

Needham Center Plan

TOWN OF NEEDHAM ~ MASSACHUSETTS

Department of Urban Studies & Planning
Massachusetts Institute of Technology

Community Growth and Land Use Planning

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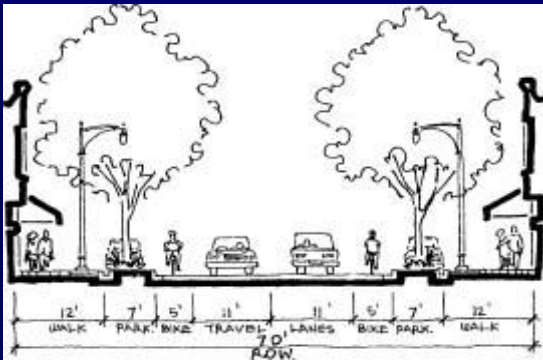


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CHAPTER I: EXECUTIVE SUMMARY

Introduction & Background: The Active Village

This report is the outcome of the graduate course *Community Growth & Land Use Planning*, taught by Terry Szold at the Massachusetts Institute of Technology. We were charged by Lee Newman, Planning Director of Needham, to identify strategies that will help foster appropriate development and revitalization in Needham Center.

In learning about Needham, we discovered a pleasant town with impressive civic pride, easy access to Boston, and good restaurants. Unlike some of its neighbors, however, the built environment of Needham is unexceptional: three of the four entries to its center are marked by gas stations, and parking lots dominate the vista of the main retail thoroughfare.

Needham possesses an incredibly important asset as a consequence: a real enthusiasm to transform the town – to build on its assets to create a strong sense of place. We like to think that Needham can become an **Active Village**, maintaining its local character and personal feel, where people can get many of the everyday services that they desire, with a vibrant atmosphere, lively street life, and an increased focus on the public realm.

Planning Process

Our team’s approach was to focus on the urban design and historic aspects of Needham Center and the Chestnut Street Business District in order to:

1. Develop a sense of the Town’s assets and challenges.
2. Propose strategies associated with Needham’s major downtown goals.
3. Recommend actions that can be incrementally adopted.

We refined our ideas through research into the town’s history and visits to the study area at a variety of times – night and day, weekday and weekend. In the process, we held casual street conversations with town residents and conducted an informal survey of residents.

Our strategies final recommendations were developed from these observations, in partnership with class instruction, conversations with experts at the Commonwealth of Massachusetts, and personal work experience.

Main Goals & Objectives

Our assigned focus was the area around the Town Common and the Chestnut Street Business District, stretching to the Needham Junction station.

Planning Director Newman asked us to revitalize this area by:

- Extending the visual sphere of influence of the Common and Town Hall.
- Enhancing its pedestrian character and amenities.
- Encouraging greater diversity in the design of signs and storefronts, and improving the backs of buildings.
- Increasing downtown residential development.

We were asked to promote a “sense of place” (paying special attention to site circulation), encourage affordable housing, increase parking, suggest design guidelines, and revise zoning.

Summary of Recommendations

Based upon our research and analysis, we suggest a five-point strategy that can be incrementally executed:

1. Clearly Define & Delineate Needham Center

- Encourage the echo of Town Hall in building designs throughout the study area.
- Articulate the downtown through a compact and visually consistent built environment.
- Provide way finding signage for Needham Center.

2. Bring People to the Center

- Redevelop parking lots for higher uses.
- Build housing in the center and along Chestnut Street to provide a day and night 24/7 street presence.
- Ensure an adequate supply of parking through lot sharing. Apply for state funds to support structured parking.

3. **Create Links, Nodes & Pedestrian-Friendly Environment**

- Provide visual connections to the Town Hall.
- Create gathering places and places to stop, particularly with pedestrian-oriented street lighting and benches.
- Ensure safe road crossings.
- Break up overly long blocks on Chestnut Street.
- Pursue infill to create continuous street frontage.
- Promote business and store displays that cater to pedestrians rather than cars.

4. **Create a Transition Zone from Single Family Homes to the Commercial Area**

- Use zoning regulations and design guidelines to gradually increase building height and bulk as it approaches the Common.
- Concentrate housing on Chestnut Street midway between Needham Junction and Needham Center and encourage the concentration of commercial development toward the train stations.

5. **Incorporate Housing Into Mixed-Use Development**

- Provide housing for all members of the Needham community.
- Place residential units within walking distance of retail to provide life on the street and reduce car trips.

Properly implemented, these goals can boost the quality of life and identity of Needham to both visitors and residents.

Implementation Imperatives

While the full implementation of these strategies will require many small steps over the next few years, we propose that Needham adopt three positive and decisive steps to shape its future:

1. **Create a Transit-Oriented Development District around the Needham Center station.**

Within this district, the relaxation of certain development regulations and processes will make redevelopment more attractive by allowing developers to build the floor space needed for financial feasibility. Limits on density and dimensions will be raised, and parking requirements modified. To address community concerns, particularly for nearby residents on Garden Street, enhanced design review criteria will require traditional

neighborhood development.

2. Actively pursue financing strategies that do not rely upon town funds.

In recent years, Needham residents have approved many overrides of Proposition 2 ½ to pay for improvements to their town, including over \$50 million in bonds approved last month (November 2003) to pay for school renovations. These commitments to public investment are impressive, but have left the town with little room for the capital improvements needed to revitalize the Town Center. Consequently, Needham should take steps to procure state funds available through the Public Works Economic Development (PWED) program and the Community Preservation Act.

More directly, Needham's town council should actively encourage the creation of a Business Improvement District or the use of District Improvement Financing. Either method would allow downtown businesses to fund smaller scale capital projects – such as wider sidewalks and public amenities like benches and way-finding signage – streetscape improvements that will bring in new sales revenue.

3. Pursue catalyst projects to effect immediate change in downtown Needham.

The town should purchase the remainder of the Needham Center parking lot from the MBTA and issue a Request for Proposals (RFP) to redevelop the site into a mixed-use development that includes housing, as well community or commercial space over ground-level parking. Ideally, townhouses would be located on the western part of the 3.1 acre site to better transition with the abutting residential uses, while the mixed-use development would be in the eastern section.

The Team

Chris Hodges, Jeff Levy, Alexandra Reitman, Bonnie Campbell, Andrew Port; with Instructor Terry Szold (front). Not shown: Carlos Montañez and Jeff Hebert.

CHAPTER II: INTRODUCTION & BACKGROUND

Town Background

Needham's rich history goes back to the 17th century as an agricultural settlement. Needham Center became the de facto center of Needham with the arrival of the railroad in 1850, which first drew businesses and workshops to the center. The convenience of travel to Boston enticed the professional class to build townhouses along the roads that surrounded the station. Town Hall was built at the turn of the 20th Century, further solidifying that area as the center of Needham.

In more recent times, the town has become a location for industrial parks in the 1950's, and high tech firms in the 1980's and 1990's. Assets such as accessibility to Route 128, frequent railroad passenger service to Boston, and the excellent quality of Needham schools have contributed to the town's emergence as one of the more desirable suburbs of Boston.

In the past few years, Needham's residential property values have been swept up in the Boston metro real estate boom, while commercial properties have shown relatively modest increases as well. However, the real dollar increase in property tax bills is driving some longtime residents out of town.



Study Area

The scope of this study is the area around the Town Common and the Chestnut Street Business District, stretching south to the Needham Junction station (pictured on the following page). The study area does not include the medical overlay district on Chestnut Street.

This area consists of two very different neighborhoods. Needham Center, which is visually dominated by the Common and Town Hall, hosts an abundance of shops and eateries, and is marked by higher density of buildings than the rest of the town. Its scale and appearance is pedestrian-friendly.

In contrast, the Chestnut Street Business District is very linear and lacks a visual focus. Its shops appear auto-oriented, with many buildings set back behind surface parking. While walkable, the environment is unappealing to pedestrians and the quality of the streetscape is poor. The southern end of the study area culminates in a large parking lot around a supermarket, a restaurant, and a boarded-up gas station. This terminus, however, is adjacent to the charming Needham Junction train station and a pleasant residential neighborhood.

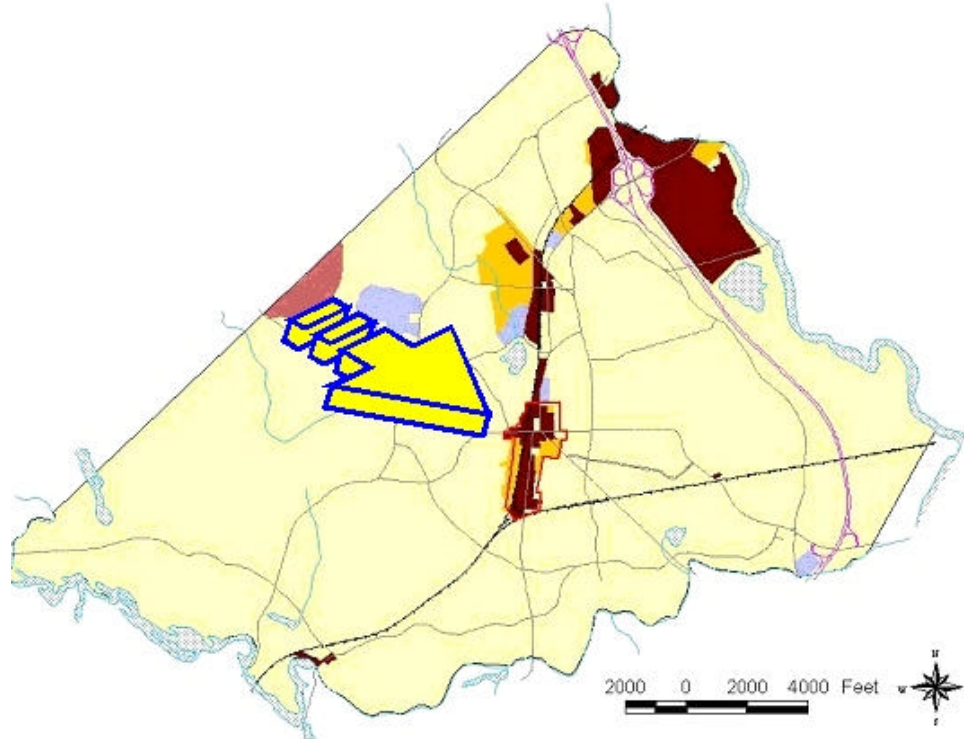


Designated study area is bounded in red

CHAPTER III: ANALYSIS & ASSESSMENT

Existing Regional & Community Context

Needham is located 10 miles to the southwest of Boston. Route 128 passes through its northern edge, abutting a regional office park. The MBTA commuter rail runs through the center of the town, with two stations in the study area. The rail trip from Needham Center to South Station, Boston, takes around 36 minutes. Needham is bordered by the towns of Dedham, Westwood, Dover, Wellesley, Newton, and Boston. Of all its neighbors, Needham competes most directly with Wellesley for retail sales dollars.



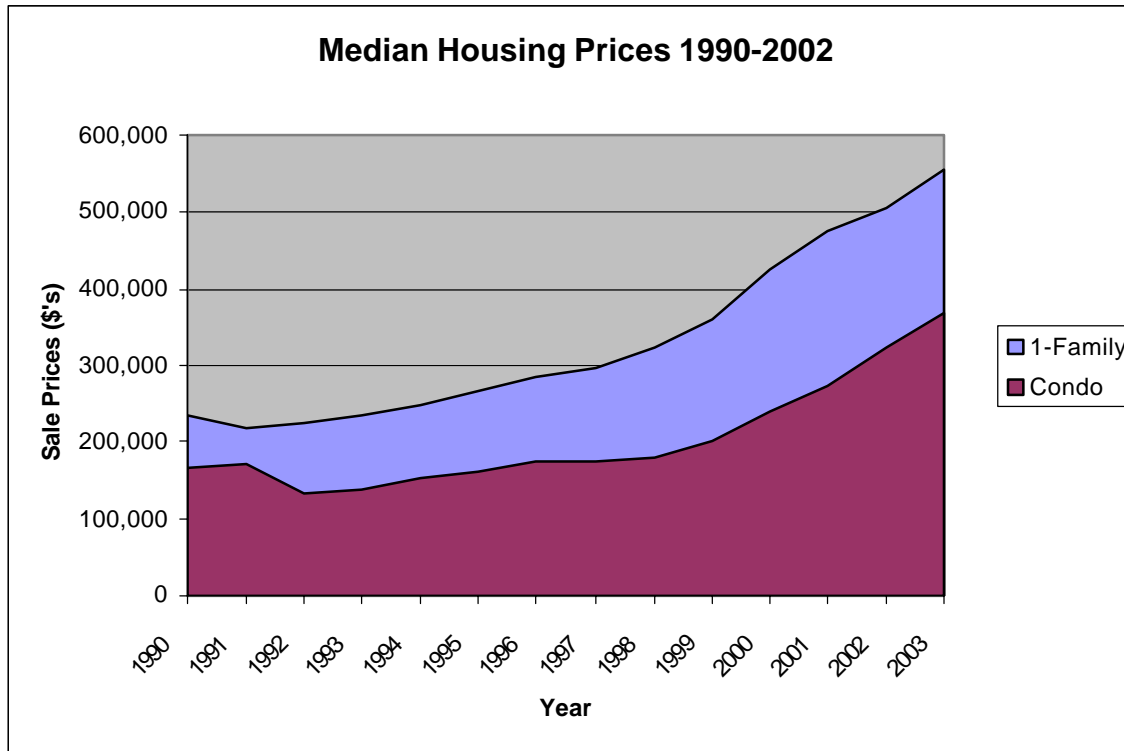
Context of Study Area in Town of Needham



Regional context of Study Area

Housing Trends

Needham’s appeal as a great place to live and raise a family is reflective in the high demand for housing. This demand coupled with a constrained supply, due to little vacant land on which to construct new housing units and restrictive zoning, has resulted in skyrocketing housing costs and a worsening affordable housing problem. Escalating market prices for both the purchase and rental of housing are affecting all segments of the community and compromising the social and physical character of the Town. There is growing concern in the Town that long-term residents are being priced out, children who grew up in Needham can no longer afford to live in town and raise their families, and municipal employees are unable to reside locally.



Needham's median home price is \$555,000. This price has more than doubled since 1990 and in the past 6 years alone, housing prices have soared 67%. While the median household income in Needham is \$88,000 (far above the state's average median income of \$50,587 and the metro Boston AMI of \$65,500), this income is only good enough to buy a home worth \$284,000. To buy the typical house for sale in Needham would actually require a household to earn \$168,000 per year. **In short, many of Needham's current residents would not be able to buy their own house.** In fact, increasing property tax bills are forcing residents with low incomes to move out of town.

The pressure of the housing market is exacerbated by the town's relative lack of subsidized housing. The reader should be aware that **a household earning \$52,400 or less could qualify for a subsidized unit, a condition that almost ¼ of Needham residents meet!** According to the State's Department of Housing and Community Development, only 3.73% of Needham's housing stock is considered "affordable," meaning that people earning less than 80% of the Boston metropolitan area's median family income can meet their housing needs with 30% or less of their family income.

Additional evidence of Needham's affordable housing problems is well-documented in the "Housing Element" section of the Town's "Needham Community Development Plan." Some telling facts about Needham include:

- Census data indicates that 1,566 homeowners, or 20% of all homeowners, expend more than 30% of their income on housing.
- Almost half of renters expend more than 30% of their income on rent.
- Only two of the 508 home sales in 2000 would have been affordable to a household earning less than \$50,000, or approximately 80% of the area median income.
- The gross median rent of \$1,289 is not affordable to more than one quarter of Needham residents.
- The number of households age 25 to 34 – the age group that includes the bulk of the entry-level workers and those beginning their own families – totaled only 960 households or 9.0% of all households, a relatively low proportion of the population in comparison to other communities, suggesting a strong need for starter housing.

The affordable housing deficit leaves Needham susceptible to local zoning overrides through the

comprehensive permit process authorized by Chapter 40B. Based on the growing gap between Needham’s affordable housing supply and the state’s 10% affordable housing requirement, almost 700 new units of affordable housing will be needed in the near future if the town were to meet its obligation.

Fiscal Status

As of June 2003, Needham’s municipal bond rating was Aa2, which has held steady since 2000. This is similar to other economically developed suburban towns in Massachusetts. [Moody’s, Massachusetts Department of Revenue]

Needham’s property tax base has grown significantly in recent years, increasing around 10% per year, as illustrated below. Most of the increase is the result of a growing residential housing market.

Fiscal Year 2000 - 2003 Assessed Values by Class					
FY	Residential	Commercial	Industrial	Personal Property	Total
2000	3,156,367,492	419,833,788	135,880,700	64,931,720	3,777,013,700
2003	4,742,552,322	503,477,148	136,967,100	74,976,970	5,457,973,540
% Change	33.4%	16.6%	0.8%	13.4%	30.8%
SOURCE: Massachusetts Department of Revenue					
http://www.dls.state.ma.us/MDMSTUF/PropertyTax/asva0003.xls					

Despite its growth, Needham has relied heavily upon its levying power, requiring residents to approve a number of Proposition 2 ½ overrides in recent years.

Moreover, Needham’s override capacity increased along with its property tax base. Since 2000, the town’s override ability has skyrocketed up from \$47 to \$82 million, a 42.3% increase in three years. But as the housing market starts to flatten out, this may not be sustainable, and enhanced commercial assessments might be needed.

Zoning & Land Use

Our study area is composed primarily of two zones, as well as one special overlay district corresponding to the Hospital site. The area around the Town Common is zoned as Center Business, and extends to the northern portion of Chestnut Street with the Fire Station as the southern boundary. The remainder of Chestnut Street until the MBTA station at Needham Junction is zoned as Chestnut Street Business, as well as most of the western half of the block bounded by Chapel, Garden, May Streets and Great Plain Avenue.

Within the study area, there are also pockets of Single Residence, Industrial and General Residence uses. Furthermore, current land use documents furnished by the City indicate that a portion of the Chestnut Street area corresponding to the hospital overlay zone is “undevelopable land,” as are the municipal open spaces of the Town Common and the playing fields on Pickering Street.

Under current zoning, the town’s potential for by-right buildout is limited. According to a recent planning department buildout analysis, approximately 240,000 square feet of buildable land remains within all the Business District zones in Needham and only a portion of that, if any, is available within the confines of the study area. Given the limited potential for the addition of new space – but also reality that many downtown parcels under-use their FAR allowance – it appears that existing incentives for commercial site redevelopment are inadequate.

Use Limitations of Note

Residential Uses: By right, residential uses are not allowed in any of the study area, with apartments or multifamily dwellings allowed only by special permit above the second floor.

Retail Uses: Retail uses are limited by size, with most types of retail allowed if they do not exceed 5750 square feet. There are more limits to the type of retail within the Chestnut Street Business district. Entertainment-oriented uses are mostly prohibited, with movie theatres and billiard halls allowed by special permit. Hotels are not allowed, and restaurants only by special permit. The outdoor display of goods is prohibited as well. Despite these restrictions, there are several non-conforming establishments that are located within these zones.



Offices and Banks: There are no limitations to the size of offices, which are permitted within all of the study area. A distinction is made between offices “for consumer sales or service” versus all others, with the latter permitted only above the first floor. Banks are also permitted throughout the districts.

Form Regulations of Note

Setbacks: Chestnut Street currently requires a setback of 20 feet, and the Center Business district requires a setback of 3 feet.

Building Heights: Buildings are limited to 2 ½ stories on Chestnut Street and 3 stories in the Central Business district (35 and 40 feet in height, respectively).

Site Coverage: Chestnut Street developments are limited to an FAR (Floor-to-Area Ratio) of 0.7, and the Center Business District to an FAR of 1.0, with bonuses offered for providing off-site parking.

Economic Generators in the Study Area

Needham Center is primarily a destination for town residents, with basic services such as banks, hair salons, coffee shops, Laundromats and hobby shops located around the Town Common. These retail establishments and services cater not only to the commuting population, but also to those who work and live in the surrounding areas. We also witnessed a burgeoning restaurant scene and an agglomeration of antique shops – these attract visitors from neighboring towns.

For more significant shopping needs, residents are served by malls and retail areas in neighboring towns, but told us they would rather find such amenities within their own town center. Men’s and women’s clothing shops and a major bookstore are some stores in demand.

Needham Center seems quite vibrant during both daytime and evening. Our visits to town in the evenings found shops holding evening classes, residents enjoying ice cream shops, and long waits at restaurants. In fact, one resident told us that in recent years, her out-of-town friends have been meeting up in Needham so they could go to one of its restaurants. However, an overwhelming



number of residents expressed a desire for more nighttime attractions in Needham Center, showing interest in entertainment-oriented gathering places open past 5pm, such as a jazz club or coffee shop.

Needham Center faces retail and service competition from the shops around Needham Heights. Neither location seems to have a distinct identity or niche in terms of retail focus. Consequently, establishing a complementary business-development strategy that builds on the strengths of each district may be an advantageous long-term strategy. One alternative would be to build on Needham Center's restaurants and entertainment, while allowing household needs to be served by Needham Heights (groceries, drugstores, housewares).

The Deaconess-Glover Hospital and Olin College are worth noting as local institutions that geographically gravitate toward Needham Center, and thus present opportunities for local merchants to expand their market base.



Architecture, Landmarks & Identity

Central Business District

Most of Needham’s landmarks are either historic or commercial in nature. The Town Hall clearly serves the primary visual and social focus, and is complemented by the agglomeration of older, two-story brick buildings around it. Harvey’s Hardware store (at Chestnut & Great Plain) and Roche’s Supermarket – both popular shopping destinations – are also commonly referenced as geographic landmarks.

Although the Town Hall was only constructed in 1902-04, much of the area around the Common is in either neo-Georgian or Greek Revival style, reminiscent of the early 19th century. Given that many of the buildings in the center echo the Town Hall in appearance, this fits in with Needham’s attempts to evoke a village of an earlier era.

Despite this catalog of attractive buildings, the CBD’s building stock is dominated by one-story commercial structures, with nondescript or unattractive facades, exacerbated in many cases by unattractive streetscapes and sidewalks which are unfriendly to pedestrians, as seen in the images below. One of the key blocks is known as the “old movie theatre block”, which is currently disconnected both visually and spatially from the rest of the area. It also contains an empty lot. There is clearly an opportunity to extend the visual and social sphere of Town Hall to include this block.



Currently Unattractive and Underdeveloped Parcels adjacent to the Common



Existing 2-and 3-story Buildings in CBD

Chestnut Street

South of the Common, the commercial strip along Chestnut Street is dominated by a post-World War II utilitarian commercial style, with many of the buildings set back from the street and preceded by either a small lawn or a parking lot.

The street largely lacks any visual focus and the view is subsequently dominated by storefront parking. Further south, the Village Square development at 300 Chestnut Street does provide an attractive clock tower combined with a brick building of greater bulk and pitch than the surrounding land uses. However, its status is undermined by the somewhat dilapidated condition of both the clock and the nearby sidewalk.



Needham Center Station

Gateways

There is a marked absence of wayfinding and welcoming signage towards Town Hall and Needham Center, as well as a collection of non-descript ‘gateways’ to the Town Center – both key elements necessary for creating a sense of place for those arriving in Needham Center.

With regards to the train stations – despite the volume of commuters using both the stations within the Study area, Needham’s train stations do not appear to serve a landmark role – for example, when asked for directions, residents and officials rarely use them as geographic references. This may be because of their relative obscurity and lack of presence within town.

Access to and from the train stations, in particular, is geared towards people arriving in cars, with little thought given to the pedestrian and non-commuter connections. The Needham Center station makes no reference to its proximity to the heart of town – riders are greeted by a parking lot and the backsides of buildings.

Those arriving by car are greeted from both the north and south by unkempt service stations, with little indication that Town Hall is ahead. While one resident commented that Needham Heights is walking distance from Needham Center, we are skeptical that many take advantage of the proximity of one to the other. However, it is clear that the gateways are unappealing both to cars moving at 35 mph as well as to pedestrians.



Needham Center Station



Southern end of Chestnut Street, Pedestrian Entrances to Needham Center Station



Gateway at Chapel & Highland

Parking

A disproportionate amount of the land in the study area is currently used as surface parking lots. In fact, parking and asphalt are the predominant features of Needham Center and – especially – Chestnut Street.

The question of whether there is enough parking within the study areas was one of the prime concerns raised throughout the project. Many residents and business owners spoke passionately of the need for more parking; others felt enough is provided. A casual analysis indicates that

parking appears to be plentiful, but not well utilized. At the same time, the parking requirements enforced through zoning have constrained developers and those seeking to expand their buildings. However, we feel that we lack the time, insight, and expertise to determine whether parking in Needham is adequate or deficient. Instead, our focus is upon the form and use of the parking.

Problems of Form

It is clear that parking is usually incorporated into developments without consideration of its impact on the surrounding environment. Many businesses have chosen to place their parking in front of their structures, which results in both a denigrated sidewalk environment for pedestrians and setbacks that detract from the village aesthetic. Street parking, which shields the pedestrian from vehicle traffic and promotes cautious driving, is possible but not allowed along Chestnut Street.

Problems of Use

Many customers are uncomfortable parking in unused spaces at businesses they are not patronizing, and municipal parking is not well marked. Meanwhile, the poor pedestrian environment on Chestnut Street makes people unwilling to walk a few blocks from their car to their destination – the result is redundant parking spots.



Parking along Chestnut Street

Summary of Assets & Challenges

The maps that follow summarize some of the key assets and challenges that currently exist within Needham Center and along Chestnut Street.

Key assets include:

- Attractive public spaces, such as the Town Common
- Several successful restaurants and businesses
- Town Hall and a catalog of attractive buildings with heights and aesthetic styles which complement its style
- Stretches of sidewalk that are well-maintained and inviting for pedestrians
- Activity generators such as the train stations, the local playing fields and the hospital

Challenges facing Needham Center:

- Few and poorly marked connections
 - from nearby residential areas to the main commercial areas
 - from the train station to town center
- An absence of pedestrian crossings on Chestnut Street and some very treacherous intersections near the Town Common
- Unimproved sidewalks with few amenities (such as street lights, trees, benches) to create a pleasant pedestrian environment
- Sidewalks overtaken by driveways and “pull-in” parking in front of stores and restaurants
- Buildings with significant set-backs from the street
- An abundance of surface parking lots, many facing the street
- Buildings with blank walls, uninteresting street facades, or discontinuous frontage
- An absence of signage at key arrival points indicating the center of town
- Few indoor spaces that can act as either formal or informal gathering places
- Homogenous options for evening activity in the town center
- A limited retail mix
- Lack of residential options for middle-income household, the elderly, and those not seeking a single-family house on a large lot



Municipal lot, in front of businesses on Chapel Street, MBTA lot at Needham Center Station.

Opportunities & Constraints: Central Business District



- Public Open Space
- Assets
- Under-developed parcel, or structure does not complement character of the CBD
- Unappealing Pedestrian Environment
- Vacant Land / Surface Parking

Opportunities & Constraints: Chestnut Street Corridor



CHAPTER IV: VISION & GOALS FOR NEEDHAM CENTER

Introduction

This section of the document presents a vision for revitalizing Needham Center and the Chestnut Street Business District. This vision is based upon the objectives developed by the Town of Needham Planning Department, the analysis of assets and challenges presented in Chapter 3 and input from Needham community members.

Needham Center has the potential to become an active, appealing and inviting place for residents and a prosperous and viable place for Needham Center businesses and property owners. The town center can have a balanced mix of uses and activities that attract people to the center at all times of the day. Public realm improvement - such as a well-maintained and comprehensive pedestrian network, street amenities and landscaping - as well as improved private development - such as mixed-use development, consistent building façades and densities, and improved architectural styles - will all ensure that Needham Center is exciting and attractive.

This vision for Needham Center is based upon five overarching goals:

- Clearly define and delineate Needham's Town Center
- Bring people to the Town Center
- Create a pedestrian-friendly environment
- Create a transition zone between the Town Center and surrounding residential uses
- Increase residential development through mixed use development



Needham Center can be an active, appealing and inviting place for residents.

Define and Delineate Needham's Town Center



Needham Center has a long history as the Town's area for commerce and retail activity. Beginning with the construction of the railroad through the town in 19th century, the center has long been home to the town's major commercial uses and services including banks, town government, retail and service trades.

While this history has contributed to the physical development of the center, recent decades have been characterized by low-rise development that makes it difficult to tell where Needham Center and the Chestnut Street business district begin and end.

Moreover, the lack of signage and landmarks at the Center's gateway points make the areas boundaries unclear. Needham Center and the Chestnut Street Business District can address this goal in several ways:

Visual Sphere of Town Hall

Building design and character throughout the corridor should echo the style of Town Center's landmark building, Town Hall. Extending the visual influence of Town Hall will help to leverage historical precedents and give the Center its own unique identity.

Signage and Gateways

Signage, gateway features and other "way-finding" devices should be used at the entrances to and throughout the center and the Chestnut Street Business District. This will clearly delineate the area's boundaries as well as signify a change in development patterns and densities.



The Moseley-May-Bourne Building stood on the SW corner of Great Plain Avenue and Chestnut Street from 1874 until 1928 when it was replaced by the one-story structure currently occupied by Simply Stated Interiors.



Gateway entrance signage: "Welcome to Needham Town Center"

Bring People to the Center

In order to ensure that the Town Center is an active and lively environment, there must be uses and activities that attract residents to the center at all times of the day. This goal will require both redevelopment and public realm enhancements.

Redevelop Existing Buildings

The redevelopment of existing buildings to include a wider range of uses, including residential, will ensure that there is activity in Needham Center both day and night. Developing mixed-use buildings that include commercial and retail space will encourage residents to come to visit Needham Center for multiple reasons. A comprehensive assessment of vacant and underutilized parcels with support this endeavor.

Consolidate Parking to Increase Land Available for Development

The abundance of surface parking in the town center and along Chestnut Street consumes a disproportionate amount of developable land. Consolidating parking in key areas and redeveloping some existing lots into higher uses will further support a diversity of uses and activities in the center and along Chestnut street. This consolidation could be in the form of lot sharing for complimentary uses and/or well-designed structured parking that serves key areas within the district.

Public Realm Enhancements

Attracting people to the center will involve more than just a change in the development and land use pattern. Streetscapes and amenities within the public realm will have to be inviting and supportive of the center's activities. These improvements are further described in the next section of this chapter.



Well-designed structured parking can free up other parcels for new mixed-use development



Additional public realm enhancements will attract people to Needham Town Center.

Create a Pedestrian Friendly Environment

Improving the pedestrian environment is one of the most powerful tools to revitalize Needham's Town Center and the Chestnut Street Business District. As such, the Town Center's "walkable" size and dimensions are a major asset. Moreover, the existence of rail stations makes the creation of an inviting pedestrian network practical and sensible. In the future, Needham residents should feel comfortable walking between the Center and Chestnut Street's growing number of restaurants, burgeoning nighttime activities, retail and services. Enhanced pedestrian character and amenities will also support the viability of new commercial and residential development.

Pedestrian Network: Links and Nodes

The pedestrian environment is currently fragmented, particularly along Chestnut Street. The creation of continuous sidewalks, with wide pedestrian right-of-ways throughout the entire area will help to establish the needed pedestrian network. Breaking up overly long blocks, particularly along Chestnut Street, will allow for nodes of pedestrian activity and will create a scale that looks and feels walkable. Safe and efficient road crossings should link the pedestrian network. The pedestrian system should also include visual connections to key buildings within the Center, such as Town Hall and Needham Center commuter rail station. This will help to orient walkers and will enhance attraction to focal points within the area.

Landscaping and Amenities

A pedestrian-friendly environment should include sidewalk landscaping and amenities to support pedestrian activity, shield pedestrians from vehicular traffic, create places for pedestrians to stop. Consistently spaced tree plantings along Chestnut Street will mitigate the impact of vehicle traffic and make walking appealing. Pedestrian-scale lighting and street furniture will support activity at all times of the day. Finally, retail and commercial displays that are scaled for pedestrians will contribute to the area's appeal.



Creating a pedestrian network will enhance activity and safety in the Town Center.



Possible Landscaping and amenities

Improve Signage, Storefronts and Backs of Buildings

Improving the façades of buildings is another key component of the vision for Needham Center and Chestnut Street. Building signage should be high-quality and consistent, blocks should have continuous street frontage and active storefronts, the rear of buildings, particularly those that function as second entrances to retail and commercial uses, should be more attractive. Buildings with multiple stories will need pedestrian scaled signage to ensure that they fit within the context of the neighborhood.



Pedestrian-scaled storefront and signage

Create a Transition Zone Between the Town Center and Surrounding Residential Uses

As new development is focused within the Town Center, it will be important for there to be an adequate transition zone, or buffer, between this new mix of uses to the single family residential development characteristic of the areas that surround the Town Center. Densities on the periphery of the Town Center should step down as they come close to existing residential neighborhoods. Uses in these areas should be less intensive and compatible with the character of the surrounding neighborhoods.

Zoning regulations and design guidelines should be designed to encourage a gradual increase in building height and bulk as developments approach the Common, and concentrate housing along Chestnut Street between Needham Junction and Needham Center.



Densities step down as they approach surrounding residential neighborhoods

Increase Residential Development Through Mixed Use Development

There is a great need for affordable housing for existing Needham residents. Many community members, including elderly residents, and the children of existing residents are increasingly unable to afford housing in Needham. A fundamental component of our vision for Needham Center is to provide a greater range of housing options, including affordable apartments and town homes in the Town Center and along Chestnut Street.

There is tremendous opportunity in the Town Center and along Chestnut Street for redevelopment on vacant or underutilized parcels. This redevelopment should include a mix of uses, including residential units. The Town Center is a particularly good place for more affordable residential units due to increased market demand for downtown living, proximity to transit, and the desire keep the Center active at all times of the day.

With changes to zoning regulations and the provision of development incentives, residential development can be added to the upper stories of existing buildings and new development. In addition, well-designed town home development can help buffer the surrounding neighborhoods of single family homes from the commercial activity that is characteristic of the Center. The west side of Needham Center Station and the south section of Chestnut Street are appropriate areas for this type of development.



Residential development above commercial uses can help to activate a space and provide more affordable housing opportunities



Town home development can provide a transition zone from commercial activity to residential neighborhoods.

CHAPTER V: IMPLEMENTATION PLAN

Introduction

In many ways, it is easier for a community to come together and agree upon a vision for their town than it is for them to figure out an equitable way to implement that vision. This chapter outlines some of the strategies that will help Needham evolve from the “what” for Needham Center to the “how.” Because Needham will need more than one strategy to realize its goals, we are suggesting a multi-pronged approach to implementation:

- Zoning Amendments
- Development Review
- Streetscape Improvements
- Traffic Calming Measures
- Financing Tools
- Parking Strategy

Undoubtedly, some combination of these strategies will be necessary to make redevelopment in the Town Center both feasible and amenable to community concerns and desires. Development incentives, amended regulations, public realm improvement strategies and innovative financing tools will all foster the public/private cooperation necessary to revitalize Needham Town Center.

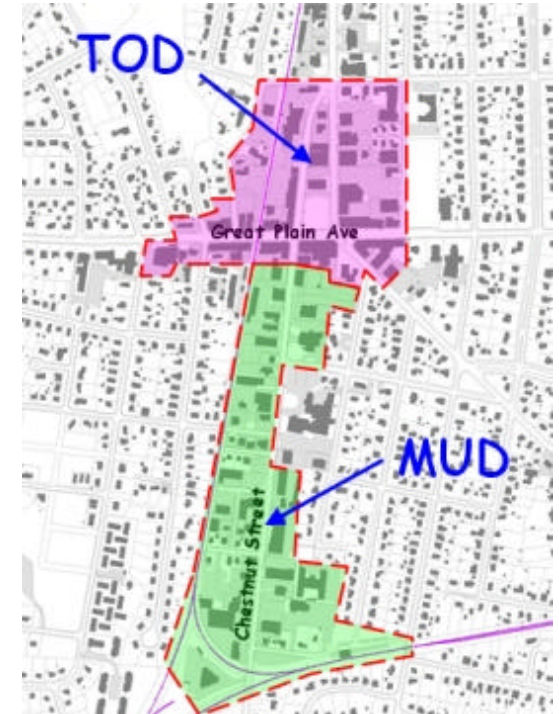
It will also take some creative thinking to make this vision work. For this reason, throughout this chapter we include catalyst project ideas that incorporate the implementation strategies listed above. These catalysts are major departures from Needham’s current appearance – they are meant to inspire residents to imagine a new way of seeing their town. In addition, we feel these sites are at key locations in the town, and through redevelopment they can spark a new look and mood in the town.

Zoning

The Town of Needham’s existing set of zoning regulations include provisions which have discouraged the redevelopment/revitalization of existing buildings, limited the number of proposals and prevented the development of residential properties in the Town Center. for infill projects, and disallowed the provision of residential space in the Town Center.

Relaxing some of these regulatory provisions in tandem with an enhanced development review process will allow Needham Center to address these failures, promoting the growth of a pedestrian-friendly Town Center where residents will be able to shop, dine and stroll; and business owners will seek to improve and expand their shops. Residents and property owners alike will benefit from the growth of a more robust and vibrant Town Center with enhanced shopping, civic and recreational opportunities.

To achieve this vision, we recommend that two zones be created within the Study Area – a **Transit Oriented Development (TOD)** district primarily around the Town Common, and a **Mixed Use Development (MUD)** district along the Chestnut Street corridor, and that the zoning regulations be amended entirely to reflect the suggested changes discussed below, and detailed in the Appendix.



Two new simplified zoning districts for Needham Center replacing existing districts and regulations.

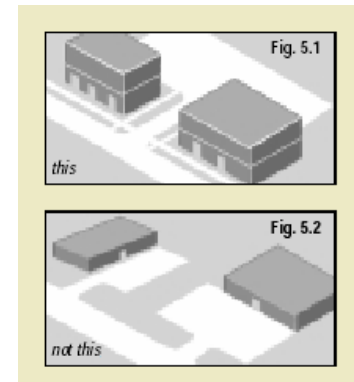
Transit Oriented Development District

It is recommended that the area currently zoned as the CBD (plus the portion in the northwest corner of the study area currently zoned as Chestnut Street Business) be renamed the **Transit Oriented Development (TOD)** district. We recommend adjusting the current zoning regulations to promote housing and commercial/office development within a short walk of the train station.

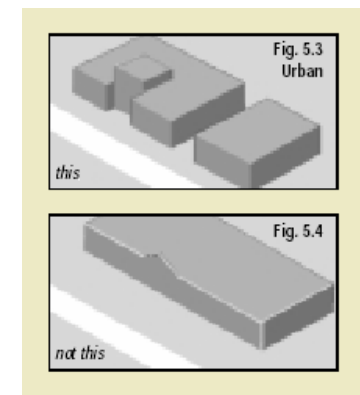
The intent and purpose of the district is to revitalize the heart of the Town of Needham by enhancing its urban form, allowing for a greater mix of uses with a prominent housing component, relax certain development regulations and provide incentives to foster a more robust commercial environment. This proposed district is in recognition of the Needham Center train station as a valuable asset to the Town.

The Needham Center train station currently possesses one of the highest riderships of the line, and is strategically located within an easy walking distance of the Town Common and Hall. Improvements to the station platform/seating area, signage, and adjacent parking areas could afford existing business establishments with higher “visibility and appeal” as well as unlock the future development potential within the area. The proposed zoning changes focus on four major areas in order to leverage the station in order to encourage redevelopment in the area. These four areas are: housing, joint development & design review, urban form, and financial incentives. The specific proposed modifications to particular sections of the Town of Needham’s Zoning-by-Law can be found in Appendix B. Among the more noteworthy changes are:

1. multiple buildings and uses on the same lot subject to new provisions, and fire protection and access regulations;
2. build-to lines for building façades in order to create street walls;
3. subordination of surface parking;
4. building height increases up to four stories;
5. reduced and shared parking strategies;
6. entrances on public streets; and
7. FAR bonuses for additional affordable housing units and contributions to structured parking linkage fund.



Subordination of parking



Articulation of street wall with distinct buildings and façades

Mixed Use Development District

The second set of modifications regards the area south of the proposed TOD district. It is recommended that the existing Chestnut Street Business (CSB) district be renamed the **Mixed Use Development (MUD)** district in order to emphasize the nature of the proposed changes within the district. These changes will address strengthening the physical realm of the Town Center with streetscape, enhancing the pedestrian environment and interspersing housing above and amongst the existing commercial uses. Correspondingly, the CSB regulations should be amended entirely to reflect the suggested changes in the following section of this report.

The specific proposed modifications to particular sections of the Town of Needham's Zoning-by-Law can be found in Appendix B. Among the more noteworthy changes are:

1. build-to lines for building façades in order to create street walls;
2. emphasis on increasing housing stock;
3. subordination of surface parking;
4. encouragement of on-street parking to buffer pedestrians on sidewalk from moving traffic;
5. stepping down to one-story only along the periphery of the study area wherever landscape buffering cannot mitigate the visibility of proposed (re)developments from an adjacent single-family dwelling; and
6. limitation of curb cuts on sidewalks.



On-street parking buffers pedestrians on sidewalk

Catalyst Project: Redevelopment of Needham Center Station

Using the incentives and opportunities afforded by the new TOD zone, a project like redevelopment of the Needham Center train station could be realized. The Needham Center train station site can be developed with housing decked over parking on the east side of the tracks and townhouse development replacing the parking lot on the west side of the tracks.



Before



After

Development Review

In the interest of simplifying and streamlining the development review process, we recommend the adoption of a comprehensive design review process for the entire Needham Center study area. Furthermore, we propose a single development review authority for evaluation and approval of architectural and site design for all projects within Needham Center. In the interest of simplifying and streamlining the development review process, we recommend that the Needham Planning Board become the Development Review Authority, as described further in this Section.

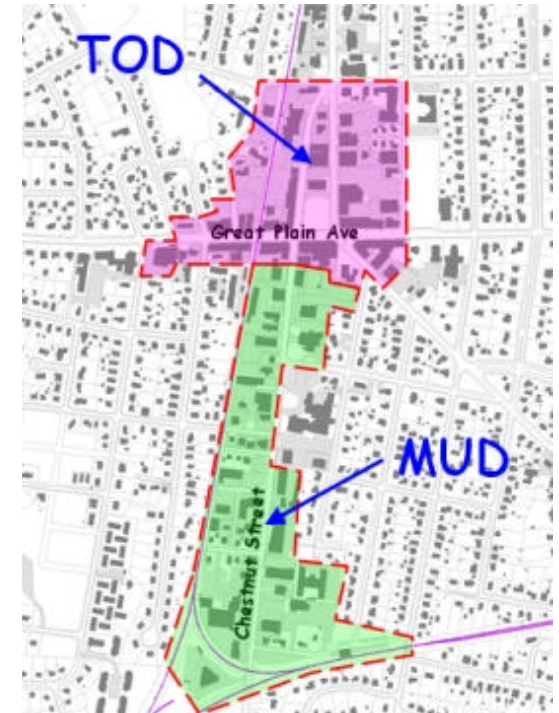
Rather than the Needham Planning Board serving only as the Special Permit Authority, we recommend that the Planning Board be responsible now for the issuance of Certificates of Development Review Approval, and Special Permits for uses not permitted as-of-right.

The use of a single board serving as both the Development Review Authority and the Special Permit Granting Authority translates into an efficient review and permitting process. In general, projects proposed within Needham Center will follow one of two tracks of approval:

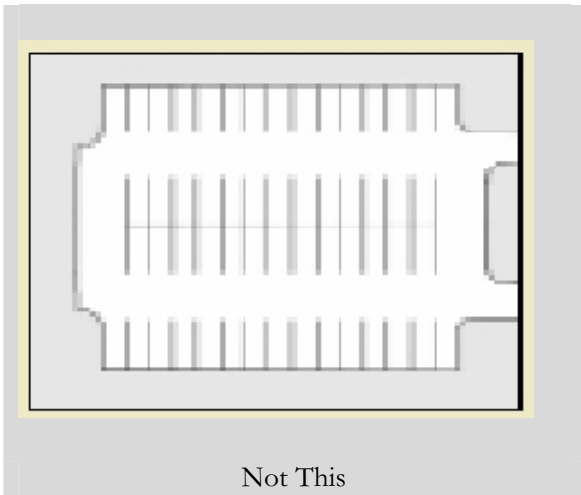
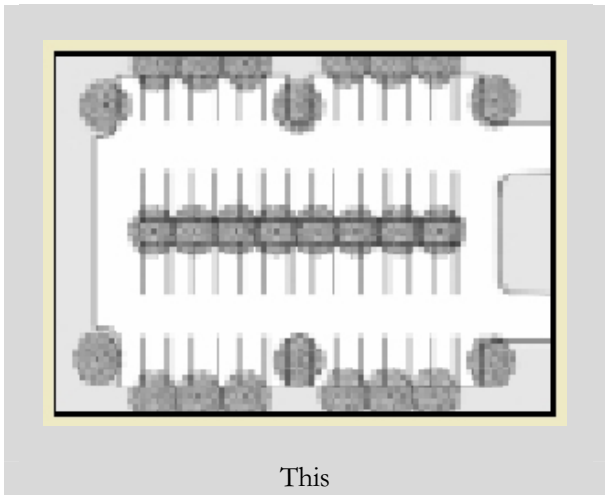
1. **Design Review Approval Only**
2. **Design Review Approval & Special Permit Necessary**

If developers are responsive to the concerns and recommendations of the board, a proposed project could receive both a Certificate of Development Approval and Special Permit in the same night. Using a preliminary review prior to the public hearing, only two meetings would be necessary to resolve design issues prior to a vote.

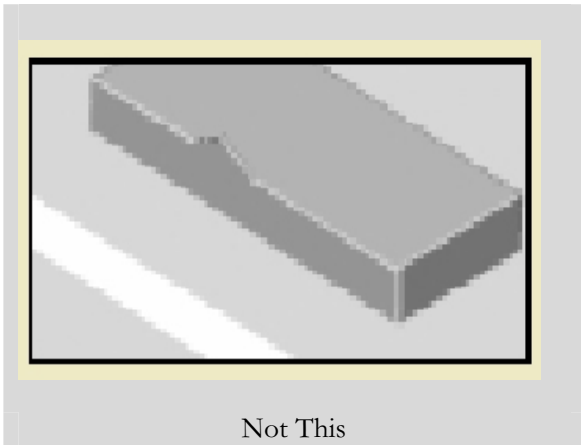
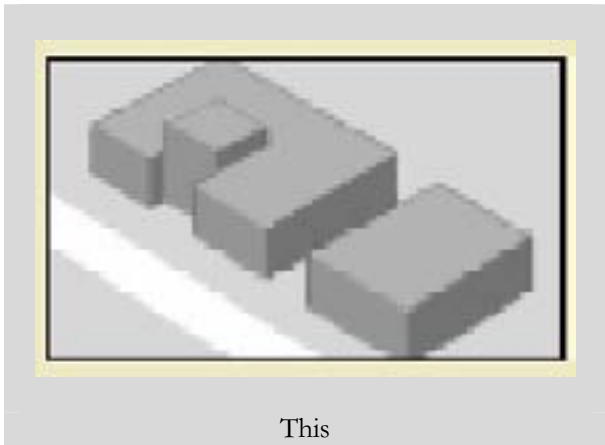
We recommend that the Board consider the following general issues when reviewing projects under the Development Review Guidelines. A more detailed discussion of Development Review Guidelines and proposed language for the regulations is provided in Appendix C. Some examples of the look and content of the guidelines are on the following pages. We strongly recommend the use of graphics as part of the guidelines, to illustrate the concepts described therein.



Comprehensive Development Review for Needham Center encompasses the proposed Transit Oriented Development District (TOD) and the Chestnut Street Mixed Use District (MUD).



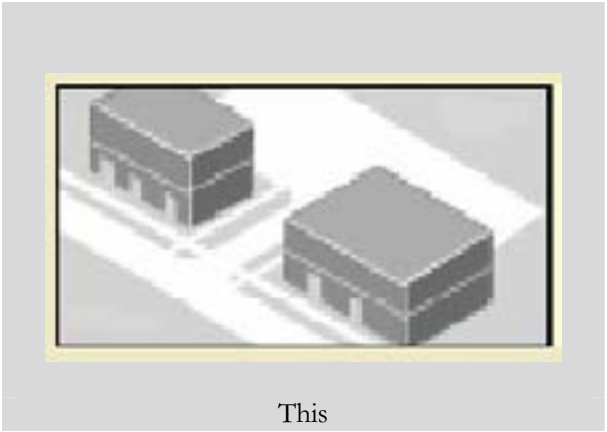
Guidelines for surface parking lots



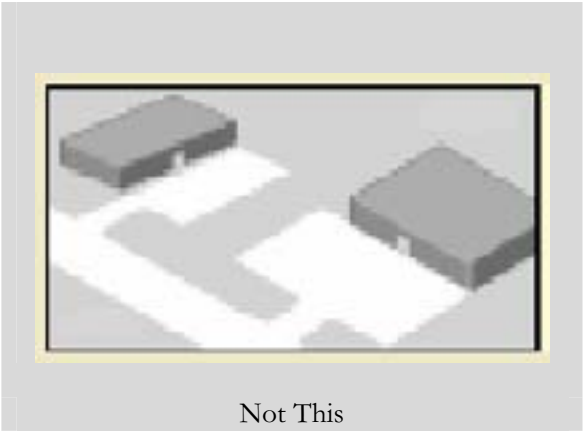
Guidelines for building articulation



Streamlined Development Review Process within Needham Center “TODO” District

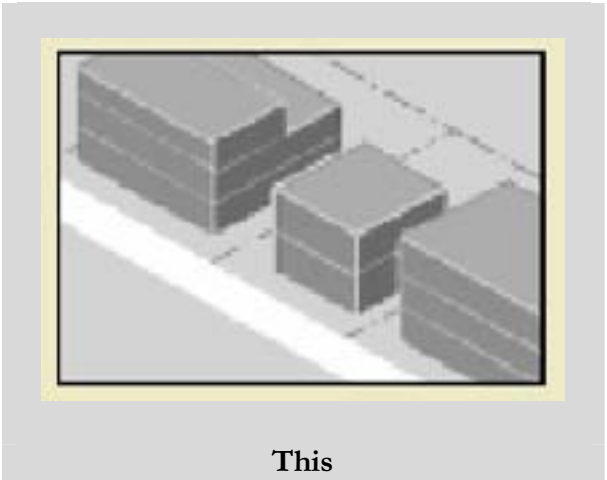


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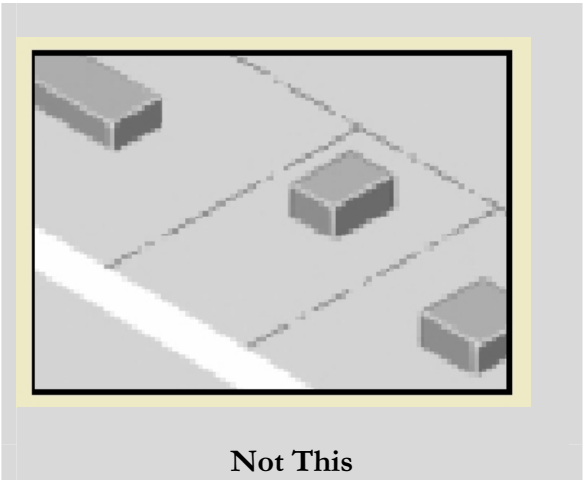


Not This

Guidelines for the siting of buildings and parking



This



Not This

Guidelines for the siting and setback of buildings (note the increased massing available through FAR zoning provisions).



Northampton Parking Garage Nestled Behind Main Street adheres to the Design Guidelines for Building Materials, and Articulation (Detailing).



Clean façade design representative of historic New England main streets.

Catalyst Project: Redevelopment of Movie Theatre Block

Opportunities created by the relaxation of zoning requirements could provide enough incentives to make the redevelopment of the movie theatre block a reality. Based upon the opportunity provided by TOD district zoning changes, the density of the movie theatre block can be increased to match the adjacent densities across Great Plain Avenue and Dedham St.



Before



After

Streetscape Improvements

We have developed an inventory of streetscape improvements and pedestrian amenities for implementation in Needham Center. These capital improvements are necessary to enhance the public realm while furthering a coherent sense of place.

Following is the inventory of streetscape improvements to be implemented:

Improvement	Priority	Unit	Cost per Unit
Lighting	Low	Street Lamp	\$1000
Signage	High	Various	\$100
Benches	High	Bench	\$500
Trash Bins	Medium	Trash Receptacle	\$400
Planters	Low	Planting Bin with Plants or Flowers	\$400
Tree Plantings	High	Tree	\$500
Paving	Medium	Brick/Stone Walkways - Square Yards	\$75
Curbing	High	Linear Foot of Concrete Curbing	\$50

For the larger portion of Chestnut Street (currently the area in greatest need), we estimate the total cost for basic streetscape improvements will be approximately \$3,000,000.



Lighting Installation with Banner & Sidewalk Paving (Paver Units)



Curbing

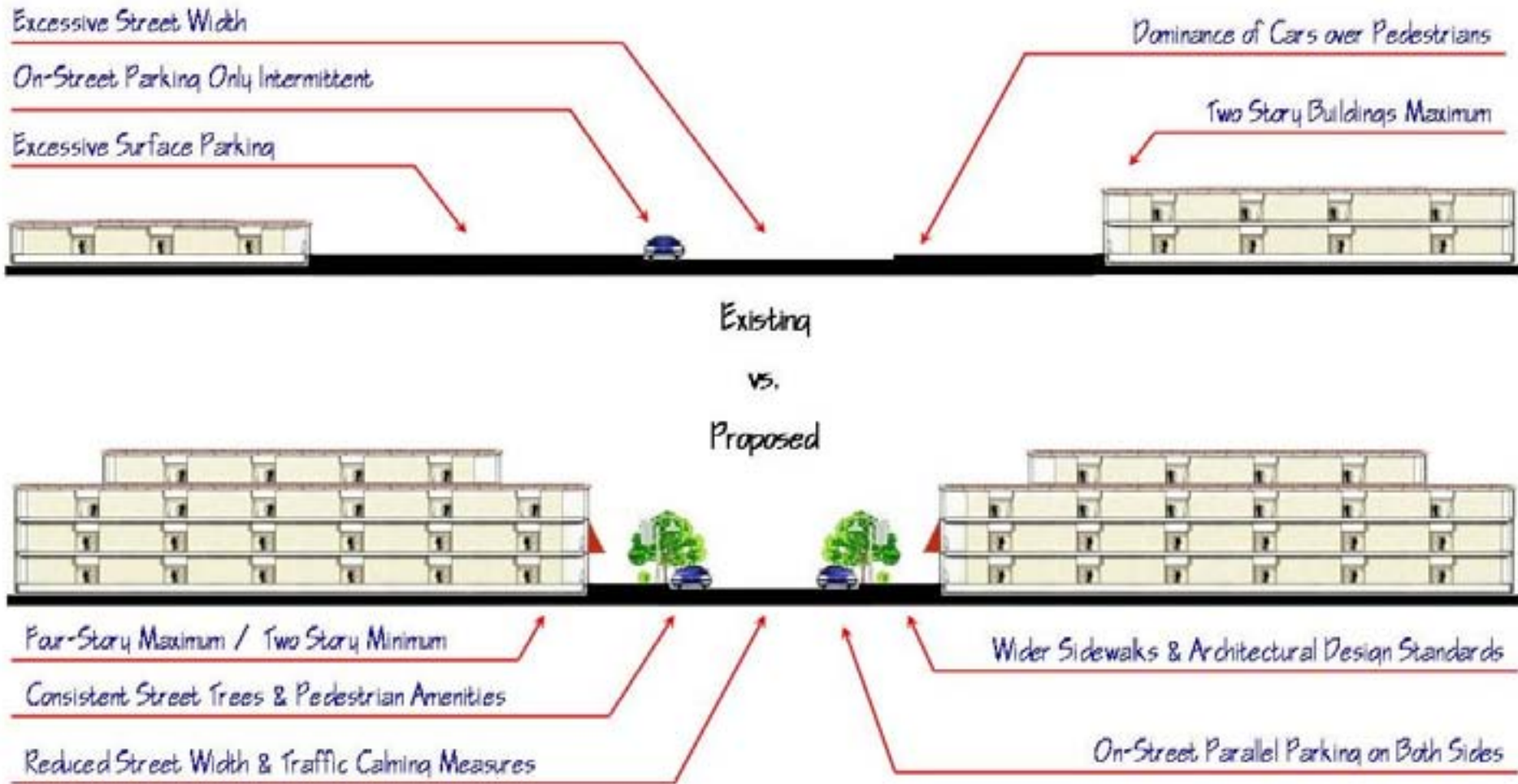


Planters



Benches

Streetscape Improvements



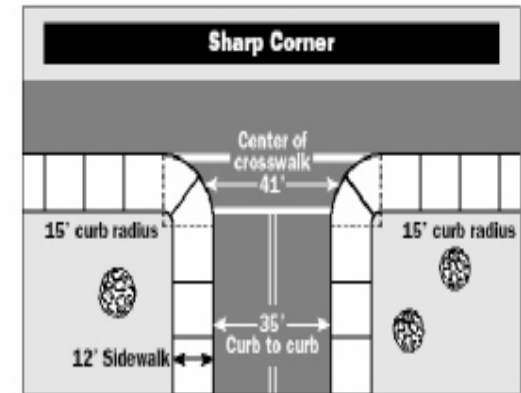
Before and after cross-sections illustrating proposed streetscape improvements for Chestnut Street.

Traffic Calming Measures

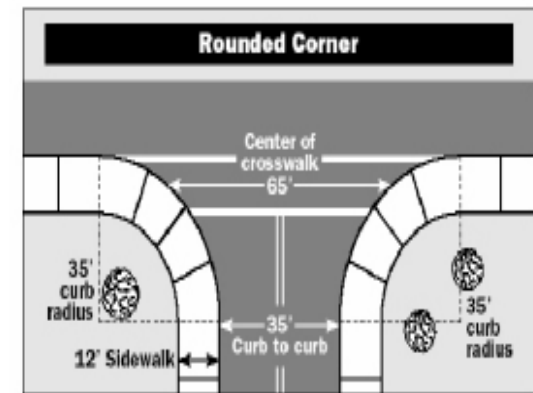
In general, traffic calming devices should be provided every three to four hundred feet to ensure consistency of reduced vehicular speed in the subject area. We have developed the following inventory of traffic calming techniques, which, used in combination will reduce traffic hazards and enhance pedestrian safety in Needham Center.

Following is the traffic calming toolbox and a diagram illustrating the installations most crucial to the revitalization of Needham Center.

- Speed Humps
- Raised Intersections
- Raised/Textured Crosswalks
- Median Barriers
- Neckdowns
- Chicanes
- Closures
- Semi & Diagonal Diverters
- Corner Radii
- Parking (as a buffer to pedestrians)
- Roundabouts
- Traffic Circles
- Edge Treatment
- Streetscaping
- Transition Zones
- Land Treatments
- Enforcement



This



Not This

Example of reduced crosswalk length for pedestrian safety (Walk Boston).

Financial Strategy

Both public and private financial capital will be required to realize the physical implementation of the Plan. Some financial tools that may help include:

- **Formation of a Business Improvement District** to encourage business and property owners to take a stake in the future of the Town Center.
- **Passage of the Community Preservation Act** to bring State funding for affordable housing, open space, and historic preservation.
- **Directing new Affordable Housing development** to Needham Town Center as part of mixed-use projects that can secure federal and state affordable housing tax incentives and subsidies.
- **Possible use of the State’s Tax-Increment Financing (TIF) or District-Increment Financing (DIF) tools.**
- **Applying for Public Works Economic Development (PWED) money.**
- **The use of town revenue for public realm improvements or a municipal parking garage.**

These tools all encourage private capital investment in the Town Center area, and seek to harness market forces and minimize public spending.

Public Realm Improvements and the Business Improvement District

Improvements to the public realm in the Town Center – wider sidewalks, pedestrian-oriented street lighting, street furniture, and gateway signage – can provide an important signal that Needham is serious about revitalizing and creating a true sense of place in the Town Center. By transforming the Town Center into an inviting and pedestrian-friendly environment, businesses can expect substantial gains in activity and property owners will enjoy increasing property values. Residents will enjoy new shopping and dining opportunities, improved safety, and a greater sense of pride in the community; the town will benefit from improved sales and property tax revenues.

We understand the town is financially constrained in its capacity to provide the desired public realm improvements in the near term. If the property and business owners in the Town Center value these improvements they should act take proactive steps to see that they are implemented. They should do this by creating a Business Improvement District (BID) to raise the needed funds through a small self-assessment based on assessed property values, property taxes, or square footage.

A BID is a management strategy and financing tool that allows commercial districts to develop, fund, and administer programs and services targeted solely within the district. BIDs been used successfully to improve property values and business sales in more than 1,000 cities and towns throughout the country. In Massachusetts, BIDs have been successfully implemented in Hyannis and Springfield. With this mechanism, property and business owners create an annual budget and oversee the expenditure of funds on collectively beneficial investments. A BID provides individual property owners and businesses with a strong collective voice on issues that affect their physical environment. To approve a BID, the affected businesses and property owners must vote for it in a petition submitted to the town government. The minimum rate of approval can range from 51% to 70% of those eligible to vote. BID monies can then be used to pay for public realm improvements, a collective marketing campaign to highlight shopping opportunities, or business retention and attraction services. A rough estimate suggests that this tool could generate an annual revenue stream of approximately **\$562,000** a year in Needham. This estimate is based on a sample of assessed property values in the study area. This average was then multiplied by the square feet in the study area. \$562,00 represents a 1% assessment on the total estimated assessed property value of the study area.



Passage of the Community Preservation Act (CPA)

The CPA allows municipalities to create a local Community Preservation Fund through a surcharge of up to 3% of the real estate tax levy on property, to be used for open space, historic preservation and low to moderate income housing. The state also distributes matching funds of more than \$25 million annually to serve as an incentive for communities. This past year, matching funds were distributed at a 1:1 ratio.

Local municipalities adopt the Act by ballot referendum. Once adopted, the CPA funds must be

distributed to each of three categories - historic preservation, open space protection and low and moderate income housing – with a minimum of 10% to each group.

As of yet, Needham has not voted on the CPA and thus missed out on significant state funds. If Town residents are serious about preserving the unique quality of life in Needham, they should pass an ordinance authorizing the CPA and use the funds to preserve the Town’s open space and historical treasures and encourage development of affordable housing.

Directing Affordable Housing to Needham Town Center

In order to resolve its affordable housing problem, reduce susceptibility to Chapter 40B local zoning overrides, and help revitalize the Town Center, Needham should encourage private production of affordable housing as part of mixed-use development. This can largely be done through state and federal affordable housing funds can provide the best source of financial aid for redevelopment of the Town Center area.

Institute Linkage Payments

Adopt a “linkage” payment system between business development and the housing needs this indirectly creates. Funds generated will be put into a fund to support the development of affordable housing in the Town Center.

Tax-Increment Financing (TIF) or District-Increment Financing (DIF)

Tax-Increment Financing and District Improvement Financing are tools developed by the State that allow municipalities to use funds from future property taxes in a specified geographic area to fund revitalization efforts in that area. These tools do not increase existing taxes for commercial and property owners but simply collect the incremental increase in assessed property values in the specified geographic area. This increment includes taxes from three sources:

1. Growth of existing property assessments from higher market values over time;
2. Assessment increases from new investment in existing properties; and
3. New property development.

Incremental tax revenue is diverted from the normal revenue collectors and paid to a redevelopment agency (or other public entity) that oversees improvements to the TIF district.

TIF or DIF are ways to use the development generated by new public improvements to directly finance their cost. This money can promote development through tax abatements or direct subsidies. TIF /DIF could be especially useful in financing parking garages when the cost of the garage exceeds what the potential parking fees can finance. While the state has generally targeted this tool to communities demonstrating greater need than Needham, we believe that the town can make a credible case to the state, based on a transit-oriented development strategy coupled with affordable housing projects.

Public Works Economic Development (PWED) grants

The state's Executive Office for Transportation and Construction distributes these funds to help municipalities with capital improvements. They are willing to grant up to \$1 million for the building of a parking structure. Under Governor Romney, the EOTC is being strongly encouraged to support "smart growth" by granting PWED's to already-developed areas. When applying, Needham should stress the money will be used to support transit-oriented development in the Town Center.

Town Revenue for Public Realm Improvements or a Municipal Parking Garage

Since the implementation of the two-tier tax rate in 1988, Needham and its residents have experienced significant benefits by shifting the tax burden to commercial property. However, as residential property values have continued to rise, the share of the town's total value made up by commercial properties has declined, diminishing the ability of the commercial property to shoulder the tax burden. The town must be proactive in maintaining a healthy commercial tax base.¹ Revitalizing Needham Town Center will be a key component of this strategy, by increasing revenues from both property and sales taxes.

This enhanced property tax base will also allow Needham to issue bonds for future public realm improvements. We know that Needham is currently constrained in its ability to issue municipal bonds, but as the Town's total assessed property value rises, the tool will be available again.

Parking Strategy

It is likely that with the success of the recommendations in this plan, demand for parking will increase. In past plans, the concern for the parking impact of a development has led the city to enact parking requirements that have posed barriers to both redevelopment and/or pedestrian-friendly and human-scale development.

This legacy has resulted in a prevalence both in the CBD and Chestnut Street of buildings subordinated to parking and an inefficient use of land. By maintaining the current parking requirements, the ability to construct affordable housing in the Town's center is constrained, and may it to less accessible sites with fewer services and less benefit to Needham Center businesses. In fact, recent studies have determined that parking costs...

“can often be a significant portion of development costs, representing about 10% of the total cost of typical developments, and sometimes more, particularly for suburban projects where land or environmental costs are relatively high...The cost of providing minimum parking requirements is estimated to average \$31 or more per square foot of developed building floor area in typical U.S. cities, 4.4 times larger than all other impact fees combined. In other words, the cost to developers of municipal services such as water, sewage, schools and roads are dwarfed by the financial burden that governments impose by requiring generous parking capacity.”¹

We believe that there are mechanisms by which the town can both accommodate the anticipated demand for parking while minimizing the amount of land in the Center devoted to parking. Going forward it will be imperative that the town undertake a new in-depth study towards the development of a comprehensive parking strategy in conjunction with the revitalization plan. Such a strategy will need to take into account the three categories of drivers that the town must accommodate in terms of parking – temporary/visitors, commuters, and downtown residents. While such a study and plan is outside the scope of our report, we still feel that addressing the challenges of parking is a vital part of any successful plan, and as such, we are presenting several alternatives that should be taken into consideration as part of an overall parking strategy.

Alternatives to consider

1. Replace the current municipal lot with a structured parking garage. This strategy would allow for the redevelopment of several sites in the CBD that currently provide surface parking without incurring a net loss of off-street parking spaces.
2. Incorporate a parking structure in a mixed-use development on one of the vacant sites around the CBD. Potential sites for such a development would be the lot next to the Walgreens, the lot at the train station, the municipal lot, or the movie theatre block. See below for more in-depth discussion of parking structure design and pricing.
3. Encourage local businesses to enter into ‘shared parking’ agreements by providing various development incentives and relaxing parking requirements.
4. Implement on-street parking on Chestnut Street.
5. Limit commuter parking at the Needham Center MBTA stop. Use pricing schemes or increased enforcement to divert commuters to Needham Junction. Reconfigure Needham Junction parking to maximize parking capacity. Contract with existing empty lots by Needham Junction to use them for parking until development occurs.
6. Encourage employers to limit the number of employees driving into town center. Jointly subsidize a shuttle bus from the MBTA stops to offices or from off-site parking lots to town. Offer tax breaks for companies who implement policies to limit employee parking by subsidizing transit passes for employees, providing shuttle services to satellite lots and/or transit stations, facilitating ride-sharing, and so forth.
7. Raise the price of metered parking. Have consumers pay closer to the true price of parking.

Structured Parking

As in many communities of all sizes, structured parking has been a topic of much discussion in Needham for several planning cycles, with much debate over many aspects of such an initiative, including price, form and necessity. Already, the perceived needs of today have hijacked the character and cohesiveness of town center, leaving the streetscapes broken by expanses of surface parking, much of which remains empty at many times of the day. For the long-term, Needham must go forward with the construction of structured parking, if not to allow for the preservation of a pleasant, pedestrian-friendly village center character, then to accommodate both the parking needs of today as well as the expected natural increase in demand. Adding residential uses to the

downtown will increase the demand for permanent parking, as will a vibrant town center with a more appealing mix of shops and services. This can be accommodated within a centrally-located structure.

The tables below summarize typical parking facility construction and financial costs for different sites, space sizes and number-of-level combinations. Experts in the field have determined that structured parking typically becomes cost effective when land prices exceed about \$1 million per acre. In addition to these “hard” costs, facility development usually involves “soft” costs for project planning, design, permits and financing, which typically increase project costs by 30-40% for a stand-alone project.

Size of Site	Small Site (30,000 sf)		Medium Site (60,000 sf)		Large Site (90,000 sf)	
Area per Space	350 sf	320 sf	325 sf	300 sf	315 sf	290 sf
Surface Parking	\$1,838	\$1,684	\$1,706	\$1,575	\$1,654	\$1,523
Ground +1 level	\$7,258	\$6,636	\$6,143	\$5,670	\$5,705	\$5,253
Ground +2 levels	\$8,085	\$7,392	\$6,768	\$6,248	\$6,284	\$5,786
Ground +3 levels	\$8,407	\$7,686	\$6,996	\$6,458	\$6,491	\$5,976
Ground +4 levels	\$8,747	\$7,997	\$7,269	\$6,710	\$6,747	\$6,212
Ground +5 levels	\$8,973	\$8,204	\$7,451	\$6,878	\$6,918	\$6,369
Ground +6 levels	\$9,135	\$8,352	\$7,581	\$6,998	\$7,040	\$6,482
Ground +8 levels	\$9,351	\$8,549	\$7,754	\$7,158	\$7,203	\$6,631

(sf = square feet) Assumes rectangular site, 120-foot minimum site width, good soil conditions, quality finishes, and a Southern California location. Figures in 2000 U.S. dollars. Does not include land costs.

Table 1: Typical Parking Facility Construction Costs Per Spaceⁱⁱ

Type of Facility	Land Costs	Land Costs	Construction Costs	O & M Costs	Total Cost	Monthly Cost
	<i>Per Acre</i>	<i>Per Space</i>	<i>Per Space</i>	<i>Annual, Per Space</i>	<i>Annual, Per Space</i>	<i>Per Space</i>
Suburban, Surface, Free Land	\$0	\$0	\$1,500	\$100	\$242	\$20
Suburban, Surface	\$50,000	\$455	\$1,500	\$100	\$284	\$24
Suburban, 2-Level Structure	\$50,000	\$227	\$6,000	\$200	\$788	\$66
Urban, Surface	\$250,000	\$2,083	\$2,000	\$150	\$535	\$45
Urban, 3-Level Structure	\$250,000	\$694	\$8,000	\$250	\$1,071	\$89
Urban, Underground	\$250,000	\$0	\$20,000	\$350	\$2,238	\$186
CBD, Surface	\$1,000,000	\$7,692	\$2,500	\$200	\$1,162	\$97
CBC, 4-Level Structure	\$1,000,000	\$1,923	\$10,000	\$300	\$1,425	\$119
CBD, Underground	\$1,000,000	\$0	\$22,000	\$400	\$2,288	\$191

Table 2: Typical Parking Facility Financial Costsⁱⁱⁱ

To better visualize how structured parking can fit into Needham, we feel the following provides a model of design in a village setting similar to Needham.

Seven Lebanon Street in Hanover, NH consists of a four-level parking structure behind a three-story mixed-use building, and was a redevelopment of a surface parking lot and small drive-through bank. The garage was developed jointly by the town and the major institution in town, Dartmouth College, and designed by CBT Architects of Boston.

The development resulted in a 289- space parking garage and an L-shaped retail and office building, with 45,000 square feet of commercial space on the ground floor, currently occupied by Talbot’s clothing store. The total height of the building is 42 feet, with three floors in the mixed-use building, and four levels of parking. The footprint of the garage occupies 25,000 square feet of the total 45,000 square foot development. The garage is open to tenants and visitors with a parking pass, and to the public for a fee.

The façade of the building fits in seamlessly with the context of its surroundings, with the shop windows and entrances on the street adding appeal for pedestrians. The exits for the garage are on less-used side streets. Meanwhile, the auto entrance to the garage in the back is minimal and unobtrusive, and because the fourth level of parking is on the roof of the parking structure, the

lot remains hidden when viewed from the street because it rises no higher than the buildings around it.

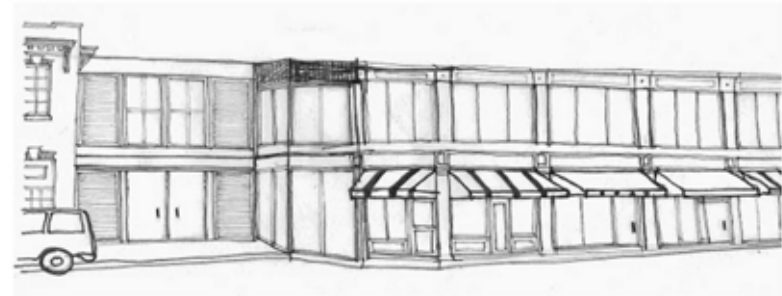
Structured parking like this will provide a strong foundation for Needham Center's future as a shopping center and retail hub – an **Active Village**.

Catalyst Project: Municipal Parking Garage

As a component of the parking strategy, the density of the Chestnut St. block fronting the Municipal Parking Lot can be increased and act as a screen for a new Municipal Parking Garage that replaces the former lot.



Before



After

ⁱ Wenya Jia and Martin Wachs, *Parking Requirements and Housing Affordability*, Research Paper 380, University of California Transportation Center (www.uctc.net), 1998.

ⁱⁱ These next Todd Litman. *Transportation Cost and Benefit Analysis – Parking Costs*. Victoria Transport Policy Institute. October, 2003.

ⁱⁱⁱ Todd Litman. *Transportation Cost and Benefit Analysis – Parking Costs*. Victoria Transport Policy Institute. October, 2003.



APPENDIX A: COMMUNITY FEEDBACK & SURVEY RESULTS

Community Survey

What are your primary reasons for visiting Needham Center?

- ▶ Town Hall, Post Office, Library A
 - ▶ Dining B
 - ▶ Shopping C
 - ▶ Banking D
 - ▶ Professional Services E
 - ▶ Haircut F
 - ▶ Work G
 - ▶ Other: (Please indicate: ____)
- H Yes No

Please give us any additional thoughts or recommendations you have on this project and presentation:

Which of the following would increase the likelihood of your visiting Needham Center?

- ▶ More & Better Eating Places A
 - ▶ Live Theatre or Music B
 - ▶ New Retail Shops C
 - ▶ Dance Clubs D
 - ▶ More Parks E
 - ▶ Streetscape Improvements F
 - ▶ Increased Walkability & Less Cars G
 - ▶ Increased Night-Life H
 - ▶ New Supermarket I
 - ▶ Adult Education J
 - ▶ Art Galleries & Antique Shops K
 - ▶ Festivals & Civic Events L
 - ▶ Better Bus Service M
 - ▶ More Housing options N
 - ▶ Parking Garage O
 - ▶ Coffee Houses & Pubs P
 - ▶ Other: (Please indicate: ____)
- Q Yes No

Thank you for your feedback!



Survey Results

What are your primary reasons for visiting Needham Center?

Total: 100% = 27 Respondents

		Yes		No	
		#	%	#	%
Town Hall, Post Office, Library	A	23	85	4	15
Dining	B	22	81	5	19
Shopping	C	19	70	8	30
Banking	D	23	85	4	15
Professional Services	E	4	15	23	85
Haircut	F	12	44	15	56
Work	G	5	19	22	81
Other	H	5	19	22	81

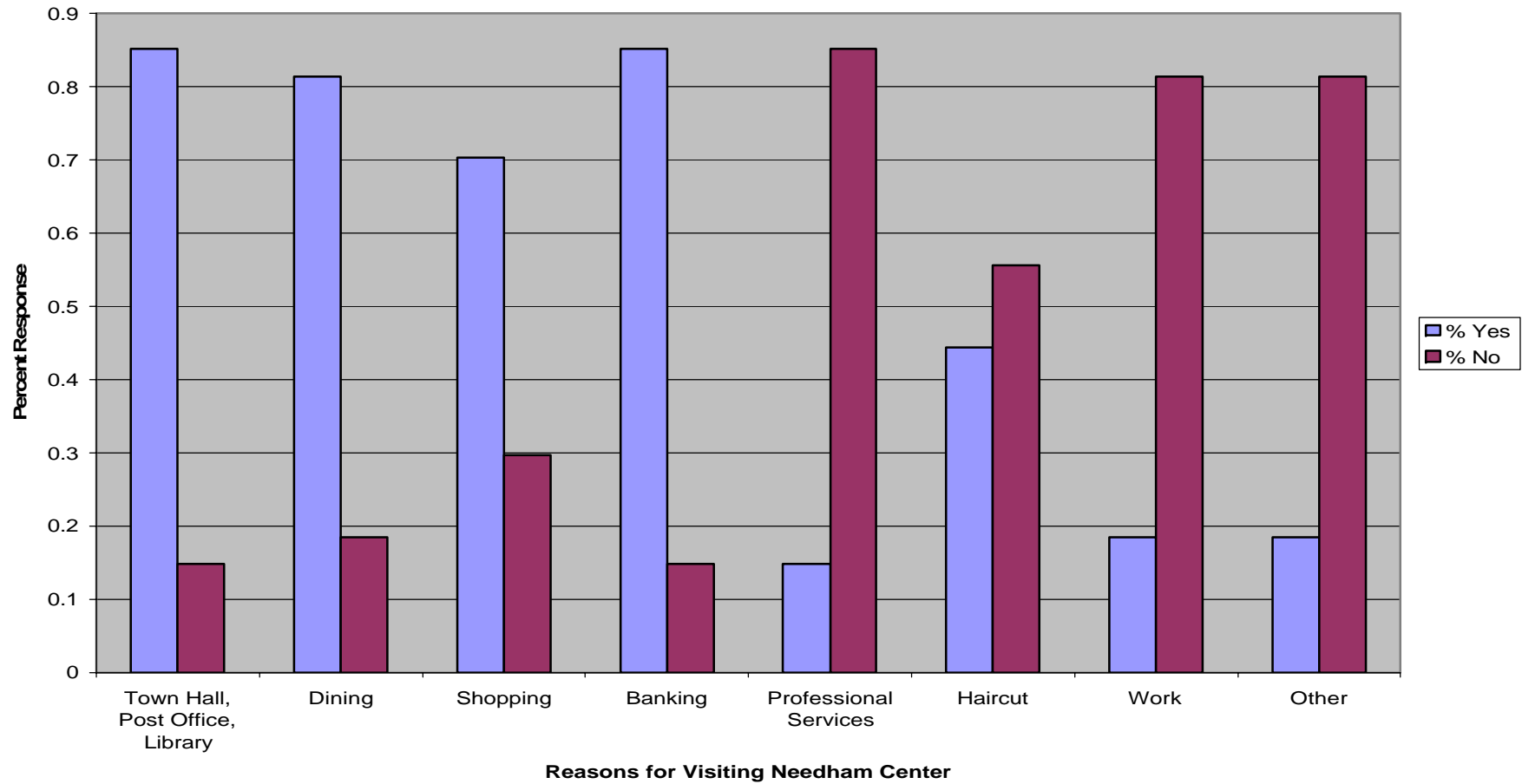
Which of the following would increase the likelihood of your visiting Needham Center?

Total: 100% = 27 Respondents

		Yes		No	
		#	%	#	%
More & Better Eating Places	A	12	44	15	56
Live Theatre or Music	B	20	74	7	26
New Retail Shops	C	25	93	2	07
Dance Clubs	D	1	04	26	96
More Parks	E	11	41	16	59
Streetscape Improvements	F	19	70	8	30
Increased Walkability & Less Cars	G	17	63	10	37
Increased Night-Life	H	17	63	10	37
New Supermarket	I	7	26	20	74
Adult Education	J	13	48	14	52
Art Galleries & Antique Shops	K	14	52	13	48
Festivals & Civic Events	L	20	74	7	26
Better Bus Service	M	4	15	23	85
More Housing options	N	13	48	14	52
Parking Garage	O	12	44	15	56
Coffee Houses & Pubs	P	19	70	8	30
Other	Q	7	26	20	74

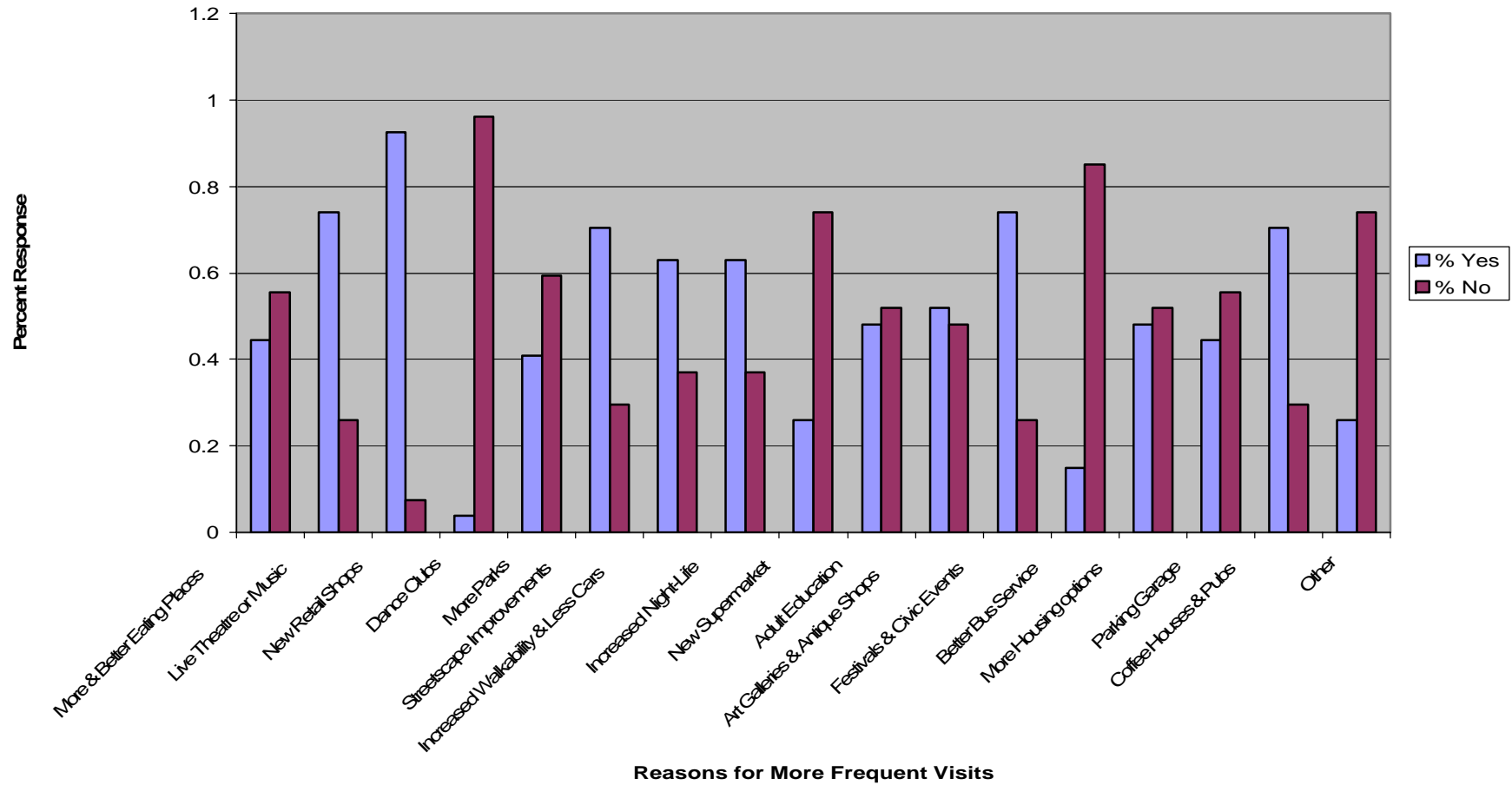
Survey Results

What are your primary reasons for visiting Needham Center?



Survey Results

Which of the following would increase the likelihood of your visiting Needham Center?



APPENDIX B: PROPOSED ZONING AMENDMENTS

Section 1.1	Goal of Proposed Changes
<p>§ 1.1 Purpose</p> <p>The purpose of this By-Law is to promote the health, safety, convenience, morals or welfare of the inhabitants of Needham; to lessen congestion in the streets; to conserve health; to secure safety from fire, panic and other dangers; to provide adequate light and air; to prevent overcrowding of land; to avoid undue concentration of population; <u>encourage market rate and affordable housing within the Transit Oriented Development & Mixed Use Development districts and surrounding Town Center at higher densities than found elsewhere within the Town;</u> to facilitate the adequate provision of transportation, water, sewerage, schools, parks, and other public requirements; to conserve the value of land and buildings; to encourage the most appropriate use of land throughout the Town and to preserve and increase amenities under the provisions of General Laws, Chapter 40A. The use, construction, alteration, height, area and location of buildings and structures and the use of premises in the Town of Needham are regulated as hereinafter provided.</p>	<p>Encourage housing within the Town Center</p>
Section 3.8	Goal of Proposed Changes
<p>§ 3.8 Transit Oriented Development District</p> <p>§ 3.8.1 Purpose of District</p> <p>To allow a greater mixture of land uses within buildings and the district as whole; give priority to upper story residential uses; increase building heights and promote the creation of streetwalls for a more human-scale; activate ground floors with transparent and inviting uses; subordinate parking; provide incentives to business owners for improvements and new development proposals; and enliven downtown as a pedestrian oriented place with an enhanced urban form and greater shopping opportunities.</p>	<p>Replacing existing CBD and CSB districts text within the Zoning-by-Law with the following regulations;</p> <p>Housing;</p> <p>Urban Form;</p> <p>Financial Incentives</p>

§ 3.8.2 Scope of Authority

The Transit Oriented Development district's regulations shall govern all new construction, reconstruction or expansion of new or existing buildings, and new or expanded uses, regardless of the use, and regardless of whether the requirements of other sections of the Zoning-by-Law provide less restrictive regulations for comparable uses. Provisions of Section 3.8 shall supercede those of Section 3.2 Schedule of Use Regulations, Sections 4.2 through 4.7 (Dimensional Regulations), and Section 5.1.2 Required Parking. In case of possible conflict with other sections of the Zoning-by-Law, the provisions in 3.8 shall prevail.

§ 3.8.3 Allowed Uses

The following uses are allowed by right:

1. Apartments above ground floors
2. Townhouses & Condominiums
3. Service-oriented office uses on ground floors
4. Non-service oriented office uses on upper floors only
5. Non-drive thru restaurants
6. Retail shops
7. Civic associations & institutions
8. Teaching classrooms and academic offices
9. Buildings and uses accessory to 1-5 above, such as parking garage, gift shop, cafeteria, and day care facilities.

§ 3.8.4 Special Permit Uses

Uses other than those specified in § 3.8.3 may be petitioned through the Development Review Authority's process for suitability. The use must promote the purpose of the district as indicated in § 3.8.1, contribute to the creation of a streetwall, subordinate any parking, have active ground floor uses that cater to the needs of Needham residents and visitors, and have upper floor residential units.

§ 3.8.5 Multiple Buildings, Uses & Public Entrances

Notwithstanding the provisions of Section 3.2 (Schedule of Use Regulations), in the Transit Oriented Development district more than one building and/or use on a lot is allowed as a matter of right, so long as each building and/or use is in compliance with the requirements of Section 3.8 of this By-Law. Additionally, the primary entrance of any building shall be on public streets or public alleyways.

§ 3.8.6 Dimensional Regulations for the Transit Oriented Development District

§ 3.8.6.1 Lot Area, Frontage & Setback Requirements

Lot Area: 10,000 SF

Min. Frontage: 50 Feet

Max. Front Setback: 10 Feet

Min. Front Setback: 0 Feet

Min. Side Setbacks: 0 Feet; Where deemed appropriate by planning staff and the Development Review Authority, alleys between buildings may be encouraged for the provision of beneficial public realm connections to other buildings, open spaces and streets.

Max. Side Setbacks: Pursuant to the Development Review Authority's process at the discretion of that reviewing body with shared driveway access and fire/safety concerns in mind.

Rear Setback: Pursuant to the Development Review Authority's process at the discretion of that reviewing body with shared driveway access and fire/safety concerns in mind of the proposed and abutting uses.

§ 3.8.6.2 Maximum Building Bulk & Lot Coverage

Min. Lot Coverage: 60%;

Max. Lot Coverage: Pursuant to the Development Review Authority's process at the discretion of that reviewing body with shared driveway access and fire/safety concerns in mind of the proposed and abutting uses.

By-Right FAR: 1.5

Max. FAR: 2.8; Upon the discretion of the Development Review Authority for meeting the requirements and intent of the district. The Development Review Authority may grant additional FAR beyond the by-right FAR for additional affordable housing units beyond the mandatory units (bonus of 0.3 FAR), or contributing to a parking structure linkage fund (for municipal and/or public/private partnerships) (bonus of 1.0 FAR).

§ 3.8.6.3 Building Height Requirements

Min. Building Height: 2 Stories (30)

Max. Building Height: 4 Stories (45 Feet)

§ 3.8.7 Driveway Openings

The creation of new sidewalk curb cuts shall be avoided whenever an alternative access point is available or can be created. Shared access agreements among abutting and neighboring properties shall be encouraged.

Min. Width for One-Way Traffic: 12 Feet (at narrowest point)

Max. Width for One-Way Traffic: 18 Feet

Min. Width for Two-Way Traffic: 18 Feet (at narrowest point)

Max. Width for Two-Way Traffic: 25 Feet

§ 3.8.8 Parking

Off-street parking shall be met through a variety of innovative mechanisms including: shared parking between abutting and neighboring uses; parking ratio reductions depending on use pursuant to successful implementation of shared parking agreements; and/or contribution to a parking structure linkage fund (for municipal and/or public/private partnerships).

Section 3.9

Goal of Proposed Changes

§ 3.9 Mixed Use Development District

Replacing existing CBD and CSB districts text within the Zoning-by-Law with the following regulations;

§ 3.9.1 Purpose of District

The intent and purpose of the district is to strengthen the physical realm of the Chestnut Street area with streetscape, signage and gateway improvements as well as new housing opportunities. The proposed changes pertain to enhancing the pedestrian environment by: (a) promoting the creation of streetwalls for a more human-scale; (b) activating ground floors with transparent and inviting uses; and (c) subordinating parking; as well as interspersing housing above and amongst the existing commercial uses, and providing incentives to business owners for improvements and new development proposals.

Housing;

Urban Form;

Financial Incentives

§ 3.9.2 Scope of Authority

The Mixed Use Development district’s regulations shall govern all new construction, reconstruction or expansion of new or existing buildings, and new or expanded uses, regardless of the use, and regardless of whether the requirements of other sections of the Zoning-by-Law provide less restrictive regulations for comparable uses. Provisions of Section 3.9 shall supercede those of Section 3.2 Schedule of Use Regulations, Sections 4.2 through 4.7 (Dimensional Regulations), and Section 5.1.2 Required Parking. In case of possible conflict with other sections of the Zoning-by-Law, the provisions in 3.9 shall prevail.

§ 3.9.3 Allowed Uses

The following uses are allowed by right:

1. Apartments above ground floors
2. Townhouses & Condominiums
3. Service-oriented office uses on ground floors
4. Non-service oriented office uses on upper floors only
5. Non-drive thru restaurants
6. Retail shops
7. Civic associations & institutions
8. Teaching classrooms and academic offices
9. Buildings and uses accessory to 1-5 above, such as parking garage, gift shop, cafeteria, and day care facilities.

§ 3.9.4 Special Permit Uses

Uses other than those specified in § 3.9.3 may be petitioned through the Development Review Authority's process for suitability. The use must promote the purpose of the district as indicated in § 3.9.1, contribute to the creation of a street wall, subordinate any parking, have active ground floor uses that cater to the needs of Needham residents and visitors, and have upper floor residential units.

§ 3.9.5 Multiple Buildings, Uses & Public Entrances

Notwithstanding the provisions of Section 3.2 (Schedule of Use Regulations), in the Mixed Use Development district more than one building and/or use on a lot is allowed as a matter of right, so long as each building and/or use is in compliance with the requirements of Section 3.9 of this By-Law. Additionally, the primary entrance of any building shall be on public streets or public alleyways.

§ 3.9.6 Dimensional Regulations for the Mixed Use Development District

§ 3.9.6.1 Lot Area, Frontage & Setback Requirements

Lot Area: 10,000 SF

Min. Frontage: 50 Feet

Max Frontage: 100 Feet

Max. Front Setback: 40 Feet

Min. Front Setback: 0 Feet

Min. Side Setbacks: 0 Feet; Where deemed appropriate by planning staff and the Development Review Authority, alleys between buildings may be encouraged for the provision of beneficial public realm connections to other buildings, open spaces and streets.

Max. Side Setbacks: Pursuant to the Development Review Authority's process at the discretion of that reviewing body with shared driveway access and fire/safety concerns in mind.

Rear Setback: Pursuant to the Development Review Authority's process at the discretion of that reviewing body with shared driveway access and fire/safety concerns in mind of the proposed and abutting uses.

Abutting Residential Setback: 5. Developments must step down to one-story only along the periphery of the study area wherever landscape buffering cannot mitigate the visibility of proposed (re)developments from an adjacent single-family dwelling. This shall be accomplished by stepping back enough so a pedestrian standing on the sidewalk on the opposite side of the street could not see the cornice of the second story.

§ 3.9.6.2 Maximum Building Bulk & Lot Coverage

Min. Lot Coverage: 60%;

Max. Lot Coverage: Pursuant to the Development Review Authority's process at the discretion of that reviewing body with shared driveway access and fire/safety concerns in mind of the proposed and abutting uses.

By-Right FAR: 1.5

Max. FAR: 2.8; Upon the discretion of the Development Review Authority for meeting the requirements and intent of the district. The Development Review Authority may grant additional FAR beyond the by-right FAR for:

1. dedicating 50% or more of the new development square footage to housing; (bonus of 0.4 FAR);
2. additional affordable housing units beyond the mandatory units (bonus of 0.2 FAR),
3. entirely subordinating parking with only on-street parking spaces visible in front of building façade (bonus of 0.4 FAR); and/or
4. contributing to a parking structure linkage fund (for municipal and/or public/private partnerships) (bonus of 0.6 FAR).

§ 3.9.6.3 Building Height Requirements

Min. Building Height: 2 Stories (30)

Max. Building Height: 4 Stories (45 Feet)

§ 3.9.7 Driveway Openings

The creation of new sidewalk curb cuts shall be avoided whenever an alternative access point is available or can be created. Shared access agreements among abutting and neighboring properties shall be encouraged.

Min. Width for One-Way Traffic: 12 Feet (at narrowest point)

Max. Width for One-Way Traffic: 18 Feet

Min. Width for Two-Way Traffic: 18 Feet (at narrowest point)

Max. Width for Two-Way Traffic: 25 Feet

§ 3.9.8 Parking

Off-street parking shall be met through a variety of innovative mechanisms including: shared parking between abutting and neighboring uses; parking ratio reductions depending on use pursuant to successful implementation of shared parking agreements; and/or contribution to a parking structure linkage fund (for municipal and/or public/private partnerships).

APPENDIX C: DEVELOPMENT REVIEW GUIDELINES

Proposed Language for Adoption of Bylaw

ARTICLE #: AMENDMENT TO SECTION 7.7 OF THE NEEDHAM ZONING BYLAW: DESIGN REVIEW

To see if the Town of Needham will vote to amend the Zoning By-Law by amending Section 7.7 “Design Review” for Needham Center as follows:

1. Amend Section 7.7 Design Review by deleting text thereof and inserting in place thereof the following:

Purpose

There is hereby established a Needham Development Review Authority for the purposes of regulating site and architectural guidelines for the Needham Center area. This development review process is adopted pursuant to the Home Rule Amendment of the Massachusetts Constitution in order to protect and promote the health, safety, convenience, and general welfare of the inhabitants of the city, and to promote acceptable site planning and architectural design practices and standards within Needham Center. The area subject to review under this Section shall encompass the Transit Oriented Development District (TOD) and the Chestnut Street Mixed Use District (MUD).

In accordance with this Section, the Needham Planning Board may establish design and development guidelines to clarify city goals, assist developers, and result in coordinated signage and lighting, compatible architecture, and site work throughout the district.

Design Review Board

The Needham Development Review Authority for the purposes of this Section shall be the Needham Planning Board.

Composition

The composition of the Needham Planning Board, as appointed in accordance with the revised Town of Needham Bylaw, and serving as the Development Review Authority shall be as follows:

- Three Architects, Landscape Architects, Urban Designers, or Landscape Designers
- Two Attorneys or Planners

- One member doing retail business in the Needham Center to be appointed by the Board of Selectmen.
- One member currently a resident of Needham Center to be appointed by the Board of Selectmen.

Authority & Specific Powers

The Needham Planning Board will be responsible for development plan review and approval in Needham Center, for the Transit Oriented Development District (TOD) and the Chestnut Street Mixed Use District (MUD). The Needham Planning Department will serve as professional staff to the Authority, assisting the Authority in all informal project review (including the pre-application conference) and coordination of all comments and recommendations from city agencies, including the public works department, board of health, building inspection, conservation commission, planning board, fire chief and police chief.

Development of all buildings and site improvements within the TOD and MUD districts shall be in accordance with the Development Review Guidelines as adopted and amended by the Needham Planning Board. The guidelines may be amended as necessary by the Authority. The objectives of the Guidelines are to obtain consistency and quality in design, to protect and enhance values in the district, and to provide a high quality development area that will contribute positively to land values and the environmental quality of the surrounding area and the Town of Needham. It is intended that a basic design compatibility and harmony will result among the district buildings and site work.

The Development Review Guidelines will be used by the Needham Planning Board to set conditions for development plan approval, and as a basis for granting project approval. Applicants can anticipate the city's concerns and comments by careful review of the Guidelines prior to development plan submittals.

The building inspector will withhold a building permit for the construction, alteration or moving of any building or structure until a final development plan is approved in compliance with these regulations.

Application Requirements & Review Procedures

Pre-Application conference. An applicant seeking to obtain development plan approval should request a pre-application conference with the Needham Planning Department prior to submitting an application for preliminary development plan review. At the pre-application conference, the Needham Planning Department will familiarize the applicant with the process for obtaining development plan approval and will explain to the applicant issues to be considered in planning the project.

At this conference, the applicant may present the Needham Planning Department with basic data regarding the proposal, such as development program, map showing the important existing and man-made features in and around the site, and/or sketch plan showing the major features of the

proposed development. This information will enable the applicant and the community development staff to discuss and clarify site-specific planning and process issues related to the project in an informal manner.

Preliminary development plan review. A preliminary development plan may be submitted for Needham Planning Board review during the early stages of the project, prior to the submission of a final development plan. The purpose of the preliminary development plan is to elicit comments and recommendations from city agencies during the schematic design phase in which the general scope, scale, and relationship of project components are illustrated. It is strongly recommended that a preliminary development plan be filed in every case in order to incorporate agency and community concerns, and to identify major digressions from the intent of the designated development district before significant financial resources are committed by the applicant.

The preliminary development plan submittal should be prepared at a scale of not less than one (1) inch equals forty (40) feet unless another scale is requested and found suitable by the planning or engineering department. Plans shall be prepared by a registered land surveyor, and a registered architect, registered professional engineer and/or registered landscape architect and should include the following general information:

1. Name and address of applicant and person(s) responsible for preparation of drawings;
2. Graphic scale, date, north arrow, and vertical datum;
3. Property boundaries, rights-of-way, and easements and their uses within the lot;
4. Abutting streets and ways, and names of all abutters;
5. Existing and proposed topography at two-foot intervals;
6. Existing and proposed buildings and structures on site;
7. Existing and proposed utilities and storm drainage structures on and adjacent to the site;
8. Existing wetlands and watercourses;
9. Identification of any special site characteristics and noteworthy natural features such as views, existing vegetation, wetlands, topographic changes, soils, bedrock and required setbacks that are being considered in the siting and design of the building, roads, and parking areas;
10. Summary of the development program including gross square feet of floor area, use designation of each building or part thereof, number of parking spaces, and estimated number of employees and/or residents;
11. Tabulation of area in square feet devoted to building footprint, parking and circulation areas, and open space;
12. List of all 'parties of interest' and their addresses, certified by the city assessor.

Architectural and site design documentation should illustrate the general scope, scale, and relationship of project components, including:

1. Conceptual building footprint, location and use;
2. Preliminary sections and elevations;

3. Preliminary selection of building materials;
4. Development of approximate building dimensions, areas, and volumes;
5. Access and circulation patterns for pedestrians and vehicles;
6. Functional relationships including entranceways, parking areas, service loading areas, and open space;
7. Design objectives and environmental determinants;
8. Preliminary landscaping plan, including types and numbers of plants proposed, and other site amenities.

Final development plan review. A final development plan should be submitted for Needham Planning Board review during the design development phase of the project, in which the size and character of the entire project is fixed and described. The purpose of the final development plan review is to confirm that the intent of the proposed project as illustrated in the preliminary development plan is being carried out, and to confirm that the proposed project is in conformance with the intent and regulations of this Section, and the Development Review Guidelines.

The final development plan submittal should be prepared at a scale of not less than one (1) inch equals forty (40) feet by a registered land surveyor, and a registered architect, registered professional engineer, and/or registered landscape architect and should include the general information as specified under preliminary development plan review.

Architectural and site design and documentation should establish the final scope, relationship, form, size, and appearance of the project through:

1. Architectural plans, sections and elevations;
2. Typical building construction details;
3. Three-dimensional sketches;
4. Final selection of building materials and systems;
5. Building locations;
6. Roadways, walkways, parking areas;
7. Building entrances and service areas;
8. Utilities, on-site and off-site;
9. Fire protection systems;
10. Storm drainage including retention areas;
11. Site grading at two-foot intervals;
12. Lawns and plantings, including species, number of plants, and installation size;
13. Site lighting;
14. Signage;
15. Final selection of site materials, sizes, dimensions, and areas;

16. Typical site construction details;
17. Roadway and driveway profiles and cross sections.

Procedure and time frame. To start the approval process for preliminary plan review, and for final development plan review the applicant should file eight (8) copies of the application and accompanying documentation for the development plan review with the Town Clerk. The Town Clerk will transmit a copy of the submittal package to the Planning Board, Planning Department, board of health, department of public works, conservation commission, police and fire department.

The agencies receiving copies of the development plan should submit to the Planning Department written recommendations on the proposed project within fifteen (15) days of filing. Failure to comment will be deemed lack of objection.

Within thirty-five (35) days of the filing of the development plan, the Planning Department should submit to the Planning Board, accompanied by the agency comments, a report discussing the feasibility of the project and its consistency with the purposes of this Section.

The Planning Board should within sixty (60) days of filing certify in writing to the applicant that the application is approved as submitted or approved subject to modification. Failure to take action within the said sixty-day period will be deemed to be a grant of development plan approval unless an extension is requested by the applicant and such requests approved by the Authority.

Final development plan approval granted under this section will lapse within two (2) years if a substantial use has not commenced or if construction has not begun. The Planning Board may grant an extension for good cause, and should grant an extension if the delay has been caused on account of the need to obtain other local, state, and federal permits.

Design Criteria

By majority vote of the members of the Planning Board, the Board may adopt specific Development Review Guidelines, in accordance with this Section for the purposes of reviewing projects within the Transit Oriented Development District (TOD) and the Chestnut Street Mixed Use District (MUD). The Board shall use said guidelines as the basis for review and evaluation of applications for new developments or renovations subject to this Section within such Districts.

By majority vote of the members of the Planning Board, the Board may adopt and promulgate additional rules and regulations for the conduct of its business on any matter within the Board's jurisdiction under the Massachusetts Constitution, Massachusetts General or Special Laws, the Code of Massachusetts Regulations (CMR), Town of Needham Bylaws, or other legal right or authority granted to or conferred upon the Board.

The proposed rule or regulation shall be submitted to all committee members at least 48 hours prior to any vote to adopt the same; provided, however, the committee may make such amendments to the proposed rules or regulations as it deems appropriate at the said meeting.

Upon approval of any rule or regulation by the committee, a copy of the same shall be filed with the Town Clerk and become effective as of the date of filing thereof unless the specific vote of the Board establishes a later effective date.

Amendment

This By-Law may be amended from time to time at an Annual or Special Town Meeting. An amendment may be initiated by the submission to the Board of Selectmen of a proposed change by the Board of Selectmen, the Board of Appeals, an individual owning land in the Town to be affected by the amendment, registered voters of the Town pursuant to General Laws, Chapter 39, Section 10, the Planning Board and the Metropolitan Area Planning Council. Within fourteen (14) days of the receipt of the proposed change, the Board of Selectmen shall submit it to the Planning Board. A public hearing shall be held within sixty- five (65) days after the proposed change is submitted to the Board.

Severability

The invalidity of any section or provision of this By-Law shall not invalidate any other section or provisions thereof.

Effective Date

The effective date of an amendment to this By-Law shall be the date on which such amendment was adopted by a favorable two-thirds vote of Town Meeting, subject to its approval by the Attorney General and its publication in a town bulletin or pamphlet and posting or publication in a newspaper pursuant to General Laws, Chapter 40, Section 32.

Proposed Language for Development Review Guidelines

Section I: Overview

A. Purpose & Use

These Development Guidelines for the Central Business District (CBD) shall constitute a basis for the evaluation of all exterior building design and site design, including lighting, signage and landscaping, to be planned and constructed in the District. In accordance with Section 7.7 of the Needham Zoning Bylaw, a CBD Development Review Approval Permit is required prior to the issuance of a Building Permit from the Building Inspector for any

new construction or renovation within the District.

The Development Guidelines are intended for use by the applicant in preparing preliminary and final architectural and site development plans, and for use by the Needham Planning Board in reviewing and making recommendations on Preliminary and Final Development Plans, in accordance with Section 7.7 of the Needham Zoning Bylaw.

All development projects shall be consistent with the following architectural and site design standards. These standards are intended to promote building design that will enhance and strengthen Needham Center's character. To be considered consistent, the design of new buildings or additions to existing buildings shall take into account the design of adjacent buildings and buildings in the immediate neighborhood. However, compatibility rather than conformity is required. The guidelines are intended to offer suggestions for building design that enhance and strengthen Needham's distinct community character with a diverse architectural heritage. Design for a project should respect the historic buildings and architectural styles of the surrounding neighborhood and adjacent properties. In determining consistency, design elements of proposed buildings shall be evaluated in relation to existing adjacent or surrounding buildings. In the case of new construction or additions to existing buildings or structures, the Planning Board shall consider the appropriateness of the size and shape of the buildings or structures both in relation to the land area upon which the building or structure is situated and to the adjacent buildings and structures within the neighborhood.

B. Interpretation

All interpretations or decisions pertaining to the Development Guidelines shall be made by the Needham Planning Board and advised by the Needham Planning Department.

C. Amendment

The design and development guidelines may be amended from time to time in the manner described in Section 7.7 of the Needham Zoning Bylaw.

Section II: Architectural Design Guidelines

A. Architectural Design, Style, & Construction

- All improvements must be compatible with applicable zoning codes, satisfy permit requirements, and conform to any other regulatory restrictions.
- Building design elements shall avoid monotonous repetition and excessive variety of forms, patterns, and colors. Architectural styles shall be contemporary rather than highly stylistic such as gothic or colonial. Architectural designs are to be sensitive to the integration of form, textures,

and colors with the particular landscape and topographic characteristics of each site.

- The architectural design of the proposed development shall be in harmony with the architectural style of the adjacent buildings and immediate neighborhood. The project shall be consistent with the architectural style, scale, density, massing and setbacks of other developments in the District. The proposed project shall promote a design and architectural consistency regarding the architectural value and significance of the site, building or structure, the general design, arrangement and texture, materials and color of the features involved and the relation to each feature to similar features of building and structures in the immediate neighborhood and surrounding area.
- Creativity is always encouraged.
- If a building has historic or aesthetic merit, improvements should be designed to reveal the building's original style, form, and materials, whenever possible.
- A building's distinguishing elements should be identified and preserved, when possible.
- Previous renovations are sometimes evidence of a building's history and use. In instances where alterations have acquired their own significance and contribute a positive visual quality to the building and the district, they should be recognized and preserved. However, when they are not integrated into the building's design, added elements should be removed.
- In the case where original building elements have been removed or substantially altered, contemporary treatments are suitable. However, they should not appear to be of poor quality, of temporary nature, or ill-suited to the area (e.g., vinyl or aluminum siding).
- Individuality within a standardized or unified appearance is encouraged for single buildings containing multiple storefronts. Separate buildings -- even in cases where several adjacent to each other are occupied by a single tenant or owner -- should remain visually distinct.
- Colors of exterior materials, signs, window frames, cornices, storefronts and other building features should be coordinated. Choice of colors should be determined by the nature of the building. The exterior colors of historic buildings should be chosen with their historic character in mind. More contemporary designs may allow for a larger range of colors.
- Facades should relate to their surroundings and provide a sense of cohesiveness in the district without strict uniformity.
- Facades should present a visually-balanced composition.
- High-quality materials should be used in order to convey substance and integrity.
- The use of traditional building materials is encouraged. Whether using traditional or non-traditional materials, the quality of the design and durability of materials chosen will be factors in the consideration of all designs.
- Major divisions or rhythms of the façade shall be clearly articulated, including proportion of height and width and building lines. Where appropriate, large continuous buildings shall be avoided and massing of buildings shall be broken or staggered to reflect the historic scale of existing buildings and development patterns. Variation of detail, form, and siting shall be used to provide visual interest.
- Monotony of design in multiple building projects shall be avoided.
- Materials, colors and textures of building design. In general, colors shall be harmonious and shall use only compatible accents. Natural materials such as stone, brick, wood siding, shingles, and slate are preferred to industrial or artificial materials such as exposed concrete, anodized or galvanized metal, tinted glass, plastics, or vinyl.
- Refuse and waste removal areas, service yards, storage yards, and exterior work areas shall be screened from view from public ways, using

materials as stated in criteria for equipment screening.

- Monotony of design in single or multiple building projects shall be avoided. Variation of detail, form, and siting shall be used to provide visual interest. In multiple building projects, variable siting of individual buildings may be used to prevent a monotonous appearance.
- Building design shall be compatible with the vernacular structure, historic character, and scale of buildings in the surrounding neighborhood as to the following design elements:
 - A. Horizontal or vertical emphasis of building;
 - B. Scale (height and width proportions);
 - C. Stylistic features and themes (i.e. colonnades, pediments, cupolas, cornices, coins, detail and other ornamentation);
 - D. Setbacks (relation to neighboring properties and the public way or street).

B. Storefront Design and Display

- Most facades consist of an architectural framework designed to identify individual storefronts. Each storefront should respect this architectural framework and not extend beyond it.
- Storefront design should be in keeping with a building's overall design. Storefront elements -- such as windows, entrances, and signage -- provide clarity and lend interest to facades. It is important that the distinction between individual storefronts, the entire building facade, and adjacent properties be maintained.
- Individual storefronts should be clearly defined by architectural elements, such as pillars, piers, or separations of glass.
- A horizontal band at the top of each storefront can serve as an appropriate location for business signage.
- Storefront windows should be consistent in height and design with storefront doors to create a cohesive appearance.
- Storefront windows should not be completely obscured with display cases that prevent customers and pedestrians from seeing inside.
- Storefront windows should display products or services, local business logos, hours of operation, and/or public service messages. Displays in both retail and non-retail storefront windows that add color, texture, information, and/or visual activity to the pedestrian experience are encouraged.
- "Transparent" storefronts are not necessary for some businesses, such as professional offices. Nevertheless, even for such businesses it is preferable to maintain the size of original storefront windows. Proprietors can provide attractive window displays or install blinds. This solution contributes to the vitality of the streetscape and is more flexible for future changes than permanently blocking windows.
- Use of solid, roll-down security grates is strongly discouraged. Merchants with grates are encouraged to remove them or, at a minimum, upgrade to the "open-mesh" type. (Alternatives to solid roll-down grates include interior roll-down grates, or other security devices that can be completely concealed during regular business hours.) If a security grate is deemed absolutely necessary, all new grates shall be of the "open-mesh" type and they shall be installed on the interior of windows. (This type of grate provides the same level of security as solid grates, and allows lighted window displays to be seen at night.) Security grate boxes should be recessed or concealed. Installing open-mesh grates on the

inside of a storefront is one solution which accommodates both design and security considerations.

C. Awnings, Canopies and Marquees

- Awnings, canopies and marquees provide a secondary location for signage. They add color and interest to building storefronts and facades and can be used to emphasize display windows and entrances. They also serve to protect pedestrians and display windows from the sun and rain.
- Awnings, canopies and marquees consistent with local character and building type are encouraged.
- Awnings should reflect the overall facade organization of a building. Awnings should be located within the building elements which frame storefronts.
- Important architectural details should not be concealed by awnings, canopies or marquees.
- Awnings on a multiple-storefront building should be consistent in character, scale, and location, but need not be identical.
- Awning shapes should relate to the shape of the facade's architectural elements. The use of traditionally shaped awnings is encouraged, when appropriate. Creative or unusually-shaped awnings should be designed with considerable care.
- Canvas and fire-resistant acrylic are preferred awning materials. The use of vinyl or plastic as awning materials is discouraged.

D. Doors and Entrances

- Primary entrances should be clearly marked and provide a sense of welcome and easy passage from exterior to interior. Whenever possible, they should be located on the front of buildings.
- Side entrances should be located as close to the street front as possible.
- Recessed doorways are encouraged; they provide cover for pedestrians and customers in bad weather and help identify the location of store entrances. They also provide a clear area for out-swinging doors and offer the opportunity for interesting paving patterns, signage, and displays.
- By federal law, new store entrances must be accessible to the physically disabled. Renovation of existing entrances is encouraged.
- Loading and service entrances should be located on the side or rear of buildings, whenever possible. They should be visually screened from public ways and adjacent properties to the greatest extent possible.

E. Windows

- A minimum of 60 percent of all storefronts between 3 feet and 8 feet above grade must be transparent glass.
- Windows should be used to display products and services, and maximize visibility into storefronts.
- Traditional storefront windows tend to be large at the ground-floor level. During renovation or new construction, this approach is encouraged.
- If ceilings must be lowered below the height of storefront windows, provide an interior, full-height space immediately adjacent to the window before the drop in the ceiling. This lets more light into the storefront and allows the retention of larger windows.

- Try to retain or increase window transparency whenever possible. Replace reflective or dark tinted glass with clear glass, if possible. In general, dark glass alienates pedestrians from the business activity inside a storefront and reduces the impact of window displays.
- Avoid installing opaque panels, such as metal, wood, and/or other materials, to replace clear glass windows.
- Windows with multiple, small-paned windows should be avoided unless they are historically appropriate to the building style, or integrate well into the overall design.
- Fix broken windows immediately. Broken or boarded windows negatively impact business and the district.

F. Exterior Materials

- Facade design should be complementary to a building's original materials as well as to those of adjacent buildings.
- Terra cotta, brick and stone convey permanence and should be used when architecturally appropriate.
- When using new brick, care should be taken to match the color and type of original brickwork.
- Use of decorative concrete block, applied false-brick veneer, vinyl or aluminum siding is discouraged. Other materials made to either imitate exterior finish materials or used to cover original architectural features is also discouraged.
- Materials used near sidewalks and adjacent to building entrances should be highly durable and easily maintained while compatible with other exterior building materials.

G. Building Walls and Roofing

- Facades and roofing that can be seen by the public should be well maintained.
- The size and configuration of doors and windows should be in proportion to the overall building. Attention should be paid to window heights, glass types, and doors.
- In order to provide clear design intent, the number of exterior colors should be limited. Use of a large number of colors is not prohibited; however, designs which do so will need to be supported by a strong rationale.
- Building elements, such as awnings, signs, doors, windows, and lighting fixtures, should complement each other.
- New construction and renovation of existing facades shall incorporate the appropriate vertical articulation of exterior walls at a minimum of every 20 horizontal feet.
- Blank walls, if visible from a public way, should be softened by incorporating elements such as signage, murals, art, lighting, pilasters, and the like.

H. Building Systems

- A building's mechanical, electrical and plumbing systems should be concealed completely from view from the street or sidewalk. If such equipment cannot be concealed, efforts should be taken to minimize their visual impact on building facades.
- Rooftop equipment should be hidden by a screening device so as not to be visible from the street and sidewalk.
- Rooftop mechanical equipment shall be screened from view by roof forms or other appropriate screening devices. Mechanical equipment or other utility hardware on the ground or building shall be screened from public view with materials harmonious with the building, or they shall be so located as not to be visible from any public ways.
- Avoid placing air-conditioning units in windows or any other openings facing onto the street. Units located in non-window openings are acceptable if they are flush with building walls. They should be screened with a decorative grill or any grill appropriate to the storefront design. Air-conditioning units should not drain onto pedestrians passing below.
- Downspouts and other drains should be kept clear and well-maintained.
- Equipment mounted on the roof of any building is discouraged, and should be avoided if possible. Any necessary vertical projections through the roof, such as towers, vents, and stacks, should be grouped or housed within a penthouse.
- All roof structures (e.g. mechanical equipment, skylights, penthouses, etc.) shall be organized and screened in a manner that is integral to the architectural form of the building and should consider the views of the roof from adjacent building, elevated roadways, etc.
- Solar energy collectors may be installed on the roof of any building if their specific design and location is approved.

Section III: Site Design Guidelines

A. Grading & Layout of Development

These site design guidelines are intended to provide high-quality buildings and parking areas that contribute to the character intended for the District and to ensure compatibility with surrounding uses such as residential neighborhoods and the existing businesses.

- Development shall be laid out and each lot or site shall be graded in a manner that is sympathetic to the existing topography. Buildings, road, and parking areas should be located so as to minimize site disturbance or major divergences from the existing contours of the terrain. Parking areas shall be terraced and building stepped as necessary to achieve this. Disturbed cut and fill areas shall be smoothly blended to meet adjacent existing grades.
- The width of all access roads, driveways, and parking aisles shall be at least 24 feet. Each parcel shall have no more than two access drives from any public or private roadway. Sidewalks typically shall be a minimum of five feet in width.
- Parking ratios, space sizes, and other setbacks shall conform to parking and dimensional requirements for the district, or to any waivers granted by the Planning Department.
- All exterior service, loading, storage and utility areas (including transformers and cooling towers) shall be located at the side or rear of the building and shall be screened or sheltered so as to minimize visibility from the street right-of-way or from adjacent sites. No materials, supplies, or

equipment shall be permitted to remain outside any building.

- Adequate loading and maneuvering space shall be provided for each use separated from the parking area.

B. Site Materials

- Parking areas and driveways shall be paved with bituminous concrete pavement, concrete, or unit pavers.
- Parking areas should be curbed with granite or concrete vertical curbing. Sloped granite or concrete curbs may be used in areas where curbing does not abut sidewalks.
- Retaining or freestanding walls should be finished with brick, stone, or concrete compatible with adjacent buildings.
- Sidewalks shall be provided to connect parking areas to building entrances. Sidewalks shall be constructed of concrete or unit pavers such as brick or stone.

D. Landscape Buffers

- To the extent possible maintain existing vegetation as buffer zones, particularly at the perimeter of development.
- Additional plant material may be used to reinforce existing visual buffers or strengthen edges of development. Several methods may be used to provide more effective screening:
 1. Evergreen plantings of 8' minimum height should be planted where existing vegetation cannot provide sufficient screening.
 2. Shrub plantings at the perimeters of vegetative buffers lacking in under-story vegetation can screen eye level views without creating as strong a vegetative edge as tall evergreen plantings.
 3. Within the development zone itself, plantings shall be used to screen internal uses such as parking areas and service bays.

Section IV: Site Lighting Guidelines

A. Layout

Lighting shall be placed in a logical and appropriate relationship to each site to illuminate and to provide security. Lighting shall be provided in areas that receive heavy pedestrian and vehicle use, and in areas that are dangerous if unlit, such as stairs, ramps, intersections, and abrupt changes in grade. Lighting shall be designed in a manner that contains and directs lighting into the site and away from adjacent uses (i.e. use of light cut-off fixtures).

B. Exterior Lighting

- Exterior lighting should highlight building elements, signs, or other distinctive features rather than attract attention to the light fixture itself. Lighting that attracts attention to itself, such as neon tubing surrounding display windows, should be avoided.
- Exterior lighting shall be part of the architectural concept. Fixtures, standards, and all exposed accessories shall be harmonious with building design.
- In order to maintain an attractive image, exterior building lighting should be appropriate to the building's architectural style.
- Building lighting should provide an even illumination level. Avoid flashing, pulsating, or similar dynamic lighting that poses a hazard to motorists.
- Avoid lights which glare onto streets, public ways, or onto adjacent properties.
- Provide indirect lighting whenever possible.
- The creative use of neon in individual circumstances is encouraged. Because these guidelines strive to promote a unique character for Needham, the use of nationally distributed neon signs that promote brand name goods is discouraged.
- Lighting of building exteriors is permitted in accordance with the following criteria:
 - Building facades may only be illuminated with well-designed soft lighting that complements the building's architecture and is of an intensity that does not draw inordinate attention to the building. The light source of building façade illumination shall be concealed.
 - Building entrances may be illuminated using recessed lighting in overhangs and soffits, or by use of spotlighting focused on the building entrances with the light source concealed, e.g. in landscaped areas. Direct lighting of limited exterior building area is permitted when necessary for security purposes.

Section V: Sign Guidelines

A. Review & Submittal Requirements

All signs must be submitted to the Needham Planning Board for review and may not be erected until approved by the Planning Board. Any subsequent changes to a sign or its location must be reviewed by the Needham Planning Board, subject to these regulations.

Any submittal to the Planning Board for review of signs must include sketches of their sizes, materials, colors and location on the building or the parcel.

B. Signage

- Signage should provide information simply and legibly. Studies show that seven words are the most passersby can effectively read.
- All signs should be made be of durable materials.

- Primary signage should be limited to advertising the name of a business and its main goods and services. In general, primary signage should not advertise national brand names or logos.
- Permanently applied or painted window lettering may also be an effective way to advertise a business name, type of business, and/or primary goods and services.
- Window signage should be limited to covering no more than 15 percent of available window space.
- In general, the number of signs per storefront should be kept to a minimum. Limit signage to the number necessary to effectively communicate the business message. Too many signs in one storefront can detract from the overall appearance.
- Signs should be of a size, location and design that does not obscure a building's important architectural details.
- Signage can employ colors and typefaces which are designed to complement the unique character of a storefront, or they can be used creatively to add visual interest without altering a building's primary architectural style. Creativity in color and style is always encouraged.
- Flat wall signs installed above storefronts should form a clearly articulated sign band and be integrated into the overall facade design. Other locations and types of signs may be appropriate depending on the building design and the business owner's interests.
- Temporary signs, such as banners and paper signs in windows, should be removed in a timely manner. The use of temporary signs that outlast the advertised sale or promotion is discouraged.
- When a building contains multiple storefronts housing different businesses, the signs should relate well to each other in terms of height, proportion, color and background value. Maintaining uniformity among these characteristics reinforces the building's facade composition while still retaining each business's identity.
- Sign content normally shall not occupy more than forty (40) percent of the sign background, whether a signboard or a building element.
- Signs shall be simple, neat, and avoid distracting elements, so that contents can be quickly and easily read.
- Signs shall be sized and located so as to not interrupt, obscure, or hide the continuity of architectural elements such as columns, cornices, roof eaves, sill lines, or other elements of building structure, and where possible, shall reflect and emphasize building structural form.
- Sign materials, form, and lettering shall be reflective of the character of the building to which the sign relates. Wood, stone, and metal signs are preferred.
- Clutter shall be avoided by not using support brackets extending above the sign or guy wires and turnbuckles.
- The number of colors used in a sign shall be limited to three (3) unless more colors are used in an illustration. To ensure the legibility of the sign, a high degree of contrast between the background and letters is preferable. "Day-Glow" colors are prohibited. The use of dark backgrounds with light-colored lettering shall generally be required.
- Signs shall not display brand-names, symbols, or slogans of nationally distributed products except in cases where the majority of the floor or lot area on the premises is devoted to manufacture, sale, or other processing of that specific product.
- Premises chiefly identified by a product brand-name (such as a gasoline or auto brand) shall devote some part of their permitted sign area to also displaying the identity of the local outlet.
- Signs shall not contain selling slogans, product descriptions, or other advertising which is not an integral part of the name or other identification

of the location or the enterprise.

Section VI: Landscape Guidelines

A. In General

All plant materials to be used in the District should reflect the character of the area and eastern Massachusetts. This section provides design guidelines and a list of trees, shrubs, ground covers and turf which are appropriate for the District. Items from this list should be used in landscaping development sites within the District. All landscaping plans should be prepared by a landscape architect registered in Massachusetts.

B. Existing Vegetation

All existing trees on the site should be considered in the design of a site and retained to the extent possible. Special effort should be made to retain trees with a diameter greater than six (6) inches. Preservation of existing planting reduces the need for new materials to buffer views to and from adjacent sites and uses, and assists in maintaining a human scale on the site.

C. Guidelines for Woodland and Tree Protection

In areas where preservation of existing woodlands is key to the site development plan and evaluation of tree cover should be carried out well before site construction begins. The following procedures are involved:

1. Identification of areas where trees are to be saved, including trees located within the construction limits.
2. Inventory trees to determine individuals and groups worth saving by mapping tree locations, and recommendations of protective measures.
3. Tree Preservation Plan, based on the tree inventory, reviewed along with the limits of clearing by the contractor, landscape architect and arborist.
4. Installation of protective measures (i.e. fencing) and implementation of a tree maintenance program and site improvements, relating to tree preservation (i.e. wall or well construction).
5. Final review of the condition with Landscape Architect and Contractor.

Tree protection measures should include the following:

1. Barrier protection (i.e. fencing) to keep construction activities away from trees, minimizing soil compaction and changes to trees.
2. Erosion Control (i.e., installation of silt fencing) to prevent excess siltation on roots of existing trees.

3. Root pruning, tunneling and coring to minimize damage to trees within construction areas
4. Construction of remaining walls and wells to allow for grade changes around the base of trees.
5. Remedial tree maintenance (i.e., fertilizing and pruning) to help maintain vigor of trees impacted by construction activity.

C. Open Space & Ground Plane Plantings

Ground plane planting performs multiple functions. It defines minor spaces and directs pedestrian traffic, provides color and variety, and serves as an accent in the landscape. It also serves to hold steep banks or unstable soil conditions. If used as low mass planting instead of lawn it reduces maintenance.

Surface planting or planting from ground level to approximately 4-5' in height is considered ground plane planting. From sod to rather large shrubs, there are specific needs filled by this important planting category.

Plant materials within this category are abundant and have profuse color and texture variations and are used in diverse ways from slope stabilization to the accent shrub at the main entry. Ground cover and shrubs should be used in simple masses. A generous quantity of a select shrub is more appropriate than a diverse variety of plant species within a given composition.

All disturbed un-built areas shall be landscaped with a combination of trees, shrubs, herbaceous perennials, and turf grass. Proposed landscaping should consist of an appropriate mix and use of vegetation which is indigenous to this area of Massachusetts and/or shall be selected from the list of recommended plants. Use of non-indigenous landscape materials should be for accent purposes only.

Planting arrangements may be either formal or informal, but should complement the architectural character of proposed buildings in form, location and scale.

All disturbed unpaved surfaces not planted with trees, shrubs, or groundcover shall be turf grass.

The suggested plant material list for open space and ground plane plantings is as follows:

- Insert list (if desired) as prepared by a qualified Landscape Architect

D. Site Perimeter & Buffer Plantings

Perimeter plantings should serve to provide a buffer and continuity between sites. Informal plantings and evergreens provide an effective visual buffer to and from adjacent sites and uses. Preservation of existing trees as much as possible is encouraged. Drifts of deciduous species and evergreens are recommended to restore, screen and accent conditions on a site-specific basis.

Recommended site perimeter plant materials are:

- Insert list (if desired) as prepared by a qualified Landscape Architect

D. Driveway Plantings

Planting along site driveways may follow either a formal or informal planting theme as determined by site user. Regular linear rows of plantings formalize important edges such as main site drive or entry drive to building site.

The suggested plant material list for driveway plantings is as follows:

- Insert list (if desired) as prepared by a qualified Landscape Architect

E. Building Entrance & Edge Plantings

Planting for the space between buildings and parking lots and at building entrances should be selected from the plant list provided herein. Planting in this area should be selected and arranged with the intent of creating human scale outdoor spaces which recognize the pedestrian activity in this zone and the need to identify buildings entrances. The full range of groundcovers, shrubs, and trees may be used in this zone to create interest and a degree of landscape detail appropriate to the pedestrian scale.

Planting type and arrangement within the building entry zone should be sensitive to the desired entry quality, and provide accent while softening and highlighting the building.

Buildings with exposed foundations should have foundation plantings in order to provide screening and soft transition between the building walls and the ground plane. Foundation plantings should consist at least partially of evergreen shrub groupings. Shrub massing along foundations and elsewhere shall be done with one species grouped together. Rows or grouping that consist of two or more species alternated or randomly dispersed through a bed should be avoided.

The recommended list of plant materials for building entrances and edges is as follows:

Trees

- Insert list (if desired) as prepared by a qualified Landscape Architect

Shrubs

- Insert list (if desired) as prepared by a qualified Landscape Architect

Shrubs Groundcovers and Vines

- Insert list (if desired) as prepared by a qualified Landscape Architect

F. Parking Lot Plantings

Plantings for parking lot areas shall be selected from the plant list provided herein. Parking lot planting area shall include the islands, the area around the pavement to a depth of 15 feet, and the area between parking lots and buildings.

The recommended list of trees and shrubs for parking lot edges and island plantings is:

Trees

- Insert list (if desired) as prepared by a qualified Landscape Architect

Shrubs

- Insert list (if desired) as prepared by a qualified Landscape Architect

Parking lot islands should be provided between terraced parking levels and at the ends of rows of parking spaces and should be a minimum of ten (10) feet from curb to curb. A minimum of one tree per six (6) cars should be provided in all parking areas. Trees may be planted in irregular rows or informal groups as space permits.

The minimum distance from tree to curb should be five (5) feet in islands, five (5) feet where the curb is adjacent to the buildings, and eight (8) feet at all other parking lot edges.

Minimum tree size should be a three (3) inch caliper.

Where a parking lot abuts the main site drive or any driveway, the parking lot shall be screened with plants selected from the approved shrub list as provided herein. Screening should be sufficient to effectively screen parked cars as seen from the main site drive. If appropriate, due to topographic conditions, an earth berm may also be used to screen parking lots. The sides of berms should have a maximum slope of 2:1 if planted with shrubs and 3:1 if planted with grass.

Surface treatment for all unpaved parking lot islands and edges shall be turf grass or ground cover.

G. Service Area Plantings

All building service areas shall be screened with plants selected from the plant list provided herein. Screening should be sufficient to conceal the service area activity from off-site view.

At installation, the screening should be effectively to a minimum height of four feet. At maturity, the plant screen shall be effective to minimum height of eight (8) feet.

The plant materials list recommended for building entrances and edges should be consulted for service area plantings.