial and residential uses, [and] ensure that the appearance and effects of buildings and uses are harmonious with the character of the area in which they are located.”

Tools:

- Allow a diversity of uses in close proximity in the district within a limited area
- Promote a balance of land uses
- Promote the opportunity for people to work, meet, shop and utilize services in the vicinity of their residences
- Provide opportunities for the development of affordable housing
- Provide opportunities for a mixture of uses in the same building
- Promote a positive pedestrian environment in the district
- Facilitate integrated physical design and promote a high level of design quality
- Encourage the development of flexible space for small and emerging businesses
- Facilitate development proposals responsive to current and future market conditions
- Encourage the development of open spaces and parks within the district to accommodate workers, residents, pedestrians and shoppers

Mixed Use Development Center: Cambridge Center

“...*Intent*. The purpose of the District is to allow a diversity of land uses in close proximity,

within a limited area; to promote a balance of land uses; to facilitate development proposals responsive to current and future market conditions; to facilitate integrated physical design; and to encourage interaction among activities located within the District.”

“...*Approach.* This Article is designed to fulfill the above purposes of the Cambridge Center MXD District by establishing controls which will facilitate development while protecting the public interest; by setting regulations which limit the aggregate amount of development within the District and set other district wide requirements while permitting flexible development scale and configuration on individual lots within the District; by allowing a broad set of land uses within the District; and by encouraging development of appropriate density for each class of land use.”

Arlington:
Village Business District

“... Predominant uses include retail, service and office establishments catering to both convenience and comparison-goods shoppers and oriented to pedestrian traffic. Multi-use development is encouraged, such as retail with office or business and residential... Businesses which consume large amounts of land and activities which interrupt pedestrian circulation and shopping patterns or otherwise interfere with the intent of this bylaw are discouraged.”

Central Business District

“...[The Central Business District] includes retail, service, and office uses, and provides for large-scale ATM 4/88 development. The scale is intended to reinforce the Center’s role as the focus of activity in Arlington. Multi-use development is encouraged, such as the combining of residential and business uses. Activities shall be oriented to pedestrian traffic and to centralized parking. Businesses which consume large amounts of land and interrupt pedestrian circulation and shopping patterns or otherwise interfere with the intent of this bylaw are discouraged.”

II. APPENDIX TWO – SPECIFIC DESIGN GUIDELINE RECOMMENDATIONS

Landscaping

Current:

“Preservation and enhancement of landscaping – The landscaping shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.”

Problems:

Although title alludes to enhancement, the language talks about landscaping in terms of preserving natural states as if a developer were breaking ground in a greenfield.

Recommendations:

Focus on enhancement and talk about adding landscaping instead of not taking it away. Possible area for bonuses, fee waivers.

Relation of Buildings to Environment

Current:

“Relation of buildings to environment – Proposed development shall be related harmoniously to the terrain and to the use, scale and architecture of existing buildings in the vicinity that have functional or visual relationship to the proposed buildings.

Proposed buildings shall be related to their surroundings with respect to:

- (a) height
- (b) street façade
- (c) spatial relationships of solids and voids
- (d) spacing of buildings or signs
- (e) materials, textures and colors
- (f) roof slopes
- (g) scale”

Problems:

Standard is vague as to which buildings will serve as comparisons (“in the vicinity”) and to what degree the Review Board will accept deviations (“shall be related to”).

Recommendations:

Provide more definitive criteria for comparison, such as buildings within a certain number of storefronts or feet of frontage, and combine with Board discretion to analyze on a case-by-case basis. Retaining discretion allows the Board to keep some control where the specific criterion are inappropriate and/or would produce undesired results. Criteria for comparison may be directly inserted into bylaw or specified in Design Guidelines (with citation in bylaw).

Make an exception for “best design” buildings in bylaw. In Guidelines, create a separate group of desired building characteristics to encourage individual projects to be design catalysts, i.e., to up the standard to which future buildings will be compared. Examples can consist of the best of existing buildings in the vicinity or from other towns. Give incentives for meeting these criteria (fee waiver; expedited review process, as no showing of comparability would be necessary).

Open Space

Current:

“All open space (landscaped and usable) shall be designed to add to the visual amenities of the area by maximizing its visibility for persons passing the site or overlooking it from nearby area properties.”

Problems:

Mentions “visibility” but not “accessibility”.

Recommendations:

Add accessibility, including a sentence on connections.

Signs and Advertising Devices

Current:

“The size, location, design, color, texture, lighting and materials of signs and advertising devices shall be in harmony with significant architectural features of existing and proposed buildings and structures and with surrounding properties.”

Problems:

Again very historic, although “proposed” has been added in.

Recommendations:

Same as for relation of buildings and environ, i.e., create category of desired signs and advertising that presumptively pass design review regardless of surroundings.

Heritage

Current:

“Protection and enhancement of historic, traditional or significant uses, structures, or architectural elements shall be considered insofar as practicable.”

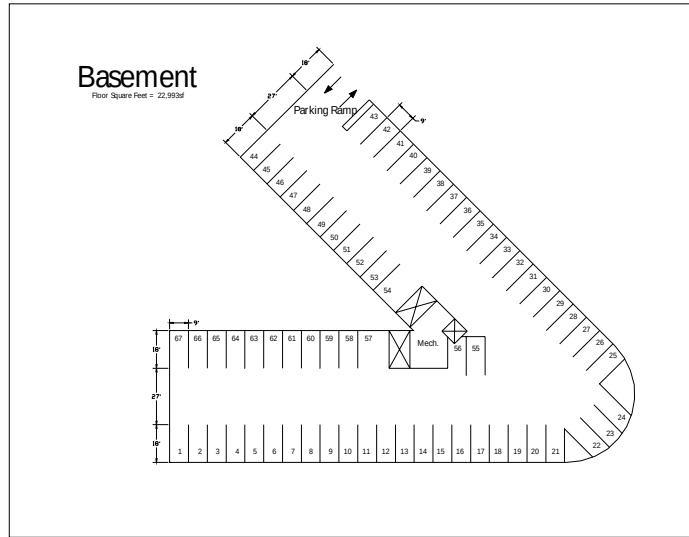
Problems: none

Recommendations:

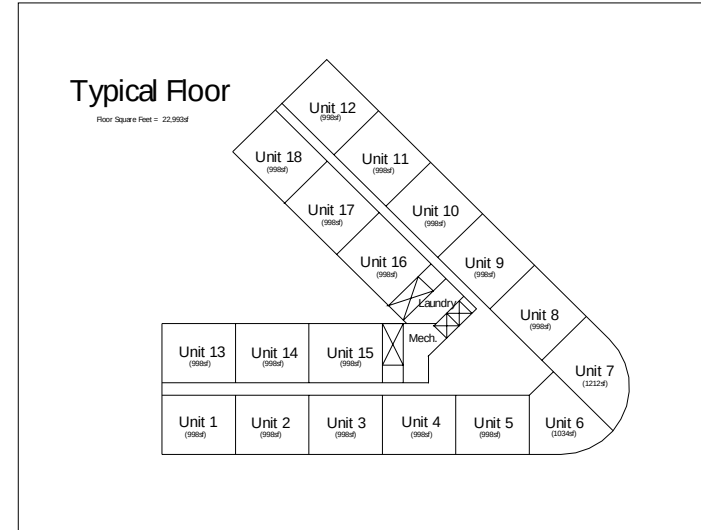
Link to “Relation of Buildings to Environment” by creating “Heritage Best Design” category in Guidelines.

III. APPENDIX THREE – Theatre Parcel Analysis

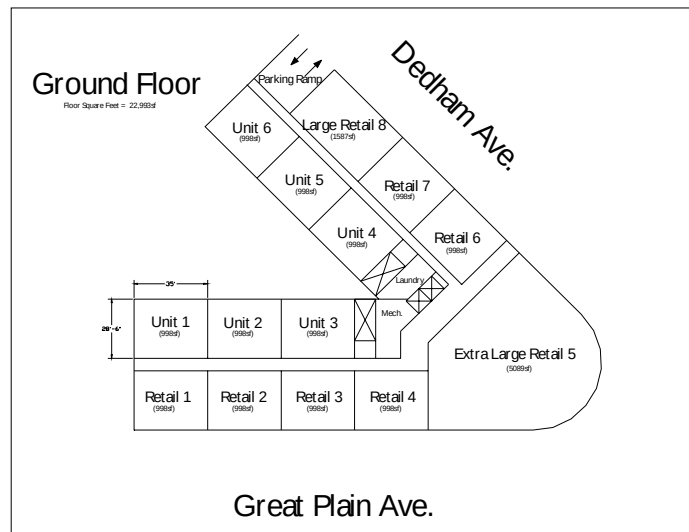
Option 1 – Parking in Basement (Basement Floor Plan)



Option 1 – Parking in Basement (2nd and 3rd Floor Plan)

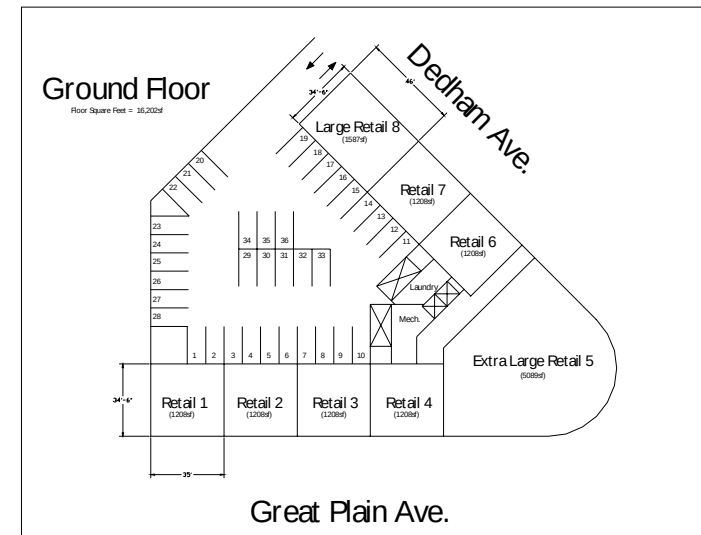


Option 1 – Parking in Basement (Ground Floor Plan)



Option 2 – Parking on Ground Floor (Ground Floor Plan)

- Floors 2 and 3 will be the same as Option 1 floors 2 and 3
- There will be no basement level



III. APPENDIX THREE - THEATRE PARCEL

Option 1 - 42 res. Units, 8 retail units, w/ underground parking

Calculated Building Benefit =	\$9,794,348
Total Construction Cost =	\$9,793,380
Net Present Value (Benefit - Cost) =	\$968

Internal Rate of Return = 13.45%

Option 2 - 35 res. Units, 8 retail units, w/ above grade parking

Calculated Building Benefit =	\$7,758,062
Total Construction Cost =	\$7,755,180
Net Present Value (Benefit - Cost) =	\$2,882

Internal Rate of Return = 14.87%

Option 1 – Theatre Parcel Analysis with Underground Parking

Lot 1 =	10,968 sf	building foot print =	22,993 sf
Lot 2 =	20,139 sf		
	31,107 sf -->	0.714 acres	

Floor 1	# units	sf / unit	total sf
typical retail	6	998	5,985
large retail - Retail 8	1	1,587	1,587
extra large retail - Retail 5	1	5,089	5,089
residential (2 bed.)	6	998	5,985
	14		18,646

Floors 2 & 3	# units	sf / unit	total sf
residential (2 bed.)	32	998	31,920
residential (3 bed.) - unit 6	2	1,034	2,068 <-- Unit 6
residential (3 bed.) - unit 7	2	1,212	2,424 <-- Unit 7
	36		36,412

Total building square feet = 55,058 sf

Computed FAR = 1.77
units per acre = 70

Option 2 – Theatre Parcel Analysis with Above Grade Parking

Lot 1 =	10,968 sf	building foot print =	22,993 sf
Lot 2 =	20,139 sf		
	31,107 sf -->	0.714 acres	

Floor 1	# units	sf / unit	total sf
typical retail	6	998	5,985
large retail - Retail 8	1	1,587	1,587
extra large retail - Retail 5	1	5,089	5,089
	8		12,661

Floors 2 & 3	# units	sf / unit	total sf
residential (2 bed.)	32	998	31,920
residential (3 bed.) - unit 6	2	1,034	2,068 <-- Unit 6
residential (3 bed.) - unit 7	2	1,212	2,424 <-- Unit 7
	36		36,412

Total building square feet = 49,073 sf

Computed FAR = 1.58
units per acre = 62

Strategic Land Use Plan for Needham Center -- Vision for a Contemporary Village

Option 1 Parking Numbers

Assumed required parking spaces per residential dwelling unit =	1	<-- assuming zoning is changed
Required residential spaces =	42	<-- total residential units
Total residential spaces provided =	42	
Assumed required parking for retail =	3.33	spaces / 1,000 sf
Required retail spaces =	42	<-- 12,661sf x 3.33spaces / 1,000 sf

There will be 67 underground parking spaces provided. 42 spaces are required for the residential units. An additional 42 spaces are required for the retail units. 24 retail spaces can be underground and the remaining 17 must be granted via a waiver. However, for this project to be truly feasible, it assumed that the Town of Needham will build structured parking to help alleviate the need for retail parking to be provided for on the actual retail site.

Option 1 Cost versus Benefit Analysis

		square feet	assumed price / sf	value
Land Cost =	Lot 1	10,968	\$60.00	\$658,080
	Lot 2	20,139	\$60.00	\$1,208,340
	Total	31,107		\$1,866,420

Assumed Shell Cost per Foot =	\$120.00	/ ft <-- includes hard, soft costs, but not land and underground parking
Total Shell Cost =	\$6,606,960	<-- price per foot x total building square feet
Assumed below grade parking cost =	\$20,000	/ space <-- additional expense for underground parking
Total underground spaces =	66	
Total below grade parking cost =	\$1,320,000	<-- price per foot x building foot print
Total Construction Cost =	\$9,793,380	<-- total land cost + total shell cost + total below grade parking cost

Option 1 - Theatre Parcel Analysis (with underground parking)

Building Information:

- newly-constructed
- mixed-use 42-residential units, 8-retail units complex

Residential Lease Information:

- initial lease-up, completed by certificate of operation
- standard tenant lease is for one year
- increase in OE's & taxes not passed on to tenants

Residential Lease Assumptions:

2 bedroom 38 units =	\$1,900 / month	38 units
3 bedroom 4 units =	\$2,400 / month	4 units

Vacancy rate (2 bed.) =	3.0%
Vacancy rate (3 bed.) =	3.0%

Rental growth rate (2 bed.) =	3.0%
Rental growth rate (3 bed.) =	3.0%

Operating expense's and taxes =	\$4,200 / unit / yr
Capital reserve funding =	\$300 / unit / yr
OE's, taxes and reserve growth =	3.0% / yr

Reversion Costs:

Projected sale costs =	2.0% of sale price
------------------------	--------------------

Retail Lease Information:

- initial lease-up, completed by certificate of operation
- standard tenant lease is for five years

Retail and Restaurant Assumptions:

Retail rent (NNN lease) =	\$25 / sf / year
Extra large rent (NNN lease) =	\$25 / sf / year
Retail unit square feet (typ.) =	998 6 units
Retail unit square feet (large) =	1,587 1 units
Extra large unit square feet =	5,089 1 units
Probability of release =	75% <-- at year 5 and 10
Length of vacancy =	6 months <-- if no renewal
Retail growth =	3.0%
Tenant Improvements =	\$5 / sf / year
TI's & lease comm. growth =	3.0% / yr
Leasing Commission =	18% of one year's lease, if rent is flat

Required Investment Returns and Bid Prices

Discount rate (DR) =	13.45% <-- for new development
Projected NOI growth = (Year 10 NOI - Year 1 NOI) ^(1/10) - 1	
Projected NOI growth =	2.62%
Going-out Cap rate (CR _O) = DR - Projected NOI growth	
Going-out Cap rate (CR _O) =	10.83% <-- for new development
Calculated Going-in Cap rate (CR _I) = Year 1 NOI / Present Value of Building	
Calculated Going-in Cap rate (CR _I) =	11.15%

Strategic Land Use Plan for Needham Center -- Vision for a Contemporary Village

Option 1

Projection of Property Before-Tax Cash Flow

Theatre Parcel (with underground parking)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
Gross Rental Revenues											
GRR 38 units - Residential (2 bed.)	\$866,400	\$892,392	\$919,164	\$946,739	\$975,141	\$1,004,395	\$1,034,527	\$1,065,563	\$1,097,530	\$1,130,455	\$1,164,369
Less Vacancy	(25,992)	(26,772)	(27,575)	(28,402)	(29,254)	(30,132)	(31,036)	(31,967)	(32,926)	(33,914)	(34,931)
GRR 4 units - Residential (3 bed.)	115,200	118,656	122,216	125,882	129,659	133,548	137,555	141,681	145,932	150,310	154,819
Less Vacancy	(3,456)	(3,560)	(3,666)	(3,776)	(3,890)	(4,006)	(4,127)	(4,250)	(4,378)	(4,509)	(4,645)
GRR 11 units - Retail	189,300	189,300	189,300	189,300	189,300	219,451	219,451	219,451	219,451	219,451	254,403
Less Vacancy	0	0	0	0	0	(27,431)	0	0	0	0	(31,800)
GRR 1 unit - Extra Large Retail	127,225	127,225	127,225	127,225	127,225	147,489	147,489	147,489	147,489	147,489	170,980
Less Vacancy	0	0	0	0	0	(18,436)	0	0	0	0	(18,436)
Effective Gross Income	1,268,677	1,297,242	1,326,663	1,356,967	1,388,180	1,424,877	1,503,859	1,537,966	1,573,097	1,609,282	1,654,759
Less OE's & Prop. Taxes (Resid.)	(176,400)	(181,692)	(187,143)	(192,757)	(198,540)	(204,496)	(210,631)	(216,950)	(223,458)	(230,162)	(237,067)
Net Operating Income	1,092,277	1,115,550	1,139,520	1,164,210	1,189,641	1,220,381	1,293,228	1,321,016	1,349,639	1,379,120	1,417,692
Less Tenant Improvements (retail)	(63,305)	0	0	0	0	(18,347)	0	0	0	0	(21,269)
Less Leasing Commissions (retail)	(56,975)	0	0	0	0	(16,512)	0	0	0	0	(19,142)
Less Capital Reserve Funding (res.)	(12,600)	(12,978)	(13,367)	(13,768)	(14,181)	(14,607)	(15,045)	(15,496)	(15,961)	(16,440)	(16,933)
Operating PBTCF	959,398	1,102,572	1,126,153	1,150,442	1,175,459	1,170,915	1,278,183	1,305,520	1,333,677	1,362,679	1,360,348
Reversion (future sale price)	= Year 11 NOI / Going-out cap rate --> 12,834,245										
Property Before-Tax Cash Flow	959,398	1,102,572	1,126,153	1,150,442	1,175,459	1,170,915	1,278,183	1,305,520	1,333,677	14,196,924	
Present Value at 13.45%:	\$9,794,348	<-- Projected Building Value (Benefit)									

Option 2 - Parking Numbers

Assumed required parking spaces per residential dwelling unit =	1 <-- assuming zoning is changed
Required residential spaces =	36 <-- total residential units
Total residential spaces provided =	36
Assumed required parking for retail =	3.33 spaces / 1,000 sf
Required retail spaces =	42 <-- 12,661sf x 3.33spaces / 1,000 sf

There will be 36 above grade parking spaces provided. 36 spaces are required for the residential units. An additional 42 spaces are required for the retail units. For this development option all 42 must be granted via a waiver. However, as mentioned before this project is really only feasible if it is assumed that the Town of Needham builds structured parking to help alleviate the need for retail parking to be provided for on the actual retail site.

Option 2 - Cost versus Benefit Analysis

		square feet	assumed price / sf	value
Land Cost =	Lot 1	10,968	\$60.00	\$658,080
	Lot 2	20,139	\$60.00	\$1,208,340
	Total	31,107		\$1,866,420

Assumed Shell Cost per Foot =	\$120.00 / ft <-- includes hard, soft costs, but not land and underground parking
Total Shell Cost =	\$5,888,760 <-- price per foot x total building square feet
Total Construction Cost =	\$7,755,180 <-- total land cost + total shell cost + total below grade parking cost

Strategic Land Use Plan for Needham Center -- Vision for a Contemporary Village

Option 2 - Theatre Parcel Analysis (with above grade parking)

Building Information:

- newly-constructed
- mixed-use 36-residential units, 8-retail units complex

Residential Lease Information:

- initial lease-up, completed by certificate of operation
- standard tenant lease is for one year
- increase in OE's & taxes not passed on to tenants

Residential Lease Assumptions:

2 bedroom 32 units =	\$1,900 / month	32 units
3 bedroom 4 units =	\$2,400 / month	4 units

Vacancy rate (2 bed.) =	3.0%
Vacancy rate (3 bed.) =	3.0%

Rental growth rate (2 bed.) =	3.0%
Rental growth rate (3 bed.) =	3.0%

Operating expense's and taxes =	\$4,200 / unit / yr
Capital reserve funding =	\$300 / unit / yr
OE's, taxes and reserve growth =	3.0% / yr

Reversion Costs:

Projected sale costs =	2.0% of sale price
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Retail Lease Information:

- initial lease-up, completed by certificate of operation
- standard tenant lease is for five years

Retail and Restaurant Assumptions:

Retail rent (NNN lease) =	\$25 / sf / year
Extra large rent (NNN lease) =	\$25 / sf / year
Retail unit square feet (typ.) =	998 6 units
Retail unit square feet (large) =	1,587 1 units
Extra large unit square feet =	5,089 1 units
Probability of release =	75% <-- at year 5 and 10
Length of vacancy =	6 months <-- if no renewal
Retail growth =	3.0%
Tenant Improvements =	\$5 / sf / year
TI's & lease comm. growth =	3.0% / yr
Leasing Commission =	18% of one year's lease, if rent is flat

Required Investment Returns and Bid Prices

Discount rate (DR) =	14.87% <-- for new development
Projected NOI growth = (Year 10 NOI - Year 1 NOI) ^(1/10) - 1	
Projected NOI growth =	2.58%
Going-out Cap rate (CR _O) = DR - Projected NOI growth	
Going-out Cap rate (CR _O) =	12.29% <-- for new development
Calculated Going-in Cap rate (CR _I) = Year 1 NOI / Present Value of Building	
Calculated Going-in Cap rate (CR _I) =	12.69%

Option 2											
Projection of Property Before-Tax Cash Flow											
Theatre Heights (with above grade parking)											
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
Gross Rental Revenues											
GRR 32 units - Residential (2 bed.)	\$729,600	\$751,488	\$774,033	\$797,254	\$821,171	\$845,806	\$871,181	\$897,316	\$924,235	\$951,963	\$980,521
Less Vacancy	(21,888)	(22,545)	(23,221)	(23,918)	(24,635)	(25,374)	(26,135)	(26,919)	(27,727)	(28,559)	(29,416)
GRR 4 units - Residential (3 bed.)	115,200	118,656	122,216	125,882	129,659	133,548	137,555	141,681	145,932	150,310	154,819
Less Vacancy	(3,456)	(3,560)	(3,666)	(3,776)	(3,890)	(4,006)	(4,127)	(4,250)	(4,378)	(4,509)	(4,645)
GRR 11 units - Retail	189,300	189,300	189,300	189,300	189,300	219,451	219,451	219,451	219,451	219,451	254,403
Less Vacancy	0	0	0	0	0	(27,431)	0	0	0	0	(31,800)
GRR 1 unit - Extra Large Retail	127,225	127,225	127,225	127,225	127,225	147,489	147,489	147,489	147,489	147,489	170,980
Less Vacancy	0	0	0	0	0	(18,436)	0	0	0	0	(18,436)
Effective Gross Income	1,135,981	1,160,565	1,185,886	1,211,967	1,238,830	1,271,046	1,345,413	1,374,767	1,405,002	1,436,143	1,476,427
Less OE's & Prop. Taxes (Resid.)	(151,200)	(155,736)	(160,408)	(165,220)	(170,177)	(175,282)	(180,541)	(185,957)	(191,536)	(197,282)	(203,200)
Net Operating Income	984,781	1,004,829	1,025,478	1,046,746	1,068,653	1,095,764	1,164,872	1,188,810	1,213,466	1,238,862	1,273,227
Less Tenant Improvements (retail)	(63,305)	0	0	0	0	(18,347)	0	0	0	0	(21,269)
Less Leasing Commissions (retail)	(56,975)	0	0	0	0	(16,512)	0	0	0	0	(19,142)
Less Capital Reserve Funding (res.)	<u>(10,800)</u>	<u>(11,124)</u>	<u>(11,458)</u>	<u>(11,801)</u>	<u>(12,155)</u>	<u>(12,520)</u>	<u>(12,896)</u>	<u>(13,283)</u>	<u>(13,681)</u>	<u>(14,092)</u>	<u>(14,514)</u>
Operating PBTCF	<u>853,702</u>	<u>993,705</u>	<u>1,014,020</u>	<u>1,034,945</u>	<u>1,056,498</u>	<u>1,048,384</u>	<u>1,151,976</u>	<u>1,175,527</u>	<u>1,199,785</u>	<u>1,224,770</u>	<u>1,218,301</u>
Reversion (future sale price)	= Year 11 NOI / Going-out cap rate --> 10,155,242										
Property Before-Tax Cash Flow	<u>853,702</u>	<u>993,705</u>	<u>1,014,020</u>	<u>1,034,945</u>	<u>1,056,498</u>	<u>1,048,384</u>	<u>1,151,976</u>	<u>1,175,527</u>	<u>1,199,785</u>	<u>11,380,012</u>	
Present Value at 14.87%:	\$7,758,062 <-- Projected Building Value (Benefit)										

IV. APPENDIX FOUR -

Needham Village Common Development Analysis

Needham Village Common Development Project

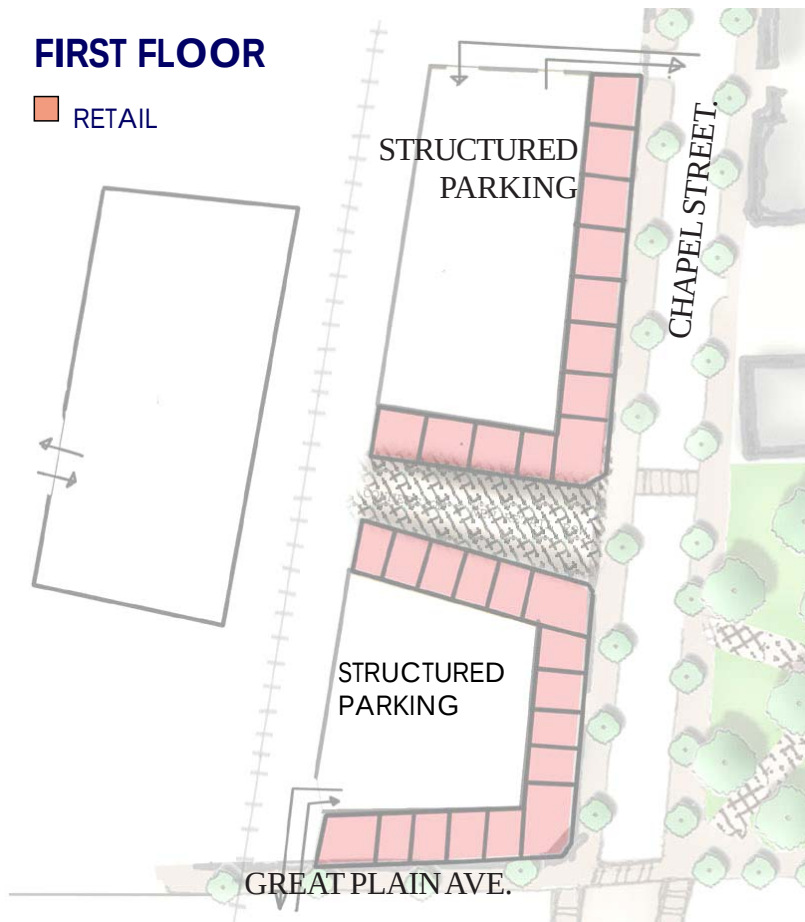
Summary of Options

Calculated Building Benefit =	\$25,900,360
Total Construction Cost =	<u>\$25,899,000</u>
NPV (Benefit - Cost) =	\$1,360

IRR = 13.92%

FIRST FLOOR

RETAIL



2ND AND 3RD FLOOR

RESIDENTIAL UNITS



Needham Village Common Development Project

Building Program

Size of land	100,000 sf -->	2.296 acres
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PARCEL 1			
Floor 1	# units	sf / unit	total sf
typical retail	13	1200	15,600
large retail - 1,600 SF	1	2000	2,000
large retail 2,200 SF	2	2200	4,400
residential (2 bed.)			0
	16		22,000
Floors 2 & 3			
residential (average)	53	1200	63,600
large residential			0
			0
	53	1,200	63,600
Parking			
first floor		22,275	22,275
second floor			0
third floor			0
			22,275

PARCEL 2			
Floor 1	# units	sf / unit	total sf
typical retail	2	1,200	2,400
large retail - 1,600 SF	9	1,600	14,400
large retail 2,200 SF	1	2,200	2,200
residential (2 bed.)	0	0	0
	12		19,000
Floors 2 & 3			
residential (average)	45	1200	54,000
large residential	3	2000	6,000
			0
	48	3,200	60,000
Parking			
first floor		45,000	45,000
second floor		45,000	0
third floor		45,000	0
			45,000

Strategic Land Use Plan for Needham Center -- Vision for a Contemporary Village

Needham Village Common Development Project

Building Program Summary

TOTAL			
Floor 1	# units	sf / unit	total sf
typical retail	15	1,200	18,000
large retail - 1,600 SF	9	1,600	14,400
large retail - 2,000 SF	1	2,000	2,000
large retail 2,200 SF	3	2,200	6,600
residential (2 bed.)	0	0	0
	28		41,000
Floors 2 & 3	# units	sf / unit	total sf
residential (average)	98	1,200	117,600
large residential	3	2,000	6,000
	0	0	0
	101		123,600
Parking		sf	total sf
first floor		67,275	67,275
second floor		45,000	45,000
third floor		45,000	45,000
			157,275

Total building square feet (without parking)=

164,600
sf

Computed FAR =

1.65

Total building square feet (including parking)=

321,875
sf

Computed FAR =

3.22

Parking Numbers

Total Spaces provided through parking on-site	449 assuming 350 SF /space
Assumed req'd parking spaces per residential dwelling unit =	<u>1</u> <-- assuming zoning is changed
Required residential spaces =	<u>101</u> <-- total residential units
Total residential spaces provided =	101
Assumed req'd parking for retail =	<u>3.33</u> spaces / 1,000 sf
Required retail spaces =	137
spaces on site (matched on a 1:1 basis with existing spaces) =	9 dedicated MBTA spaces <u>124</u> total other spaces in surface lot (Chapel Street Lot) 133
Additional Spaces	78 Additional spaces provided exactly equivalent to the number of spaces currently provided in the Eaton Street surface lot
Existing Spaces at the Eaton Street lot	25 dedicated MBTA <u>53</u> total other spaces in surface lot (Eaton Square Lot) 78

Cost versus Benefit Analysis

		square feet	assumed price / sf	value	
Land Cost =	Total	80,000	\$60.00	\$4,800,000	MBTA would grant land (app. 20,000 SF) with agreement that all future revenues from parking spaces would flow to MBTA and that more spaces
	Total	80,000		\$4,800,000	
Assumed Shell Cost per Foot =		\$120.00	/ ft <-- includes hard, soft costs, but not land and structured parking		
Total Shell Cost =		\$19,752,000	<-- price per foot x total building square feet		
Assumed structured parking cost =		\$3,000	Using TIF funds and funds from the newly created parking trust fund the city will provide up to 80% of the parking structure cost at \$15,000 / space; developer would pay remaining 20%		
Total structured spaces =		449	provided for use of residences, retailers and Needham Center patrons		
Total structured parking cost to developer =		\$1,347,000			
Total Construction Cost =		\$25,899,000	<-- total land cost + total shell cost + total structured parking cost		

Strategic Land Use Plan for Needham Center -- Vision for a Contemporary Village

Needham Village Common Development Project

Building Information:

101 residential units

Residential Lease Information:

- initial lease-up, completed by certificate of operation
- standard tenant lease is for one year
- increase in OE's & taxes not passed on to tenants

Residential Lease Assumptions:

Residential Unit 98 units =	\$1,900 / month	98 units
Large Res. Unit 3 units =	\$2,400 / month	3 units
Vacancy rate (2 bed.) =	3.0%	
Vacancy rate (3 bed.) =	3.0%	
Rental growth rate (2 bed.) =	3.0%	
Rental growth rate (3 bed.) =	3.0%	
Operating expense's and taxes =	\$4,200 / unit / yr	
Capital reserve funding =	\$300 / unit / yr	
OE's, taxes and reserve growth =	3.0% / yr	
Reversion Costs:		
Projected sale costs =	2.0% of sale price	

Retail Lease Information:

- initial lease-up, completed by certificate of operation
- standard tenant lease is for five years

Retail and Restaurant Assumptions:

Retail rent (NNN lease) =	\$35 / sf / year
Extra large rent (NNN lease) =	\$30 / sf / year
typical retail	1,200 15 units
large retail - 1,600 SF	1,600 9 units
large retail - 2,000 SF	2,000 1
large retail 2,200 SF	2,200 3
Probability of release =	75% <-- at year 5 and 10
Length of vacancy =	6 months <-- if no renewal
Retail growth =	3.0%
Tenant Improvements =	\$5 / sf / year
TI's & lease comm. growth =	3.0% / yr
Leasing Commission =	18% of one year's lease, if rent is flat

Required Investment Returns and Bid Prices

Discount rate (DR) =	13.92% <-- for new development
Projected NOI growth =	$(\text{Year 10 NOI} - \text{Year 1 NOI})^{(1/10)} - 1$
Projected NOI growth =	3.00%
Going-out Cap rate (CR_o) =	DR - Projected NOI growth
Going-out Cap rate (CR_o) =	10.92% <-- for new development
Calculated Going-in Cap rate (CR_i) =	Year 1 NOI / Present Value of Building
Calculated Going-in Cap rate (CR_i) =	11.47%

Needham Village Common Development Project

Projection of Property Before-Tax Cash Flow Needham Village Common Development Project

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
Gross Rental Revenues											
GRR 98 units - Residential Unit	\$2,234,400	\$2,301,432	\$2,370,475	\$2,441,589	\$2,514,837	\$2,590,282	\$2,667,990	\$2,748,030	\$2,830,471	\$2,915,385	\$3,002,847
Less Vacancy	(67,032)	(69,043)	(71,114)	(73,248)	(75,445)	(77,708)	(80,040)	(82,441)	(84,914)	(87,462)	(90,085)
GRR 3 units - large Residential Unit	86,400	88,992	91,662	94,412	97,244	100,161	103,166	106,261	109,449	112,732	116,114
Less Vacancy	(2,592)	(2,670)	(2,750)	(2,832)	(2,917)	(3,005)	(3,095)	(3,188)	(3,283)	(3,382)	(3,483)
GRR 11 units - Retail	1,142,600	1,176,878	1,212,184	1,248,550	1,286,006	1,324,587	1,364,324	1,405,254	1,447,411	1,490,834	1,535,559
Less Vacancy	0	0	0	0	0	(164,327)	0	0	0	0	(190,500)
Effective Gross Income	3,393,776	3,495,589	3,600,457	3,708,471	3,819,725	3,769,989	4,052,346	4,173,916	4,299,134	4,428,108	4,370,451
Less OE's & Prop. Taxes (Resid.)	(424,200)	(436,926)	(450,034)	(463,535)	(477,441)	(491,764)	(506,517)	(521,712)	(537,364)	(553,485)	(570,089)
Net Operating Income	2,969,576	3,058,663	3,150,423	3,244,936	3,342,284	3,278,225	3,545,829	3,652,204	3,761,770	3,874,623	3,800,362
Less Tenant Improvements (retail)	(172,000)	0	0	0	0	(49,849)	0	0	0	0	(57,788)
Less Leasing Commissions (retail)	(205,668)	0	0	0	0	(59,606)	0	0	0	0	(69,100)
Less Capital Reserve Funding (res.)	(30,300)	(31,209)	(32,145)	(33,110)	(34,103)	(35,126)	(36,180)	(37,265)	(38,383)	(39,535)	(40,721)
Operating PBTCF	<u>2,561,608</u>	<u>3,027,454</u>	<u>3,118,278</u>	<u>3,211,826</u>	<u>3,308,181</u>	<u>3,133,644</u>	<u>3,509,649</u>	<u>3,614,939</u>	<u>3,723,387</u>	<u>3,835,089</u>	<u>3,632,752</u>
Reversion (future sale price)	= Year 11 NOI / Going-out cap rate -->										34,108,933
Property Before-Tax Cash Flow	<u>2,561,608</u>	<u>3,027,454</u>	<u>3,118,278</u>	<u>3,211,826</u>	<u>3,308,181</u>	<u>3,133,644</u>	<u>3,509,649</u>	<u>3,614,939</u>	<u>3,723,387</u>	<u>37,944,022</u>	
Present Value at 13.919%:	\$25,900,360	<-- Projected Building Value (Benefit)									