

The Cecil Group
Nelson\Nygaard

DECEMBER 3, 2013

A Vision for Center Village

CHELMSFORD, MASSACHUSETTS



To the Residents of Chelmsford,

The Center Village Master Plan Committee has developed the 2013 Master Plan to provide the town with policy, guidance, and implementation direction over the next 10 years regarding our historic Center Village. The Committee has observed that since 1998 the Center Village has undergone major state and local investments for transportation and infrastructure improvements. While the above public investments have resulted in improved traffic circulation and aesthetics, challenges remain related to parking management, pedestrian access and walkability, as well as underutilized and vacant properties and businesses.

We believe that the Master Plan provides the Town with strategic recommendations for implementation, a road map moving forward, that will enable the Town to be proactive, rather than reactive, to ensure that potential for negative effects are minimized and positive actions are maximized. Based upon this, we hope you agree with us that this Master Plan represents more than simply a vision, but a viable, realistic and achievable reality for our Center Village.

We envision our Center Village will continue to be a showcase for our town's history and culture, with diverse businesses, high quality public open space and civic buildings, and a welcome gathering place for the community. We also envision the center as a place that prioritizes the pedestrian experience over the vehicular experience; whereby the roadways serve to facilitate and support local business and become a destination rather than simply serve as a cut-thru for commuting. We are committed to the development of The Beaver Brook Walk as we believe this is an integral part of the redevelopment of center village and would be a major focal point of this plan.

However, we need to be cognizant that future public and private decisions whether to invest or not to invest could have positive or adverse effects on our Center Village. The Committee believes that the previous public investments should be maintained and new public investments should be implemented for this area of our community.

It is interesting to note that when the first settlers came to Chelmsford in 1653, the area was heavily forested and although they settled in various sections of the town they were always drawn to this center area because it offered three of the ingredients necessary for survival and growth:

- 1) A number of strong-running brooks full of fish, among them Beaver Brook upon which they established a saw mill and several dams, as well as utilizing other nearby brooks to provide power for grist and milling.
- 2) Large stands of pine trees stood readily available to be milled and processed into lumber for use for housing, furniture, barns, and wooden farm and kitchen implements. Also, these stands of pine contained very tall and very straight trees that were coveted and harvested for masts on sailing ships.
- 3) Broad meadows more easily cleared for raising food and grazing animals to ensure enough food to prevent starvation. Thus, over the ensuing 360 years it became the business and social center of the community that we inhabit today. Just for a moment think that in 2053, a mere 40 years from now, the Village Center will have been continuously the important center of our community for 400 years!

During the development of the Center Village Master Plan, the Committee used the following goals as guidance when making decisions and recommendations;

- *Prioritize the Center as a pedestrian friendly experience over the vehicular experience*
- *Provide additional municipal parking for the Center Village area*
- *Study and identify ways to improve vehicular and pedestrian traffic which enhance connectivity of the Center Village and with emphasis on easy walkability throughout the area*
- *Provide an atmosphere of encouragement and cooperation for commercial expansion while maintaining the Center Village character*
- *feature the brook as a public amenity that will serve to assist and compliment other goals*

During the process of developing the Center Village Master Plan, the Committee reached out to all stakeholders, public and private, in the community and held three public input sessions. We see this Master Plan as a guide to the Center Villages' future and continued vibrancy. It is a document that should be referred to by the Boards and Committees in Town and be used as they deliberate. It should continually be reviewed in order to keep the plan current.

We wish to thank Evan Belansky, Community Development Director; Vivian Merrill, Recording Secretary; and our consultant, The Cecil Group, for their support and ideas throughout the process. We would like to extend a special thanks to all those that provided input at our public and open sessions, along with the stakeholders that attended our meetings.

In closing, the Center Village Master Plan Committee's work may end with this document, but what begins next is a period of implementation of the phasing plan and bylaw review to bring the bylaws in line with the goals of the Center Village Master Plan.

Respectfully,

James Lane, Chairman
Peggy Dunn, Vice Chairman
Ann McGuigan, Clerk
Jack Handley
Kathy Howe
Brian Milisci
Jonathan Moore

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A VISION FOR CENTER VILLAGE

Center Village is the unique town center of Chelmsford. It is valued for its character, historic buildings, as a meeting place and for the available goods and services. Central Square, bracketed by contemporary commercial development, presents a town green, center for the arts, and a regional pedestrian and bicycle trail. Mixed in with the regional and national chains establishments are boutique and locally-owned shops, combined with great eating establishments, personal and medical services, and the town library. These round out the elements that make Center Village a very real destination. Yet to remain vital, the village must respond to the demands of consumers who wish to have a comfortable and appealing experience while visiting the center, and to the businesses that require continual revitalization to maintain their regional market share.



The general high level goal of this planning effort is to revisit the 1998 report “An Action Plan for Chelmsford Center” as a starting point (see illustrations on opposite page) to create an updated vision, expanded by introducing new concepts and more detail and specificity related to core elements.

This proposal presents a concept that will re-energize the village center as a location to visit and stay for a while. With an investment of public resources, a very different Center

*Illustration of
Chelmsford
Center Village
without utility
poles (credit:
Larry Richardson)*



Image: Rendering of the proposed Brook Walk, as seen from the east looking towards Central Square

that is honest to its natural and built history could become an even more special destination. Here are the ideas and the expected level of effort necessary to create them.

Existing Conditions

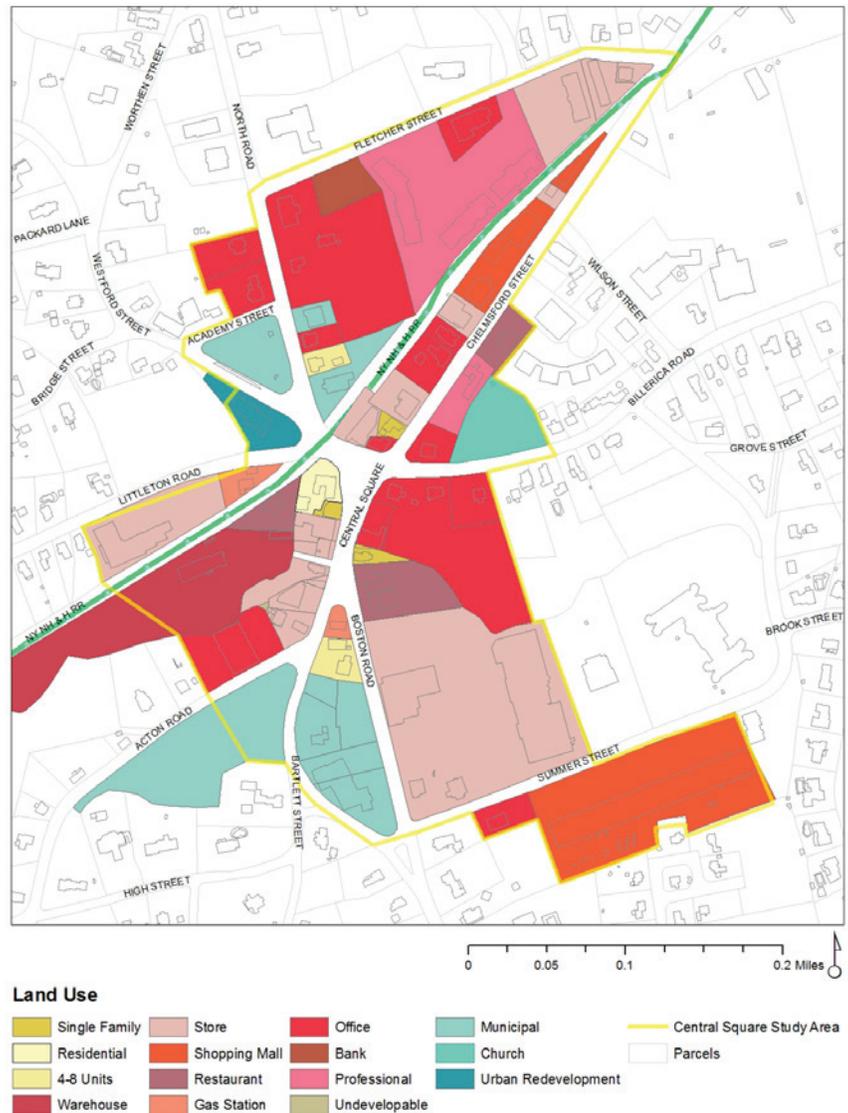
The historic commercial and civic center of Chelmsford provides a variety of retail, professional office and service businesses. The Town Hall and Town Library are located in close proximity to newer, automobile-oriented commercial retail establishments. The heart of the town center contains a mix of specialty retail, restaurants and service type businesses.

LAND USE

The Center Village is located at the Intersection of Routes 4, 27, 110, and 129. The Bruce Freeman Trail runs directly through the Center Village. The core center is characteristic of a traditional historic village center with buildings located in close proximity with limited on-site parking located on the side or rear of the building. Beyond the core village, along Chelmsford Street, land uses transition into commercial corridor type development characterized by suburban architecture and ample parking fields. On the southern edge of the study area are two shopping plazas, Summer Street Crossing and the mostly-vacant former Stop 'n Shop Plaza.

Uses primarily consist of professional offices, retail and services and restaurants. Limited residential housing exists directly in the study area. The housing located in and near the Center Village is a mix of multifamily and single-family units. The majority of units are configured in multi-unit structures. There are approximately 410 existing multifamily units in close proximity to the Center Village. There are approximately 50 condos, 10 townhouses, and 350 apartments. Many of the apartments are predominately designed, marketed, and occupied by either special needs or elderly individuals.

Image: Land use per parcel in Center Village



Currently, a number of highly visible and signature properties are either vacant, underutilized, or for sale or lease and may represent redevelopment opportunities. The most obvious is 16-20 Boston Road, the former site of the Stop 'n Shop. This site, currently owned by Winstanley, is planned for a 5.5 million dollar investment in which the existing building and parking fields will be upgraded to meet current market standards for commercial uses. In addition, extensive pedestrian and landscaping improvements are planned.

The historic Fisk House and Odd Fellows Hall, owned by Santander Bank (formerly Sovereign Bank), are both vacant. While the Fisk House was occupied within the last several years and has recently undergone some exterior maintenance, the Odd Fellows Hall has been vacant for a number of years and cannot be occupied in its current state.

The historic Wilson Block, the only mixed use building in the core village, is currently for sale. The property at 9 Acton Road, a multi-tenant commercial building, is partially for lease and has been for sale in the past.

ZONING

The study area consists of CV, CC, CD, and P zoning districts. Each of these districts are described below.

Center Village District

Adopted in 1998, the Center Village District (CV) was designed for maintaining the village-style character of the Town Center. The CV District encompasses 27 acres of land and is Chelmsford's only true mixed-used district, allowing commercial and residential uses (multifamily housing). The intent of Center Village (CV) Zoning is to aid in revitalizing, preserving and expanding the village character of Chelmsford's traditional business district. The bylaw encourages small business development and residential uses as an accessory use in certain areas. Parking requirements are reduced by up to 50%, and shared parking is encouraged, in order to promote a pedestrian-friendly environment. Multi-family dwellings and facilitated and independent senior living facilities are the only residential uses allowed in the CV District, and require a special permit from the Planning Board.

Shopping Center District

Adopted in 1963, the Shopping Center District (CC) is designed to allow the clustering of stores, offices, etc., around a central parking area. The minimum lot size in the CC zone is 100,000 square feet, with 200 feet of frontage. Maximum building height allowed within the district is 35 feet or 3 stories. Thirty percent lot coverage and a .45 floor area ratio are permitted within the district.

General Commercial Business District

The CD district serves to accommodate auto oriented commercial corridor type development.

Public District

Adopted in 1988, the Public District (P) is composed primarily of lands that are primarily owned by the Town for municipal purposes. Such uses and properties include the Town Common, forefathers cemetery, the old fire station, Library and Center for the Arts. In addition, the Bartlett park and wood lot, owned by the Land Trust, are also zoned as Public.

Community Enhancement and Investment Overlay District

Adopted in October 2013, the overlay is applicable to the CC and CD zoning districts, however is not applicable to the CV district. The purpose of this overlay is to provide an incentive for property reuse and redevelopment through regulatory flexibility and a streamlined permitting process that results in reduced impacts in the community, allow reuse for other economic and civic opportunities, including but not limited to residential uses, commercial uses and mixed uses; to encourage appropriate site design that enhances and promotes desirable development patterns, improve internal accessibility and connectivity, reduces curb-cuts through shared access to public ways, consolidate parcels and incorporate open space when appropriate and feasible and to encourage high quality development to protect and enhance the value of real property, provide high quality architecture that reflects an appropriate community character, and site planning in a manner compatible and in context with surrounding neighborhoods or business districts.

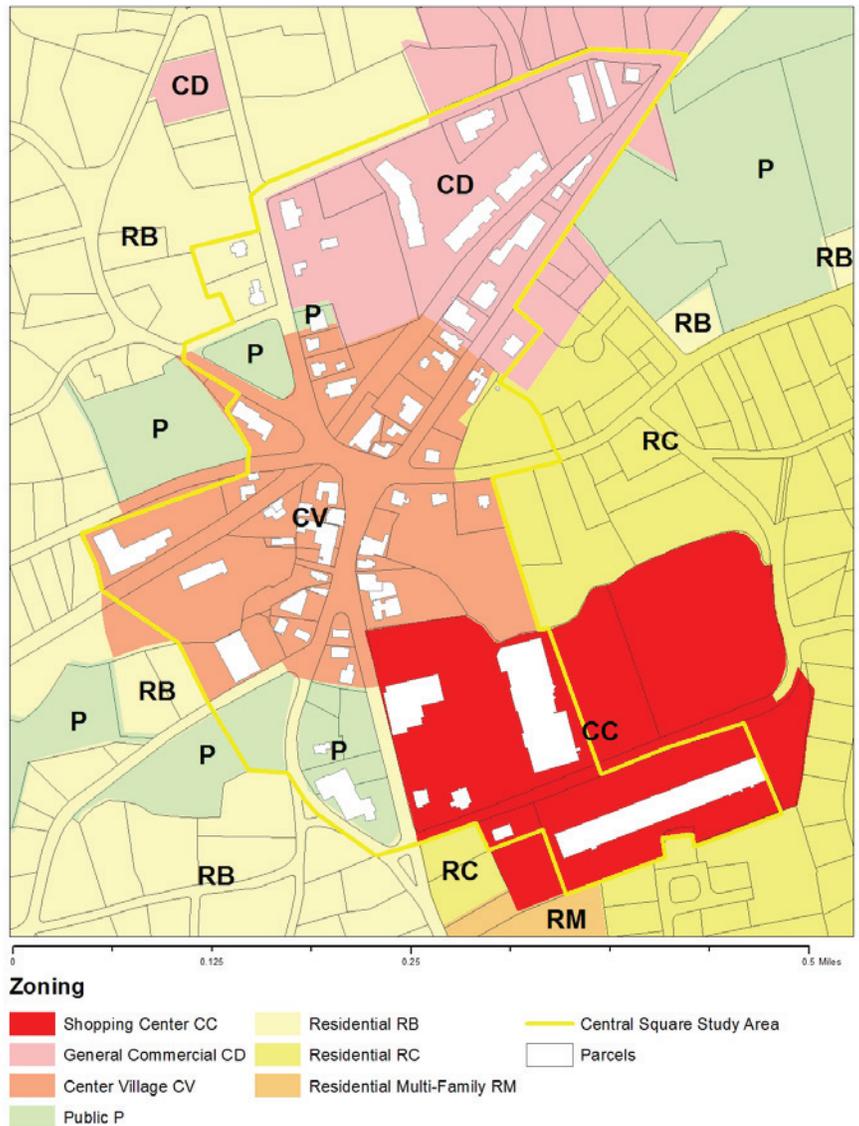


Image: Zoning per parcel in Center Village and surrounding region

Existing Plans

Over the preceding twenty-years the Town has demonstrated a strong commitment to the Center Village as demonstrated by the following programs and initiatives:

- 1975: Voted to create Chelmsford Center Historic District
- 1998: Initiated a public / private planning process that culminated in a report “An Action Plan Chelmsford Center”
- 1998: Voted to adopt MGL Chapter 166, section 22, to create a Utility District for purposes of depressing existing overhead wires
- 1998: Received \$1,200,000 in Transportation Improvement Plan funds for improved traffic management such as new signals, geometric improvements, drainage improvements and pavement markings.
- 1999: Adopted Center Village Zoning District
- 1999: Received \$689,000 in Transportation Enhancement Funds for pedestrian and bicycle improvements such as decorative sidewalks, crosswalks, streetscape, period lighting
- 2001: Adopted Community Preservation Act
- 2002: Voted to expand the 1998 Utility District
- 2009: Opened Bruce Freeman Rail Trail
- 2010: Master Plan adopted by the Planning Board and Board of Selectmen
- 2010: Voted to allocate \$2,500,000 of CPC funds for the historic preservation of the Old Town Hall by converting it to a Performing Arts / Community Center
- 2011: Affordable Housing Plan adopted by the Planning Board and Board of Selectmen
- 2011: Voted to appoint a Cultural District Planning Committee for purposes of preparing an application for the Center Village.
- September 2012: Zoning Bylaw Review Committee commenced working with Howard Stein Hudson, consultant, on drafting specific zoning strategies for the Center Village.
- October 2012: Fine Point Associates presented the Center Village Housing Market Study, per a Massachusetts Downtown Initiative grant.
- November 2012: The Northern Middlesex Council of Governments, per the request of the Town, commenced a parking and Pedestrian utilization / demand and management study in the Village Center.

As noted above, many former, ongoing and future Town projects are located in the Village Center. In addition, many private property owners have an interest and desire to make continued investments in their properties. This Committee process should serve to engage the various stakeholders for purposes of creating a unified vision and action plan.

These are ideas that have been previously brought forward as needs and concepts (see An Action Plan for Chelmsford Center prepared by The Edge Group, Inc. and Jonathan Woodman, AIA, 1998). In this plan, these ideas are updated and organized in a recommended for implementation format so that the appropriate level of effort may be applied to accomplish the changes.

In addition to the advancement of the changes suggested by the 1998 illustration, the Town has planned and is implementing improvements described in the following sections.

1998 ACTION PLAN FOR CHELMSFORD CENTER

The 1998 Action Plan, as shown below, called for bringing back the Brook, rediscovering the Center, and securing additional parking in and around Central Square.



Current Status of the Action Plan's 10-Point Action Plan for Chelmsford Center

Image: Illustration from the plan by The Edge Group and Jonathan Woodman, 1998

RECOMMENDATION	STATUS
1. Make Beaver Brook an attractive and accessible landmark for the Center	No action
2. Secure additional parking in and around the Square	In process
3. Create pedestrian walkways, bridges, and walking trails to enhance circulation and convenience	No action
4. Promote additional retail, office, and residential development-with an emphasis on retail shop expansion	In process
5. Improve key buildings consistent with the village and historic qualities of Central Square	In process

RECOMMENDATION	STATUS
6. Develop a revolving loan fund to make low interest loans available for building exteriors and sign improvements in the district	No action
7. Place Central Square utilities underground	In process
8. Develop a marketing program to promote a new vision of Center	In process
9. Establish a Village Zoning District to preserve the Center's scale and character, as well as to permit more diverse uses	In process
10. Initiate an annual festival event centered around the brook, new cultural and commercial activities	No action

2010 MASTER PLAN

This Plan includes findings and recommendations related to economic development, housing, land and zoning, open space & recreation and transportation and circulation.

2011 CENTER VILLAGE HOUSING STUDY

As part of the 2010 Master Implementation, the Town applied for and received a Massachusetts Downtown Initiative grant from DHCD. The primary purpose of this study was to explore the market demand for housing in Chelmsford Center Village. The study includes an inventory of businesses in the Center Village and analysis of the business mix. It evaluated the existing housing supply, including an assessment of affordability, analyzed population and household trends, including growth trends within selected market segments that are particularly appropriate for housing in the Center Village. The consultant interviewed real estate professionals about market demand and development potential for housing and conducted an online survey to gather data about housing preferences and desirability of the Center Village as a place to live.

CENTER VILLAGE OVERLAY ZONING DISTRICT

Based upon the recommendations of the 2010 MP, the Planning Board entered into a contract for zoning / planning services and has been working with Howard-Stein Hudson over the past year to craft a new zoning overlay for the Center Village. This overlay is proposed to include the same properties that are included in the study area for this report.

The general purpose of Village Center Overlay District (VCOD) is to maintain character and enhance vitality in Chelmsford's traditional village centers including Center Village and Vinal Square. These regulations are established to promote sustainable mixed-use development as appropriate in the VCOD, in order that future development will be compatible with the historic settlement patterns, traditional architecture, and landscape character. These regulations are intended to create strong relationships between building forms, civic spaces, and streetscape design which are integrated, connected and complementary. The VCOD regulations are intended to:

- Facilitate the development of an appropriate mix of uses within the context of a traditional pedestrian oriented development pattern;
- Create a safe, accessible, convenient, attractive and highly functional environment that meets the needs of local residents and visitors as a place to live, work, recreate, socialize, and obtain necessary goods and services;
- Coordinate the safe circulation and access of private vehicles, public transit, bicycles, and pedestrians through a network of streets, sidewalks and paths connecting neighborhoods, employment centers, open spaces, and areas of activity within the VCOD;
- Protect and expand opportunities for small locally-owned businesses and other entrepreneurial activity that primarily but not exclusively serves local neighborhoods and surrounding community; and
- Encourage flexibility and variety in future development while ensuring preservation of and compatibility with historic fabric.

The Overlay will provide detailed guidance related to:

- Frontage Zones and Ground Floor Limitations allowing only commercial uses permitted by right or special permit within the underlying zoning district to occupy the ground floor area
- Building and Lot Development Standards regulating the way that buildings are placed and oriented on their lots to positively address and complement other buildings as well as streets and civic spaces. Use of Yards and Setbacks requiring active uses of setback areas for pedestrian access, outdoor accessory uses, or to facilitate access to rear of the lot for parking and loading.
- Public and Civic Space Standards to provide for a combination of viable public and private open spaces and civic gathering areas that benefit the community and enhance the pedestrian experience in Chelmsford's Village Centers.
- Properties with frontage along The Beaver Brook and The Bruce Freeman Rail Trail to ensure future coordination and planning for access, easements and physical improvements associated with existing and planned public projects.

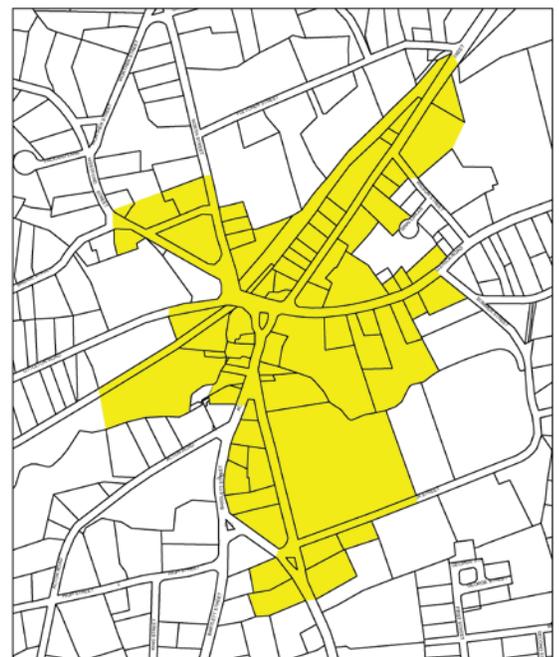
The VCOD is anticipated to be forwarded for inclusion on the Spring 2014 Town Meeting warrant.

CENTRAL SQUARE UTILITY PROJECT

The Central Square Utility Project is a multi-year project to reinstall overhead utility lines underground. The most recent results from this project are the undergrounding of lines around the Center Common and in front of the Center for the Arts.

Phase 1 has been completed around Center Common. Future phases including along Central Square are awaiting funding.

Image: Central Square Utility Project boundary



LIBRARY AND DUTTON HOUSE PLANS

Since the expansion in 1998, plans called for the relocation of the Dutton House from the property to allow for additional parking, open space, an outdoor reading room, and a small free-standing structure to accommodate book storage. In October 2013, at the request of the Library trustees, the Board of Selectmen issued a request for proposals for the relocation of the Dutton House from this site. If the request for proposals is unsuccessful, the Town intends to demolish the Dutton House.

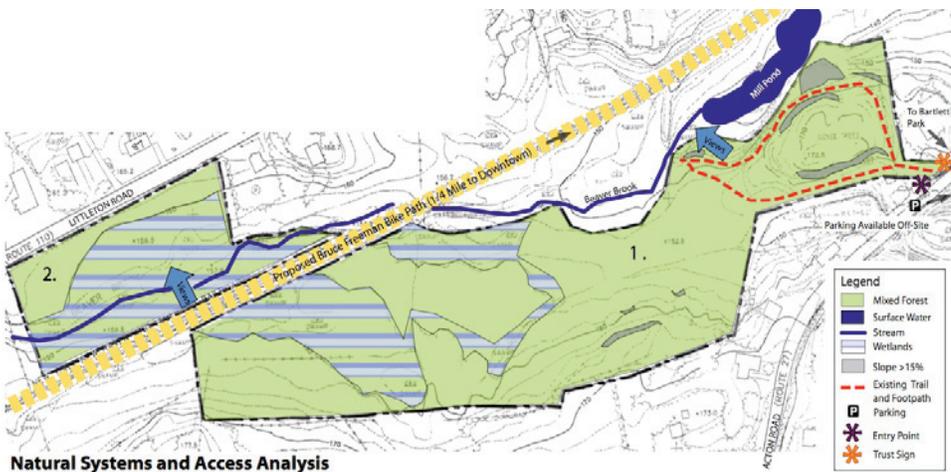
FIRE DEPARTMENT HEADQUARTERS MOVE



The Fire Department Headquarters is being transferred from the current location North Road to the Town Office property on Billerica Road. The old fire house on North Road will continue to be owned by the Town of Chelmsford and may be leased to a renter or be used in another way. The construction of the new headquarters at the Town Office will include an upgrade and expansion of the parking facilities at that site.

Image: Conceptual plan of the new Fire Department Headquarters, 2013

CHELMSFORD CONSERVATION LAND TRUST MASTER PLAN



Natural Systems and Access Analysis

- 1. Bartlett Woodlot 10.47 acres
- 2. Miriam E. Warren Wetlands Preserve 3.0 acres

The Chelmsford Conservation Land Trust Master Plan shows improved and new pathways in both the Bartlett Woodlot and Bartlett Park. The additional connectivity through this part of town was considered and incorporated into this Vision, while additional crossings have been suggested.

Image: Bartlett Woodlot natural systems and access analysis, Conway School of Landscape Design, 2004

CHELMSFORD STREET IMPROVEMENTS

The Town Engineer of Chelmsford has proposed the following streetscape improvements on Chelmsford Street, as shown below, including additional on-street parking, improved sidewalks, vegetated buffers, and reduction of curb cuts. These changes will be complimented by parking lot improvements behind the Town Offices and a streetscape project for Chelmsford Street to reduce traffic conflicts and esthetically improve the street. This vision incorporates the proposed streetscape improvements with some minor alternations regarding crosswalk locations. Regarding the Rail Trail behind the properties on Chelmsford Street, property owners may request the Town to make a break in the wooden corral that fences in the Rail Trail along this stretch to allow access between businesses and the Trail.



Image:
Chelmsford Street
improvements,
Town of
Chelmsford, 2013

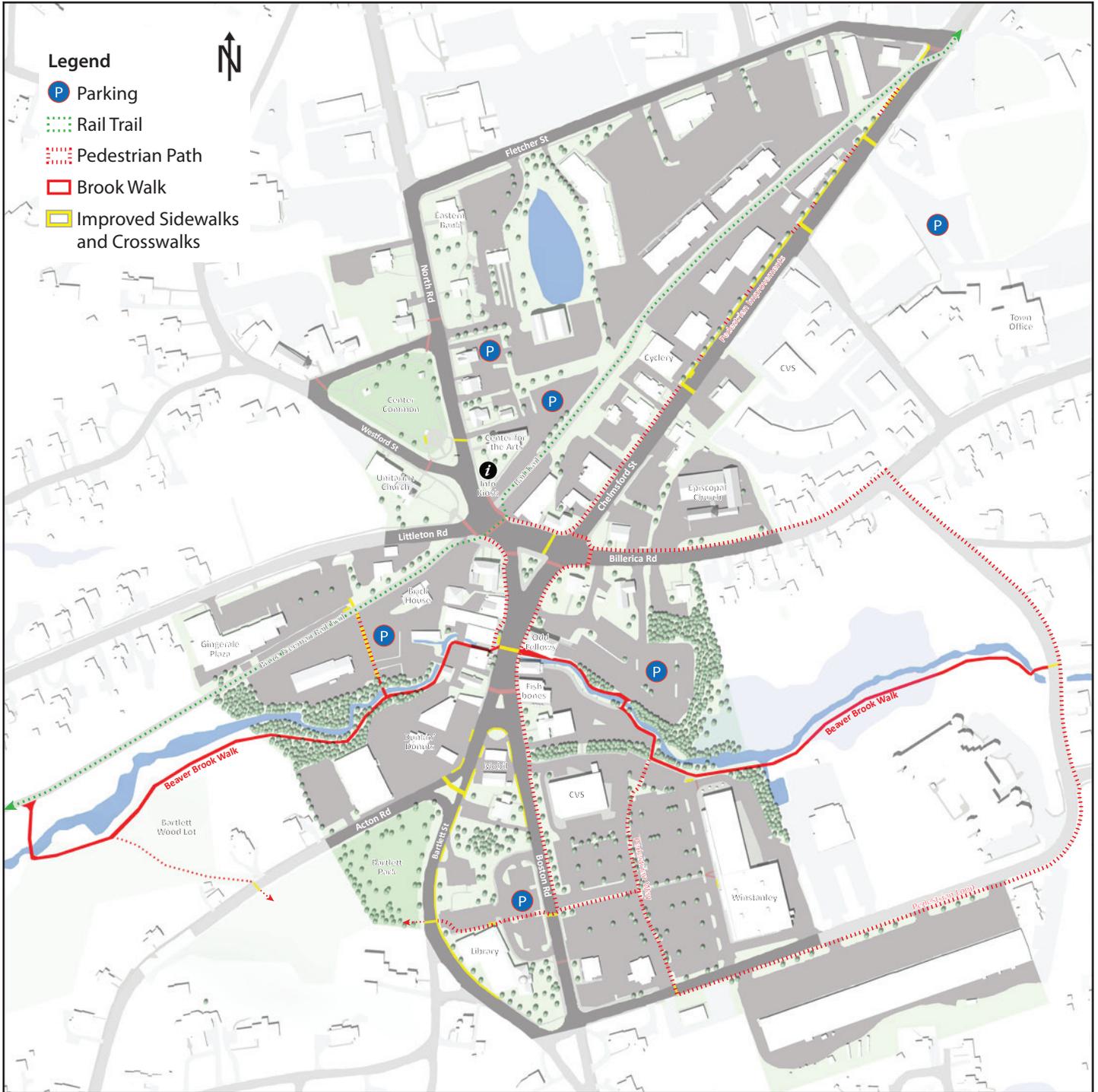


Image: Center Village vision showing the Brook Walk concept, public parking, and looped pedestrian routes

Elements of the Vision

Having reviewed the site conditions, existing plans and reports, conducted interviews with stakeholders, and holding a public discussion (see Appendix: Process), three key elements to the vision are proposed to be taken to accomplish significant repositioning of the center. These are Rediscovering Beaver Brook, Making the Center Comfortable to Amble, and Finding a Place to Park.

REDISCOVERING BEAVER BROOK

Beaver Brook is a key natural resource coursing west to east through Center Village. It is tied into the history of Chelmsford. Dammed for power, the stream supported saw and grist mills. The first mill on Beaver Brook was built by John Parker in 1676. The Counting House for the mill was restored in 1997 by John M. Handley and Sons, and may still be found at the intersection of Cushing Place and Boston Road. After industrial use of the stream ended in the 20th century, the stream was essentially ignored by the public. Placed in a culvert and fenced off from the public ways, the brook disappeared from the common view even though it physically runs right through Center Village.

This vision contemplates the reemergence of Beaver Brook not simply as a drainage way but as a natural resource balanced with and enhancing the urban environment within Center Village. The vision proposes increasing the visibility of the brook and allowing people to reconnect to the brook along its meandering form. This will be accomplished by removing buildings and structures blocking views to the stream and by laying out a path way along the brook linked to the public ways entering Central Square and to the Bruce Freeman Rail Trail.

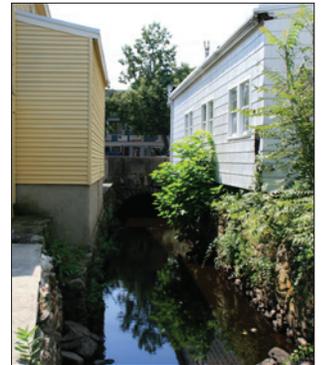


Image: Existing conditions of the Brook where it intersects with Central Square

MAKING THE CENTER COMFORTABLE TO AMBLE

Central Square is a historical intersection in the regional road system that now connects four state highways in a complex of busy intersections. These intersections were recently improved for better flow, but apparently not for attracting more pedestrian activity. Older sidewalks requiring maintenance and a lack of sidewalks in sections such as around the library leave the impression that pedestrians are not a first consideration.

Two aspects, better sidewalks and more strategically-located crossings for roads and the brook would refocus the village's surface infrastructure on the pedestrian. These are recommended in the vision as elements of the streetscape along Chelmsford Street and specific crossings of the streets and Beaver Brook.

By adding more bicycle racks, the center could also be made more attractive for more people to use bicycles to get to and stop in the Village rather than just ride through.

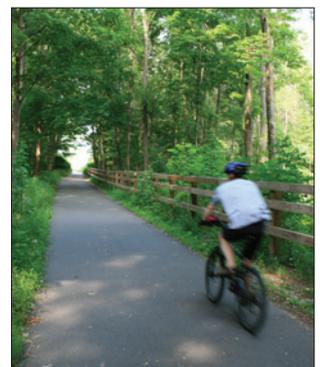


Image: Bruce Freeman Rail Trail as it cuts through the Bartlett Woodlot

FINDING A PLACE TO PARK

Regardless of the trends that suggest a reduction in the use of personal cars, the motor vehicle currently remains a focus of our transportation system linking many of our trips and commutes, particularly in suburban communities such as Chelmsford. Consequently, there is a need to find locations for storage of vehicles in the Center to accommodate shoppers and visitors.

A study by the Northern Middlesex Council of Governments, the regional planning agency, was in process at the same time this report was being generated. That study is attached to this document. In addition to the work of NMCOG, a separate analysis by this Vision's team member, Nelson\Nygaard supports the findings. The results indicate that while Center Village has more than enough parking for the uses found there, the distribution of the parking demand is placing a disproportionate burden on private lots in certain sections surrounding popular venues.

There is both a private solution that could be facilitated by the town, and a public solution that requires use of town resources.

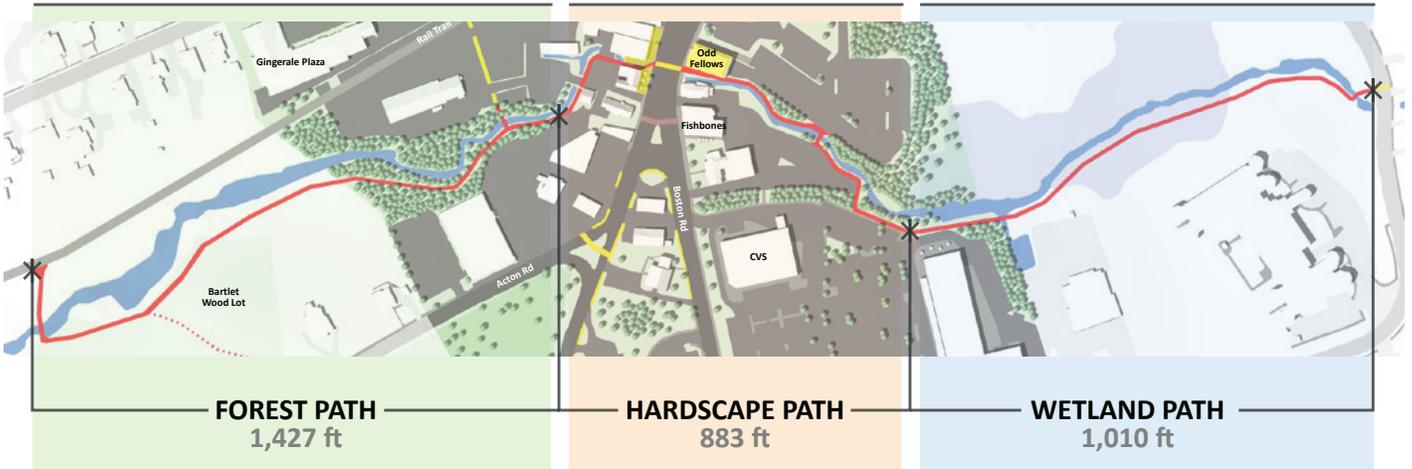
The private solution is to combine connected, private parking areas and rearrange parking spaces within the combined area to provide a more efficient use of the land area devoted to parking and thereby increase the number of parking spaces on the private land. For the area around the Harvey property (Center Sports building) and Brickhouse Pizza, linked by Cushing Place on the south, the increase in spaces is estimated to be 49-56 spaces.

The public approach is to present better signage for existing parking areas to show what is available, and to improve the walkability between the parking areas and the destinations to make it easier to connect. If necessary, the Town may expand public ownership of private parking lots to ensure spaces are managed for optimum use and availability.

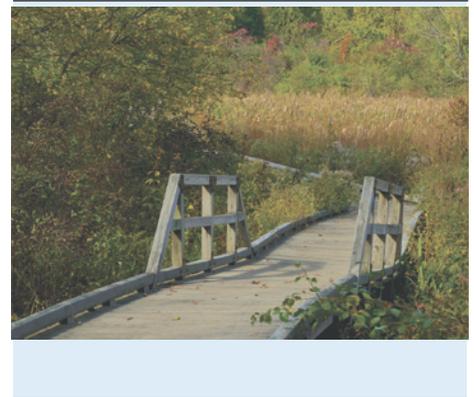
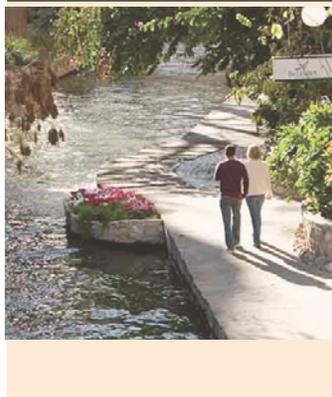
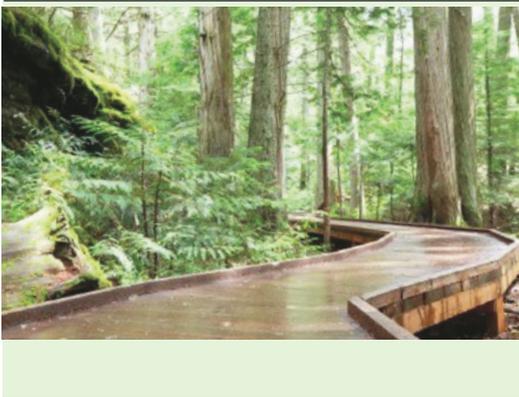


Image: Illustration of Center Common in Chelmsford Center Village without utility poles (credit: Larry Richardson)

Sections of the Brook Walk



Examples



Current conditions



Image: Three sections of the Brook Walk with examples of path types from other locations and photographs of the current conditions on each section

Beaver Brook Walk

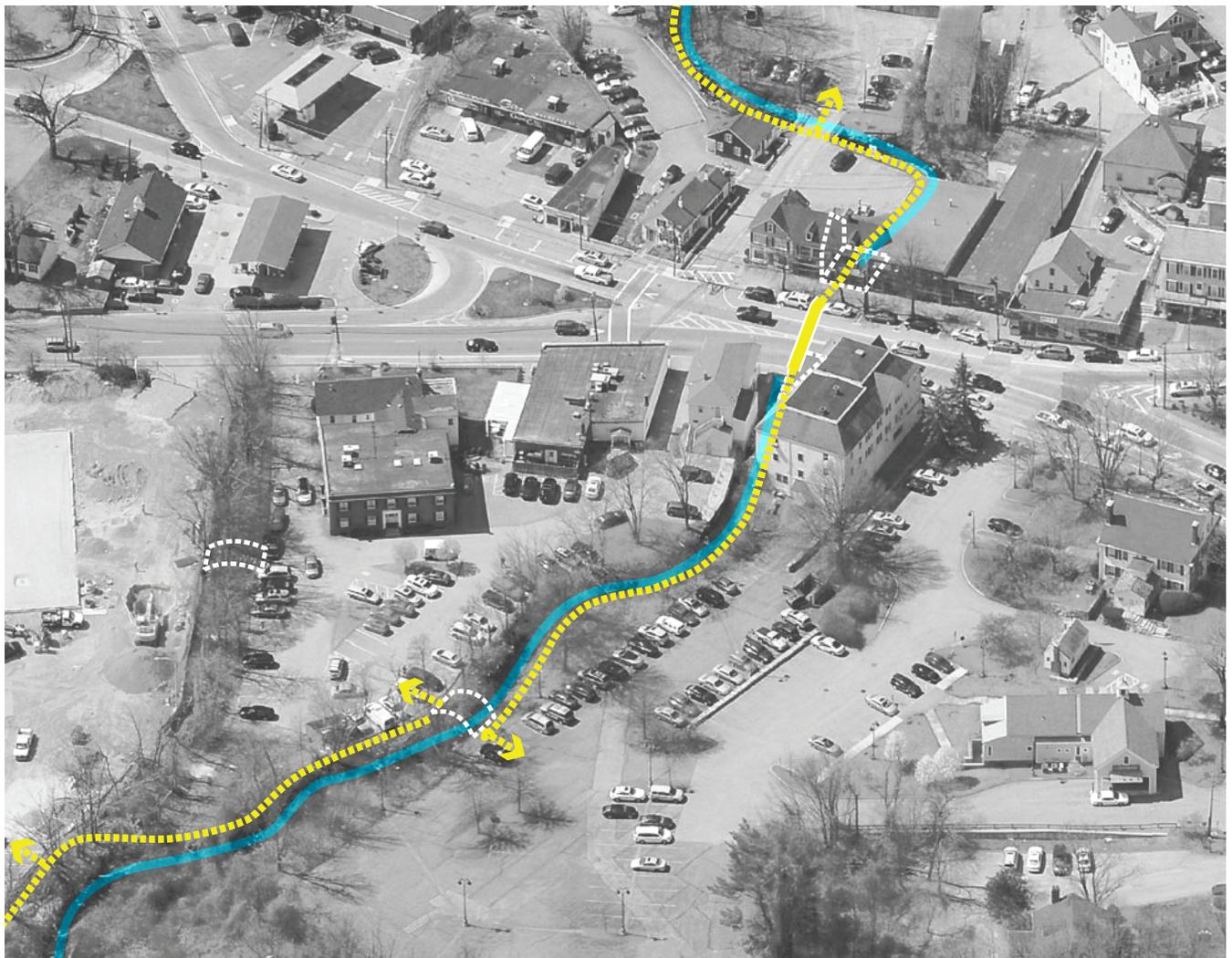
SUMMARY DESCRIPTION

Beaver Brook has historically been a tool for economic development; this plan renews that vision while increasing connectivity throughout downtown. The concept is for the Brook Walk to increase the vitality of Central Square and the surrounding areas by extending a pedestrian path from the Bartlett Woodlot on Acton Road to the Bruce Freeman Rail Trail to Summer Street. There are three major sections and four street crossings proposed for the Walk. Construction of the complete pathway will require the agreement of the property owners along the Brook. The length of the Brook Walk is principally constructed with an eight-foot width for the purposes of comfortable pedestrian and bicycle circulation and for potential emergency vehicle access.



Image: Example of Brook Walk

Image: Concept sketch of Brook Walk through Central Square



FOREST PATH SECTION

The western most section of the Brook Walk is the Forest Path, winding its way through the edge of the Bartlett Woodlot. This section is proposed to cross the Brook to connect to the Bruce Freeman Rail Trail and link eastward across the Bartlett Woodlot and private property to the heart of Central Square. The Forest Path section through the Woodlot is constructed of an appropriate mix of raised boardwalks and ground-level trails made of porous material such as crushed stone or gravel.

A portion of the Forest Path section has been landscaped by the property owner (Handley) up to Cushing Place. In this section, an easement across the existing parking lot may be sufficient to accommodate this link of the Walk rather than disturb the landscaping and the banks of the Brook. This would also be the approximate location of the bridge crossing B2 (see Cost Factors), and the hardscape walkway to the north through the parking lot between the Brickhouse Restaurant and the Harvey property, which links the Brook Walk to the Bruce Freeman Rail Trail between adjacent businesses.

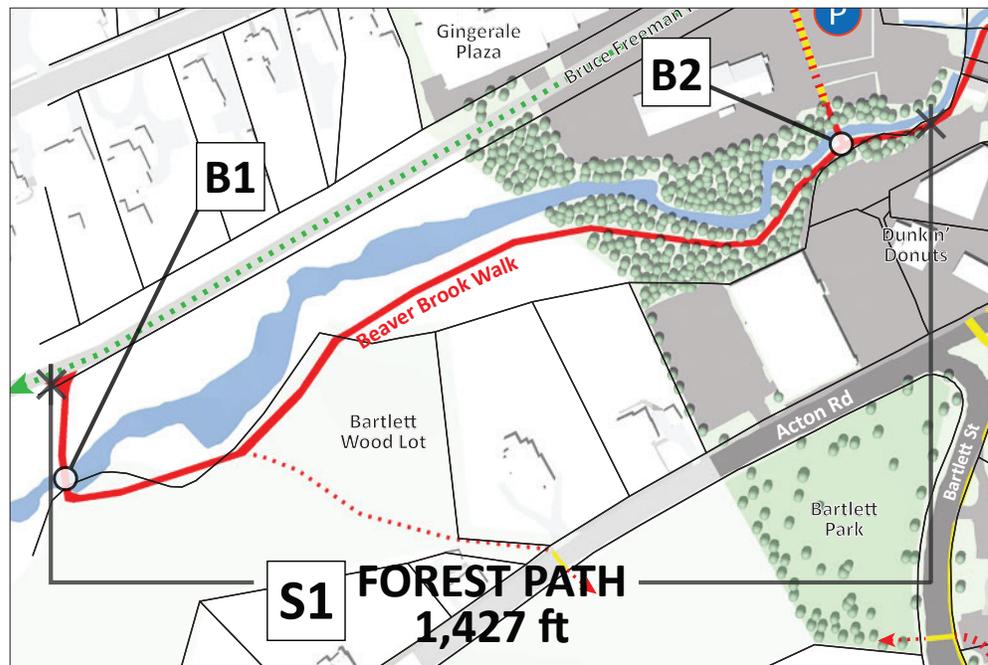


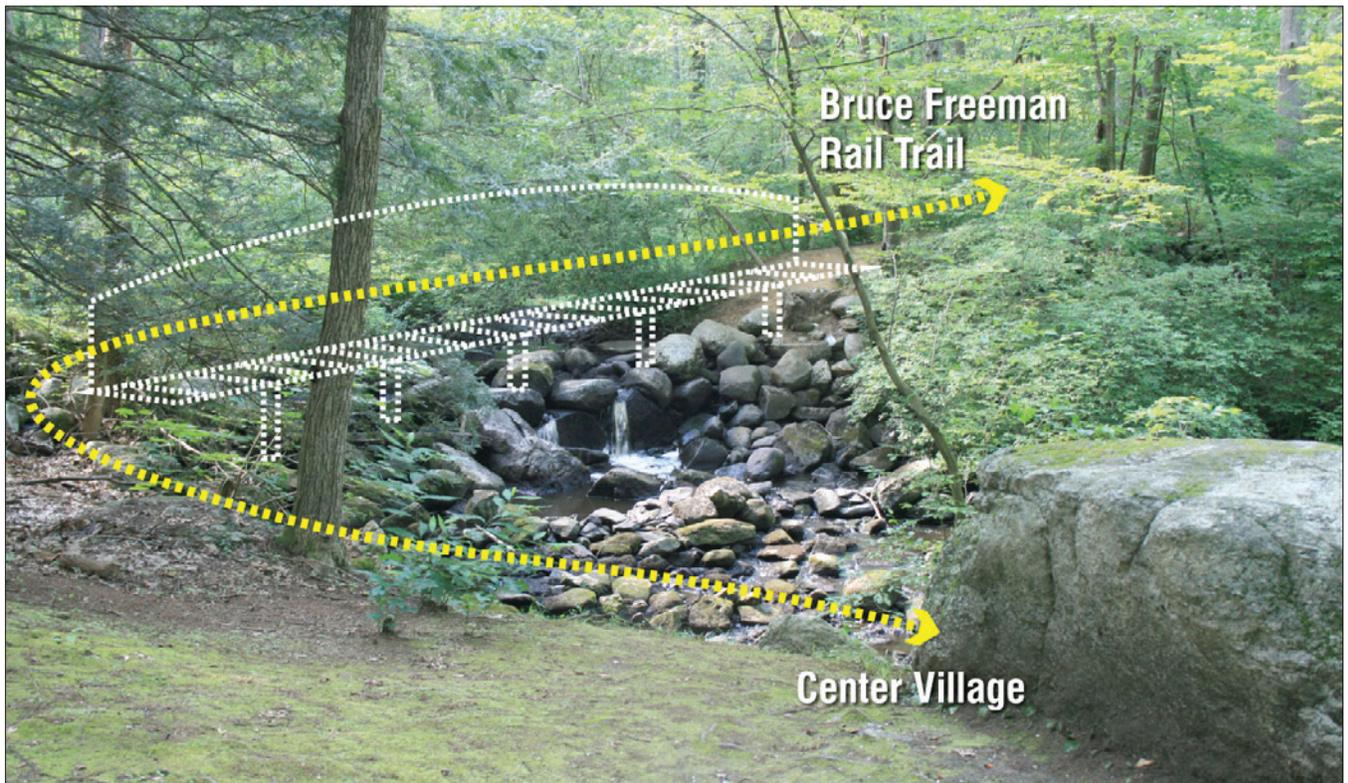
Image: Forest Path section of the Brook Walk shown with property lines and pieces covered in Cost Factors

Forest Path Section Needs

The following elements are required to complete this section:

1. Easement (public access) from brook to Bruce Freeman Rail Trail
2. Easements (public access) from Bartlett Woodlot to Cushing Place
3. Design of bridge at historic brook crossing (B1, 23 ft length)
4. Design for trail with natural materials
5. Approval for the new trail by the Chelmsford Conservation Land Trust
6. Permitting (State and Local)

Image: Location of an historic pedestrian bridge on Forest Path that, when rehabilitated (B1), will connect the Bruce Freeman Rail Trail to the Bartlett Woodlot and Center Village



HARDSCAPE SECTION



Example of hardscape path with a water feature and natural embankments in Great Barrington, Berkshire County, Massachusetts

The next section is the Hardscape Path, so named because it links through the built section of the Village. This has the most complex implementation, and yet the most potential for the greatest impact on the vision. The concept is to create a recognizable water feature within Central Square. The detailed design, pending environmental review, could channelize the stream to maximize pedestrian circulation and parking space or allow for reduced impacts to the stream bank by stepping back or cantilevering over the natural embankment. The major Hardscape Path elements are:

- Daylighting of the Brook within the Handley Block with removal of building sections over the culverted section of the Brook or through a covered walkway as proposed in the 1998 Woodman vision for Central Village,
- Reconstruction of the ends of culvert at street level on both sides of Central Square with an open side railing to allow views of the Brook for passersby,
- A new sidewalk treatment on both sides to focus on the bridge while at the same time reinforcing the adjacent business properties,
- A new crosswalk at the location of the Brook to provide a crossing link for the Brook Walk and to provide a more comfortable experience for customers to the local businesses and users of the municipal parking lot,
- Continuation of the Brook Walk as a hard landscape element that runs past the Odd Fellows Hall (after removal of the non-historical building wing) to link to the municipal parking lot behind Santander Bank (formerly Sovereign Bank), which itself is connected to the adjacent private parking lot on the southern side with a footbridge across Beaver Brook, and continuing further east to link to the edge of the Winstanley parking lot and the businesses at this shopping center.

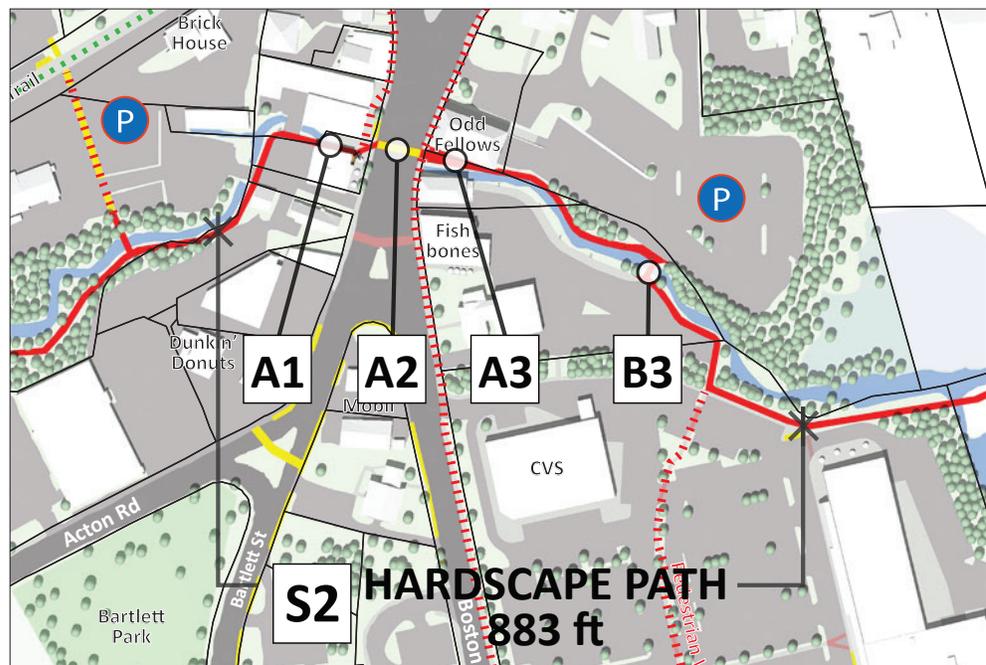


Image: Hardscape Path section of the Brook Walk shown with property lines and pieces covered in Cost Factors

Hardscape Section Needs

The following elements are required to complete this section:

1. Easements (public access) and fee simple acquisition across private property
2. Review of conditions in culvert and design decisions
3. Design of building section demolition (A1 and A3)
4. Agreements on adjacent building finishes
5. Demolition of building sections (A1 and A3)
6. Zoning for replacement building
7. Design of pathway and open sections of the Brook
8. Design of bridge/Brook crossing (B3, 19 ft length)
9. Design of street crossing with signal (A2)
10. Agreement with Winstanley on pedestrian improvements in parking lot
11. Permitting (State and local)



Image: Concept of street crossing location and building sections to remove shown with dotted lines (A1, A2, and A3)



Image: Odd Fellow building in 1905, shown without the circa 1957 annex that is proposed for removal, plus a red path indicating the proposed Brook Walk

WETLAND PATH SECTION

The eastern most section is the Wetland Path, as it passes through the vegetated wetland. The wetland is rimmed with trees centered on an open swamp predominantly vegetated with reeds where the Brook is controlled in a defined channel. This section is proposed to be constructed as a boardwalk placed on pile foundations (possibly helical piles) with recycled materials for the boardwalk path to reduce impacts to the wetland resources. A final crossing of the Brook at an existing bend links the section to Summer Street, which completes the loop back to Central Square. There are existing sidewalks within the connecting streets; however, pedestrian crossings at the end of the pathway to the opposite side of Summer Street, and at the intersection of Billerica Road and Summer Street will be needed.

Wetland Path Section Needs

The following elements are required to complete this section:

1. Easements (public access) to Summer Street
2. Design of bridge/Brook crossings (B4, 24 ft length)
3. Design for boardwalk on helical piles with natural or recycled materials
4. Permitting (State and Local)

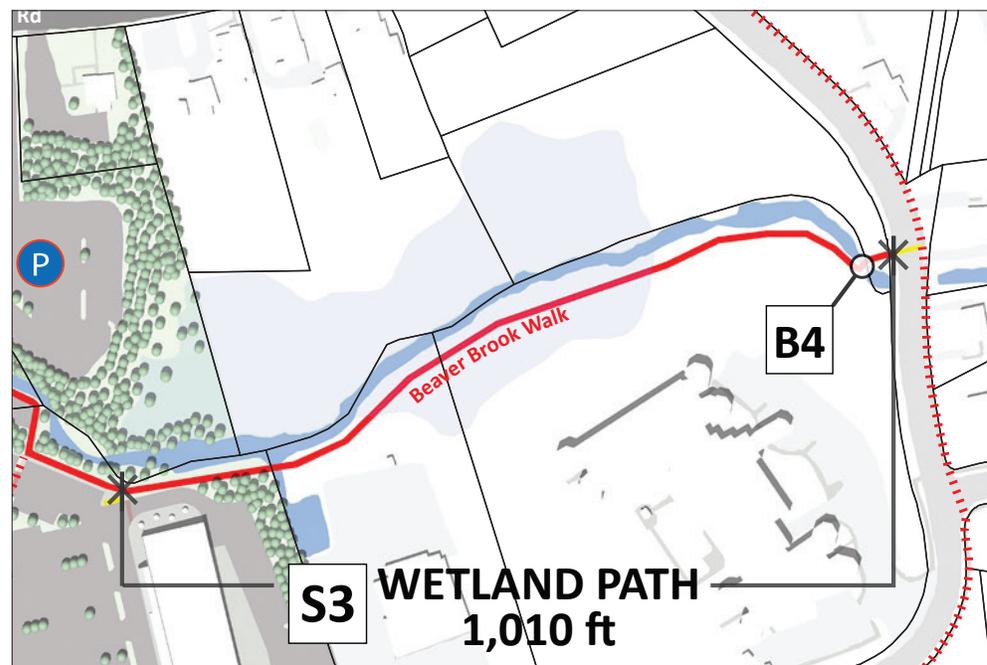


Image: Wetland Path section of the Brook Walk shown with property lines and pieces covered in Cost Factors



Image: Wetland Path section bird's eye view seen from the north in the autumn, showing the path from the Hardscape section to the Summer Street crossing



Images: Boardwalk examples through a wetland in Minuteman Park, Lincoln

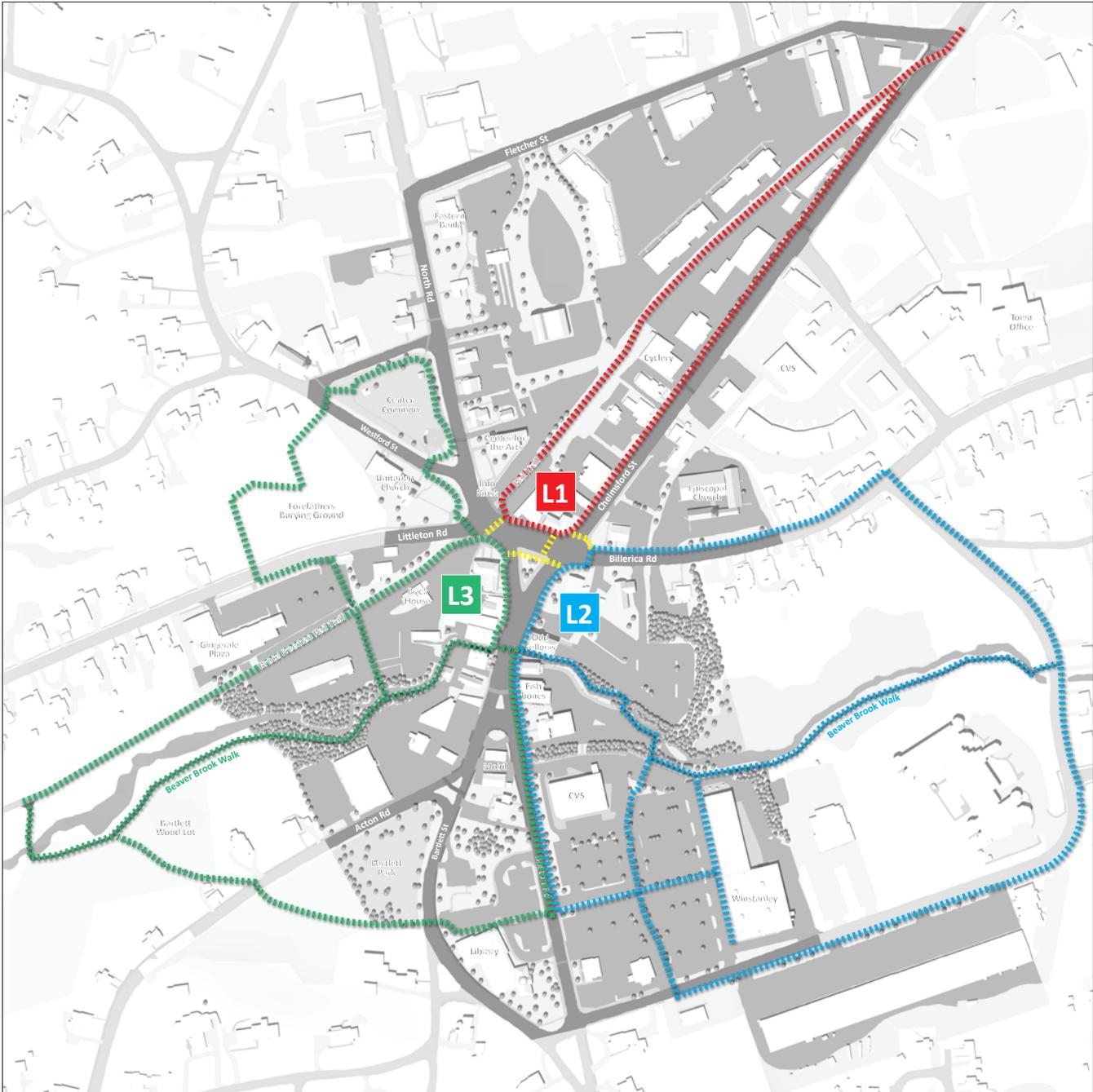


Image: Looped pedestrian connections

LOOPED CONNECTIONS

The path of the Brook Walk allows for links connecting the pathway by way of loops on the Bruce Freeman Rail Trail and public roads that provide different lengths and directions for walking and biking. These looped connections are:

1. **L1:** Bruce Freeman Rail Trail north to Chelmsford Street and back to Central Square
2. **L2:** East on the Brook Walk through the wetland to Summer Street and either north to Billerica Road and back to Central Square, or south and back to Central Square on Boston Road
3. **L3:** South from Central Square on the Bruce Freeman Rail Trail to Bartlett Woodlot and through back to Central Square on the Brook Walk or south towards the Library, and then through Winstanley's shopping center back to the Brook Walk or up Boston Road.

With this variety of lengths and conditions, the Brook Walk could maintain interest in continued biking and walking for exercise and health.

Acquisition of Easements

There have been no recent public access easement acquisitions for comparative cost analysis. From interviews it was found that recent easements have been granted without cost which allows the grantor to obtain federal tax credits for the value of the exchange. The restrictions applied also reduce the value of the land which reduces local taxes. In addition, for those granting public access, MGL Chapter 21, Section 17C limits the landowner's vulnerability to law suits and MGL Chapter 266, Section 121A makes it an offense punishable by a fine of \$250 to enter onto private land with a motorized vehicle whether or not the land is posted against trespass.



Image: Rendering of the proposed Brook Walk, as seen crossing Central Square

COST FACTORS

The following list of costs includes the major factors in the planning stages for the proposed improvements. The estimates for the Brook Walk are based on the construction and allowances for licenses or easements to provide for public access on the path. The variability in unit costs for the bridge sections reflects the difference between pre-fabricated construction versus custom build.

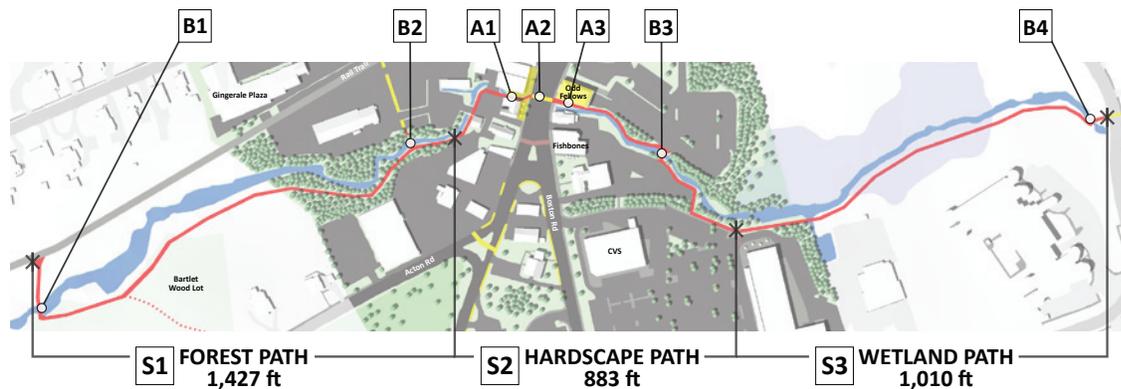


Image: Section of Walk, bridges, and action sites. Table of Cost Factors: Beaver Brook Walk.

DESCRIPTION		UNIT COST	AMOUNT	TOTAL COST
A1	Construction on easement through west side of Central Square and Brook daylighting (does not include acquisition of fee or easement)	\$10/sf demo \$150/lf section	2,534 sf: demo 50 ft: open section	\$30,000
A2	New crosswalk with pedestrian crossing lights	\$50,000	45 ft	\$50,000
A3	Demolition of non-historic annex from Odd Fellows Hall and construction of Brook Walk path	\$10/sf	663 sf: demo	\$7,000
B1	Bridge reconstruction in Bartlett Woodlot	\$250-\$1600/sf	23 ft / 184 sf	\$46,000 - \$294,400
B2	Bridge construction connecting parking lot to Brook Walk	\$250-\$1600/sf	25 ft / 200 sf	\$50,000 - \$320,000
B3	Bridge construction for Brook Walk crossing Beaver Brook and connecting parking lots	\$250-\$1600/sf	19 ft / 152 sf	\$38,000 - \$243,200
B4	Bridge construction in wetlands	\$250-\$1600/sf	10 ft / 80 sf	\$20,000 - \$128,000
S1	Forest Path	\$30/sf	1,427 ft x 8 ft 609 ft public 737 ft private	\$45,000
S2	Hardscape Path	\$150/sf	883 ft x 8 ft	\$135,000
S3	Wetland Path	\$150/sf	1,010 ft x 8 ft	\$150,000
Total Hard Costs				\$571,000 - \$1,402,600
Total Soft Costs (Legal, Design, Permitting)				\$500,000
Easement Acquisition Allowance				\$500,000

Pedestrian Circulation

SUMMARY DESCRIPTION

The looped trail and path system is described previously in the Brook Walk section. This element deals with improving conditions within the existing rights of way for pedestrians. This includes the comfort of pedestrians traveling along the roads and the ability to feel safe crossing the roads.



Image: Pedestrian and bicycle circulation possibilities through the proposed a Brook Walk bridge connection

STREETSCAPE

A public investment with a potential for significant impact is streetscape improvements in business districts. There are two areas proposed for these improvements. One is on the section of Chelmsford Street within the study area. This section of improvements is proposed for the west side of the street and will link to the public parking lot being constructed behind Town Offices. The streetscape will include closing of curb-cuts to more typical dimensions for pedestrian passage and safe travel (controlled locations for turns), and beautification of the street with curbs, vegetated strip and trees. The other section for improvement is the portion of Boston Road where the street and bridge crossing will be located.

STREET CROSSINGS

To make Center Village more pedestrian-friendly and accessible, pedestrians and bicyclist must have a sense of safety and a level of command in the roadways. This is especially important in the very busy intersection of multiple roads and the roads leading to the Central Square crossroads. Observations suggest that pedestrian activity has been minimal within Central Square. Consequently, the addition of more elaborate street crossings is recommended to improve the status of non-motorized vehicles and pedestrians as important as cars. This includes crossing lights and pedestrian activated systems, and the creation of pedestrian plazas or safe zones within the intersections to establish zones for walking through the intersections.

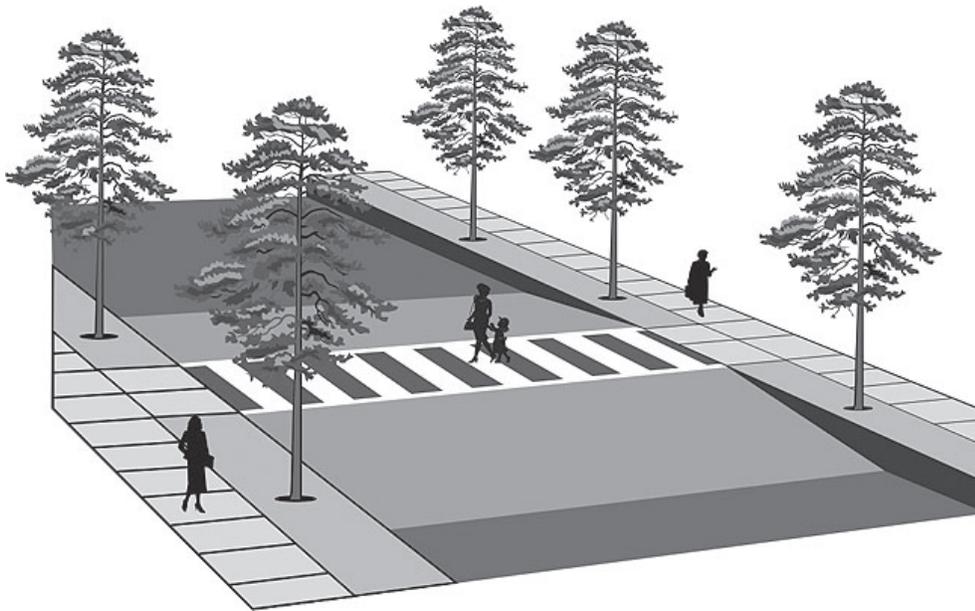


Image: Raised table crosswalk, (source: Institute of Transportation Engineers)

SIDEWALKS AND WALKWAYS

The system of sidewalks in Center Village is incomplete and not conducive to the need for choices when moving from one point of interest to another. In addition to the improvements to the existing sidewalks described in the NMCOG report (see appendix), the suggested approach is to fill in missing sidewalk sections and connect to existing sidewalks to improve the walking environment. In particular the recommendation is to create a sidewalk as part of the Chelmsford Street streetscape project and to add sidewalks around the Town Library block (see map on the following page).

In addition, because of the position of the Winstanley shopping center parking lot, a recommendation is for the owner to provide a more comfortable and attractive, landscaped walkway through the parking lot during redevelopment or at a later point in time after the Brook Walk is constructed. A concept has been developed and presented here for a link across the parking lot to the Brook Walk, the street system, and the Library.

The concept includes a landscape treatment for the parking lot that is awaiting redevelopment to achieve these goals without reducing the number of parking spots. In this concept, two new major pedestrian axes are introduced. A new crossing is proposed from directly in front of the library across to the Winstanley lot, as this crossing completes the pedestrian loop from the Brook Walk, through the Bartlett Park, through the library back to the Brook Walk by the Winstanley redevelopment. The second new axis runs perpendicular to the main access and creates a sheltered landscape along the parking islands for pedestrians traversing the site.

SITE PLAN IMPROVEMENTS

1. Improved connection to Brook Walk
2. Improved connection to library
3. Limit change to already-developed lot
4. New England “grove” style landscape
5. Maintain same number of spaces by efficiency gains

*Images below:
Proposed
Winstanley
parking lot
improvements
for an attractive
landscape and
pedestrian
comfort*



PLANTING PROGRAM

In the viewsheds, a variety of smaller, ornamental trees are planted to preserve viewing angles towards storefronts:

- Sargent Cherry
- Kousa Dogwood
- Upright Serviceberry

In the edge zones, a variety of shade trees are used to create a pleasant environment and a strong sense of place in the New England town common landscape tradition:

- Red Maple
- Red Oak
- River Birch



Viewing angles towards storefronts from the road

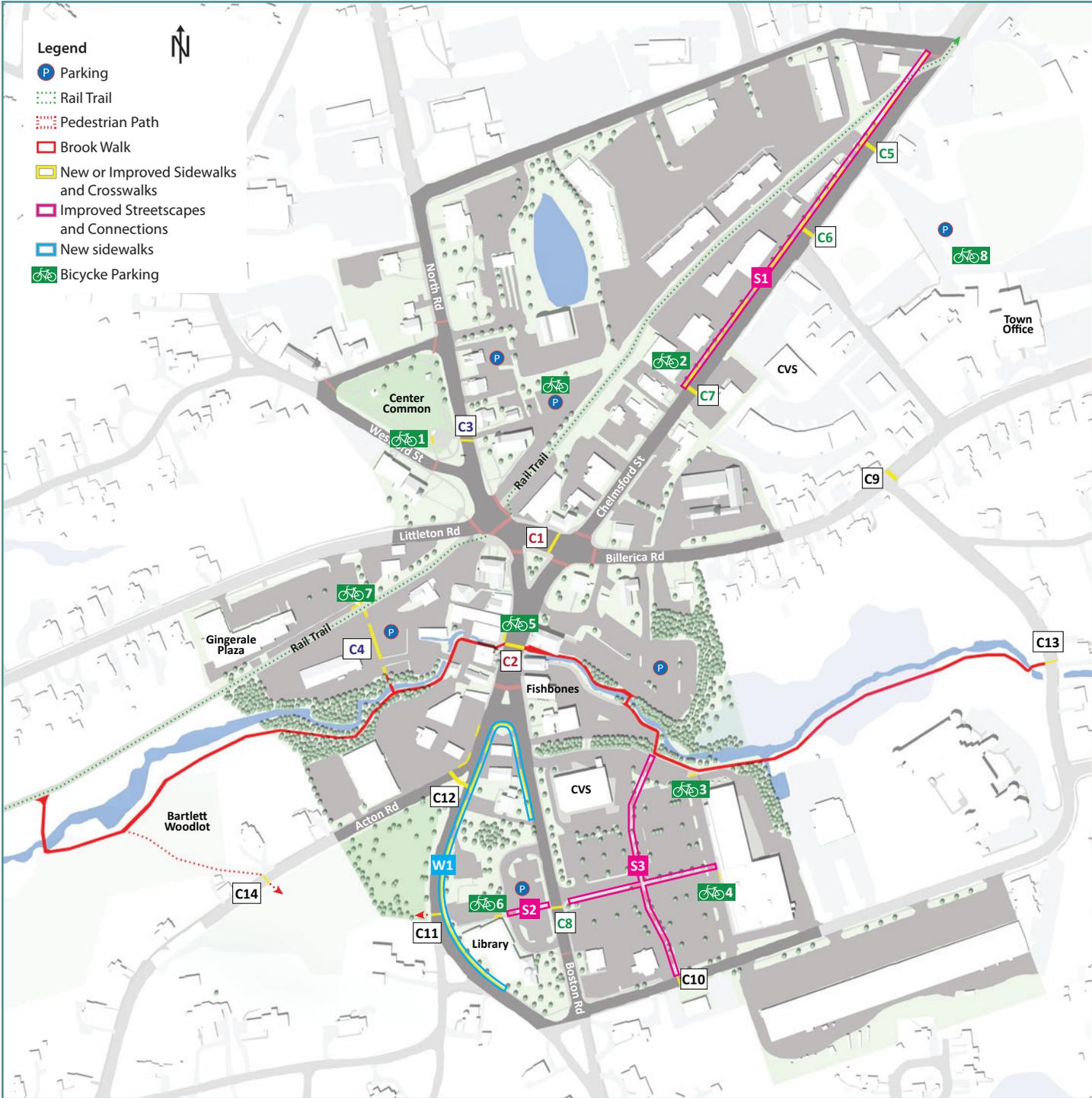


Image: Center Village vision with bicycle parking, new crosswalks, and streetscape improvements highlighted. See Cost Factors opposite for details.

COST FACTORS

The following includes the cost factors to consider in the planning stages for the proposed improvements. These are estimates based on the conceptual plan and typical construction allowances for similar projects.

Table of Cost Factors: Pedestrian Improvements

DESCRIPTION		UNIT COST	AMOUNT	TOTAL COST
S1	Streetscape, Chelmsford Street	\$125-350/ft	1,098ft	\$270,000
S2	Streetscape, Library parking lot	\$125-350/ft	111ft	\$27,000
S3	Streetscape, Winstanley	\$125-350/ft	995ft	\$240,000
C1	New crosswalk with pedestrian crossing lights, on Billerica Road	\$125,000 ea	1	\$125,000
C2	New crosswalk with pedestrian crossing lights, on Central Square at Brook Walk crossing	\$125,000 ea	1	\$125,000
C3	New crosswalk, raised table, from Center Common to Center for the Arts across North Road	\$8,000 ea	1	\$8,000
C4	New crosswalk, raised table, from Rail Trail to Brook Walk across shared parking and the Harvey property	\$8,000 ea	1	\$8,000
C5	New crosswalk, with signal, on Chelmsford Street to public parking	\$12,000 ea	1	\$12,000
C6	New crosswalk, with signal, on Chelmsford Street to Wilson Street	\$12,000 ea	1	\$12,000
C7	New crosswalk, with signal, on Chelmsford Street	\$12,000 ea	1	\$12,000
C8	New crosswalk, with signal, on Boston Road from the library to Winstanley shopping center	\$12,000 ea	1	\$12,000
C9	New crosswalk, on Billerica Road to sidewalk on Summer Street	\$1,500	1	\$1,500
C10	New crosswalk, across Summer Street from pedestrian path in Winstanley shopping center to sidewalk	\$1,500	1	\$1,500
C11	New crosswalk, on Bartlett Street from the library to Bartlett Park	\$1,500	1	\$1,500
C12	New crosswalk, on Bartlett Street and Acton Street	\$1,500	1	\$1,500
C13	New crosswalk, on Summer Street from the Brook Walk to the sidewalk	\$1,500	1	\$1,500
C14	New crosswalk, on Acton Road from the Woodlot to Bartlett Park	\$1,500	1	\$1,500
Bike1	Bicycle parking facility, Center Common	\$1,000	1	\$1,000
Bike2	Bicycle parking facility, Chelmsford Street	\$1,000	1	\$1,000
Bike3	Bicycle parking facility, Winstanley 1	\$1,000	1	\$1,000
Bike4	Bicycle parking facility, Winstanley 2	\$1,000	1	\$1,000
Bike5	Bicycle parking facility, Center Village Brook	\$1,000	1	\$1,000
Bike6	Bicycle parking facility, Library	\$1,000	1	\$1,000
Bike7	Bicycle parking facility, Rail Trail	\$1,000	1	\$1,000
Bike8	Bicycle parking facility, Town Office / Fields	\$1,000	1	\$1,000
W1	New sidewalk; concrete with granite curb	\$25/lf	833ft	\$21,000
Total Hard Costs				\$862,000
Total Soft Costs (Legal, Design, Permitting)				\$500,000

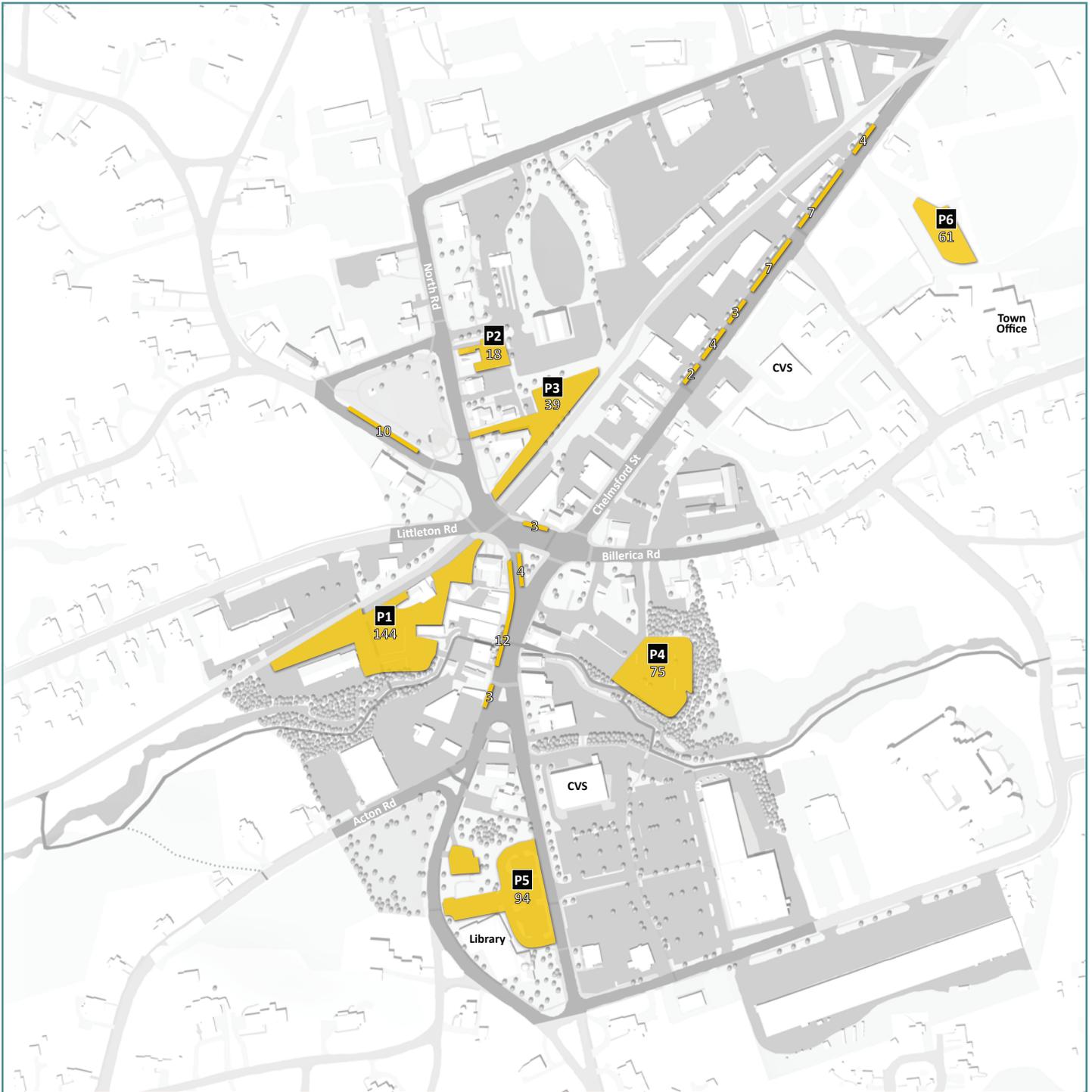


Image: Vision for public parking and public street parking in Center Village

- P1 (144 spaces): Proposed “shared parking” on private property managed by the Town*
- P2 (18 spaces): Proposed new public parking on the old Fire Station site*
- P3 (39 spaces): Existing parking behind the Center for the Arts*
- P4 (75 spaces): Existing public parking, currently leased by the Town*
- P5 (94 spaces): Existing public parking by the library and Dutton House*
- P6 (61 spaces): Improved public parking behind the Town Offices*

Parking

SUMMARY DESCRIPTION

According to a count of spaces (see appendix NMCOG Parking Study), Center Village is ‘over-parked,’ meaning that there are more spaces than needed for the uses. The actual problem with parking is that the spaces are not distributed where the demand exists or parking is not located in easy walking distance to the destination.

One element of the multi-element approach to improve parking where needed is to combine connected, private parking areas for the lots around Brickhouse Pizza and the Harvey Property and rearrange parking spaces for an increase in spaces estimated to be 49-56 spaces (parking area P1 on map and detail on following page). This would require agreements between the property owners, one of which is the Town.

The second element is to upgrade and expand public ownership of the private parking lot behind the Odd Fellows Hall and Santander Bank (parking area P4 on map). The spaces are in the rear of the lot and are significantly separated from the street frontage and business entrances, which makes them less attractive for a choice of parking.

The last element is to better sign the existing and improved parking areas to indicate what is available, and improve the walkability between the parking areas and the destinations to make it easier to connect (also known as a program of wayfinding).

SHARED PARKING

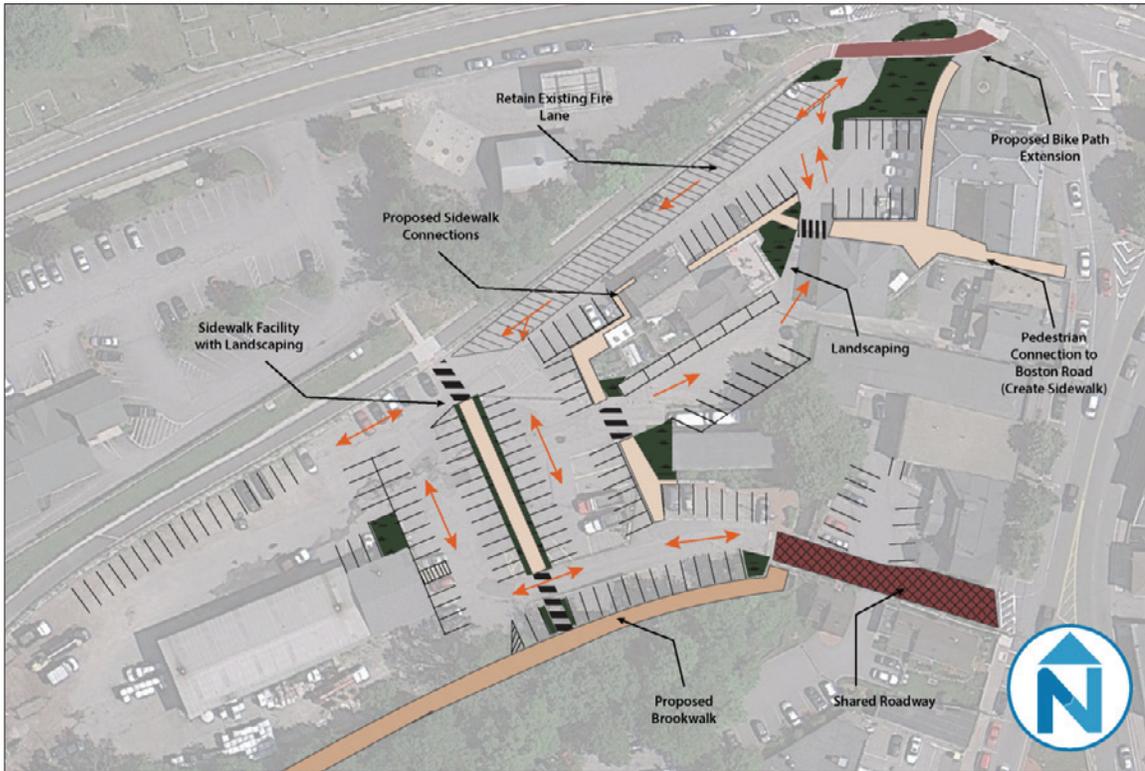
A concept for shared parking lots was developed to show how cooperative arrangements could provide additional parking in the highest demand location around the Brickhouse Pizza restaurant. The concept, presented at a public meeting, shows the parking lots around the Harvey property and Brickhouse Restaurant. In the concept the lots are combined and restriped with a resulting increase of 49-56 spaces additional spaces on top of the existing 95 parking spaces to create a total of 144-151 spaces.

This concept is considered one of the important elements of the Center Village parking improvement strategy, regardless of whether the required agreements between owners can be reached or if the town has to take over as a parking authority. It is recommended that the town first try using its good offices for the purpose of encouraging the private agreements for shared parking. If this approach does not result in satisfactory progress, the town could provide infrastructure funds, possibly from a state grant or a district improvement finance program for the purpose of construction of the newly configured lot. The town could also consider using some of its powers under state law (e.g. eminent domain) to advance the improvements.

There are other measures that could improve access to the parking spots available in the existing lots. This ranges from simple signage programs to real time technology linking

information on parking space availability with smart phones. Additional information on the existing parking supply can be found in the NMCOC report in the appendix.

Image: Shared parking concept map showing increased efficiency leading to an overall gain in parking spaces



PUBLIC PARKING

Public parking in Center Village is limited in several ways. There is limited on-street parking and the public lots are not easily found. This could be solved from several actions:

- Completing the parking lot behind Town Offices, signing it and linking it to the streetscape project improvements on Chelmsford Street,
- Increasing on-street parking to make the street more of a typical village center. This could occur along Chelmsford Street as part of the streetscape improvements, to provide about 26 parallel parking spaces, and on east side of Boston Road on either side of the proposed bridge, that provides about 6 new parking spaces,
- Obtaining and expanding the public parking in the rear of Santander Bank (formerly Sovereign Bank) to allow the town to control the lot while providing maintenance and management for the businesses on the property,
- Providing better signage and wayfinding.

The parking lot behind the Odd Fellows Hall and Santander Bank is currently underutilized. The Town has a rental agreement with the property owner that allows access and control of a portion of these spaces for public parking. The town receives no income from parking within the lot but it is not heavily used and so would provide little revenue.

The town could purchase more of the lot and control that parking, with an agreement that allows the current businesses to use the parking for zoning compliance. This could also be used to obtain the property necessary for the Brook Walk.

Image: Municipal Controlled Parking Lot Section Behind Santander Bank (formerly Sovereign Bank) with the proposed Brook Walk path dotted in



Signage and Wayfinding

APPROACH

At least some of the often-stated problems of a lack of parking and access to parking from individuals interviewed in this study can be addressed through improved signage and wayfinding for public parking. This program of wayfinding could include informational signs and directional signs.

Town wayfinding not only directs visitors to destinations, it also serves as a teaching tool that educates visitors on the boundaries, destinations and key features of the urban environment. All towns have a specific vocabulary that residents and visitors can “read” in the streets, landmarks, nodal areas and unique districts. By utilizing a system of gateways, signage and streetscape elements, a town can enhance its legibility by visitors. At the same time, the signage can be used as a form of branding for Center Village and the Town.

To create a wayfinding program the Town should complete a design process that includes analysis of the range of information to be conveyed and the form of the signage. Shown below is a conceptual group of signs customized for Central Square in Chelmsford.

Image: Wayfinding signage program concept for Chelmsford



The following four pages contain to-scale drawings of the proposed signage and wayfinding solutions summarized above. On page 38, a proposal is made for the locations of the Parking ID, Parking Directional, and Vehicular Directional signs, and on page 39, the costs are given for those two sign groups.



Image: Illustration of an information armature shown at the intersection of the Bruce Freeman Rail Trail and Chelmsford Street



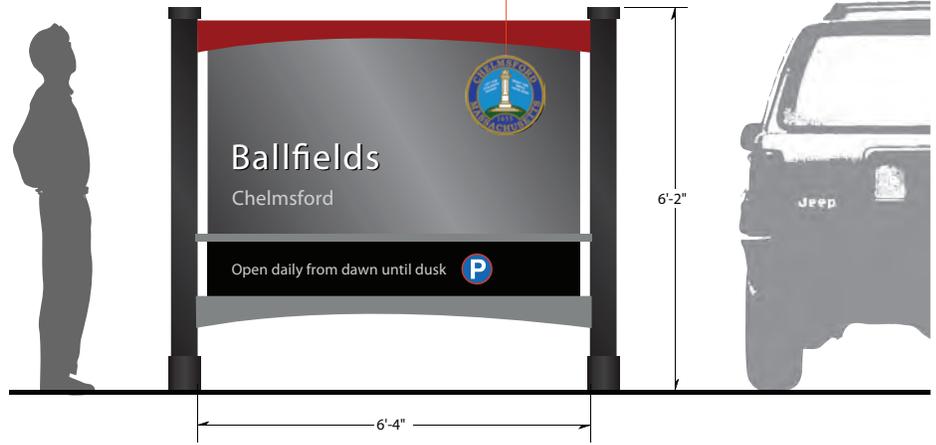
Chelmsford full-color seal



Chelmsford maroon color

Cast Aluminum Plaque

Notes:
Freestanding non-illuminated single-sided aluminum panel w/ dimensional graphics.



B Public Park ID Ballfields
1 Scale: relative to image

Public Park ID Elevation
Scale: 1/2" = 1'-0"



Top View

Cast Aluminum Plaque

Notes:
Freestanding non-illuminated single-sided aluminum panel w/ reflective vinyl graphics

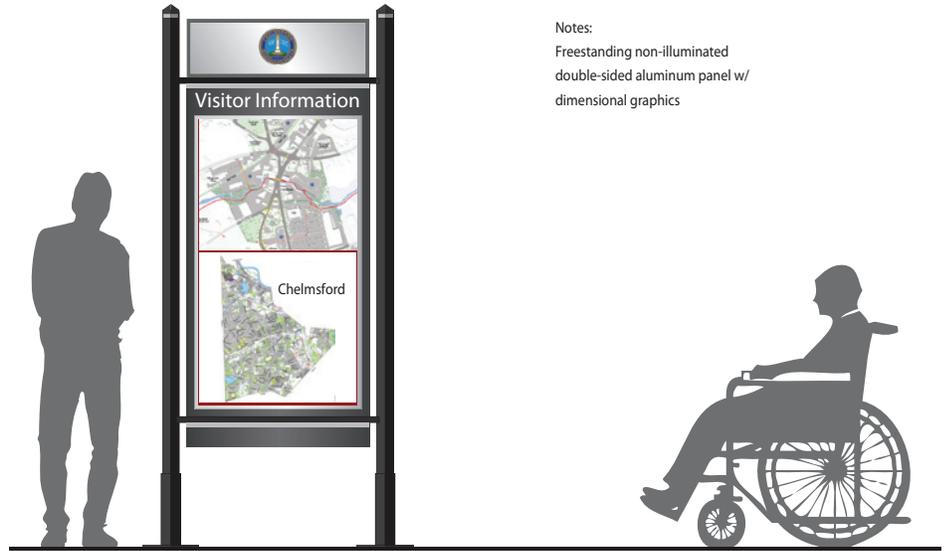


D Vehicular Directional Route 3 @ Cottage Street
1 Scale: relative to image

Directional Elevation
Scale: 1/2" = 1'-0"



Top View 2-sided armature

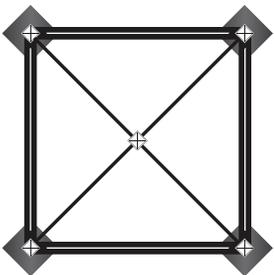


Notes:
Freestanding non-illuminated
double-sided aluminum panel w/
dimensional graphics

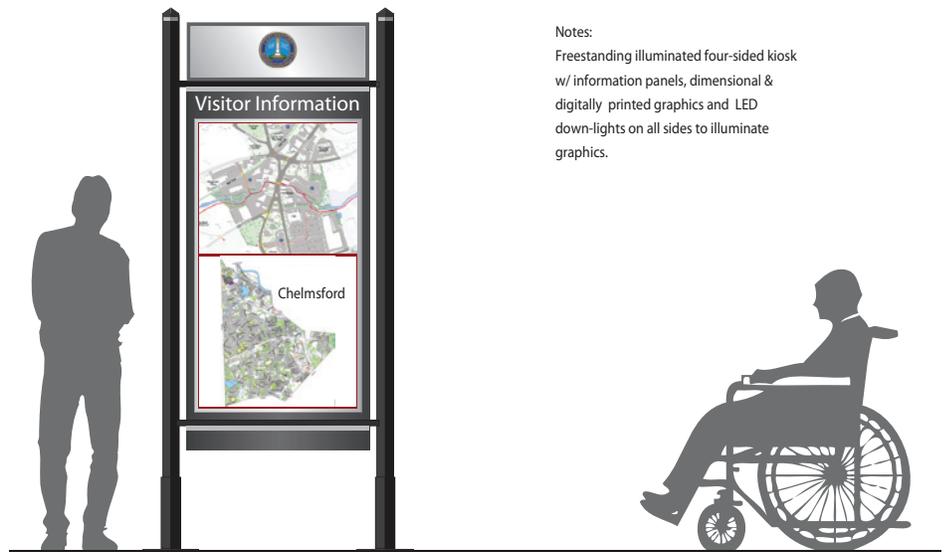


Information Armature 1 Waterfront
Scale: relative to image

Information Armature Freestanding/changeable
Scale: 1/2 " = 1'-0"



Top View 4-sided armature

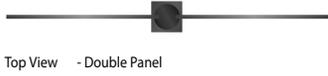


Notes:
Freestanding illuminated four-sided kiosk
w/ information panels, dimensional &
digitally printed graphics and LED
down-lights on all sides to illuminate
graphics.

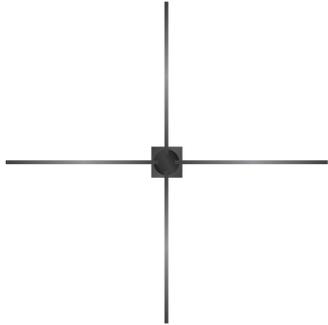


Information Armature 2 Waterfront
Scale: relative to image

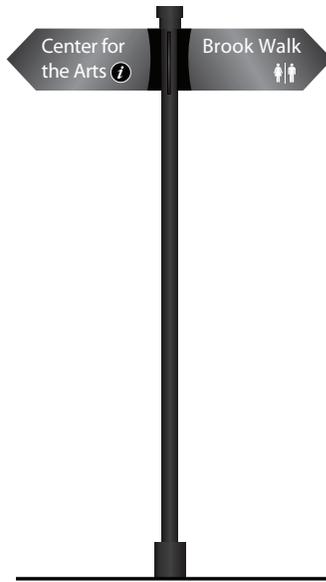
Information Armature Freestanding/changeable
Scale: 1/2 " = 1'-0"



Top View - Double Panel



Top View - Quad Panel



Notes:
 Freestanding non-illuminated armature;
 aluminum directional panels w/ vinyl
 graphics mounted to 3" diameter
 aluminum post w/ simple decorative
 base.

D2
 1 Pedestrian Directional
 Scale: relative to image

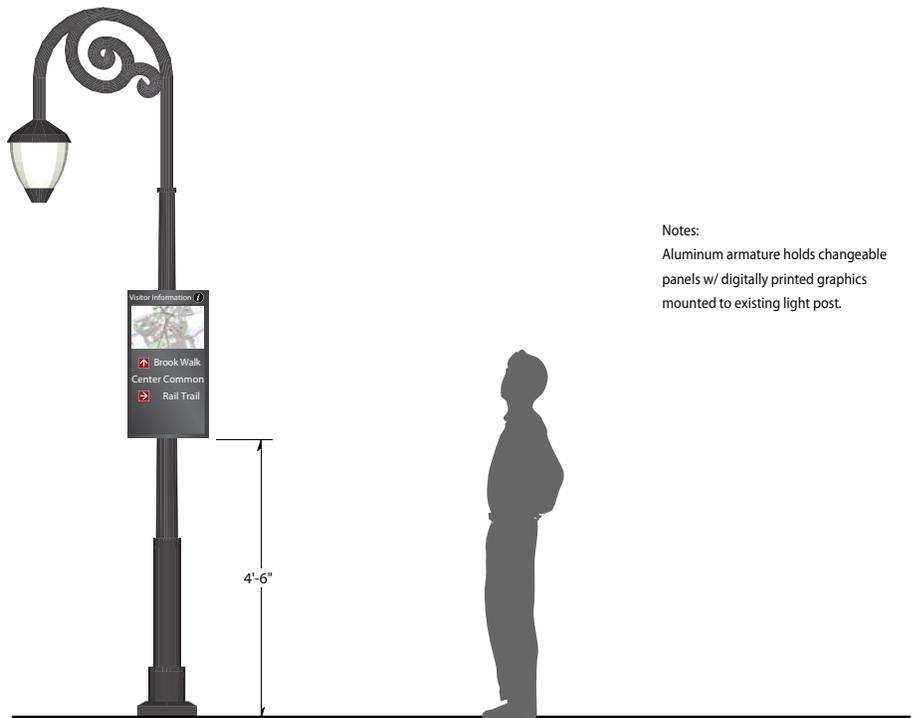
Pedestrian Directional Elevation
 Scale: 1/2" = 1'-0"



Top View - Double Panel



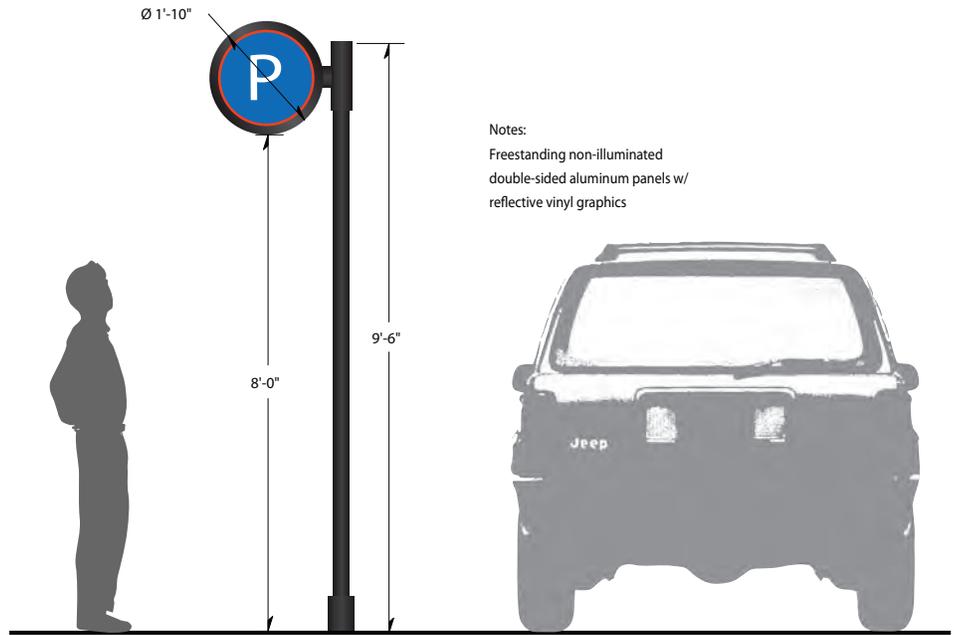
Top View - Quad Panel



Notes:
 Aluminum armature holds changeable
 panels w/ digitally printed graphics
 mounted to existing light post.

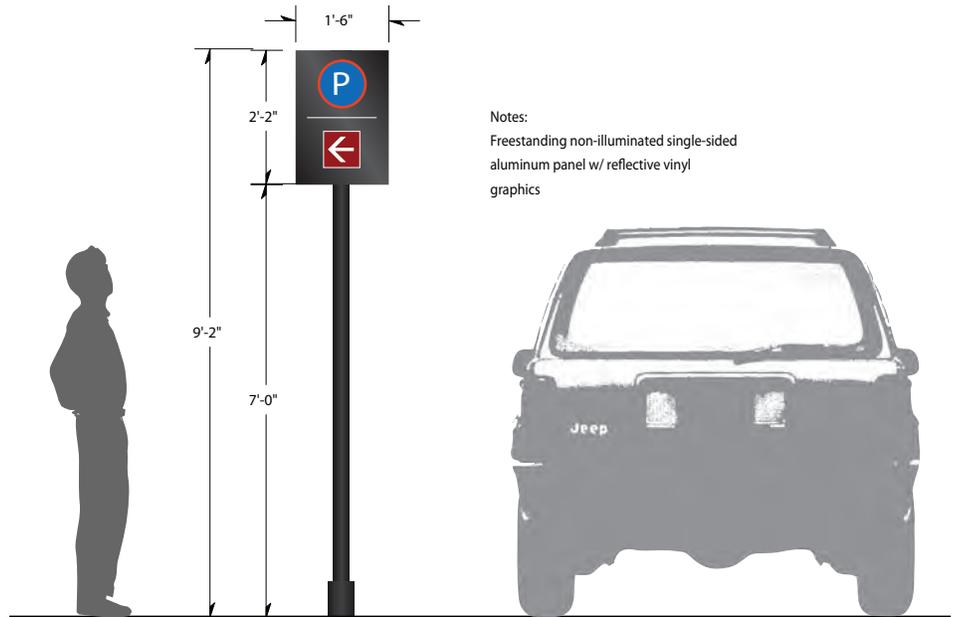
D3
 1 Pedestrian Information
 Scale: relative to image

Pedestrian Information Elevation
 Scale: 1/2" = 1'-0"



P Parking ID
 Scale: relative to image

Parking ID Elevation
 Scale: 1/2" = 1' - 0"



P Parking Directional
 Scale: relative to image

Parking Directional Elevation
 Scale: 1/2" = 1' - 0"

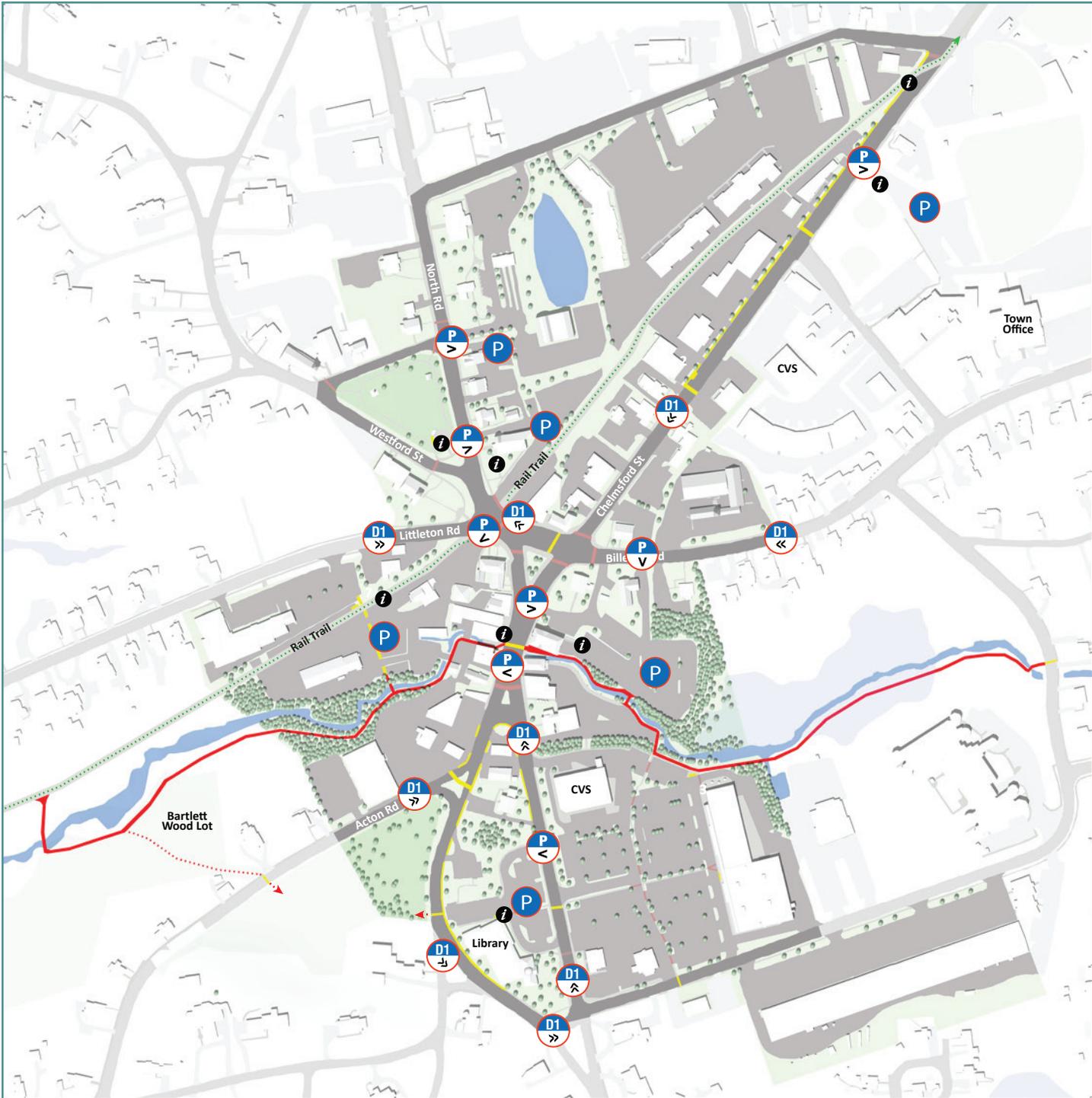


Image: Vehicular parking wayfinding in Central Village

P: Parking ID sign

P>: Parking Directional sign

D1>: Vehicular Directional sign

COST FACTORS

The following includes the cost factors to consider in the planning stages for the proposed improvements. These are estimates based on the conceptual plan and typical construction allowances for similar projects.

Table of Cost Factors: Signage and Wayfinding

DESCRIPTION		UNIT COST	INSTALL COST	AMOUNT	TOTAL COST
B1	Public Park ID	\$3,725	\$800	To be determined	
D1	Vehicular Directional	\$1,295	\$450	9	\$15,705
V1	Information Armature	\$3,455	\$800	8	\$34,040
D2	Pedestrian Directional	\$625	\$450	To be determined	
D3	Pedestrian Information	\$500	\$450	To be determined	
P1	Parking ID	\$800	\$450	6	\$7,500
P2	Parking Directional	\$400	\$450	8	\$6,800
	Total Hard Costs as Currently Considered				\$64,045
	Total Soft Costs (Legal, Design, Permitting)				\$100,000

Conservation, Land Use and Zoning

There are issues that must be addressed regarding conservation, land use and zoning standards in the state and local regulations to help accomplish the plan. These include:

- Preservation of the Brook for the purposes of restoration and access. This could be accomplished with performance and design standards for development.
- Reductions and sharing of parking. This could be accomplished with regulation for new development and by negotiated agreements for existing development.
- Design standards for site and building improvements within the center where the hardscape sections of the Brook Walk are proposed adjacent to existing, developed and potentially redeveloped properties. This will require knowing additional detail on the future design of the Brook Walk and the redevelopment potential of the adjacent properties, as part of a feasibility study.

Following are the regulatory programs that advance these ideas and information regarding how the regulations could be amended or addressed to deal with the issues identified above.

PRESERVATION AND PROTECTION OF BEAVER BROOK AND WETLAND RESOURCES

The Wetlands Protection Act [M.G.L. c.131, sec.40] and its associated regulations are implemented and enforced by the Chelmsford Conservation Commission. The law defines the wetland resources to be protected and the standards by which a proposal must be judged based on the resource and the values associated with that resource. This ensures that the Beaver Brook and associated wetland resource areas and buffers will be preserved and protected with the proposed Brook Walk. There are a number of standards that apply to the Brook Walk concept. Of importance are the standards that apply to the banks of the Brook and the allowances for alteration to construct the proposed Brook Walk, bridge crossings and daylighting of the waterway.

Any construction along the bank of the stream for the hardscape section could be considered a significant impact, while the exposure or daylighting of the Brook is a significant environmental benefit. However, the mitigating action of daylighting will not be considered in regulatory balance with the impact to the bank. Consequently, a cantilevered section of the Brook Walk supported with pilings instead of fill may be necessary to ensure that the wetland impacts are reduced.

Construction of the forest section of the Brook Walk is expected to be at the least within a wetland resource buffer and the boardwalk section will be within the wetland resource areas. Trail and boardwalk design and construction have been well developed for providing protection of, and reduced impact to, wetland resources. Consequently, the potential design of these walkway sections is expected to be able to be permitted under the wetland regulations.

The proposed bridge crossings will also have impacts to the wetland resources. However, because of the small width of the Brook, the bridges could span the stream and banks with the foundations only within the wetland buffer areas. Consequently, the potential design of the bridges is also expected to be able to be permitted under the wetland regulations.

EXISTING ZONING REGULATIONS ANALYSIS

Based upon the zoning discussion in the Existing Conditions report section, the study area does not contain a consistent zoning scheme, which has been identified as a threat to the Center Village as it relates to preserving its character and economic vitality.

The 2010 Master Plan touts the benefits of mixed-used development, such as increased housing options for diverse household types, reduced auto dependence, and healthier lifestyles for residents living within a mixed-use district. The Master Plan also states that allowing residential uses above retail, offices or shops within the Town Center would add vitality and additional foot traffic; creating a more vibrant village community. The creation of design guidelines for mixed-use development and redevelopment projects within the Town Center will ensure that future projects are consistent with the character of these areas and that the historic integrity of the villages is preserved and enhanced.

Although the existing CV district allows for residential uses, its applicability is severely restricted based upon minimum lot area, maximum number of units and unit per acre requirements. The zoning is so restrictive, in fact, that no residential project has ever been proposed using the existing CV district bylaw.

ZONING BYLAW: PARKING REGULATIONS

When considering new uses proposed within the town and the Center Village study area the Zoning Bylaw includes the standards that must be addressed, which are found in ARTICLE V OFF-STREET PARKING AND LOADING (§ 195-16 — § 195-22). A set of draft amendments to the parking regulations, ‘Draft 4.0’ dated June 14, 2013, prepared by Howard/Stein-Hudson, was reviewed for this study. The draft regulations allow for reductions in parking requirements to meet the unique building and parcel configurations within Center Village. These are considered appropriate, depending on the use and accessibility of public and private parking around Center Village. Several items included in the regulations are of importance to this plan:

- The draft regulations address the considerations, including the need for legal agreements, when proposing privately shared parking arrangements.
- The minimum parking standards [§ 195-17] are typical of a suburban typology. While the standards for multi-family residential may be higher than needed for development of village housing as proposed in the Chelmsford Center Village Housing Study, (see appendix) the allowances for reductions in parking provide options for potential housing projects.

ZONING BYLAW: DESIGN STANDARDS AND GUIDELINES

Drafts of the Village Center Overlay District, 'Draft 2.0' dated July 10, 2013 and Village Center Design Guidelines and Standards, 'Draft 2' dated April 21, 2013, prepared by Howard/Stein-Hudson, were also reviewed for this study. The proposed standards and guidelines address issues regarding infill development and property improvements. The draft of the guidelines and standards address the façade and building character issues. Section 1.4.6 of the Village Center Overlay District specifically addresses properties that front on Beaver Brook. While significant setbacks may be appropriate for most sections, the Hardscape section is recommended to have a more urban character. Standards and guidelines for accommodation of the Brook Walk as proposed in this plan would be:

- Reduced building setbacks or optional through-building passage for the Brook Walk that allow adjacencies within the Hardscape section.
- Area for access easements for passage along the Brook on private property and between private properties.
- Building orientation and design character that includes multiple façade treatments when facing the Brook along with the other public viewpoints.
- Additional building openings that link to the Brook Walk and views of the Brook.
- Reference to site improvement standards that control runoff and impact to the Brook and its banks.
- Allowed densities should be consistent with existing development and the capacities of the existing buildings.

Other regulatory standards may be necessary after completion of the final design and determination of the need for selected demolition and reconstruction and renovation of the buildings adjacent to the Brook Walk. These could be defined as part of the legal negotiations for easements for passage along the Brook Walk. The engineered design of the Brook Walk and adjacent buildings and their foundations would also have to be coordinated. These are considered technical details that could be determined during a feasibility study.

Implementation Plan

FUNDING

Funding of the projects proposed in this plan would best be accomplished with multiple sources. Below are the general approaches and specific program options to advance these ideas.

Local commitments help attract other funding, and may be particularly helpful or even required for some of the competitive grants. Local funds may be appropriated by Town Meeting after programming the projects in the Town Capital Improvement Plan. In addition, crowd-sourcing may be used to raise capital from local and outside stakeholders, and generate funds outside of the Town government budget.

Locally supported approaches, such as a Priority Development District [MGL c.43D], may be used to support private involvement and investment through community-sponsored programs. Quite often, tax incentive programs are also used to support private investment related to infrastructure improvements such as a Business Improvement District, or, a District Improvement Financing program.

State and federal sources include technical assistance as well as grant funding that may also be used to supplement and in some cases provide the majority of project funding. These resources are usually issued in competitive rounds.

Potential Grants and Programs for Funding and Technical Assistance

There are several programs available that would assist both the Town and the stakeholder businesses to implement this strategic plan. The tools include a combination of state funding grants, town initiatives and businesses actions that, when coordinated, could provide the funding and support, both public and private, needed for realization of the plan.

The table below lists funding, financing and technical assistance programs available that could help to implement the plan.

Table: Funding, financing, and technical assistance programs applicable to the vision's implementation

PROGRAM	STANDARDS	BENEFITS	SCHEDULE
Business Improvement District	Incorporates a contiguous geographic area which is 75% commercial/retail/industrial or mixed use Established through local petition and local hearing process	Supports control by property/business owners Allows management, marketing, economic development activities	Open
District Improvement Financing (DIF)	Must meet state regulations; administered by Economic Assistance Coordinating Council (EACC) District and plan must be designated by the Town before submitting to EACC Term is a maximum of 30 years	Authorizes tools to implement plan including acquisition and financing Financing can be from bonds or revenue from tax increments or a combination	Open
MassWorks Infrastructure Program	Applications once per year in September; sometimes extra grant round in late winter Provides funds for public infrastructure and streetscape improvements on public property Public property may be acquired as gift or by easement Encourages public/private partnership Provides funds for public infrastructure improvements on public property Town must be the applicant MassWorks cannot pay for any project work done before a grant award. Town can request up to 10% of project costs in its application for design, engineering, etc. to be undertaken after an award	Several different grants were rolled into this program two years ago. It provides one-stop grant program Substantial funding possible if State criteria for jobs and housing are met	Next funding round will be September 2014. See Schedule below for more details
Recreational Trails Grant [Division of Conservation and Recreation]	Grants as reimbursements for trail protection, construction, and stewardship projects Requires 20% matching funds/in-kind services Types of trails funded include trails that link neighborhoods with natural areas and water trails	Also provides source of funding for acquisition of easements	Next funding round applications must be in by February 1st, 2014
Aquatic Habitat Restoration and Revitalization Priority Projects [Division of Ecological Restoration]	Support for plans that restore the ecological integrity and community value of rivers Stream daylighting is a program objective	Funding committed to multi-year projects	Next funding round RFR out November, 2013
Community Preservation Act (CPA)	Application of funds in categories according to State law; Open Space, Historic Preservation and Recreation	Control of funds by Town	Town Meeting
Rivers, Trails and Conservation Assistance Program [National Parks]	Technical assistance program that provides a National Park Service employee to help organize, strategize, build public participation, and help implement a conservation and/or recreation project	Provides focused technical assistance and broad recognition	Applications must be submitted by August 1st

Community Preservation Act

The Community Preservation Act (CPA) provides a source of funding for Open Space Preservation, Historic Preservation and Affordable Housing through a surcharge on the property tax. The money is kept in a separate CPA account by the Town. Each category (Open Space, Historic Preservation and Affordable Housing) must receive a minimum of 10% of the CPA funds available each year. The remaining 70% may be allocated for any one of the three categories, as Town Meeting sees fit.

The Community Preservation funds are administered by the Community Preservation Committee (CPC), a nine-member committee. The CPC holds an annual public hearing to receive comments on the proposed Community Preservation Plan. The CPC then finalizes the plan for allocating the funds, and presents its plan to Town Meeting for approval. Town Meeting then votes on the proposed recommendations.

CPA funds can be spent on Open Space Preservation, Historic Preservation, recreation and Affordable Housing. The CPC has established specific eligibility and selection criteria for projects seeking Community Preservation funding. It is anticipated that many of the recommended actions and implementation will be eligible for CPC funding.

MassWorks Grant Schedule

The streetscape and street infrastructure improvements recommended as part of this plan could be funded by a MassWorks grant from the Massachusetts Executive Office of Housing and Economic Development (EOHED). The following table lists the projected steps and timeline for the MassWorks 2014 grant application process.

Table: Funding, financing, and technical assistance programs applicable to the vision's implementation

MONTH	ACTION	RESPONSIBILITY
January - April	Discuss planned infrastructure improvements	Town of Chelmsford/Property Owners
	Negotiate public and private contributions	Town of Chelmsford/Property Owners
	Evaluate public ownership of property needed for public improvements; negotiate any necessary acquisitions	Town of Chelmsford/Property Owners
	Annual Town Meeting appropriation for grant application studies and completion	Town of Chelmsford
May	MassWorks on-line applications available	EOHED
May-June	Grant application process: Prepare plans and cost estimates for infrastructure improvements. Report 'Economic Development' scorecard (economic and fiscal impacts, funding strategy, property owner and other private investments)	Town of Chelmsford
May-August	2-week period for application submissions	EOHED
Early September	Submit application	Town of Chelmsford
December	Announcement of funded projects	EOHED

Recreational Trails Grant Program

The elements of the Beaver Brook walk which could be supported by the Recreational Trails Program (RTP) include design and engineering. The recommendation is for the town to fund the inspection and design of the culvert/bridge section of Beaver Brook and use 80% matching RTP funds to design the linking sections of the trail, including the Cushing Place and Bartlett Woodlot sections dependent on obtaining agreements with the property owners to proceed.

The criteria used by the State to assess the proposal include the following:

- Demonstrates the needs for the project, such as satisfying a recreational demand, connecting under-served communities, or solving a significant trails issue.
- Furthers one of the goals or strategies identified in Commonwealth Connections, or an adopted regional or local plan.
- Is a realistic, tangible trail project that can be accomplished in the time given, and has a realistic and appropriate budget.
- Creates, expands or enhances a trail system or new trail connections, with real and lasting public benefits.
- Considers relevant environmental, social and cultural issues, and minimizes or mitigates impacts to natural and cultural resources, addressing all applicable permitting issues.
- Creates partnerships among trail users, organizations, or agencies.
- Has community support.
- Provides for a diversity of trail uses.

The Recreational Trails Program for Division of Conservation and Recreation includes a nine-month schedule for review of applications.

Table: Funding, financing, and technical assistance programs applicable to the vision's implementation

MONTH	ACTION	RESPONSIBILITY
June-October	Revise plans and cost estimates for infrastructure improvements	Town of Chelmsford/Property Owners
October	Annual Town Meeting appropriation for grant application studies and funds	Town of Chelmsford
	On-line applications available	DCR
November-January	Determine public and private contributions	Town of Chelmsford /Property Owners
February	Submit application	Town of Chelmsford
September	Announcement of funded projects	DCR

Aquatic Habitat Restoration and Revitalization Priority Projects; Division of Ecological Restoration, Department of Fish And Game

The Division of Ecological Restoration provides a program that supports river restoration projects. The Division reports that there will be an announcement of another round of funding coming out within the month of November 2013. The program has received \$10.4 million committed to projects as a result of Hurricane Sandy restoration funding. Other funds are available on a competitive basis. Application for funds could be directed towards the bridge/culvert and hardscape elements as well as the wood and wetland trail sections as a balanced approach to restoration and re-connection to the river. The schedule is similar to the Recreational Trails program.

PHASING

The planned improvements are proposed to be completed in steps to ensure a logical progress in the completion of the vision as a series of related elements that are tested prior to full investment and construction. The proposed phasing plan is listed below.

The concept allows for temporary constructions to test the value of some elements of the Brook Walk. A term coined recently to describe a similar approach is “tactical urbanism.” Public policy would support the testing of these temporary improvements for access and outreach. The phasing shown in the table below is consecutive from phase to phase.

Table: Project phasing, timeframe, and responsible entities

ELEMENT	TIMEFRAME	RESPONSIBLE ENTITY
PHASE 1		
Complete Engineering Survey of Existing Beaver Brook Culverts	4 months	Department of Public Works
Construct Additional Street Crossings	6 months	Department of Public Works
Initiate Acquisition of Access Easements for Brook Walk	2 years	Selectmen
Construct a Temporary Bridge Crossing (between the parking lots, Bridge B-3)	8 months	Department of Public Works
PHASE 2		
Purchase Easement, Lease, or Fee Simple Acquisition for Expanding Public Parking Lot behind Odd Fellows Hall	2 years	Selectmen
Complete Ground Survey of Brook, Existing Conditions	6 months	Department of Public Works
Complete Acquisition of Access Easements for Brook Walk	2 years	Selectmen
Engineer and Design the Brook Walk	6 months	Department of Public Works
Construct Brook Crossing from Public Parking Lot behind Odd Fellows Hall to Adjacent Parking Lot	1 year	Department of Public Works
Reconstruct Bridge Endwall on Eastside of Central Square	1 year	Department of Public Works
Place Temporary Sign at Reconstructed Endwall for 'Future Beaver Brook Walk'	3 months	Department of Public Works
PHASE 3		
Construct Streetscape and Parking on Chelmsford Street	1 year	Department of Public Works
Completion of Easements for Brook Walk	1 year	Selectmen
Amend Zoning Bylaw, as needed, for Reuse and Construction	6 months	Planning Board and Town Meeting
Construct Brook Walk Within Bartlett Woodlot	6 months	Department of Public Works
PHASE 4		
Demolish Structures and Construct Brook Walk at Central Square	1 year	Department of Public Works
PHASE 5		
Construct Brook Walk Link (boardwalk) to Summer Street	6 months	Department of Public Works



Process

MEETINGS WITH THE CENTER VILLAGE MASTER PLAN COMMITTEE

The consultant team met with the Committee several times from the project's inception until closing to receive input for the vision and check the direction.

INTERVIEWS WITH PRIVATE PROPERTY OWNERS AND BUSINESS OWNERS

Eight interviews were conducted with private property owners and business owners in Center Village, while several others were contacted but did not respond. The following is a summary of their comments and suggestions.

- **Improvement program in Central Square:** stakeholders are grateful for the streetscape improvements. They consider the actions in 2005-2006 a big jump forward for the center, especially the new sidewalks. Some stakeholders expressed that the Town is open to new ideas and is proactive in the community.
- **Utilities undergrounding:** Stakeholders expressed disappointment at the slow pace of negotiations with the utilities companies for undergrounding the utility poles. They would be interested in looking at additional ways to negotiate with the utilities, and for avenues for funding and new angles for approaching the problem. Several stakeholders have mentioned that the traffic improvements have not helped pedestrian access and circulation.
- **Center for the Arts:** The improvements to the Old Town Hall and church have been appreciated, and hopefully incite property owners to invest in the appearance of their properties.
- **Bridge over Beaver Brook behind the Odd Fellows Hall:** The owner of Fishbones expressed that the bridge would be a big benefit to their business, and that they tried to have a bridge installed in 2008, but without any result. They think it would be beneficial because it is an existing underutilized lot, and the bridge would make walking distances shorter, which would be good for the elderly.
- **Traffic:** Traffic continues to be a complicated problem, with many stakeholders having specific issues related to different facets of the intersections. The traffic island on Old Westford Road, North Road, and Route 110 is problematic where routes 110 and 129 have to merge. One stakeholder suggested that a mini rotary could be a perfect solution. Regarding the traffic light at route 110, one stakeholder suggested having a three-second green light at the exit of the Old Town Hall and from the intersection at Brickhouse before the route 110 light goes green to allow for smoother circulation.

Lastly, currently uncoordinated, motorists leaving Old Town Hall are violating the law without knowing.

- **Signage:** Some of the signs could be improved including in the historic district. The view of what is historic is changing. There is also a feeling that there may be too many street signs, which are clogging the sidewalks and distracting motorists. Therefore, a new signage problem should simplify, not add to the problem. One property owner complained about the restrictive nature of the signage requirements in the Historic District, which covers part of the Central Village, but not the other, creating inequality in the businesses' capacity to attract patrons.
- **Infill development:** Stakeholders indicated that they would like to see more mixed-use infill in Central Village, such as townhouses, to create a post-work atmosphere in the area. To achieve this, it was recommended to put in place flexible zoning and encourage developments that face the street to create a more pedestrian-friendly district.
- **Odd Fellows Hall:** Stakeholders commented that they would like to see the Odd Fellows Hall rehabilitated, even if it means using eminent domain for taking. One stakeholder suggested that it may be a good fit for affordable housing and/or retirement home.
- **Shared parking:** An interview with Bill Harvey, owner of the property where Center Sports operates, indicated specifically that he would be interested in a shared parking model on his property, as he already rents 25 spaces to Brickhouse Pizza, and is supportive of increasing amenities related to the Rail Trail, if it makes sense for all parties involved (such as avoiding tax payments and maintenance costs).

PUBLIC INPUT

On Tuesday, September 24, 2013, the Cecil Group Team including traffic consultants Nelson\Nygaard presented the draft Vision at the Chelmsford Library to the general public. The following questions and comments were received from the public.

Questions

- Pedestrian traffic from north to south through the Center on numbered routes is very difficult. Is it possible to have more pedestrian lights on the weekends?
 - * Answer: The State manages crosswalks on their number routes, so the Town will have to work with them, but it is possible.
- How will shared parking work with renters who are living in the mixed use area?
 - * Answer: Tenants may have dedicated parking.
- What is the financial model of shared parking for the Town?
 - * Answer: The only income stream for the Town is in-lieu fees from those who do not have their own parking but want to use the shared parking. The Town would then manage the parking lot, including plowing and lighting.
- Will the State be open to fixing the problems they created during their last retrofit for free?
 - * Answer: No, it will cost the Town money.
- Does the Town want to be a cut-through for motorists on the State roads, or to slow down their intersections?

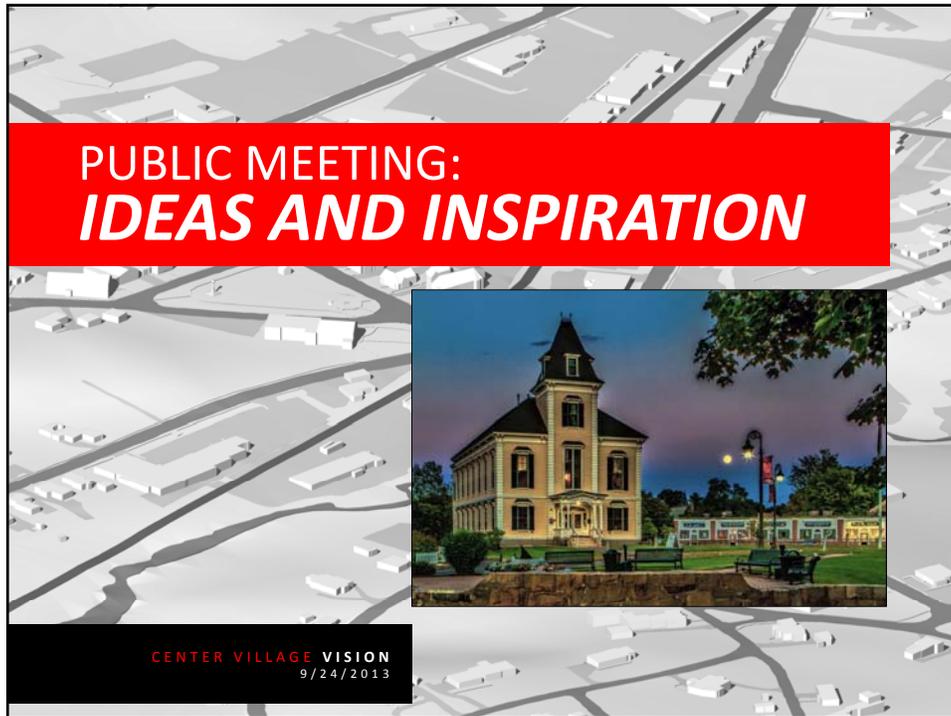
- * Answer: It is possible to push the State to slow down, people will reroute, and the State will continue to maintain their routes. It might be necessary to show other viable routes.
- What will the Brook Walk be constructed of?
 - * Answer: For long-lasting durability, low maintenance costs, and a good texture for pedestrian traction, it is recommended that the Brook Walk decking and fencing in the forest and wetland sections be constructed of recycled plastic lumber.

Comments

- The municipal lot behind Odd Fellows Hall is useless without a crosswalk in the middle of Central Square for pedestrian access.
- Before the streetscape improvements, there was a crosswalk at the location proposed for the Brook Walk, but it was removed because it was considered dangerous after one man was killed there.
- There used to be parking on the east side of Central Square, just as proposed by the vision, but the State removed it with their new design.
- In general, the State DOT has changed its approach in the last 10 years. They do not differentiate between jaywalkers and crosswalk-takers—all pedestrians are the same.
- The downtown requires additional bicycle parking facilities.
- Employees at the Route 129 office parks require better connections to the downtown, for example, bringing in the lunch crowd to downtown. On the other hand, businesses (offices) desire locations where their employees can walk as an amenity, so the vision for Central Square may lead to more businesses deciding to locate there.
- In 2014, the Bruce Freeman Rail Trail will extend to Concord.
- Certain owners with property along the Beaver Brook expressed interest and cooperation for easements that would allow for the Brook Walk to be constructed.
- For shared parking, another benefit will be more efficient sharing of ADA / handicapped parking for businesses.
- Signage is already cluttered in the downtown. When making a new signage program, should consider combining the cultural signs and parking signs.
- Minuteman National Park in Lincoln, Massachusetts, is a good case study for boardwalks.

Slides from Public Presentation

See following pages



AGENDA

1. Introduction
2. Summary of findings
 - Beaver Brook Walk
 - Access and Connections
 - Center Village Parking
3. Open discussion
4. Conclusions

AGENDA

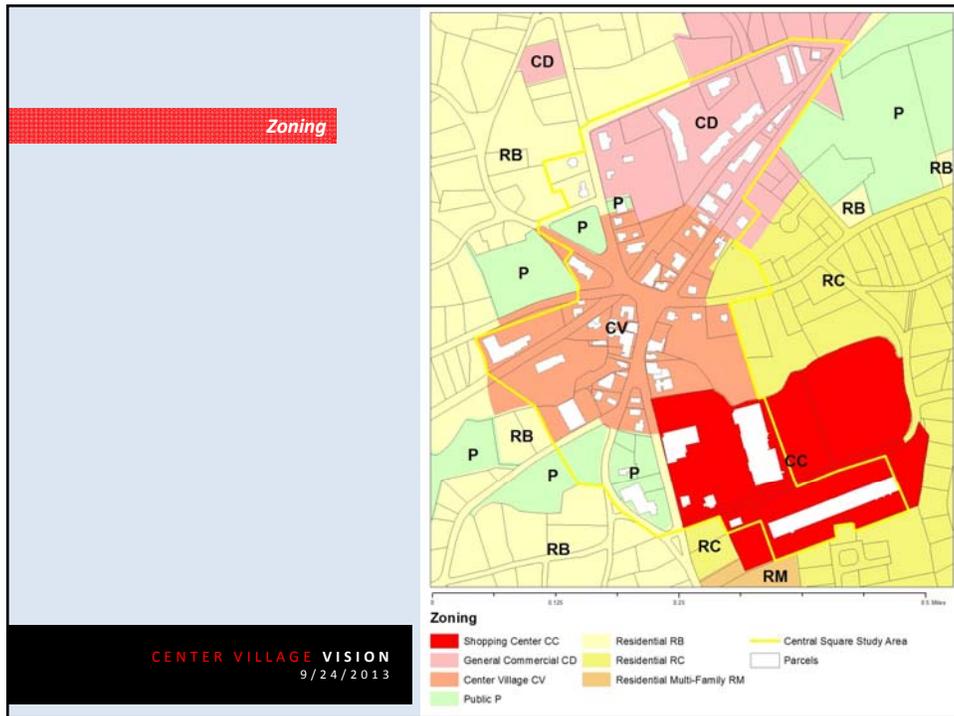
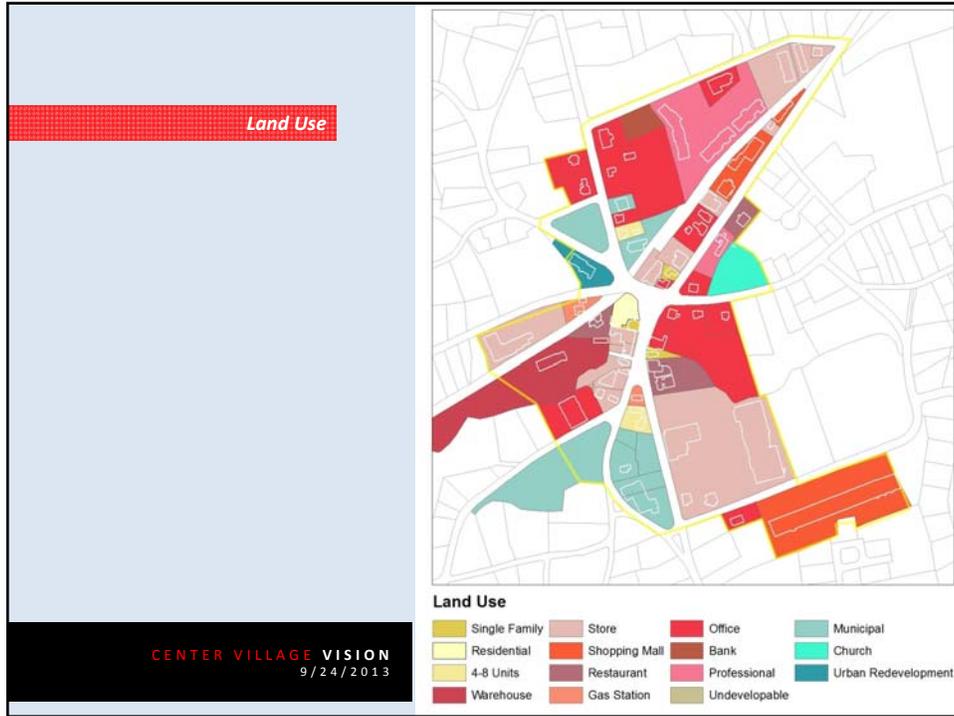
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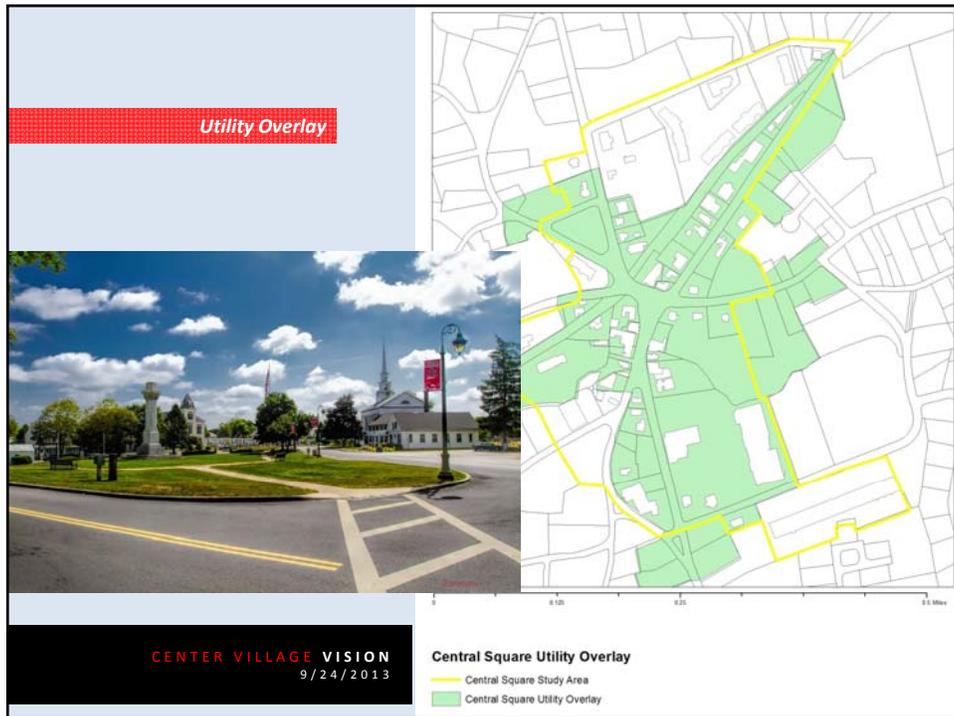
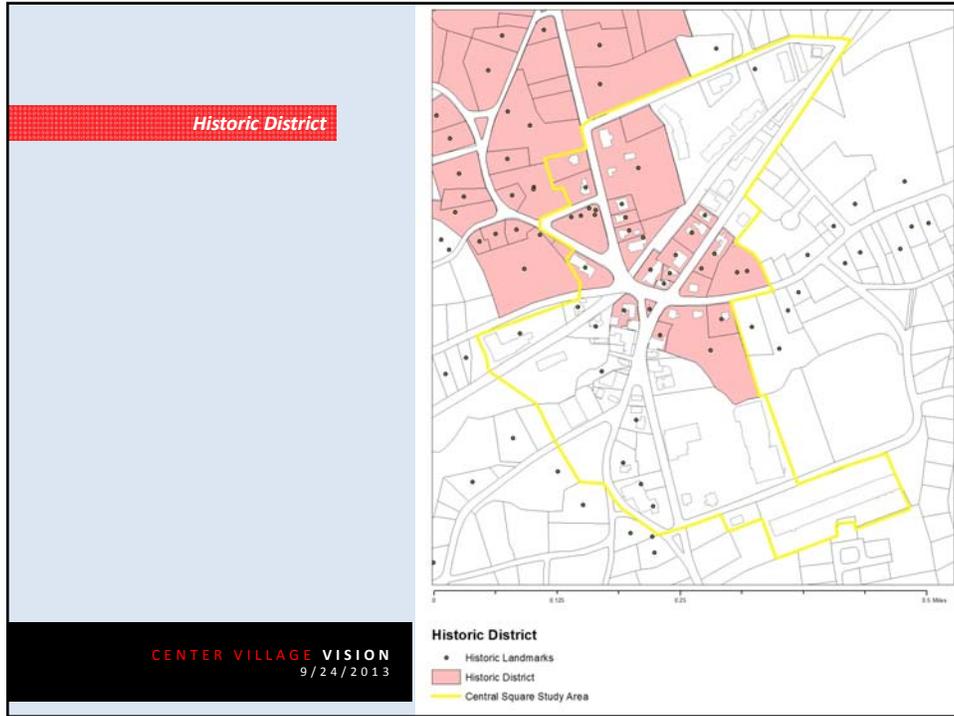
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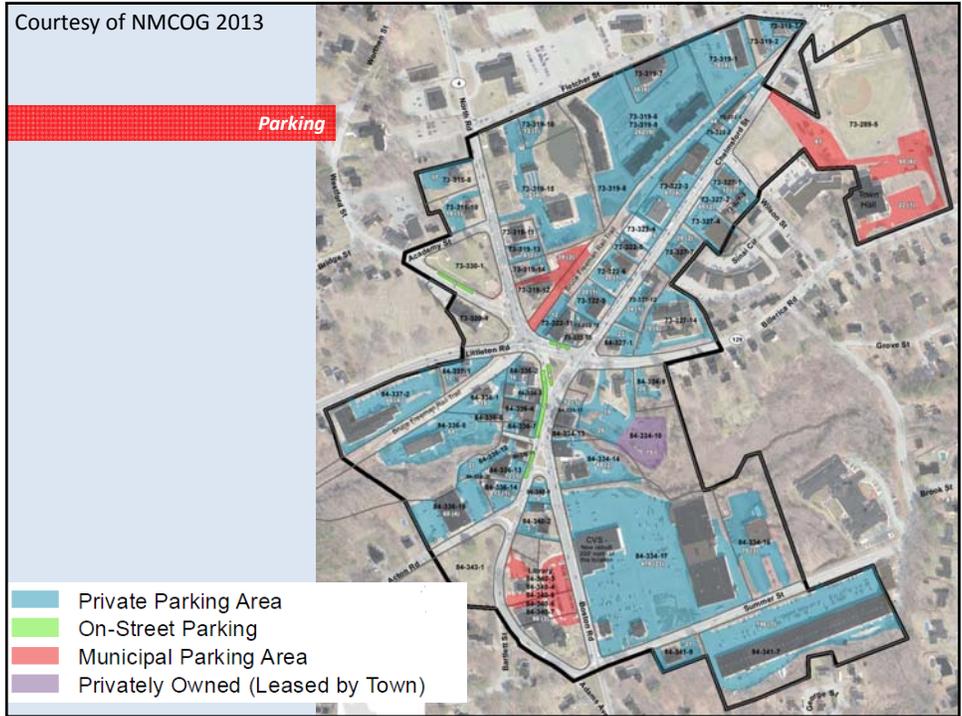
CENTER VILLAGE VISION

1. Summary of assets
- 2. Workshop and outreach**
3. Draft vision
4. Final vision

CENTER VILLAGE VISION
9/24/2013







CONCURRENT EFFORTS

NMCOG Parking Study and Business Survey
 Planning Board Zoning Amendments

Fall Town Meeting, 2013

- Article XXI "Community Enhancement and Investment Overlay District"
- Article V "Off Street Parking & Loading"

Town Meeting, 2014

- Article XXII "Village Center Overlay District"
- Article XXIII "Inclusionary Housing Bylaw"

CONCURRENT PROJECTS

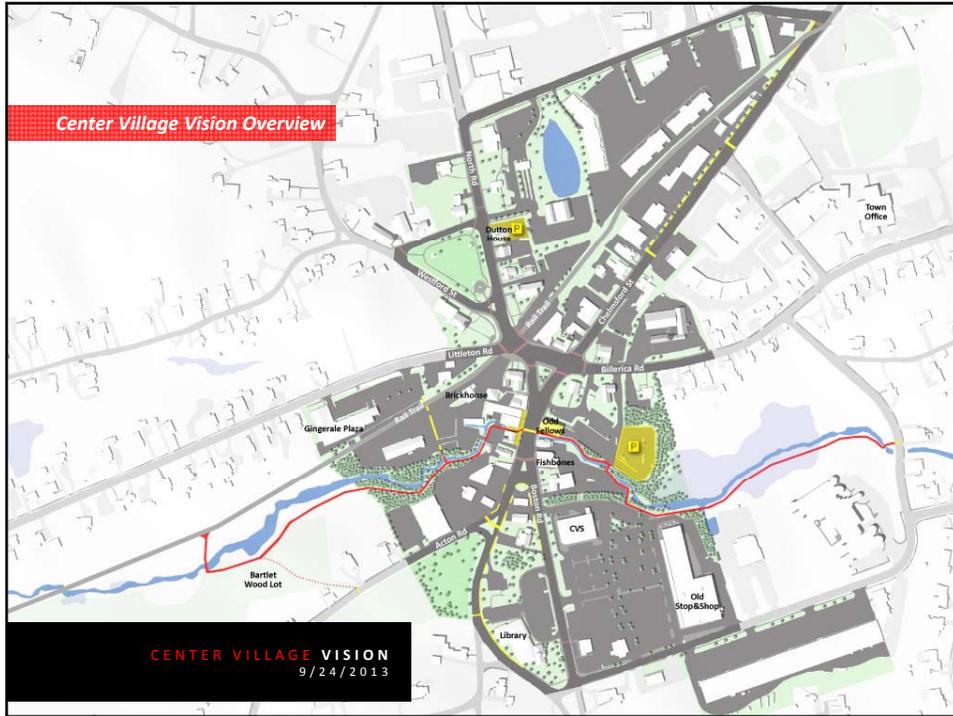
- Undergrounding of Utilities
- Chelmsford St Streetscape Project
- Parking improvement behind Town Offices
- Fire Department relocation to Town Offices
- Moving historic Dutton House to Fire Department location
- Winstanley shopping center reconstruction

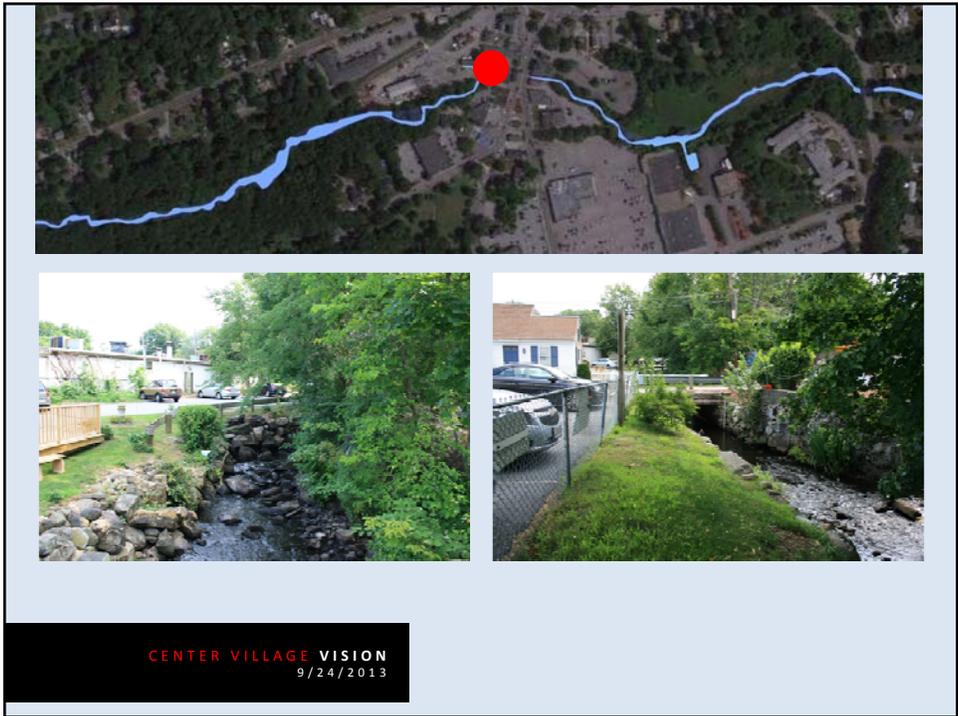
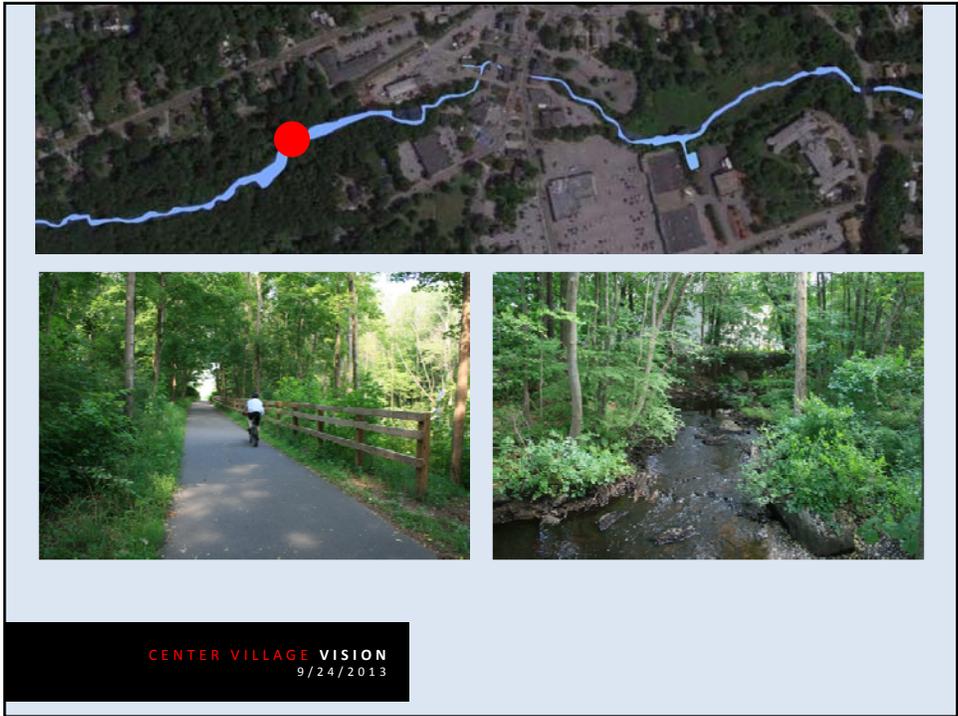
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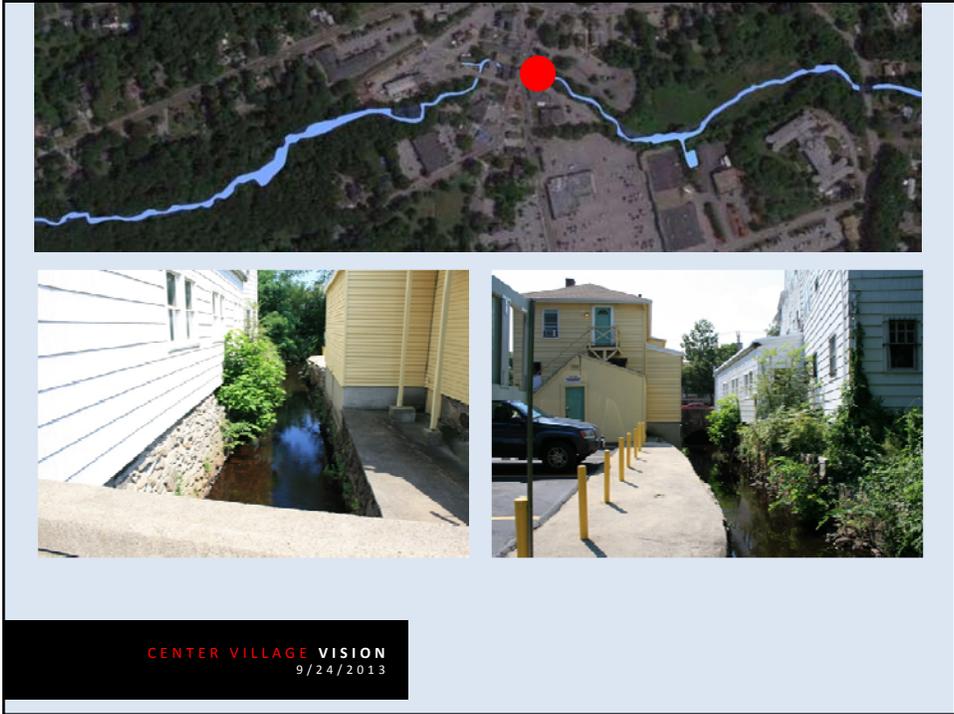
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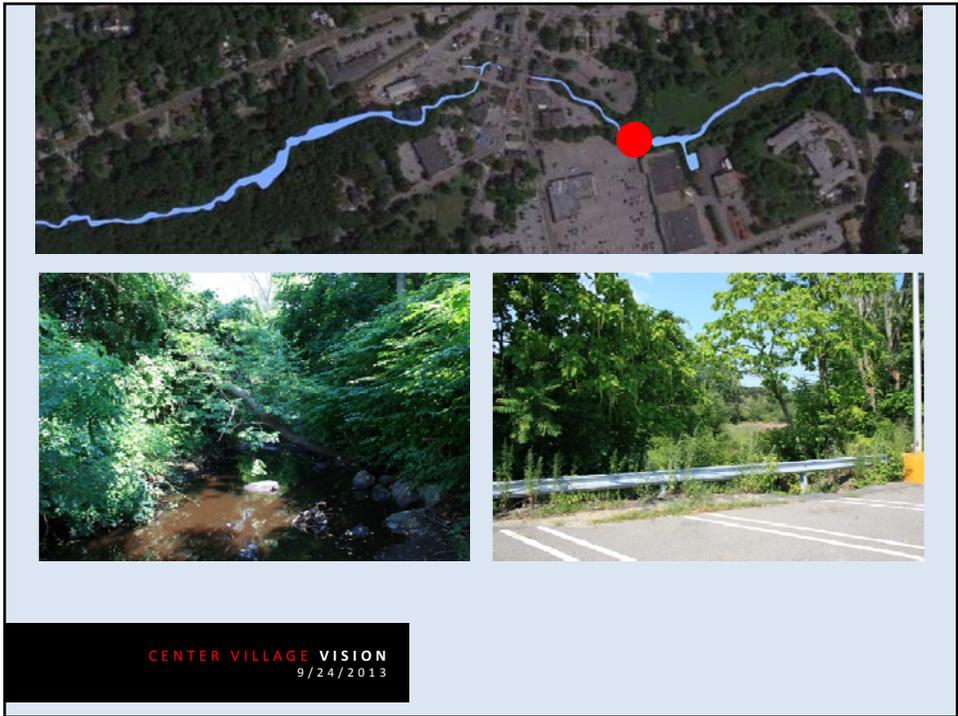
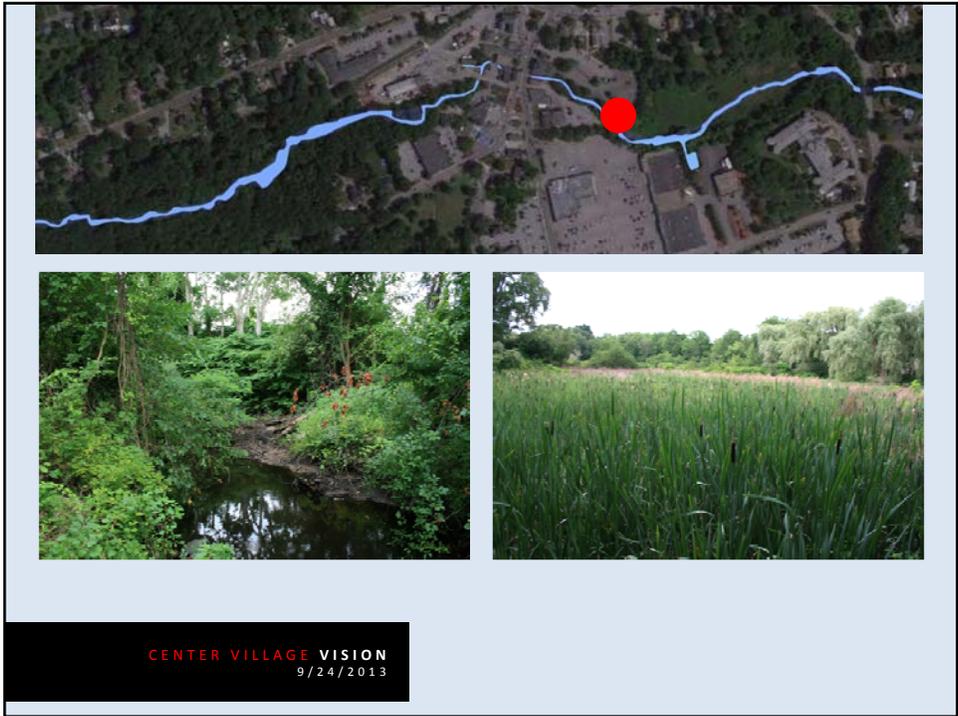
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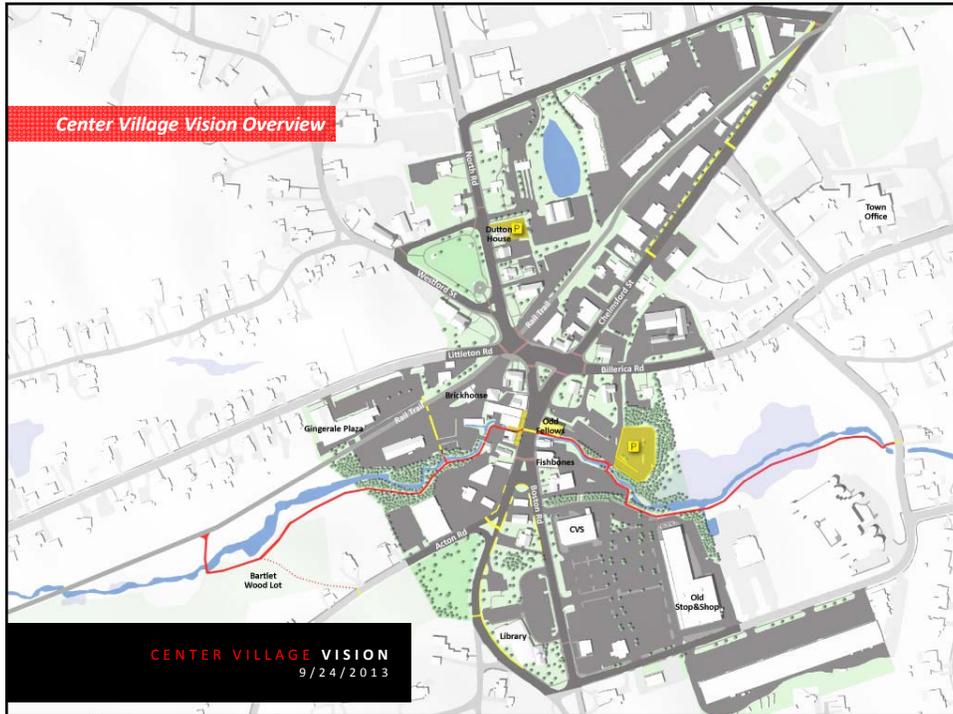


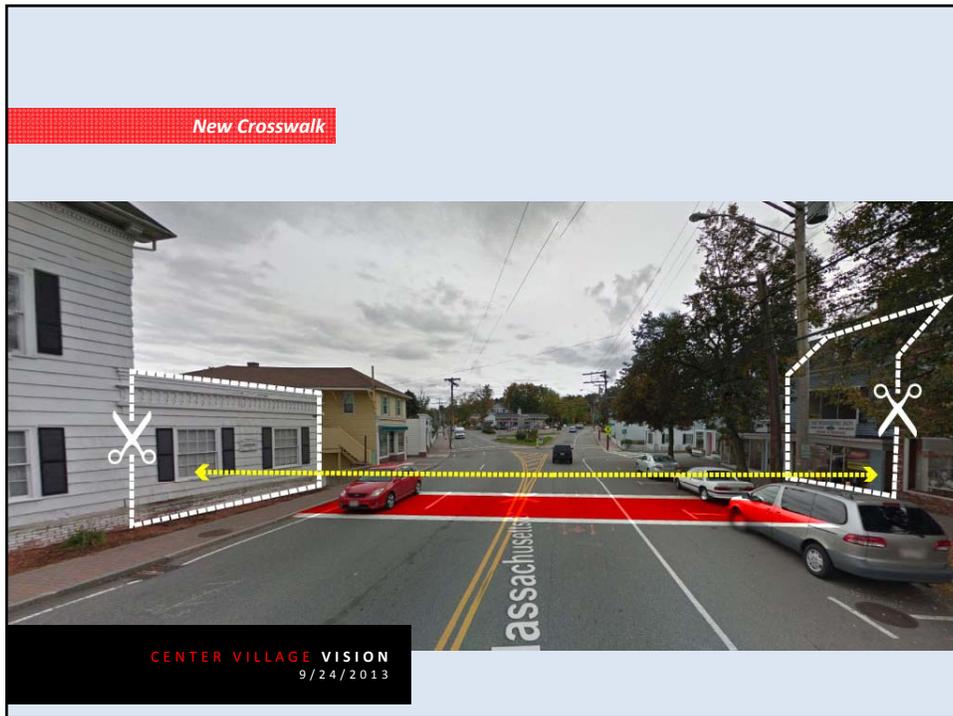
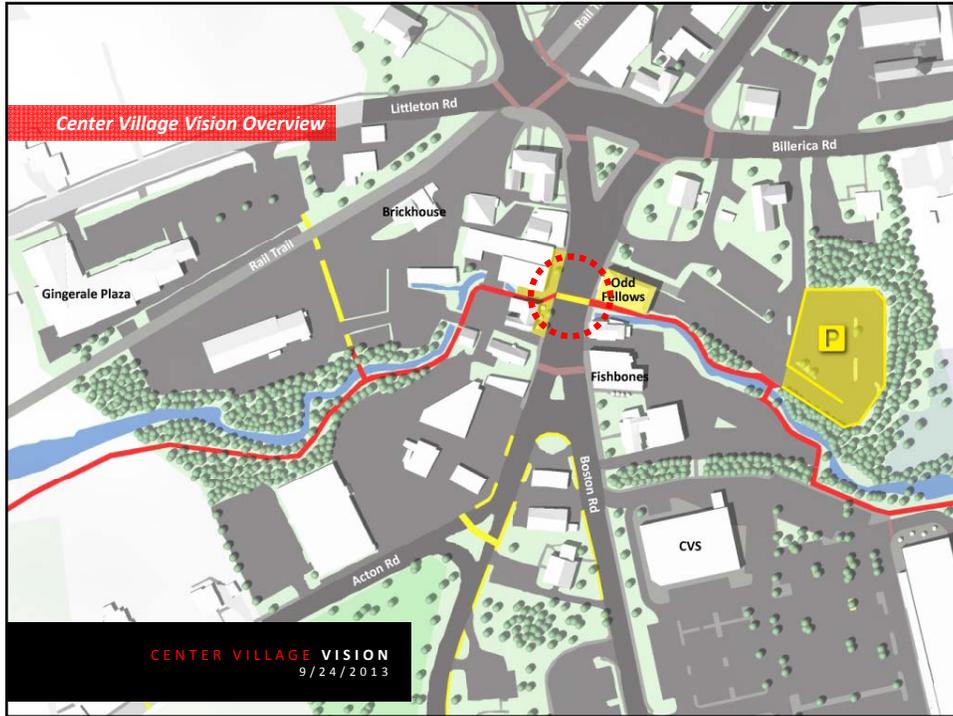


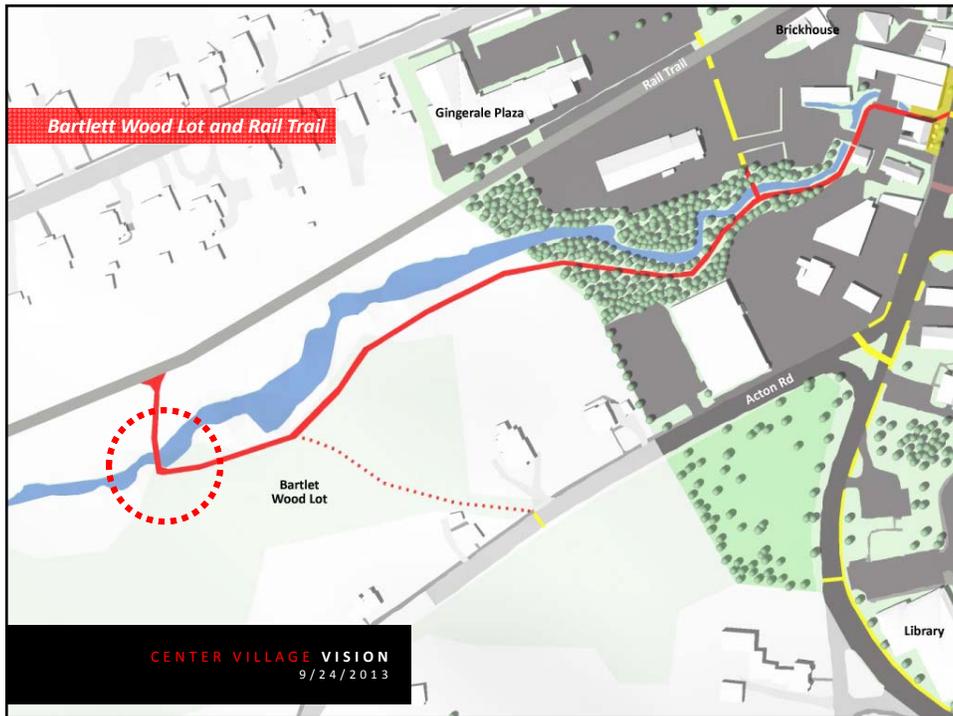












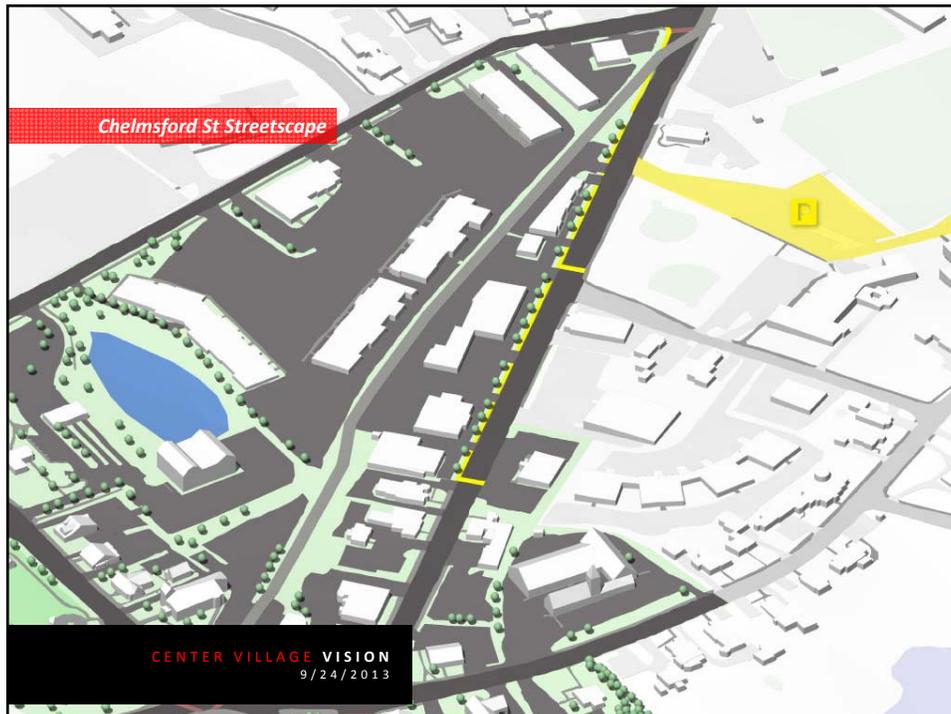


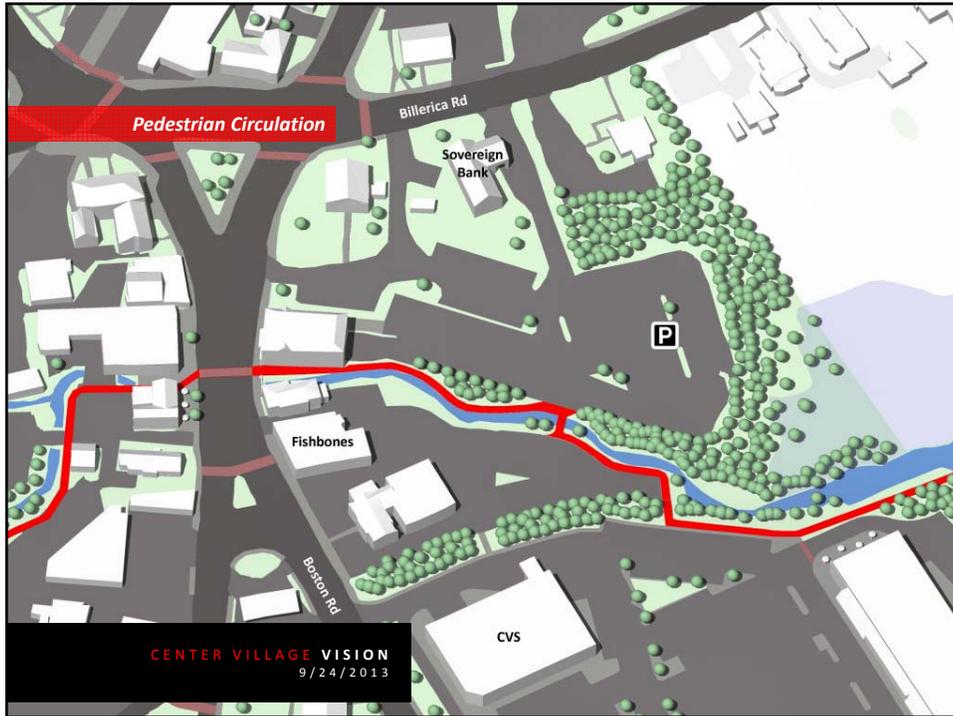
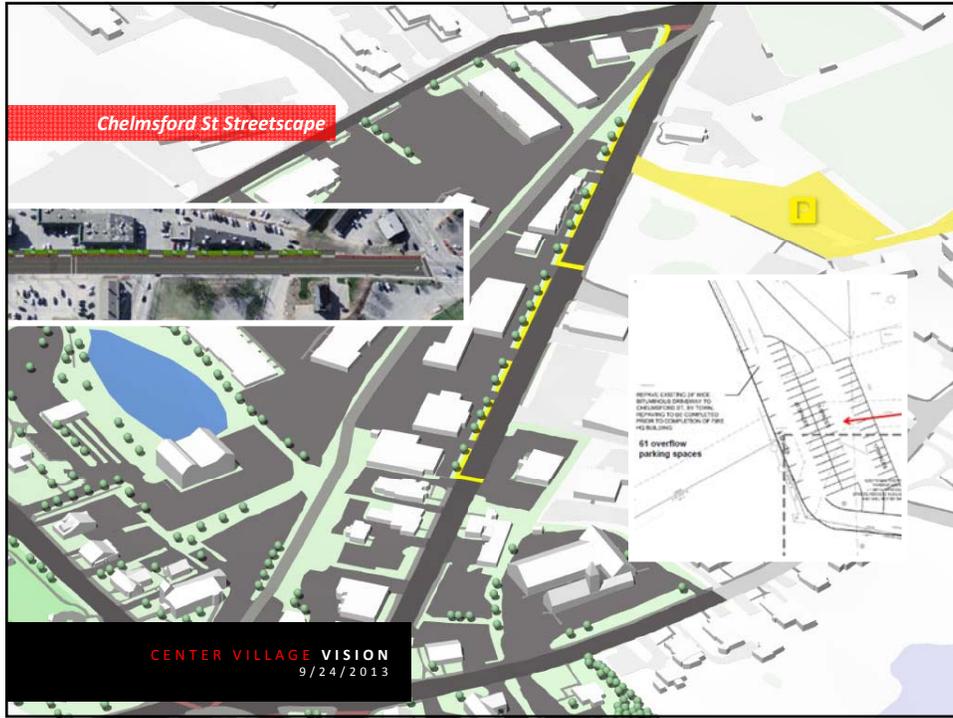


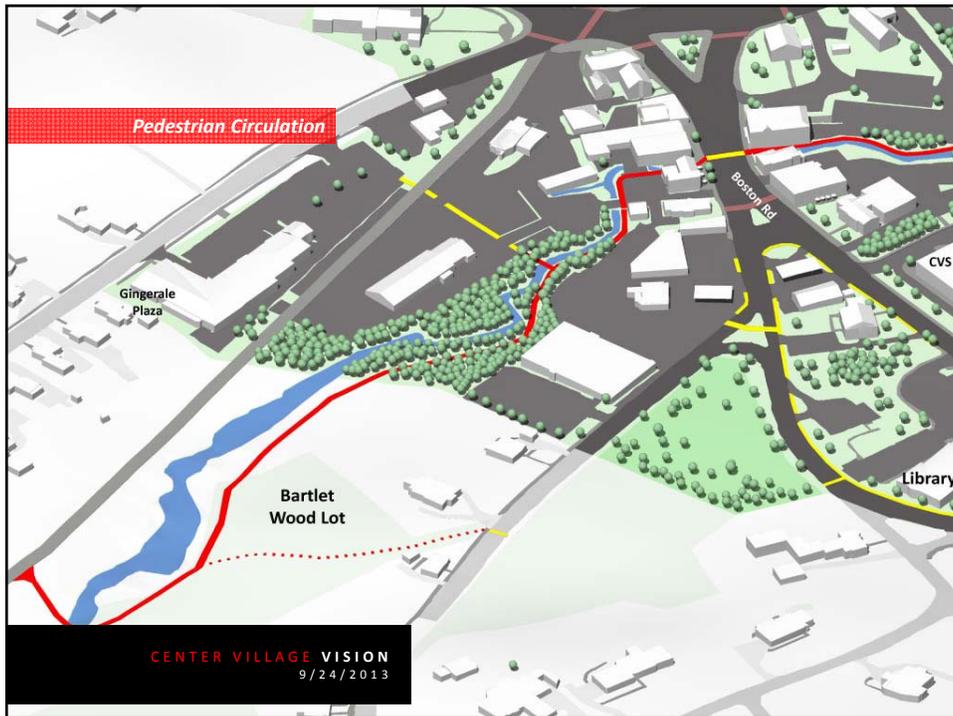
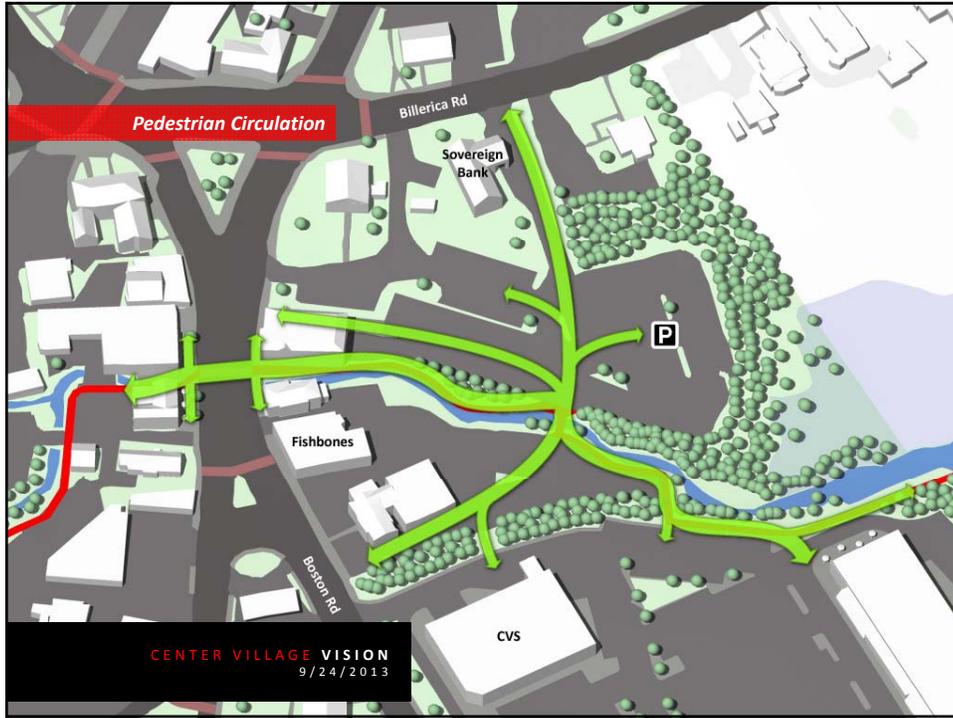
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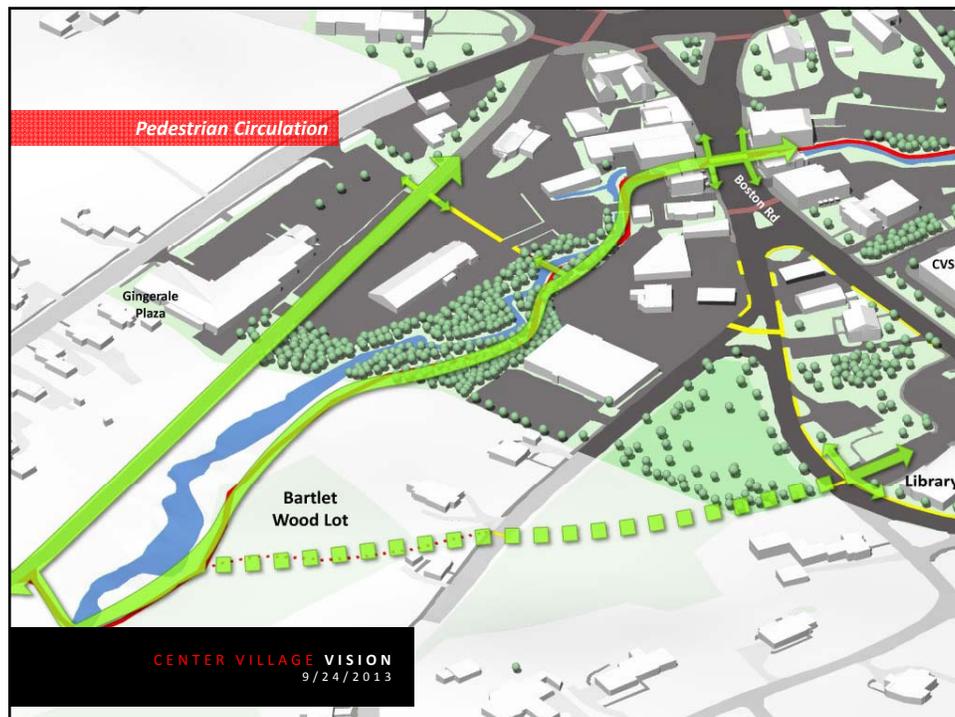
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4. Conclusions

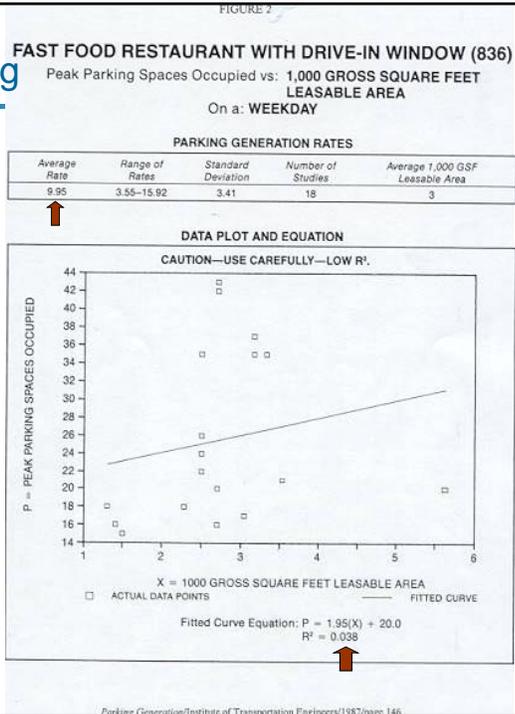
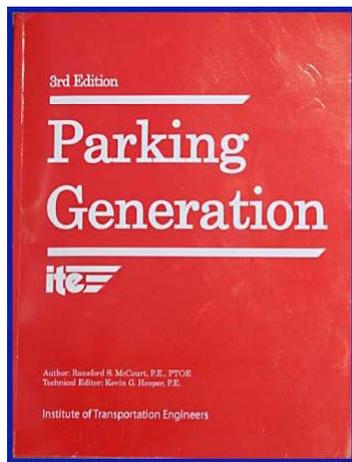




Parking in Chelmsford

NelsonNygaard Consulting Associates, Inc.

The "science" of parking



Minimum Parking Requirements - Source



Example: Office Parks

Peak Occupancy Rates, in spaces per 1000 sf of building area:

- Lowest: 0.94 spaces
- Average: 2.52 spaces
- Highest: 4.25 spaces

Typical requirement:
4.0 spaces/1000 sf

Source: ITE's Parking Generation (2nd ed., 1987)

Chelmsford Zoning Code vs ITE Standards

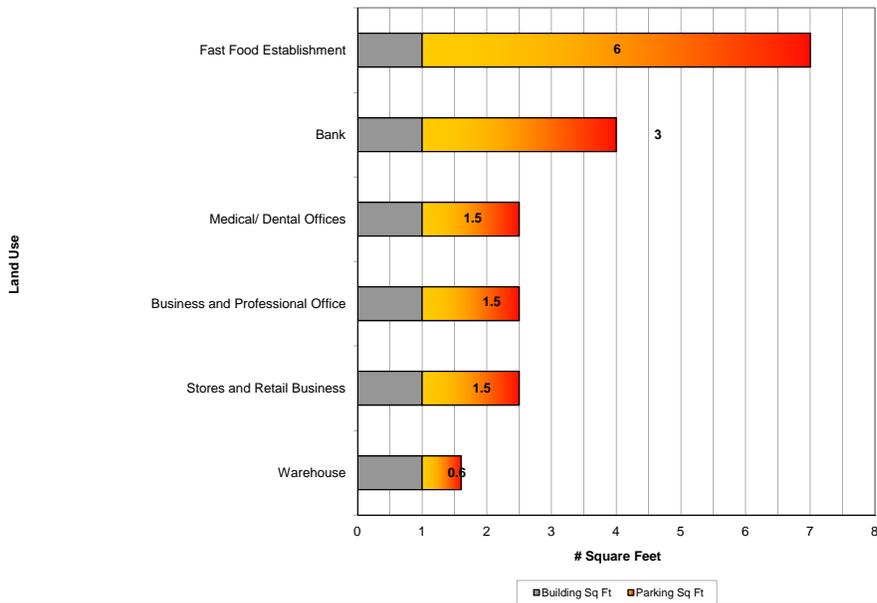
Principal Use	Chelmsford Regulation	ITE Peak Parking Demand Rates	Chelmsford vs. ITE
One and Two Family residential	2 spaces per dwelling unit for units with 2 or more bedrooms	1.83 spaces per dwelling unit.	Above
Townhouse	1 space per dwelling unit for 1 bedroom; 2 spaces per dwelling unit for units with 2 or more	Rental townhouse: 1.62 spaces per dwelling unit	Above
Hotel and motel	1 space per guest room, plus 1 space per employee, plus a number of spaces as required elsewhere	1.2 vehicles per occupied room at a hotel with accessory uses. .71 vehicles per occupied room at a motel.	Above or Below- depending on type of hotel/motel
Stores and Retail Business*	1 space per 200 square feet of net floor area or a minimum of at least 3 spaces per establishment	1.2 to 4 spaces per 1,000 square feet (depending on type).	Above or Below- depending on type of business
Nursing Home	1 space for each 3 beds, plus 1 space for each employee during shift, plus 1 space for each visiting staff	.35 spaces per bed.	Above
Restaurant	1 space per employee and 1 space per 2.5 seats	.49 spaces per seat at quality restaurants. .48 spaces per seat at high-turnover (sit-down) restaurants.	Above and Below - depending on type of restaurant and the number of employees.
Fast Food Establishment*	1 space per 50 square feet of net floor area	15.2 spaces per 1,000 square feet	Above
Business and Professional Office*	1 space per 200 square feet of net floor area	2.84 spaces per 1,000 square feet.	Above
Medical/ Dental Offices*	1 space per 200 square feet of net floor area	4 spaces per 1,000 Square feet	Above
Bank	1 space per 100 square feet of floor area devoted to public use, plus 1 space per employee	4 spaces per 1,000 square feet.	Above
Warehouse and storage yard*	1 space per 500 feet of net floor area	.51 spaces per 1,000 square feet.	Above

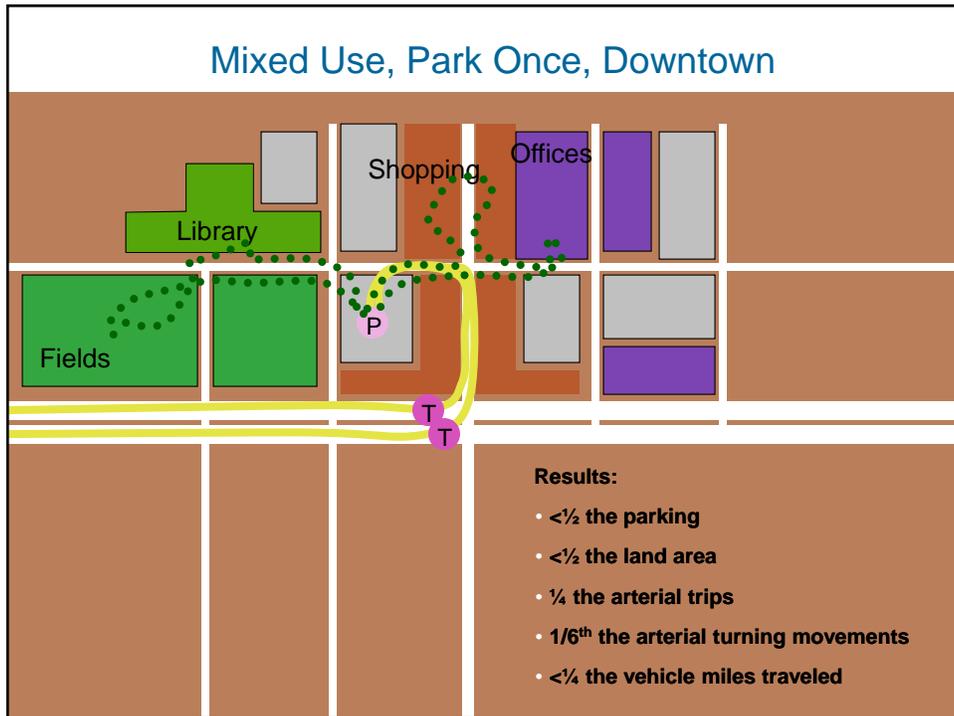
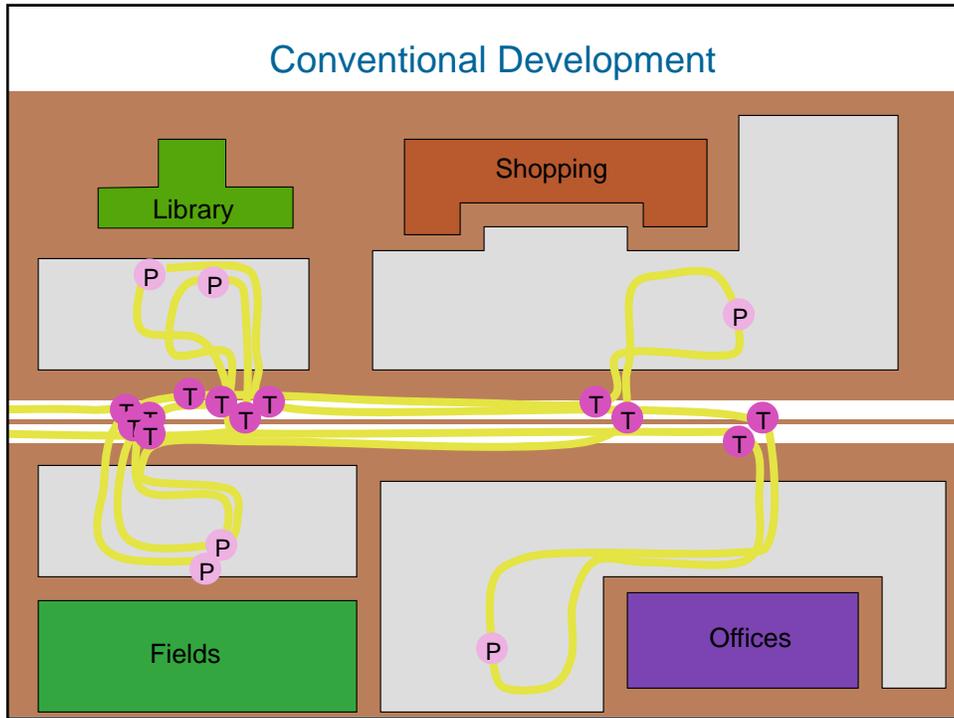
*Chelmsford Land Use Reported in Net Floor Area

What Land Value Are We Losing?



Chelmsford Parking Requirements





Land Use in Downtown Chelmsford

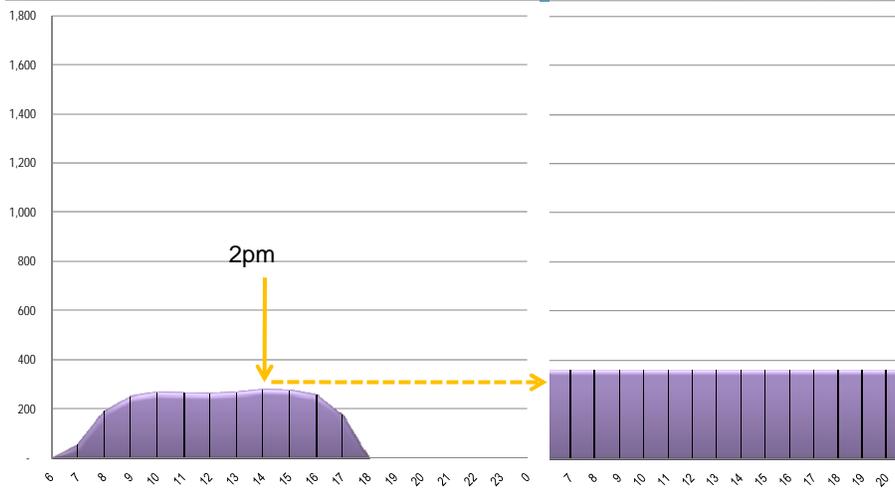
Land Use	Sq Ft	Percent of Total
Retail	264,821	41%
Public Facilities/ Government	33,607	6%
Office	214,672	35%
Warehouse	18,836	4%
Church	37,341	6%
Gas Station	5,695	1%
Bank	19,091	3%
Restaurant	20,368	4%
TOTAL	614,431	100%

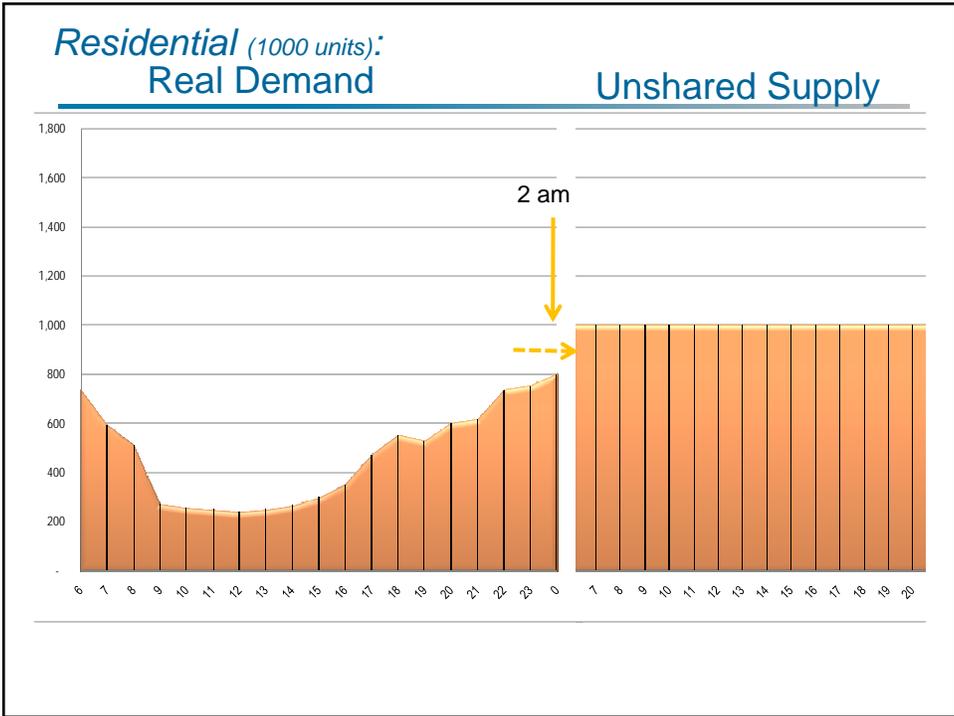
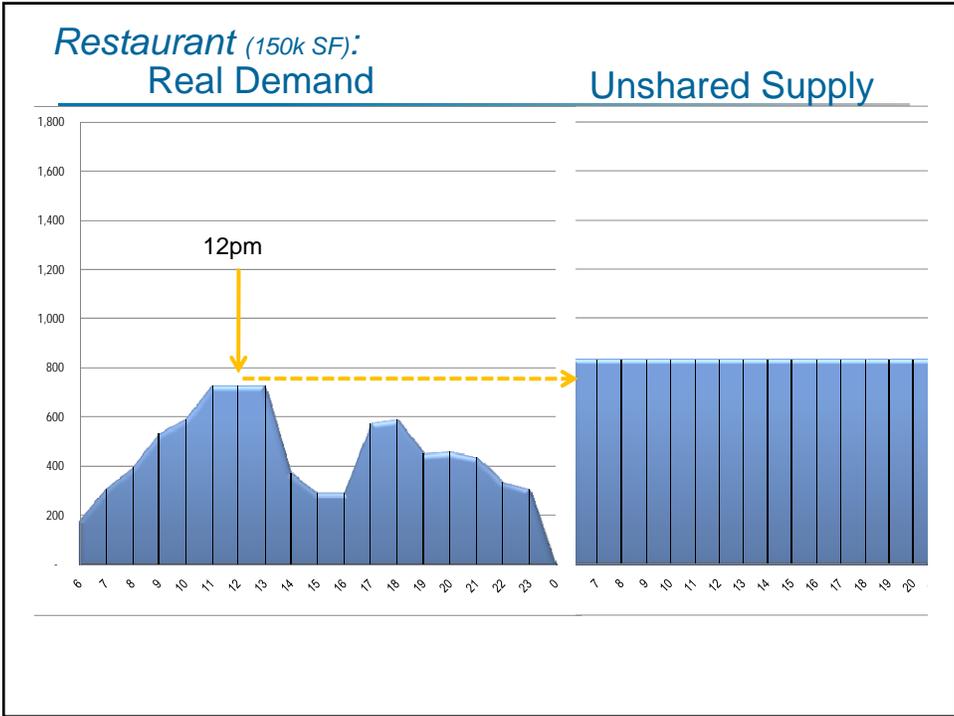
NelsonNygaard Consulting Associates, Inc.

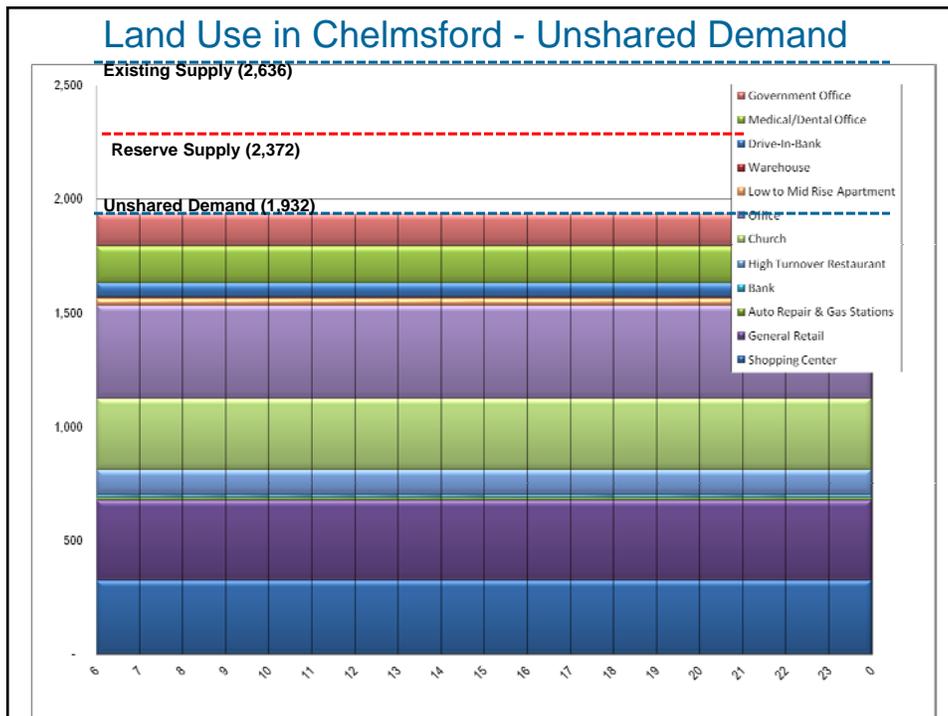
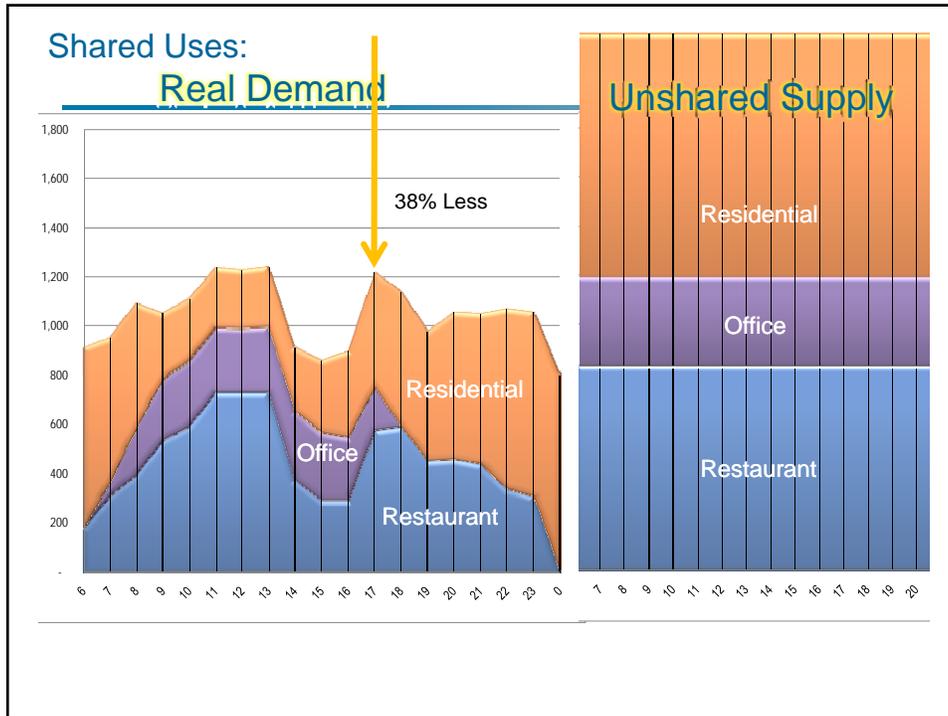
Office (150k SF):

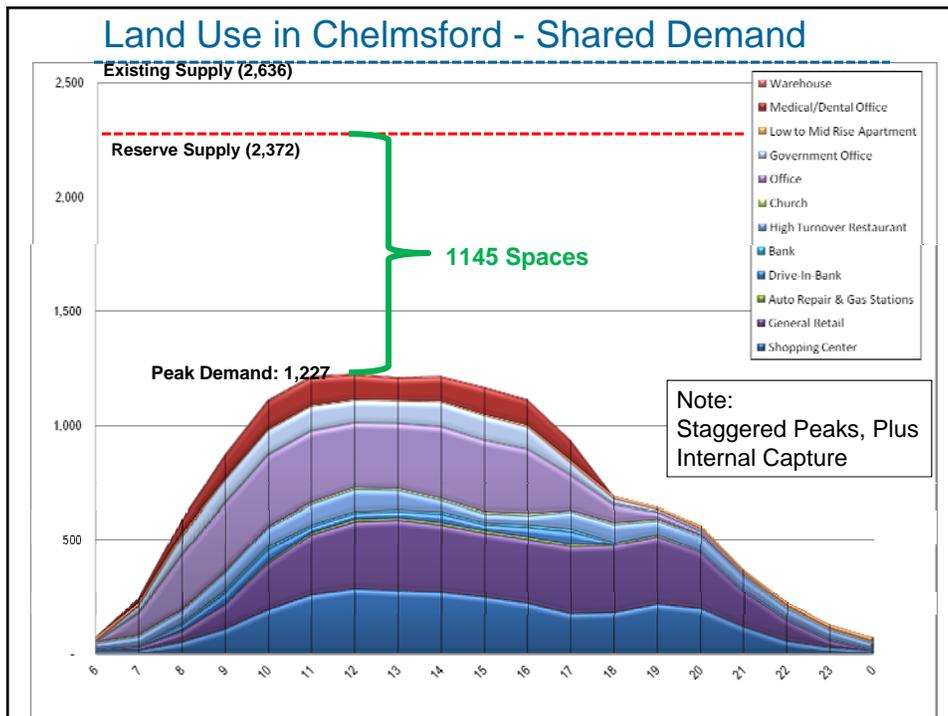
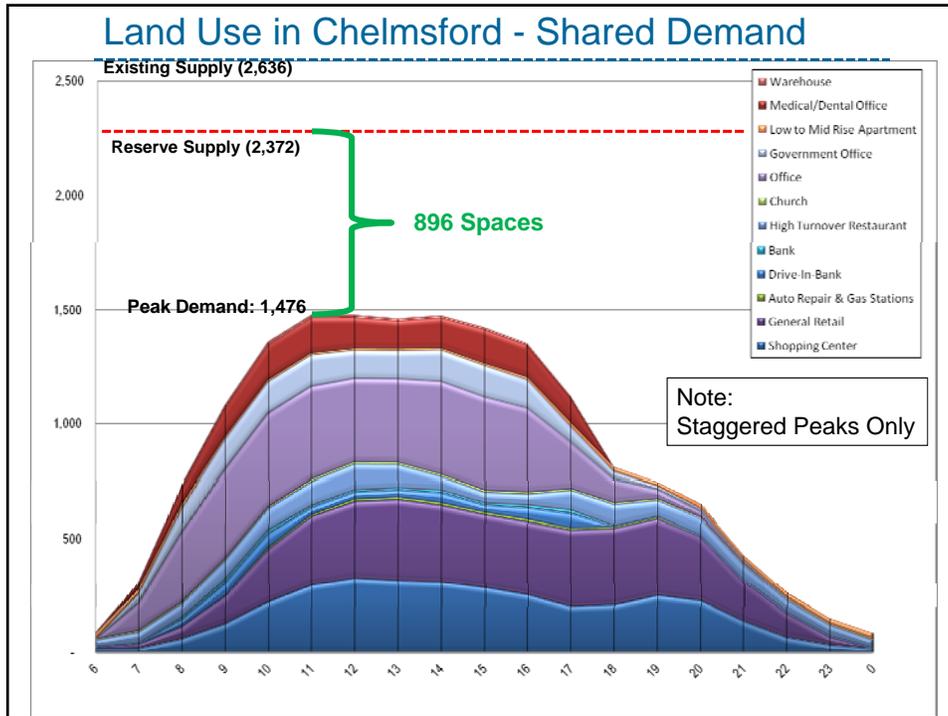
Real Demand

Unshared Supply









Needham, MA



Needham, MA



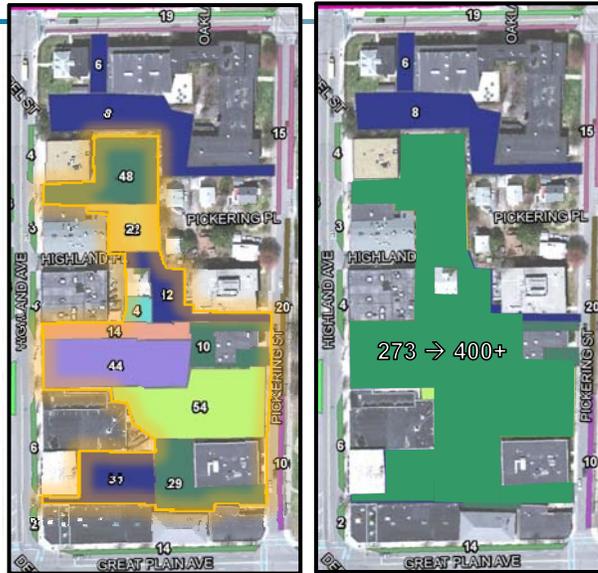
Needham, MA

Needham, MA: Shared Parking Pilot

Parking Management

Regulations

- 2 Hour Meter
- 2 Hour Parking
- Buddy
- Commuter Permit
- Customer
- Employee
- Newton Wellesley Primary Care
- No Parking
- No Parking 7am-4pm
- Private
- Senior Center
- Tenant
- Walgreens
- Walgreens (with 8 Reserved)



Needham, MA: Shared Parking Pilot

Parking Management

Regulations

- 2 Hour Meter
- 2 Hour Parking
- Employee



Needham, MA: Shared Parking Pilot

Parking Management

Regulations

- 2 Hour Meter
- 2 Hour Parking

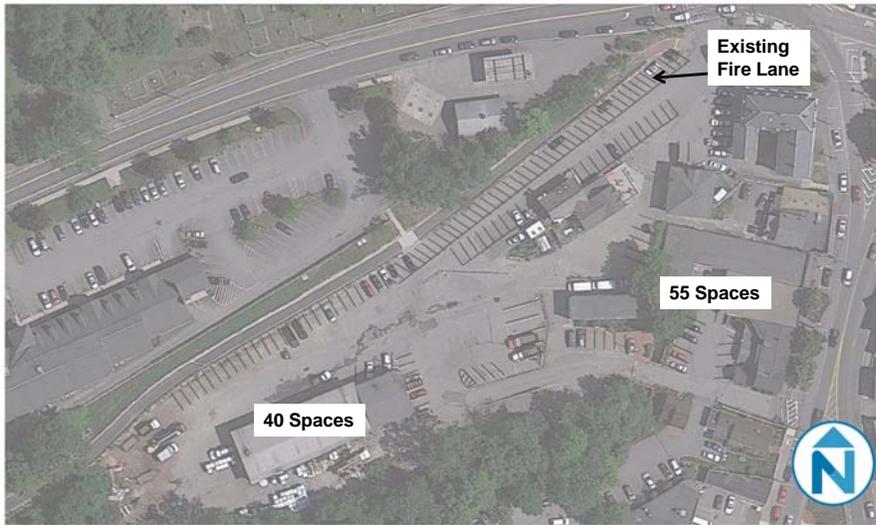
■ Employee



Sharing Existing Spaces

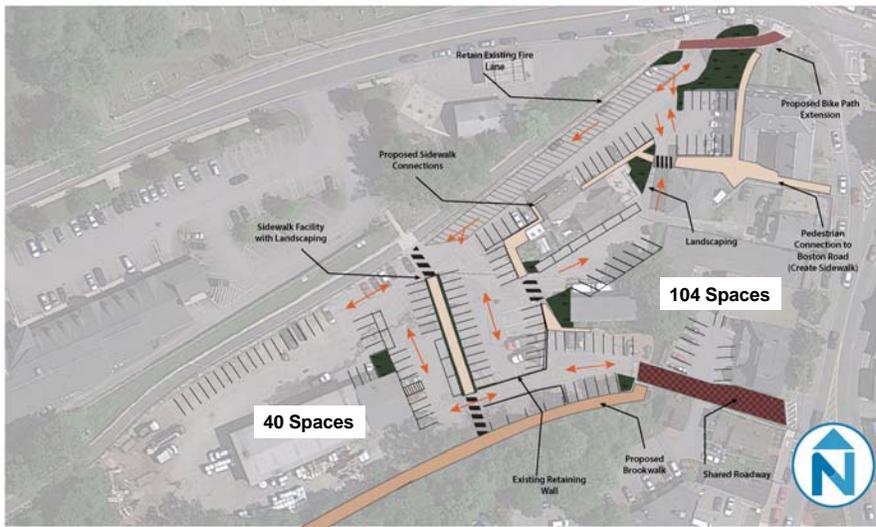
1. Town leases parking from landowners
2. Town is able to increase supply up to 50%
3. Town sells employee permits and sub-leases spaces new development
4. New Town revenues

Municipal Shared Parking - Existing



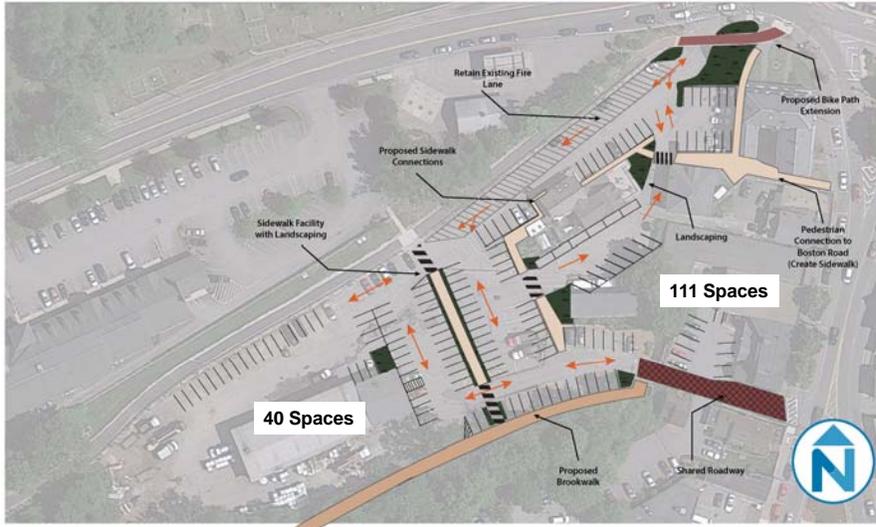
NelsonNygaard Consulting Associates, Inc.

Municipal Shared Parking – Reconfigured (with retaining wall)



NelsonNygaard Consulting Associates, Inc.

Municipal Shared Parking - Reconfigured (removing/re-grading retaining walls)



NelsonNygaard Consulting Associates, Inc.

Chelmsford Fire Department - Existing



NelsonNygaard Consulting Associates, Inc.

Chelmsford Fire Department - Redeveloped



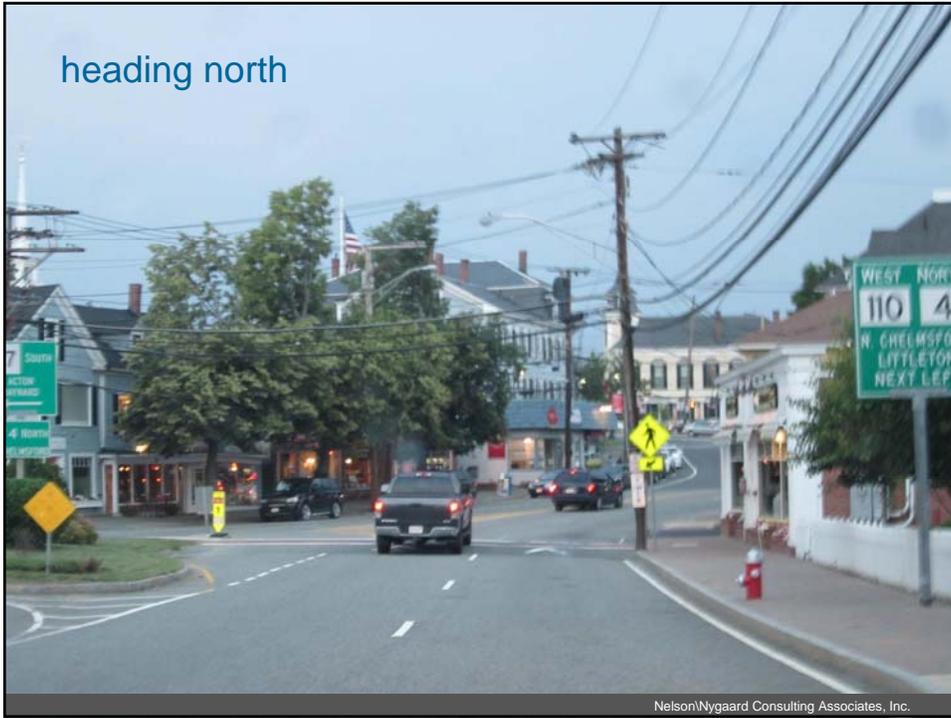
NelsonNygaard Consulting Associates, Inc.

On-Street Parking- Boston Road



NelsonNygaard Consulting Associates, Inc.

heading north



NelsonNygaard Consulting Associates, Inc.



NelsonNygaard Consulting Associates, Inc.

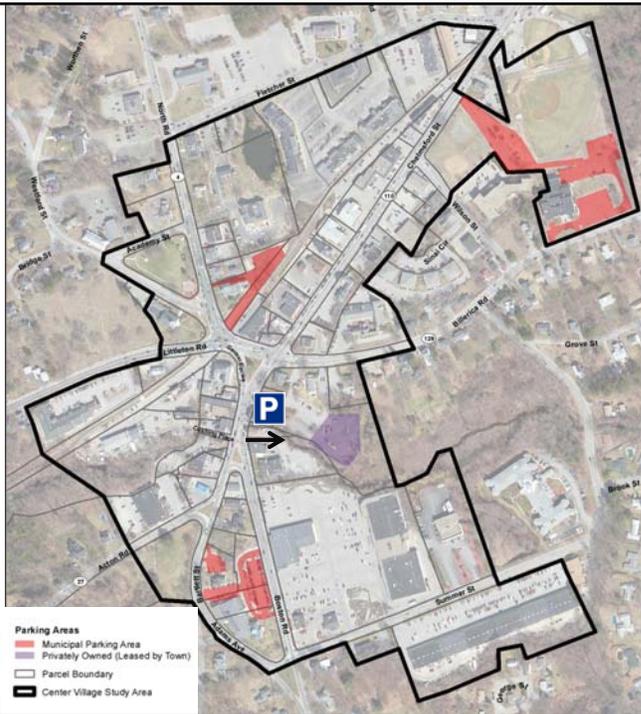
On-Street Parking- Boston Road



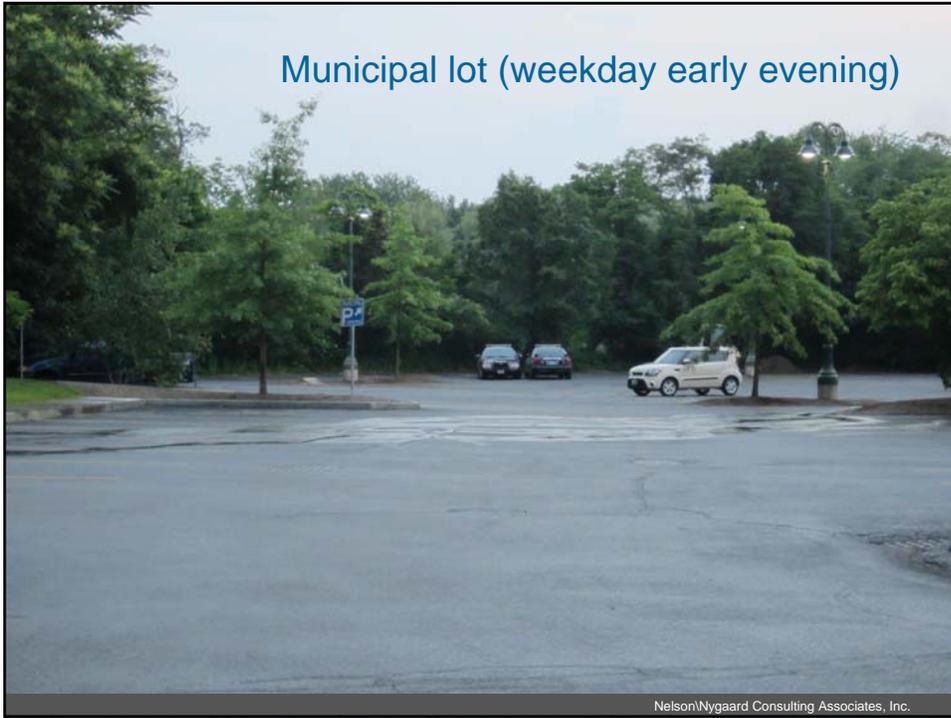
NelsonNygaard Consulting Associates, Inc.

Parking Wayfinding: Motorists

P Existing Parking Signage



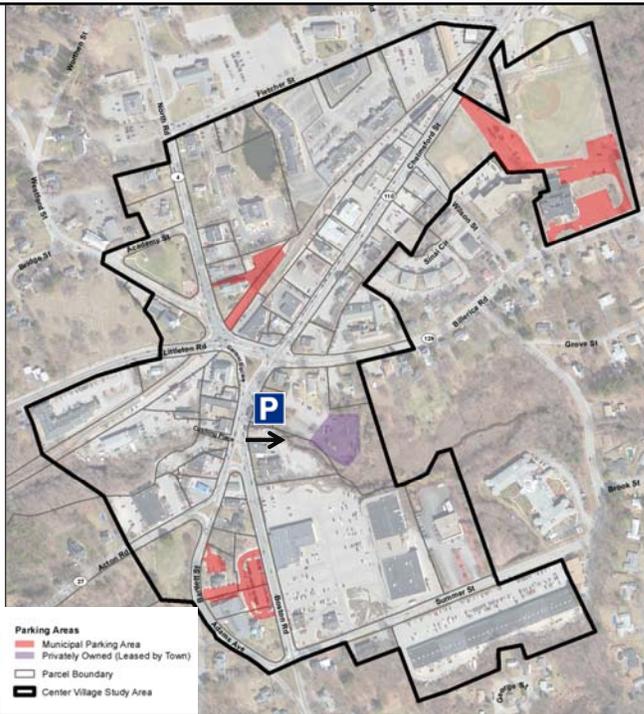
Municipal lot (weekday early evening)



NelsonNygaard Consulting Associates, Inc.

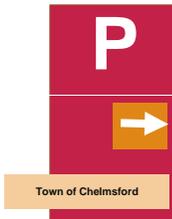
Parking Wayfinding: Motorists

P Existing Parking Signage

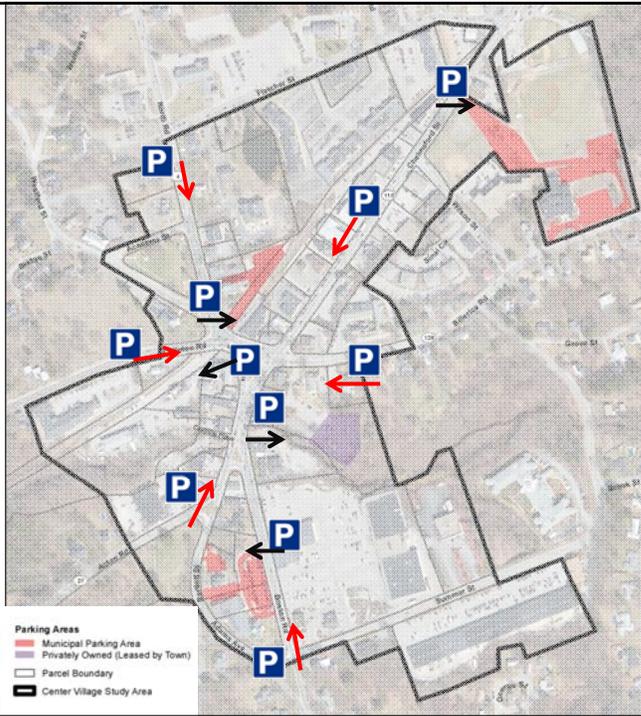


Parking Areas
Municipal Parking Area
Privately Owned (Leased by Town)
Parcel Boundary
Center Village Study Area

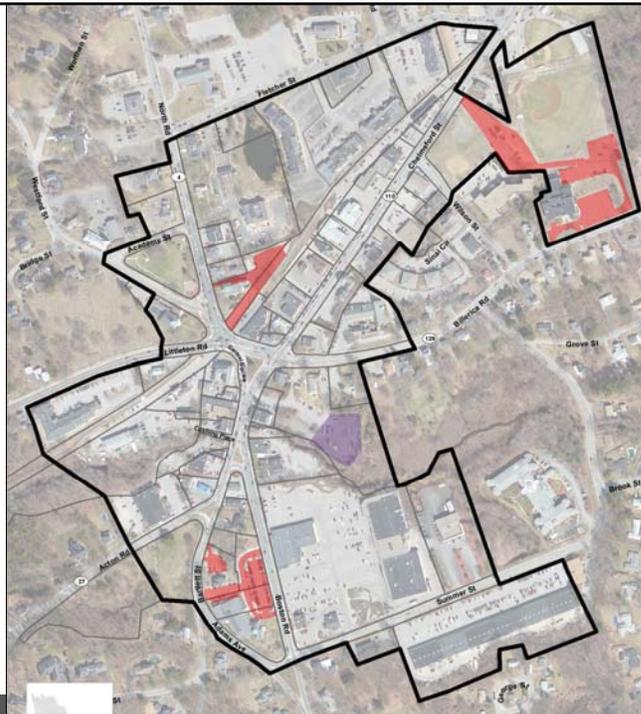
Parking Wayfinding: Motorists

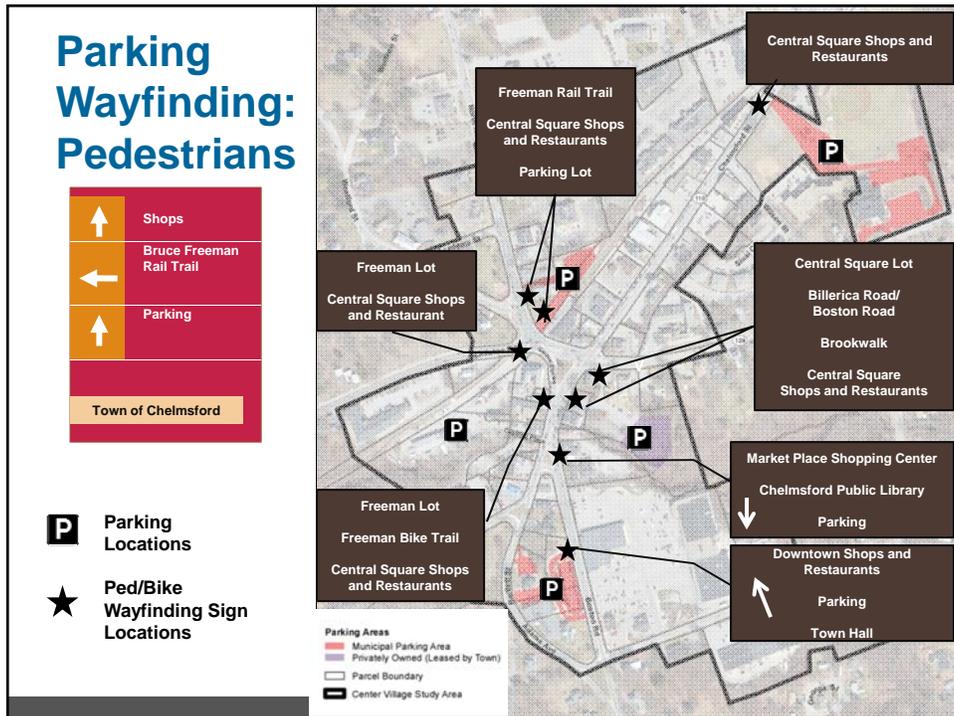


- Parking Signage
- Directional Arrow
- Turn Arrow



Parking Wayfinding: Pedestrians





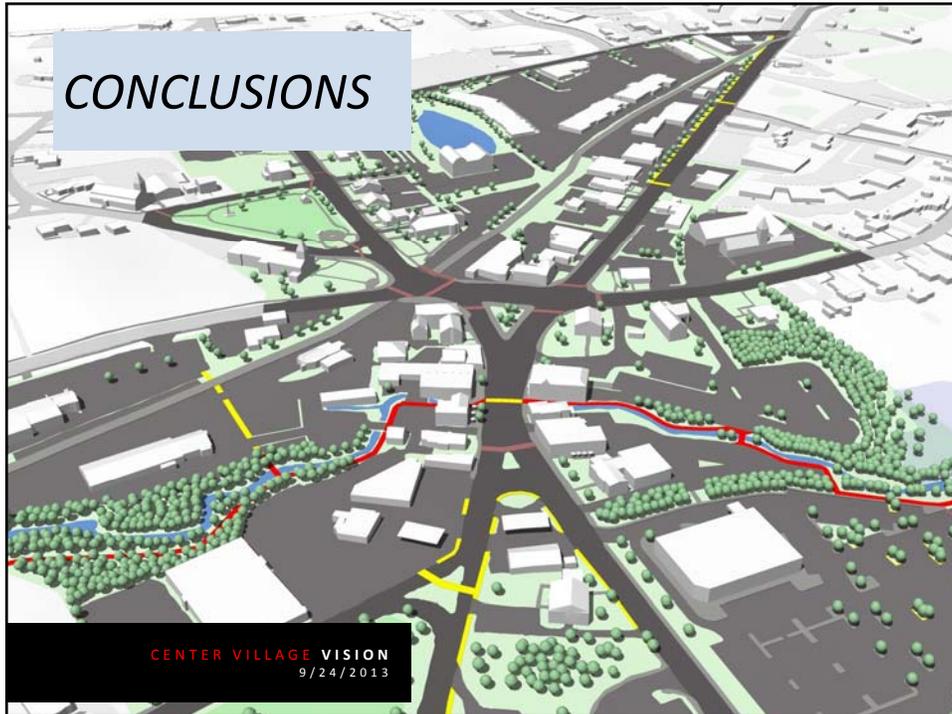


AGENDA

1. Introduction
2. Summary of findings
 - Beaver Brook Walk
 - Access and Connections
 - Municipal Parking
- 3. Open discussion**
4. Conclusions

CENTER VILLAGE VISION
9/24/2013

CONCLUSIONS



CENTER VILLAGE VISION
9/24/2013

Chelmsford Town Center Parking Utilization, Bicycle and Pedestrian Study



Prepared by: Northern Middlesex Council
of Governments

Chelmsford Town Center Parking Utilization, Bicycle and Pedestrian Study

December 2013

Prepared by:

Northern Middlesex Council of Governments
40 Church Street
Lowell, MA 01852

Preparation of this report was funded by the Massachusetts Department of Transportation, in cooperation with the U.S. Department of Transportation, Federal Highway Administration.

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I. Introduction

At the request of the Town of Chelmsford, the Northern Middlesex Council of Governments (NMCOG) has conducted a parking utilization, bicycle and pedestrian study of the Town Center. The scope of the study includes evaluating existing parking, bicycling and pedestrian facilities, analyzing pedestrian and bicycle crash data, assessing the adequacy of bicycle and pedestrian facilities and amenities, and exploring opportunities for improving and enhancing the bicycle and pedestrian network. This study outlines recommendations that the Town may implement to improve vehicle parking, and encourage walking and bicycling within the study area.



Photo 1: Chelmsford Center Common

Chelmsford Town Center is the civic and cultural heart of the community and is located at the confluence of State Routes 129, 110, 4, and 27. It is the social gathering place where the community enjoys annual events such as the July 4th Parade, Country Fair, and Holiday Prelude. The Center area contains the current Town Offices, the central fire station, the historically significant Old Town Hall (now the Chelmsford Community Center for the Arts), and the Chelmsford Library. These municipal uses are located in close proximity to both older and newer automobile-oriented commercial retail establishments, including strip-mall style developments along Summer Street and Chelmsford Street. Smaller-scale village-style businesses are found in the heart of the town center, and include a mix of specialty retail, restaurants, professional offices, and service type establishments.

Chelmsford Center is fortunate to have a number of historic properties that have been preserved and well maintained. The Chelmsford Center Historic District was originally established in 1975 and was then expanded in 1980. The Chelmsford Center Historic District Commission functions as a regulatory commission overseeing the Town Center Historic District. The Master Plan recommended that the Town actively promote its rich cultural and historic fabric in a way that builds support for and awareness of preservation initiatives. In that regard, the Master Plan recommended that an information booth be established on the Center Common or in the Old Town Hall to promote tourism and benefit the local cultural economy.

II. Existing Conditions

A. Study Area Land Use and Zoning Characteristics

The Town Center is characterized by a mix of municipal, retail, office and residential uses. The primary zoning districts within the Town Center area include the following: Center Village, Shopping Center, General Commercial, Public, and Residential C, as shown on Map 1.

Uses allowed within the General Commercial District (CD) include retail, commercial offices, restaurants, and commercial entertainment. Motels, indoor recreation facilities, golf courses, auto repair and health clubs are allowed by special permit from the Zoning Board of Appeals. The minimum lot size in the CD zone is 10,000 square feet, with 50 feet of frontage. Maximum building height within the district is 4 stories or 45 feet. Forty percent lot coverage and a .45 floor area ratio are allowed within the CD district.

The Shopping Center District (CC) is designed to allow the clustering of stores, offices, etc., around a central parking lot. The minimum lot size in the CC zone is 100,000 square feet, with 200 feet of frontage. Maximum building height allowed within the district is 35 feet or three stories. Thirty percent lot coverage and a .45 floor area ratio are permitted within the district. Allowed uses are similar to the CD district. In addition, indoor commercial recreation is allowed by right, and fast food restaurants, clubs or lodges are allowed by special permit.

The Residential C (RC) district allows for single-family homes on moderate density lots of 20,000 square feet, with a minimum frontage of 125 feet. Building heights are restricted to 45 feet or 4 stories. The Public District (P) is composed of lands owned or leased by governmental entities. The minimum lot size in the P district is 20,000 square feet, with 125 feet of frontage. Maximum building height allowed within the district is 35 feet or three stories. Fifteen percent lot coverage and a .35 floor area ratio are allowed with the district. Uses allowed by right within the P district include religious institutions, child care facilities, agricultural uses, wine and dairy facilities and garages, golf courses, cemeteries, and wireless communication facilities.

B. The Center Village District (CV)

The Center Village District (CV) was designed for maintaining the village-style character of the Town Center. The zoning bylaw encourages small business development and residential uses as an accessory use in certain areas. Parking requirements are reduced by up to 50% and shared parking is encouraged in order to promote a pedestrian-friendly environment. The CV district encompasses 27 acres, and is Chelmsford's only true mixed-use zoning district in that it allows commercial uses and multi-family residential development (by special permit from the Planning Board). Other uses allowed in the CV District by special permit include offices, banks, medical centers, restaurants, motel/hotel, and fast food restaurants. Commercial uses do not have to

provide a minimum lot area although the lot must be 50 feet wide with 50 feet of frontage. Multifamily projects require a minimum lot area of three acres and must have 6 units per acre.

The minimum building height is 20 feet and the maximum building height allowed is 35 feet or three stories. Forty percent lot coverage and a .60 floor area ratio are allowed within the district. The Center Village (CV) zoning classification allows a Floor Area Ratio (FAR) maximum of 0.60 (Article XVIII, §195-98.2) which means that there can be no more than 0.60 ft² of building gross floor area for each 1 ft² of lot area. Bearing in mind that gross floor area is basically the sum of all floor areas, not just the building footprint, it would mean that any parcel that has a FAR of more than 0.60 is non-conforming in terms of the zoning regulations. The information in the Appendix indicates that of the 36 parcels of land in the CV zoning district, only 8 do not conform to the current zoning requirement. The CV zoning was adopted by the town in 1999 which would indicate that most of the structures in Chelmsford Center that are non-conforming by FAR predate the current zoning regulations.

Structures that are non-conforming by structure, which would include the eight structures referenced above, as opposed to non-conforming by use, fall within the requirements of §195-8 C & D of the town's zoning regulations. These sections of the regulations require a special permit from the Board of Appeals to "reconstruct, extend, alter or change" a nonconforming structure.

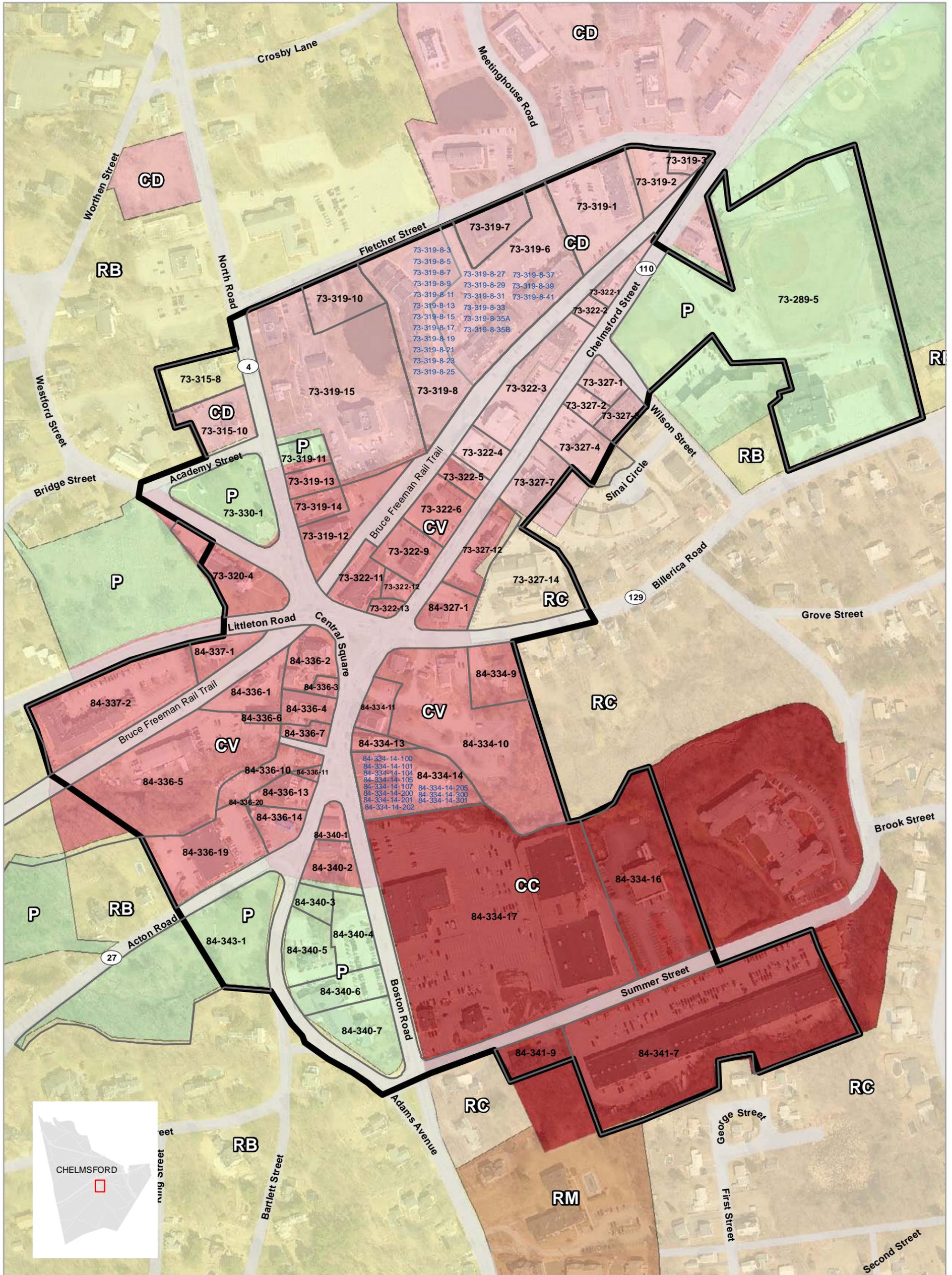
The Master Plan recommended that residential uses be allowed above retail within Chelmsford Center to create a more vibrant village community, and that the zoning bylaw be modified to allow the development of rental housing by right within the CV district. The Master Plan also noted that the creation of design guidelines for the Town Center would ensure that future projects are consistent with the character and historic integrity of the area.

As much of the area is built out, future economic development opportunities will largely be comprised of redevelopment projects. Town Meeting recently approved an Overlay Zoning Bylaw that will provide added flexibility for commercial and industrial redevelopment projects throughout town. The redevelopment of the underutilized parcels, such as the older CVS site, Papa Gino's site, Odd Fellow's Hall, Center Sports/Harvey property, and former Stop and Shop plaza, is encouraged within the town's Master Plan. The Master Plan and the 2008 Economic Development Plan also encouraged the development of additional housing within the Chelmsford Center area as a means of increasing foot traffic.

The Master Plan recommended that the Town focus on redevelopment and mixed-use opportunities within the Center Village/Chelmsford Street area. The area between the Center Village and I-495 was targeted for redevelopment activities, while mixed-use development was recommended for the area from Center Village to the Center Village side of Fletcher Street. Such economic development projects will increase the need to address pedestrian and parking

concerns, and provide future opportunities to implement many of the recommendations contained in this report.

Map 1: Chelmsford Center Zoning



Zoning Districts

- CC Shopping Center
- CD General Commercial
- CV Center Village
- P Public
- RB Residential B
- RC Residential C
- RM Residential Multi Family

Center Village Study Area

- Parcel Boundary
- Right of Way

Labels in blue indicate Assessor Property IDs where different than the map parcel ID.

Sources:

Town of Chelmsford (zoning); MassGIS (2011 parcels); MassDOT/NMCOG (2012 roads) Imagery: DigitalGlobe 2011

Data provided on this map is not sufficient for either boundary determination or regulatory interpretation.

Produced by NMCOG 7/8/2013



0 100 Feet



The Northern Middlesex Council of Governments

40 Church Street, Suite 200
Lowell, Massachusetts 01852-2686
(978) 454-8021 nmco.org

C. Recent Transportation Network Improvements

In 2004, MassDOT reconstructed Central Square. The work included the installation of traffic signals at the following three intersections: North Road (Route 4) at Academy Street/Fire Station, North Road (Route 4) at Littleton Road (Route 110), and North Road (Route 4) at Billerica Road (Route 129), Boston Road (Route 4) and Chelmsford Street (Route 110). The project included cold planning, full depth bituminous concrete pavement, bituminous concrete overlay, drainage, cement concrete and brick sidewalks, granite curbing, pavement markings, stone masonry walls, and landscaping and streetscaping improvements. In 2008, the Town of Chelmsford made additional improvements to the Central Square area which included road resurfacing just south of Billerica Road to the intersection of Boston Road, Adams Street and Summer Street. The Town also installed two raised crosswalks on Boston Road, located in front of the Library and in front of 34 Central Square (Fish Bones Restaurant). The crosswalks were raised three inches from the pavement in an effort to reduce vehicle speeds in the area.

In 2009, the Bruce Freeman Rail Trail was officially opened to the public. The project has been a tremendous success and has provided a safe travel option for bicyclists and pedestrians. However, there have been concerns expressed regarding the lack of parking for rail trail users, with some businesses indicating that their parking is being utilized by non-customers seeking to access the trail. The Town's Master Plan recommended that additional parking be created for the rail trail and for other open space and recreational facilities in town. Parking within the Center has been identified as both a transportation-related challenge and an economic development issue.

D. Existing Traffic Volumes

In August 2013, automatic traffic recorder (ATRs) counts were collected at four locations: North Road (north of Academy Street), and Littleton Road (west of North Road), Chelmsford Street (east of Chelmsford Center), and Summer Street (east of Boston Road). The average daily traffic (ADT) volumes for these locations are summarized in Table 1 below.

Table 1: 2013 Average Daily Traffic Volumes

Roadway	Average Daily Traffic Volumes (Weekday)
North Road (Route 4), north of Academy Street	12,500
Littleton Road (Route 110), west of North Road	9,700
Chelmsford Street (Route 110), east of Chelmsford Center	13,200
Summer Street, east of Boston Road (Route 4)	3,400

Source: NMCOG, 2013

E. Pedestrian and Bicycle Volumes

Pedestrian volumes were counted at various locations around the Center to determine where pedestrian and bicycle demand is highest. Observations were made in October 2013 at both signalized intersections within the Center and at the mid-block crossing on Boston Road. The observation period (11:30 a.m. to 1:30 p.m.) coincided with the peak use period for the Bruce Freeman Rail Trail on a typical weekday. The narrative below summarizes the pedestrian volumes at each count location for that location's peak hour.

At the intersection of Route 4 and Route 110 (in front of the Chelmsford Center for the Arts), a total of 27 pedestrians and 8 bicyclists (35 total) crossed the street during the peak hour of 12:00 p.m. to 1:00 p.m. The majority of pedestrians (52%) and bicyclists (100%) crossed at the Center Crossing/Bruce Freeman Crosswalk as shown in Table 2 below.

Table 2: Littleton Road/Center Pedestrian/Bicycle Crossing Volumes

Time Period	Littleton Rd Crosswalk				Center Crossing/ Bruce Freeman Crosswalk				Center for Arts Crosswalk				Total
	NB		SB		NB		SB		EB		WB		
	Pedestrian	Bicycle	Pedestrian	Bicycle	Pedestrian	Bicycle	Pedestrian	Bicycle	Pedestrian	Bicycles	Pedestrian	Bicycle	
12:00-1:00	2	0	0	0	6	4	8	4	9	0	2	0	35

As shown in Table 3, a total of 13 pedestrians and 1 bicyclist crossed the street during the peak hour from 11:45 a.m. – 12:45 pm. at the intersection of Route 110/27/4 and Route 129. The majority of pedestrians (43%) crossed at the Route 110 crosswalk.

Table 3: Chelmsford Street at Billerica Road Pedestrian/Bicycle Crossing Volumes

Time Period	Central Square Crosswalk				Billerica Road Crosswalk				Route 110 Crosswalk				Total
	EB		WB		NB		SB		EB		WB		
	Pedestrian	Bicycle	Pedestrian	Bicycle	Pedestrian	Bicycle	Pedestrian	Bicycle	Pedestrian	Bicycle	Pedestrian	Bicycle	
11:45-12:45	2	1	0	0	0	0	2	0	6	0	0	0	14

During the peak period of 11:30 a.m. – 12:30 p.m., 27 pedestrians and 3 bicyclists (30 total) were observed using the crosswalk located on Boston Road in front of Fishbones restaurant. The majority of pedestrians (63%) and bicyclists (67%) headed eastbound toward Cushing Place, as shown in Table 4.

Table 4: Boston Road Mid-Block Pedestrian/Bicycle Crossing Volumes

Time Period	Boston Road Crosswalk (Fishbones)				Total
	EB		WB		
	Pedestrians	Bicycles	Pedestrians	Bicycles	
11:30-12:30	17	2	10	1	30

Table 5 shows that during the peak period of 12:00 p.m. – 1:00 p.m., 72 pedestrians utilized the sidewalks on both sides of Central Square near the mid-block crossing on Boston Road. Roughly 55% of the pedestrians were found to be walking northbound. It should be noted that these pedestrians were walking along the sidewalks and were not crossing the street. Observers noted that many of the pedestrians were employees of local businesses.

Table 5: Central Square Sidewalk Pedestrian/Bicycle Volumes

Time Period	Central Square (Business side) Sidewalk				Odd Fellow Hall Sidewalk				Total
	NB		SB		NB		SB		
	Pedestrian	Bicycle	Pedestrian	Bicycle	Pedestrian	Bicycle	Pedestrian	Bicycle	
12:00-1:00	33	1	21	0	7	0	11	0	73

F. Bruce Freeman Rail Trail (BFRT)

The Bruce Freeman Rail Trail (BFRT) bisects Chelmsford Center, crossing at the intersection of North Road and Littleton Road. Currently, the trail extends from the Chelmsford/Lowell line to the intersection of Route 27 and Route 225 in Westford, a distance of 6.8 miles of which 5.2 miles are located in Chelmsford. The trail consists of a 10-foot wide paved path with a 2-foot wide shoulder on each side. Additional phases of the trail are under design, and eventually the facility will extend to Framingham.

The BFRT is an important and popular transportation and recreation asset for the Town and the region, providing a safe off-road alternative to Routes 110 and 27. Members of the town’s Bicycle and Pedestrian Advisory Committee (BPAC) and the Friends of the Bruce Freeman Rail Trail (FBFRT) have conducted trail counts since the facility opened, in order to get a sense of the level of use and types of users on the facility. The most recent count was conducted at Cushing Place on Saturday, September 15, 2012. Results from the 2012 trail count are provided in Table 6 below and a comparison with counts taken in 2010 is provided. Overall usage was down in 2012; however this may be attributed to the damp weather conditions on the day that the count

was taken. As shown below, even on a showery/partly cloudy day volumes on the BFRT are in excess of 1,100 users, with bicyclists comprising a majority (67%) of users.

Table 6: Bruce Freeman Rail Trail Count Data, 2010 and 2012

User/Transportation Type	2010 Totals	2012 Totals	Percent Change 2010 - 2012
Bicycle	1,005	663	-1.5%
Baby Carriage/Stroller	52	20	-4.8%
Jogger	95	135	0.9%
Other	5	11	1.6%
Pedestrian	307	248	-0.7%
Skater/ Rollerblader	30	23	-0.9%
Wheelchair	0	3	3.0%
Totals	1,494	1,103	-1.1%

Counts conducted by BFRT Volunteers and Chelmsford BPAC members at Cushing Place

Unfortunately, there are no designated parking areas within Chelmsford Center specifically for the BFRT. According to the BFRT website (<http://brucefreemanrailtrail.org/>), authorized parking for the trail is available at the following locations in Chelmsford:

- Chelmsford Center for the Arts, 1A North Road
- Parking along Bruce Freeman Rail Trail, Cushing Place
- Stop and Shop, 295 Chelmsford Street
- Municipal lot behind Santander (formerly Sovereign) Bank, 5 Billerica Road
- Byam School (off-school hours), 25 Maple Road
- Town Land at Heart/Baptist Pond, 2 Pond Street

There is no signage in Chelmsford Center notifying bike path users as to where they can park to access the trail. Dedicated parking for the BFRT can be found only at Stop and Shop. This parking area was created as part of the Planning Board approval process. Located nearly 2 miles from Chelmsford Center, this lot provides fifteen (15) dedicated parking spaces for the BFRT users; however, there is no signage on Chelmsford Street informing the bike path users that parking is available. The fifteen (15) spaces, found in the southeast corner of the parking lot, are clearly stenciled. Trail access to the trail is located on Glen Avenue, which is on the opposite side of the building away from the designated parking area.



Photo 2: BFRT dedicated parking (16 spaces)



Photo 3: No access to BFRT from parking



Photo 4: Fire lane behind Stop&Shop



Photo 5: Access to/from fire lane



Photo 6: Available parking closer to BFRT access



Photo 7: Available parking

G. Chelmsford Center Bicycle Facilities

Communities that promote walking and other forms of non-motorized transportation can reap significant social, environmental and health benefits. With the option to walk or bike available, communities can decrease the number of vehicles on the roadway, helping reduce congestion, air pollution and the need for larger parking facilities.

By law, bicyclists are considered vehicle operators and are allowed to use all roadways except limited access highways within the Commonwealth of Massachusetts. Encouraging safe bicycle usage along the roadways of Chelmsford Center would not only help promote a healthier lifestyle, but could translate into more residents using alternative modes of transportation for short distance errands or to attend events in the Town Center, relieving some of the parking burdens that have been identified by project stakeholders.

Overall, the study area lacks designated bicycle facilities. There are no marked bicycle lanes or signage reminding drivers to “share the road” with bicycles. Bicycle racks are uncommon, as the Chelmsford Center for the Arts and the Chelmsford Public Library are the only buildings within Chelmsford Center equipped with bicycle parking accommodations.

H. Pedestrian and Bicycle Crash History

Pedestrian and bicycle crash histories were evaluated for the five-year period of 2006 through 2010, during which a total of six (6) crashes were recorded. Four (4) crashes were pedestrian-related, while two (2) were bicycle-related. Table 7 lists the bicycle and pedestrian crashes over the five-year study period (2006-2010).

Table 7: Pedestrian- and Bicycle-Related Crashes, 2006-2010

Pedestrian-Related Crashes

Location	Time	Severity	Road Conditions	Weather Conditions
20 Boston Road	5:30 PM	Property Damage Only	Dirt/Sand/Mud in road	Cloudy
Bartlett Street at Acton Rd	8:30 PM	Non Fatal Injury	Dry	Clear
Rte 110/Central Square	6:40 PM	Non Fatal Injury	Wet	Rain
34 Central Square	2:23 PM	Non Fatal Injury	Dry	Clear

Source: MassDOT

Bicycle-Related Crashes

Location	Time	Severity	Road Conditions	Weather Conditions
10 North Road	2:36 PM	Not Reported	Dry	Clear
37 Central Square	3:38 PM	Property Damage Only	Dry	Cloudy

Source: MassDOT

I. Parking Supply by Zoning District

Zoning bylaws normally set minimum off-street parking and loading standards for various land uses. Adopted in 1975, Chelmsford’s minimum parking requirements for business uses are expressed as a minimum number of spaces per square foot of office or retail space, while residential and transient uses are expressed as a minimum number of spaces per bedroom or room/unit. The Planning Board has the discretion to reduce the number of parking spaces required if the project proponent can document that fewer spaces will meet the parking needs of the proposed project. Chelmsford’s off-street and loading requirements also impose design, landscaping and lighting requirements, in addition to minimum dimensions for parking spaces. Unlike some communities, Chelmsford requires that any reduction in area required for parking is

reserved as landscaped open space. Table 8 below summarizes the total number of parking spaces located within each zoning district within the project study area.

Table 8: Parking Spaces within each Zoning District

Zoning District	Marked Spaces	Handicapped Spaces	Total # of Parking Spaces
(CC) Shopping Center	765	33	798
(CD) General Commercial	730	34	764
(CV) Center Village	705	20	725
(P) Public	205	10	215
(RB) Residential B	17	0	17
(RC) Residential C	70	5	75
Total Spaces	2,492	102	2,594

The parking requirements within Chelmsford’s zoning bylaw were compared with those of the similar nearby communities of Billerica, Tewksbury, and Westford. Appendix A shows the results of the comparison, along with parking standards developed by the Institute of Transportation Engineers (ITE). For the most part the Town’s requirements are quite comparable to the other communities with a couple of notable exceptions. Chelmsford requires that banks provide 1 space per 100 square feet (sf), whereas Billerica requires 1 space per 300 sf, and Tewksbury and Westford require 1 space per 200 sf. Chelmsford and Westford require that professional and medical offices provide 1 space per 200 sf, while Billerica and Tewksbury require 1 space per 300 sf. For fast food establishments Chelmsford requires 1 space for every 50 square feet of net floor area, while Billerica requires 1 space per every 200 sf of gross floor area.

Table 9 on the following page compares the number of existing parking spaces located on each parcel with the parking requirements outlined in the Chelmsford Zoning Bylaw. Though 21 of the 28 parcels currently have fewer parking spaces than currently required under the Town’s present day regulations, most of the buildings were constructed prior to the enactment of the current zoning bylaw. It should also be noted that the existing municipal parking areas around the Town Center are underutilized and provide additional capacity to accommodate the needs of local businesses. **Overall, there is more than enough parking within the Town Center to accommodate the uses and level of development found there today, although the parking may not be located adjacent or contiguous to each business within the area.**

Table 9: Existing Parking vs. Required Parking per Chelmsford Zoning Regulations

PARCEL ID	ADDRESS	GROSS FLOOR AREA IN FT ²	USE	EXISTING PARKING SPACES	PARKING REQUIREMENT PER CHELMSFORD ZONING BYLAW
73-319-11	7 NORTH RD	7932.00	Fire Station	0	N/A
73-319-12	1A NORTH RD	12215.00	Chelmsford Center for the Arts (Old Town Hall)	41	47**
73-319-13	5 NORTH RD	4563.00	General Office Buildings	8	23
73-319-14	1-3B NORTH RD	4187.00	Apartments with Twelve Units	7	12***
73-322-11	59-61 CENTRAL SQ	6991.00	Discount Stores, Junior Department Stores, Department Stores	12	35
73-322-12	8 CHELMSFORD ST	4734.00	Single family MDL R	6	2
73-322-13	2 CHELMSFORD ST	5082.00	General Office Buildings	0	25
73-322-6	18-20 CHELMSFORD ST	6168.00	General Office Buildings	21	31
73-322-9	10-12 CHELMSFORD ST	8772.00	Discount Stores, Junior Department Stores, Department Stores	21	44
73-327-1	49 CHELMSFORD ST	6476.00	Discount Stores, Junior Department Stores, Department Stores	18	32
73-327-12	21-23 CHELMSFORD ST	10093.00	Medical Office Buildings	25	50
84-334-10	1 BILLERICA RD	5920.00	General Office Buildings	75	30
84-334-11	41-44 CENTRAL SQ	15405.00	General Office Buildings	13	77
84-334-14	6 BOSTON RD	11358.00	Office Condos	50	57
84-334-9	9 BILLERICA RD	5088.00	General Office Buildings	20	25
84-336-1	1 CENTRAL SQ	5271.00	Eating and Drinking Establishments - restaurants, diners, fast food establishments, bars, nightclubs	18	N/A*
84-336-10	24 CENTRAL SQ	3152.00	Discount Stores, Junior Department Stores, Department Stores	31	16
84-336-11	26 CENTRAL SQ	1080.00	Discount Stores, Junior Department Stores, Department Stores	0	5
84-336-13	28 CENTRAL SQ	3870.00	Discount Stores, Junior Department Stores, Department Stores	13	19
84-336-14	7 ACTON RD	1305.00	Discount Stores, Junior Department Stores, Department Stores	14	7
84-336-19	13 ACTON RD	27840.00	General Office Buildings	64	139
84-336-2	2-9 CENTRAL SQ	13726.00	Store/shop MDL C	16	69
84-336-4	15-18 CENTRAL SQ	5112.00	Discount Stores, Junior Department Stores, Department Stores	0	26

84-336-5	11 CUSHING PL	4930.00	Other Storage, Warehouse, and Distribution facilities (see also use code 401)	64	10
84-336-6	1A CENTRAL SQ	2960.00	Other Storage, Warehouse, and Distribution facilities (see also use code 401)	0	6
84-336-7	19-22 CENTRAL SQ	5960.00	Discount Stores, Junior Department Stores, Department Stores	8	30
84-337-1	8 LITTLETON RD	1581.00	Gasoline Service Stations - providing engine repair or maintenance services, and fuel products	12	8
84-337-2	14 LITTLETON RD	16091.00	Discount Stores, Junior Department Stores, Department Stores	70	80
84-340-1	30 CENTRAL SQ	1629.00	Gasoline Service Stations - providing engine repair or maintenance services, and fuel products	5	8
84-340-2	4 BARTLETT ST	6829.00	Apartments with Five Units	7	5***
<i>*Requirement is based on # of seats per establishment; however, the number of seats in this establishment is unknown at this time.</i>					
<i>**Requirement is based on ITE LUC 495: Recreational Community Center (3.83 spaces per 1K Square Feet of GFA) as the Town's Zoning Bylaw does not specify a requirement for this particular use.</i>					
<i>***Requirement is based on number of dwelling units</i>					

The existing parking conditions in Chelmsford Center are complex. Given the number of restaurants, retail/specialty shops, banks, and the public facilities located within the Town Center, parking demand is high. As mentioned previously, the opening of the Bruce Freeman Rail Trail (BFRT) has increased the demand for parking in the area.

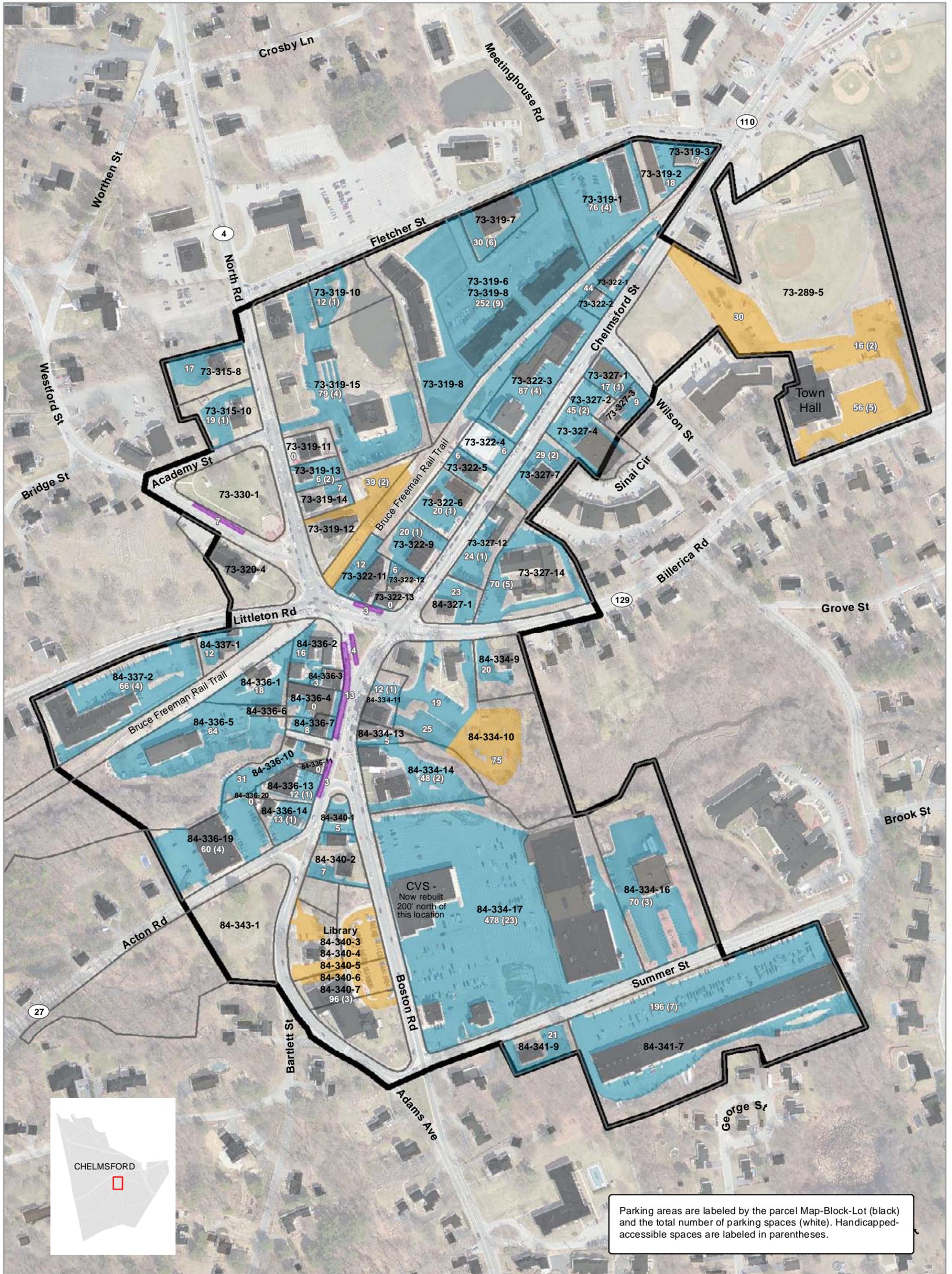
NMCOG has inventoried and evaluated all 68 existing parking lots located within the project study area, along with five (5) on-street parking locations. The Chelmsford Center Parking Inventory (Map 2) shows the location of all lots, along with the total number of spaces found in each. A total of 2,594 parking spaces (2,492 regular marked spaces and 102 handicapped spaces) are available in the Chelmsford Center study area, as summarized below.

Table 10: Total Parking Spaces within each Parking Area

Parking Area	Marked Spaces	Handicapped Spaces	Total Parking Spaces
Private Parking Area	2,147	90	2,237
On-Street Parking	30	0	30
Municipal Parking Area	278	12	290
Privately Owned (Leased by Town)	75	0	75
Total Spaces	2,530	102	2,632

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Map 2: Chelmsford Center Parking Inventory



Parking areas are labeled by the parcel Map-Block-Lot (black) and the total number of parking spaces (white). Handicapped-accessible spaces are labeled in parentheses.

Parking Area

- Private Parking Area
- On-Street Parking
- Municipal Parking Area

- Parcel Boundary
- Center Village Study Area
- Structure

Sources:
 Town of Chelmsford; NMCOG (2013 study);
 MassGIS (2011 parcels); MassDOT/NMCOG
 (2012 roads)
 Imagery: DigitalGlobe 2011

Data provided on this map is not sufficient for
 either boundary determination or regulatory
 interpretation.

Produced by NMCOG 7/8/2013



0 100 Feet



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J. Private Parking Lots

Private parking lots make up the vast majority of available parking in Chelmsford Center and their use is also the most contentious. Business owners have voiced their concerns regarding the potential for trail users to utilize parking intended for customers and clients. Given that the BFRT has gained in popularity and is heavily used, business owners now have an opportunity to market their businesses to trail users who now pass by the area. The following parking areas are of particular interest for users of the BFRT as well as business owners in Chelmsford Center.

Cushing Place Parking Area

Located off Boston Road (Route 27), direct access to the BFRT can be found in the rear upper parking lot area. Signage directing the public to the parking area can be found on the corner of Cushing Place and Route 27. Parking in the lower lot is occupied by businesses in the Handley block (8 spaces), while Brick House Pizza (18 spaces), A-1 Toilets, Center Sports (64 spaces), and the Ambulance Service occupy the upper lot. Signage in both parking areas clearly denotes that parking is permitted for business patrons only.



Photo 8: Cushing Place



Photo 9: Cushing Place Lower Lot



Photo 10: Cushing Place Upper Lot



Photo 11: BFRT Access from Cushing Place

Shopping Center on Boston Road (Winstanley Property)

The Winstanley property parking lot, located on Boston Road directly across from the Library, serves CVS Pharmacy, Friendly's Restaurant, and Bank of America. Stop and Shop was formerly located here before moving to its new Chelmsford Street (Route 110) location. Signage within the lot indicates that parking is for Winstanley patrons only, though library patrons are allowed to use the lot as overflow during special events. A total of 478 spaces are available, of which at least 50% sit empty currently as much of the property is vacant. A redevelopment project to allow new retail uses is currently (as of November 17, 2013) under construction.



Photo 12: Vacant parking lot at Winstanley owned shopping center

Odd Fellow's Hall / Santander (formerly Sovereign) Bank

This lot can be accessed from Boston Road (Route 4) and Billerica Road (Route 129). Parking lot directional signage is located on both sides of Routes 4 and 129 at the entrance to the lot, but does not provide advanced notification to drivers, leaving very little time to react or to make safe and proper turning movements. The Odd Fellow's Hall is leased by Santander (formerly Sovereign) Bank for another 7 years from a Real Estate Investment Trust (REIT) located in California. The lower lot behind the hall has 25 spaces, and though it is connected to the municipal lot, the spaces are not for public parking. A sidewalk that runs alongside the building connects the lot to Central Square. The upper lot, accessed from Boston Road has 12 spaces for business patrons only. The Santander (formerly Sovereign) Bank has 19 reserved spaces. Signage is very clear as to what is permitted and what is not.



Photo 13: Upper lot beside Odd Fellow Hall



Photo 14: Lower lot behind Odd Fellow Hall

K. Public Parking Areas

Within Chelmsford Center, only three (3) of the sixty-eight (68) lots are municipally controlled. While there is significant parking available in these lots, many people do not know where they are due to a serious lack of signage. Those who manage to find these lots are often met with signs indicating that parking is for business patrons only.

Chelmsford Center for the Arts

In the fall of 2009, the lot behind the Chelmsford Center for the Arts was expanded from 30 spaces to 50 spaces through a voluntary contribution from Aggregate Industries. This lot provides direct access to the Bruce Freeman Rail Trail. For someone not familiar with Chelmsford Center, this public parking lot may be the most problematic. It's not because of its layout or adequacy, but for how one goes about finding and entering the lot itself.

Located on North Road, the BFRT runs parallel to the lot and the trail can be easily accessed from it. What looks like the main entrance is actually a one-way exit only. In order to enter the lot, one must enter the driveway to the abutting lot, drive through its parking lot (12 spaces), and cross the BFRT, before finally reaching the Center for the Arts upper (8 spaces) and lower (31 spaces) parking areas. Signage informing drivers as to where they can enter and park, or of the fact that one must cross the BFRT, does not exist until halfway through the parking lot. Upon entering the lower parking lot, four (4) "Bicycle Circle" racks have been installed, yet signage clearly states that parking is for Chelmsford Community Center Business only, even though town staff has indicated that this is in fact a public parking area. During data collection, NMCOG staff observed a business owner who parked in the middle of the lot, blocked the entrance to unload something, and actually confronted someone trying to enter the lot, while empty spaces existed within his lot at the time.



Photo 15: Adjacent lot to Center for the Arts



Photo 16: BFRT at Center for the Arts



Photo 17: Center for the Arts Back Lot



Photo 18: Signage with Bike Circles

Parking Facilities at the Town Offices

The Town Offices/New Fire Station parcel will contain two parking areas when completed. The upper level parking area will have approximately 12 marked spaces, while the lower lot will have approximately 60 new spaces. Currently, there is paved access from Route 110 to the lower level Town Hall parking area. The asphalt is in poor condition, but there are plans to resurface the area as part of the construction project.



Photo 19: Town Hall Upper Parking Lot (preconstruction)

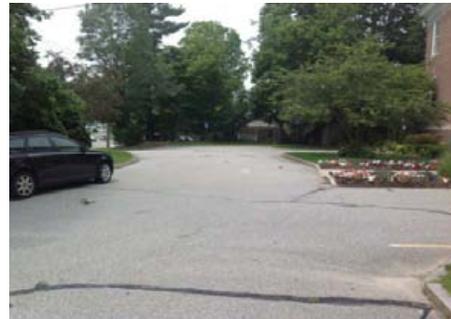


Photo 20: Town Hall Upper Lot Front Parking



Photo 21: Town Hall Lower Parking Lot (preconstruction)



Photo 22: Town Hall Lower Parking Lot (preconstruction)

The construction plans for the new fire station next to Town Hall call for an improved lower parking as shown in Figure 1.

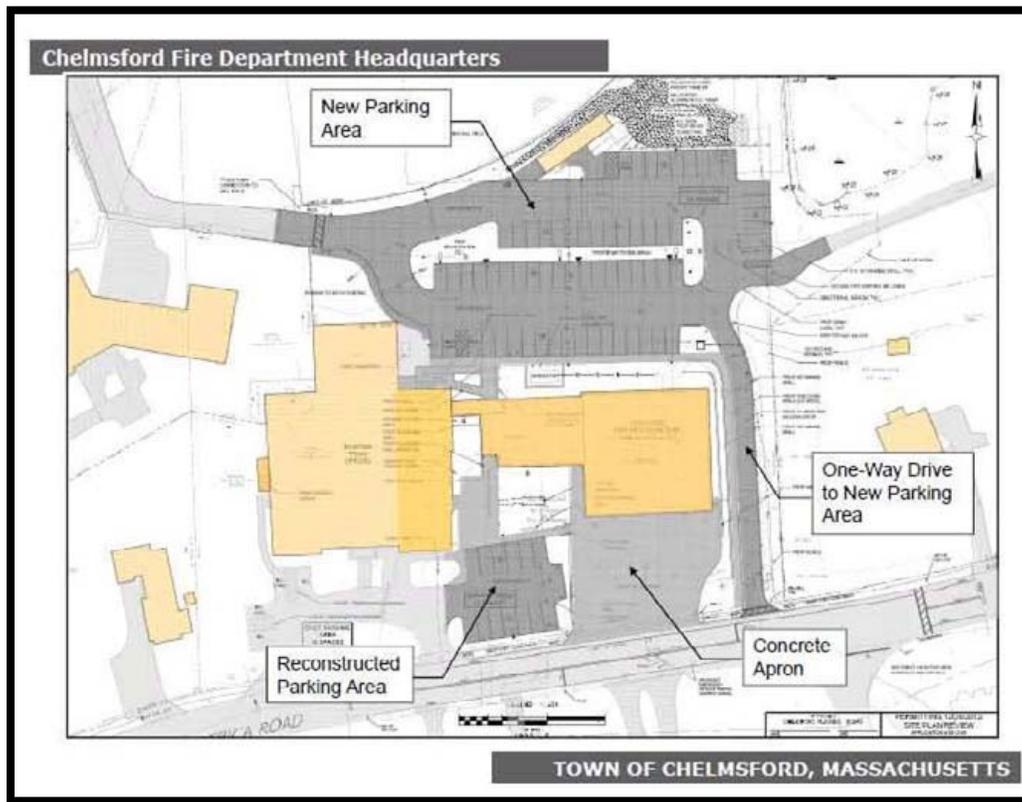


Figure 1: New Parking Areas Following Completion of Fire Station Construction

Chelmsford Public Library

While the Library lot is publicly owned, according to town staff, it is only available to library patrons. The library lot has 96 spaces, however, when certain activities and special events are held the lot fills up quickly and a number of attendees must park across the street in the shopping center parking lot. Library staff is directed to park in the five (5) reserved parking spaces in the multi-family unit lot directly abutting the library.

Public Parking Area behind Santander (formerly Sovereign) Bank

The municipally controlled lot located in the rear of the Santander (formerly Sovereign) Bank building is not owned by the Town. The town uses the lot under the terms of a 30-day revocable lease. Signage is present on both sides of Routes 4 and 129 directly at the entrance to the lot, but does not provide advanced notification to drivers. The lot can accommodate parking for 75 vehicles.



Photo 23: Signage from Route 4 NB



Photo 24: Signage from Route 129 WB



Photo 25: Walkway by Odd Fellow's Hall from Parking lot



Photo 26: Municipal Parking Sign

On-Street Parking

Of the 2,632 parking spaces located within the Town Center, thirty (30) are available and marked as on-street parking at the following locations:

- Bartlett Street & Central Square – 13 spaces
- Central Square – 4 spaces
- Bartlett Street & Acton Road – 3 spaces
- Littleton Road & Chelmsford Street – 3 spaces
- Westford Street & North Road – 7 spaces

As there is a 30-60 minute time limit for on-street parking, it is highly unlikely that users of the BFRT would park at these locations. On-street parking is primarily used by employees and patrons of the Chelmsford Center businesses, and typically they are the first spaces to get utilized. Signage is evident in the area clearly denoting what is permissible and what is not.



Photo 27: Central Square (17 spaces)



Photo 28: Bartlett Street (3 spaces)



Photo 29: Central Square (3 spaces)



Photo 30: Westford Street (7 spaces)

L. Parking Lot Utilization

Parking lot utilization was examined for the following parking lots: Center for the Arts, the Municipal Lot behind Santander (formerly Sovereign) Bank, and the new Stop and Shop (Chelmsford Street – Route 110). These lots were assessed during the peak hours on Saturday, June 22nd from 12:30-4:00 pm and on Tuesday, July 2nd from 11:30-1:30 pm to determine if the parking supply is adequate during hours when the Bruce Freeman bike path is most heavily used, based on the trail counts conducted in 2012. As shown on Table 11, the highest utilization rate (58%) was found at the Center for the Arts during both peak periods that were analyzed. Based on this analysis there seems to be significant excess parking capacity even during times of heavy rail trail use. Although the municipal lot behind Santander (formerly Sovereign) Bank has the largest supply of available spaces (75), it is one of the most underutilized lots in Chelmsford Center, where utilization rates during both count periods maxed out at 5%.

Table 11: Parking Lot Utilization Rates

Stop and Shop (Rt. 110 Chelmsford Street)							
Dedicated BFRT Parking Area Saturday June 22, 2013: 12:30 - 4:15 PM				Dedicated BFRT Parking Area Tuesday July 2, 2013: 11:00 - 1:30 PM			
Time	Occupied Spaces	# of Spaces	% Utilized	Time	Occupied Spaces	# of Spaces	% Utilized
12:30	1	15	7%	11:00	1	15	7%
1:00	1	15	7%	11:30	0	15	0%
1:30	1	15	7%	12:00	1	15	7%
2:00	1	15	7%	12:30	0	15	0%
2:30	1	15	7%	1:00	0	15	0%
3:00	1	15	7%	1:30	1	15	7%
3:30	1	15	7%				
4:00	0	15	0%				
Chelmsford Center for the Arts							
Back Parking Area Saturday June 22, 2013: 12:30 - 4:15 PM				Back Parking Area Tuesday July 2, 2013: 11:00 - 1:30 PM			
Time	Occupied Spaces	# of Spaces	% Utilized	Time	Occupied Spaces	# of Spaces	% Utilized
12:45	5	31	16%	11:00	14	31	45%
1:15	4	31	13%	11:30	15	31	48%
1:45	9	31	29%	12:00	15	31	48%
2:15	11	31	35%	12:30	13	31	42%
2:45	9	31	29%	1:00	17	31	55%
3:15	11	31	35%	1:30	18	31	58%
3:45	15	31	48%				
4:15	18	31	58%				
Municipal Lot (Santander (formerly Sovereign) Bank)							
Municipal Parking Area Saturday June 22, 2013: 12:30 - 4:15 PM				Municipal Parking Area Tuesday July 2, 2013: 11:00 - 1:30 PM			
Time	Occupied Spaces	# of Spaces	% Utilized	Time	Occupied Spaces	# of Spaces	% Utilized
12:45	4	75	5%	11:00	1	75	1%
1:15	4	75	5%	11:30	1	75	1%
1:45	3	75	4%	12:00	2	75	3%
2:15	3	75	4%	12:30	4	75	5%
2:45	2	75	3%	1:00	2	75	3%
3:15	2	75	3%	1:30	3	75	4%
3:45	2	75	3%				
4:15	2	75	3%				

M. Pedestrian Facilities

Sidewalk conditions within Chelmsford Center were evaluated and deficiencies were noted such as cracking, distortion, and ADA compliance. Sidewalks that are rated in good condition show very little distress, usually less than 30% of the sidewalk area. Sidewalks that are in fair condition typically have distress areas that cover up to 45% of the sidewalk area. Areas that need to be improved show severe distress, covering at least 60% of the area and/or do not comply with ADA regulations. For the most part, the sidewalks in Chelmsford Center are in fair to good condition. The Chelmsford Center Sidewalk Conditions Map (Map 3) shows the condition of the sidewalks evaluated within the study area as summarized below:

Fair Condition:

- Littleton Road
- North side of Academy Street
- North side of Billerica Road and southern side in front of Santander (formerly Sovereign) Bank

Good Condition:

- Chelmsford Street (Route 110)
- Boston Road
- Summer Street
- Acton Road
- North Road
- Westford Street, north of Academy Street

Sidewalk Areas Needing Improvement:

- Central Square
- Billerica Road in front of the Town office

The condition of the sidewalks along the roadways within the study area is summarized below:

- **Littleton Road (Route 110)** – The crosswalk area at the Littleton Road intersection with North Road is in good condition with appropriate curb ramps, crossing delineators, and pavement markings. The sidewalk follows westbound traffic away from the Center, and is generally 4 feet wide and made of asphalt. There are some utility patches and some utility poles narrowing the sidewalk, and patches of grass/weeds growing in the seams, but overall the condition is fair. Ginger Ale Plaza has a 6-foot wide concrete sidewalk running along its property on the eastbound side of the



Photo 31: Gap in Sidewalk Network on Littleton Road.

roadway. However, a sidewalk network gap exists between the North Road intersection and the Ginger Ale Plaza.



Photo 32: No Curb Ramp at Intersection of Academy Street and North Road.

- **Academy Street** – The five-foot wide sidewalk along the westbound direction of travel is in fair condition with few cracks in the asphalt pavement. The curb ramp at the northwest corner of Academy Street and North Road is in poor condition and does not meet ADA standards.

- **Billerica Road** – The sidewalk running along the westbound direction of travel is generally five feet wide and the asphalt is in fair condition. As the sidewalk reaches the intersection at Chelmsford Street, the sidewalk changes to ornamental brick pavers that are common throughout the Center. The curb ramps at the crosswalk need to be brought up to ADA standards with visual delineators and appropriate curb ramps at the northwest corner of the intersection.

- **Chelmsford Street (Route 110)** – Five foot wide asphalt sidewalks run the length of Chelmsford Street on the east side of the road. The sidewalk is in good condition and meets ADA standards, with appropriate curb ramp designs at all intersections.

- **Boston Road** - Ornamental brick sidewalks ranging from 5 to 10 feet in width run along the northbound side of the road. The southbound side of the road between Cushing Place and the Route 110 intersection suffers from tree root damage that has caused heaving in the existing asphalt sidewalk. In addition, the curb ramp at Cushing Place is in poor condition and needs resurfacing. South of Cushing Place, the sidewalk becomes ornamental brick until reaching Acton Road, where the sidewalk once again becomes asphalt.



Photo 33: Poor sidewalk conditions in Chelmsford Center. Trees recently removed.

- **Summer Street** – Summer Street has an existing five-foot wide asphalt sidewalk on the northbound side of the roadway and is in good condition between the Center and Route 129 near Town Hall. All curb cuts meet ADA standards.

- **Acton Road** – As mentioned earlier, Acton Road has a five-foot wide asphalt sidewalk in good condition in the area around the Center.

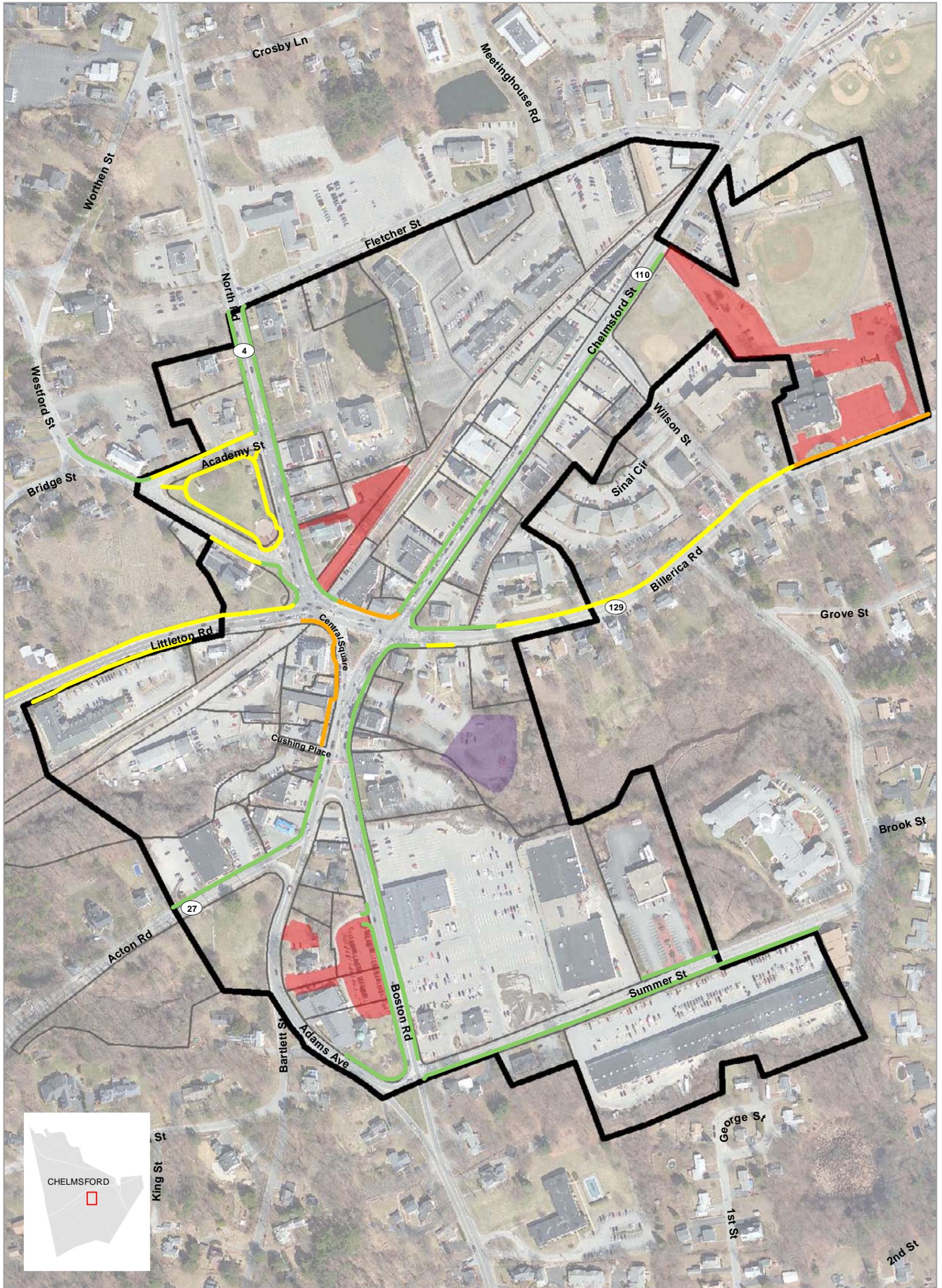
- **North Road** – North Road has an ornamental brick sidewalk along the northbound side of North Road. This area meets ADA standards because it was recently resurfaced with new sidewalks and curb ramps were put in place

- **Westford Street** – Westford Street sidewalks run along the Center Common with a mixture of concrete and ornamental brick. The condition of the concrete and brick is good. The curb cuts all meet ADA standards and no improvements are needed.
- **Central Square** – The asphalt sidewalk along the north side of Central Square between the BFRT crossing and Chelmsford Street is in poor condition and is in need of improvement. In addition the curb ramp at Chelmsford Street does not meet ADA standards.



Photo 34: Poor curb cut at NW corner of Chelmsford Street and Billerica Road intersection in Central Square.

Map 3: Chelmsford Center Sidewalk Conditions



Sidewalk Condition

- Good
- Fair
- Areas to be Improved

Parking Areas

- Municipal Parking Area
- Privately Owned (Leased by Town)
- Parcel Boundary
- Center Village Study Area

Sources:
 Town of Chelmsford; NMCOG (2013 study);
 MassGIS (2011 parcels); MassDOT/NMCOG
 (2012 roads)
 Imagery: DigitalGlobe 2011

Data provided on this map is not sufficient for
 either boundary determination or regulatory
 interpretation.

Produced by NMCOG 11/5/2013



0 100 Feet



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Photo 35: Sidewalk in front of George Kalos Building



Photo 36: Obstructed pedestrian signal at BFRT crossing



Photo 37: No ADA accessibility – Boston Rd.



Photo 38: Littleton Rd. Sidewalk



Photo 39: Billerica Rd. sidewalk – in front of Town Offices



Photo 40: Billerica Rd. – in front of Town Offices



Photo 41: Center Common sidewalks



Photo 42: Center Common sidewalks

Currently seventeen crosswalks are interspersed throughout Chelmsford Center. Five of the crosswalks are at mid-block locations. The crosswalk at Littleton Road and North Road is also the location of a Bruce Freeman Rail Trail crossing.

The town's consultant, the Cecil Group has proposed adding new mid-block crosswalks behind the library for access to Bartlett Park. They have also proposed adding a mid-block crossing on Boston Road where the proposed Beaver Brook walkway would cross the roadway. A third mid-block crossing is proposed on Chelmsford Street near the new Town Hall parking area entrance. In addition, a mid-block crosswalk is proposed between Acton Road and the Library.

There is a perception among patrons and business owners that the public parking areas are not within reasonable walking distance to the local businesses. Using the standard walking speed of 3.5 MPH, staff estimated the average walking distances and pedestrian travel times from the municipal lots to specific Town Center destinations, as summarized in Table 12.

Table 12: Walking Distances from Public Parking Areas to Chelmsford Center Destinations

Parking Area	Destination	Walking Distance (miles)	Time to walk (Minutes)
Municipal Lot behind Chelmsford Center for the Arts	Fishbones	0.17	4.3
	Ginger Ale Plaza	0.2	5.0
	Center Sports	0.17	4.3
	Sugar Bake Shoppe	0.12	3.0
	Chelmsford Library	0.33	8.3
	Bruce Freeman Rail Trail	0.1	2.5
	Chelmsford Gift Shop	0.11	2.8
	Summer Street Business Plaza	0.44	11.1
Lot behind Santander (formerly Sovereign) Bank	Fishbones	0.07	1.8
	Ginger Ale Plaza	0.24	6.0
	Center Sports	0.21	5.3
	Sugar Bake Shoppe	0.12	3.0
	Chelmsford Library	0.26	6.5
	Bruce Freeman Rail Trail	0.14	3.5
	Chelmsford Gift Shop	0.13	3.3
	Summer Street Business Plaza	0.37	9.3
Parking Area behind Town Hall	Fishbones	0.34	8.5
	Ginger Ale Plaza	0.43	10.8
	Center Sports	0.39	9.8
	Sugar Bake Shoppe	0.23	5.8
	Chelmsford Library	0.5	12.6
	Bruce Freeman Rail Trail	0.05	1.3
	Chelmsford Gift Shop	0.33	8.3
	Summer Street Business Plaza	0.62	15.6
Distance estimates from www.gmappedometer.com			

III. Chelmsford Center Business Survey

A. Overview

As part of the overall Chelmsford Center parking utilization and bicycle/pedestrian study, Northern Middlesex Council of Governments (NMCOG) distributed a written survey to businesses located in the study area. This survey assisted in assessing parking utilization, parking needs, and identifying the issues that are of concern to the Chelmsford Center business community.

B. Methodology

The business survey was designed to assess how parking supply, availability and location impact daily business operations within the Town Center. A copy of the survey instrument is attached. On September 4, 2013, NMCOG staff canvassed the Center and hand-delivered the survey to each business. In order to achieve the best response rate, NMCOG staff provided two options for completing the survey. Businesses could either complete the survey immediately while NMCOG staff waited, or complete the survey at a later time and return it by mail. The survey took approximately ten minutes to complete. Forty-three (43) surveys were distributed and twenty-eight (28) completed surveys were returned, for a response rate of 65%.

C. Survey Results

The ten-question survey requested that businesses provide background information regarding where their employees and customers/clients park, provide their perspective on the impacts of the Bruce Freeman Rail Trail, and offer their suggestions on ways to improve parking, walking or bicycling within the Center. Table 11 below lists the businesses that responded to the survey.

Table 13: List of Survey Respondents

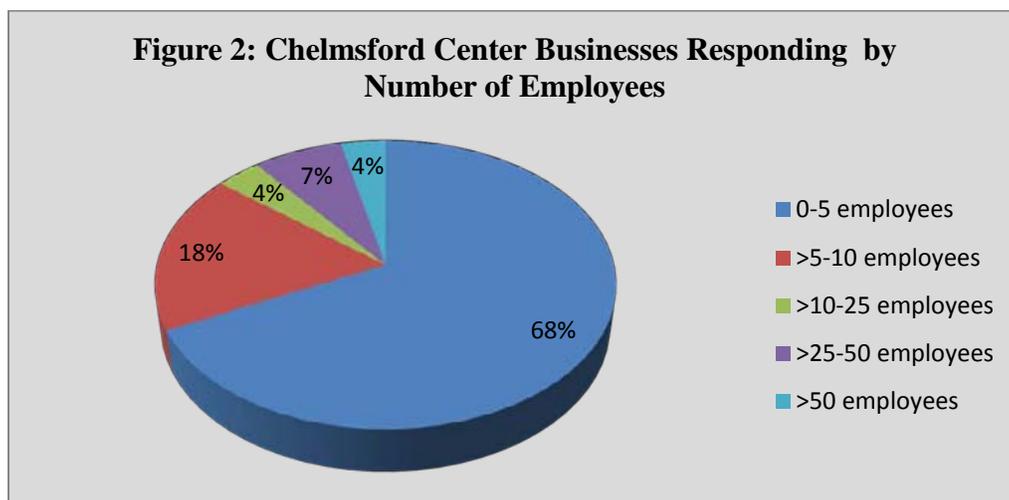
Business Name	Address
Sullivan and Gannon LLC	22 Central Square
Salon Reyna	21 Central Square
Beadles Bead Shop	18 Central Square
Highlights Studio	60 Chelmsford Street
Center Sports	11 Cushing Place
Chelmsford Gift Shop	15 Central Square
ERA KEY Realty Services	61 Central Square #2
Eyewear by Giorgio	60 Chelmsford Street
Sweet Enough Boston LLC	61 Central Square
Chelmsford Library	25 Boston Road
Law Offices of Gregg Haladyna	56 Central Square
Attorney Neal Lerer	56 Central Square
Law Offices of Dacy Horwitz	56 Central Square
Fishbones	34 Central Square
New England Health and Wellness	34 Chelmsford Street
Antidote	37 Central Square
Picture Yourself	17 Central Square
Sugar Bake Shoppe	12 Chelmsford Street
The Java Room	14 Littleton Road
Easy Housekeeping Shops	19 Central Square
EmbroidMe	14 Littleton Road
Bertucci's	14 Littleton Road

Lappy Fix	12 Central Square
Chantilly Place	24 Central Square
The Traveling Rhino	2 Central Square
Color Nails	60 Chelmsford Street
A Floral Moment	48 Chelmsford Street
Sargent and Associates	20A Chelmsford Street

The responses to the survey questions are analyzed and discussed in the following sections.

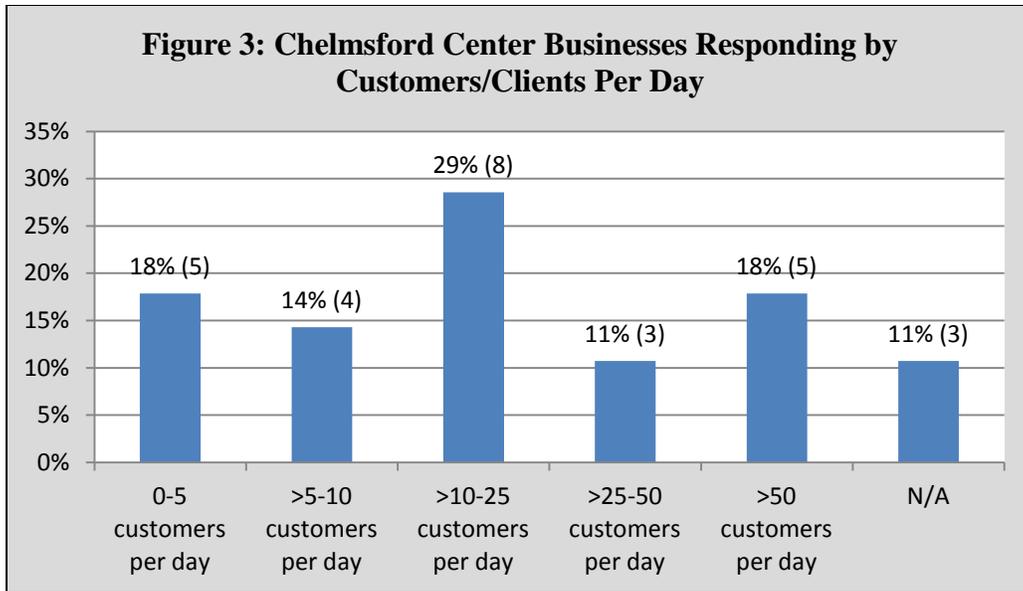
Question #1 – How many employees work at your business?

Responses indicated that nineteen (19) businesses (68%) have less than five (5) employees. Eighteen percent (18%) of the business have 5-10 employees, while four percent (4%) have 10-25 employees. Two businesses reported having 25-50 employees (7%), and one business employs over 50 workers (4%). Figure 2 below graphically displays the percentage of responding businesses by employment size.



Question #2 – How many customer/clients frequent your business on a typical day?

Question 2 asked each business to estimate the number of customers/clients that frequent the business on a typical day. The results show that for those businesses responding, the number of customers varies widely depending on the specific type of business. Eight of the businesses (29%) serve 10-25 customers/clients on an average day. As shown in Figure 3, five (5) businesses (18%) reported serving less than five customers per day, while four businesses (14%) reported that 5-10 customers/clients frequent their establishment each day. Three (3) businesses (11%) responded that 25-50 customer/clients conduct business in their establishment on an average day. Restaurants responding to the survey reported well over fifty (50) customers on an average day.



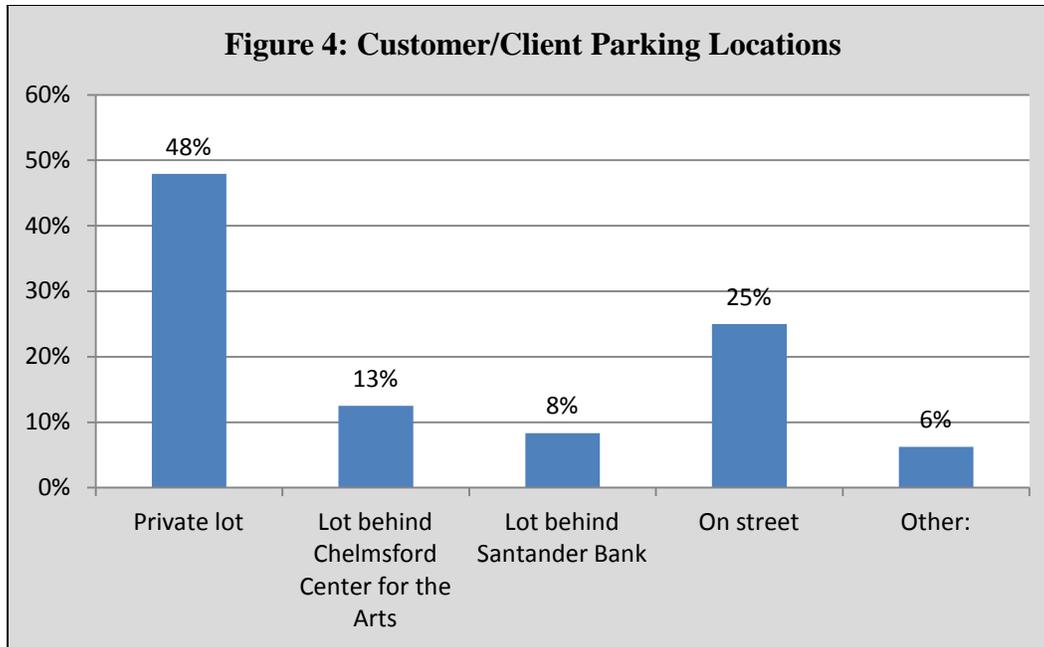
Question #3 – Where do your customers park?

The survey queried the location of customer parking for each business. Survey results showed that business customers use multiple parking areas, with fifteen (15) of the twenty-eight businesses indicating that their customers/clients utilize multiple parking locations within the area. As shown in Table 14, approximately half of the business reported that their customers utilize private parking areas, while the remainder identified publicly-controlled locations, including the Chelmsford Center for the Arts, the lot behind Santander (formerly Sovereign) Bank, and on-street parking. Specifically, six (6) respondents reported that customers/clients park in the public lot behind the Chelmsford Center for the Arts, while four (4) businesses stated that their customers/clients use the lot behind Santander (formerly Sovereign) Bank and Odd Fellow Hall. Twelve (12) of the responding businesses (42%) indicated that their customers/client use on-street when it is available. Figure 4 shows the number of responses received for each parking location identified within the study area.

Table 14: Location of Customer/Client Parking

Private Lot	Chelmsford Center for the Arts	Santander (formerly Sovereign) Bank/Odd Fellow Hall	On-Street	Other*
23	6	4	12	3

*Other areas were identified as Ginger Ale Plaza and Cushing Place.
 Note: 15 of 28 respondents checked multiple parking locations.



Question #4 – Where do your employees park?

Businesses provided information on where their employees park. The majority of respondents (18 businesses or 58% of respondents) indicated that their employees park in private lots specific to their business. Six respondents (19%) reported that their employees use the public parking lot behind the Chelmsford Center for the Arts (19%), while four (13%) indicated that their employees park in the lot behind the Santander (formerly Sovereign) Bank and Odd Fellows Hall. Only one business reported using on-street parking for the employee parking needs. Table 15 shows the location of employee parking based on the responses received. Figure 5 graphically displays the percentage of responding businesses utilizing each parking location for employee parking.

Table 15: Location of Employee Parking

Private Lot	Chelmsford Center for the Arts	Santander (formerly Sovereign) Bank/Odd Fellow Hall	On-Street	Other	N/A
18	6	4	1	2	1

*Other areas were identified at Ginger Ale Plaza, Shell Gas Station, and Cushing Place.
 Note: 3 of 28 respondents checked multiple parking locations.



Question #5 – What are your hours of operation?

Question #5 asked each business to detail its hours of operation. As shown in Table 16, on a typical weekday only five (5) of the responding businesses open before 9 a.m., while twenty (20) or seventy-one percent (71%) of the businesses open between 9:00 a.m. and 10:00 a.m. Seventeen of the businesses (61%) responding close by 6:00 p.m., while a few of the restaurants and personal service establishments remain open until 9:00 p.m.

On Saturdays, most businesses are open during the first part of the day, with the exception of professional offices. Similar to weekday conditions, very few (3) businesses open before 9:00 a.m., with the majority opening between 9:00 am and 10:00 am. However, on Saturdays seven of the retail establishments close by 3:00 pm, much earlier than on a weekday. By 6:00 p.m. on a Saturday, twenty-three (23) of the twenty-eight (28) (82%) responding businesses have closed for the day. Only the restaurants remain open on a Saturday evening.

There is very little business activity within the Town Center on a Sunday, with only eight of the twenty-eight responding businesses indicating that they are open. Of those businesses that are open, four are retail establishments, three are restaurants, and one is a personal service establishment.

Table 16: Hours of Operation for Responding Businesses

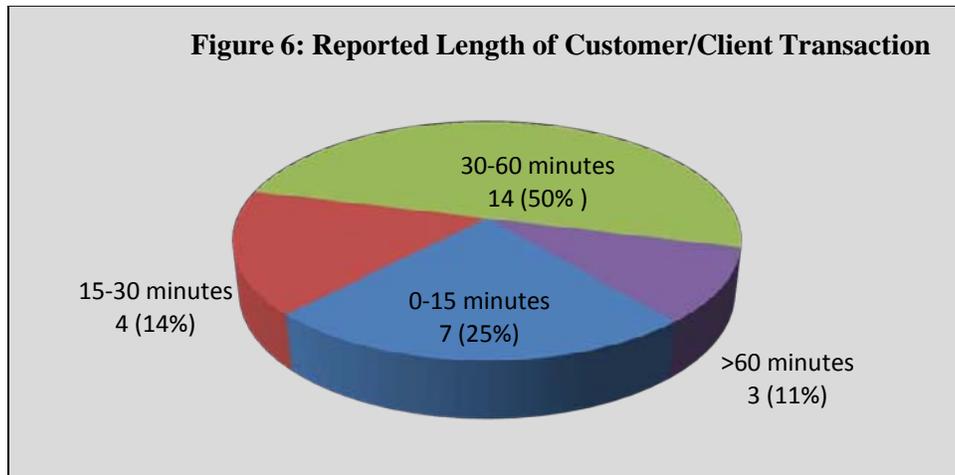
Name of Business	Weekday Hours	Saturday Hours	Sunday Hours
Chelmsford Library	9:30 am- 9:00 pm (close at 5:30 pm on Friday)	9:30 am - 5:30 pm	Closed
EmbroidMe	9:00 am – 6:00 pm	10:00 am-1:00 pm	Closed
Java Room	7:00 am – 5:00 pm Monday – Wednesday; Close at 9:00 pm on Thursday and 11:00 pm on Friday	8:00 am – 11:00 pm	8:00 am – 5:00 pm

Table 16 continued: Hours of Operation for Responding Businesses

Name of Business	Weekday Hours	Saturday Hours	Sunday Hours
Center Sports	10:00 am – 6:00 pm	10:00 am – 5:00 pm	12:00 pm – 5:00 pm
Bertucci's	11:00 am – 10:00 pm, close at 11:00 on Friday	11:00 am – 11:00 pm	11:00 am – 10:00 pm
Chantilly Place	12:00 pm-8:00 pm on Tuesday and Thursday; 10:00 am – 4:00 pm on Wednesday and Friday	9:00 am – 3:00 pm	12:00 pm – 3:00 pm
Law Office of Dacy Horwitz	10:00 am -5:00 pm	Closed	Closed
Law Office of Gregg Haladyne	9:00 am – 5:00 pm	Closed	Closed
Picture Yourself!	10:00 am – 7:00 pm; Closed on Monday	10:00 am – 4:00 pm	Closed
Anecdote	12:00 pm- 6:00 pm on Wednesday, Thursday, Friday only	12:00 pm – 6:00 pm	Closed
Color Nails	9:00 am – 6:00 pm	8:00 am – 6:00 pm	9:00 am – 4:00 pm
The Traveling Rhino	10:00 am – 5:00 pm Monday through Wednesday; 10:00 am – 6:30 pm Thursday and Friday	10:00 am – 6:30 pm	Closed
Sugar Bake Shoppe	7:00 am – 6:00 pm Tuesday through Friday; closed Monday	8:00 am – 3:00 pm	Closed
A Floral Moment	9:00 – 5:30 Monday, Tuesday, and Wednesday; 9:00 am – 6:00 pm on Thursday and Friday	9:00 am – 3:00 pm	Closed
Fishbones	11:30 am – 9:00 pm	11:30 am – 9:00 pm	11:30 am – 9:00 pm
Easy Housekeeping Shops	9:00 am – 5:30 pm	9:00 am – 3:00 pm	Closed
Lappy Fix	10:00 am – 6:00 pm	9:00 am – 3:00 pm	Closed
New England Health and Wellness	8:00 am – 6:00 pm Monday, Wednesday, Friday only	Closed	Closed
Attorney Neal Lerer	9:00 am – 5:00 pm	Closed	Closed
Sweet Enough Boston LLC	9:00 am – 6:00 pm; closed on Monday	9:00 am – 6:00 pm	Closed
Eyewear by Gorgio	10:00 am – 6:00 pm	10:00 am – 4:00 pm	Closed
ERA Key Realty Services	8:00 am – 8:00 pm	9:00 am – 3:00 pm	Closed
Chelmsford Gift Shop	9:30 am – 5:30 pm	9:30 am – 5:30 pm	12:00 pm -5:00 am
Sargent and Associates	8:00 am – 5:00 pm	Closed	Closed
Highlights Studio	12:00 pm – 8:00 pm on Monday, Wednesday and Friday; 10:00 am – 9:00 pm on Tuesday and Thursday	10:00 am – 4:00 pm	Closed
Beadles Bead Shop	10:00 am – 7:00 pm	10:00 am – 6:00 pm	12:00 pm – 4:00 pm
Salon Reyna	9:00 am – 7:00 pm; closed on Monday	9:00 am – 7:00 pm	Closed
Sullivan and Gannon LLC	9:00 am – 5:00 pm	Closed	Closed

Question #6 – On average, how long do your customers stay at your business?

Question 6 was used to estimate the average time a typical customer or client generally spends in the area, assuming that he or she is not frequenting more than one establishment. As shown in Figure 6 below, seven (7) businesses (23%) reported that customer/client transactions last less than 15 minutes. Four businesses (14%) reported customer stays of 15-30 minutes on average. Half (50%) of the respondents reported that the average length of time a customer/client spent at their business is between 30 and 60 minutes. The Antidote Gallery, Fishbones, and Beadles Bead Shop reported stays of longer than one hour.



Question #7 – What is your busiest time during a typical week?

To better understand peak periods of business activity in Chelmsford Center, respondents were asked to identify the busiest time period during a typical week. While responses varied widely, the busiest time of the day seems to be between 11 a.m and 3 p.m. on weekdays for retail establishments, as shown in Table 17. Restaurants report that Friday and Saturday evenings are their busiest times, as would be expected.

Table 17: Peak Hours of Business as Reported by Respondents					
Day of the week	Before 9 AM	9 AM -11 AM	11 AM-3 PM	3 PM-6 PM	6 PM-10 PM
Monday	1	4	10	7	2
Tuesday	1	5	12	8	3
Wednesday	1	5	12	8	2
Thursday	1	5	12	8	4
Friday	1	4	11	8	3
Saturday		4	12	3	3
Sunday		2	4	1	1

Question #8 – The Bruce Freeman Rail Trail has...

Question 8 was included to assess whether the Bruce Freeman Rail Trail has impacted area businesses. As shown in Table 18, most respondents (64%) indicated that there has been no impact to their business as result of the rail trail. Twenty-five (25) percent reported an increase in business, while only three businesses (11%) felt that the rail trail had negatively impacted their business.

Table 18: Business Impact of the Bruce Freeman Rail Trail as Reported by Respondents

Helped my business	Hurt my business	Had no impact
7 (25%)	3 (11%)	18 (64%)

Question #9 - Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain.

In answering the question of whether customers/clients have difficulty parking, sixty-eight percent (68%) answered “yes”, while thirty-two percent (32%) responded “no”. Nine of the seventeen “yes” responses (53%) indicated that parking was most difficult during lunch and evening dinner times. Two (2) businesses responded that the weekends were most difficult. One respondent indicated that, while the perception is that there is nowhere to park, the real problem is that the public is unaware that public parking is even available within the center. Another respondent indicated that signage is needed to direct the public to the municipal parking areas.

Two respondents indicated that bike path users have been seen parking at 48 and 60 Chelmsford Street, using parking that is critical for the businesses. One respondent added that weeds growing along the bike path are encroaching on the parking area at 60 Chelmsford Street.

A business at 20A Chelmsford Street reported that vehicles park in their lot to frequent the plaza next door. The Library reported having difficulty with parking when they hold events.

Ten respondents indicated that parking is not a problem.

Question #10 - Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

Respondents offered many suggestions for improving parking, walking, and bicycling within Chelmsford Center. One of the most prominent suggestions was to improve signage directing people to the public parking lots, and educate the public on where parking is permitted. There were multiple requests for additional parking, mid-block crosswalks and enhanced pedestrian connections for visitors.

The following provides a summary of comments provided by respondents:

- Provide additional bike racks in the Town Center;
- Create dedicated parking for Bruce Freeman Rail Trail users;
- Create designated areas for parking over 1-hour in duration, and areas for parking less than 1 hour;
- Increase enforcement of parking rules (2 comments);
- Require that employees/staff park elsewhere, and provide a shuttle service for those that park elsewhere;
- Expand Ginger Ale Plaza parking lot;
- Remove the fence behind Ginger Ale Plaza which interferes with walking;
- Provide additional lots for visitor parking;
- Create a pedestrian connection between Odd Fellow parking lot and Central Square;
- Provide additional parallel parking in front of businesses;
- Create an additional crosswalk between 20 and 21 Chelmsford Street;
- Develop additional Town-owned parking (2 comments);
- Provide signage for designated Bruce Freeman Rail Trail parking (4 comments);
- Provide sidewalks and crosswalks between the Center and the back side of the library/Bartlett Park; and
- Create an additional crosswalk on North Road.

IV. Chelmsford Street Streetscape

In order to create the character of a traditional village center, streetscape improvements have been proposed for section of Chelmsford Street from Fletcher Street to Billerica Road. Lined with shops, restaurants and businesses, this section of Chelmsford Street currently suffers from a lack of access management, particularly on the northwest side of the roadway. Curb cuts are very wide or nonexistent and parking areas along the front of the buildings are very close to the travel lanes. After working with Town officials and the Cecil Group, a conceptual plan has been developed that includes minimizing the large curb cuts along Chelmsford Street, installation of sidewalks and landscaping, improving bicycle accommodation through the addition of Sharrows, and adding on-street parallel parking between Fletcher Street and the Chelmsford Cycle Shop. The additional on-street parking will offset some of the parking spaces lost as a result of the proposed improvements.

Research has revealed that the roadway right-of-way is fifty (50) feet with an existing asphalt roadway width of 36 feet. A recently constructed five (5) foot wide asphalt sidewalk with concrete curbing lines the southeast side of the roadway. The northeast side has an eight (8) foot shoulder that leads into parking areas in front of the businesses. Between Highlights Hair Salon (near the Bruce Freeman Rail Trail crossing) and the Chelmsford Cycle Shop, there are no curb openings as the road acts as one big access point. This is not only aesthetically unpleasing, it represents a safety hazard as drivers do not have specific entry and exit points from the businesses that line



Photo 43: Chelmsford Street Existing Shoulder Area

Chelmsford Street.



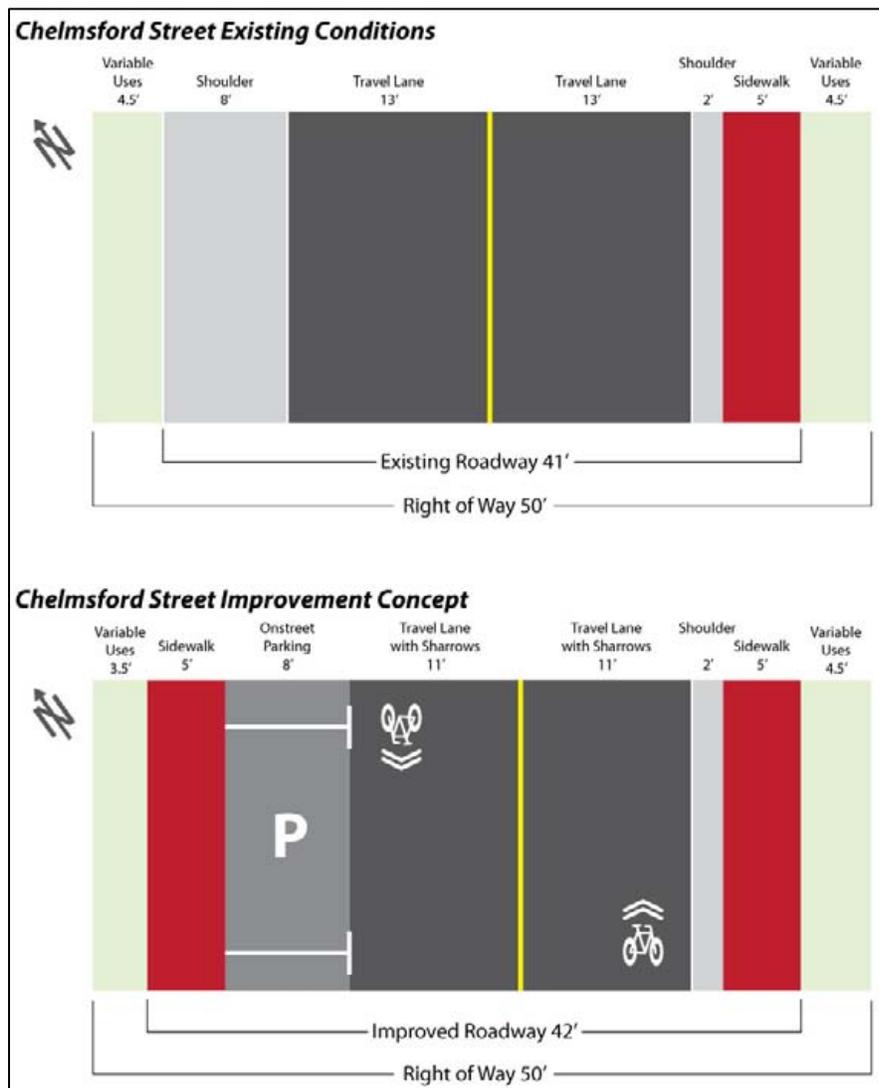
Photo 44: Chelmsford Street Concept Plan (Courtesy Town of Chelmsford)

An access management plan and streetscape improvement concept needs to be fully formulated. Figure 7 shows the existing roadway cross section between Chelmsford Cycle Shop and Highlights Salon, and a revised cross section with new parallel parking, sidewalk and landscaping. As part of the plan, the travel lanes would be narrowed from 13 to 11 feet. This will serve to slow traffic as it approaches the Center. An eight (8) foot wide parallel

parking lane would be installed along with a five-foot wide ADA compliant sidewalk to provide access for pedestrians. Because of the addition of sidewalk and parallel parking

lanes, bicycle facilities should consist of share the road pavement markings (sharrows) and appropriate signage. Figure 7 shows that most elements can be added within the existing roadway, with the exception of landscaping areas that should be designed with input from the business owners, particularly for those properties that may be losing parking spaces as a result of the streetscape improvements. It is estimated that approximately 27 new parallel on-street spaces would be provided to partially offset the loss of the approximately 42 parking spaces. The Town of Chelmsford also plans to add municipal parking areas near the ball fields behind Town Hall to mitigate lost parking spaces. South of the Cycle Shop, improvements should be made to the existing asphalt sidewalk network to comply with ADA standards as part of the streetscape improvement project.

Figure 7: Chelmsford Street Cross Sections, existing and proposed concept (area between Chelmsford Cycle Shop and Fletcher Street) – Image Courtesy of Cecil Group



V. Findings and Recommendations

The following recommendations are provided for the Town's consideration. The recommendations are aimed at improving the overall experience of those who visit, work or do business within Chelmsford Center. While the Town has retained the Cecil Group to create a Master Plan and Vision for the Town's future, this report focuses on addressing the present day deficiencies within the Center in the areas of parking, pedestrian circulation and accommodations and bicycle facilities. A number of other town initiatives are currently underway including the underground installation of overhead utilities.

A. Signage For Parking Areas

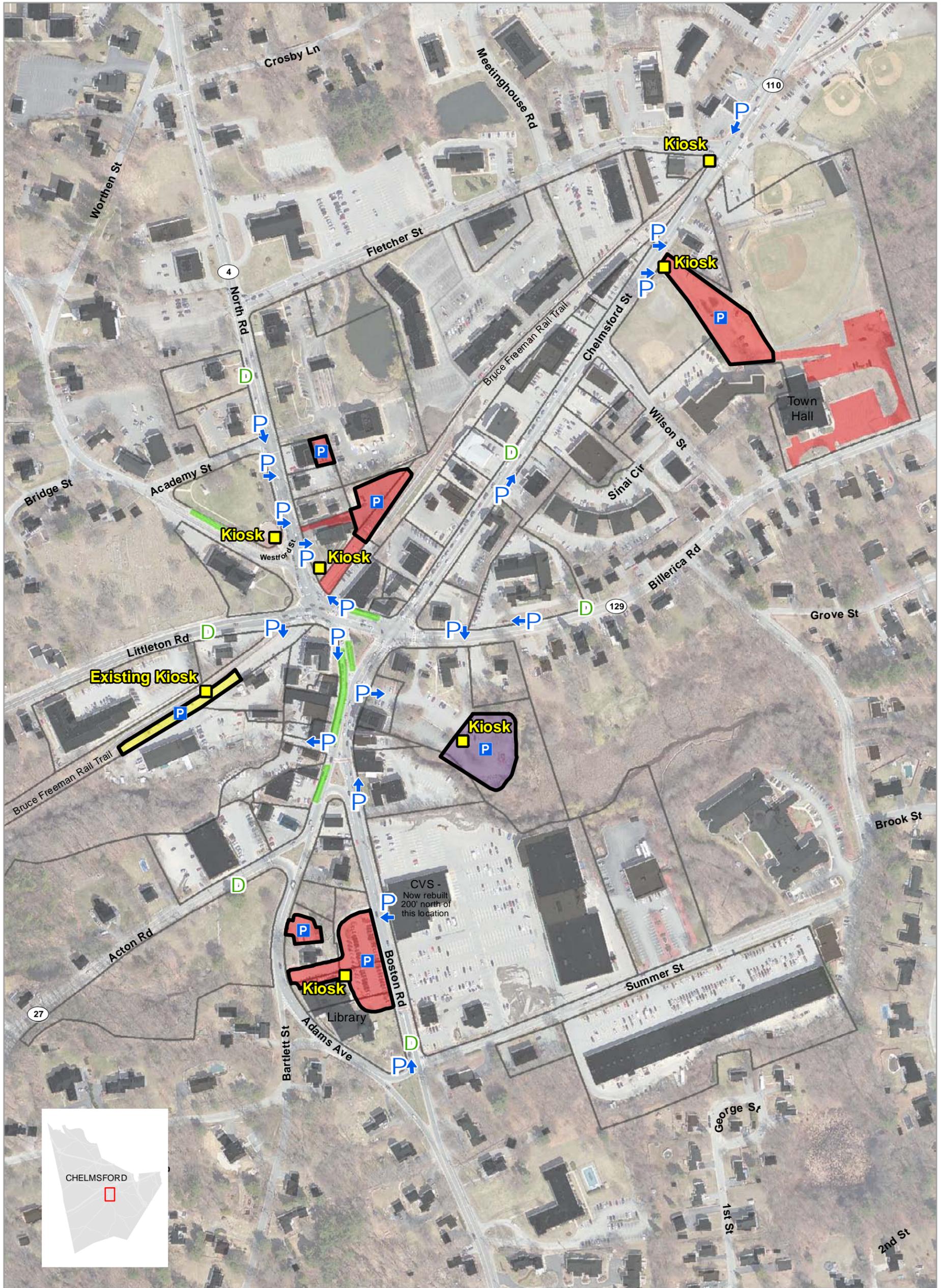
One of the biggest issues in the Center is the lack of signage notifying users of available public parking areas. While dedicated parking for the BFRT can be found at the Stop and Shop on Chelmsford Street (Route 110), roughly 2 miles away from Chelmsford Center, there is no signage along Route 110, Glen Avenue, or in the Stop and Shop parking area indicating that dedicated parking exists, nor is there any information readily available in general as to other locations where rail trail parking is available, such as in the municipal lot behind Santander (formerly Sovereign) Bank, the Chelmsford Center for the Arts lot, or in the parking area along the trail near Center Sports.

Parking signage needs to be erected throughout the Center. Map 3 depicts possible locations for additional parking signage throughout the Center. These locations include types of signage to be used including Parking identification signage, parking directional signage, and vehicular directional signage. In addition, the map shows informational kiosk locations that could be constructed near existing parking areas in order to inform the public of historical, cultural, and retail options nearby. These kiosks could also provide the walking distances to different destinations within Chelmsford Center. Map 3 identifies the following potential kiosk locations:

- The lot behind Santander (formerly Sovereign) Bank
- BFRT Opening near Center Sports
- Chelmsford Center for the Arts
- Parking Area behind Town Hall
- Chelmsford Public Library
- The BFRT opening near Fletcher Street
- The Center Common along North Road.

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Map 4: Proposed Parking, Kiosk, and Signage Locations



Proposed Parking Area

Parking Area

- Municipal (Proposed)
- Municipal (Existing)
- Privately Owned (Leased by Town)
- On-Street Parking

Proposed Kiosks and Signage

- Kiosk
- Parking Sign
- Directional Sign
- Parcel Boundary
- Structure

Sources:
 Town of Chelmsford; NMCOG (2013 study);
 MassGIS (2011 parcels); MassDOT/NMCOG
 (2012 roads)
 Imagery: DigitalGlobe 2011

Data provided on this map is not sufficient for
 either boundary determination or regulatory
 interpretation.

Produced by NMCOG 11/14/2013



0 100 Feet



**The Northern Middlesex
 Council of Governments**

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B. Bicycle Accommodations

Bicycle lanes are an element of the roadway cross section designated for the exclusive or preferential use of bicyclists. The lanes are designated by signs and pavement markings. Pavement markings are important on roadways that have a designated bicycle lane. Pavement markings indicate the separation of lanes for motor vehicles and bicycles, assist the bicyclist by indicating assigned travel paths and can provide advance information for turning and crossing maneuvers.

1. Install bicycle lanes and share the road signage and pavement markings at appropriate locations -Based on available roadway width, bicycle lanes could be added on two roadways within the study area without disturbing traffic flow and without major construction. Those locations are discussed below:

- **Littleton Road (Route 110, west of Chelmsford Center)** is classified as an urban minor arterial with a primarily east/west orientation. The MassDOT-owned roadway has an average width of thirty feet, which includes two twelve-foot travel lanes and three-foot shoulders on each side. Signage instructing bicyclists on where to stop to activate the signal is already installed on Littleton Road eastbound at the intersection with North Road. The Town should work with MassDOT to install “Share the Road” markings (sharrows) in the travel lanes and to add signage informing motorists that bicycles are sharing the roadway.

- **North Road (Route 4)** is classified as an urban minor arterial with a north/ south orientation, connecting Chelmsford Center with I-495, Route 3 and the Drum Hill retail area. Just north of the Center, North Road has an average roadway width of thirty feet that includes a fourteen foot travel lane in each direction as well as one foot shoulders in each direction. Signage instructing bicyclists where to stop at a traffic signal in order to trip the green signal can be found at the intersection of North Road and Academy Street. As is shown in the previous examples a bicycle lane could be added on each side of



Photo 45: MUTCD bicycle signage

the roadway by reducing each travel lane by three feet, bringing the travel lane width to eleven feet each. The width that was saved from the reduction of the travel lanes could be transferred to each shoulder increasing the shoulder width from one foot to four feet wide on both the north and southbound sides of the roadway. Again at the approach to the Route 110 intersection, North Road widens to accommodate multiple lanes of

traffic eliminating any shoulder present on the roadway. “Share the road markings (Sharrows) and signage should be implemented at the point where the road widens to multiple lanes.

Where dedicated bike lanes are not an option due to roadway width limitations, the Town should consider erecting “share the road” signage and/or painting “sharrows” on the roadways. Shared lane markings or sharrows, help convey to motorists and bicyclists that they must share the roads on which they are operating. The purpose of the markings is to create improved conditions for bicyclists, by clarifying where they are expected to ride, and to remind motorists to expect bicyclists on the road.

The Manual on Uniform Traffic Control Devices states that shared lane markings cannot be placed on roadways that have a speed limit above 35 mph, making all of the roadways within the study area viable candidates for sharrows or shared lane markings. Specific locations for sharrows within the study area include:

- Chelmsford Street (Route 110)
- Littleton Road (Route 110)
- Billerica Road (Route 129)
- Summer Street
- Acton Road (Route 27)
- Boston Road (Route 4) south of Chelmsford Center and,
- The one-way streets within the heart of Chelmsford Center.

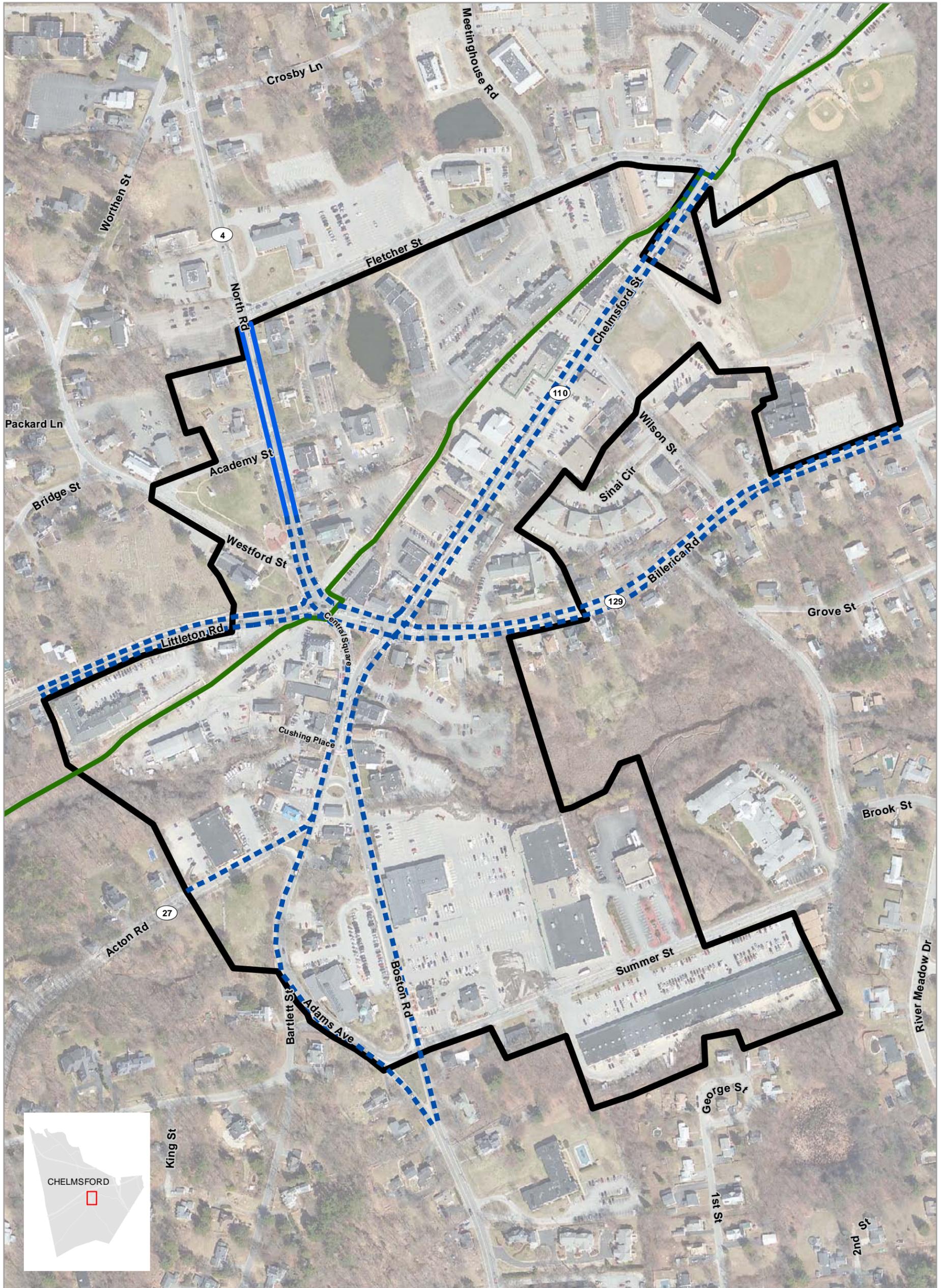


Photo 46: A sharrow pavement marking

Map 5 graphically displays the locations of the proposed bicycle accommodation improvements.

2. Install bicycle racks within the Town Center -Bicycle racks should be installed at the Chelmsford Town Hall, and in the leased parking lot behind the Santander (formerly Sovereign) Bank. In addition, the town should encourage local business owners to installing a bicycle rack on their property, where feasible. All bicycle racks should be placed with adequate clearance from curb ramps, crosswalks, street furniture, driveways, and parked cars.

Map 5: Chelmsford Center Proposed Bicycle Facilities



-  Bicycle Lane
-  Bicycle Shared Use Lane
-  Bruce Freeman Rail Trail
-  Parcel Boundary
-  Center Village Study Area

Sources:
 Town of Chelmsford; NMCOG (2013 study);
 MassGIS (2011 parcels); MassDOT/NMCOG
 (2012 roads)
 Imagery: DigitalGlobe 2011

Data provided on this map is not sufficient for
 either boundary determination or regulatory
 interpretation.

Produced by NMCOG 11/20/2013



0 100 Feet



**The Northern Middlesex
 Council of Governments**
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 Lowell, Massachusetts 01852-2686
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3. Establish a “Complete Streets” policy to provide accommodations for all roadway users on future roadway construction and reconstruction projects, where possible and practical- By adopting a Complete Streets policy, communities direct planners and engineers to routinely design and operate the transportation network to enable safe access for all users, regardless of age, ability, or mode. Roadway improvements that are planned and designed using a Complete Streets approach may include: sidewalks, bike lanes (or wide paved shoulders), frequent and safe crossing opportunities, median islands, curb extensions, and narrower travel lanes.

C. Pedestrian Recommendations

1. Improve Sidewalk Condition and Address ADA Compliance Issues-Sidewalk areas identified as needing improvements to condition include, the area around the Center Common off Westford Road, the sidewalks around Central Square, and the sidewalks along Billerica Road near Town Hall.

2. Add mid-block crosswalks to open up inaccessible areas of the Center- As outlined in the Cecil Group report, mid-block crosswalks on Adams Avenue behind the library would open up the Bartlett Park and Acton Road areas of the Center. Adding a mid-block crossing near the new Town Hall parking area would help BFRT users to access the trail.

Based on the Manual of Uniform Traffic Control Devices (MUTCD) guidelines for installing mid block crosswalks, there are several criteria that must be considered. The proposed mid-block crosswalks will need to be the subject of an engineering study to ensure that the MUTCD guidelines are met, including warrants for the proposed pedestrian signals.

3. Improve and enhance the walkway between the lot behind Santander (formerly Sovereign) Bank/Odd Fellow’s Hall and Boston Road - Currently this walkway is small and not well lighted. Pavement markings and pedestrian lighting should be installed to make this area more pedestrian friendly.

4. Access Management along Chelmsford Street - The shops on Chelmsford Street between Fletcher Street and the Chelmsford Bicycle shop currently have large access openings that contribute to driver confusion, create safety concerns for pedestrians, and are overall aesthetically unattractive. The Town should consider adopting a town-wide access management policy. In addition, the Town should work to implement the streetscape improvements proposed by VHB and further refined by Cecil Group and NMCOG, including the installation of on-street parking and landscaping, for the section of Chelmsford Street from Fletcher Street to Billerica Road.

5. Improvements to Sidewalk Network - Gaps in the sidewalk network along Littleton Road serve to isolate the Ginger Ale Plaza area from the rest of Chelmsford Center. The closed pedestrian opening between the BFRT and Ginger Ale Plaza requires that pedestrians walk along Littleton Rd to get to the Plaza. There is no sidewalk between where the BFRT intersects the Center and the Ginger Ale Plaza, just two very wide driveway openings for the Shell Station. Extending the sidewalk from the Route 110/North Road intersection to Ginger Ale Plaza, and narrowing the driveway openings at the Shell Station, would improve pedestrian travel and safety.

The sidewalk network around the Library should also be completed to open up to Bartlett Park and Acton Road. Sidewalks should also be added to Chelmsford Street, as part of the overall streetscape concept plan formulated by VHB for this corridor.

6. Undertake a Feasibility Study for the Proposed Beaver Brook Walkway - There has been discussion within the community of creating a walking trail along Beaver Brook within the Center. Beaver Brook is not readily accessible via publicly-owned property in this area, and as it approaches the culverts that channel the stream under the center roadways the “banks” of the brook are man-made stone and concrete. The building foundations rest on these man-made structures, leaving no accessible area surrounding the brook. The Cecil Group vision involves demolishing part of the Odd Fellow Hall and part of another building on the opposite side of Boston Road. The brook travels under the roadway at this point leaving no right-of-way to use as a walkway without removal of these structures.

To the east, Beaver Brook continues to flow, crossing under Summer Street, flowing north of Brook Street and turning south between Winter and Hildreth Streets. It continues meandering south until it merges with River Meadow Brook near Montclair Circle. The area on either side of the Brook south of Central Square is primarily wetlands until it meets River Meadow Brook, with areas of commercial or residential areas interspersed. West of Central Square, the Brook generally parallels the Bruce Freeman Rail Trail (BFRT) with some sections coming to within 30-40 feet of the trail. Beaver Brook crosses under the BFRT just west of mile marker 36, heading westward toward Westford and the Tadmuck Swamp.

In the area around Chelmsford Center, between Central Square and the Center Sports establishment, Beaver Brook



Photo 47: Beaver Brook beside Odd Fellow Hall



Photo 48: Beaver Brook near Turnpike Road

is contained within a man-made channel. The slope of the banks are very steep, while west of this area the flood plain and flood storage areas somewhat flatten out and there is more meandering of the waterway. Most of the area surrounding the Brook, from west of Center Sports until the stream crosses under Route 110, is wetland and/or bordering vegetative wetlands. There are numerous stone walls in this area, as well as a narrow trail from 29 Acton Road to the BFRT through the Bartlett Woodlot.

NMCOG recommends that the town fund a detailed feasibility study and preliminary engineering to identify the steps that will need to be taken to move forward with the project.

D. Parking Recommendations

Parking facilities within the Town Center consists of a mix of private and public parking areas. The following recommendations are presented in an effort to maximize use of existing parking and describe opportunities for creating additional parking.

- 1. Permanently secure the leased lot behind Santander (formerly Sovereign) Bank** -At present, the Town has a 30-day revocable lease that allows of this lot for municipal parking. To ensure that this area will be available for municipal parking in the future, the town should consider either acquiring the property outright in fee or through eminent domain, or secure a long-term (99 years) lease.
- 2. Develop the Town-owned property behind Town Hall for municipal parking use**-The proximity of this area to the Bruce Freeman Rail Trail off Chelmsford Street will attract users of the trail, alleviating demand on parking within Chelmsford Center.
- 3. Add on-street parallel parking lanes along Chelmsford Street** – As part of the overall streetscape concept plan for the corridor, approximately 27 parallel parking spaces can be added to mitigate parking affected by the streetscape improvements in front of businesses.
- 4. Add additional parking along the Bruce Freeman Trail in the State-owned Right-of - Way near Center Sports** –Creating an additional 10-12 parking spaces along the trail in this area and installing signage designating the area for Bruce Freeman Rail Trail Parking would help to reduce parking demand in the private lots in the Center.
- 5. Work with Winstanley to provide additional parking for library users**-The town should work with the new owners of the former Stop and Shop plaza to create spillover parking for library patron that could be used during special events where the library lot fills to capacity.

6. **Add wayfinding signage, information kiosks, and signage identifying parking areas, throughout the Center** - Signage identifying the locations of public parking areas is needed throughout the Center. Kiosks should also be installed providing information on parking, local attractions, businesses, and cultural and historical points of interest within the Town Center. Suggested kiosk locations include:

- The lot behind Santander (formerly Sovereign) Bank
- BFRT Opening near Center Sports
- Chelmsford Center for the Arts Lot
- Parking Area behind Town Hall
- Chelmsford Public Library
- The BFRT opening near Fletcher Street
- The Town Common along North Road

The addition of wayfinding signage should be part of a larger streetscape improvement program. The program should include amenities to make the area more pedestrian friendly including outdoor seating and benches, planters and additional street trees.

APPENDIX

A. Design Guidelines and Standards for Center Village Overlay District

B. Traffic Volume Data

C. Chelmsford Center Business Surveys

Appendix A:
Design Guidelines and Standards for Center Village Overlay District

DESIGN GUIDELINES AND STANDARDS

Applicable to:

New Development in the Center Village District

Village Center Overlay District (VCOD) Projects

Large Commercial, Residential, Mixed Use and Industrial Sites

Community Enhancement & Investment Overlay District (CEIOD) Projects

Town of Chelmsford, Massachusetts

Draft 2.1 – July 7, 2013

Prepared by Howard/Stein-Hudson Associates



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The Chelmsford Zoning Bylaw Review Committee was established in 2012 to develop recommendations and draft zoning bylaws to address land use, housing and economic development issues facing Chelmsford. One of their goals was to prepare design guidelines and standards to address particular forms of development and site planning. Design guidelines were also recommended in several prior Town reports, plans and studies. Most recently, design guidelines and standards were recommended in the 2010 Chelmsford Comprehensive Master Plan.

These guidelines and standards are intended to be used as a supplemental tool by the Planning Board in the site plan review process to ensure appropriate building renovations and infill development that is consistent in context and character with Chelmsford's historic village centers, and improves the quality of development in other districts. In preparing these guidelines and standards, Howard/Stein-Hudson Associates would like to thank the Chelmsford Zoning Bylaw Review Committee, Planning Board and Community Development Director, Evan Belansky, for their review and input in shaping these guidelines.

2.0 PURPOSE AND GOALS OF THE DESIGN GUIDELINES

2.1 Purpose and Intent

The purpose of the Chelmsford Design Guidelines is to encourage property owners, business operators, and residents to recognize, enhance, protect and promote the historic village centers' distinctive character and other targeted investment areas by providing guidance about renovations or redevelopment of buildings and sites in the process of applying to the Town for a site plan or a special permit approval.

These guidelines provide a framework for property owners to use when making needed updates and alterations to their properties which maintain and enhance those characteristics that make Chelmsford a viable community; they are not intended to prohibit new development. This framework is applicable to both existing structures and new construction, as well as to Chelmsford's waterways, streetscapes, open spaces, parking facilities and other contributing features in various areas.

New development and redevelopment is certain to occur in the community as property owners change and businesses come and go. There are several vacant or under-utilized parcels in Chelmsford that have potential for change within the existing zoning requirements. By referring to these guidelines as part of the planning and design process, it is hoped that property owners can identify more creative solutions for their renovation or development projects which not only maintain Chelmsford's development character but enhance it.

2.2 General Village Center Design Goals

In keeping with the purpose of the Town of Chelmsford Zoning Bylaw, the general goals of the design review process are to:

- Enhance the village centers' cultural, economic and architectural characteristics by providing for a review process of changes in land use, the appearance of structures and the appearance of sites which may affect these attributes;
- Enhance the social and economic viability of the village centers by enhancing property values and promoting the attractiveness of the area as a place to live, work and play;
- Encourage conservation of specific buildings and groups of buildings that have aesthetic or historic significance;
- Protect and expand opportunities for entrepreneurial and small locally owned commercial and light industrial businesses that primarily serve the surrounding neighborhoods and towns;
- Encourage flexibility and variety in future development while ensuring high quality materials and appearance of new buildings;

- Create a high quality “public realm” with a framework of public streetscapes, open spaces, and roadway network that reinforces and enhances the existing or desired development patterns; and
- Enhances intermodal access, safety and connectivity as well as waterfront access and connections and activity; and
- Reinforce the village centers and civic gathering places with vibrant open spaces, walkable streets and an attractive pedestrian environment.

2.3 Applicability

The Town of Chelmsford Planning Board has adopted the Chelmsford Design Guidelines in accordance with MGL Chapter 40A to supplement the development review process. They are not specifically included in the Town of Chelmsford Zoning Bylaw, and therefore not binding, but intended to be used by the Planning Board, Zoning Board of Appeals, and the Department of Community Development in supplementing the site plan review for all eligible village center development projects under the Site Plan Review Regulations.

For the purposes of review, these design guidelines are applicable to the following:

- New development, major renovations, reuse of properties, and special permit uses in the Center Village Zoning District (CV), the adjoining properties fronting along Chelmsford Street/Route 110 in the General Commercial (GC) Zoning District, and the CD Zoning District in Vinal Square.
- Community Enhancement & Investment Overlay District (CEIOD) Projects.
- Large scale (10,000 square feet or more) commercial, residential, mixed use and industrial developments throughout town.

Applicants for development projects are strongly encouraged to meet with the Chelmsford Community Development Staff and Planning Board prior to submitting site plan development applications. The Planning Board and town staff may review preliminary site plans and special permit applications for compliance with Section 195-103 (Special Permit Criteria) of the Zoning Bylaw and consistency with these Design Guidelines. The Planning Board and town staff may also make recommendations to the applicant concerning the conformance of the proposed site plan prior to submitting a formal application.

All Chelmsford property owners in village center districts are strongly encouraged to use these design guidelines when planning and designing potential renovations or redevelopments of their properties. Any significant change to an existing building or property in village center districts will likely require a permit from either the Planning Board or the Zoning Board of Appeals.

2.4 How to Use These Design Guidelines and Standards

In this document, “Standards” are mandatory; “Guidelines” are advisory and provided in order to educate planners, design consultants, developers and Town staff about the design objectives for the Village Center

Districts. In the provisions below, Standards are identified as “S” and Guidelines identified as “G”. These standards and guidelines are to be used in conjunction with the all other sections of the Site Regulations, Subdivision Regulations and Zoning Bylaw. In this version of the Chelmsford Design Standards and Guidelines, all provisions are “Guidelines” (not mandatory) but recommended to be used by the Town and developers in guiding new construction and significant alternations of existing buildings. At some point in the future, the Town may decide to adopt the provisions of this document, or portions thereof, into the Zoning Bylaws establishing certain design standards for the applicable projects and districts.

2.5 Administration

The Town’s Community Development Director shall serve as the administrator of these Design Guidelines and Standards. The review process shall not unreasonably delay the formal review process for development applications in the Village Center Districts. The Town’s Community Development Department shall have authority for administering all aspects of site planning and building design, including aesthetic appropriateness and any other site-specific matters not delineated herein.

2.6 Character Examples

The photos, illustrations, and graphics contained in this document are meant to demonstrate the character intended for development within the Village Center Districts, but are for illustrative purposes only. All illustrations are on file with the Town of Chelmsford Community Development Department.

2.7 References

These Design Standards and Guidelines are based on typical development patterns in New England communities with traditional village centers and neighborhoods as well as best practices for more contemporary commercial corridors and business parks. More specifically, these conventions are derived from a variety of sources in planning literature which are referenced throughout the document.

3.0 VILLAGE CENTER DESIGN CONTEXT & PRINCIPLES

3.1 Design Context

Chelmsford has a long and vital history as a community and its village centers reflects that history through its settlement patterns and architecture. The overall architectural character should reflect the past through respectful restoration and maintenance of historic buildings and features.

At the same time, Chelmsford is an active, contemporary community. Designs for new buildings or substantial renovation of existing structures that are without historic features or merit should reflect this vitality. New buildings should respect the scale and proportions of traditional buildings, while introducing appropriate new materials or treatments to the village center districts.

Chelmsford’s Village Center Districts have significant buildings with handsome architectural detail. However, some of the buildings have experienced changes to their street facades through the years. As changes may be made through successive renovations, it is important to encourage that these be executed within the spirit of the original design and in ways sympathetic to these guidelines.

3.2 Overall Design Principles

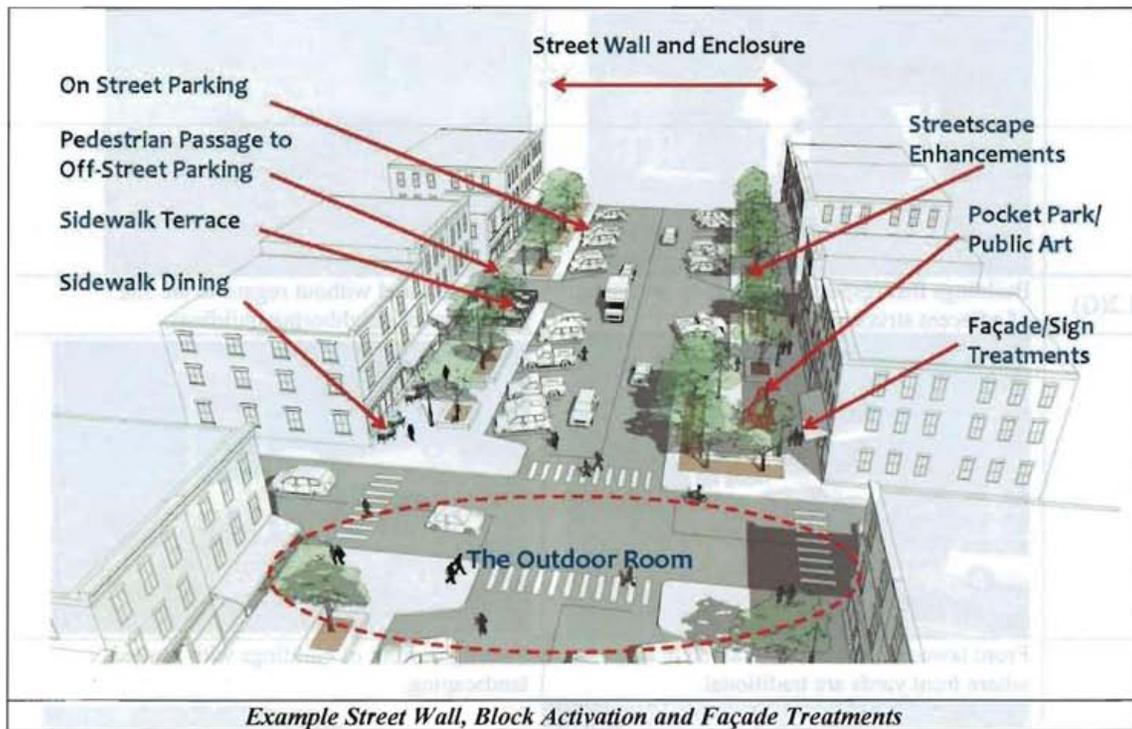
The overall design principles described in these guidelines and standards are intended to guide the applicant in the development of site and building design and the Planning Board in its review of proposed actions. These principles and guidelines should not be regarded as inflexible requirements and they are not intended to discourage creativity, invention or innovation. The Planning Board is specifically precluded from mandating any official, aesthetic style or for imposing the style of any particular historical period. The following design review principles may apply to all actions reviewable under these guidelines:

<p>3.2.1 (G)</p>	<p>Building improvements should respect a building’s original style or type where the building is of historic merit, or where the original building design is of high quality and distinctive character.</p> <p style="text-align: right;"><i>Before Renovation</i> ➔</p>	
<p>3.2.2 (G)</p>	<p>Building renovations should be harmonious with the original structure in form, style and materials whenever possible. Building improvements should not be designed to mimic historical features that are inappropriate to the original character of the building.</p> <p style="text-align: right;"><i>After Renovation</i> ➔</p>	

3.2.3 (G)	Previous building renovations that have taken place over the course of time are sometimes evidence of the history of a building and its environment. If these alterations have acquired their own significance, they should be recognized and respected.	
3.2.4 (G)	If original building elements have been removed or substantially altered over time, contemporary treatments are not discouraged. However, they should retain traditional principles and be of a character appropriate to the area.	
3.2.5 (G)	New buildings may have a contemporary character that is respectful of and composed with traditional and attractive design elements (materials, colors, facade organization and proportions). This is preferred to reproductions that may be difficult to distinguish from historic structures.	
3.2.6 (G)	Distinguishing original qualities and features of a building, or structure and its environment should be preserved; elements that make a building special should be identified and preserved if at all possible.	
3.2.7 (G)	Facade designs that relate to the historic town character of Chelmsford are encouraged. In general, businesses should rely on signage, not on signature or symbolic building elements, to advertise themselves and to attract patrons.	
3.2.8 (G)	Standardized or generic designs are to be avoided. Within an overall framework of consistent and coherent general principles, variety in the commercial environment is encouraged.	

3.3 Block Activation and Façade Design

Entire blocks should be designed to establish a sense of continuity on the street. Commercial streets display a variety of given components of an urban environment. Among them are: rows of buildings on both sides of the street, sidewalks, traffic and parking lanes, as well as an assortment of street furnishings. The block of commercial structures defines the ambiance of the street most significantly. They form a wall – an edge – that establishes the limits of the street. New buildings and additions should reinforce and enhance the “street wall” and minimally affect historic elevations.



3.4 General Design Provisions for All Buildings and Sites

How a building presents itself—its distance from the street and sidewalk and its relationship to surrounding buildings—plays a significant role in determining whether a building will fit into the existing streetscape and become part of its overall character, or whether it will stick out as an obvious later addition which overlook the surrounding neighborhood. In Chelmsford Village Centers buildings are primarily oriented toward the sidewalk and street at a minimum distance from one another to promote pedestrian access and interest to potential customers. New construction in these areas should maintain this existing development pattern and relationship with adjacent streets and surrounding structures.

3.4.1 Building Orientation and Placement on Site

General Guideline: Careful attention should be paid to building placement and orientation. New buildings should conform to the site lines of pre-existing structures. Front and rear accessibility should be sought with respect to pedestrian and automobile traffic. New site details should conform to pre-existing traditions.

STANDARD OR GUIDELINE	<i>Recommended</i>	<i>Not Recommended</i>
3.4.1.1(G)	Buildings oriented to the street respecting both pedestrian and automobile traffic, with front and rear access where possible.	On-site vehicular traffic patterns which conflict with pedestrian traffic patterns.

		
3.4.1.2(G)	Buildings that respect and relate to the siting of adjacent structures.	Buildings sited without regard to the site placement of neighboring buildings.
		
	Front lawns should be maintained in districts where front yards are traditional.	Parking in front of buildings with limited landscaping.
3.4.1.3.(G)		

3.4.2 Front Yard Setback and Use Alternatives

STANDARD OR GUIDELINE	General Guideline: Property setbacks are the minimum distance from the front, side or rear property line which a building is required to be placed as defined under Section 195 – Attachment 2 – Table of Dimensional Requirements, Chelmsford Zoning Bylaw.	
3.4.2.1(G)	Front Yard Setbacks/Commercial and Mixed Use Buildings - New construction or additions should, at a minimum, meet the zoning requirements of the property, but property owner are strongly encouraged to also relate the placement of the building to its surroundings including existing, adjacent structures. New structures in commercial areas should be constructed at a distance of not more than 5 feet in front of or behind the existing setbacks of adjacent buildings. In cases where the developing lot(s) are adjacent to a building which has a significantly greater setback than other buildings on the street, the new buildings should be located in compatible relationships to the lesser setback structures.	

3.4.2.2.(G)	<p>Front Yards Uses/Commercial and Mixed Use Buildings - Commercial buildings where appropriate can provide additional interest in the streetscape through the use of moderate setbacks which allow front and/or side yards to be built out with gardens and/or outdoor seating. These street-level areas should be accessible to the public and serve a public benefit. Such properties should not form more than 10% of total frontage in any block or more than 50 contiguous feet of frontage. Their goal should be to form welcoming public spaces with gardens, benches, café seating, or equivalent public amenities, and with no more than 10% of front yard space dedicated to non-vehicle furnishings such as bicycle racks. Front-yard spaces consisting primarily of lawn and walkway are not considered to be in keeping with these design guidelines.</p>	
3.4.2.3.(G)	<p>Front Yards/Residential - Front yards should be maintained in portions of the district where front yards are traditional such as in existing and new residential structures.</p>	

3.5 Building and Site Design in the Village Centers

The relation of a new building to adjoining structures and the surrounding setting should be compatible in the Center Village. The impacts of new construction on public views, natural site features, and the existing built environment should be complimentary. To promote a pedestrian friendly environment, buildings should be oriented with their front or primary entrance along the street façade. Buildings which present blank, featureless, or solid walls to the street have a closed off, inhospitable appearance which discourages pedestrian use of the area. Buildings which are designed to be centered on vehicular rather than pedestrian access are also discouraged.

3.5.1 Building in Context

STANDARD OR GUIDELINE	<p>General Guideline: Careful attention should be paid to building placement and orientation in the Village Center Districts. New buildings should conform to the site lines of pre-existing structures. Front and rear accessibility should be sought with respect to pedestrian and automobile traffic. New site details should conform to established building traditions and development patterns.</p>	
3.5.1.1(G)	<p>Site Appearance in Context - The character, layout and general composition of the site, including but not limited to the kind, color and texture of such materials as plantings, paving, benches, site lighting, free-standing signs, utility structures and all other appurtenant elements should be coordinated and compatible with surrounding development in the district.</p>	

3.5.1.2(G)	<p>Directional Expression - Building facades and other architectural and landscape design elements should be compatible with those of others in the surrounding area with regard to the dominant vertical or horizontal expression or direction related to use and historical or cultural character, as appropriate.</p>	
3.5.1.3(G)	<p>Building Orientation - All buildings should have a principal façade and entry (with operable doors) facing a street or open space. Buildings may have more than one principal façade and/or entry. Buildings oriented to the street should respect both pedestrian and automobile traffic, with front and rear access where possible.</p> <ul style="list-style-type: none"> ○ The massing, orientation, and design of buildings should recognize the special character of neighborhoods, terminating streets and adjacent open spaces. ○ Areas in which street corridors terminate on buildings should be designed in a manner that reflects their importance. ○ Street corridors that terminate on landscaped vistas should frame that view. 	
3.5.1.4(G)	<p>Building Height in Context - New buildings should not exceed the average height of existing buildings on abutting properties and the general area, however, greater distances between buildings may allow for larger differences in height. The height of any proposed alteration should be compatible with the style and character of the building, structure or site being altered and that of the surroundings.</p>	
3.5.1.5(G)	<p>Building Openings - The window and wall openings of new buildings should be in similar proportions to existing structures when they are in close proximity to the site development. Blank walls adjacent to streets or open spaces are discouraged; provided however that large footprint buildings for indoor recreation may have a blank wall adjacent to a street or open space. In this case, they should be well screened with landscaping.</p>	
3.5.1.6(G)	<p>Building Entrances - For lots which have at least twenty (20) feet of frontage on a primary street, development and redevelopment should include building facades that front on and have a principal pedestrian entrance on that Primary Street.</p>	

3.5.1.7(G)	Exterior Architectural Appearance - The architectural character and general composition of the exterior of a building, including but not limited to the kind, color and texture of building materials, including paint color, and the type, design and character of all windows, doors, light fixtures, signs, awnings, utility and ventilation structures and all other appurtenant elements should be compatible with surrounding development in the Village Center Districts.	
3.5.1.8(G)	Facades - All facades of a building which are visible from adjoining properties and/or public streets should contribute to the pleasing scale features of the building and encourage community integration by featuring characteristics similar to the front facade.	

3.6 Scale, Massing and Proportion of Buildings

Buildings generally look out of character with their surroundings when their scale - the building's size relative to its surroundings and the components of the building - is dramatically out of line with that of adjacent structures. Chelmsford's Village Center Districts are not homogenous in building design. However, structures there are predominantly one to two stories and of a human scale which is inviting to pedestrians. In these traditional village business districts, commercial structures are more commonly aligned with adjacent buildings in relation to building height, cornice line, storefront dimensions and upper story windows, giving the impression of a unified horizontal streetscape, even if the buildings themselves are not.

Where scale explains the relationship of buildings to one another, massing refers to the overall size and orientation of the building itself. As with scale, when the massing of a building is significantly different from that of surrounding structures, the overall visual effect can be jarring. Chelmsford's Village Center Districts include a variety of buildings which are generally similar in scale and overall massing, and property owners are encouraged to continue this practice by designing new structures and additions which maintain similar proportions, roof forms, roof pitches and styles to that of their neighbors.

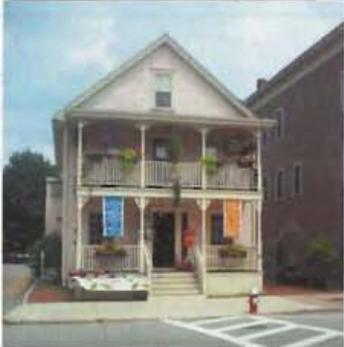
3.6.1 Building Scale and Proportions

3.6.1.1(G)	Proportion: Any features and details such as balconies, decks, covered porches, columns, dormers, turrets, towers, skylights and arches should be in proportion with the building.	
3.6.1.2(G)	Shape - The shape of roofs, windows, doors and other design elements should be compatible with the architectural style and character of a building or site, and that of its surroundings.	
3.6.1.3(G)	Wall Thickness - Building walls should have perceivable thickness, visual interest and character. A selection of architectural details such as vertical and horizontal recesses and projections, changes in	

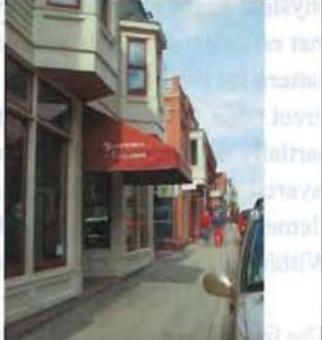
	height, floor levels, roof forms, parapets, cornice treatments, belt courses, pilasters, window reveals, forms and color as appropriate to each site can create shadows and texture and add to the character of a building	
3.6.1.4(G)	Floor Plates of New Commercial/Mixed Use Buildings - Floor levels of new commercial and mixed use buildings should be 12 to 14 feet in height and relate to the floor levels of existing adjacent structures where possible.	
3.6.1.5(G)	Vertical Material Use - Where more than one material is used, traditionally heavier materials (stone, brick, concrete with stucco, etc.) should be located below lighter materials (wood, fiber cement board, siding, etc). The change in material shall occur along a horizontal line, preferably at the floor level.	
3.6.1.6(G)	Door and Window Openings - Door and window openings should be proportional to facade length and height. <ul style="list-style-type: none"> ○ All windows and doors should be of high quality materials and character. ○ Large plate glass windows are discouraged unless they are broken with mullions or muntins. ○ Mirrored glass or colored metal panels are not acceptable windows. ○ Doorways should be encased with trim. 	
3.6.1.7(G)	Foundations - Exposed foundation walls (below the first floor elevation) should be concrete (painted and/or stuccoed concrete block system ("C.B.S.")), brick, or natural/ manufactured stone. Foundation walls should not be exposed to more than 3 feet in height from grade or to 1 foot above the Base Flood Elevation, whichever is less.	

3.6.2 Building Height and Massing

3.6.2.1(G)	Front Elevation Height - All new buildings should be a minimum of two (2) stories or one (1) story with a minimum front elevation of 15 feet above grade. One story buildings should have an attractive vertical storefront elevation or gable end facing the primary street to create the appearance of a taller building.	
3.6.2.2(G)	Height of New Commercial/Mixed Use Buildings - The overall height of a new building should be no higher than that of the nearest half-story of the adjacent building, or determined by the average height of the immediately surrounding structures on both sides.	

3.6.2.3(G)	<p>Massing of New Commercial/Mixed Use Buildings - New designs should be consistent with the form and massing of neighboring buildings and the directional emphasis of the established streetscape, which, as noted above, is oriented directly to the street and sidewalk.</p>	
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3.6.3 Building Lines and Rhythm

3.6.3.1(G)	<p>Horizontal Articulation – The use of facade divisions, such as building jogs, architectural detailing, and changes in surface materials, colors, textures and rooflines is encouraged. Uninterrupted facades should not exceed 50% of the building wall, and in no case should exceed 100 feet in length. Ground floor facades that face public streets should have display windows, entry areas, awnings, or other features along no less the 60% of their length. All facades of a building which are visible from public streets should feature characteristics similar to the front facade.</p>	
3.6.3.2(G)	<p>Vertical Articulation - In order to modulate their scale, multi-story buildings should articulate the base, middle and top, separated by cornices, string cornices, stepbacks or other articulating features.</p>	
3.6.3.3(G)	<p>Projections: Buildings should use interruptions and variety in wall plane. Examples include but are not limited to offsets, recessed entrances, arcades, covered walkways, awnings and canopies, multiple entrances, roof overhangs, courtyards, bay windows, and balconies.</p>	

3.6.3.4(G)	<p>Rhythm - The proportions and relationships of height to width between windows, doors, signs and other architectural elements should be compatible with the architectural style and character of the building or structure and that of the surroundings.</p>	
3.6.3.5(G)	<p>Openings - Windows and doors should be consistent with the building's overall architectural design. Projecting sills, lintels and/or crowns that define window openings are encouraged. False window mullions should be avoided. All windows (except storefront windows) should be operable and should meet the requirements of the Energy Star Program.</p>	

3.7 Building Façade Design

The unique visual identity of a village center district is based on the continuity of design. Within the context of assorted buildings assembled over a period of time where different materials and modes of construction were used, a strong framework should exist that binds buildings together into a larger composition. Briefly stated, this framework consists of a family of physical forms and range of dimensions that establish a flexible yet recognizable pattern for the person moving along the street edge. It will be interrupted or partially nullified if the buildings are layered with discordant building elements and signs. On the other hand, continuity should not lead to sterile sameness of all the buildings. Within this system there is ample room for variety, accent and individual expression.



Example restoration of historic commercial building by removing conflicting alternations elements and restoring original architectural elements

The foundation of this set of ordering principles is the individual building façade. The assets of the existing façade should be used to the greatest advantage. The design must integrate the pieces of the façade into a strong composition. The best approach is to remove conflicting attachments and modifications to the original architecture. Successive remodeling of some structures will have added layers of materials to the façade. These should be removed to retain the original style of the building.

In Chelmsford's Village Center Districts, many buildings have been converted from their original residential uses to commercial retail uses at the ground floor. Ground level conversions into retail storefronts were constructed in various styles with little regard to the original design of the building. Renovations to such structures will have to rely upon invention of storefronts in keeping with the upper floors without the benefit of historical documentation.

Additionally, some buildings are now exposed on their sides and removed structures have revealed masonry party walls. In locations where these side walls are to remain exposed to new public walkways or open spaces, design guidelines should allow for additional openings suitable for businesses or other uses to activate the passageways and make the structures more usable for a variety of uses including housing.

Rear and Side Access and Treatments - As off-street parking is available behind a number of buildings on Central Square, the side and rear facades of commercial structures will become increasingly more prominent to the public. Renovations and reconstruction of rear facades should be given sufficient leeway to allow for a variety of adaptive reuse strategies while preserving the integrity of the original structures. New windows and glazing, including operable doors and flush balconies can allow for adaptive reuse while preserving the integrity of the existing structures.



Alley leading to public parking lot before and after pedestrian and streetscape enhancements

3.8 Individual Storefront Design

When evaluating various options for renovating or redesigning storefronts, the following principles should be considered:

3.8.1 (G)	Respect the basic form of the buildings. The form or shape of the building is the backdrop for façade details such as display windows shop entrance ways (including doorways and surrounding glazing) as well as special decorations. Relate ground floors to upper stories by aligning openings on the street level with upper floor windows.
3.8.2 (G)	Use original materials when possible or select new materials that are compatible with existing ones. Much of the visual interest and character of a building is expressed with original materials and is lost if inappropriate substitutes are used.
3.8.3 (G)	Use proportions that are compatible with the original architectural style. Specific proportions are repeated frequently along the street creating a sense of order and familiarity amongst many of the individual buildings. Façade improvements should respect these proportions. Avoid mixing styles within the same façade which incorporate unsympathetic proportions.
3.8.4 (G)	Maintain existing decorations during façade renovations. With many building styles it is appropriate to

	accentuate these decorative elements with paint colors which contrast with the background.
3.8.5 (G)	Do not try to make a building look older than it is. Most reproduced details are made at an improper scale and their application to a façade results in an awkward visual effect and is not allowed under these façade improvement guidelines
	 
	<p><i>Traditional façade architectural components</i></p> <p><i>Restored building with care for original architectural details and building proportions</i></p>



4.0 BUILDING DESIGN OBJECTIVES AND GUIDELINES

4.1 Facades

Objectives for Façade Design

Based on the scale and character of the buildings described above, new building and facade designs should be similar to the immediate neighbors and historic site organization within the Village Center Districts, with primary orientation towards the streets and doors and windows adjacent to sidewalks. Facades and visible roofs should strive to be visually interesting and attractive along areas that will be seen by the public.

In general, a unified architectural style should be determined for each project and used consistently for all elements of a building wall and roof. However, in the case of a use that is housed in multiple buildings, the underlying integrity of each building should be preserved, to the extent that historic qualities remain. Proportions of building elements should respect the architectural styles with which they are composed, in addition to details and materials. Building doors and windows should be designed to be consistent in proportion, size and configuration with the architectural styles that are determined to be appropriate for the building.

Facades should relate to their surroundings through materials, proportions, and colors to provide a sense of cohesiveness, without mimicry of inaccurate historical styles or replication of neighboring buildings.

Guidelines for Facades

4.1.1 (G)	<p>Adjacent Buildings - Facade design should take into account the locations and proportions of the facade elements and signage bands of adjacent buildings, without mimicking them.</p>	
4.1.2 (G)	<p>Appropriate Colors: Facade colors should be complementary to the natural materials used on a building and to the buildings adjacent to it.</p> <p>The palette of colors used on a building should be in accord with the materials of the building façade.</p> <p>The use of historic colors in the renovation or replacement of historic elements is highly encouraged. Lists of historic color suppliers are available at local historical organizations such as the Society for the Preservation of New England Antiquities.</p>	
4.1.3 (G)	<p>Avoid Blank Walls - Blank walls without any visual content or interest should be avoided along pedestrian sidewalks and parking areas, and on front facades in general.</p>	

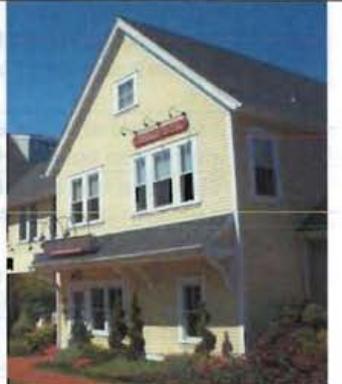
4.1.4 (G)	<p>Distinctive - Individual buildings and their storefronts should appear distinct, even when a single use spans multiple storefronts.</p>	
4.1.5 (G)	<p>Appropriate Roof Forms - Historic roof forms should be retained or restored. Additions should have roof forms that are compatible with the forms of the building to which they are attached. New structures should employ simple roof forms compatible with the flat, gable, hip or shed roof styles typical of the Village Center Districts.</p>	
4.1.6 (G)	<p>Downspouts and Gutters - Downspouts and gutters should be of a color that is compatible with the building walls. If the building is historic, the style and color of downspouts and gutters should be appropriate to the original character of the facade.</p>	
4.1.7 (G)	<p>Flashing - Flashing materials should not be conspicuous. In the case of historic structures, traditional flashing materials such as copper may be appropriate and are encouraged.</p>	

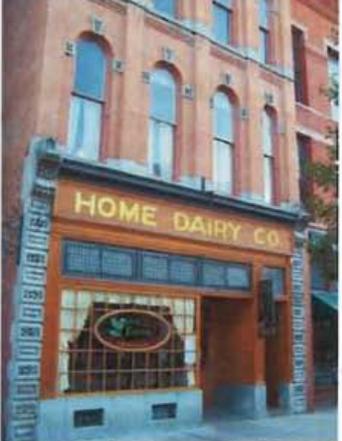
4.2 Exterior Materials

Objectives for Exterior Materials

In general, high quality materials should be used that convey substance and integrity. The use of materials that are traditional and historically typical to Chelmsford's Village Center Districts are encouraged. This includes an emphasis on brick with stone accents, wood and clapboard finishes for renovations or reconstructions. Exterior materials should be consistent with the historic style that is used to compose the façade.

Guidelines for Exterior Materials

4.2.1 (G)	<p>Dominant Building Materials - The consistent use of a dominant building material for the facade is encouraged, rather than multiple materials, such as brick and clapboard combinations.</p>	
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4.2.2 (G)	Colors - Generally muted tones and colors are appropriate for most facade materials except for trim and special storefront elements.	
4.2.3 (G)	<p>Quality Materials: The use of traditional quality materials is highly encouraged for both appearance and durability. The use of real materials, rather than imitations such as brick veneer, is strongly encouraged. The goal of this guideline is to avoid materials that are typical of low cost and low quality construction, or appear to be masking or patching an underlying facade material.</p> <p>Designs should use real materials, rather than imitation materials, such as Vinal siding, plastic roof tiles, or veneer brick.</p> <p>If metal is used, it should be appropriate to the building, and convey a sense of quality to assure an attractive appearance over time.</p> <p>Materials used near sidewalks and adjacent to the entrance should be durable and compatible with other building materials.</p> <p>Plywood or other wood panel sheathing materials should be avoided unless they are incorporated as a panel within a frame and are durable for exterior use.</p> <p>Minor decorative elements, such as facade ornaments, decorative fasteners, or small accents can be of any rigid, durable material that will be in harmony with the facade.</p>	 
4.2.4 (G)	Repairs - Where possible, materials used to patch or repair existing facades should match original, desirable materials as closely as possible.	

4.3 Doors and Windows

Objectives for Doors and Windows

Primary entrances are a principal element of orientation and welcome along the street edge, and should be designed appropriately. They should concentrate visible activity and interest toward the street.

Windows should respect spacing and size patterns appropriate to the architectural style that is chosen for either renovation or new construction. In general, numerous smaller window openings are preferred for upper stories of buildings. Lower story windows should be appropriate for the uses behind them, but transparency and indication of activity are important.

Guidelines for Doors and Windows

<p>4.3.1 (G)</p>	<p>Primary Entrances - Primary entrances should be largely transparent, as was traditionally the case with storefront design. This will promote a sense of welcome and safe access.</p>	
<p>4.3.2 (G)</p>	<p>Street Numbers - Street numbers should be located near the front address and be of adequate size and distinctive color to be visible to the passing motorist. The street number should not be located so that it is obscured when the front door is open.</p>	
<p>4.3.3 (G)</p>	<p>Service Entrances - Any special loading and service entrances should be screened from streets, other public ways, and adjacent properties. If it is not possible to screen such areas entirely, they should be visually minimized to the greatest extent possible.</p>	
<p>4.3.4 (G)</p>	<p>Unused Entrances - Unused entrances should be transformed into other architectural elements appropriate to the architectural style of the building, such as a store window.</p>	
<p>4.3.5 (G)</p>	<p>Door Gazing - Multiple-paned glazing should be avoided unless it is historically accurate for the building. Such glazing was seldom used during many historical periods, and is often used inappropriately to convey a "colonial" appearance.</p>	
<p>4.3.6 (G)</p>	<p>Accessibility - Entrances should meet the requirements of the Massachusetts Architectural Access regulations.</p>	

4.3.7 (G)	Rear Openings - The additions of rear entrances, display windows, or other improvements are encouraged in order to increase the interest and access to uses.	
4.3.8 (G)	Materials: Historic door material and hardware should be restored or repaired where possible. Repair should match existing size, species, profile and configuration.	
	Screen and storm doors should be wood, when appropriate to the building, and kept as simple as possible. Horizontal and vertical rails of screen doors should align and coincide with those of the doors behind.	
	Aluminum doors and aluminum screen doors are not recommended.	
4.3.9 (G)	Lighting - Divided lite doors or side lites should be employed only if appropriate for the style of the building facade.	
4.3.10 (G)	Window Height - Where ceilings need to be lowered below the window head, a ceiling soffit should be provided between the lower ceiling and the window head that allows the vision glass to be full height.	
4.3.11 (G)	Window Patterns: Whenever possible, the original window patterns of a building should be restored or retained; avoid blocking, reducing, or changing any original and appropriate pattern of windows when renovating older buildings.	
	An individual, "punched" window expression rather than continuous horizontal or vertical "strip" windows is encouraged whenever possible and appropriate to the building style.	
4.3.12 (G)	Window Size - Larger scale windows should be used at the ground level.	
4.3.13 (G)	Window Transparency - Transparent glazing should be used, and reflective or dark tinted glass avoided. Opaque panels, such as painted metal or spandrel glass, should not be used to replace vision glazing in windows.	
4.3.14 (G)	Window Treatments - Shutters should be employed only if they are consistent with the architectural style of the facade. Shutters should not be employed with casement-style windows, bay windows, or broad picture or display windows.	

4.3.15 (G)	<p>Window Repair and Replacement - Repairing existing historic windows with in-kind materials is preferable to replacement. The original window patterns of a building should be retained; avoid blocking, reducing, or changing any original and appropriate pattern of windows when renovating older buildings. When existing historic windows are irreparable, replacement windows should replicate existing historic window details.</p>	
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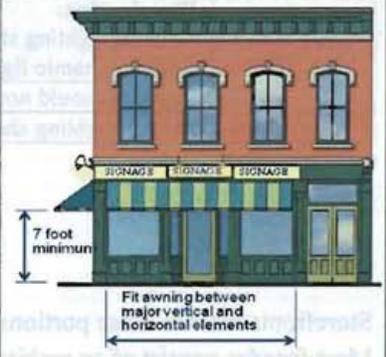
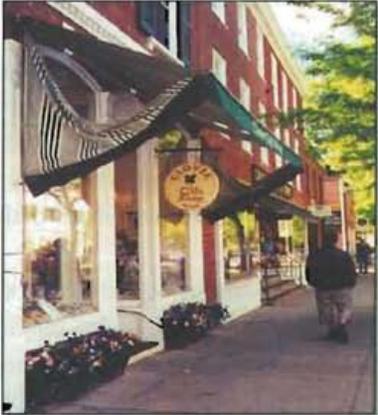
4.4 Awnings, Canopies and Marquees

Objectives for Awnings, Canopies and Marquees

Awnings, canopies and marquees with a traditional design and appearance are encouraged as facade elements when they serve to protect pedestrians from the sun and rain, provide a secondary location for signage, add color and interest to building storefronts and facades, and add emphasis to display windows and doorways. Awnings should reflect the overall facade organization and storefront locations of a building. Traditional and simple shapes are encouraged, rather than unusual or contemporary profiles.

Guidelines for Awnings, Canopies and Marquees

4.4.1 (G)	<p>Consistent in Character - Awnings on a multiple storefront building should be consistent in character, but need not be identical.</p>	
4.4.2 (G)	<p>Placement - Awnings should be located within the building elements framing storefront openings.</p>	
4.4.3 (G)	<p>Styles - Awnings of a round or bullnose shape should be avoided unless used for a single door or window opening that is not part of a framed storefront.</p>	

4.4.5 (G)	<p>Height - The rigid framework for awnings, canopies or marquees should be no lower than 8 feet above the sidewalk under it. Suspended fabric panels of awnings should be no lower than 7 feet above the sidewalk</p>	
4.4.6 (G)	<p>Lighting - Backlit awnings should not be used.</p>	
4.4.7 (G)	<p>Materials - Awnings should be made of soft fabrics such as canvas, unless replicating prior historical features.</p>	

4.5 Lighting

Lighting Objectives

Building lighting should highlight the building rather than attract attention to the light fixture itself, and be appropriate to the building's architectural style, in order to maintain a positive nighttime image.

Lighting Guidelines

4.5.1 (G)	<p>Color Spectrum - Lighting should render building colors correctly. The preferred lighting should be in the white spectrum, and sodium light sources should be avoided. Fluorescent sources should be avoided except for "PL" lamp types.</p>	
4.5.2 (G)	<p>Appropriate Fixtures - Historically appropriate lighting should be applied to match the building type and style. Lighting fixtures should not be used that are "historic" in theme, but diverge from the underlying character of the architecture.</p>	

4.5.3 (G)	Illumination: Building lighting should provide an even illumination level while operating. Flashing, pulsating or similar dynamic lighting should not be used.
	Lighting should not cast glare onto streets, public ways, or onto adjacent properties.
	Indirect lighting should be provided where possible.

4.6 Storefronts

Storefront Objectives

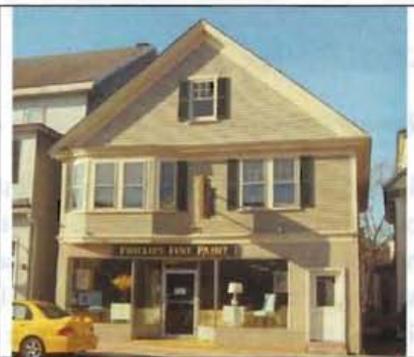
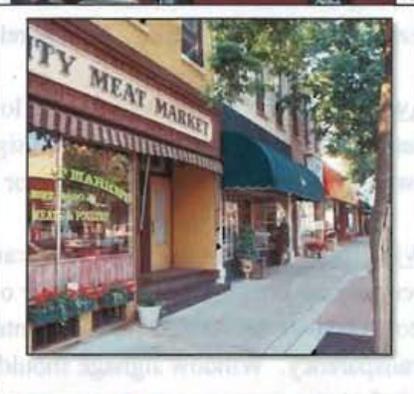
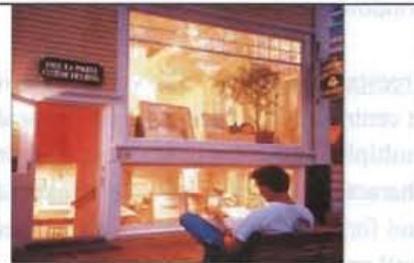
Storefronts refer to those portions of the facade that directly relate to the street and the commerce inside. Most facades consist of an architectural framework designed intentionally for one or more storefronts to occur. The expression of the storefronts should respect the framework and not expand beyond it.

Storefronts should be consistent in style with the building architecture where possible, provide clarity and interest to the facade, provide for a high level of transparency, and be harmonious with other adjacent storefronts. It is also important that the distinction between the storefront and the rest of the building facade should be maintained. Displays in both retail and non-retail storefront windows that add color, texture, information or visual activity to the pedestrian experience are encouraged.

Storefront display windows that display products or services, signs with the name of the organization, local business logos, hours, public service messages or displays, or views to an activity in which people are involved frequently during hours of operation are encouraged.

Storefront Guidelines

4.6.1 (G)	Storefront Transparency: Reflective or dark tinted glass, or reflective films should be avoided.	
	Where a storefront does not serve a retail use and transparency is not practical, window treatments should be employed to create an attractive appearance.	
	Transparent storefronts are not necessary for some businesses, such as professional offices. Nevertheless, it is preferable to maintain substantial storefront glazing and provide attractive window treatments to avoid blank facades along the sidewalk.	

4.6.2 (G)	<p>Signage Bands - A horizontal band or frieze that serves as a signage band should be incorporated at the top of storefronts.</p>	
4.6.3 (G)	<p>Base Panels - A base panel and sill course are traditional for most, although not all, architectural styles. Where it is appropriate for the existing or proposed architectural style, a base panel and sill course should be provided. The base panels and sill course should continue across the entire width of the storefront bay and terminate at doors or the vertical elements framing the bay. The base panel and sill course should be 24" or lower, measured above the sidewalk.</p>	
4.6.4 (G)	<p>Transoms: Incorporating a glazed transom (with the building address) above the door is encouraged when storefront heights are sufficient to allow for it.</p> <p>Storefront window transoms should be consistent with door transoms.</p>	
4.6.5 (G)	<p>Storefront Displays - Items should not be placed in storefront windows that block views to internal activity, such as the backs of display cases, unless they are part of a display to the outside sidewalk or street.</p>	
4.6.6 (G)	<p>Lighting - Storefront lighting should be confined to highlighting signage and the window display itself. Lighting that attracts attention to itself should be avoided.</p>	

4.7 Signage

Signage Objectives

Signage should provide information that is simple and legible, of a size and location that avoids competing with or obscuring the architecture of the building. In general, the number of signs on a facade should be kept to the minimum necessary to effectively communicate the messages being conveyed. Too many signs not only compete with each other, they also detract from the appearance of the town center. Signage should be unique to this town rather than being generic, and should focus on advertising local businesses, not national product brand names or logos. Refer also to Town of Chelmsford Sign Ordinance (Article VII) for specific requirements regarding signage.

The most successful storefronts are those that work with the architecture of the building and are designed to reveal the building's original style, form and materials. These storefronts simply and clearly market the name of the business and the type of services offered through a display of products or services, local business logos, hours of operation, and/or public service messages. The following sign options are recommended for Chelmsford's Village Center Districts:

Blade Signs (or projecting signs): Hanging or placard style signs which project from the front façade of the building over the sidewalk. These signs are typically two sided and either square, rectangular or oval in form. The size of the hanging sign should relate to both the existing storefront and any signs on adjacent buildings. Blade signs are particularly effective where there is a high amount of pedestrian activity such as in village centers

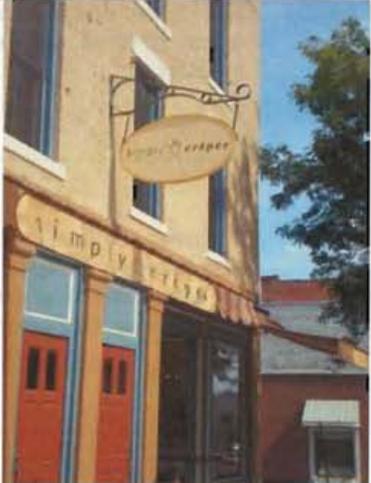
Wall Signs: Commercial buildings include a frieze or horizontal signage band over their storefronts which provide an excellent location for advertising the name of the storefront's business. In these cases, the font size and coloring of the sign should relate directly to that of the signage band and storefront.

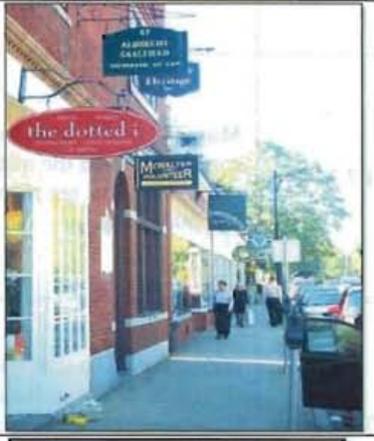
Awning: A third option is to use the lower edge of a canvas or other material awning to advertise the name of the store. As with the wall sign, the dimensions of the signage will be determined by that of the awning. Typically either an awning or wall sign will be used, but not both.

Window signs: Storefront windows can be used as another signage solution, particularly for short-term or periodic advertising needs. Property owners should avoid installing solid signs which block visibility into stores and are encouraged to use painted or adhesive letterings to provide information while retaining transparency. Window signage should be limited to covering no more than 15 percent of the available window space.

Freestanding Signs: The vehicular orientation of these areas has encouraged the use of freestanding signs at centralized locations. Some of these signs are for singular businesses, while others include listings for multiple businesses in the same building. As with the wall signs, these free standing signs are a unique characteristic of this area which should be retained. Each business should be encouraged to use a design and format which is unique to their venture. Uniformity is encouraged, however, between a business's wall and freestanding signs.

Signage Guidelines

<p>4.7.1 (G)</p>	<p>Colors and Typeface - Signage should employ colors and type faces that complement the primary architectural style.</p>	
<p>4.7.2 (G)</p>	<p>Materials - All signs should be of durable materials compatible with the materials of the building served. Wood and metal signs are recommended. Plastic in general is not recommended.</p>	
<p>5.7.3 (G)</p>	<p>Harmony - In a multiple storefront building, the signage should be of a size, location, material and color that relates harmoniously between bays. This is not to say that the signs should be uniform in appearance and individual design expression is encouraged.</p>	
<p>4.7.4 (G)</p>	<p>Signage Band - In new commercial buildings, a strong signage band above the level of the storefront should be considered if flat wall signs are employed.</p>	

4.7.5 (G)	<p>Advertising - Signs on canopy fabrics advertising the name of the business or organization are encouraged. Avoid signage that advertises brand names as its major message, unless the brand name is inherent in the name of the business.</p>	
4.7.6 (G)	<p>Lighting - Indirect lighting is encouraged for signage rather than internally lit signs, preferably from a series of gooseneck or similar extended arm fixtures that direct light to the sign and are compatible with the design of the building.</p>	
4.7.7 (G)	<p>Sign Placement above Ground Floor - Signage above the sills of second story windows should be confined to painted letters on window glass, provided these signs advertise the organizations therein, and provided that the windows are not continuous horizontal "curtainwall" type windows. Avoid signage that covers or obscures significant architectural details of the building.</p>	
4.7.8 (G)	<p>Projecting Signs</p> <ul style="list-style-type: none"> ○ Projecting signs (or blade signs) are highly encouraged for retail uses, and should convey information to pedestrians in a unique way, utilizing images that convey the goods or services provided at the premises. ○ Projecting signs should hang between 7 feet above the ground level and below the sill height of the second floor or roof cornice (whichever is lower). ○ A sign attached at right angles to a building should have no more than two faces and should not project more than six feet from the building. 	 

		
4.7.9 (G)	<p>Freestanding Signs - Freestanding signs should generally be limited to buildings that have a significant setback or are otherwise not visible from the street or sidewalk, or where other signage is not appropriate to the architecture.</p>	

4.8 Building Systems

Objectives for Building Systems

The components of building mechanical, electrical and plumbing systems should be concealed from view wherever possible. The visual impact of those building systems and equipment that cannot be concealed should be minimized on building facades. Exposed elements of building systems that cannot be hidden, recessed or screened should be blended sympathetically with the building facade.

Guidelines for Building Systems

4.8.1(G)	<p>Rooftop Equipment - Rooftop mechanical equipment should be completely screened by the building parapet wall so as not to be visible from the street and sidewalk.</p>	
4.8.2(G)	<p>Facade Mounted Equipment - Air conditioning units should not be placed into windows or any other openings visible from the street. Units located in non-window openings are appropriate if they are screened with a grille within the storefront or facade or building wall.</p>	
<p><i>Avoid facade mounted equipment and screen rooftop equipment</i></p> <p style="text-align: right;">➔</p>		

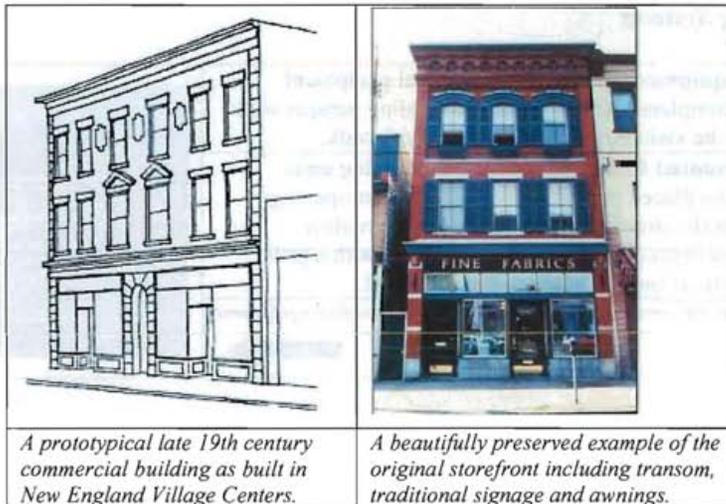
5.0 REVITALIZATION APPROACHES

There are several approaches to commercial revitalization and façade improvements. These approaches can be characterized by four levels of involvement in the renovation process: (1) removal; (2) repair and maintenance; (3) renovation and reconstruction; and (4) new construction. Individual efforts combine in an additive fashion to form a unified strategy for improvements. Each plays a significant role in the complete effort, taking clues from buildings previously completed as well as influencing future projects in nearby storefronts.

5.1 Removal

Removal is an easy process to complete and one which has a significant effect. Business operators should make the following efforts when they apply this method to their buildings:

- Remove and dismantle unused sign brackets, frames and hardware on the roof, cornice and front wall of the building. Along with this “unbolting”, any resulting holes and damage to the building must be repaired.
- Remove false fronts, siding, nonconforming signs, and advertising from the façade of the building. This includes formstone, fascia panels, mansard roofs, and any other attachments that cover and disrupt the original detailing and materials of the building.
- Remove, dismantle, or in some cases paint over signs which are no longer relevant to the store. Often signs remain on a building long after the business has left the area. These obsolete signs create visual clutter and distract from other current business signs, and can have a negative effect on business sales.
- Remove all temporary window signs and displays that do not apply to current or forthcoming store business.
- For the most part, removal can be an inexpensive, do-it-yourself operation undertaken by the owner or tenant.



5.2 Repair and Maintenance

Repair and maintenance are two procedures that have an important effect on the overall visual quality of the street. Repair and maintenance should be part of a proprietor's yearly routine, but are often neglected. By continually servicing and maintaining a façade, storefront, or sign, store owners can avoid major expenses later. Repainting and refinishing woodwork, signs and trim, cleaning signs and replacing electric bulbs, patching concrete and brickwork, and simply cleaning the façade and windows, are a few of the tasks that must be part of an ongoing process. The following repairs and maintenance items will assist individual property owners and tenants:

- Repair or replace damaged building components resulting from excessive and extreme weathering. This includes replacing missing and damaged building details, repairing and repainting brickwork, and patching and sealing of concrete and stonework.
- Clean or paint all building facades to remove soot, dirt and discoloration that have resulted from weathering or neglected maintenance.
- Design storefronts and façade renovations with maintenance in mind. Easy access for windows, sign and façade cleaning should be considered as well as careful selection of durable materials and easily maintained details.

5.3 Renovation and Reconstruction

When redesigning or replacing storefronts or signs, tenants or owners should keep in mind existing building structure. Some useful guidelines to consider are:

- Design new storefronts to fit within the building frame as formed by columns, piers and cornices.
- Do not remove, destroy or cover up existing architectural detailing.
- Select and use new materials that are compatible with the existing building materials.
- Design new storefronts to relate to upper levels of the building façade.
- Separate storefronts should consistently locate signs within existing sign bands.

In addition to respecting these design guidelines, appropriate removal and repair procedures must be undertaken during the renovation and reconstruction of storefronts.



5.4 Infill Construction

There are cases in which a building is missing in the façade of the street. This gap usually results from the removal of a building that once matched the line and shapes on the street. This break is particularly felt as one strolls along the sidewalk. If new construction respects its street context, the block will be strengthened and the scale of the sidewalk experience will be restored. The following general guidelines for new construction should be considered:

- Make new construction a product of its own time and not a copy of an older architectural style.
- Maintain the existing front wall plane of the street façade in the design of a new building.
- Maintain the cornice line of existing buildings in the design of new buildings.
- Consider entire blocks as a single façade – materials, colors, rhythm of elements, and common details should be recognized and incorporated into any new development.



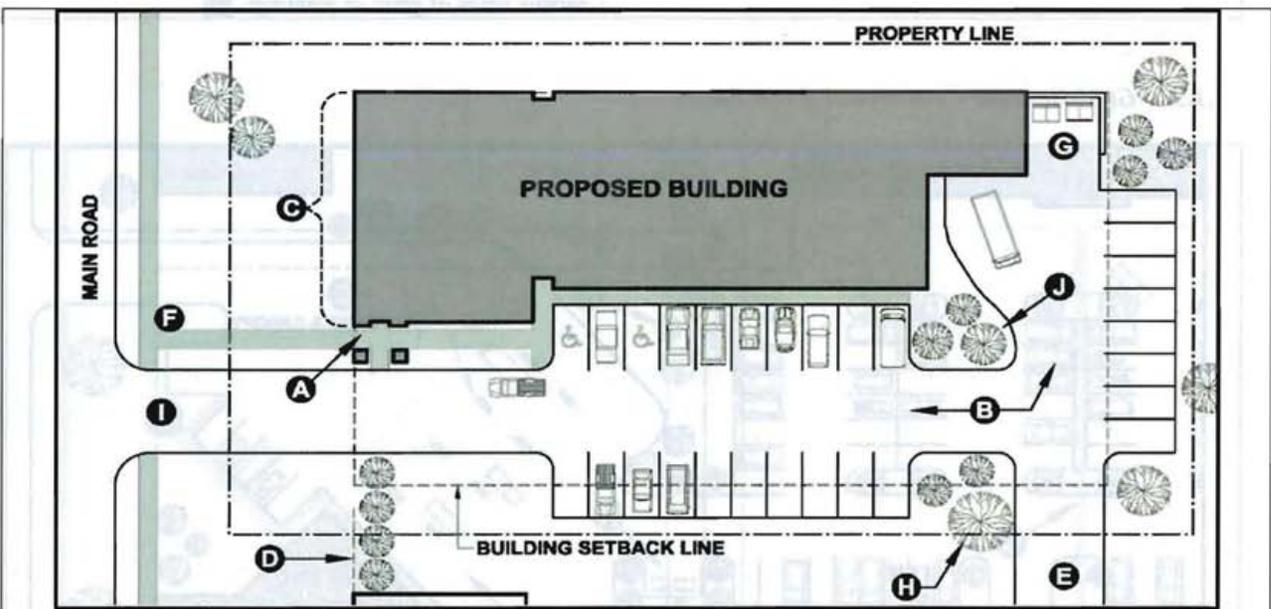
6.0 SPECIAL PROVISIONS FOR SPECIFIC TYPES OF DEVELOPMENT

6.1 Large Commercial and Mixed Use Site Planning and Building Design

6.1.1 Design Objectives

The following standards and guidelines are intended to be used to assist developers proposing large commercial developments and as an evaluation tool by the Community Development Department and the Planning Board in their review processes. These standards and guidelines apply to all projects for commercial or mixed use building developments of more than 10,000 square feet.

6.1.2 General Guidelines for Site Layout



Example Site Layout: The building is brought forward as close to the street as possible, with parking and other services tucked around the side and back. This helps to define the identity of the street and gives the business maximum public exposure.

6.1.2.1 (G) The primary building entry should always be placed at the front of the building (facing the front lot line) and be clearly identifiable from the street. **(A)** In this example, an entry vestibule is created which faces the front, side and rear parking area simultaneously.

6.1.2.6 (G) Provide sidewalks for the full width of the property with a direct link to the primary building entry. **(F)**

6.1.2.2 (G) Parking should be placed at the side or rear of the lot and screened from view whenever possible. Break the parking areas up into groups of no more than 20 spaces per area (35 for large development projects) separated by landscaping areas. **(B)**

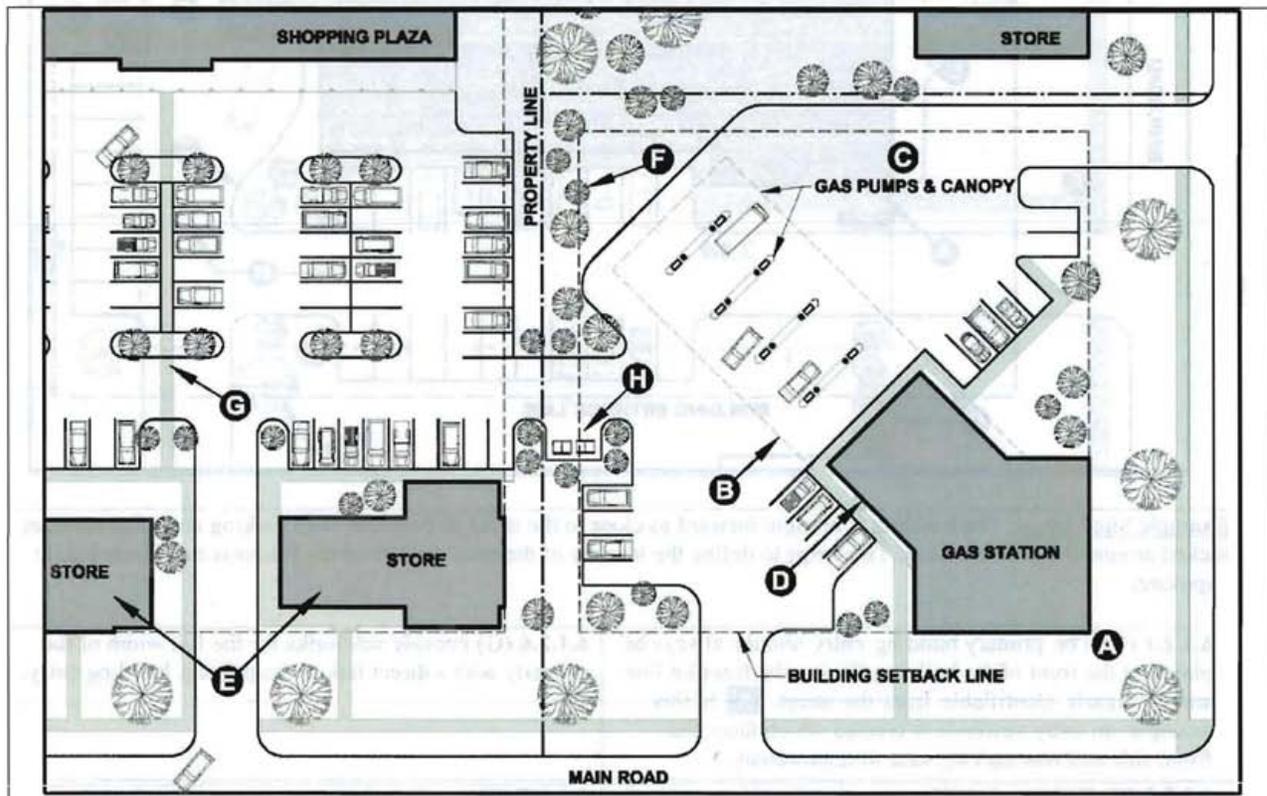
6.1.2.7 (G) Loading docks, service areas and trash facilities should be located at the rear of the building and not visible from the street. Fences, walls or landscaping can be used to shield them from view. **(G)**

6.1.2.3 (G) Place as much of the building width at the front

6.1.2.8 (G) Incorporate any existing, older trees into new

of the lot as possible to maximize front façade exposure to the public. (C) The front façade should be kept parallel to the street.	site plan development whenever possible to reduce waste and salvage good shade trees. (H)
6.1.2.4 (G) To reinforce the “street-edge”, align with neighboring buildings which are also close to the front setback line. Landscaping can also be used to reinforce this line. (D)	6.1.2.9 (G) Minimize the amount of curb-cuts by having a single driveway in and out of the property from the main road whenever possible. Secondary access points from side roads are encouraged on larger projects when warranted. Curb cuts should only be as wide as necessary to accommodate needed lanes. Curb radiuses should be kept to a minimum. (I)
6.1.2.5 (G) Whenever possible, attempt to link with adjacent parking lots or provide shared parking areas which can serve neighboring buildings simultaneously. (E) This provides a secondary means of access to the site and can ease congestion on the main road.	6.1.2.10 (G) The parking lot areas should be designed in regular, rectangular shapes. Irregular wedge shaped parking areas created by following angled property lines are discouraged. Only create as much paved area as absolutely necessary.
	6.1.2.11 (G) Landscaped islands and other green space should be consolidated into useful areas, and not just narrow strips of grass or plantings. (J)

6.1.3 Guidelines for Commercial Street Edges

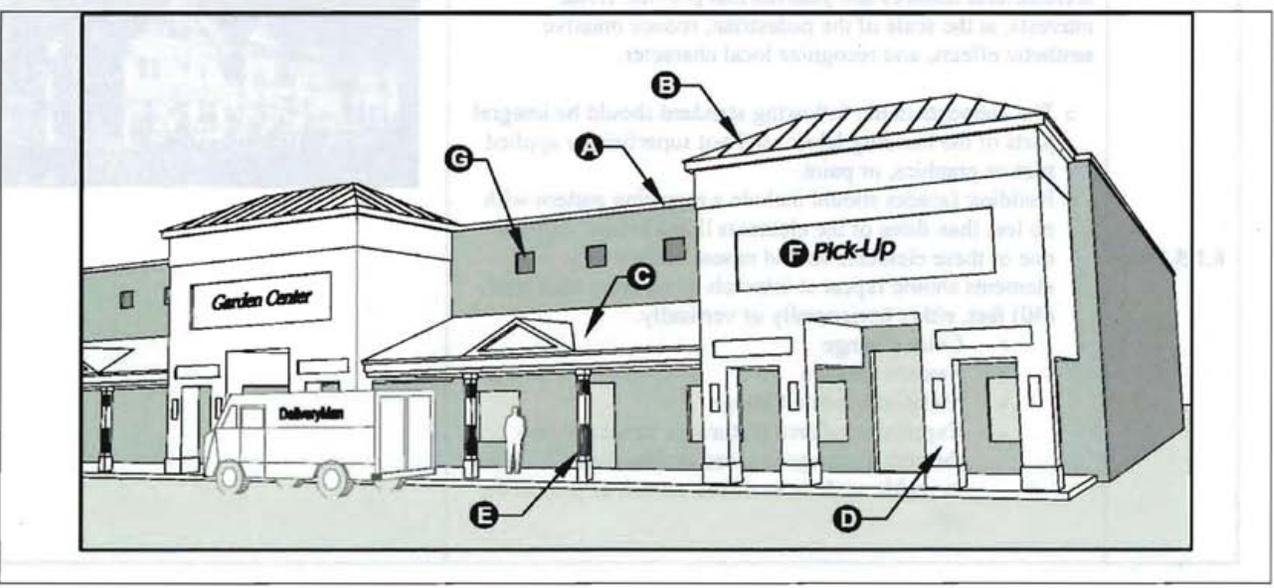


Examples of Defining the Edges: Corner lots are especially important in defining the street. Special attention should be paid to bringing the building mass all the way out to meet the corner. Large shopping plazas should also attempt to infill the front of their lots with new commercial space to take advantage of the road frontage.

6.1.3.1 (G) Corner lots should try to place as much building	6.1.3.5 (G) Older shopping plazas set back far from the
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<p>mass near the intersection as possible to help anchor the lot and take advantage of the high visibility. (A)</p>	<p>street can benefit from developing the land at the front of their lot. This helps to define the street character and allows for more “one-stop” shopping and shared parking opportunities. (E)</p>
<p>6.1.3.2 (G) Gas station canopies should be designed as an integral part of the station architecture whenever possible. This can allow for a visual or even physical connection which provides shelter between the vehicle and the building. (B) See below for examples.</p>	<p>6.1.3.6 (G) Provide trees and other landscape screening to shield large parking areas from adjacent lots. (F)</p>
	
<p>Examples of “Gas Backwards” Site Layout and Design</p>	
<p>6.1.3.3 (G) Alternative gas station layouts include placing the pumps near the rear of the lot while having the convenience store out in front near the street. (C) This helps to highlight the building, shield the utilitarian pump canopy and pulls the curb-cuts away from the intersection, creating easier access.</p>	<p>6.1.3.7 (G) Large parking lots are encouraged to provide landscaped islands and walkways which help to break up the visual expanse of blacktop and encourage safe pedestrian travel areas. (G)</p>
<p>6.1.3.4 (G) When it is not feasible to place the building entry directly on the front façade, attempts should be made to ensure that it is still readily visible and faces the main road or internal street. (D)</p>	<p>6.1.3.8 (G) Some developments may benefit from having a shared access to a common dumpster location which both neighboring properties can use. (H)</p>

6.1.4 Guidelines for Massing and Scale



<u>Alternate Design for Big-Box Retail:</u> By articulating the façade of a typical Big Box retail store with different massing elements, you can help to give a smaller scale appearance to an otherwise featureless mass.	
6.1.4.1 (G) The typical Big-box retail structure can be seen here as a relatively featureless mass shaded in grey. (A) These structures usually have blank walls on most of the facades, and are articulated only at the point of entry.	6.1.4.1 (G) The front façade or entry areas may be designed to accommodate façade lettering where appropriate. (F)
6.1.4.1 (G) Large retail structures are encouraged to articulate their primary façade(s) with various design features to help reduce the overall scale of the building with the use of roofline articulation or mass divisions. (B) These can be used to highlight entry points, exits, specialty areas (such as a garden/landscaping center or auto service) customer pick-up zones or separate places of business.	6.1.4.1 (G) The main façade (A) can be further enhanced with occasional variations in materials, such as the use of colored or textured masonry units in special areas to create localized patterns. (G) The use of banding designs (continuous horizontal stripes) across large areas of façade is not recommended.
6.1.4.1 (G) In between the main massing elements, a secondary level of scale reduction can be achieved with a smaller porch design. (C) In addition to creating a more interesting façade, this provides pedestrian shelter and helps to tie the façade together. In the case of multiple tenant plazas, these porch areas act as the front facades and entry points to smaller businesses.	6.1.4.1 (G) Smaller scale materials should be used on these front façade massing elements whenever possible.
6.1.4.1 (G) The relative massing of the façade can be slowly broken down into progressively smaller elements. For example, the larger storefront elements (B) are supported on large piers. (D) These entrance elements frame smaller porches in between, which are supported on even smaller columns. (E) These smaller columns are scaled to the pedestrian, and use the smallest materials.	6.1.4.1 (G) The size, scale, motif and use of materials for the front façade design should be kept consistent across the façade in order to tie the entire composition together. The use of a variety of design styles across the façade is not recommended.

6.1.5 Guidelines for Building Design Components

6.1.5.1(G)	<p>General Design Components - Buildings should have architectural features and patterns that provide visual interests, at the scale of the pedestrian, reduce massive aesthetic effects, and recognize local character.</p> <ul style="list-style-type: none"> ○ The elements in the following standard should be integral parts of the building fabric, and not superficially applied trim or graphics, or paint. ○ Building facades should include a repeating pattern with no less than three of the elements listed below. At least one of these elements should repeat horizontally. All elements should repeat at intervals of no more than thirty (30) feet, either horizontally or vertically. <ul style="list-style-type: none"> • Color Change • Texture Change • Material Module Change • Expression of architectural or structural bay through a change in plane no less than 12 inches in width, such as an offset, reveal, or projecting rib. 	
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6.1.5.2(G)	<p>Materials and Colors - Exterior building materials and colors comprise a significant part of the visual impact of a building. Therefore, they should be aesthetically pleasing and compatible with materials and colors used in adjoining neighborhoods.</p> <ul style="list-style-type: none"> ○ Predominant exterior building materials should be high quality materials. These include, without limitation: brick, wood, granite sandstone, other native stone, and tinted/textured concrete masonry units. ○ Facade colors should be low reflectance, subtle, neutral, or earth tone colors. The use of high intensity colors, metallic colors, black or fluorescent colors is discouraged. ○ Building trim and accent areas may feature brighter colors, including primary colors, but neon tubing is an unacceptable feature for building trim or accent areas. ○ Predominant exterior building materials should not include the following: smooth faced concrete block, tilt-up concrete panels, pre-fabricated steel panels. 	
6.1.5.3(G)	<p>Roofs - Variations in roof lines should be used to add interest to, and reduce the massive scale of large buildings. Roof features should compliment the character of adjoining neighborhoods. Roofs should have no less than 2 of the following features:</p> <ul style="list-style-type: none"> ○ Parapets should conceal flat roofs and rooftop equipment such as HVAC units from public view. The average height of such parapets should not exceed 15% of the height of the supporting wall and such parapets should not at any point exceed one-third of the height of the supporting wall. Such parapets should feature three-dimensional cornice treatment. ○ Overhanging eaves should extend no less than 3 feet past the supporting walls. ○ Sloping roofs should not exceed the average height of the supporting walls, with an average slope greater than or equal to 1 foot of vertical rise for every 1 foot of horizontal run, and less than or equal to 1 foot of vertical rise for every 1 foot of horizontal run. ○ Buildings should have three or more roof slope planes. 	
6.1.5.4(G)	<p>Entryways - Entryway design elements and variations should give orientation and aesthetically pleasing character to the building. The guidelines below identify desirable entryway design features. Each principal building on a site should have clearly defined, highly visible customer entrances featuring no less than three of the following:</p> <ul style="list-style-type: none"> ○ Canopies or porticos ○ Overhangs ○ Recesses/projections ○ Arcades ○ Raised corniced parapets over the door ○ Peaked roof forms ○ Arches ○ Outdoor patios 	

	<ul style="list-style-type: none"> ○ Display windows ○ Architectural details such as tile work and moldings which are integrated into the building structure and design ○ Integral planters or wing walls that incorporate landscaped areas and/or places for sitting 	
6.1.5.5(G)	Franchise Buildings - Large franchise buildings should adapt to local development patterns and styles.	

6.2 Large Residential Buildings and Sites

Design Objectives

The design guidelines set forth in this section apply to large multi-family residential buildings with the objective influencing the design so that they are visually compelling, unique, safe and pedestrian friendly. If a building includes both residential and non-residential uses, the applicant should refer to this section for the portions of the building containing such residential use and other provisions of these Design Standards and Guidelines for the portions of the building containing such non-residential uses.

Design Guidelines for Large Residential Building and Site Design

6.2.1(G)	<p>General Design Characteristic</p> <ul style="list-style-type: none"> ○ At least two of the following elements should vary for each building along a street: (1) materials, (2) roofline, (3) windows, (4) step-backs, (5) modulation, (6) setbacks, (7) recesses, (8) height, (9) entries, (10) color, (11) building form, or (12) architectural details. ○ Unless designed as a continuous architectural theme such as row houses or a continuous commercial facade of buildings with variable facade, height or roof treatments adjacent buildings shall be visually distinct from each other. ○ Townhouses should appear as separate, but attached buildings. ○ Variation in building form should relate to the scale of individual building units or rooms such as recessed or projecting bays, shifts in massing or distinct roof shapes. ○ A continuous cornice line on a row of townhouses should be avoided. ○ The façades of apartments, and apartments with commercial uses should be articulated at minimum intervals of 25 feet. Articulation should be achieved through changes in building plane or features such as but not limited to: balconies, columns, bay windows and pilasters. 	Insert Photo
6.2.2(G)	<p>Common Open Space in Residential Developments</p> <ul style="list-style-type: none"> ○ Common open spaces should be a minimum of 20 feet wide. 	Insert Photo
6.2.3(G)	<p>Garden Walls, Fences and Hedges</p> <ul style="list-style-type: none"> ○ Prohibited Finish Materials: Plastic, chain link, barbed wire and razor wire fencing. ○ Fences, garden walls or hedges should be used along all unbuilt property lines which abut streets and alleys. ○ Fences, garden walls or hedges should be used along Side 	Insert Photo

	<p>Yards (behind the front plane of the primary structure) and Rear Yards.</p> <ul style="list-style-type: none"> o Recommended Finish Materials: Wood (termite resistant) painted/stained, wrought iron, brick, stone or stucco. 	
6.2.4(G)	<p>Entries</p> <ul style="list-style-type: none"> o Entries should be marked by stoops, overhangs and/or other architectural features. o Residential entries should be identifiable and prominent. o Ground floor units directly accessible from the street should be used in Apartments. 	<p>Insert Photo</p>
6.2.5(G)	<p>Porches</p> <ul style="list-style-type: none"> o Front porches should be located in the setback. o Front porches may have multi-story verandas and/or balconies above. o Front porches may be screened; however, if screened, all architectural expression (columns, railings, pickets, etc.) should occur on the outside of the screen (facing the street or common open space). o Porches should wrap around buildings. o The following dimensions should apply: <ul style="list-style-type: none"> o Depth: 8 foot minimum o Length: (a) 25% to 100% of Building Frontage; and (b) 25% to 100% of Building Side o Height: 30 inch minimum from grade to top of stairs; 96 inch maximum o Overhang: 2 foot minimum 	<p>Insert Photo</p>
6.2.6(G)	<p>Stoops</p> <ul style="list-style-type: none"> o Stoops, if used, should be located in the setback but not extend into the right-of-way. o The following dimensions should be applicable to stoops: <ul style="list-style-type: none"> o Depth: 4 foot minimum; o Length: 10% to 25% of Building Frontage; and o Height: 96 inch maximum. o Stoop stairs should run to the front or to the side. o Stoops may be covered or uncovered 	<p>Insert Photo</p>
6.2.7(G)	<p>Windows, Skylights, and Doors</p> <ul style="list-style-type: none"> o Windows and doors should be inset in the building wall with a minimum 3 inch reveal. o Any balconies should be usable with a minimum 3 foot deep projection or recess. o Each floor of any building façade facing open space or a street should contain transparent windows encompassing a minimum of 15% of the wall area. o Rectangular window openings facing streets should be oriented vertically. o Security bars should not be permitted on the exterior of windows. o A header and sill is required for all windows in masonry construction. o Dormer windows should be used. o Openings in upper stories should be aligned with openings in the first story. Openings on gabled ends should be centered. o The following accessories are recommended: (i) operable shutters, (ii) wooden window boxes, (iii) muntins and mullions, (iv) fabric or metal awnings (without backlighting; without 	<p>Insert Photo</p>

	glossy- finish fabrics). o Recommended Configurations <ul style="list-style-type: none"> o Windows: Rectangular, transom, and sidelight o Window Operations: Casement, single and double-hung, industrial, fixed frame (36 square feet maximum) o Skylights: Flat to the pitch of the roof. o Door Operations: Casement, French, sliding (rear only) 	
6.2.8(G)	Roof Forms o Dormers, bays and other projections are encouraged to provide articulation to roof surfaces. o Eaves should overhang a minimum of 1 foot.	Insert Photo

6.3 Industrial Buildings and Sites

The Industrial Districts in Chelmsford typically lack the unified building design except for historic mill areas such as those in Vinal Square. Industrial districts also lack formal streetscapes found in the village centers or extensive landscaping treatments found in newer commercial and residential developments.

The goal of historic industrial buildings is to create additional space or accommodations for modern conveniences while maintaining the original character and design of the existing building. An addition should be designed so that its size, placement, and design is in keeping with the character of the existing building, and does not radically change, obscure, damage, destroy, or render it subordinate to the new addition.

When considering new construction or significant alterations to industrial buildings and sites in Chelmsford's industrial districts it is important to remember that no two buildings are exactly alike, and that adjacent buildings may be significantly different in height, form, and exterior cladding. What unites these buildings is their form, use, and placement, and this fact presents property owners with an unusual amount of freedom when considering the exterior cladding and appearance of a new building in this area. These design guidelines are intended to encourage this opportunity for new designs and architectural solutions, as well as to point out suggestions for how these new elements can be introduced to be in harmony with the existing landscape.

6.3.1(G)	General Architectural Style and Form Guidelines Specific to Industrial Areas - As the use of industrial buildings changes to more service oriented businesses, fresh ideas and new designs will be needed to incorporate the needs of contemporary customers into the existing landscape. Property owners are strongly encouraged to use creativity in the design, placement, and detailing of both new additions and new structures. <ul style="list-style-type: none"> o <u>Preserve and Maintain Significant Architectural Elements</u> - Existing structures that are consistent with the Town's period of industrial significance should be retained or restored. New alterations should be designed in such a way that they do not damage or hide original architectural elements, but when original elements have been removed or substantially altered, or where a building may have been designed without a street or pedestrian presence, contemporary treatments may be a suitable alternative. o <u>Complementary New Architectural Elements</u> - When considering new architectural elements on an existing building, it is important that the new element complement the design, color, texture, and material of those elements already existing on the building. In addition, care should be taken to ensure that any new features are in scale with the structure itself. This is also true for new construction, where architectural elements can add character to the design of the new building and help to blend it into an existing streetscape so long as the elements chosen are in harmony with both the design of the new building and its surroundings.
6.3.2(G)	Scale and Height of New Industrial Buildings - The larger scale of industrial buildings and the

	<p>additional spacing between structures may allow for a greater variation in size and height between buildings in the surrounding area. However, whenever possible the overall height of a new building should be no higher than that of the nearest half-story of the adjacent building, or determined by the average height of the immediately surrounding structures on both sides. Large structures may take the approach of stepping in their side or rear elevations in order to gradually reach their desired height while still respecting the building in their immediate vicinity. Architectural elements should be used to help the new structure visually blend in with surrounding structures.</p>	
6.3.3(G)	<p>Massing for New Industrial Buildings - It is important to consider how a new building will fit in as a group with the surrounding structures in these areas, and to design new structures and additions which maintain similar proportions, roof forms, roof pitches and styles to that of their neighbors. New designs should be consistent with the form and massing of neighboring buildings and the directional emphasis of the established streetscape.</p>	
6.3.4(G)	<p>Exterior Renovations, Expansions and Additions Specific to Industrial Buildings - Although existing buildings in Chelmsford's industrial districts are quite varied, care must still be given to the location of any additions to ensure that the original building retains its character and prominence. The existing scale and massing of the existing building should be considered in the design of new additions. General guidelines for additions to existing industrial buildings follow:</p> <ul style="list-style-type: none"> ○ be subservient to the original structure; ○ be differentiated from the existing building (i.e., set back from the existing wall plane); ○ be in harmony with the original structure in size, scale, style and materials; and, ○ not obstruct the visual integrity of the original structure. 	
6.3.5(G)	<p>Doors and Entries: Existing Renovations: New or renovated entrances should be designed to be in keeping with the style of the given building and to meet the needs of the businesses within. New pedestrian entrances should be located on the street or most prominent façade of the building, with attention given to how the entrance design and materials can attract potential customers to the establishment.</p>	
6.3.6(G)	<p>Doors and Entries: New Construction: Any new construction is strongly encouraged to develop its street presence by including a centrally located and prominent primary entrance. As with commercial structures, these entrances should be clearly marked and designed to provide a sense of welcome and easy passage from exterior to interior.</p>	
6.3.7(G)	<p>Fenestration: Existing Industrial Buildings</p> <ul style="list-style-type: none"> ○ <u>Maintain Existing Window Pattern</u> - Property owners of these buildings are encouraged to maintain and work with the existing window pattern. Because the windows themselves are also a significant factor in how the building is perceived and understood, owners should consider repairing or restoring original windows if possible before looking into replacement options. 	

	<ul style="list-style-type: none"> ○ Replacement Windows - If replacement is the only solution, then new windows should be chosen to match the size, form (double hung sash, casement, etc.) and material of the original windows so as to maintain as much of the original character as possible. ○ New Window Installations – Some industrial buildings were constructed with few if any windows, or have windows installed with no obvious pattern or intent. These utilitarian buildings located both door and window openings based on interior needs, and so their placement often has little to do with any specific architectural design for the building. Where the windows were installed with no architectural intent, more leeway can be given to their replacement. Property owner are still encouraged to replace windows with ones of like size and design and in the location of the original window where possible, but changes in material and form may be appropriate in some cases. Plexiglas and other replacement materials should be avoided and broken or damaged windows should be repaired as soon as possible. Where the placement of a window has changed and a former opening is now vacant, property owners may consider leaving the frame of the window in place and filling in the opening with whatever siding is used elsewhere on the building, opaque glazed panels, or other alternative materials. 	
6.3.8(G)	<p>Fenestration: New Construction - Windows should be proportionate to the scale of the building, and their material and style should be consistent with that of the overall building and of surrounding structures. When choosing a window material with a factory finish, it is important to integrate the color of the frame with the color scheme of the building. All windows should use clear glass whenever possible in order to increase window transparency; avoid using reflective or dark tinted glass as these can alienate pedestrians and give the building a closed or vacant appearance.</p>	
6.3.9(G)	<p>Rooflines, Forms and Materials: New Construction - Property owners should carefully consider the predominant roof forms found in Chelmsford's Industrial areas when considering new construction. New buildings which integrate these common roof styles are more likely to blend in well with the general character of the area. Green roofs, solar panels, and other modern equipment can also be incorporated into a flat or minimally pitched roof structure with little impact of the streetscape. Property owners should investigate how the traditional forms found in these Industrial areas can be interpreted to accommodate modern design and equipment needs.</p>	
6.3.10(G)	<p>Exterior Materials and Siding: New Construction - As there are already a wide variety of material in use in Chelmsford's Industrial areas, property owners should consider the materials used in the buildings immediately surrounding the potential development, and take these elements into consideration when developing the overall plan and design of any new structures. And as noted above, the Industrial areas may also provide excellent opportunities for new or more energy efficient materials to be utilized.</p>	
6.3.11(G)	<p>Industrial Awnings - Awnings are not a traditional element of Chelmsford's Industrial areas and are not currently found on any of its existing structures. However, awnings can provide an easy, cost effective way of establishing a pedestrian friendly front entrance on a building which might otherwise lack one. Not only do they focus attention, but they can also provide a location for signage and serve to protect customers from the weather. For both Existing Industrial Structures and New Construction:</p> <ul style="list-style-type: none"> ○ Awnings should be chosen to be in harmony with the color schemes and styles of surrounding buildings, and care should be taken to avoid detracting from the form of the building or obscuring its details. Awnings on adjacent buildings should be consistent in character, scale, and location, but need not be identical to one another. Care should also be taken to ensure that awnings are attached to the building in a way that permits later removal without damaging the materials to which they are fastened. ○ Property owners are encouraged to use canvas awnings and to avoid the use of Vinal or plastic 	

	awnings. The shape of the awning should relate to the shape of the entrance or of the façade's architectural elements. While traditionally shaped awnings are generally encouraged for both new and existing buildings, creative or unusually-shaped awnings which have been carefully designed to work with the building and streetscape may also be an option.	
6.3.12(G)	<p>Existing Industrial Building Color - Property owners should consider updating their structures in a manner consistent with the Paint Color guidelines for Commercial Structures. This would involve using more distinctive color patterns, differentiating between the color of the trim and the body of the building, and using paint color to highlight unique aspects of the building. Property owners would still need to consider the surrounding structures, however, to make sure that the new scheme was in harmony with the overall area. These suggestions for existing buildings apply only to exterior surfaces which are already painted. Exterior materials which were never designed to be painted (Vinal siding, metal sheathing, brick) should remain in their original condition.</p>	
6.3.13(G)	<p>Utilities and Mechanical Equipment: New Industrial Construction - New construction should take advantage of the flexibility of space and siting in the Industrial areas to cleverly incorporate modern equipment into the design of new buildings while meeting the goals outlined above. In some cases, this equipment may be well screened from view, while others may find creative ways to make them visible elements of the design. Industrial areas ideally provide greater flexibility in addressing these problems but the ultimate goal is still to create a pleasant and attractive street environment for customers and residents.</p>	
6.3.14(G)	<p>Fencing in Industrial Areas - Chelmsford's Industrial areas are generally large, open areas that provided ease of access for moving materials and goods in and out of its buildings. Fencing would have provided a barrier to that access, and so it is understandable that there is no fencing in the Industrial areas. To preserve the open, campus style character of this area, the addition of future fencing is strongly discouraged. Where fencing is absolutely necessary for safety or screening purposes, it should be set well back from the road or at the rear of buildings to preserve the area's open character.</p> <ul style="list-style-type: none"> ○ Fencing Materials - Traditional fencing materials such as wood, granite or stone, or alternatives to wrought or cast iron fencing such as black steel or aluminum fencing is highly recommended. Fencing should be compatible with the materials, proportions and styles of the existing buildings on the site. ○ Height and Location - The height and style of the fence should also relate to its location on the site with taller, solid fencing at the rear of the site and lower and more open fencing towards the front. 	

7.0 PUBLIC AND CIVIC SPACE DESIGN GUIDELINES

7.1 General Design Objectives

The intent of these standards is to provide for a combination of viable public and private open spaces and civic gathering areas that, over time, are well distributed throughout Chelmsford and benefit all citizens.

Development sites should utilize a minimum of 5% of their lot for civic or open space in one of the types

identified in 7.2 below. Civic and open spaces should be designed to physically express their prominence and community orientation.

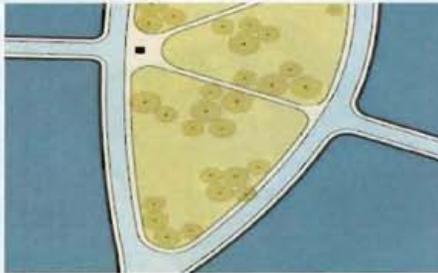
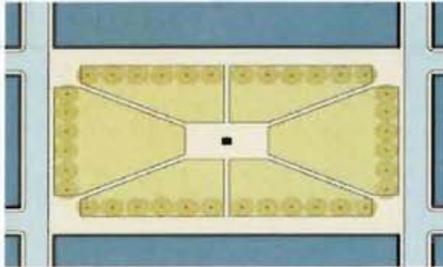
Squares and Plazas Standards – Squares and plazas shall be located so that building walls facing the open space shall have at least 25% of the overall façade in transparent windows, and at least 40% of the ground floor façade in transparent windows.

7.2 Civic and Open Space Types

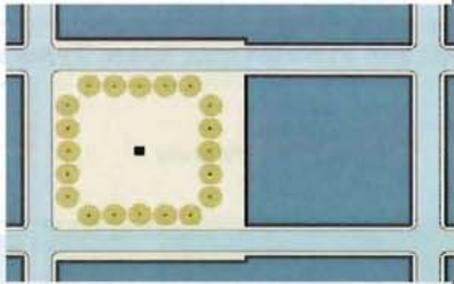
Specific public and private open space types are identified in Figure 7-1 below, and are intended for the gathering of people for passive or active recreation, entertainment, and organized communal activities.

<i>Civic and Open Space Types</i>	<i>Suggested Frontage On At Least:</i>	<i>Typical Lot Size</i>
Park	1 street	0.5 to no max.
Green/Common	2 streets	0.5 to 5 acres
Square/Plaza	1 streets	0.5 to 2 acres
Playground	0 streets	0.1 to 1 acres
Community Garden	0 streets	0.1 to 1 acres
Private Yards, Pocket Park, Open Space	Variable	Variable

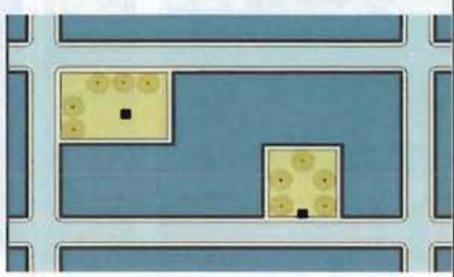
Figure 7-1: Public and Private Open Space Types and Standards*

Open Space Type	Open Space Diagram	Character Example
<p>Preserve: An area comprised of natural resources and constraints available for limited public access and low impact recreation. Its landscape may consist of paths and trails, meadows, woodland, wetlands, floodplains, scenic vistas, and other natural attributes. Preserves may be lineal, such as the natural corridor along the Connecticut River. The liner preserves should connect to surrounding neighborhood and civic buildings.</p>		
<p>Park: A natural preserve available for active and passive recreation. Its landscape shall consist of paths and trails, meadows, woodland, community gardens, open shelters, playgrounds, playing fields and courts, all naturalistically disposed. Parks should connect to surrounding neighborhood and civic buildings.</p>		
<p>Common/Green: An open space, available for unstructured recreation and programmed for civic gatherings. A green may be spatially defined by landscaping rather than building frontages. Its landscape shall consist of lawn and trees, naturalistically disposed.</p>		
<p>Square: An open space available for unstructured recreation and civic purposes. A square is spatially defined by building frontages. Its landscape shall consist of paths, lawns and trees, formally disposed. Squares shall be located at the intersection of important thoroughfares.</p>		

Plaza: An open space, available for civic purposes and commercial activities. A plaza is typically spatially defined by building frontages. Its landscape shall consist primarily of pavement. Trees are optional. Plazas may be located at the intersection of important streets.



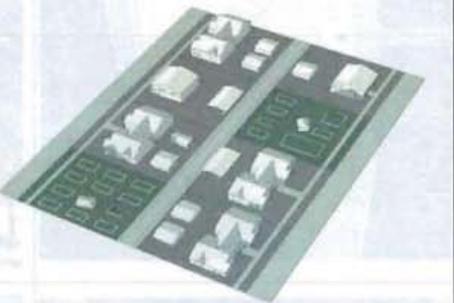
Pocket Park: An open space designed primarily for passive recreation and may be equipped for the active recreation of children and community garden plots. Pocket Parks may be interspersed within residential areas and may be placed within a block. There are no minimum or maximum typical size.



Playground: An open space designed for the active recreation of children. A playground shall be fenced and may include an open shelter. Playgrounds may be interspersed within residential areas and may be placed within a block. Playgrounds may be included within parks, greens and community gardens. There is no minimum or maximum typical size.



Community Garden Plots: A grouping of garden plots available to nearby residents for small-scale cultivation using shared water source. Community garden plots may be located on public parks or private lots.

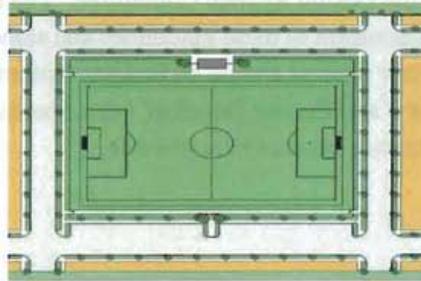


Private Yards and Gardens:

Private open space and the configuration of other site features, such as parking, should be coordinated with adjacent properties to create shared access and larger open spaces whenever possible. For example, multi-family buildings can alternate open space and parking orientation to combine open space features and parking areas.



Playing Fields and Courts: A publically accessible open space designed and equipped for active recreation and organized sports. Playing fields and courts may include grass, artificial turf, clay, dirt, stone dust, concrete, asphalt, ice or other pervious or impervious materials to support various sporting events.



Privately Owned Public Space (POPS) and Outdoor Activity Zones: POPS may include various utilization of private frontages such as forecourts, outdoor terraces, seating areas, plazas, and public art installations that are intended to be utilized for passive recreation and public gathering. Outdoor Activity Zones include POPS but may also include use of public spaces such as sidewalk dining as permitted by the Town.



** Images for Parks, Commons/Greens, Plaza, Square and Pocket Park are from the SmartCode Version 9.2 prepared by DPZ Inc.; Images for Preserve, Playgrounds, Community Garden Plots, Private Yards and Gardens, Playing Fields and Courts, where prepared by The Cecil Group; Privately Owned Public Spaces and Outdoor Activity Zones were prepared by Dodson & Flinker Associates.*

8.0 DESIGN REVIEW COMMITTEE

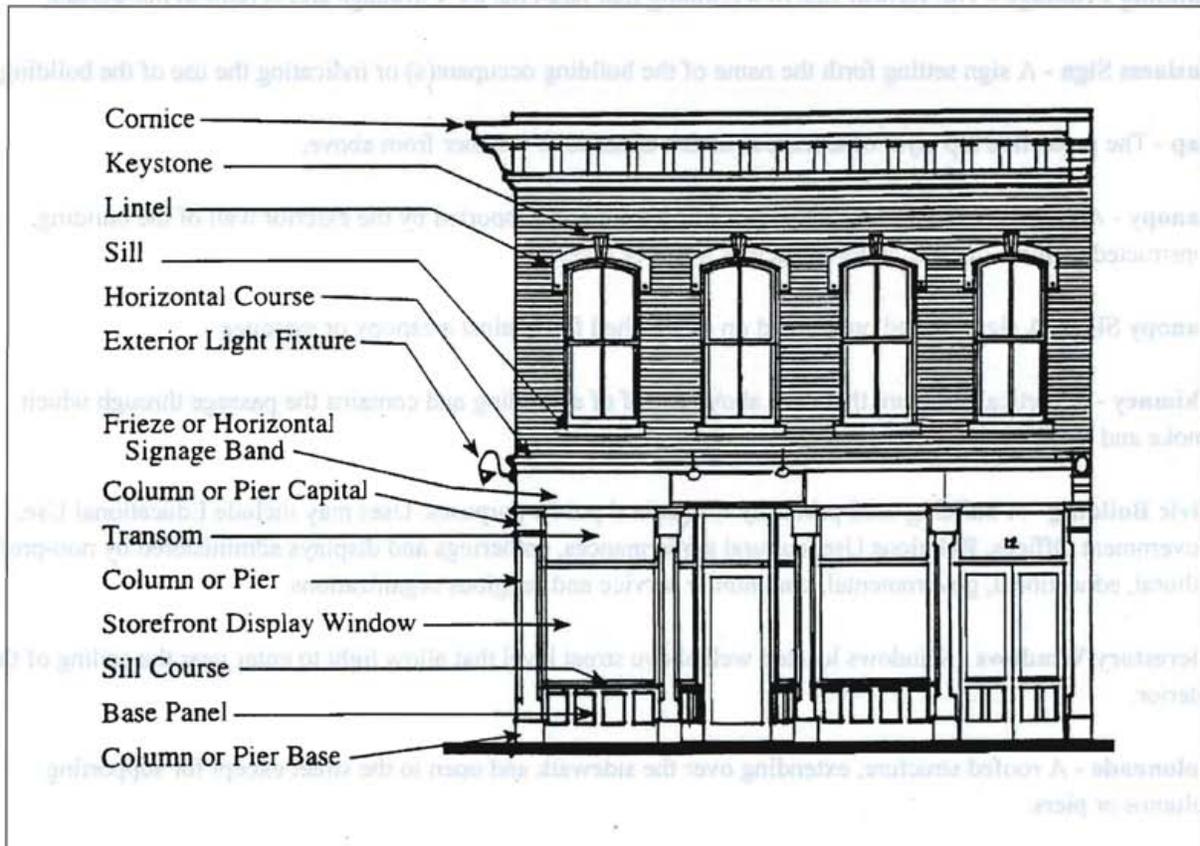
The **Chelmsford Planning Board shall serve as the Design Review Committee** for the purpose of evaluating site plans for building and site improvements under these guidelines and standards. The Design Review Committee may seek the input of the Board of Selectmen, Board of Adjustments, Historical Commission, the Community Development Department, and other public or private organizations directly involved in planning, revitalization, historic preservation and economic development in Chelmsford.

Every new construction, renovation and modernization project involving changes to existing buildings in the Village Center Districts, CEIOD project or large scale commercial, residential, industrial, or mixed use project should be subject to design review by the Design Review Committee. The objective of the review is to ensure that the proposed design and materials conform to these guidelines and standards as well as to any other applicable regulations. The design review process should be independent and supplementary to the Building Inspector review, Planning Board review and Zoning Board of Adjustments review of site plans, subdivisions, special permits, and building and occupancy permits as applicable.

9.0 ANATOMY AND TERMINOLGY OF BUILDING FACADES

9.1 Anatomy of a Building Façade

The following graphic illustrates key terms and elements that make up a building façade. While each façade has special or even unique elements, good building design in a commercial setting will often include some or all of these elements. They are shown here to further the understanding of the design guidelines and standards for Chelmsford.



9.2 Glossary of Terms

There are many traditional terms that are used to describe portions of buildings and storefronts. Because some of these terms are used in the guidelines, this glossary has been prepared.

Appurtenances - Architectural features added to the main body of a building, including awnings, marquees, balconies, turrets, cupolas, colonnades, arcades, spires, belfries, dormers and chimneys.

Ashlar - Stone cut and laid in a rectangular shape and pattern.

Awning - An element projecting from and supported by the exterior wall of the building, constructed of fabric on a supporting framework, for the purpose of providing shelter or shading windows.

Baluster - A short vertical member used to support a railing or coping.

Balustrade - A railing together with its supporting balusters or posts, often used at the front of a parapet.

Belfry - A tower attached to a building that rises above the roof, in which bells are hung.

Blank (Building) Wall - A side of a building lacking any windows or architectural features.

Building Frontage - The vertical side of a building that faces the lot's frontage and is built to the setback.

Business Sign - A sign setting forth the name of the building occupant(s) or indicating the use of the building.

Cap - The protective top layer of a brick structure exposed to weather from above.

Canopy - A permanent roof-like shelter extending from and supported by the exterior wall of the building, constructed of some durable material such as metal or glass.

Canopy Sign - A sign painted on, printed on or attached flat against a canopy or marquee.

Chimney - A vertical structure that rises above a roof of a building and contains the passage through which smoke and gases escape from a fire or furnace.

Civic Building - A building used primarily for general public purposes. Uses may include Educational Use, Government Offices, Religious Use, cultural performances, gatherings and displays administered by non-profit cultural, educational, governmental, community service and religious organizations.

Clerestory Windows - Windows located well above street level that allow light to enter near the ceiling of the interior.

Colonnade - A roofed structure, extending over the sidewalk and open to the street except for supporting columns or piers.

Composition - See the appendix on architectural styles.

Cornice - A projecting horizontal decorative molding along the top of a wall or building.

Cupola - A domelike structure surmounting a roof or dome, often used as a lookout or to admit light and air. Cupolas are often used to create a visual focal point.

Curb Radius - The curved edge of street paving at an intersection used to describe the sharpness of a corner.

Dormer - A roof-covered projection from a sloped roof.

Expression Line - A horizontal line, the full length of a façade, expressed by a material change or by a continuous projection, such as a molding or cornice. Expression lines delineate the transition between the floor levels.

Facade - Any side of a building which faces a street or open space.

Fascia - A facing board used as trim, this term is also sometimes used to refer to the signboard (see below).

Fenestration - The door and window openings in a building facade.

Gable - The vertical surface that connects two or more sloped roofs.

Garden Wall - A freestanding wall along the property line dividing private areas from streets, alleys and adjacent lots. Garden walls sometimes occur within private yards.

Header - The horizontal member spanning the top of an opening.

Landscaped Area - The part or parts of a lot developed and permanently maintained in grass and other plant materials, in which the space is open to the sky and is free of all vehicular traffic, parking, loading and outdoor storage.

Large Footprint Building - Any building that has a footprint area equal to or greater than 10,000 square feet.

Liner Building - A functional building built in front of Structured Parking, Movie/Playhouse, Theater, Grocery Store, Anchor Retail building or other Large Footprint Buildings to conceal large expanses of blank wall area and to front the street with a façade that has doors and windows opening onto the sidewalk.

Lintel - Horizontal beam that spans an opening, such as between the posts of a door or window or between two columns or piers.

Mansard - A roof with steeply sloping sides, rising to a relatively flat roof at the top.

Massing - The overall form of a building.

Marquee - A permanently roofed architectural projection, the sides of which are vertical and are intended for the display of signs and which is supported entirely from an exterior wall of a building.

Mullion - Wood or metal that separate and hold in place the panes of a window.

Muntin - A strip of wood or metal separating and holding panes of glass in a window.

Open Space - Parks, squares, plazas, golf courses and other land used for passive or active recreational, conservation or civic use.

Parapet - A low wall at the edge of a roof, terrace, or balcony.

Pedestrian-oriented - Describes an attitude or accommodation in which the pedestrian is the primary consideration.

Pilaster - An upright, rectangular element of a building that projects slightly from a wall or surface to resemble a flat column. A pilaster is non-structural and may or may not conform to one of the classical orders in design.

Primary Access - The main entry point of a building.

Principal Façade - For the purpose of placing buildings along setbacks, the front plane of a building not including stoops, porches, or other appurtenances.

Reveal - The horizontal distance between a window or door opening and the exterior façade, measured from the dominant building surface to the window or door frame.

Secondary Access - Entry points of buildings which are not the Primary Access.

Shared Parking - A system of parking areas shared by multiple users, where each user has peak parking demands at different times within a 24 hour period or within a weekly or other relevant period, thereby allowing some parking spaces to be shared.

Signboard - An area of the storefront above the glazing that was often ornamented and became the traditional location for signage. The term "fascia" is sometimes used for the same element.

Sill - The horizontal member at the base of a window opening.

Soffit - The horizontal underside of any architectural element; usually used in reference to the bottom surface of a roof overhang or the edge of a ceiling. A soffit is often used to conceal structural elements, mechanical equipment, or to transition between different ceiling heights.

Spire - A vertical structure attached to a building that rises above the roof and tapers to a point.

Stepback - The portion of the building or structure above such height is stepped back a minimum distance from the exterior face of such building or structure which faces a street.

Stoop - A small platform and entrance stairway at a building entrance, commonly covered by a secondary roof or awning.

Storefront - The portion of a building at the first story that is made available for retail use.

Symmetrical - Having a regular or balanced arrangement of elements on opposite sides of a center or axis.

Turret - A small tower or tower-shaped projection on a building used to create a visual focal point.

Transom - The glazed or solid panel immediately above a door.

Vehicle-oriented - Describes an attitude or accommodation in which the vehicle is the primary consideration.

Water Table - The horizontal reveal marking the height of the first finished floor level in masonry construction.

Yard, Front - A yard extending across the full width of the lot and lying between the front line of the lot and the nearest line of the principal building or structure.

Appendix B:
Traffic Volume Data

Massachusetts Highway Department
NMCOG

FACTORS = SEASONAL: 0.92 AXLE CORRECTION: 0.98
WEEKLY SUMMARY FOR ALL LANES
Starting: 8/5/2013

Site Reference: RdU5
Site ID: 000000023256
Location: Rt 4(North rd.)N academy rd
Direction: ROAD TOTAL

File: rt4Nacademyrd.prn
City: Chelmsford
County: 881-2013

TIME	MON 5	TUE 6	WED 7	THU	FRI	WKDAY AVG	SAT	SUN	WEEK AVG	TOTAL
01:00		48	66			57			57	114
02:00		26	36			31			31	62
03:00		17	20			18			18	37
04:00		22	18			20			20	40
05:00		40	53			46			46	93
06:00		194	197			196			196	391
07:00		837	835			836			836	1672
08:00		1144	1140			1142			1142	2284
09:00		1150	1034			1092			1092	2184
10:00		837	790			814			814	1627
11:00	663	816	743			741			741	2222
12:00	728	769	837			778			778	2334
13:00	844	820	812			825			825	2476
14:00	850	785	852			829			829	2487
15:00	819	889	827			845			845	2535
16:00	906	920	1016			947			947	2842
17:00	923	999	804			909			909	2726
18:00	941	1047				994			994	1988
19:00	830	892				861			861	1722
20:00	599	673				636			636	1272
21:00	532	614				573			573	1146
22:00	313	378				346			346	691
23:00	210	233				222			222	443
24:00	133	145				139			139	278
TOTALS	9291	14295	10080			13897			13897	33666
% AVG WKDY	66.9	102.9	72.5							
% AVG WEEK	66.9	102.9	72.5							
AM Times	12:00	07:45	07:30			07:45			07:45	
AM Peaks	819	1187	1150			1162			1162	
PM Times	17:00	17:00	16:00			16:00			16:00	
PM Peaks	964	1080	1135			1004			1004	
D%	55	65	70							
K%	10	8	11							

Wkday AADT (Factored & Rounded) = 12500
Week AADT (Factored & Rounded) = 12500

Massachusetts Highway Department
 NMCOC
 FACTORS = SEASONAL: 0.92 AXLE CORRECTION: 0.98
 WEEKLY SUMMARY FOR LANE 1
 Starting: 8/5/2013

Site Reference: RdU5
 Site ID: 000000023256
 Location: Rt 4(North rd.)N academy rd
 Direction: NORTH

File: rt4Nacademyrd.prn
 City: Chelmsford
 County: 881-2013

TIME	MON 5	TUE 6	WED 7	THU	FRI	WKDAY AVG	SAT	SUN	WEEK AVG	TOTAL
01:00		25	26			26			26	51
02:00		10	17			14			14	27
03:00		9	10			10			10	19
04:00		6	6			6			6	12
05:00		14	20			17			17	34
06:00		39	36			38			38	75
07:00		159	148			154			154	307
08:00		414	339			376			376	753
09:00		417	367			392			392	784
10:00		317	319			318			318	636
11:00	286	354	320			320			320	960
12:00	312	349	369			343			343	1030
13:00	372	372	368			371			371	1112
14:00	390	352	397			380			380	1139
15:00	394	414	382			397			397	1190
16:00	470	438	570			493			493	1478
17:00	454	526	606			529			529	1586
18:00	416	526				471			471	942
19:00	403	444				424			424	847
20:00	262	325				294			294	587
21:00	204	266				235			235	470
22:00	117	160				138			138	277
23:00	76	82				79			79	158
24:00	61	78				70			70	139
TOTALS	4217	6096	4300			5895			5895	14613
% AVG WKDY	71.5	103.4	72.9							
% AVG WEEK	71.5	103.4	72.9							
AM Times	12:00	07:45	07:45			10:00			10:00	
AM Peaks	355	468	393			436			436	
PM Times	15:30	17:00	16:00			16:00			16:00	
PM Peaks	476	560	835			597			597	

Massachusetts Highway Department
 NMCOC
 FACTORS = SEASONAL: 0.92 AXLE CORRECTION: 0.98
 WEEKLY SUMMARY FOR LANE 2
 Starting: 8/5/2013

Site Reference: RdU5
 Site ID: 000000023256
 Location: Rt 4(North rd.)N academy rd
 Direction: SOUTH

File: rt4Nacademyrd.prn
 City: Chelmsford
 County: 881-2013

TIME	MON 5	TUE 6	WED 7	THU	FRI	WKDAY AVG	SAT	SUN	WEEK AVG	TOTAL
01:00		23	40			32			32	63
02:00		16	19			18			18	35
03:00		8	10			9			9	18
04:00		16	12			14			14	28
05:00		26	33			30			30	59
06:00		155	161			158			158	316
07:00		678	687			682			682	1365
08:00		730	801			766			766	1531
09:00		733	667			700			700	1400
10:00		520	471			496			496	991
11:00	377	462	423			421			421	1262
12:00	416	420	468			435			435	1304
13:00	472	448	444			455			455	1364
14:00	460	433	455			449			449	1348
15:00	425	475	445			448			448	1345
16:00	436	482	446			455			455	1364
17:00	469	473	198			380			380	1140
18:00	525	521				523			523	1046
19:00	427	448				438			438	875
20:00	337	348				342			342	685
21:00	328	348				338			338	676
22:00	196	218				207			207	414
23:00	134	151				142			142	285
24:00	72	67				70			70	139
TOTALS	5074	8199	5780			8008			8008	19053
% AVG WKDY	63.4	102.4	72.2							
% AVG WEEK	63.4	102.4	72.2							
AM Times	11:45	06:45	06:45			06:45			06:45	
AM Peaks	468	816	845			830			830	
PM Times	17:15	17:15	15:00			17:15			17:15	
PM Peaks	525	521	462			523			523	

Massachusetts Highway Department
 NMCOG

FACTORS = SEASONAL: 0.92 AXLE CORRECTION: 0.98
 WEEKLY SUMMARY FOR ALL LANES
 Starting: 8/12/2013

Site Reference: Rd Class U5
 Site ID: 000000023256
 Location: Rte 110 East of Chelmsford Center
 Direction: ROAD TOTAL

File: e110EchelmCenter.prn
 City: Chelmsford
 County: 885-2013

TIME	MON 12	TUE 13	WED 14	THU 15	FRI	WKDAY AVG	SAT	SUN	WEEK AVG	TOTAL
01:00		82	69	85		79			79	236
02:00		54	45	58		52			52	157
03:00		16	20	29		22			22	65
04:00		31	39	31		34			34	101
05:00		62	66	85		71			71	213
06:00		229	219	211		220			220	659
07:00		530	520	538		529			529	1588
08:00		752	829	769		783			783	2350
09:00		793	934	883		870			870	2610
10:00		776	837	718		777			777	2331
11:00	751	832	789			791			791	2372
12:00	912	841	895			883			883	2648
13:00	931	911	982			941			941	2824
14:00	918	954	934			935			935	2806
15:00	934	887	962			928			928	2783
16:00	1037	1016	1056			1036			1036	3109
17:00	1315	1041	1183			1180			1180	3539
18:00	1343	1181	1393			1306			1306	3917
19:00	1085	1007	1138			1077			1077	3230
20:00	747	769	776			764			764	2292
21:00	583	567	615			588			588	1765
22:00	343	403	432			393			393	1178
23:00	243	274	287			268			268	804
24:00	157	122	193			157			157	472
TOTALS	11299	14130	15213	3407		14684			14684	44049
% AVG WKDY	76.9	96.2	103.6	23.2						
% AVG WEEK	76.9	96.2	103.6	23.2						
AM Times	11:45	12:00	11:45	08:00		11:45			11:45	
AM Peaks	946	901	993	914		944			944	
PM Times	16:45	17:15	17:15			17:15			17:15	
PM Peaks	1412	1181	1393			1306			1306	
D%	65	65	65	60						
K%	12	8	9	26						

Wkday AADT (Factored & Rounded) = 13200
 Week AADT (Factored & Rounded) = 13200

Massachusetts Highway Department
NMCOG

FACTORS = SEASONAL: 0.92 AXLE CORRECTION: 0.98
WEEKLY SUMMARY FOR LANE 1
Starting: 8/12/2013

Site Reference: Rd Class U5
Site ID: 000000023256
Location: Rte 110 East of Chelmsford Center
Direction: EAST

File: e110EchelmCenter.prn
City: Chelmsford
County: 885-2013

TIME	MON 12	TUE 13	WED 14	THU 15	FRI	WKDAY AVG	SAT	SUN	WEEK AVG	TOTAL
01:00		44	38	46		43			43	128
02:00		35	21	27		28			28	83
03:00		8	14	19		14			14	41
04:00		17	25	19		20			20	61
05:00		32	39	42		38			38	113
06:00		115	116	104		112			112	335
07:00		239	226	239		235			235	704
08:00		406	465	398		423			423	1269
09:00		471	574	549		531			531	1594
10:00		469	509	450		476			476	1428
11:00	441	509	473			474			474	1423
12:00	525	476	523			508			508	1524
13:00	556	509	575			547			547	1640
14:00	546	569	514			543			543	1629
15:00	563	521	554			546			546	1638
16:00	648	652	683			661			661	1983
17:00	869	627	758			751			751	2254
18:00	888	746	906			847			847	2540
19:00	654	642	714			670			670	2010
20:00	389	403	431			408			408	1223
21:00	304	289	340			311			311	933
22:00	167	215	199			194			194	581
23:00	116	142	138			132			132	396
24:00	80	66	104			83			83	250
TOTALS	6746	8202	8939	1893		8595			8595	25780
% AVG WKDY	78.5	95.4	104.0	22.0						
% AVG WEEK	78.5	95.4	104.0	22.0						
AM Times	11:45	12:00	08:30	08:00		11:45			11:45	
AM Peaks	557	513	590	571		550			550	
PM Times	16:45	17:30	17:00			17:15			17:15	
PM Peaks	953	757	907			847			847	

Massachusetts Highway Department
 NMCOG
 FACTORS = SEASONAL: 0.92 AXLE CORRECTION: 0.98
 WEEKLY SUMMARY FOR LANE 2
 Starting: 8/12/2013

Site Reference: Rd Class U5
 Site ID: 000000023256
 Location: Rte 110 East of Chelmsford Center
 Direction: WEST

File: e110EchelmCenter.prn
 City: Chelmsford
 County: 885-2013

TIME	MON 12	TUE 13	WED 14	THU 15	FRI	WKDAY AVG	SAT	SUN	WEEK AVG	TOTAL
01:00		38	31	39		36			36	108
02:00		19	24	31		25			25	74
03:00		8	6	10		8			8	24
04:00		14	14	12		13			13	40
05:00		30	27	43		33			33	100
06:00		114	103	107		108			108	324
07:00		291	294	299		295			295	884
08:00		346	364	371		360			360	1081
09:00		322	360	334		339			339	1016
10:00		307	328	268		301			301	903
11:00	310	323	316			316			316	949
12:00	387	365	372			375			375	1124
13:00	375	402	407			395			395	1184
14:00	372	385	420			392			392	1177
15:00	371	366	408			382			382	1145
16:00	389	364	373			375			375	1126
17:00	446	414	425			428			428	1285
18:00	455	435	487			459			459	1377
19:00	431	365	424			407			407	1220
20:00	358	366	345			356			356	1069
21:00	279	278	275			277			277	832
22:00	176	188	233			199			199	597
23:00	127	132	149			136			136	408
24:00	77	56	89			74			74	222
TOTALS	4553	5928	6274	1514		6089			6089	18269
% AVG WKDY	74.8	97.4	103.0	24.9						
% AVG WEEK	74.8	97.4	103.0	24.9						
AM Times	12:00	12:00	12:00	07:30		12:00			12:00	
AM Peaks	390	388	415	377		398			398	
PM Times	16:45	17:15	17:15			17:15			17:15	
PM Peaks	459	435	487			459			459	

Massachusetts Highway Department
 NMCOG
 FACTORS = SEASONAL: 0.92 AXLE CORRECTION: 0.98
 WEEKLY SUMMARY FOR ALL LANES
 Starting: 8/5/2013

Site Reference: U3
 Site ID: 000000007787
 Location: LittletonrdWnorthrd
 Direction: ROAD TOTAL

File: tletonrdWnorthrd.prn
 City: chelmsford
 County: 884-2013

TIME	MON 5	TUE 6	WED 7	THU 8	FRI	WKDAY AVG	SAT	SUN	WEEK AVG	TOTAL
01:00		69	144	93		102			102	306
02:00		75	70	40		62			62	185
03:00		32	43	26		34			34	101
04:00		27	40	31		33			33	98
05:00		47	65	59		57			57	171
06:00		194	189	175		186			186	558
07:00		421	455	382		419			419	1258
08:00		651	655	567		624			624	1873
09:00		793	684	637		705			705	2114
10:00		630	672	397		566			566	1699
11:00		613	653			633			633	1266
12:00	432	670	693			598			598	1795
13:00	713	736	725			725			725	2174
14:00	619	709	730			686			686	2058
15:00	655	673	663			664			664	1991
16:00	712	779	706			732			732	2197
17:00	865	812	780			819			819	2457
18:00	921	811	905			879			879	2637
19:00	696	707	738			714			714	2141
20:00	459	537	523			506			506	1519
21:00	369	404	417			397			397	1190
22:00	266	329	315			303			303	910
23:00	151	250	177			193			193	578
24:00	166	205	96			156			156	467
TOTALS	7024	11174	11138	2407		10793			10793	31743
% AVG WKDY	65.1	103.5	103.2	22.3						
% AVG WEEK	65.1	103.5	103.2	22.3						
AM Times	12:00	08:30	12:00	07:45		11:00			11:00	
AM Peaks	658	804	722	639		816			816	
PM Times	16:45	17:45	17:15			17:00			17:00	
PM Peaks	955	821	905			880			880	
D%	55	50	50	60						
K%	13	7	8	26						

Wkday AADT (Factored & Rounded)= 9700
 Week AADT (Factored & Rounded)= 9700

Massachusetts Highway Department
 NMCOG
 FACTORS = SEASONAL: 0.92 AXLE CORRECTION: 0.98
 WEEKLY SUMMARY FOR LANE 1
 Starting: 8/5/2013

Page: 1

Site Reference: U3
 Site ID: 000000007787
 Location: LittletonrdWnorthrd
 Direction: EAST

File: tletonrdWnorthrd.prn
 City: chelmsford
 County: 884-2013

TIME	MON 5	TUE 6	WED 7	THU 8	FRI	WKDAY AVG	SAT	SUN	WEEK AVG	TOTAL
01:00		37	82	42		54			54	161
02:00		38	30	18		29			29	86
03:00		19	34	12		22			22	65
04:00		12	28	21		20			20	61
05:00		26	44	26		32			32	96
06:00		98	95	95		96			96	288
07:00		279	280	254		271			271	813
08:00		407	413	359		393			393	1179
09:00		435	398	383		405			405	1216
10:00		380	376	220		325			325	976
11:00		309	336			322			322	645
12:00	213	344	329			295			295	886
13:00	361	357	360			359			359	1078
14:00	327	364	376			356			356	1067
15:00	316	331	346			331			331	993
16:00	375	397	374			382			382	1146
17:00	375	411	383			390			390	1169
18:00	406	382	434			407			407	1222
19:00	286	321	344			317			317	951
20:00	191	249	222			221			221	662
21:00	155	208	194			186			186	557
22:00	131	166	146			148			148	443
23:00	65	109	76			83			83	250
24:00	79	120	38			79			79	237
TOTALS	3280	5799	5738	1430		5523			5523	16247
% AVG WKDY	59.4	105.0	103.9	25.9						
% AVG WEEK	59.4	105.0	103.9	25.9						
AM Times	12:00	08:15	07:30	07:45		07:45			07:45	
AM Peaks	333	435	429	411		419			419	
PM Times	16:45	14:45	17:00			17:00			17:00	
PM Peaks	421	417	447			420			420	

Massachusetts Highway Department
 NMCOG
 FACTORS = SEASONAL: 0.92 AXLE CORRECTION: 0.98
 WEEKLY SUMMARY FOR LANE 2
 Starting: 8/5/2013

Site Reference: U3
 Site ID: 000000007787
 Location: LittletonrdWnorthrd
 Direction: WEST

File: tletonrdWnorthrd.prn
 City: chelmsford
 County: 884-2013

TIME	MON 5	TUE 6	WED 7	THU 8	FRI	WKDAY AVG	SAT	SUN	WEEK AVG	TOTAL
01:00		32	62	51		48			48	145
02:00		37	40	22		33			33	99
03:00		13	9	14		12			12	36
04:00		15	12	10		12			12	37
05:00		21	21	33		25			25	75
06:00		96	94	80		90			90	270
07:00		142	175	128		148			148	445
08:00		244	242	208		231			231	694
09:00		358	286	254		299			299	898
10:00		250	296	177		241			241	723
11:00		304	317			310			310	621
12:00	219	326	364			303			303	909
13:00	352	379	365			365			365	1096
14:00	292	345	354			330			330	991
15:00	339	342	317			333			333	998
16:00	337	382	332			350			350	1051
17:00	490	401	397			429			429	1288
18:00	515	429	471			472			472	1415
19:00	410	386	394			397			397	1190
20:00	268	288	301			286			286	857
21:00	214	196	223			211			211	633
22:00	135	163	169			156			156	467
23:00	86	141	101			109			109	328
24:00	87	85	58			77			77	230
TOTALS	3744	5375	5400	977		5267			5267	15496
% AVG WKDY	71.1	102.1	102.5	18.5						
% AVG WEEK	71.1	102.1	102.5	18.5						
AM Times	12:00	08:30	12:00	08:30		11:00			11:00	
AM Peaks	325	383	380	268		400			400	
PM Times	16:45	17:45	17:45			17:15			17:15	
PM Peaks	534	439	475			472			472	

Massachusetts Highway Department
NMCOG

FACTORS = SEASONAL: 0.92 AXLE CORRECTION: 0.99
WEEKLY SUMMARY FOR ALL LANES
Starting: 8/12/2013

Page: 3

Site Reference: Rd Class U0
Site ID: 000000007787
Location: Summer St E Boston Rd
Direction: ROAD TOTAL

File: SummerEBoston.prn
City: Chelmsford
County: 886-2013

TIME	MON 12	TUE 13	WED 14	THU 15	FRI	WKDAY AVG	SAT	SUN	WEEK AVG	TOTAL
01:00		2	6	2		3			3	10
02:00		6	2	3		4			4	11
03:00		1	1	3		2			2	5
04:00		1	2	3		2			2	6
05:00		9	4	3		5			5	16
06:00		27	19	12		19			19	58
07:00		58	61	73		64			64	192
08:00		115	116	124		118			118	355
09:00		200	183	185		189			189	568
10:00		215	215	221		217			217	651
11:00		188	203			196			196	391
12:00	214	239	227			227			227	680
13:00	282	307	288			292			292	877
14:00	264	287	269			273			273	820
15:00	220	274	235			243			243	729
16:00	267	264	256			262			262	787
17:00	368	312	372			351			351	1052
18:00	450	390	579			473			473	1419
19:00	278	307	378			321			321	963
20:00	192	226	240			219			219	658
21:00	98	143	137			126			126	378
22:00	49	64	64			59			59	177
23:00	28	28	32			29			29	88
24:00	16	13	14			14			14	43
TOTALS	2726	3676	3903	629		3708			3708	10934
% AVG WKDY	73.5	99.1	105.3	17.0						
% AVG WEEK	73.5	99.1	105.3	17.0						
AM Times	12:00	12:00	12:00	09:15		11:00			11:00	
AM Peaks	278	291	300	221		302			302	
PM Times	17:00	17:30	17:30			17:15			17:15	
PM Peaks	471	408	580			473			473	
D%	50	60	55	65						
K%	17	11	15	35						

Wkday AADT (Factored & Rounded) = 3400
Week AADT (Factored & Rounded) = 3400

Massachusetts Highway Department
 NMCOG
 FACTORS = SEASONAL: 0.92 AXLE CORRECTION: 0.99
 WEEKLY SUMMARY FOR LANE 1
 Starting: 8/12/2013

Site Reference: Rd Class U0
 Site ID: 000000007787
 Location: Summer St E Boston Rd
 Direction: EAST

File: SummerEBoston.prn
 City: Chelmsford
 County: 886-2013

TIME	MON 12	TUE 13	WED 14	THU 15	FRI	WKDAY AVG	SAT	SUN	WEEK AVG	TOTAL
01:00		1	6	2		3			3	9
02:00		5	2	3		3			3	10
03:00		1	1	2		1			1	4
04:00		0	1	2		1			1	3
05:00		6	3	2		4			4	11
06:00		23	17	10		17			17	50
07:00		46	51	57		51			51	154
08:00		95	92	95		94			94	282
09:00		150	135	139		141			141	424
10:00		139	130	146		138			138	415
11:00		105	122			114			114	227
12:00	104	125	121			117			117	350
13:00	139	148	152			146			146	439
14:00	154	162	142			153			153	458
15:00	111	146	131			129			129	388
16:00	136	149	152			146			146	437
17:00	185	179	205			190			190	569
18:00	231	234	321			262			262	786
19:00	133	172	187			164			164	492
20:00	99	116	116			110			110	331
21:00	50	72	62			61			61	184
22:00	26	32	37			32			32	95
23:00	15	17	17			16			16	49
24:00	11	6	8			8			8	25
TOTALS	1394	2129	2211	458		2101			2101	6192
% AVG WKDY	66.3	101.3	105.2	21.8						
% AVG WEEK	66.3	101.3	105.2	21.8						
AM Times	12:00	08:30	12:00	09:00		11:00			11:00	
AM Peaks	136	162	157	148		166			166	
PM Times	17:00	17:15	17:30			17:15			17:15	
PM Peaks	249	234	326			262			262	

Massachusetts Highway Department
 NMCOG

FACTORS = SEASONAL: 0.92 AXLE CORRECTION: 0.99
 WEEKLY SUMMARY FOR LANE 2
 Starting: 8/12/2013

Site Reference: Rd Class U0
 Site ID: 00000007787
 Location: Summer St E Boston Rd
 Direction: WEST

File: SummerEBoston.prn
 City: Chelmsford
 County: 886-2013

TIME	MON 12	TUE 13	WED 14	THU 15	FRI	WKDAY AVG	SAT	SUN	WEEK AVG	TOTAL
01:00		1	0	0		0			0	1
02:00		1	0	0		0			0	1
03:00		0	0	1		0			0	1
04:00		1	1	1		1			1	3
05:00		3	1	1		2			2	5
06:00		4	2	2		3			3	8
07:00		12	10	16		13			13	38
08:00		20	24	29		24			24	73
09:00		50	48	46		48			48	144
10:00		76	85	75		79			79	236
11:00		83	81			82			82	164
12:00	110	114	106			110			110	330
13:00	143	159	136			146			146	438
14:00	110	125	127			121			121	362
15:00	109	128	104			114			114	341
16:00	131	115	104			117			117	350
17:00	183	133	167			161			161	483
18:00	219	156	258			211			211	633
19:00	145	135	191			157			157	471
20:00	93	110	124			109			109	327
21:00	48	71	75			65			65	194
22:00	23	32	27			27			27	82
23:00	13	11	15			13			13	39
24:00	5	7	6			6			6	18
TOTALS	1332	1547	1692	171		1609			1609	4742
% AVG WKDY	82.8	96.1	105.2	10.6						
% AVG WEEK	82.8	96.1	105.2	10.6						
AM Times	12:00	12:00	12:00	09:15		12:00			12:00	
AM Peaks	142	158	143	75		148			148	
PM Times	16:45	17:30	17:15			17:30			17:30	
PM Peaks	222	175	258			215			215	

Appendix C:
Chelmsford Center Business Surveys

Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

The Northern Middlesex Council of Governments is currently working with the Town to study parking, pedestrian, and bicycling issues in Chelmsford Center. Please take a few moments to fill out this short survey and mail it back to us. Your opinions matter and will be the basis for any recommendations for improvements to parking within the Center. Thank you for your time.

Business ID/Name: _____

Address: _____

1. How many employees work at your business? _____

2. On a typical day, how many customers/clients frequent your business? _____

3. Where do your customers park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	_____

5. What are your hours of operations? _____

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week? _____

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?



Thank you for your time. Please mail your completed survey to:
Northern Middlesex Council of Governments
40 Church Street Suite 200
Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

The Northern Middlesex Council of Governments is currently working with the Town to study parking, pedestrian, and bicycling issues in Chelmsford Center. Please take a few moments to fill out this short survey and mail it back to us. Your opinions matter and will be the basis for any recommendations for improvements to parking within the Center. Thank you for your time.

Business ID/Name: Chelmsford Library

Address: 25 Boston Road, Chelmsford, MA 01824

1. How many employees work at your business? 60

2. On a typical day, how many customers/clients frequent your business? 7-800

3. Where do your customers park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? M-T 9³⁰-9, F, S. 9³⁰-5³⁰

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week? 10-12 AM

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

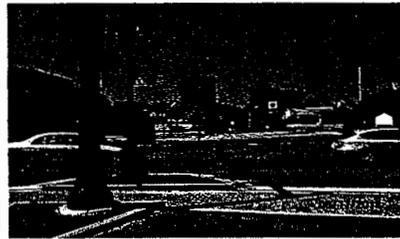
C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

We often overfill the parking lot - and spill over into the CVS/Friendly's parking.
Mornings are an issue and evenings when we have a program.

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

We need sidewalks all the way to the center on the back side of the library - along Battle # Park.
We need a crosswalk / traffic signal there too.
And more crosswalks.



Thank you for your time. Please mail your completed survey to:
Northern Middlesex Council of Governments
40 Church Street Suite 200
Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

The Northern Middlesex Council of Governments is currently working with the Town to study parking, pedestrian, and bicycling issues in Chelmsford Center. Please take a few moments to fill out this short survey and mail it back to us. Your opinions matter and will be the basis for any recommendations for improvements to parking within the Center. Thank you for your time.

Business ID/Name: Embroid Me

Address: 14 Littleton Road

1. How many employees work at your business? 8

2. On a typical day, how many customers/clients frequent your business? 15-20

3. Where do your customers park?

Private lot <input checked="" type="checkbox"/>	Lot behind Chelmsford Center for the Arts <input type="checkbox"/>	Lot behind Sovereign Bank/ Odd Fellows Hall <input type="checkbox"/>	On Street <input type="checkbox"/>	Other, please explain: <u>Beverly & Plaza lot</u>
--	---	---	---------------------------------------	--

4. Where do your employees park?

Private lot <input checked="" type="checkbox"/>	Lot behind Chelmsford Center for the Arts <input type="checkbox"/>	Lot behind Sovereign Bank/ Odd Fellows Hall <input type="checkbox"/>	On Street <input type="checkbox"/>	Other, please explain: <u>Beverly & Plaza lot</u>
--	---	---	---------------------------------------	--

5. What are your hours of operations? 9-6 M-F 10-1 Sat

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

11:30 - 1:00 pm
AM

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

Because lot is block to rail trail

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

Yes, at our busiest hours 11:30 - 1:00 and between 5:00 - 6:00, Burtucci's pretty much overloads parking lot.

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

No, only expansion of Benzoni's Plaza lot will help. No other parking is close by to store



Thank you for your time. Please mail your completed survey to:
Northern Middlesex Council of Governments
40 Church Street Suite 200
Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

The Northern Middlesex Council of Governments is currently working with the Town to study parking, pedestrian, and bicycling issues in Chelmsford Center. Please take a few moments to fill out this short survey and mail it back to us. Your opinions matter and will be the basis for any recommendations for improvements to parking within the Center. Thank you for your time.

Business ID/Name: The JAVA Room

Address: 14 Littleton Road, Chelmsford, MA 01824

1. How many employees work at your business? 9

2. On a typical day, how many customers/clients frequent your business? about 200

3. Where do your customers park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain: <u>maybe other places??</u>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Ginger Ale plaza</u>				

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<u>Ginger Ale plaza</u>				

5. What are your hours of operations?

Sun. = 8AM-5PM
M-W = 7AM-5PM
Thur = 7AM-9PM
Fri = 7AM-11PM
Sat = 8AM-11PM

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

Weekday - 9am - 7pm

Weekend - 10am - 3pm

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

Lunch hours could be a challenging time. Friday & Saturday evenings could also be challenging.

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

It would be great if there were more bike racks in the center for bikers



Thank you for your time. Please mail your completed survey to:
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Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

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Business ID/Name: Center Sports

Address: 11 Cushings Pl

1. How many employees work at your business? 4

2. On a typical day, how many customers/clients frequent your business? 25-40

3. Where do your customers park?

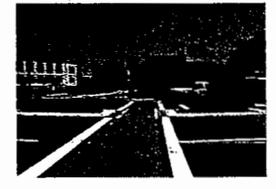
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>glotted parking spaces</u>

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? 10 Am - 6pm

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week? M-F-3-6 SAT/Sun 10-2

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

Parking is an issue during nice weather days.

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

Post signs on Trail where additional parking is and post sign where parking is not allowed.



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Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

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Business ID/Name: Restuccis

Address: 14 Littleton Rd Chelmsford

1. How many employees work at your business? 30+

2. On a typical day, how many customers/clients frequent your business? 300+

3. Where do your customers park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>all over of</u> <u>Gingeral Plaza</u> <u>Backhouse</u>

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>Gingeral Plaza</u> <u>or behind GCS station</u>

5. What are your hours of operations? Sun-thurs 10-10 Fri-Sat 11-11

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

Fri + Sat 6-9 pm

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

yes. lunch time is worse. Even though we have signs, they are ignored and our guests yell at or complain to our staff.

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

Yes! Towel or have a tow truck drive through our parking lot.



Thank you for your time. Please mail your completed survey to:
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Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

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Business ID/Name: Chantilly Place - Colleen Ferry
 Address: 24 Central Square

1. How many employees work at your business? 3

2. On a typical day, how many customers/clients frequent your business? 5-15

3. Where do your customers park?

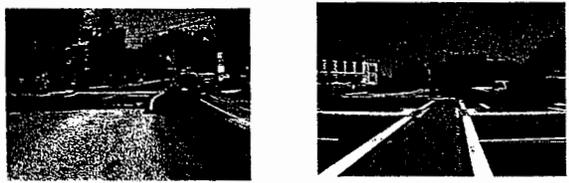
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? Tues + Thurs 12pm - 8pm Sat 9am - 3pm
Wed + Fri 10am - 4pm Sun 12pm - 3pm

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

Tues + Thurs evenings and Saturdays

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

no, they typically find parking without any issues

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

Having more lots allocated for visitor parking. Also more designated walking paths connecting the shopping areas.



Thank you for your time. Please mail your completed survey to:
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Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

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Business ID/Name: LAW OFFICE OF DANIEL M. HORWITZ

Address: 56 CENTRAL SQUARE

1. How many employees work at your business? 1

2. On a typical day, how many customers/clients frequent your business? N/A

3. Where do your customers park?

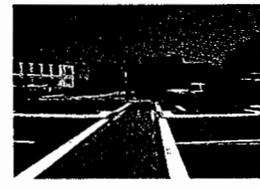
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? 10-5

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

N/A

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?



Thank you for your time. Please mail your completed survey to:
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Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

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Business ID/Name: Law Office Regis Halodysre

Address: 56 Central Square, Chelmsford

1. How many employees work at your business? 2

2. On a typical day, how many customers/clients frequent your business? 2

3. Where do your customers park?

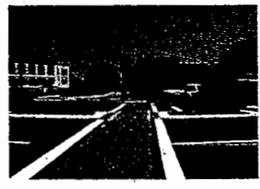
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? 9-5

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

Mid Day

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?



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Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

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Business ID/Name: Picture Yourself!

Address: 17 Central Square

1. How many employees work at your business? 4

2. On a typical day, how many customers/clients frequent your business? 8-10

3. Where do your customers park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>behind building</u> <u>off Cushing Place</u>

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>behind Cushing</u> <u>Place</u>

5. What are your hours of operations? T-F 10-7 Sat 10-4
closed Sun + Mon

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

11 - 4

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

lunch time - FISHBONES Clientelle onstreet
+ JESSIE'S DINER clientelle

10³⁰ - 4 most crowded on street + back lot

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

designate areas for more than 1 hour
and less than 1 hour, but please enforce

Too Much traffic on Cushing Place Bridge



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Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

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Business ID/Name: ANTHROP

Address: 37 CENTER SQ

1. How many employees work at your business? ~~1~~ 1

2. On a typical day, how many customers/clients frequent your business? N/A

3. Where do your customers park?

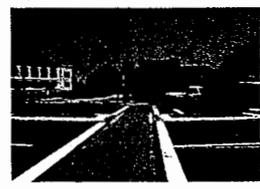
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? WED - SAT 10T - 6P

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

Evenings

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

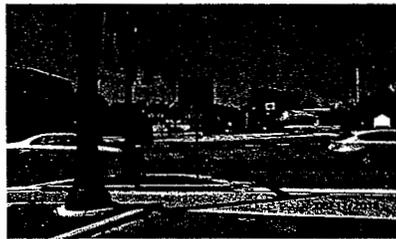
C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

no

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

connector between lot behind fish store + oddfellows lot



Thank you for your time. Please mail your completed survey to:
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Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

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Business ID/Name: Color Nail

Address: 60 Chelmsford St, Chelmsford MA 01824

1. How many employees work at your business? 5

2. On a typical day, how many customers/clients frequent your business? 15

3. Where do your customers park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? _____

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

9:00 AM - 7 PM

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

No

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

No



Thank you for your time. Please mail your completed survey to:
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Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

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Business ID/Name: The Traveling Rhwo

Address: 2 central Sq

1. How many employees work at your business? ~~1~~ 1

2. On a typical day, how many customers/clients frequent your business? 10

3. Where do your customers park?

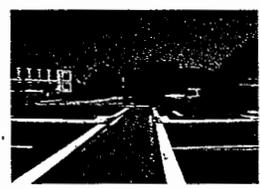
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? 10-5 & 10-630

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

NOON

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

yes
weekends

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

Post Large Signs
Where parking for trail is.



Thank you for your time. Please mail your completed survey to:
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Survey of Businesses

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Business ID/Name: Sugar Bake Shoppe
 Address: 12 Chelmsford St.

1. How many employees work at your business? 2-3

2. On a typical day, how many customers/clients frequent your business? 20-40

3. Where do your customers park?

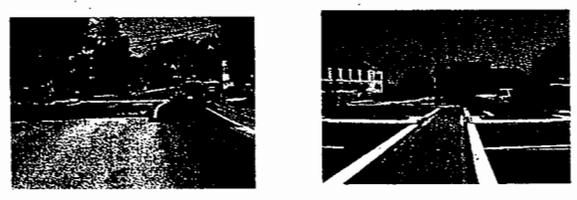
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? TU-FRI 7-6 / SAT 8-13

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

winter/holiday

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

Signage Issues regarding parking

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?



Thank you for your time. Please mail your completed survey to:
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Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

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Business ID/Name: A Floral Moment
 Address: 48 CHELMSFORD ST

1. How many employees work at your business? 4

2. On a typical day, how many customers/clients frequent your business? 10/20

3. Where do your customers park? FRONT/SIDE lot Colonial Village 48 CHELMSFORD ST

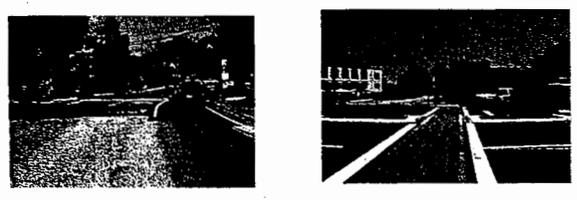
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<hr/>

4. Where do your employees park? Lot BEHIND Colonial Village ADJACENT to BIKE PATH

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<hr/>

5. What are your hours of operations? M, TU = 9 - 5:30 TH, F = 9 - 6
S - 9 - 3

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

LATE AFTERNOON
FOR WALK-IN TRAFFIC

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

- EXPOSURE INCREASED

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

BACK LOT OFTEN HAS VEHICLES OF PATH USERS SINCE THE NEW OPENING BEHIND SUBWAY. (NOT A CROSS-THRU, JUST ONE SIDED ACCESS) SOMETIMES INTERFERES WITH DELIVERY VEHICLES BUT I DONT SEE IT AS A HUGE ISSUE. THE PATH IS A WONDERFUL ASSET TO THE TOWN.

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

~~DEDICATED~~ DEDICATED PARKING FOR PATH USERS MAKES SENSE.



Thank you for your time. Please mail your completed survey to:
Northern Middlesex Council of Governments
40 Church Street Suite 200
Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

The Northern Middlesex Council of Governments is currently working with the Town to study parking, pedestrian, and bicycling issues in Chelmsford Center. Please take a few moments to fill out this short survey and mail it back to us. Your opinions matter and will be the basis for any recommendations for improvements to parking within the Center. Thank you for your time.

Business ID/Name: Fishbones

Address: 34 Central St

1. How many employees work at your business? 45

2. On a typical day, how many customers/clients frequent your business? 100x

3. Where do your customers park?

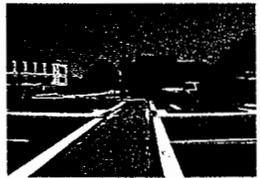
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? 11:30-9

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

6-8 pm

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?



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Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

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Business ID/Name: EASY HOUSEKEEPING SHOPS, INC.
19 CENTRAL SQUARE
 Address: CHELMSFORD, MA 01824
PH: (978) 2561352

1. How many employees work at your business? 1

2. On a typical day, how many customers/clients frequent your business? 15

3. Where do your customers park?

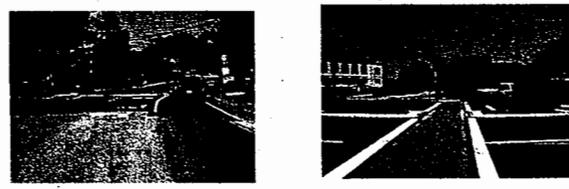
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? 9-5:30 M-F 9-3 SAT

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

11-4 PM

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

MAKE THE SIDEWALK in front of our stores narrower AND put in parallel parking,



Thank you for your time. Please mail your completed survey to:
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40 Church Street Suite 200
Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

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Business ID/Name: Lappy Fix

Address: 12 Central Sq Chelmsford, MA 01824

1. How many employees work at your business? 2

2. On a typical day, how many customers/clients frequent your business? 5

3. Where do your customers park?

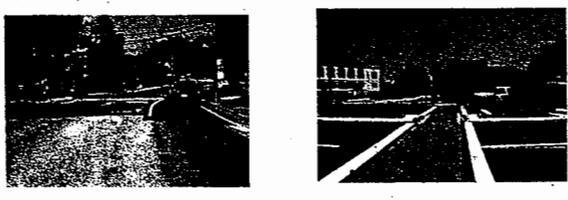
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? M-F: 10-6pm, Sat 9-3pm

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

12-1pm

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

No

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

No



Thank you for your time. Please mail your completed survey to:
Northern Middlesex Council of Governments
40 Church Street Suite 200
Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

The Northern Middlesex Council of Governments is currently working with the Town to study parking, pedestrian, and bicycling issues in Chelmsford Center. Please take a few moments to fill out this short survey and mail it back to us. Your opinions matter and will be the basis for any recommendations for improvements to parking within the Center. Thank you for your time.

Business ID/Name: New England Health and Wellness

Address: 34 Chelmsford St. Chelmsford MA 01824

1. How many employees work at your business? 8

2. On a typical day, how many customers/clients frequent your business? 40

3. Where do your customers park?

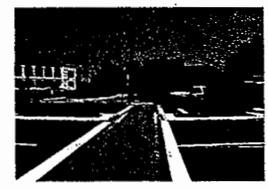
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? 8-6

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

Early days

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

no

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

no



Thank you for your time. Please mail your completed survey to:
Northern Middlesex Council of Governments
40 Church Street Suite 200
Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

The Northern Middlesex Council of Governments is currently working with the Town to study parking, pedestrian, and bicycling issues in Chelmsford Center. Please take a few moments to fill out this short survey and mail it back to us. Your opinions matter and will be the basis for any recommendations for improvements to parking within the Center. Thank you for your time.

Business ID/Name: Atty Neal Lerer

Address: 56 Central Square

1. How many employees work at your business? 2

2. On a typical day, how many customers/clients frequent your business? 5

3. Where do your customers park?

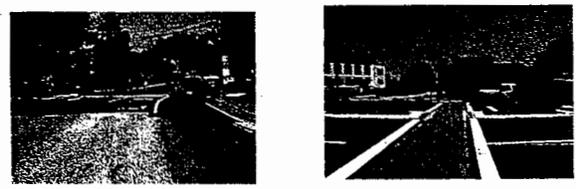
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? 9-5 Mon-Fri

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

Depends

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

Sometimes

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

Additional parking



Thank you for your time. Please mail your completed survey to:
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40 Church Street Suite 200
Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

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SEP 06 2013

N.M.C.O.G.

The Northern Middlesex Council of Governments is currently working with the Town to study parking, pedestrian, and bicycling issues in Chelmsford Center. Please take a few moments to fill out this short survey and mail it back to us. Your opinions matter and will be the basis for any recommendations for improvements to parking within the Center. Thank you for your time.

Business ID/Name: SWEET ENOUGH BOSTON LLC

Address: 61 CENTRAL SQUARE, CHELMSFORD MA

1. How many employees work at your business? 3

2. On a typical day, how many customers/clients frequent your business? 20

3. Where do your customers park?

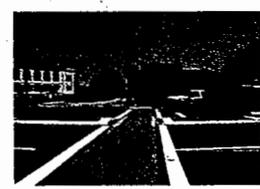
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? TUESDAYS - SATURDAYS 9AM - 6PM

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

10-2 PM

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)



A. Helped my business

B. Hurt my business

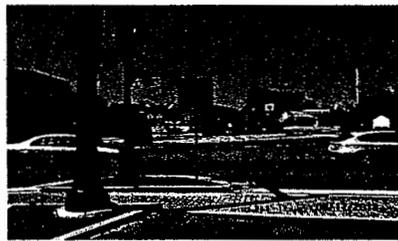
C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

WEEKEND ARE A LITTLE MORE BUSY DUE TO BIKE PATH
BUT USUALLY BIKER PARK BEHIND CCA.

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

NO



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Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

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Business ID/Name: EYEWEAR BY GIORGIO

Address: 60 CHELMSFORD - CHELMSFORD

1. How many employees work at your business? 2

2. On a typical day, how many customers/clients frequent your business? 5-10

3. Where do your customers park?

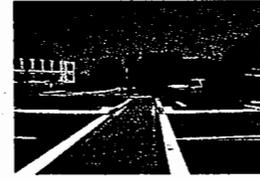
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? 12-6

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week? _____

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

PEOPLE USING THE TRAIL WILL PARK
ON OUR PRIVATE LOT - AT TIME
OUR CUSTOMERS CANNOT FIND A PARKING
SPOT

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

PROVIDE CLEAR PARKING AREA FOR FOLKS
USING THE TRAIL -



Thank you for your time. Please mail your completed survey to:
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Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian
Survey of Businesses

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SEP 06 2013

N.M.C.G.

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Business ID/Name: ERA Key Realty Services

Address: 61 Central Sq #2

1. How many employees work at your business? 10

2. On a typical day, how many customers/clients frequent your business? 5-10

3. Where do your customers park?

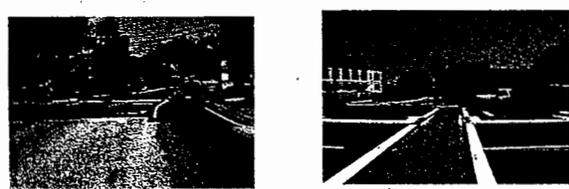
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

5. What are your hours of operations? 8am-8pm

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

9-5

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

Lunch time seems the busiest

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

A cross walk in the center from one side of North Road to the other would be helpful - otherwise to cross over to the common from our office you are supposed to walk across to the central house & then cross over to the Unitarian church - Also, many, many



bike riders ride across from the Burtucci's side of the Rail Trail to the corner by Old Town Hall - against

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the lights. It seems very dangerous & we have witnessed a number of close calls. Finally, many bikes ride in our parking lot instead of the path on this section which has

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Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

SEP 09 2013

N.M.C.O.G.

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Business ID/Name: Chelmsford Gift Shop

Address: 15 CENTRAL Sq, Chelms MA.

1. How many employees work at your business? 5

2. On a typical day, how many customers/clients frequent your business? ?

3. Where do your customers park?

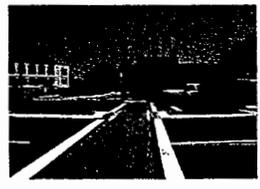
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? 9:30 - 5:30

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

Thurs - Fri

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

Thurs - Fri Nite
Restaurant parking for very extended
periods - hurts small Retail

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

Need Town to provide more
Parking



Thank you for your time. Please mail your completed survey to:
Northern Middlesex Council of Governments
40 Church Street Suite 200
Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

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SEP 10 2013

N.M.C.O.G.

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Business ID/Name:

SARGENT & ASSOCIATES

Address:

20A CHELMSFORD ST CHELM, MA

1. How many employees work at your business?

13

2. On a typical day, how many customers/clients frequent your business?

0

3. Where do your customers park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations?

8-5

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian
Survey of Businesses

RECEIVED

SEP 10 2013

N.M.C.O.G.

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

Not Applicable AS we Rarely
Have clients come to us.

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

NA we have a private lot but I do
know that people who visit the small strip of
businesses next to me, Chinese rest, Bakery, Hair dresser
do park in our private lot which can be a problem at
times if all of my employees and tenants in the building are in

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

would like a cross walk in between
21 and 20 Chelmsford St. For safety
as a lot of people cross the street there (or try to)



Thank you for your time. Please mail your completed survey to:
Northern Middlesex Council of Governments
40 Church Street Suite 200
Lowell, MA 01852



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Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

SEP 11 2013

N.M.C.O.G.

The Northern Middlesex Council of Governments is currently working with the Town to study parking, pedestrian, and bicycling issues in Chelmsford Center. Please take a few moments to fill out this short survey and mail it back to us. Your opinions matter and will be the basis for any recommendations for improvements to parking within the Center. Thank you for your time.

Business ID/Name: Highlights Studio

Address: 60 Chelmsford Street

1. How many employees work at your business? 9

2. On a typical day, how many customers/clients frequent your business? 50-60

3. Where do your customers park?

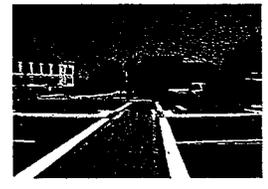
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

5. What are your hours of operations? M-W-F 12-8PM TUES-THURS 10-9 SAT 10-4

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week? 12-9

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

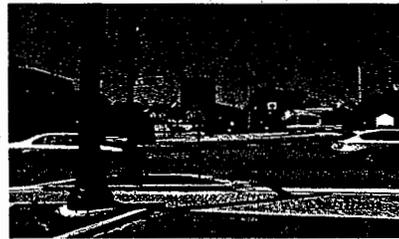
9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

There are 3 very busy businesses at 60 Chelmsford St. and a very small parking lot. Our clients are constantly complaining that there are no parking spots, and we always see people parking there and unloading their bikes. Another complaint is that there are 5 foot tall weeds growing from the path and they stick out into

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

our parking lot.

maybe put up signs that say "no bike path parking" or "business parking only". And then designate where people should park for the bike path. Also, they need to regularly weed wack the path.



Thank you for your time. Please mail your completed survey to:
Northern Middlesex Council of Governments
40 Church Street Suite 200
Lowell, MA 01852



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

RECEIVED

SEP 12 2013

N.M.C.O.G.

The Northern Middlesex Council of Governments is currently working with the Town to study parking, pedestrian, and bicycling issues in Chelmsford Center. Please take a few moments to fill out this short survey and mail it back to us. Your opinions matter and will be the basis for any recommendations for improvements to parking within the Center. Thank you for your time.

Business ID/Name: Beadles Bead Shop

Address: 18 Central Sq.

1. How many employees work at your business? 4

2. On a typical day, how many customers/clients frequent your business? ~20-25

3. Where do your customers park?

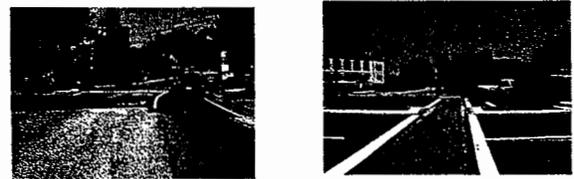
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

5. What are your hours of operations? 10-7

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

afternoons & weekends

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

yes. people park in our private lot.

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?



Thank you for your time. Please mail your completed survey to:
Northern Middlesex Council of Governments
40 Church Street Suite 200
Lowell, MA 01852



RECEIVED

Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study SEP 18 2013

Survey of Businesses

N.M.C.O.G.

The Northern Middlesex Council of Governments is currently working with the Town to study parking, pedestrian, and bicycling issues in Chelmsford Center. Please take a few moments to fill out this short survey and mail it back to us. Your opinions matter and will be the basis for any recommendations for improvements to parking within the Center. Thank you for your time.

Business ID/Name: Salon Reyna

Address: 21 Central Sq Chelmsford MA 01824

1. How many employees work at your business? 5

2. On a typical day, how many customers/clients frequent your business? 12

3. Where do your customers park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>9</u> <u>3</u> <u>0</u>

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

5. What are your hours of operations? T-SAT 9:00 - 7:00

Please turn over for more questions...



Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

Saturdays / Thursday Etc.

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

No. I think the perception is there is no where to park but reality is people are unaware of public lots.

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

yes. we should see if a private transportation company like gentio arms would run a shuttle from businesses on 129 to the center of town around the noon hour to reduce cars, traffic yet increase the number of foot traffic & keep local



businesses strong.

Thank you for your time. Please mail your completed survey to:
Northern Middlesex Council of Governments
40 Church Street Suite 200
Lowell, MA 01852



RECEIVED

Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study

SEP 27 2013

Survey of Businesses

N.M.C.O.G.

The Northern Middlesex Council of Governments is currently working with the Town to study parking, pedestrian, and bicycling issues in Chelmsford Center. Please take a few moments to fill out this short survey and mail it back to us. Your opinions matter and will be the basis for any recommendations for improvements to parking within the Center. Thank you for your time.

Business ID/Name: SULLIVAN AND GANNON LLC

Address: 22 CENTRAL SQ CHELMSFORD MA 01824

1. How many employees work at your business? 5

2. On a typical day, how many customers/clients frequent your business? 2

3. Where do your customers park?

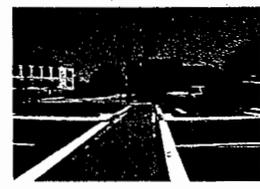
Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	central square on street

4. Where do your employees park?

Private lot	Lot behind Chelmsford Center for the Arts	Lot behind Sovereign Bank/ Odd Fellows Hall	On Street	Other, please explain:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

5. What are your hours of operations? 9-5

Please turn over for more questions...



Handwritten signature and date: 2/27/13

Chelmsford Town Center Parking Utilization, Bicycle, and Pedestrian Study
Survey of Businesses

6. On average, how long do your customers stay at your business?

0-15 minutes

15-30 minutes

30-60 minutes

>60 min

7. What is your busiest time during a typical week?

MON - WED

8. The Bruce Freeman Rail Trail has... (Circle one that most applies)

A. Helped my business

B. Hurt my business

C. Had no impact

9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

NO

10. Do you have any suggestions for improving parking, walking, or bicycling within Chelmsford Center?

would like to see the fence behind bike trail w/ Gingerale Plaza taken down. Prohibits walking.



Thank you for your time. Please mail your completed survey to:
Northern Middlesex Council of Governments
40 Church Street Suite 200
Lowell, MA 01852





MASSACHUSETTS DOWNTOWN INITIATIVE
Department of Housing & Community Development



Chelmsford Center Village Housing Study

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TOWN OF
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Acknowledgements

We would like to thank the Community Development Director, Evan Belansky and David Hedison, Executive Director of the Chelmsford Housing Authority, and Paul Cohen, Town Manager, who provided information and guidance for this Study. We would also like to thank the real estate professionals, and other individuals that were interviewed during the course of this research effort and graciously shared their insights.

Executive Summary

The Town of Chelmsford has prioritized the revitalization of its historic Center Village (CV) and has been investing time and resources toward this effort for many years. Recently, the Town has re-affirmed their vision of increased residential development in the CV by designating strategic parcels as priority locations for housing opportunities. The purpose of this study is to examine the current economic realities and explore the market demand for housing in the Center Village. The project included: 1) preliminary business inventory and business mix analysis, 2) evaluation of housing supply, market trends and affordability assessment, 3) analysis of population and household trends, 4) interviews with real estate professionals and 5) an online survey to gather data about housing preferences and desirability of the Center Village as a place to live.

Existing Conditions and Business Mix Analysis Highlights

- Chelmsford Center Village offers a number of amenities that could be attractive to potential residents including proximity to shopping and dining options, library, rail trail, and the new Center for the Arts. Indeed, our survey results indicated that about one-quarter of the respondents would be interested in living in the CV and access to these services was the primary reason.
- At the present time, the Center Village does not contain a very dense concentration of commercial activity and the mix of retail uses is somewhat less than ideal. Residents drawn to housing in walkable communities near commercial centers typically look for grocery and specialty food stores, coffee shops, ice cream/yogurt shops, a range of restaurants, entertainment, social gathering places and browsing retail. While Chelmsford's Center Village does have some of these uses, there is not much depth in these categories.
- When asked, what changes would make the Center Village more appealing, the survey respondents most frequently cited more shops, restaurants and entertainment. They specifically mentioned the need for grocery stores (i.e, Trader Joe's, Wegmans, Stop & Shop, Whole Foods).
- The commercial Realtors that we interviewed indicated that, based upon the rate of inquiries they have been receiving, they thought there would be demand for retail space in the area and, if new space were to be developed, it would lease up fairly quickly. They also said that there is underutilized space, particularly in the historic core of the district, however, the cost to renovate the older buildings to meet current regulations (e.g., handicap access) and requirements necessary to accommodate new uses (particularly food shops/restaurants) is currently prohibitive and is deterring retail tenant attraction.

- When we asked Realtors about how potential home seekers appear to perceive the Center Village as a place to live, they indicated that, right now, it seems to be mostly neutral. The potential home buyers or renters do not perceive it as a negative but they also are not particularly seeking homes near the CV over other locations in Chelmsford.

Housing Supply Highlights

- There are approximately 13,807 housing units in Chelmsford, representing an increase of 782 between 2000 and 2010.
- Housing alternatives in Chelmsford are getting more diverse; the percentage of condos, town homes and apartments has increased over the last decade. Housing units in multi-unit structures make up 30% of the total housing units in Chelmsford and this percentage has increased from 17% in 2000. The number of renter occupied units has increased 11% since 2000 while the number of owner occupied units increased by 3%.
- The homeownership vacancy rate reported in the 2010 Census remains very low, at just under 1%. This is lower than in Middlesex County (1.3%) or Massachusetts (1.5%) and could indicate a demand for additional homeownership units. The rental vacancy rate reported in the Census is 7%, slightly higher than Massachusetts overall (6.5%)
- Our review of the Multiple Listing Service rentals in Chelmsford for June thru August 2012 showed an average list price of \$1,722 per month for 56 properties that were listed. The median rent by unit size for available apartments were as follows: 1 bedroom - \$1,000, 2 bedrooms - \$1,600, 3 bedrooms - \$2,100
- The median sales price for a single-family home in Chelmsford in 2011 was \$310,950. The median sales price for a condominium home in Chelmsford in 2011 was \$195,000. Condo prices rose steadily between 2000 and 2005 and then fell significantly. The median sales price for condos in 2011 is 25% higher than it was in 2000, just about the same increase experienced in the sales price of single-family homes.
- Housing affordability is an issue. While Chelmsford is much closer to meeting the State's affordable housing goal than many other similar-sized communities, the Town is still shy of the 10% threshold. The greatest need is for affordable rental units. An estimated 45% of the households that rent apartments in Chelmsford are considered to be "cost-burdened".
- The housing located in and near the Center Village is a mix of multifamily and single-family units. The majority of units are configured in multi-unit structures. There are approximately 410 existing multifamily units in close proximity to the Center Village. There are approximately 50 condos, 10 townhomes and 350 apartments. Many of the apartments are predominately designed/marketed for and occupied by either special needs/handicapped or elderly individuals.

- Sale prices for recently sold condos and townhomes within ½ mile of the Center Village have ranged from \$266,000 for a large townhome at 54 Boston Road to \$98,000 for a small condo at Ledgewood Terrace. The median per square foot price was \$108. A review of apartment listings in the Center Village as of August, 2012, showed rents for available units around of \$1,000 – 1,200 for a 2-bedroom apartment.

Housing Demand Highlights

- Chelmsford is, by and large, an affluent community. The 2010 median household income in Chelmsford is estimated at \$90,322, 40% higher than the median household income statewide (\$64,072).
- Chelmsford’s population did not grow between 2000 and 2010; however the number of households increased by 4%.
- The most significant population trends in Chelmsford are the growth of senior households and the decline of very young households. Almost one –half of all households in Chelmsford are headed by individuals that are age 55 or above. Householders age 55+ grew by 25% between 2000 and 2010 while householders age 25-34 decreased by 25% during the same period. Escalating purchase prices and rents, along with a lack of housing alternatives could be one of the factors inhibiting young people that grew up in the Town from staying in the community.
- Assuming the projections for population and households presented in the Chelmsford Master Plan, we estimate that approximately 679 units of new housing will be needed in Chelmsford between 2010 and 2020. This demand is split over renter and owner units. Base upon a number of assumptions explained within this report, we estimate that this would translate into approximately 394 homeowner units and 285 apartments.
- The Center Village appears to be well-positioned to capture a significant portion of the projected housing demand. Living in the Center Village does not appeal to all potential home seekers but about one-quarter of the survey respondents said they would definitely be interested and another quarter said they might be interested. Base upon survey responses and an examination of specific market segments most conducive to apartment and condo housing, we estimate that there could be market support for approximately 166 to 250 new residential units in the CV.
- The access to services is the most appealing feature for potential CV residents and they want even more restaurants and stores. When asked what appealed to them about living the Center Village, respondents most frequently cited the ability to walk to services and attractions such as the library, church, bike path, restaurants and stores. A large number of respondents said they would like to see more stores and restaurants in the CV, especially food stores.
- Older residents (55+) are more interested in living in the Center Village than younger residents. 63% of the households with persons age 55 or above said “yes” or “maybe” to living in the Center Village compared to only 40% of other households.

- Survey respondents interested in living in the CV are looking for a variety of housing styles. Of the survey respondents that stated they were definitely interested in living in the CV, close to 60% indicated that they were interested in condominiums or town homes (split evenly between the two), about 23% were interested in single-family homes and 17% were interested in apartments.
- Residents of all income levels expressed an interest in living in the Center Village. The median income of households that indicated a definite interest in living in the Center Village is between \$100,000 and \$124,999.

Condos/Town Homes

- According to our survey results, most potential CV condo/town home buyers appear to be looking for a 2-bedroom unit with 1.5 to 2 bathrooms, priced in the mid \$200,000 range. The most important amenities to these buyers include central air conditioning and one to two parking spaces.
- The largest segment of potential CV condo/town home buyers appears to be childless households that currently own a home and tend to be older (age 55+). In addition to air conditioning and off-street parking, the amenities that are “very important/required” for more than one-half of the potential buyers in this older segment include: living space all on one level and garage parking. There also appears to be a smaller family segment interested in condo/town homes in the CV -- approximately 40% of the potential buyers have children under 18 in the household. This may include single parents or couples attracted to maintenance-free housing.
- When asked about the potential condominium/town home market, the Realtors we spoke with suggested that there would likely be demand for these types of units, especially from the empty nester/55+ population that might be downsizing from larger homes and want to stay in Chelmsford. Two Realtors we interviewed believed that 2-bedroom condos would be marketable in the Center Village if “well-priced”. One Realtor suggested a price range of \$250,000 to \$299,000.

Apartments

- All of the real estate professionals we interviewed agreed that there was a need for additional rental units in Chelmsford and that apartment listings appear to be renting up very quickly. When we asked the Realtors what they thought would rent well in the CV, we received comments about both lower end units and medium to higher end units. One of the Realtors stressed the demand for lower cost affordable units. An example given for an “affordable unit” was a 2-bedroom apartment renting for around \$1,000 per month. Another Realtor indicated that he thought there was demand for medium to higher end units. An example given for a

medium to higher end apartment was a 2-bedroom apartment (1,000 – 1,300 sq. ft.) renting for about \$1,800.

- Most of our survey respondents that expressed interest in renting in the CV appear to be looking for a 1-bedroom plus den or 2-bedroom unit with 1 to 1.5 bathrooms, moderately priced around “Fair Market Rent” levels for the Lowell metro area (but well below the average rents found in the Multiple Listing Service for available units in Chelmsford). Most respondents (63%) were looking for apartments between \$800 and \$1,200 per month. The most important amenities to these renters include central air conditioning and one to two parking spaces. One of the Realtors we interviewed also pointed out that, in her experience, in-unit laundry facilities, or at least available hook-up, has a tremendous impact on marketability of apartments.
- According to our survey results, the largest segment of potential CV renters appears to be childless households and tends to be older. Over 90% of respondents that indicated they were interested in renting in the CV do not have children under 18 living in the household. Most of these childless potential renters (67%) are over the age of 55 and about one-half currently own their home.

Conclusions about Center Village Housing

There is evidence of demand for additional housing in Chelmsford Center Village. We estimate that there could be market support for 166 to 250 units of additional housing in the CV over the period 2010 to 2020 if appropriate units could be delivered. There appears to be demand for 2-bedroom condos/townhomes with 1.5 to 2 baths priced around \$220,000- 270,000. There also appears to be demand for 1-bedroom and 2-bedroom apartments moderately priced around \$900 – 1,200 per month. There may also be demand for medium to higher end apartments (according to some of the Realtors we interviewed, although we did not see strong evidence of it in our very limited survey sample).

The CV would be able to capture a higher percentage of housing unit demand if the business mix included more of the types of businesses that residents are looking for (especially grocery stores, restaurants, coffee shops, ice cream, social gathering spots, etc.). Residents and retail are somewhat of a chicken and egg proposition, so recruitment efforts should occur simultaneously. Improving the business mix in the Center Village will make it more attractive to potential residents and more residents will, in turn, make the CV more attractive to potential retail/restaurant tenants. New mixed-use developments should be encouraged and strategies should be explored to ensure that ground floor spaces are occupied by the types of commercial tenants that will actually enhance the existing business mix. Older existing properties should be investigated to determine if there are barriers inhibiting the attraction of desirable tenants.

Encouraging income diversity among the residents of the Center Village would help to create and support a stronger retail center. Residents with disposable income living in close proximity are likely to patronize the Center Village businesses and have a direct impact on sales and business attraction. This

could be accomplished by encouraging a diversity of housing alternatives. Our survey results showed that people of all income levels expressed an interest in living in the CV, however, there is currently limited housing choices. Many of the current apartments are targeted to special needs and lower income populations and there is a relatively small number of condominiums and town homes in the CV area.

That being said, there is a need for additional affordable rental housing in Chelmsford and the Town will have to determine how best to address this issue and the overall mix of housing alternatives that should be encouraged in the CV.

This report is intended to help inform on-going planning efforts. Suggested next steps include:

1. Conducting interviews with the owners of target sites prioritized for housing development to determine their level of interest in developing the sites
2. Preparing concept plans and obtaining development cost estimates for target sites to determine feasibility of delivering housing units at the suggested price ranges under existing zoning regulations (and potentially with revised zoning as appropriate)
3. Convening discussions with stakeholders and town leaders to deliberate on policy decisions regarding the types of housing and retail they want to see developed in the Center Village and the necessary related tradeoffs that may be required in terms of allowable density, building height, parking requirements, and provision of financial incentives and subsidies.
4. Interviewing the owners of older buildings in the CV and investigating to determine if the cost to renovate the older buildings to meet current regulations necessary to accommodate new commercial uses (particularly food shops/restaurants) is currently prohibitive and is, in fact, deterring retail/restaurant tenant attraction. If so, explore potential strategies to assist building owners with financing building upgrades that would accommodate and encourage new commercial uses.

Project Overview

Background

The Town of Chelmsford has prioritized the revitalization of its historic Center Village (CV) and has been investing time and resources toward this effort for many years. This included the adoption of mixed use zoning in 1999, intended to aid downtown revitalization by encouraging the creation of additional residential housing units (and thereby increasing potential customers for downtown businesses). This zoning provision, however, has not been utilized -- no zoning permits have ever been issued for housing in the district. Recently, the Town has re-affirmed their vision of increased residential development in the CV by designating strategic parcels as priority locations for housing opportunities. However, it is not known if there is sufficient market demand for housing, nor what zoning or other changes might be needed to effectively encourage the most appropriate mix and types of housing.

The purpose of this study is to examine the current economic realities and explore the market demand for housing in the Center Village.

Connection to Recent Studies and Plans

Recommendations within the recently completed 2010 Master Plan (MP) and the 2011 Affordable Housing Plan (AHP) prioritize the revitalization of Chelmsford's downtown Center Village (CV). Specifically, both plans identify the following recommendations for implementation:

1. Development of Housing in High Priority Locations
2. Review and revise the existing underutilized CV zoning district to better accommodate housing opportunities
3. Expand zoning opportunities for housing adjacent to the existing CV district.

As an initial step of master plan implementation, the Town successfully received an EPA technical assistance grant from the Sustainable Communities Building Blocks program in May 2011. This effort was focused on three objective: 1) obtaining a greater understanding of the basic principles of smart growth and "sustainability", 2) gaining an awareness of the potential fiscal and economic health benefits of implementing smart growth, and 3) acquiring practical applications for implementation that will meet local needs and opportunities. The continued need for CV revitalization was highlighted by the EPA's consultants and the four high priority housing sites were reaffirmed as a "smart growth" strategy by the MP and AHP. The consultants recommended that the Town be proactive in initiating a planning process for determining the market demand for housing and engaging the private property owners.

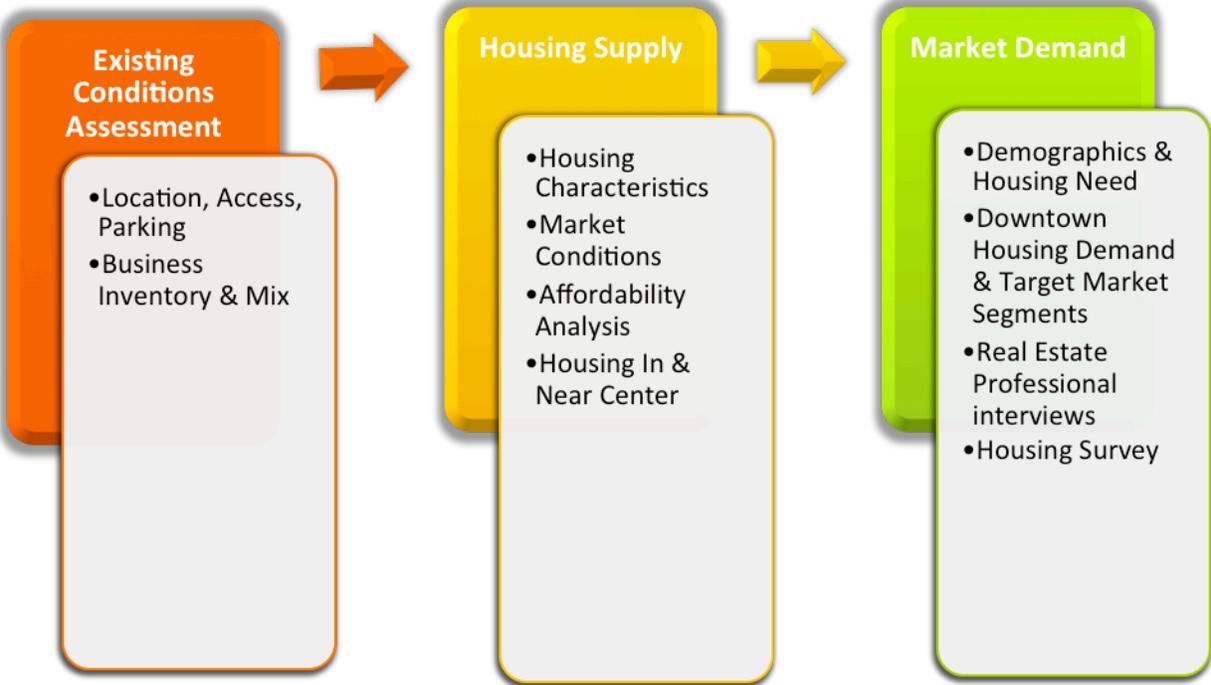
Previous Downtown Revitalization Initiatives

The following is a listing of downtown revitalization initiatives that have been implemented over the last 20 years.

- 1975 Voted to create Chelmsford Center Historic District
- 1998 Initiated a public I private planning process that culminated in a report "An Action Plan for Chelmsford Center"
- 1998 Voted to adopt MGL Chapter 166, section 22, to create a Utility District for purposes of depressing existing overhead wires
- 1998 Received \$1,200,000 in Transportation Improvement Plan funds for improved traffic management such as new signals, geometric improvements, drainage improvements and pavement markings.
- 1999 Adopted Center Village Zoning District
- 1999 Received \$689,000 in Transportation Enhancement Funds for pedestrian and bicycle improvements such as decorative sidewalks, crosswalks, streetscape, period lighting
- 2001 Adopted Community Preservation Act
- 2002 Voted to expand the 1998 Utility District
- 2009 Opened Bruce Freeman Rail Trail
- 2010 Voted to allocate \$2,500,000 of CPC funds for the historic preservation of the Old Town Hall by converting it to a Performing Arts /Community Center
- 2011 Voted to appoint a Cultural District Planning Committee for purposes of preparing an application for the Center Village

Purpose of the Study

The primary purpose of this study is to explore the market demand for housing in Chelmsford Center Village. We conducted a preliminary inventory of businesses in the Center Village and analyzed the business mix. We evaluated the existing housing supply, including an assessment of affordability. We analyzed population and household trends, including growth trends within selected market segments that are particularly appropriate for housing in the Center Village. We interviewed real estate professionals about market demand and development potential for housing and we conducted an online survey to gather data about housing preferences and desirability of the Center Village as a place to live. The following diagram illustrates the major components of the research process.



Part 1

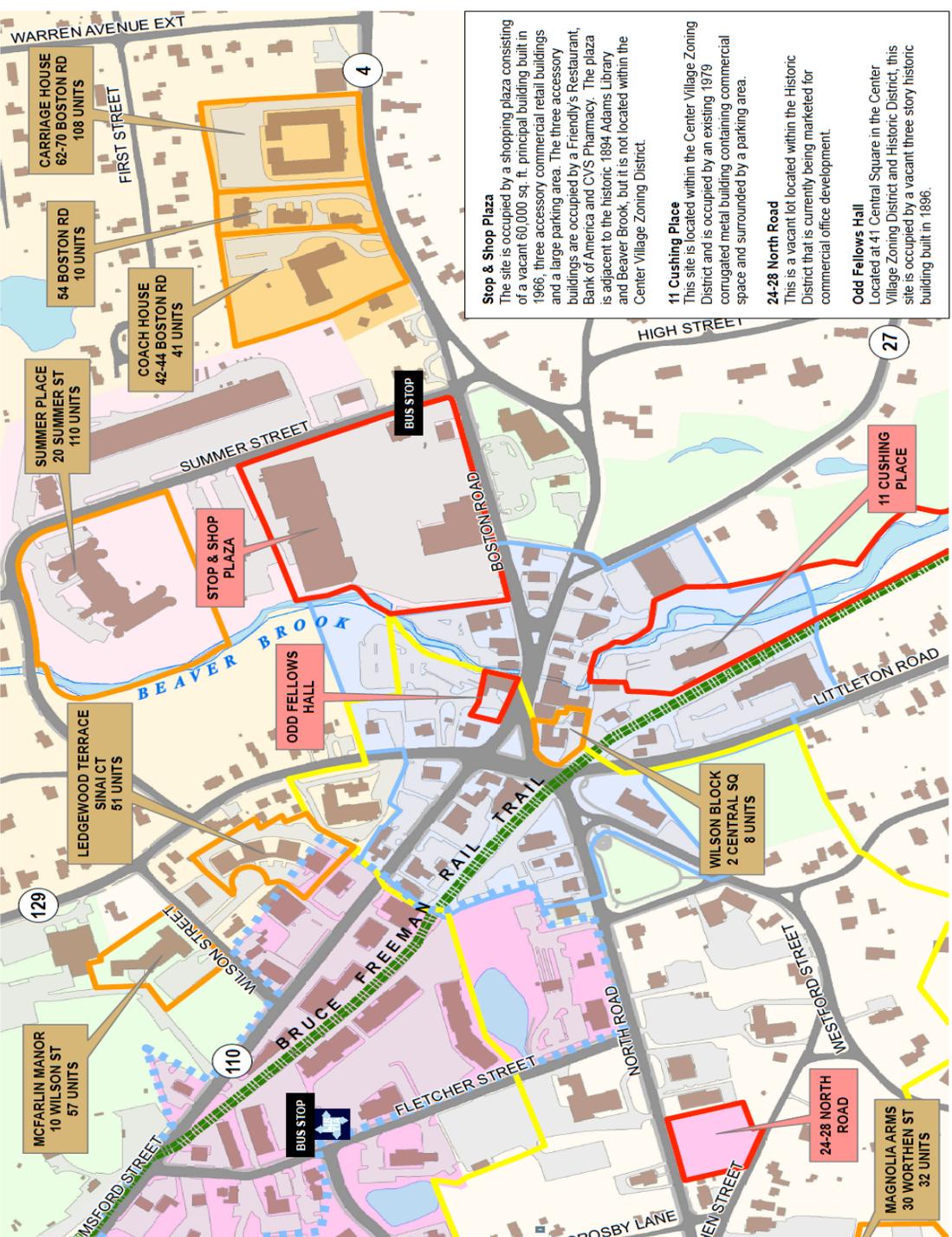
Existing Conditions --- and Business Mix

Existing Conditions

Center Village Study Area

The following Chelmsford Center Village Map, prepared by the Chelmsford Community Development Department, depicts the target study area, which includes: existing CV Zoning District, potential expansion area for the CV Zoning District, existing Historic District; existing multifamily developments, and four high priority locations identified in the Master Plan and the Affordable Housing Plan as suitable and appropriate for creating housing opportunities.

Zoning	Description
RMH	Mobile Home Residence
RM	Multiple Residence
RA	Single Residence
RB	Single Residence
RC	General Residence
CA	Neighborhood
CB	Roadside
CC	Shopping Center
CD	General
CV	Center Village
CX	Adult Commercial
IA	Limited
IS	Special
P	Public
OS	Open Space

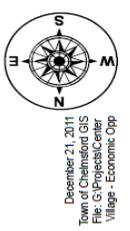


Stop & Shop Plaza
The site is occupied by a shopping plaza consisting of a vacant 60,000 sq. ft. principal building built in 1966, three accessory commercial retail buildings and a large parking area. The three accessory buildings are occupied by a Friendly's Restaurant, Bank of America and CVS Pharmacy. The plaza is adjacent to the historic 1894 Adams Library and Beaver Brook, but it is not located within the Center Village Zoning District.

11 Cushing Place
This site is located within the Center Village Zoning District and is occupied by an existing 1979 corrugated metal building containing commercial space and surrounded by a parking area.

24-28 North Road
This is a vacant lot located within the Historic District that is currently being marketed for commercial office development.

Odd Fellows Hall
Located at 41 Central Square in the Center Village Zoning District and Historic District, this site is occupied by a vacant three story historic building built in 1896.



Center Village Zoning District
Potential C/V Zoning District Expansion

Existing Multifamily Housing
Priority Housing Sites
LRTA Bus Stop
Historic District

Chelmsford Center Village

Prepared by:
The Town of Chelmsford
Community Development Department

Location, Transportation and Parking

Chelmsford is a town in Middlesex County, located 24 miles northwest of Boston. It borders the city of Lowell and is part of the Greater Lowell metropolitan area. Chelmsford is located at the intersection of the major US highways of I-495 and Route 3.

The Lowell Regional Transit Authority provides public transportation (bus service) in Chelmsford. There is one bus stop located within the Center Village District and one stop within the Potential CV Zoning District Expansion Area. The closest commuter rail station is located in North Billerica, about 5 miles from the Center Village. A proposed extension of the Lowell Commuter Line to Nashua (New Hampshire) is under consideration. If this extension is completed, a new Massachusetts Bay Transportation Authority commuter rail station would be located in North Chelmsford.

The Center Village is located at the Intersection of Routes 4, 27, 110, and 129 in somewhat of a challenging traffic pattern. Routes 4 and 27 (Bartlett Street and Boston Road) form a one-way loop on the south side of the Center Village. Boston Road is one-way heading north into the Center Village in front of the now, predominantly vacant, Market Place Shopping Plaza.

The Bruce Freeman Trail runs directly through the Center Village. The full proposed trail will go through the communities of Lowell, Chelmsford, Westford, Carlisle, Acton, Concord, Sudbury, and Framingham -- following the 25-mile route of the old New Haven Railroad Framingham & Lowell line. Phase 1 (6.8 miles in Lowell, Chelmsford, and Westford) is now open. Phase 2 (13.1 miles in Westford, Carlisle, Acton, Concord, and Sudbury) and Phase 3 (4.6 miles in Sudbury and Framingham) are proposed extensions.

Parking is available in private lots as well as at some on-street locations. There are small private parking lots located in front of several commercial establishments in Central Square (i.e., Traveling Rhino, Brickhouse Center Grill, and Center Sports) as well as the Ginger Ale Plaza on Littleton Road. There is public on-street parking (1-hour limit) in Central Square in front of the main commercial blocks. The two shopping plazas, located at the southern edge of the Center Village, (Summer Street Crossing and the mostly-vacant Market Place Shopping Plaza) have private parking lots.



Center Village Business Mix

Business Inventory

We completed a preliminary inventory of commercial and institutional establishments located in the Center Village Zoning District and the two adjacent shopping plazas. This inventory is intended to be illustrative rather than totally comprehensive. The methodology for conducting the inventory included walking the area, making observations, and collecting data from business signage. While we were able to get information for most of the retail and restaurant businesses in the area, we did not catalogue all of the professional offices. In particular, there are 2 professional office buildings with multiple tenants, one is located in the Summer Street Crossing Plaza and the other, Dadman House, is located on Boston Road.

Due to their proximity to the CV, we included the two adjacent shopping plazas that are located at the edge of the Center Village Zoning District in our inventory (Summer Street Crossing and the now mostly vacant Stop & Shop Plaza). In all, we identified approximately 62 establishments, including 53 retail and service businesses, 4 other service businesses, 4 institutional uses, and 1 miscellaneous use.

There are a few “convenience goods” establishments in the Center Village area including a very large wine and liquor store, a CVS drug store, an Asian food market and a fish market inside of Fish Bones restaurant. There is no traditional supermarket within the immediate area. The “shoppers goods” establishments include 2 hardware/paint stores, a cluster of sporting goods stores, and several special interest/hobby stores including shops specializing in quilts, beads, coins and other collectibles. The bead store is also a jewelry/gift shop with a fairly large selection of hand made costume jewelry. The Chelmsford Card & Gift Shop carries a combination of greeting cards, dollar store items, party supplies, and inexpensive jewelry/accessory items.

The Center Village area has 13 restaurants, ranging from coffee shops to pizza places to Fish Bones, a popular sit-down seafood restaurant.

There is a small complement of personal services including 5 beauty/barber shops, 2 dry cleaners, and a tailor. There is also a complement of professional

Definitions

Convenience Goods: Goods that are needed frequently and therefore purchased where it is most convenient, goods that people buy often and don’t travel far to acquire (e.g., food, drugs, health and beauty aids. People purchase near home, work or temporary residence when traveling.

Shoppers Goods: Goods which consumers spend the most effort to acquire and have the greatest desire to for comparison shopping. Trade area is often governed by desire to comparison shop and therefore size is affected by availability of such goods. (e.g. clothing, furniture, etc.)

Personal Services: Services required on a frequent basis and acquired where it is most convenient (e.g. dry cleaners, beauty/barber/nail salon, etc.) People purchase near home, work or temporary residence when traveling.

Professional Services: Services such as financial, insurance, legal, medical, dental, etc.

services including 3 major banks and health care, legal and other services (which, as noted previously, have not been fully catalogued in this inventory).

The most recent addition to the business mix is the Chelmsford Center for the Arts that opened on July 3rd, 2012, in the newly renovated Old Town Hall. The Center will be used by a variety of arts groups. Three rooms are available for “artists-in-residence”



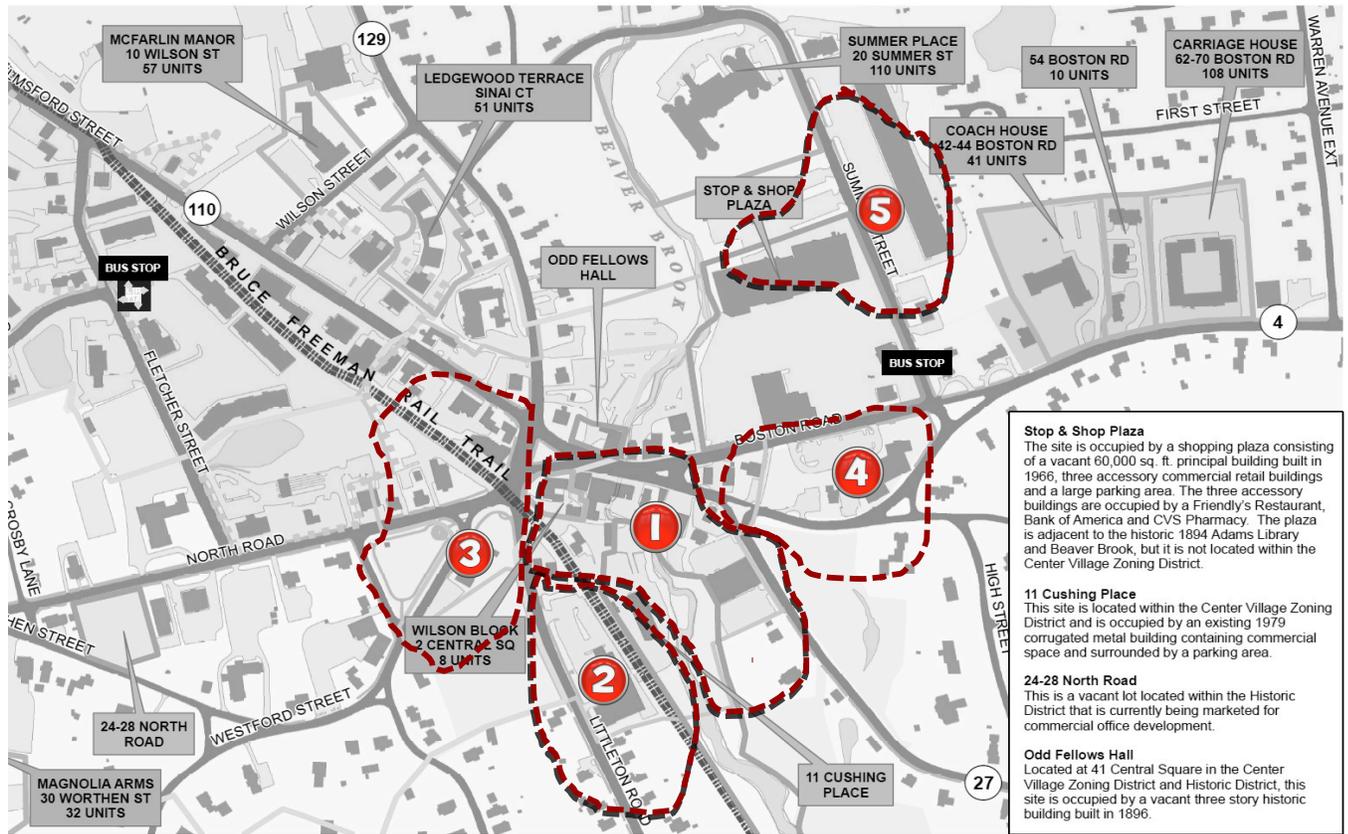
Renovated Historic Town Hall, Now home to Chelmsford Center for the Arts

Center Village Area Businesses by Category

<u>Grocery/Food Stores & Liquor</u>	<u>Area #</u>	<u>Hobby/Special Interest/Sports</u>	<u>Area #</u>	Weight Watchers	5
M & H Oriental Supermarket	5	Beadles Bead Shop (also listed under jewelry)	1	<u>Auto Related Services</u>	<u>Area #</u>
Harrington Wine & Liquor Store	5	Bob's Coins & Jewelry	1	R & F Gas & Convenience	1
Fish Bones - Fish Market (also listed under restaurants)	1	Candlelite Quilts	1	Rudy's Fuel & Auto Service	1
		Center Sports	2	<u>Entertainment, Fitness, Functions</u>	<u>Area #</u>
<u>Drugs, Health & Beauty</u>	<u>Area #</u>	Play it Again Sports	5	Academy of Performing Arts	1
CVS	4	Sport Loft	5		
		Tolls Games and Puzzles	5	Chelmsford Center for the Arts	3
<u>Restaurants & Bars</u>	<u>Area #</u>	<u>Gifts/Specialty/Jewelry</u>	<u>Area #</u>	Dragon Phoenix Martial Arts	1
Amici Ristorante	5	Chelmsford Card & Gift	1	<u>Finance, Real Estate, Legal*</u>	<u>Area #</u>
Bertucci's	2	Travelling Rhino	2	Bank of America	4
Brickhouse Center Sports Grill	2	Beadles Bead Shop (also listed under hobby/special interest)	1	Dennis McHugh (Attorney)	3
Brothers Pizza	5	<u>Other Retail and Used Goods</u>	<u>Area #</u>	Eastern Bank	3
Dunkin Donuts	1	Animal Pet Supply	5	ERA Realty	3
Fish Bones (also listed under markets)	1	EmbroidMe	2	Northern Bank	2
Friendly's	4	Surfside Pools	5	Sullivan & Gannon CPAs	1
Jessie's Place	1	Trading Clothes	5	<u>Health Care & Other Professional*</u>	<u>Area #</u>
Madras Grill (Indian)	5	<u>Personal Care/Salon</u>	<u>Area #</u>	Seven Hills Behavioral Health	5
Sakura Japanese cuisine	5	Artisans Salon	1	<u>Other Services</u>	<u>Area #</u>
Sichuan Place	5	Beleza Salon	5	Alison Taylor Photography	1
Sweet Kiwi Frozen Yogurt (opening soon)	5	Big League Hair Cuts	5	Sign-A-Rama	5
The Java Room	2	Jim's Barber	1	Kumon Tutoring	5
<u>Home Furnishings & Appliances</u>	<u>Area #</u>	Newton's Hair Salon	1	<u>Community & Gov. Institutions</u>	<u>Area #</u>
Creative Décor & Gift (might be closing)	1	<u>Laundry, Cleaning, Tailor</u>	<u>Area #</u>	Chelmsford Public Library	4
Fireplace Center	5	Nicolosi Tailor	1	Unitarian Church	3
Lappy Fix	1	Organic Cleaners	1		
Vacuum Cleaner Sales & Service	1	Plus Cleaners	5		
<u>Building Materials/Hardware</u>	<u>Area #</u>	<u>Other Personal Services</u>	<u>Area #</u>		
Aubuchon Hardware	5	Picture Yourself Frame	1		
Benjamin Moore	5				

* See following map for location of Commercial Sub Areas

Center Village Area Commercial Sub Areas



Business Mix Analysis

Chelmsford Center Village offers a number of amenities that could be attractive to potential residents including proximity to shopping and dining options, library, rail trail, and the new Center for the Arts. However, at the present time the Center Village does not contain a very dense concentration of commercial activity and the mix of retail uses is somewhat less than ideal. Residents drawn to housing in walkable communities near commercial centers are often looking for grocery and specialty food stores, coffee shops, ice cream/yogurt shops, a range of restaurants, entertainment, social gathering places and browsing retail. While Chelmsford’s Center Village does have some of these uses, there is not much depth in these categories and most notably, it lacks a supermarket.

There is commercial activity situated in the historic core of the Center Village as well as a few small commercial plaza areas both inside and just beyond the Center Village Zoning District Boundaries. Many of the typical neighborhood-serving businesses are located in the Summer Street Crossing Plaza area that is located just outside of the Zoning District (including hardware store, several restaurants, liquor store, dry cleaners, drug store, etc.) and the Ginger Ale Plaza that is adjacent to the rail trail (Including a bank, popular coffee shop and pizza restaurant). In the historic core of the Center Village, in addition to a couple of restaurants and gift shops, there are several first floor uses that are not typical

neighborhood-serving retail businesses and do not generate a large volume of customers. These businesses offer specialty goods and services, their customers often seek them out and they are not dependent on walk-in trade (e.g.; vacuum cleaner shop, coin shop, quilt shop, accounting offices, etc.) A couple of the Realtors that we spoke to indicated that the cost to renovate the older buildings in this area to meet current regulations (e.g., handicap access) and requirements necessary to accommodate new uses (particularly food shops/restaurants) is currently prohibitive and is deterring tenant attraction.

For analysis purposes, we compared the business mix in Chelmsford Center to Winchester Center (see following table). Winchester, MA is also currently involved in smart growth planning for their Town Center and is actively trying to encourage additional housing development.

Commercial activity in Chelmsford Center is far less dense than in Winchester Center. Although Winchester is only two-thirds the size of Chelmsford in population, the Town Center has approximately twice the number of retail businesses (approximately 43 in Winchester and 22 in Chelmsford). One noticeable difference is that Winchester has more food stores, including a full-scale supermarket as well as a gourmet food shop and two bakeries. Chelmsford has 13 restaurants compared to only 12 in Winchester Center, however one additional restaurant is not equivalent to the larger population in Chelmsford. Winchester has several clothing, shoes and accessory stores while Chelmsford has very limited offerings in this category. Chelmsford also has less home furnishings and appliance stores than Winchester Center.

Professional services make up a large portion of the businesses in Winchester Center. There are 43 professional services businesses with a first-floor presence, as shown in the following chart, and another 59 professional service businesses located in upper floors for a total of 102. While our preliminary business inventory does not include all of the professional service businesses in Chelmsford, we believe that there are significantly less professional service businesses in Chelmsford than in Winchester.

Business District Composition	Chelmsford Center Village (with 2 adjacent plazas)	Winchester Center (1st floor)
Population	33,800	20,500
Retail, Personal and Professional Service	# of Businesses	# of Businesses
Retail	22	44
Convenience Goods	3	10
Food, Liquor	2	5
Drugs, Health, Beauty	1	2
Florist	0	3
Shoppers Goods	19	34
Apparel, Footwear, Jewelry	1	10
Furniture, Home Furnishings	2	5
Hobby/Special Interest	3	5
Sporting Goods	3	0
Gifts, Party Supply, Luggage, Trophies	2	4
Hardware, Bldg. Materials, Paint	2	2
Home Appliances/Computer/Music	2	3
General Merchandise, Department Stores	0	0
Other Retail	3	4
Used Goods	1	1
Auto Related Retail	0	0
Services (Food Service, Personal and Professional)	31	79
Food Service and Personal Services	22	36
Restaurants and Bars	13	12
Beauty, barber, nails, skin	5	16
Laundry, dry cleaning	2	2
Tailoring, shoe repair	1	2
Printing, copying, packaging, delivery	0	1
Video Rental	0	0
Travel	0	0
Other Personal Services	1	3
Professional Services*	9	43
Health Care	1	15
Finance, Insurance, Real Estate, Legal, Accounting	6	27
Other Professional Services	2	1
Total Retail and Services (Food, Personal and Prof.)	53	123

**Professional service businesses are undercounted in this inventory; many professional services were not catalogued.*

Business District Composition (cont'd)	Chelmsford Center Village (with 2 adjacent plazas)	Winchester Center (1st floor)
Other Service Businesses	# of Businesses	# of Businesses
Entertainment, Fitness, Function Halls	2	5
Hotels/Lodging	0	0
Auto Related Service	2	4
Total Other Service Businesses	4	9

Institutions	# of Businesses	# of Businesses
Community/Government/Nonprofit	2	7
Religion	1	4
Schools/Education	1	0
Hospitals/Large Health Centers/Nursing Homes	0	0
Total Institutional	4	11

Manufacturing, Construction, Misc.	# of Businesses	# of Businesses
Manufacturing	0	0
Construction/Contractors	0	1
Miscellaneous	1	3
Communications	0	0
Recycling	0	0
Utilities/Heating Oil	0	0
Other	1	3
Total Manufacturing, Construction, Misc.	1	4

All Businesses	# of Businesses	# of Businesses
Retail and Services (incl. personal, prof. and food)	53	123
Other Service Businesses	4	9
Institutional	4	11
Manufacturing, Construction, Misc.	1	4
Total all Businesses	62	147

Commercial Sub Area 1: Business Character Photos



Commercial Sub Area 2: Business Character Photos



Commercial Sub Area 3: Business Character Photos



Commercial Sub Area 4: Business Character Photos



Commercial Sub Area 5: Business Character Photos



Current Vacancies and Commercial Real Estate Market Conditions

The Market Place Shopping Plaza that originally housed Marshall's and a Stop & Shop supermarket is almost entirely vacant (map sub area 4) . This is one of the priority sites targeted for housing development. Friendly's Restaurant and Bank of America, located at the border of this shopping plaza, are still operating and a new CVS is being constructed near the street edge.

The Odd Fellows Hall is currently vacant and is also targeted as a priority site for housing development (map sub area 1).



Stop & Shop Plaza



Odd Fellows Hall



Next to the Odd Fellows Hall is a small vacant space for lease. We were informed by the broker that there has been many potential tenants inquiring about this property including a Yogurt Shop and Cupcake Store among others, however the property would require extensive costly improvements to accommodate these uses and the building owner is not able or willing to make the investment. The real estate broker gave us an example of the necessary improvements including: upgrading restrooms for handicap access that would trigger an upgrading of all plumbing, grease trap

installation, sewer hook-up and installation of a fire suppression system. Perhaps Town staff should investigate if this situation is, indeed illustrative of an overall problem in the Center Village, and explore opportunities to assist building owners with financing building upgrades that would accommodate and encourage new commercial uses.

We asked a couple of Realtors about their perspective of the market for commercial space and the prospect for new mixed-use development. The Realtors indicated that they thought there was demand for retail space in the area and that if new space were to be developed, it was their opinion that it would lease up fairly readily. One Realtor told us that the going rate for first floor commercial space was about \$12 per sq. ft. annually (triple net).

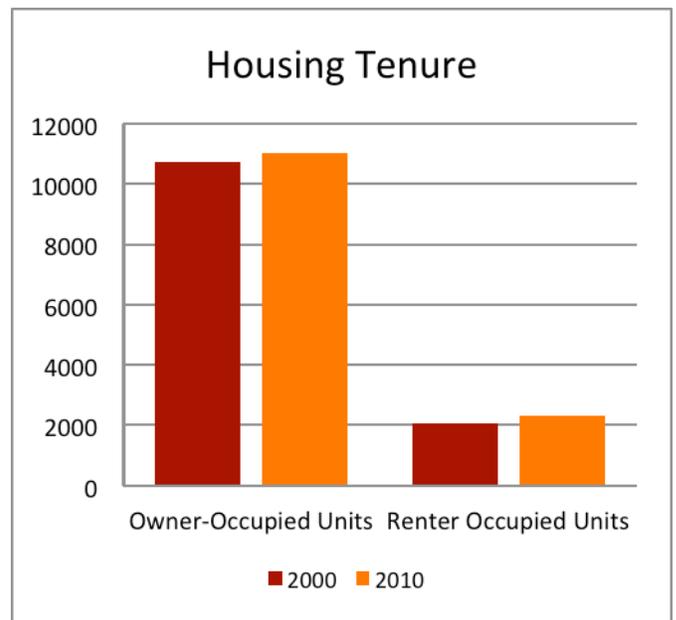
Part 2

Housing Supply --- Analysis

Chelmsford Housing Characteristics

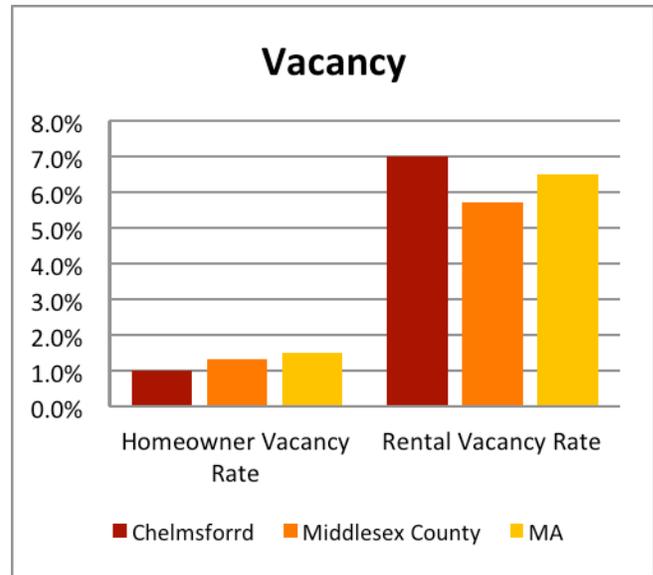
Housing Count and Tenure

The 2010 Census counted 13,807 housing units in the Town of Chelmsford, which represents an increase of about 6% (780 units) over the 13,025 units counted in 2000. 494 units, approximately 4%, were reported as vacant, up from 213 vacant units in 2000. Of the occupied units, the vast majority (83%) are owner-occupied while 17% are occupied by renters. The homeownership rate in Chelmsford is significantly higher than the rate in Middlesex County or the State overall (both approximately 62%). Since 2000, the amount of owner-occupied units has increased by 3% (501 units) while the number of renter-occupied units has increased by 11% (230 units).



Housing Occupancy	2000 Census	2010 Census	% Change
Total Housing Units	13,025	13,807	6%
Occupied Units	12,812	13,313	4%
Owner-Occupied	10,743	11,014	3%
Renter-Occupied	2,069	2,299	11%
Vacant Units	213	494	132%
For Rent	40	176	340%
For Sale Only	26	87	25%
Rented or Sold, Not Occupied	30	36	20%
Seasonal/Recreation/Occasional Use	44	66	50%
Other Vacant	73	129	77%

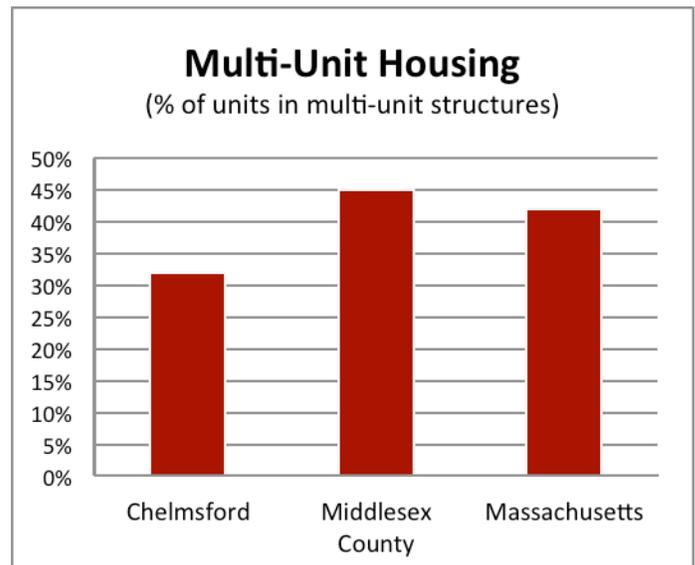
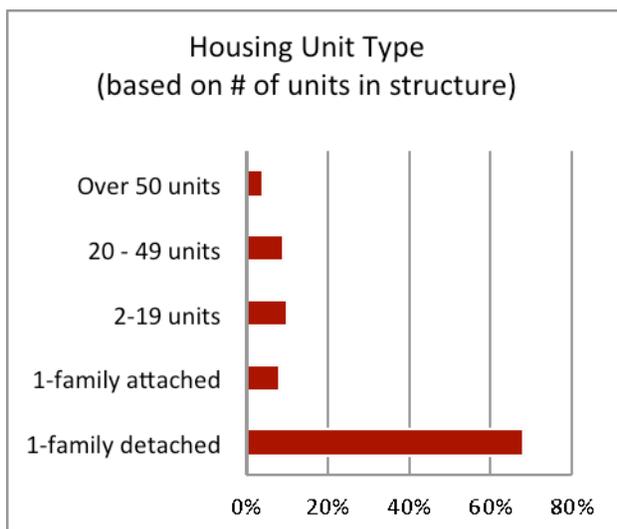
The number of vacant housing units has doubled since 2000, however, the overall vacancy rate is still less than 4%. The homeownership vacancy rate reported in the 2010 Census remains very low, at just below 1%; this is lower than in Middlesex County (1.3%) or Massachusetts (1.5%) and could indicate a demand for additional homeownership units. The rental vacancy rate is 7%, slightly higher than Massachusetts overall (6.5%) and more than a full point higher than Middlesex County (5.7%).



Housing Type

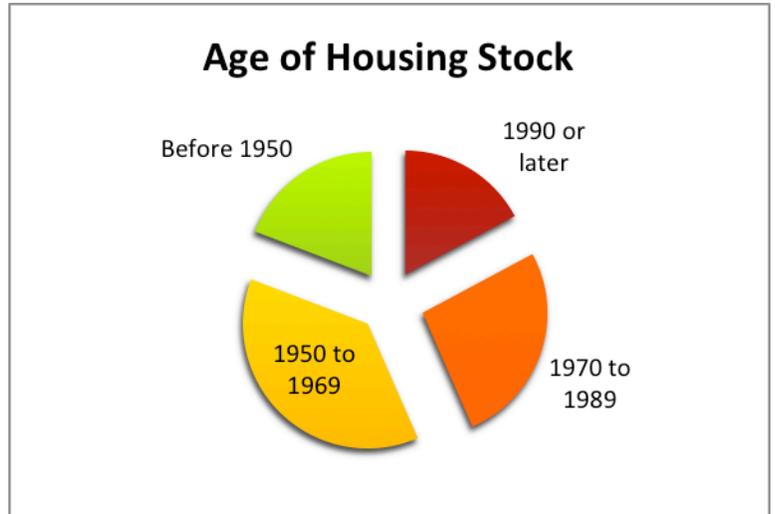
According to the American Community Survey (2008 – 2010), approximately 68% of the homes in Chelmsford, are single-family detached homes. Approximately 8 to 10% of the units fall into each of 3 categories of structures including: single-family attached, 2-19 unit structures, and 20-49 unit structures. 4% of total units are in structures with over 50 units. And, 2% of the units are mobile homes.

In Chelmsford, the percentage of housing units in multi-unit structures has increased significantly since 2000. The American Community Survey (2008 – 2010) estimates that 30% of total units are in multi-unit structures compared to 17% in 2000. Even with this increase, the percentage of units in multi-unit structures remains smaller than Middlesex County and the State.



Age of Housing Stock and Rate of Development

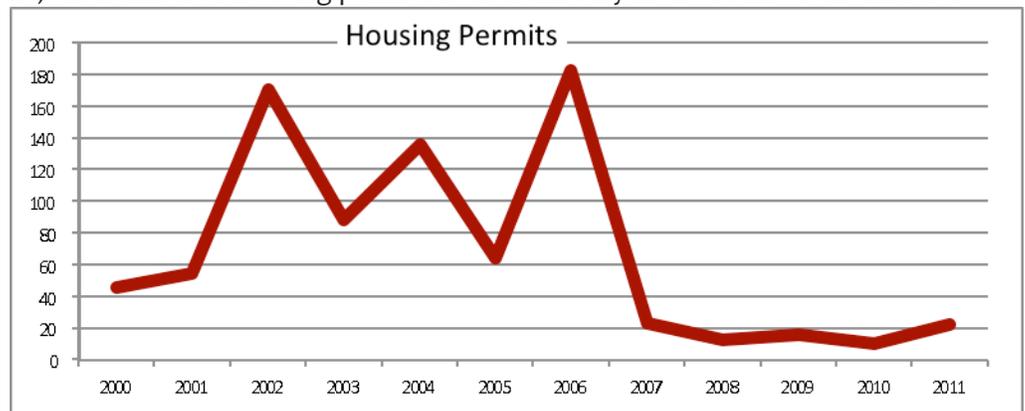
The majority of Chelmsford’s housing stock is over 40 years old. More than one-half (55%) of the housing stock was built before 1970. Another 26% was built between 1970 and 1989, and 17% was built during or after 1990. The age of the housing stock in Chelmsford is slightly younger than the County and State overall; 43% of Chelmsford’s housing was built since 1970, compared to only 34% of the housing in Middlesex County and 37% of the housing statewide.



Age of Housing Units	Chelmsford	Middlesex County	MA
Built 1990 or later	17%	14%	15%
Built 1970 - 1989	26%	20%	22%
Built before 1970	55%	66%	63%

Over the last several years, the number of housing permits issued annually in the Town of Chelmsford has ranged from a high of 182 in 2006 to a low of 10 in 2010¹.

New residential development took a sharp decline in 2007 and has remained low. The number of permitted units rose in 2011 (almost



doubling from the previous year) although still far lower than the pre-2007 rate.

¹ Chelmsford Master Plan 2020 and Greater Boston Housing Report Card, Dukakis Center for Urban and Regional Policy, Northeastern University

Building Permits Issued by Housing Type

Year	Total Units	Single Family	Two-Family	3 + 4 Family Bldgs	3 + 4 Family Units	5 + Family Bldgs	5 + Family Units
2000	45	29				1	16
2001	54	30				1	24
2002	170	26				3	144
2003	88	57				2	31
2004	135	109	2			1	24
2005	64	64					
2006	182	65	2	7	7	4	108
2007	23	23					
2008	12	12					
2009	15	13	2				
2010	10	10					
2011	22	22					

Source: MassBenchmarks August 4, 2012

Household Size²

According to the 2010 Census, Chelmsford households contain an average of 2.53 persons. This represents a 3% decrease since 2000. Average household size in Chelmsford is approximately 2% larger than the County or State.

Average Persons per Household 2010	Chelmsford	Middlesex County	MA
All Units	2.53	2.49	2.48
Owner-Occupied Units	2.66	2.96	2.68
Renter-Occupied units	1.90	2.14	2.17

² 2010 Census (average household size), American Community Survey 2008-2010 (average household size by housing tenure)

Housing Market Conditions

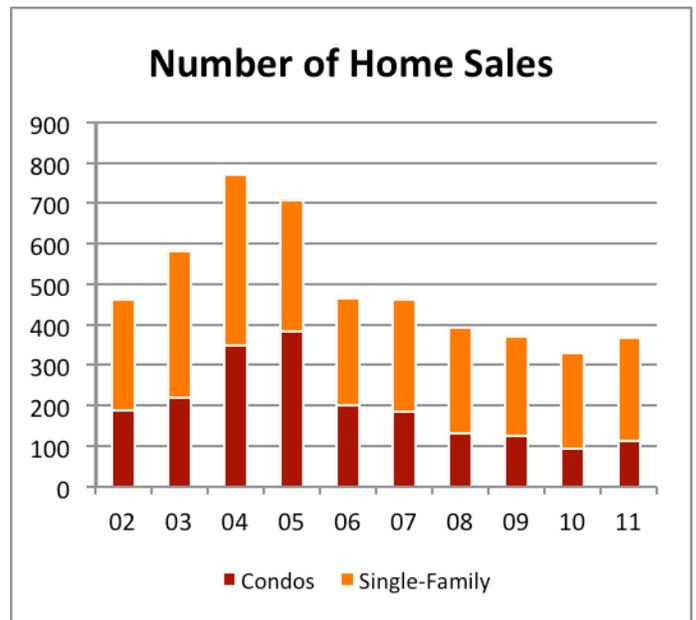
Home Value

The median home value in Chelmsford is estimated at \$348,300, up 69% from \$205,816 in 2000 (according to ACS³). This is approximately 2% higher than the statewide median home value of \$342,100 and 15% lower than Middlesex County (\$407,800). Even though home values in Chelmsford made a big jump since the year 2000; the rate of increase in the Town was outpaced by the rate of change statewide, where the median home value has increased by close to 93% over the same period.

Home Sales

Over the last decade, the number of annual home sales in Chelmsford ranged from a high of 772 homes sold in 2004 to a low of 329 homes sold in 2010⁴.

The number of annual condo sales over the last decade have ranged dramatically from a high of 384 sales in 2005 to less than one-quarter that amount in 2010 (93 sales). The number of single-family home sales have also ranged widely, but to a lesser degree than condominium sales. Single-family homes sales ranged from a high of 424 in 2004 to a low of 236 in 2010.



Home Selling Price

In 2011, the median sales price for all housing units in Chelmsford was \$275,500. This is 24% lower than the median sales price in Middlesex County (\$360,000).³

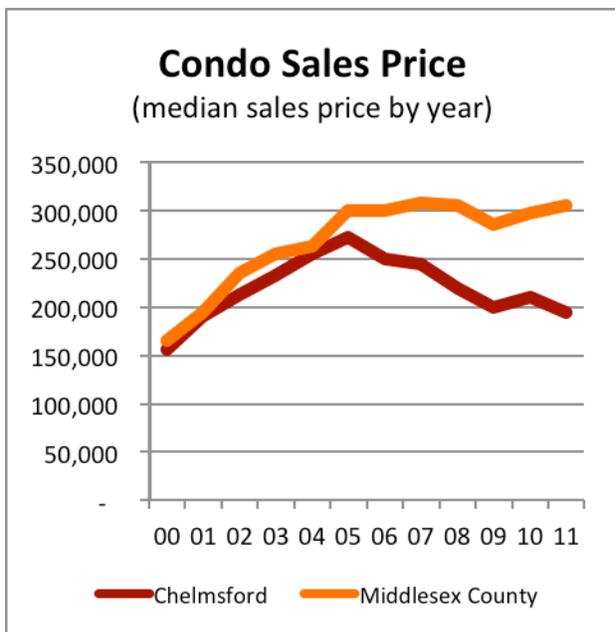
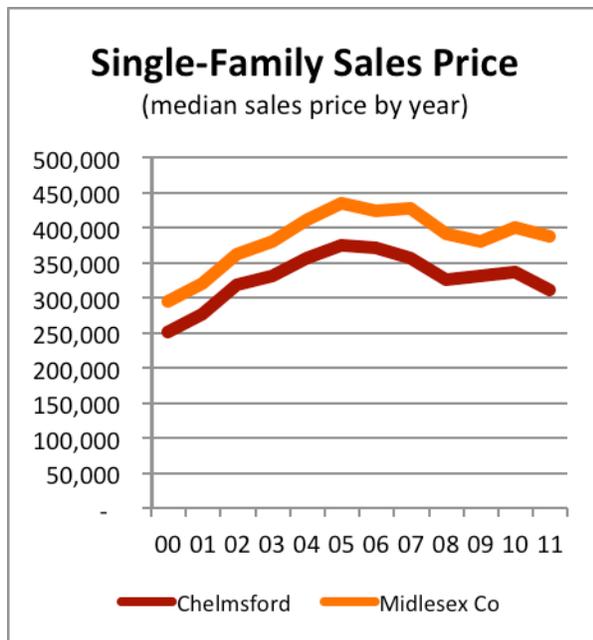
It is useful to look at the single-family housing market separately from the condominium market, as the price range is substantially different. The median sales price for a single-family home in Chelmsford in 2011 was \$310,950. Median sales prices rose from the year 2000 thru 2006 to a high of \$370,000 and then declined 16% by 2011. Overall, between 2000 and 2011, the median sales price for single-family

³ 2000 Census, American Community Survey (2008-2010)

⁴ Sales Data compiled by The Warren Group

homes increased 24%. Prices in Middlesex County followed a similar trend, however, the price increase was higher. In Middlesex County, the median sales price for a single-family home in 2011 was \$387,577, up 30% from the year 2000.

The median sales price for a condominium home in Chelmsford in 2011 was \$195,000⁵. Condo prices rose steadily between 2000 and 2005 and then fell significantly. The median sales price for condos in 2011 is 25% higher than it was in 2000, just about the same increase experienced in the sales price of single-family homes. This differs dramatically from the trend in Middlesex County overall, where the median sales price for a condo in 2011 (\$305,000) has almost doubled since the year 2000 (when the median price was \$165,000).



Year	Condo Median Sales Price	Condo # of Sales	Single-Family Median Sales Price	Single-Family # of Sales
2011	\$195,000	113	\$310,950	256
2010	\$210,000	93	\$335,000	236
2009	\$200,000	125	\$329,950	246
2008	\$219,500	132	\$325,000	262
2007	\$245,250	186	\$355,000	275
2006	\$250,000	201	\$370,000	265
2005	\$272,500	384	\$373,700	324
2004	\$255,000	348	\$355,000	424

⁵ Sales Data compiled by The Warren Group

2003	\$232,500	221	\$330,500	362
2002	\$212,500	187	\$317,000	275
2001	\$191,000	269	\$275,000	340
2000	\$156,000	263	\$249,900	335

Our review of the Multiple Listing Service (MLS), as of August 18, 2012, showed listings for 83 **condominiums** in Chelmsford. The median price for condos listed in Chelmsford was \$198,500.

Average List Price: \$213,960

Average List Price per Square Foot: \$143

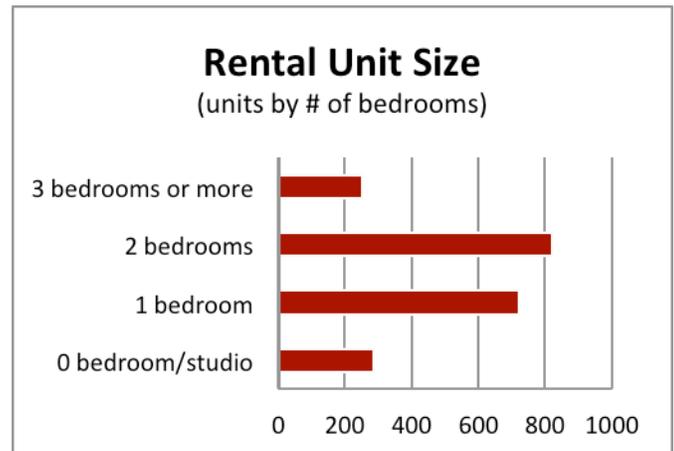
Average Sale Price: \$202,593

Average Sale Price per Square Foot: \$143

Rental Housing

According to the American Community Survey (ACS, 2006 – 2010), there are approximately 2,084 rental units in Chelmsford. There are approximately 288 studios, 722 one-bedroom units, 822 two-bedroom units and 250 units with three-bedrooms or more.

The median gross rent reported by the American Community Survey is \$1,113 per month⁶. Our review of MLS rentals available in Chelmsford revealed a substantially higher average rent among available units (see following page). A breakdown of the number of units by rent and number of bedrooms according to ACS data is provided below.



	0 or 1 Bedroom		2 Bedrooms		≥3 Bedrooms		Total	
<\$500	224	22%	70	9%	37	15%	331	16%
\$500 - 749	103	10%	79	10%	11	15%	193	9%
\$750 - \$999	237	23%	47	6%	13	15%	297	14%
\$1,000 +	437	43%	617	75%	140	15%	1194	57%
No Cash Rent	9	1%	9	1%	51	15%	69	3%
Total Units	1010	100%	822	100%	252	100%	2,084	100%

⁶ American Community Survey (2006-2010)

Our review of the Multiple Listing Service rentals in Chelmsford for June thru August 2012 showed an average list price of \$1,722 per month for 56 properties that were listed. The following illustrate the median rents by unit size for available apartments:

1 bedroom: \$1,000

2 bedrooms: \$1,600

3 bedrooms: \$2,100

The Section 8 “Fair Market Rents⁷” for the Lowell, MA HUD Metro Area, which include utilities, is as follows:

1 bedroom: \$861

2 bedrooms: \$1,107

3 bedrooms: \$1,322

⁷ Annually, HUD determines “**fair market rents**” which become effective October 1st each year and are used to determine rent amounts under the Housing Choice Voucher program as well as other Section 8 programs.

Affordability Analysis

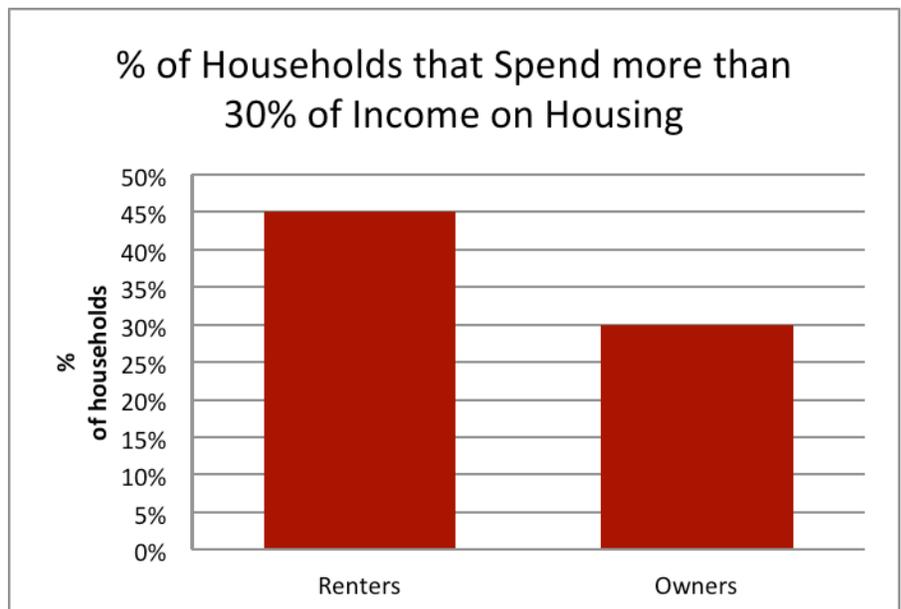
Housing Affordability – Home Ownership

The typical standard for housing affordability is 30% of income. In other words, it is considered reasonable and “affordable” to pay housing costs up to 30% of a family’s income. For rental units, housing cost means rent and utilities. For homeownership units, housing cost includes: mortgage payment (principal & interest), real estate taxes and insurance (sometimes referred to as PITI).

The 2011 median sales price for a home in Chelmsford was \$275,500. To afford a home at this price, a household would need annual income of approximately \$70,000⁸. This is 23% lower than the estimated median household income in Chelmsford (\$90,322⁹). This means that the median income family in Chelmsford could afford the median priced home. However, many homeowners in Chelmsford are paying more than 30% of their income for housing. The 2008-2010 American Community Survey estimates that about 30% of Chelmsford’s owner-occupied households are paying more than 30% of their income to cover housing costs.

Housing Affordability – Rental

The problem of affordability among renters is even more pronounced. Close to one-half (45%) of the households that rent apartments in Chelmsford are paying 30% or more of their income for housing costs.¹⁰ Approximately one-half of the cost-burdened renter households have annual incomes less than \$20,000.



⁸ Housing cost is based on the following assumptions: 95% financing at 4% over 30 years, tax rate of \$17.49 per \$1,000 in value and annual insurance of \$1,100.

⁹ American Community Survey (2008 - 2010)

¹⁰ American Community Survey (2008 - 2010)

Subsidized Housing Inventory

The Subsidized Housing Inventory is used to measure a community's stock of low and moderate income (LMI) housing for the purposes of M.G.L. Chapter 40B, the Comprehensive Permit Law.

The units that get counted as part of this "subsidized inventory" are typically one of four types:

- 1) Rental units that are funded with an on-going subsidy program which keeps the rent levels affordable to LMI individuals,
- 2) Rental units that were developed with tax credit financing and rents must be kept low for an extended affordability period (15 years) in exchange for investors receiving Low Income Housing Tax Credits,
- 3) Homeownership units that were developed by a non profit housing developer using government grants, housing trust fund dollars, and/or charitable contributions, and offered at an affordable sales price to LMI buyers, (with resale restrictions), or
- 4) Homeownership units that were developed by private developers and offered for a reduced sales price to LMI buyers in exchange for being able to develop at a higher density than zoning would otherwise allow (with resale restrictions).

Under Massachusetts General Law Chapter 40B, towns are encouraged to ensure that 10% of their housing units are affordable to households earning less than 80% of AMI. While Chelmsford is much closer to meeting their affordable housing goal than many other similar-sized communities, the Town is still shy of the 10% threshold. According to the May, 2010 DHCD Subsidized Housing Inventory (SHI), Chelmsford has 990 subsidized housing units, representing approximately 7% of its total housing units. An inventory of Chelmsford's subsidized housing is presented in the following chart.

Project Name	Address	Type	Total SHI Units	Comp. Permit
Chelmsford Arms	1 Smith St.	Rental	64	No
Delaney Terrace 8	8 Sheila Ave.	Rental	51	Yes
McFarlin Manor	10 Wilson St.	Rental	50	Yes
Groton Road	79A Groton	Rental	8	Yes
n/a	Mill Rd., Sheila Ave.	Rental	11	Yes
Lamplighter Green	Richardson Rd.	Owner	24	Yes
Meadows at Brick	82 Brick Kiln Rd.	Rental	180	Yes
The Courtyard	360 Littleton Rd.	Owner	42	Yes
Briana Lyn Estates	86 Richardson Rd.	Rental	16	No
Charles Place	Deca Drive	Owner	2	No
Kensington at Chelmsford	223-229 Littleton Rd.	Rental	144	Yes
Windmere at Chelmsford	Fairview St.	Owner	14	Yes
Village at Crystal Lake	Sheila Ave.	Rental	51	Yes
Orchard Hills	130 Turnpike Rd.	Owner	6	Yes
DMR Group Homes		Rental	62	No
Residence at Steadman	140 Steadman St.	Owner	4	Yes
Village at Glen Isle	37 Glen Ave.	Owner	8	Yes
Princeton Commons	Technology Dr.	Rental	108	Yes
Robin Hill Meadows	5-25 Equestrian Ln.	Owner	4	Yes
Woodland Square	262-264 Woodland Sq.	Owner	8	OYes
Princeton Ridge	67 Princeton St.	Owner	3	Yes
Choice Center	19 Sheila Ave.	Rental	37	Yes
Princeton at Rivermeadow	Riverneck Road	Rental	48	Yes
Harding Street	Harding St.	Rental	8	No
Amelia Way	8 Main St.	Owner	2	Yes
Chelmsford Arms	1 Smith St.	Rental	64	No

HUD defines specific income guidelines for each MSA to establish eligibility for affordable housing. Households earning less than 80% of the Area Median Income (AMI) adjusted for household size are considered Low Income. The following chart shows the 2012 Income Limits based on the number of person per household.

2012 Low Income Limits								
	1 PERSON	2 PERSON	3 PERSON	4 PERSON	5 PERSON	6 PERSON	7 PERSON	6 PERSON
Lowell, MA Metro Area	\$45,500	\$52,000	\$58,500	\$65,000	\$70,200	\$75,400	\$80,600	\$85,800

There were an estimated 8,434 low income persons, representing about one-quarter of the total population, living in Chelmsford in 2010¹¹.

¹¹ Source: PolicyMap.org

Need for Affordable Housing in Chelmsford

We interviewed Georgi Mueller, a Realtor in Town and Board Member of the Chelmsford Housing Authority who also serves on the Affordable Housing Committee and assisted with the development of Chelmsford's Affordable Housing Plan. She indicated that there was a substantial need for affordable rental apartments in Chelmsford. She said that there is not a lot of inventory and lower-priced rentals get leased very quickly. Ms. Mueller said that she gets many requests for lower-priced apartments from three types of customers including: younger people that are transferring into the area for a job, recently divorced individuals and families that may have recently lost their home or cannot afford to purchase or. She suggested that there was a need for 2 bedroom apartments especially around the \$1,000 price point and that, in her opinion, Chelmsford also needed more modestly priced 3-bedroom apartments to ensure that families would not be priced out of the market. As for amenities, she indicated that renters require off-street parking and stressed that the availability of laundry in the unit (stacked washer/dryer or at least an available hookup) makes a huge difference in marketability.

Ms. Mueller said that, while she would like to see additional lower cost/affordable rental units developed, she would not recommend developing additional affordable/subsidized homeownership units at this time. She said that housing prices are currently depressed and that the Housing Authority has had some difficulty selling their affordable units because buyers can get units close to the same price without the resale restrictions.

David Hedison, Director of the Chelmsford Housing Authority (CHA), also stressed the need for apartments that are priced around the Fair Market Rent (FMR) levels. (Current FMRs, which include utilities, are as follows: \$861 for 1 bedroom, \$1,107 for 2 bedrooms, and \$1,322 for 3 bedrooms.) He indicated that CHA has 650 section 8 vouchers but potential renters have a very difficult time finding appropriately priced units.

The finding that there is a shortage of affordable rental opportunities is supported by the 2011 Chelmsford Affordable Housing Plan. According to this document, there are over 1,300 families and singles on the Chelmsford Housing waiting list for housing and another 143 seniors on the State Aided Public Housing Waiting List. The average wait for families and singles is seven to ten years. The average wait for seniors is between six months and five years.

Housing in and near the Center Village

Center Village Area Housing Characteristics

The housing located in and near the Center Village is a mix of multifamily and single-family units. The majority of units are configured in multi-unit structures. There are approximately 410 existing multifamily units in close proximity to the Center Village. There are approximately 50 condos, 10 townhomes and 350 apartments. Many of the apartments are predominately designed/marketed for and occupied by either special needs/handicapped or elderly individuals.

Apartments	# of Units	BR/BA	SF	Sample Rents	Typical Rent/SF	YR Built	Parking	Amenities/Notes
Coach and Carriage House 42-44 and 62-70 Boston Road	149	Studio, 1 & 2 BR; 1 BA	775 (2 BR)	\$800 - \$1,250	\$1.50	1964	Parking lot	Pool, balcony/patio, housing vouchers welcome, A/C, electric baseboard heat, no elevator
Summer Place 20 Summer St. (Independent Senior Living)	110	Studio, 1 & 2 BR	300 - 900	\$3,000 - 6,000	\$8.40* (includes meals/services)	1994	Parking lot	Meals, activities, transportation, linen service
McFarlin Manor 10 Wilson St. (Public Housing for seniors & disabled)	50	1 BR; 1 BA	NA	Based on income	NA	1984		Some elder services provided, waiting list of over 100 people
Magnolia Arms 30 Worthen St.	32	2 BR; 1 BA	NA	NA	NA	1972	Parking lot	No elevator, modest rental option
Wilson Block 2 Central Square	8	NA	NA	NA	NA	1800	Few spaces in adjacent parking lot	Dated units in historic property

Condo/Townhomes	# of Units	BR/BA	SF	Sample Prices	Typical Price/SF	YR Built	Parking	Amenities/Notes
54 Boston Road	10	2 & 3 BR; 1.5-2.5 BA	1,900 - 2,200	\$200,000 - \$250,000	\$108	1987	1 garage space & 1 uncovered space/unit	Additional common/guest parking, A/C, some units with updates, decks, patios, basement/attic storage
Ledgewood Terrace Sinai Circle	51	Studio, 1 & 2 BR; 1 BA	350 - 700	\$94,000 - 100,000	\$146	1964	2 spaces in lot/2 BR unit	1 family owns and rents about 10 units; couple of units in foreclosure

Center Village Area Homeownership Market

Sale prices for a sample of recently sold condos and townhomes within ½ mile of the Center Village have ranged from \$266,000 for a large townhome at 54 Boston Road to \$98,000 for a small condo at Ledgewood Terrace. The median per square foot price was \$108.

Recent Condo/ Townhome Sales	Bdrms	Baths	S.F.	Date Sold	Price	Price/S.F.
11 Sinai Circle Unit A	2	1	701	7/10/10	\$98,000	\$140
54 Boston Road # 1B	2	1.5	1,927	5/20/12	\$205,000	\$106
54 Boston Road # 2B	2	1.5	1,877	7/22/12	\$180,000	\$96
54 Boston Road # 4B	2	2.5	2,170	6/28/11	\$235,000	\$108
54 Boston Road # 4C	3	2.5	2,166	4/29/11	\$266,000	\$123

The median price per square foot for the two multi-family properties that have recently sold was \$210. Sale prices for recently sold single-family homes within ½ mile of the Center Village have ranged from \$195,000 to \$350,00. The median per square foot price was \$181.

Recent Single-Family Sales	Bdrms	Baths	S.F.	Date Sold	Price	Price/S.F.
24 Bilerica Road	3	2	1724	7/21/11	\$296,000	\$172
8 Plum Street	3	1	1008	1/26/11	\$243,500	\$242
13 Rivermeadow Dr	4	3	2056	3/2/12	\$266,000	\$129
15 Rivermeadow Dr	3	2	1463	8/1/11	\$314,600	\$215
41 Boston Road	3	1	1362	9/2/11	\$276,750	\$203
35 Acton Road	3	2	1660	5/30/12	\$300,000	\$181
53 Littleton Road	3	1	1212	12/28/11	\$195,000	\$161
72 Littleton Road	3	4	3046	8/5/11	\$350,000	\$115
42 Bridge Street	4	1.5	1324	9/30/11	\$280,000	\$211

Center Village Area Rental Market

Our review of apartment listing services showed the following information about apartments currently available for rent in the Center Village area.

Apartment Listing	Bedrooms	Baths	Rent
Coach and Carriage House			
Studio	0	1	\$800 – 825
One Bedroom	1	1	\$900 - 975
Two Bedroom	2	1	\$1,125 - 1,250
Ledgewood Terrace			
4 Sinai Circle	2	1	\$1,000

Center Village Housing Character Photographs (multi-family properties)

Coach and Carriage House – 149 Apartments



Summer Place – 110 Independent Senior Retirement Apartments (with meals and services)



McFarlin Manor – 50 State Public Housing Apartments for Seniors & Disabled)



Magnolia Arms – 32 Apartments



Wilson Block – 8 Apartments



54 Boston Road – 10 Townhomes



Ledgewood Terrace – 51 Condos, some are rentals

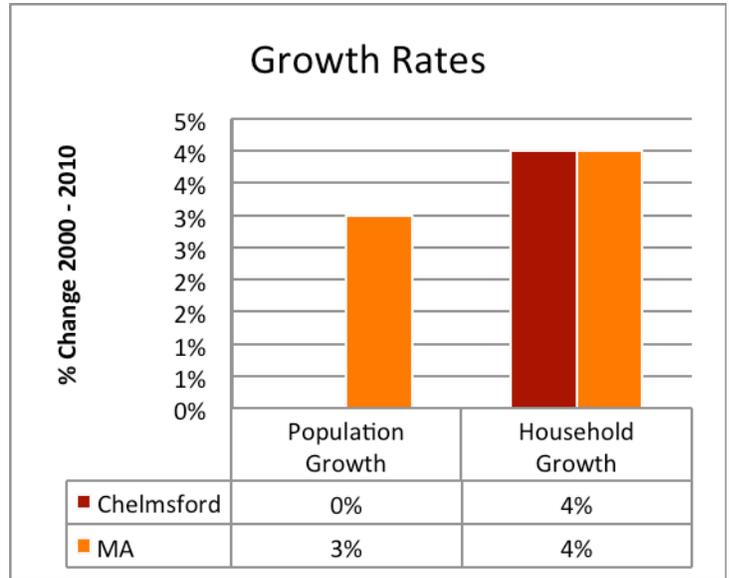
Part 3

Market Demand --- Analysis

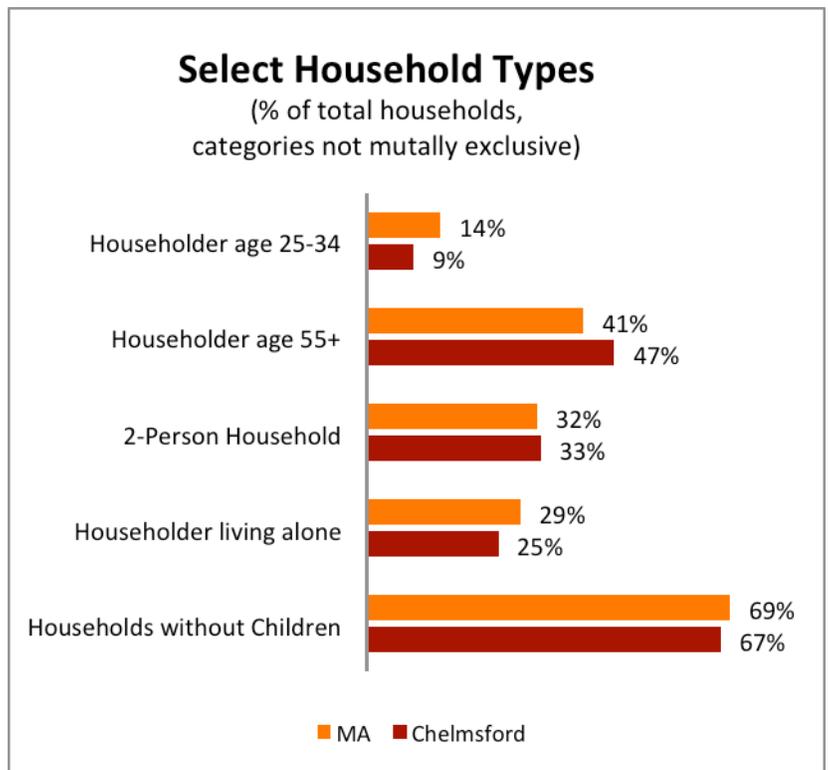
Chelmsford Demographic Analysis

Population and Household Trends

The 2010 Census showed that Chelmsford had a total of 33,802 residents, representing no increase over the 2000 population of 33,858. This differs from state of Massachusetts overall that experienced a 3% increase during the same time period. While there was no growth in population, Chelmsford did increase in number of households. In Chelmsford and the State, the number of households grew by 4%. In Chelmsford, as in most areas, average household size has decreased, and more housing units are required to accommodate the same population.

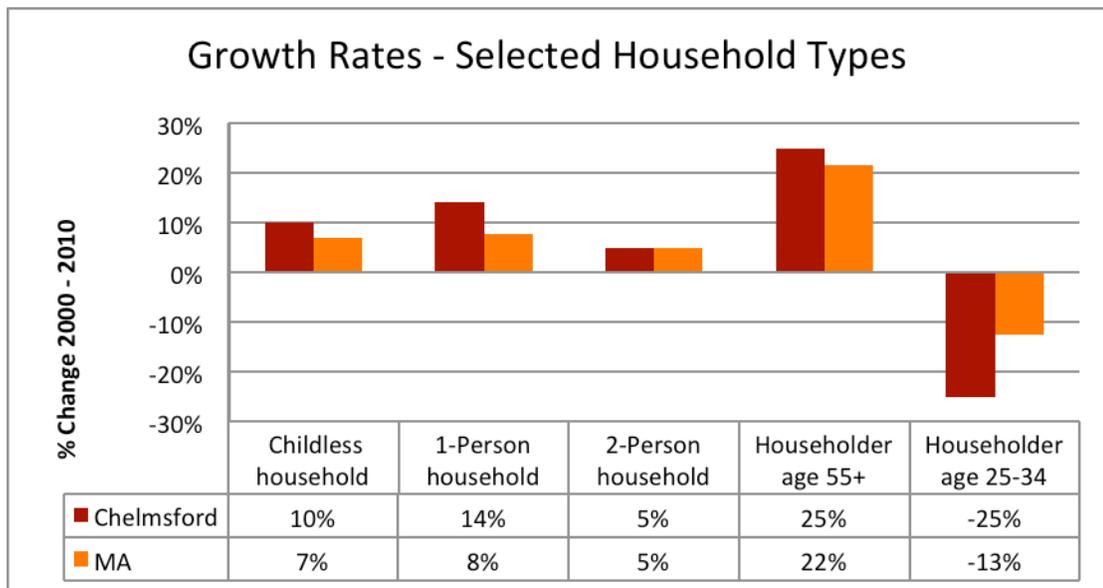


Typically, the types of households that are seen as natural target segments for downtown/Village Center housing include: childless households, 1 and 2 person households, seniors, and young singles and couples. All, but one of these household types are in strong supply in Chelmsford. Senior householders (age 55+) comprise almost one-half of Chelmsford’s total households (47% compared to 41% statewide). Two-thirds of Chelmsford households do not contain children and 62% of Chelmsford households contain 2 persons or less. The one segment that appears to be under-represented in Chelmsford is the 25 – 34 age group; only 9% of Chelmsford



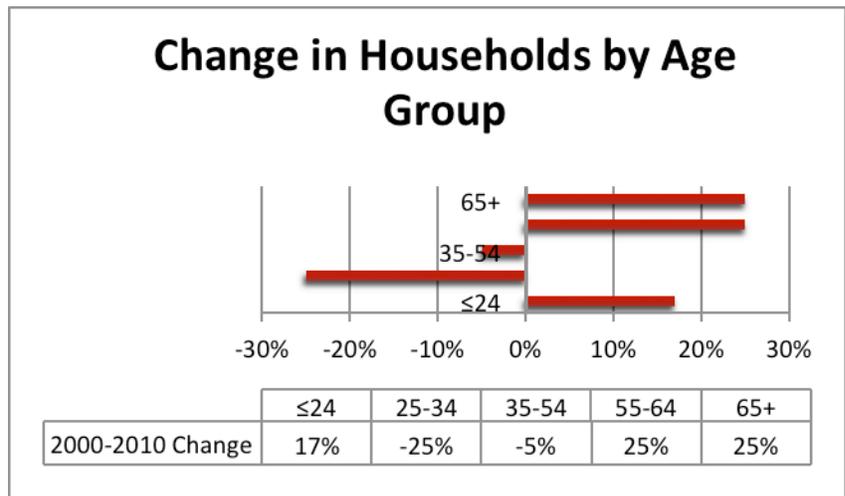
householders fall into this category compared to 14% in Massachusetts overall. This does not necessarily indicate there is no demand for housing to serve this segment. Indeed, these types of households might be less present in Chelmsford due to a lack of suitable housing product being offered (e.g., housing units that younger residents and single residents can afford to buy or rent). Another reason could be that, during this life stage, young people frequently seek a different type of living environment (perhaps more urban in nature).

The following chart illustrates growth trends among the selected household types. The households headed by residents age 55 and above increased by 25% between 2000 and 2010. Other segments typically targeted by downtown housing also increased between 2000 and 2010. The number of childless households and 1 person households in Chelmsford increased 10% and 14% respectively, a considerably higher rate of increase than the State overall, while 2-person households increased at about the same rate. The number of younger householders, age 25-34, declined in both Chelmsford and Massachusetts, however, the Town of Chelmsford experienced a much more dramatic decrease.



Chelmsford Trends	2000	2010	% Change
Population	33,858	33,802	0%
Total households	12,812	13,313	4%
Average household size	2.61	2.53	-3%
Selected household types			
Households without Children	8,164	8,943	10%
Householder living alone	2,963	3,391	14%
2-Person Household	4,161	4,366	5%
Householder age 55+	4,884	6,120	25%
Householder age 25-34	1,684	1,258	-25%

Chelmsford experienced significant growth in households headed by individuals over the age of 55. The same rate of growth (25%) occurred in both senior market segments (those 55 to 64 and those over age 65). Chelmsford experienced a significant decline of 25% in households headed by individuals age 25 to 34 and a more modest decline of 5% in householders age 35 to 54. Chelmsford also experienced an increase in householders under the age of 25 (however, only 1% of Chelmsford householders fall into this category).



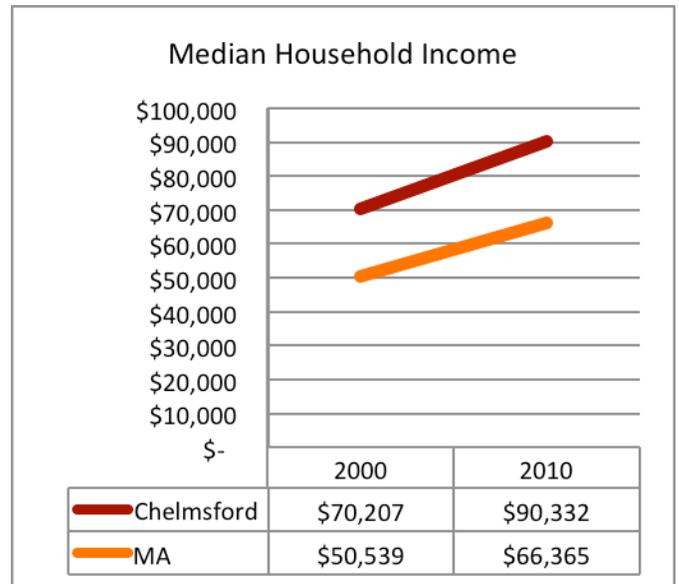
Chelmsford Householder Age Distribution: Homeowners				
Age group	2000		2010	
	#	% of total	#	% of total
≤24	37	0%	38	0%
25-34	1187	11%	852	8%
35-54	5384	50%	4,991	45%
55-64	1936	18%	2,338	21%
65+	2199	20%	2,795	25%
	10,743		11,014	

Chelmsford Householder Age Distribution: Renters				
Age group	2000		2010	
	#	% of total	#	% of total
≤24	97	5%	119	5%
25-34	497	24%	406	18%
35-54	726	35%	787	34%
55-64	152	7%	275	12%
65+	597	29%	712	31%
	2,069		2,299	

The population of Chelmsford has remained predominantly White (89%), however, the non-White population has increased over the last decade. The most significant change occurred among the Asian segment. The percentage of Asian residents in Chelmsford increased by 82% between 2000 and 2010. There are over 2,800 Asian residents living in Chelmsford, comprising a little over 8% of the total population. This exceeds the percentage of Asian residents in Massachusetts (5%). About 1% of Chelmsford residents are African American and 2% are Hispanic, far less than the state overall.

Income

Chelmsford has a mix of incomes but, by and large, is considered an affluent community. Most residents have higher incomes than the statewide median. The 2010 median household income in Chelmsford is estimated at \$90,322, 40% higher than the median household income statewide (\$64,072). In fact, 35% of the households earn over \$150,000 per year, however, 34% of households earn less than \$35,000. 3% of the population has an income below the poverty level, compared to 11% in Massachusetts. In Chelmsford, the median household income increased by 29% between 2000 and 2010, compared to a 27% increase in Massachusetts.



Income and Benefits (2010 Inflation-Adjusted\$)	Chelmsford #	Chelmsford %	MA	Middlesex County
Under \$15,000	961	12%	13%	9%
\$15,000-24,999	826	11%	9%	7%
\$25,000-34,999	827	11%	8%	6%
\$35,000-49,999	1,228	16%	11%	10%
\$50,000-74,999	1,835	24%	17%	16%
\$75,000-99,999	1,444	19%	13%	14%
\$100,000-149,999	3,299	43%	16%	19%
\$150,000-199,000	1,654	21%	7%	9%
\$200,000 or More	1,105	14%	7%	10%
Median Household Income		\$90,322	\$64,072	\$77,322
Average Household Income		\$105,226	\$84,005	\$102,456
Per Capita Income		\$41,111	\$32,337	\$32,454

Regional Economic Context, Housing Market & Migration

Regional Economic Context and Trends

Chelmsford is located within Middlesex County, about 24 miles north of Boston, just beyond the border of what is considered the Boston metropolitan area. Chelmsford borders the City of Lowell and is part of the Greater Lowell metropolitan area. The housing market in Chelmsford is impacted by the economic conditions in the Lowell and Boston Metro areas, as well as the overall Massachusetts and New England region.

National Overview

The national economy saw slow and steady growth throughout 2011 as employers continued to add jobs consistently through the year. By January of 2012, unemployment rate had dropped to 8.3% nationally, the lowest rate of the last 34 months. However, despite the positive indicators, there is concern nationally and in New England, as uncertainty lingers in the global and national economy. According to the 2012 CBRE/Market Outlook, these insecurities are driven by the European debt crisis, a sluggish housing market recovery, fiscal and political stress on all levels of government and mixed reports on consumer confidence¹².

Massachusetts and New England

The Massachusetts recession was shorter and milder than the U.S recession due to an industrial mix more reliant on technology and business spending and less on housing and consumer spending. In January, 2012 the State's unemployment rate dropped to 6.8% well below the national average and the lowest monthly rate since December of 2008.¹³

The New England Economic Partnership (NEEP)¹⁴ forecasts that Massachusetts will continue to slowly add jobs through 2012 and gain momentum in 2013. Some experts predict that New England will reach the pre-recession employment levels in early 2015. "It's not a bright outlook, but the economy is improving," said, the Northeastern University professor who prepares the NEEP forecasts. "This is an economy that, like the nation's, is still recovering and will be for a couple years."¹⁵

According to a May, 2011 NEEP report, the economy still has significant weaknesses. Massachusetts lost nearly 143,000 jobs in the recession, which ended in 2009, and has recovered only one-third since then. The state's residential housing market remains depressed with stagnant prices. Between the third quarter of 2005 and the first quarter of 2009, prices fell 25 percent, and since then have gained

¹² 2012 Market Outlook New England, CBRE, Suzanne Duca

¹³ Massachusetts Executive Office of Labor and Workforce Development

¹⁴ New England Economic Partnership, www.neepecon.org

¹⁵ Boston Globe, Megan Woolhouse, May 19, 2011

back only one-third of their value. On the bright side, personal incomes are expected to improve 6.0 percent in 2012, reflecting improving conditions in the labor market and increased employment.

In the next few years, jobs in construction, transportation, financial activities, and manufacturing are expected to decline. On the other hand, job growth is predicted for the education and health services sectors, which continued to add jobs throughout the recession. Leisure and hospitality, government, and professional jobs, will constitute a greater share of the state's jobs.

In their 2012 Market Outlook, CBRE points out that the region's long term economic picture will be impacted by the aging population and resulting impact on the workforce. Growth in New England is significantly slower than the rest of the US; population in New England increased by only 3.8% from 2000 to 2010 while the U.S. population grew 9.7%. The change in the core worker age population is especially concerning; the number of people ages 25 to 44 declined 13% in the region compared to 3% nationally. The region ranks among the highest in the country for percentage of adults with college degrees contributing to its high economic growth and productivity, however, if the core worker age population continues to decline, this could significantly hinder the development of the region's economy.

Boston Metro Area

There appears to be cautious optimism with regard to Boston area trends. The impact of these trends lessens to some degree with distance but do clearly impact Chelmsford's housing market. The Boston-metropolitan area is recovering with job growth above the national average and outpacing other metropolitan areas like San Francisco, which has similar demographics¹⁶. Boston benefits from a concentration of high-skill, well paying jobs in the finance and technology sectors with industries like biotechnology and an enduring foundation of medical and educational institutions. However, growth may be tempered by factors such as high business and living costs along with weak demographics as discussed in the previous section pertaining to New England overall.

According to a report released in June 2012 by Harvard's Joint Center for Housing studies, the US housing market, and the Boston area in particular, have likely reached bottom and will slowly start to recover this year. "There are lots of positive indicators here," said Eric S. Belsky, managing director of the housing center. "A floor is beginning to form under home prices."¹⁷

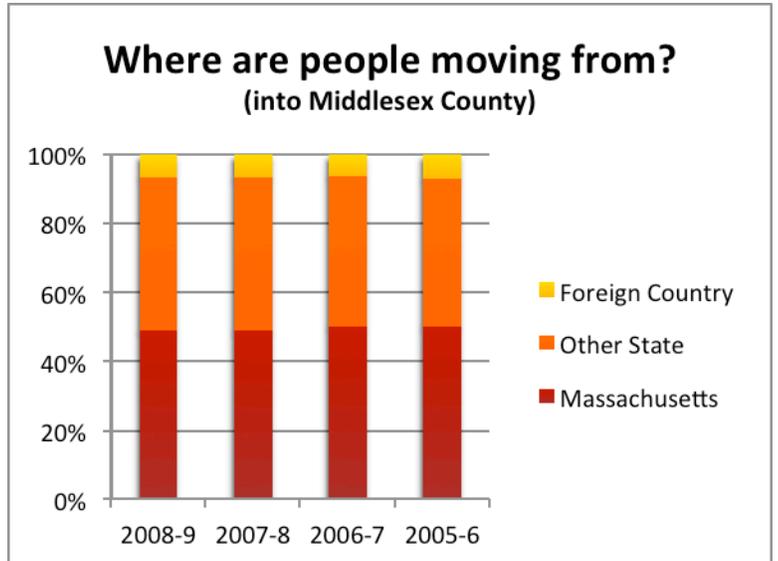
¹⁶ New York Times, Feb. 22, 2011, Susan Diesenhouse, "As Boston's Economy Grows, Demand for Rental Units outpace Condo Market"

¹⁷ Boston Globe, June 14, 2012, Jennifer McKim, "Harvard Center forecasts Uptick across the Country"

Migration Patterns

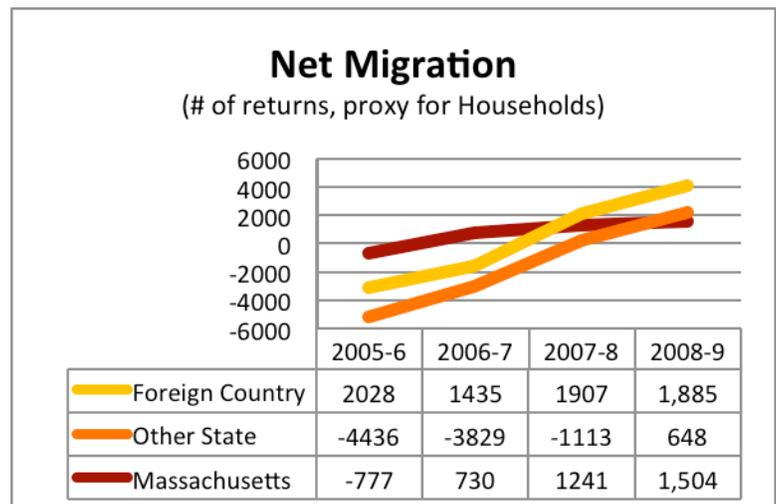
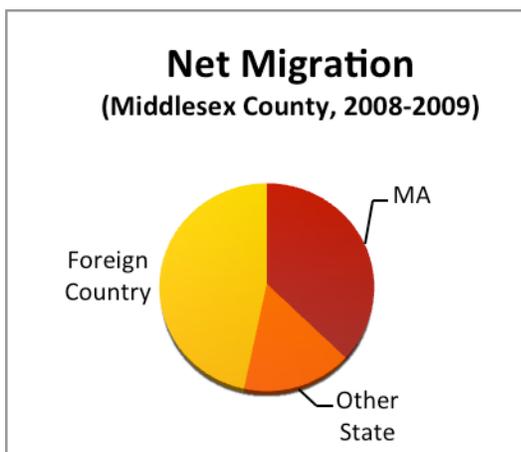
According to IRS tax return data, an average of around 61,000 people (42,000 households) moved into Middlesex County each year between 2005 and 2009.

During this period, approximately one-half of the residents that moved into the County came from other counties in Massachusetts; 43% came from other states and about 7% came from a foreign country. The migrants moving into the County appear to have smaller household sizes than existing residents.



Of those migrating in from other Massachusetts counties, the largest portion came from Suffolk County. During 2008–2009, 44% of the migrants came from Suffolk County, about 14-18% came from each of three other counties including: Norfolk, Essex and Worcester. The remaining 11% came from a mix of counties.

Net migration, the balance of inflow residents minus outflow residents (people that move out of the County) was negative during 2005-2006 and 2006-2007 and then positive during 2007-2008 and 2008-2009. In 2008–2009, net migration totaled approximately 4,000 households; almost one-half of the householders were foreign born, 37% were from Massachusetts and the rest from out of State.



Housing Needs Analysis for Chelmsford

Estimation of Housing Need

We can approximate the number of additional housing units that will be needed in an area, assuming a projected growth rate by using the model illustrated in the following table.

Projected Housing Unit Need - Chelmsford (based on Projected Growth)	2010 - 2015	2010 - 2020
Projected Population¹⁸	35,460	36,110
Projected Households¹⁹	13,621	13,929
(x) 1 + Vacancy Rate	1.04	1.04
(=) Proj. # Housing Units Needed	14,166	14,486
Projected Community Housing Available (Supply)		
Existing Housing Units (2010)	13,807	13,807
(-) Proj. # Units Beyond Repair	NA	-NA
(=) Proj. # Housing Units Available	13,807	13,807
Demand for Additional Community Housing Units		
Proj. # Housing Units Needed	14,166	14,486
(-) Proj. # Housing Units Available	13,807	13,807
(=) Proj. # Additional Units Needed	359	679

We used the projections for population and number of households presented in the Chelmsford Master Plan. These projections were developed by MassDOT in conjunction with the Northern Middlesex County of Governments (NMCOG) in 2007. The projections reflect an assumed increase of 6.8% in population between 2010 and 2020 and an increase of 4.6% in the number of households. However, it should be noted that these projections might be on the high side, given the most recent Census data. According to the 2010 Census, Chelmsford population actually declined slightly between 2000 and 2010 while the number of households grew by about 4%.

¹⁸ Chelmsford Master Plan, MassDOT Projections, developed in conjunction with NMCOG

¹⁹ Chelmsford Master Plan, MassDOT Projections, developed in conjunction with NMCOG

The MassDOT/NMCOG projection for the number of households in Chelmsford in 2020 is 13,929. If we account for a vacancy rate of 4%, that means there will be a need for 14,486 units to accommodate the projected population growth. A vacancy rate of 4% seems to be a reasonable rate to use in our projections for three reasons. First, 3% is considered the minimum needed for a healthy market that supports housing choice. Second, the current vacancy rate is close to 4%. And third, 195 of the vacant housing units in Chelmsford are not available; they are categorized as units for “seasonal/recreational use” and “other vacant”.

We do not have information about units in extreme disrepair or otherwise unsuitable for habitation, so for the purposes of this analysis, we are assuming that there will not be any units beyond repair by 2020 and have not reduced the number of available units. Therefore, we subtract the number of available units from the number of units needed and we get the projected number of additional housing units needed -- 679 units. This is the number of new units that would be needed to accommodate 10 years of growth at the projected growth rate.

Center Village Housing Demand Survey

Survey Methodology and Response

We developed a survey instrument to get more information about the potential demand for housing in the Center Village, including the market segments that might be interested and the housing types and features that they desire. An announcement and web link was placed in 2 online Chelmsford news websites and on the Town website and Facebook page. The survey was also mentioned in a news article in the Lowell Sun Online featuring the new CVS store construction. The announcement asked for people who live in town or who are considering moving there to fill out a survey to help with development planning for the Center Village. The survey asked participants if they would like to live in the town center and what they find appealing about the area, what improvements would make it more appealing as a place to live, and about how much they would be willing to pay for housing, among other questions. We received 371 responses. Almost all (96%) of responses were from Chelmsford residents.

Overall Interest in Downtown Housing

Living in the Center Village (CV) does not appeal to all respondents, but about one-quarter said they would definitely be interested and another quarter said they might be interested.

Slightly less than one-half of the respondents (47%) indicated some interest in living in the Center Village (if appropriate housing options were available). About 24% said “yes” they would be interested and 23% responded “maybe”.

Access to services is most appealing to potential CV residents.

When asked what appealed to them about living the Center Village, respondents most frequently cited the ability to walk to services and attractions such as the library, church, bike path, restaurants and stores. (The library was mentioned more than any other single attraction.) Several people mentioned the historic, charming, quaint or small town nature of the area as appealing.

Respondents want more stores and restaurants in the CV, especially food stores.

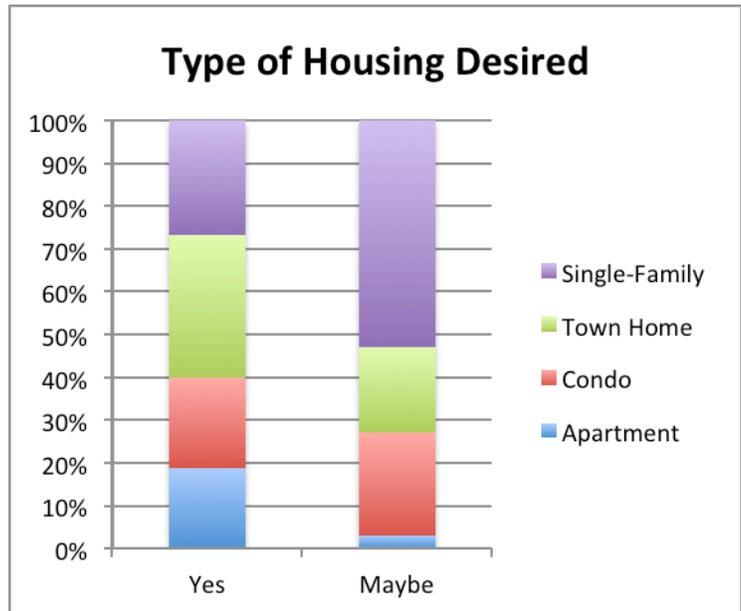
When asked what changes would make the Center Village more appealing as a place to live, respondents most frequently cited more shops, restaurants and



entertainment. They specifically mentioned the need for grocery stores (i.e, Trader Joe’s, Wegmans, Stop & Shop, Whole Foods). Another frequent response was reduced traffic or better traffic flow. A few people mentioned convenient parking, more green space and eliminating the overhead utilities.

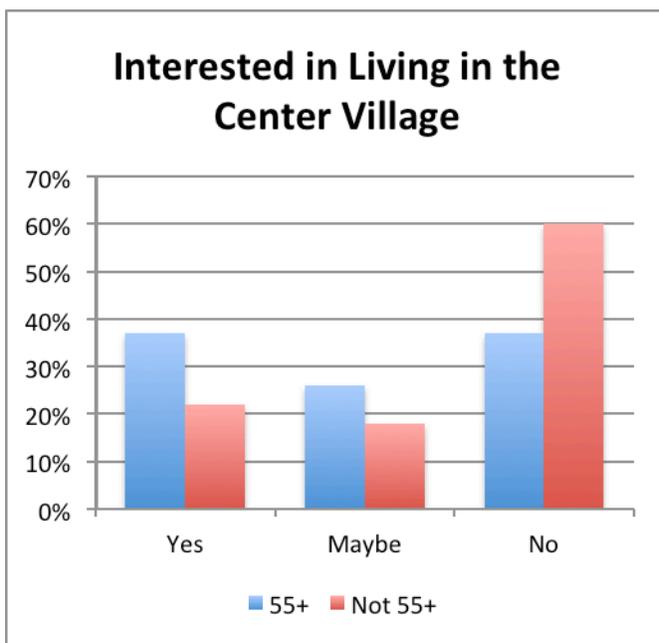
Respondents interested in living in the CV are looking for a variety of housing styles.

Of the respondents that stated they were definitely interested in living in the CV, close to 60% indicated that they were interested in condominiums or town homes (split evenly between the two), about 23% were interested in single-family homes and 17% were interested in apartments. (It should be noted that the survey overall did not get a large response from individuals looking for apartments for their next home.) More than one-half of the respondents that answered “maybe” to living in the CV are looking for single-family homes.



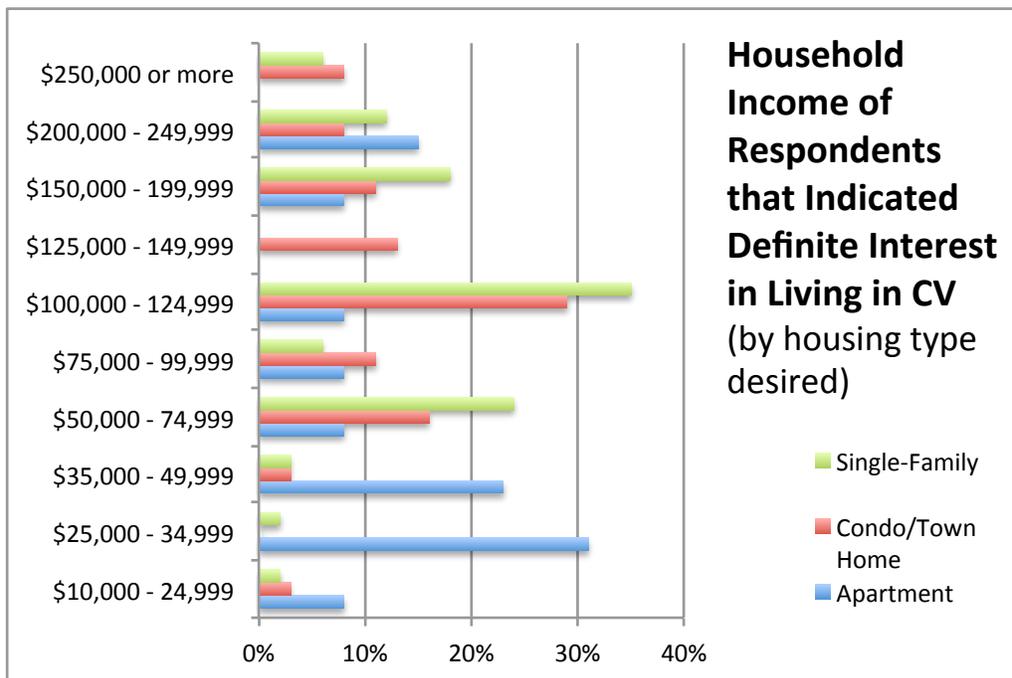
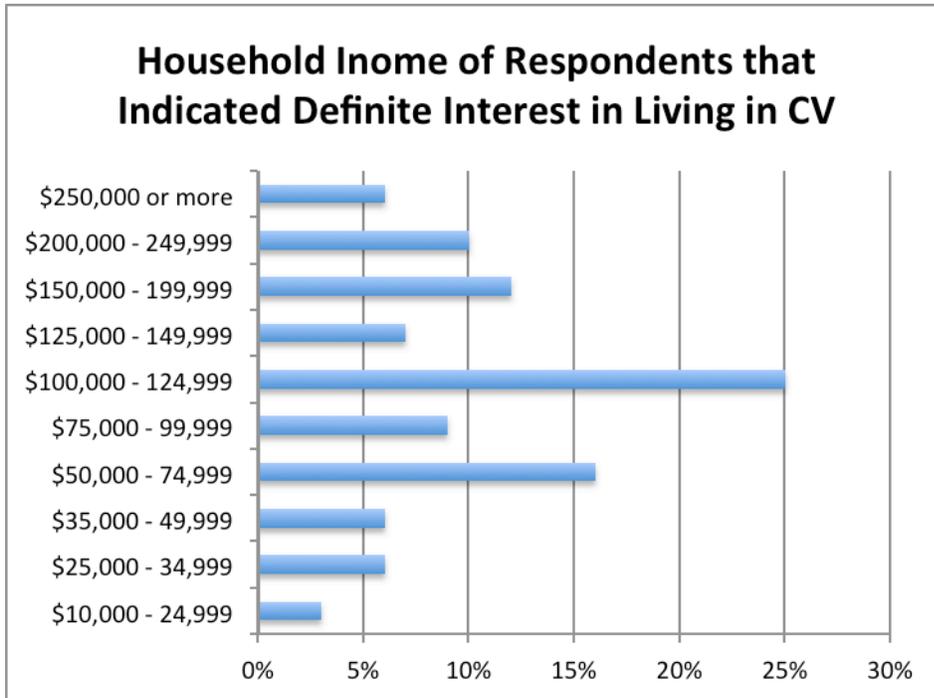
Older residents (55+) are more interested in living in the Center Village than younger residents.

63% of the households with persons age 55 or above said “yes” or “maybe” to living in the Center Village compared to only 40% of other households. 37% of the age 55 plus households indicated a definite “yes” compared to only 22% of other households.



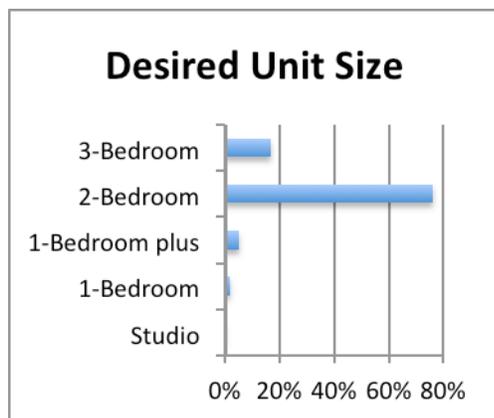
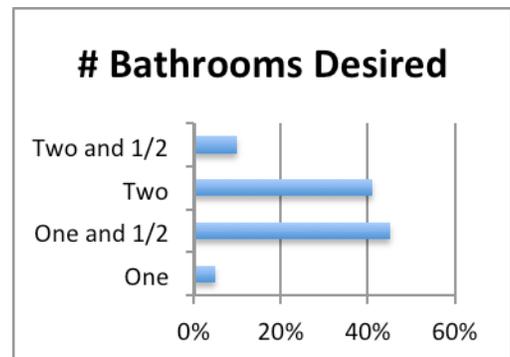
Residents of all income levels expressed an interest in living in the Center Village.

The median income of households that indicated a definite interest in living in the Center Village is between \$100,000 and \$124,999.

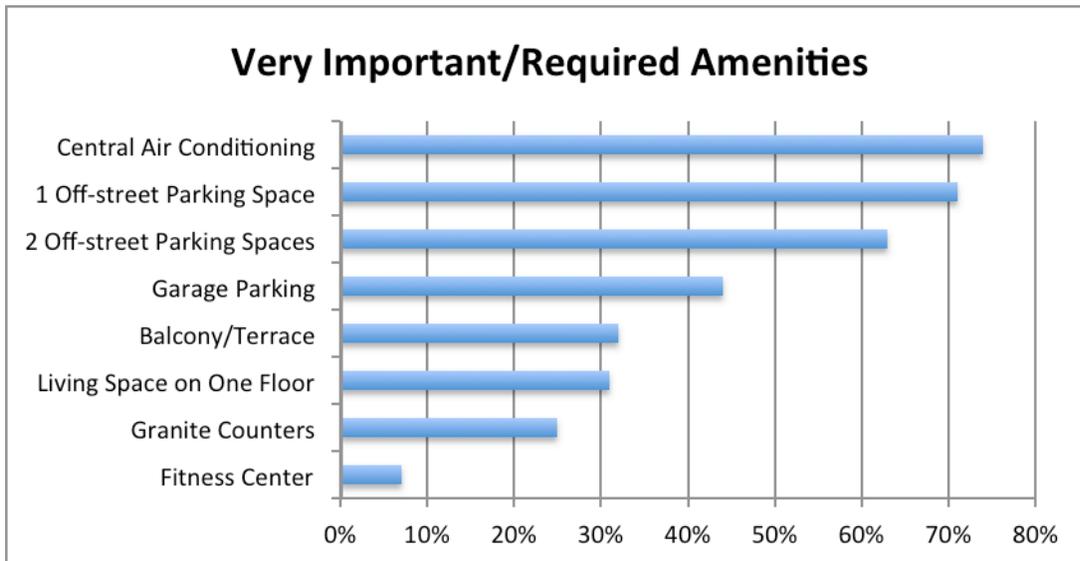


Potential CV Condo/Town Home Buyers

Overall, most potential CV condo/town home buyers appear to be looking for a 2-bedroom unit with 1.5 to 2 bathrooms, priced in the mid \$200,000 range.

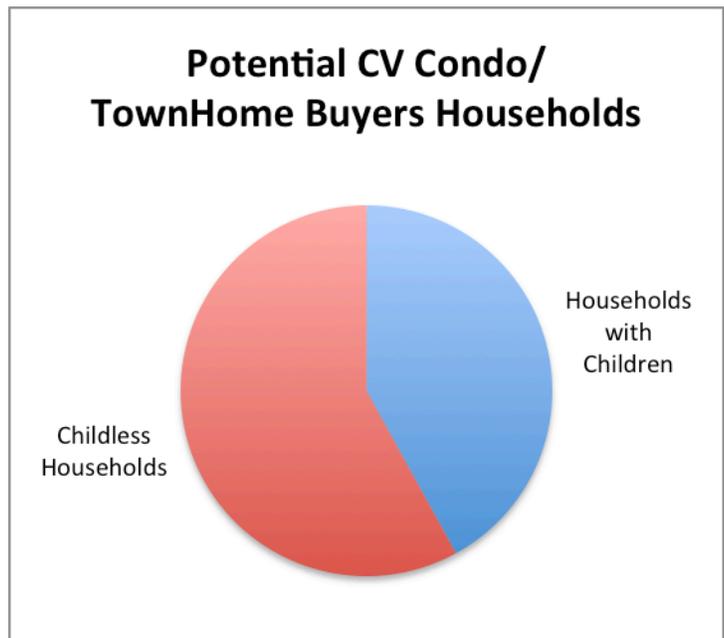


The most important amenities to these buyers include central air conditioning and one to two parking spaces. Central air conditioning is “very important/required” to 77% of these potential buyers, 73% require 1 parking space and 61% require 2 parking spaces. Garage parking is “very important/required” to about 40% and “somewhat important” to another 35%.



The largest segment of potential CV condo/town home buyers appears to be childless households which currently own a home and tend to be older (age 55+).

Almost 60% of potential condo/town home buyers do not have children under 18 living in the household. Most of these childless potential buyers (70%) are over the age of 55 and most (91%) currently own their home. The median desired price among this group is between \$200,000 and \$249,999. In addition to air conditioning and off-street parking, the amenities that are “very important/required” for more than one-half of the potential buyers in this segment include: living space all on one level and garage parking.



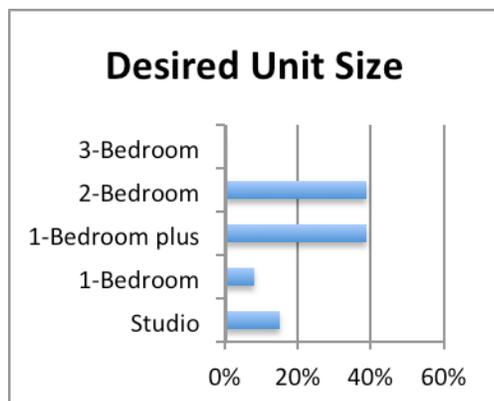
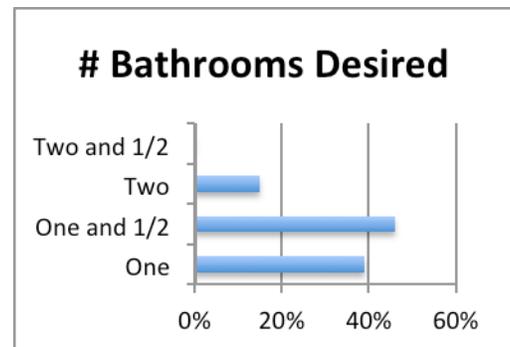
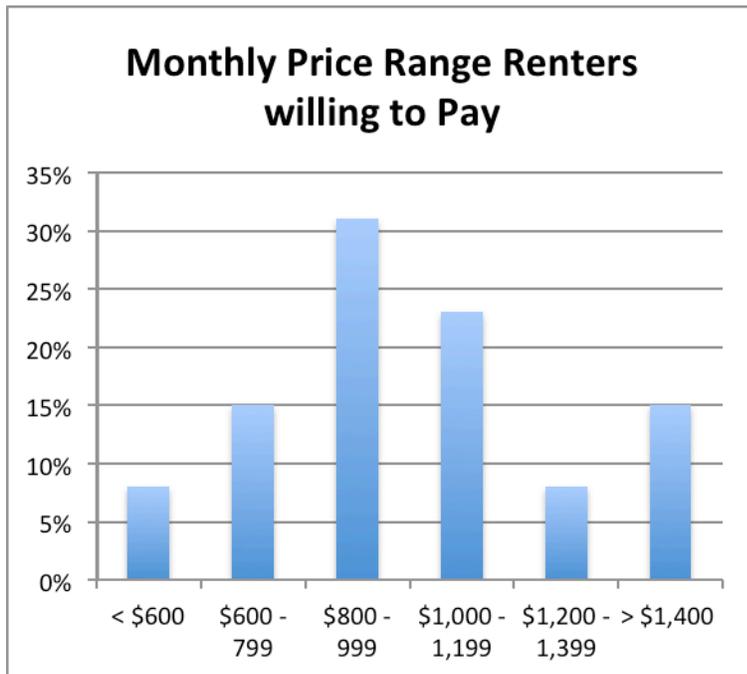
There also appears to be a smaller family segment interested in condo/town homes in the CV.

Approximately 40% of the potential buyers have children under 18 in the household. Most of these buyers are between the ages of 35 and 54 and most (88%) currently own a home. The median desired price among this group is between \$200,000 and \$249,999.

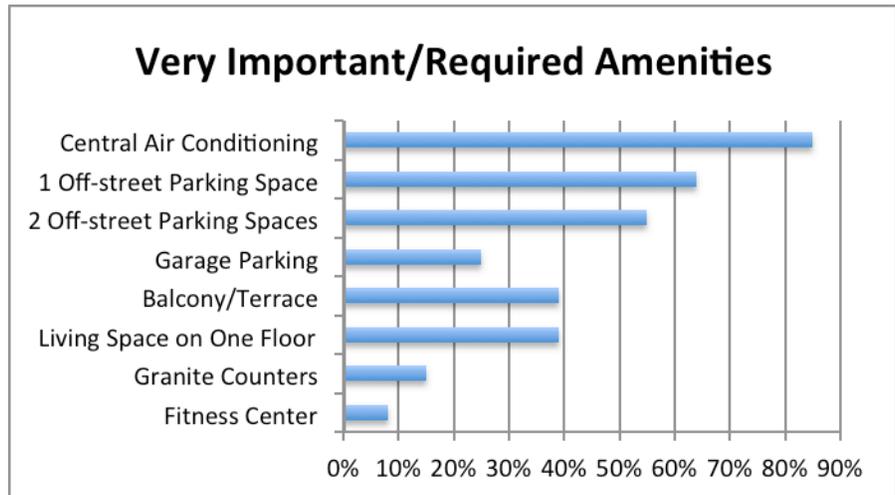
Potential CV Condo/Town Home Buyers: Very Important/Required Amenities			
	All Households	Childless Households	Households with Children
Fitness Center	7%	10%	20%
Granite Counters	25%	26%	31%
Living Space on One Floor	31%	57%	23%
Balcony/Terrace	32%	42%	31%
Garage Parking	44%	56%	40%
2 Off-street Parking Spaces	63%	68%	71%
1 Off-street Parking Space	71%	74%	80%
Central Air Conditioning	74%	82%	89%

Potential CV Apartment Renters

Only a small percentage of survey respondents (6%) said they were interested in an apartment for their next home so we only have a small amount of renter data to look at. However, the majority of the respondents that were looking for apartments indicated that they would be interested in living in the CV. **Most potential CV renters appear to be looking for a 1-bedroom plus den or a 2-bedroom unit with 1 to 1.5 bathrooms, priced around or under \$1,000 per month.** The rent level specified by the majority of potential renters is below the average rents found for available units in Chelmsford based on a review of data from multiple listing service (August, 2102).



The most important amenities to these renters include central air conditioning and one to two parking spaces. Central air conditioning is “very important/required” to 85% of these potential renters, 64% require 1 parking space and 55% require 2 parking spaces.



The largest segment of potential CV renters appears to be childless households and tends to be older.

Over 90% of respondents that indicated they were interested in renting in the CV do not have children under 18 living in the household. Most of these potential childless renters (67%) are over the age of 55 and about one-half currently own their home.

Center Village Housing Demand and Market Segments

Perspectives from Local Realtors

We spoke with three real estate professionals and got a range of opinions about the demand for housing and what type of new development might be most appropriate in the Center Village. In general, the Realtors reacted positively to the idea of additional housing development in the CV

We asked the Realtors how potential home seekers perceive a Center Village location and if they ever specifically ask about the availability of homes near the CV. Their comments did not indicate that home seekers put any particular value on a CV location. One Realtor said this might be due to the fact that there doesn't appear to be much housing product to ask about. The other two Realtors suggested that there might not be enough critical mass of commercial activity (particularly restaurants and entertainment) to create a specific draw. The comments from the Realtors indicated that, in their experience, the CV location, right now, has somewhat of a neutral effect; home seekers do not perceive it as a negative but they also are not particularly seeking homes near the CV over other locations in Chelmsford.

In general, the Realtors reacted positively to the idea of mixed use development (retail/restaurant/residential) in the CV particularly on the Stop & Shop Site. Two of the Realtors indicated that they thought there was demand for additional commercial space in the CV and that additional businesses would likely improve the overall attraction of the location.

Two of the Realtors expressed comments to the effect that the CV would benefit from diversifying the housing options available. Currently, the majority of housing units in the CV are targeted to lower income and special needs populations. They suggested that encouraging a mix of housing alternatives and disposable income levels among the residents in the CV would have a positive impact on the local businesses and encourage additional businesses to locate in the CV.

All three of the real estate professionals we interviewed agreed that there was a need for additional rental units in Chelmsford and that apartment listings appear to be renting up very quickly. When we asked the Realtors what they thought would rent well in the CV, we received comments about both higher end and lower end units. One of the Realtors stressed the demand for lower cost affordable units. An example given for an "affordable unit" was a 2-bedroom apartment renting for around \$1,000 per month. Another Realtor indicated that he thought there would be demand for medium to higher end market rate units. An example given for a market rate apartment was a 2-bedroom apartment (1,000 – 1,300 sq. ft.) renting for about \$1,800.

With respect to the potential condominium/town home market, the Realtors we spoke with suggested that there would likely be demand for these types of maintenance-free units, especially from the empty nester/55+ population that might be downsizing from larger homes and want to stay in Chelmsford. One Realtor observed that this segment is currently seeking somewhat large condo units as they transition from their single-family home and still want enough space to be able to entertain guests and host grandchildren sleepovers. This segment also prefers living space on one level with an elevator. Two of the Realtors observed that the younger market segment that sometimes goes into a condo as a first home because of price is frequently skipping over the condo stage right now because they can get a good price on single-family homes. Two Realtors we interviewed believed that 2-bedroom condos would be marketable in Center Village if “well-priced”. One Realtor suggested a price range of \$250,000 to \$299,000.

Housing Demand from Potential Center Village Market Segments

In this section, we are further exploring the housing demand. Based upon projected household growth and the assumptions described below, we estimate that there could be demand for 285 apartments and 394 home owner units during the period from 2010 to 2020. We explored particular market segments and attempted to further project the amount of potential demand that could be reasonably captured specifically in the Center Village. Based upon the assumptions described below, we estimate that it is reasonable to assume there could be market support for approximately 50 to 86 Condos/Town Homes and 116 to 164 apartments in the Centre Village.

Renter versus Homeowner Units

In the previous “Housing Needs Analysis” section of this report, we projected a need for an additional 679 units of housing during the period 2010 – 2020 based upon household growth projections. This demand is split over renter and home owner units. To estimate the unit demand that would come from renters versus buyers, we looked at the following data.

- 1) 46% of the occupied housing units developed in Chelmsford between 2000 and 2010 were rental units. The development pattern of the last decade is likely indicative of a pattern of demand.
- 2) 38% of the housing units in Middlesex County and the State are rentals compared to 17% in Chelmsford.
- 3) Local real estate professionals that we interviewed indicated that there was significant demand for rental units. This coincides with the high percentage of older households in Chelmsford that may be downsizing from single-family homes as well as the need to accommodate younger households (age 25 – 34) that are not in a position to purchase.

We have chosen to apply a rental percentage that is halfway between the rental unit percentage developed in Chelmsford over the last decade (46%) and the state-wide percentage for rental units (38%). Using the rental percentage assumption of 42%, we estimate that there could be demand for approximately 258 apartments and 394 homeownership units. If this development scenario comes to pass, it would only increase the percentage of rental units in Chelmsford to 18% versus the current rate of 17%.

Age 55 +/Empty Nesters

Much of the demand for new housing units in Chelmsford is expected to come from the “Age 55+ /Empty Nester” market segment. The following chart provides an estimate of demand for new units created by this segment to include 185 units of home ownership housing and 134 apartments during 2010 to 2020.

The Center Village area appears well positioned to capture a significant portion of this “Age 55 +/ Empty Nester” demand if the appropriate housing product was available. The survey results showed a propensity for households containing persons age 55 and above to select Center Village housing. 63% of the age 55+ households indicated some interest in living in the CV compared to only 40% of the below age 55 households.

We used assumptions based on survey results to project the amount of unit demand specifically for condos/townhomes among the 55+ households. We also used survey results to project a reasonable market capture range for the Center Village as opposed to elsewhere in Chelmsford. We followed a similar process to project the demand for apartments among the 55 + market segment. The process yielded a demand projection of 38 – 65 condos/town homes and 83 – 100 apartments.

Other Segments

The Center Village may also be able to capture a smaller portion of the demand from other households (below age 55+). We used survey results to project possible Center Village capture rates for below age 55 condo/town home buyers. In the case of potential renters, we used the same assumption as we did for owner households because the sample size of below age 55 renter households was very small. The process yielded a demand projection of 11 – 21 condos/town homes and 33 – 60 apartments.

Housing Demand in Potential Downtown/Village Center Market Segments	2010 - 2020
Demand for New Home Owner Units	
Projected Number of Additional Units (based on HH growth)	679
(X) Percent of HHs that want to Own	0.58
(=) # Owner Households	394
Target DT Housing Market Segment Owner Households	
Empty Nester & Retiree Owner Households (age 55+)	185
% Desiring Condos/Town Homes (assumptions based on survey results)	56%
% of Demand Capturable in Village Center (assumption based on survey results)	37% - 63%
Potential Demand for Village Center Condos/Town Homes (age 55+)	38-65
Other Owner Households	
Other Owner Households	209
% Desiring Condos/Town Homes (assumptions based on survey results)	25%
% of Demand Capturable in Village Center (assumption based on survey results)	22 - 40%
Potential Demand for Village Center Condos/Town Homes (from other category)	11 - 21
Total Village Center - Potential Condo/Town Home Demand	
50 - 86	
Demand for New Renter Units	
Projected Number of Additional Units (based on HH growth)	679
(X) Percent of HHs that want to Rent	0.42
(=) # of Renter Units	285
Target DT Housing Market Segment Renter Households	
Empty Nester & Retiree Renter Households (age 55+)	134
% of Demand Capturable in Village Center (assumption based on survey results)	62% - 77%
Potential Demand for Village Center Apartments (age 55+)	83 - 103
Other Renter Households	
Other Renter Households	151
% of Demand Capturable in Village Center (assumption based on survey results for owner households because under age 55 renter sample was very small)	22% - 40%
Potential Demand for Village Center Apartments (from other category)	33 - 60
Total Village Center - Potential Apartment Demand	
116 - 164	

Conclusions

There is evidence of demand for additional housing in Chelmsford Center Village. We estimate that there could be market support for 166 to 250 units of additional housing in the CV over the period 2010 to 2020 if appropriate units could be delivered. There appears to be demand for 2-bedroom condos/townhomes with 1.5 to 2 baths priced around \$220,000- 270,000. There also appears to be demand for 1-bedroom and 2-bedroom apartments moderately priced around \$900 – 1,200 per month. There may also be demand for medium to higher end apartments (according to some of the Realtors we interviewed, although we did not see strong evidence of it in our very limited survey sample).

The CV would be able to capture a higher percentage of housing unit demand if the business mix included more of the types of businesses that residents are looking for (especially grocery stores, restaurants, coffee shops, ice cream, social gathering spots, etc.). Residents and retail are somewhat of a chicken and egg proposition, so recruitment efforts should occur simultaneously. Improving the business mix in the Center Village will make it more attractive to potential residents and more residents will, in turn, make the CV more attractive to potential retail/restaurant tenants. New mixed-use developments should be encouraged and strategies should be explored to ensure that ground floor spaces are occupied by the types of commercial tenants that will actually enhance the existing business mix. Older existing properties should be investigated to determine if there are barriers inhibiting the attraction of desirable tenants.

Encouraging income diversity among the residents of the Center Village would help to create and support a stronger retail center. Residents with disposable income living in close proximity are likely to patronize the Center Village businesses and have a direct impact on sales and business attraction. This could be accomplished by encouraging a diversity of housing alternatives. Our survey results showed that people of all income levels expressed an interest in living in the CV, however, there is currently limited housing choices. Many of the current apartments are targeted to special needs and lower income populations and there is a relatively small number of condominiums and town homes in the CV area.

That being said, there is a need for additional affordable rental housing in Chelmsford and the Town will have to determine how best to address this issue and the overall mix of housing alternatives that should be encouraged in the CV.

This report is intended to help inform on-going planning efforts. Suggested next steps include:

1. Conducting interviews with the owners of target sites prioritized for housing development to determine their level of interest in developing the sites

2. Preparing concept plans and obtaining development cost estimates for target sites to determine feasibility of delivering housing units at the suggested price ranges under existing zoning regulations (and potentially with revised zoning as appropriate)
3. Convening discussions with stakeholders and town leaders to deliberate on policy decisions regarding the types of housing and retail they want to see developed in the Center Village and the necessary related tradeoffs that may be required in terms of allowable density, building height, parking requirements, and provision of financial incentives and subsidies.
4. Interviewing the owners of older buildings in the CV and investigating to determine if the cost to renovate the older buildings to meet current regulations necessary to accommodate new commercial uses (particularly food shops/restaurants) is currently prohibitive and is, in fact, deterring retail/restaurant tenant attraction. If so, explore potential strategies to assist building owners with financing building upgrades that would accommodate and encourage new commercial uses.