

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

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TABLE OF CONTENTS

| | Page No. |
|--|-----------------|
| I. Introduction | 1 |
| II. Existing Conditions | 2 |
| A. Study Area Land Use and Zoning Characteristics..... | 2 |
| B. The Center Village District (CV)..... | 2 |
| C. Recent Transportation Network Improvements..... | 7 |
| D. Existing Traffic Volumes..... | 7 |
| E. Pedestrian and Bicycle Volumes..... | 8 |
| F. Bruce Freeman Rail Trail (BFRT)..... | 9 |
| G. Chelmsford Center Bicycle Facilities..... | 11 |
| H. Pedestrian and Bicycle Crash History..... | 12 |
| I. Parking Supply by Zoning District..... | 10 |
| J. Private Parking Lots..... | 19 |
| K. Public Parking Areas..... | 21 |
| L. Parking Lot Utilization..... | 26 |
| M. Pedestrian Facilities..... | 28 |
| III. Chelmsford Center Business Survey | 35 |
| A. Overview..... | 35 |
| B. Methodology..... | 36 |
| C. Survey Results..... | 36 |
| IV. Chelmsford Street Streetscape | 45 |
| V. Findings and Recommendations | 47 |
| A. Signage for Parking Areas..... | 47 |
| B. Bicycle Accommodations..... | 51 |
| C. Pedestrian Recommendations..... | 55 |
| D. Parking Recommendations..... | 57 |
| VI. Appendix | |

List of Tables

| | Page No. |
|---|-----------------|
| Table 1: Average Daily Traffic Volumes..... | 7 |
| Table 2: Littleton Road/Center Pedestrian/Bicycle Crossing Volumes..... | 8 |
| Table 3: Chelmsford Street at Billerica Road Pedestrian/Bicycle Crossing Volumes..... | 8 |
| Table 4: Boston Road Mid-block Pedestrian/Bicycle Crossing Volumes..... | 9 |
| Table 5: Central Square Sidewalk Pedestrian/Bicycle Volumes..... | 9 |
| Table 6: Bruce Freeman Rail Trail Count Data, 2010 and 2012..... | 10 |
| Table 7: Pedestrian and Bicycle Related Crashes (2006-2010)..... | 12 |
| Table 8: Parking Supply within each Zoning District..... | 13 |
| Table 9: Existing Parking vs. Required parking per Chelmsford Zoning Regulations..... | 14 |
| Table 10: Total Parking Spaces within each Parking Area..... | 15 |
| Table 11: Parking Lot Utilization Rates..... | 27 |
| Table 12: Walking Distances from Public Parking Areas to Chelmsford Center Destinations..... | 35 |
| Table 13: List of Survey Respondents..... | 31 |
| Table 14: Location of Customer/Client Parking..... | 36 |
| Table 15: Location of Employee Parking..... | 39 |
| Table 16: Hours of Operation for Responding Businesses..... | 40 |
| Table 17: Peak Hours of Business as Reported by Respondents..... | 42 |
| Table 18: Business Impact of the Bruce Freeman Rail Trail as Reported by Respondents..... | 43 |

List of Figures

| | |
|---|----|
| Figure 1: New Parking Areas Following Completion of Fire Station Completion..... | 23 |
| Figure 2: Chelmsford Center Businesses Responding by Number of Employees..... | 37 |
| Figure 3: Chelmsford Center Businesses Responding by Customers/Clients per Day..... | 38 |
| Figure 4: Customer/Client Parking Locations..... | 39 |
| Figure 5: % Surveyed Businesses Utilizing Parking Locations for Employee Parking..... | 40 |
| Figure 6: Reported Length of Customer/Client Transaction..... | 42 |
| Figure 7: Chelmsford Street Cross sections, existing and proposed concept..... | 46 |

List of Maps

| | |
|---|----|
| Map 1: Chelmsford Center Zoning..... | 5 |
| Map 2: Chelmsford Center Parking Inventory..... | 17 |
| Map 3: Chelmsford Center Sidewalk Conditions..... | 31 |
| Map 4: Proposed Parking, Kiosk and Sign Locations..... | 49 |
| Map 5: Chelmsford Center Proposed Bicycle Facilities..... | 53 |

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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.

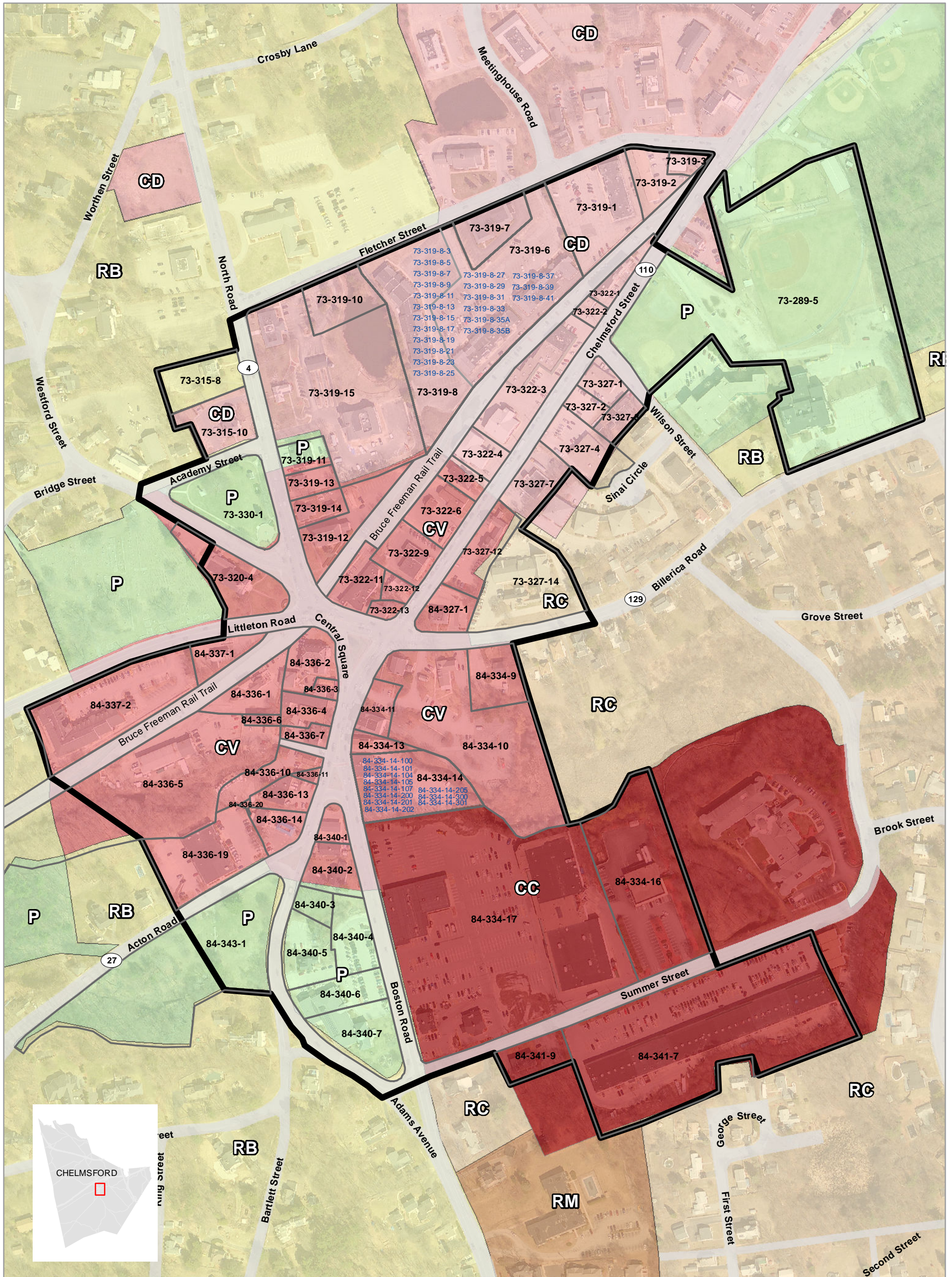
The Master Plan recommended that residential uses be allowed above retail within Chelmsford Center to create a more vibrant village community, and that the zoning bylaw be modified to allow the development of rental housing by right within the CV district. The Master Plan also noted that the creation 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



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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

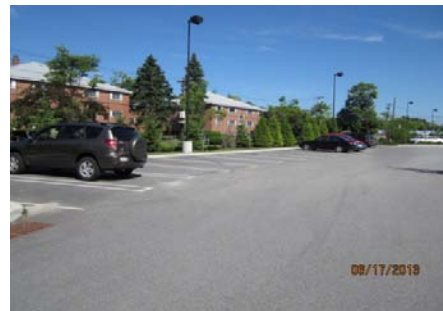


Photo 7: Available parking

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.

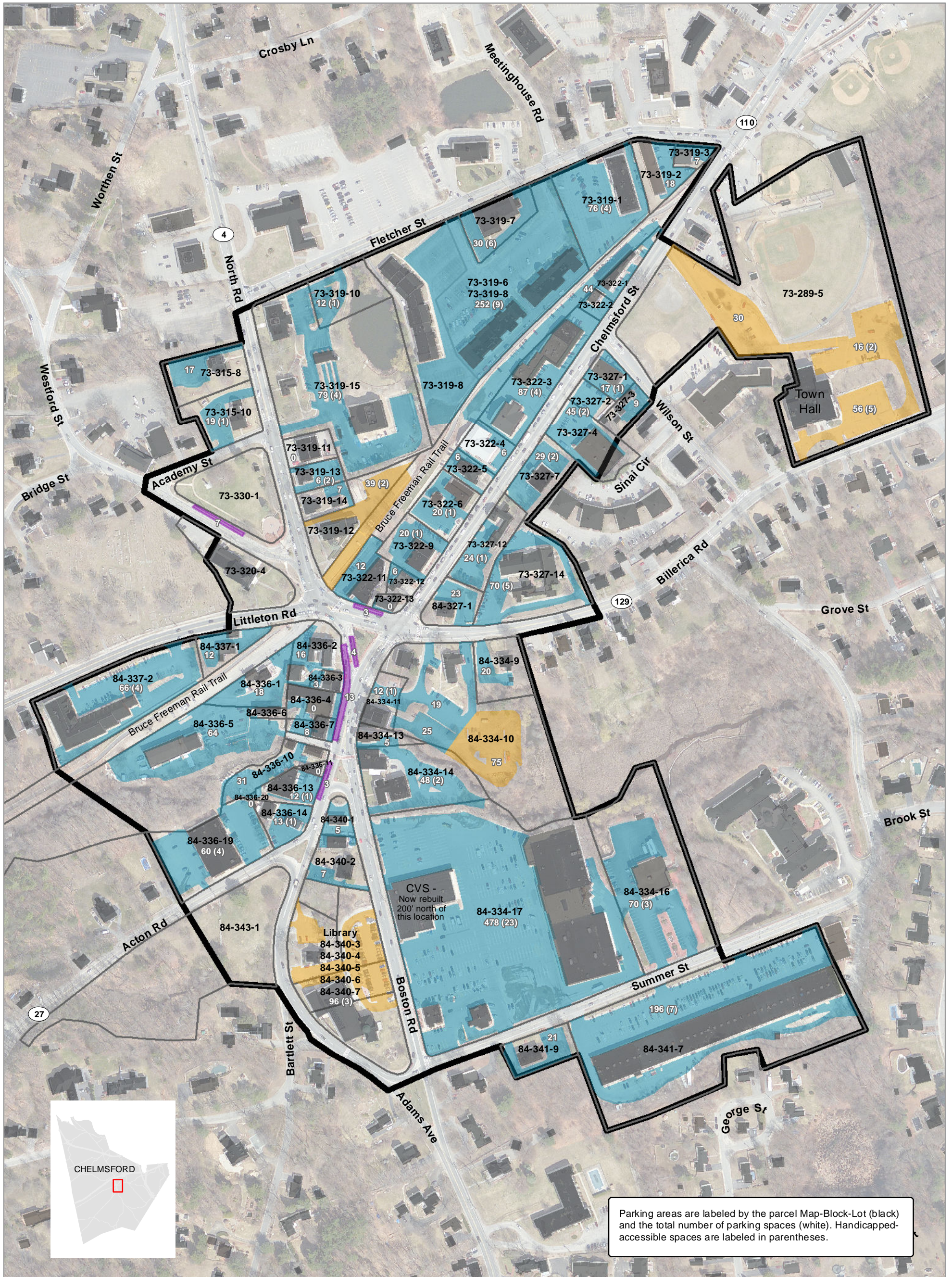
NMCOG has inventoried and evaluated all 68 existing parking lots located within the project study area, along with five (5) on-street parking locations. The Chelmsford Center Parking Inventory (Map 2) shows the location of all lots, along with the total number of spaces found in each. A total of 2,594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

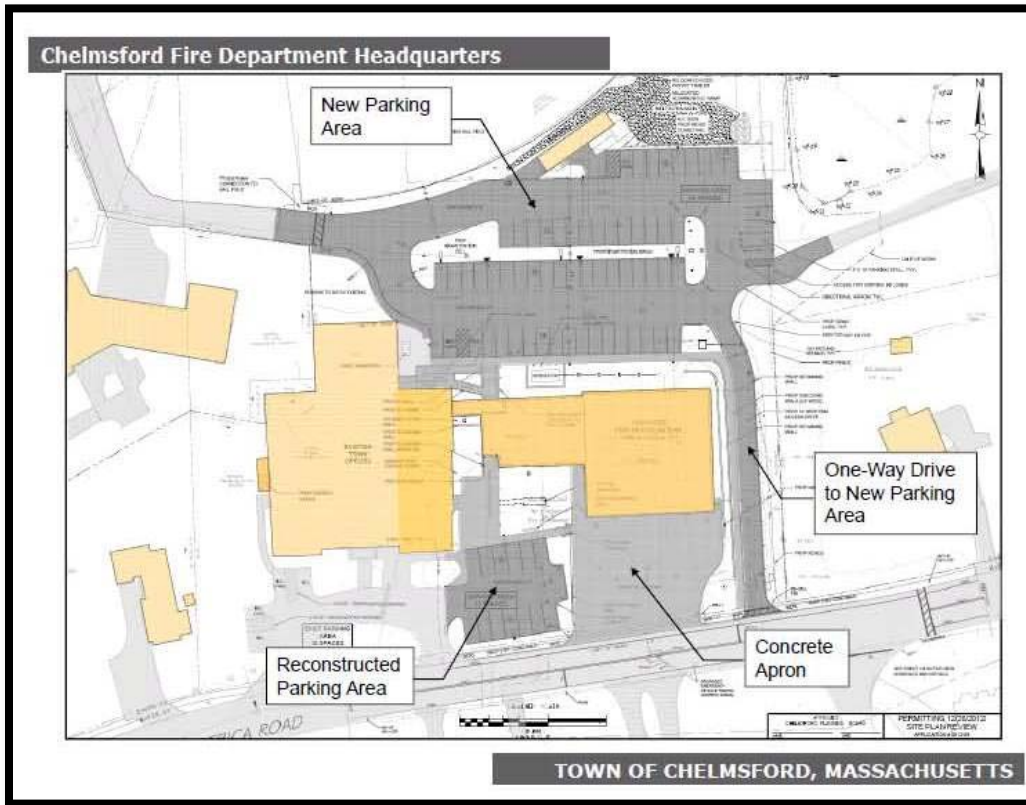


Figure 1: New Parking Areas Following Completion of Fire Station Construction

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.

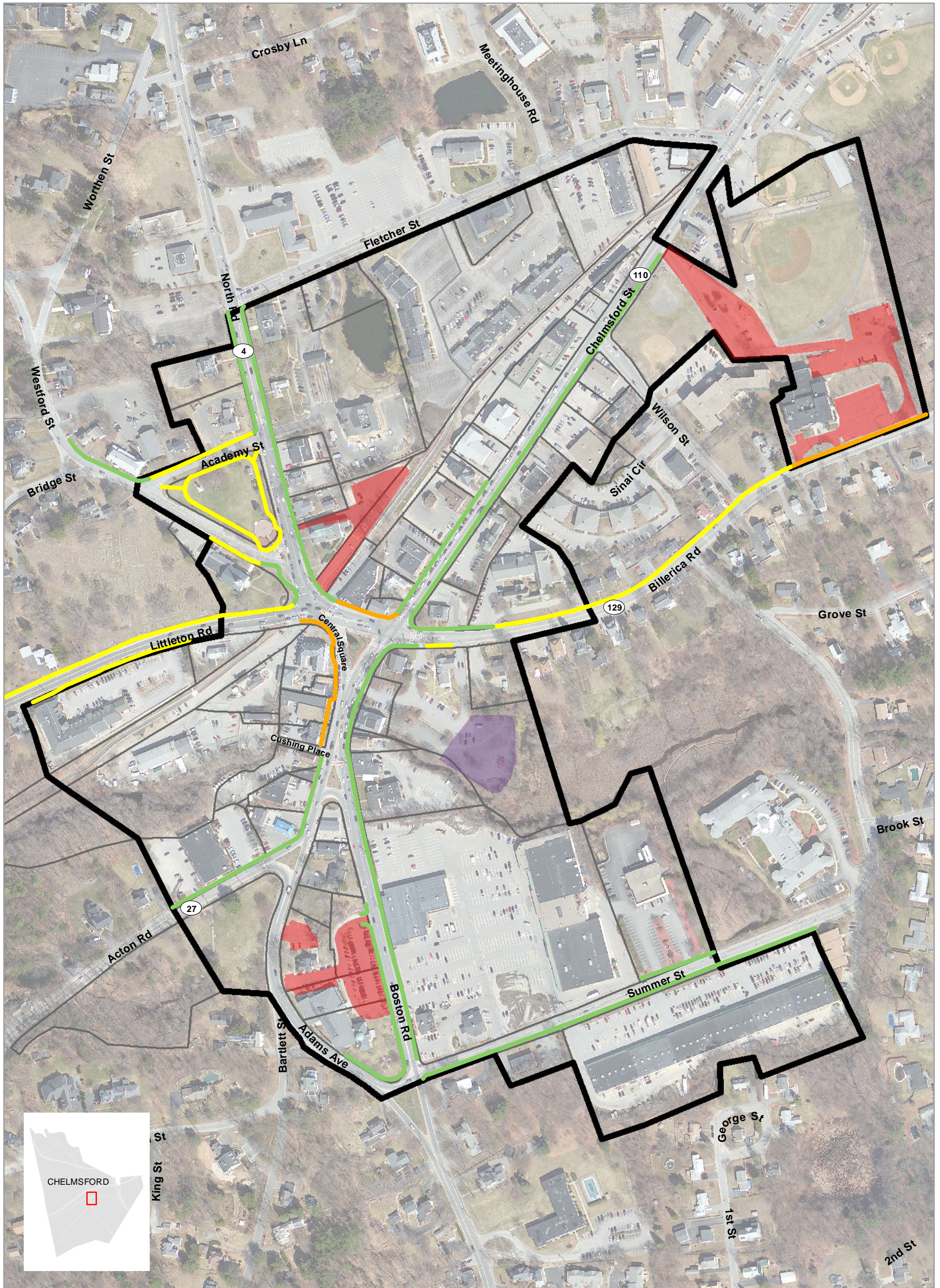
- **North Road** – North Road has an ornamental brick sidewalk along the northbound side of North Road. This area meets ADA standards because it was recently resurfaced with new sidewalks and curb ramps were put in place

- **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

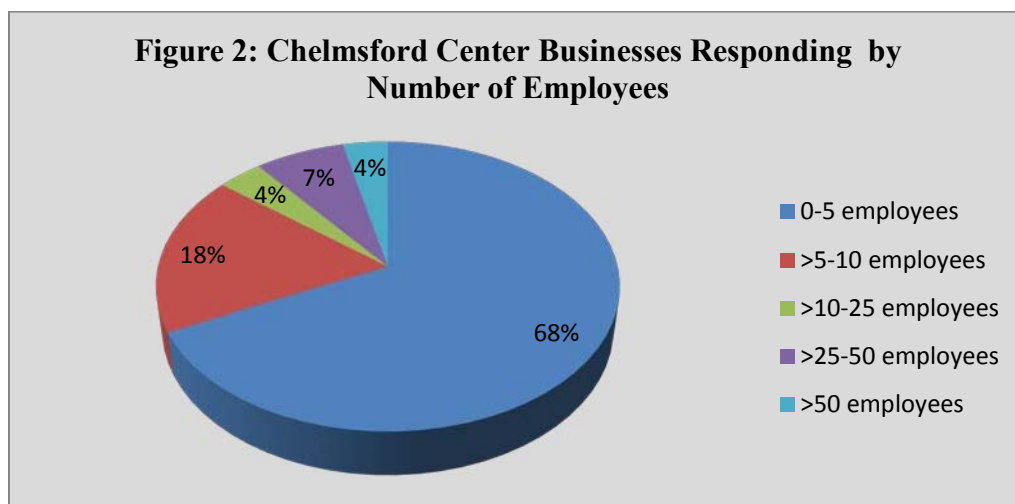
| Business Name | Address |
|---------------------------------|----------------------|
| Sullivan and Gannon LLC | 22 Central Square |
| Salon Reyna | 21 Central Square |
| Beadles Bead Shop | 18 Central Square |
| Highlights Studio | 60 Chelmsford Street |
| Center Sports | 11 Cushing Place |
| Chelmsford 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.

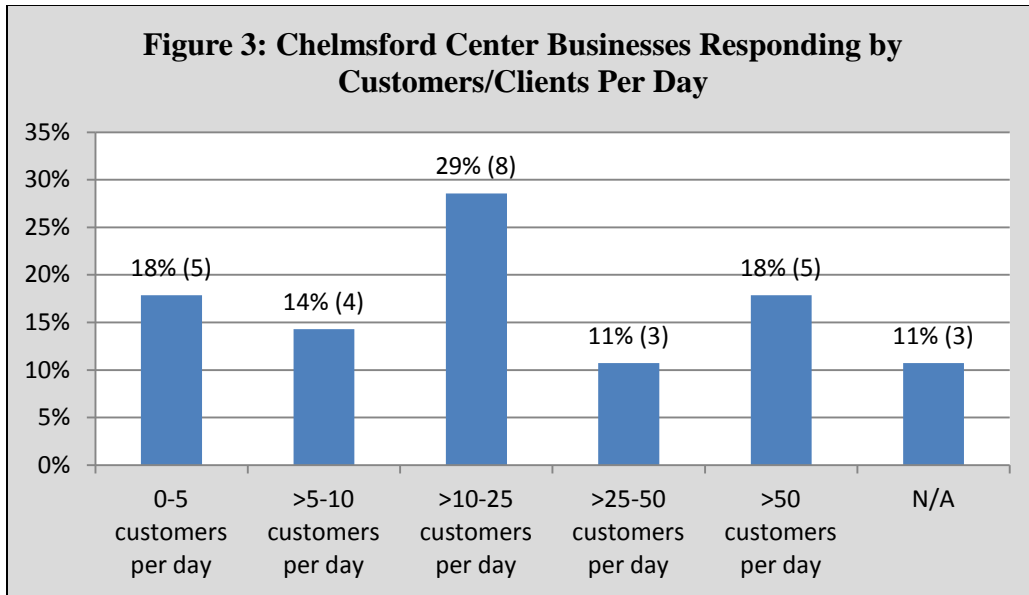
Question #1 – How many employees work at your business?

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.



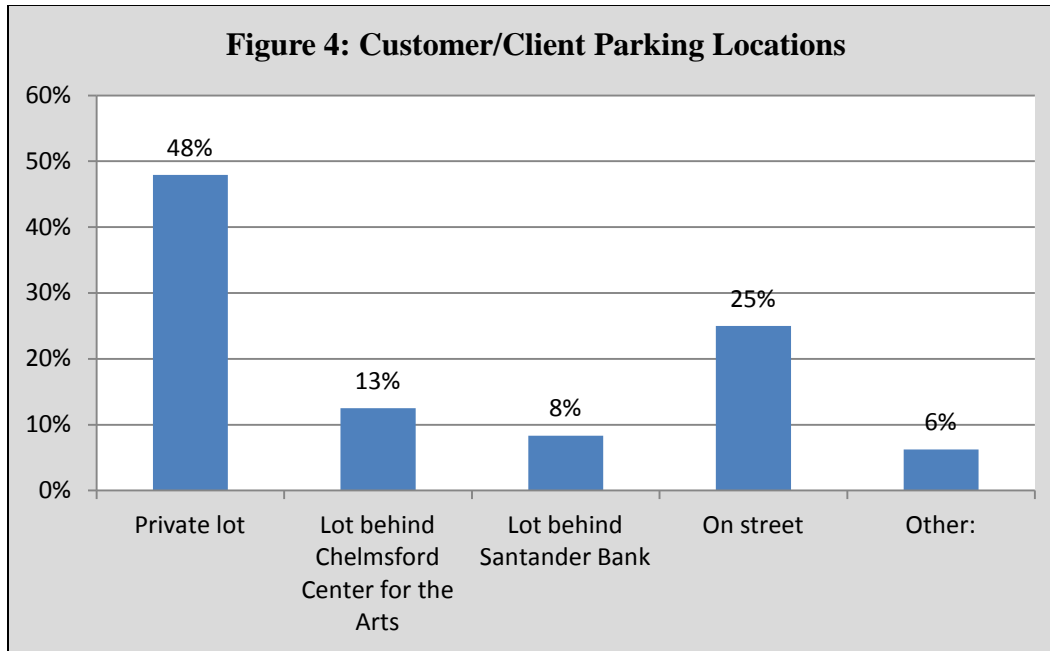
Question #3 – Where do your customers park?

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.



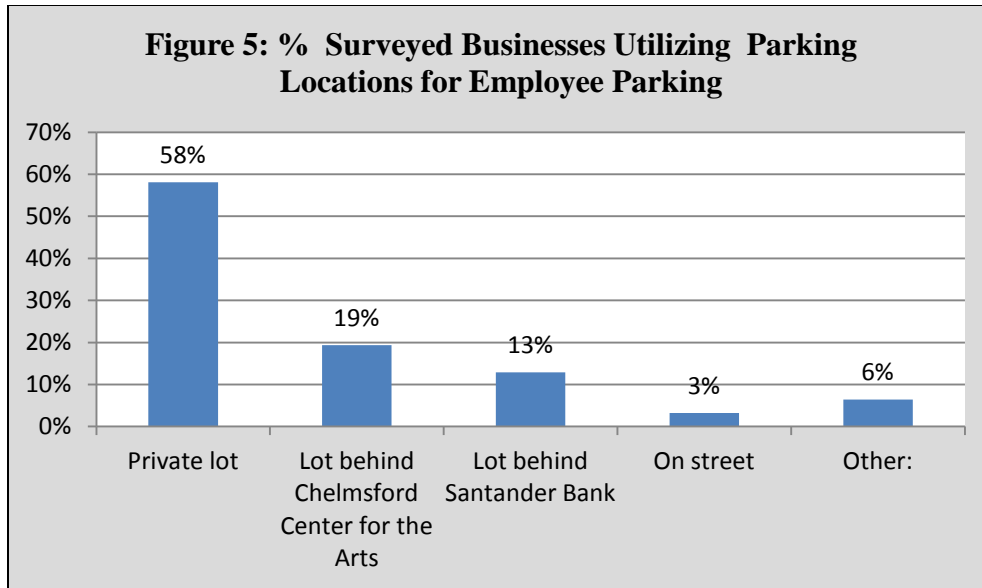
Question #4 – Where do your employees park?

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

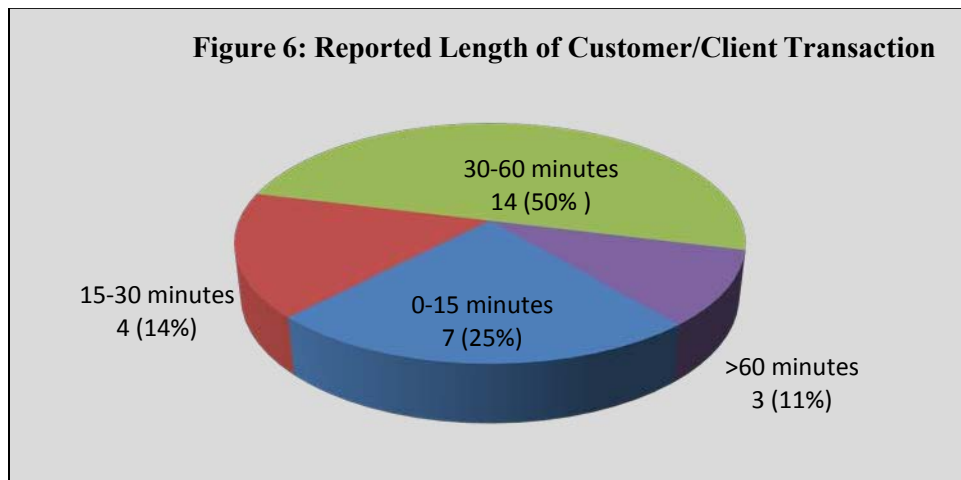
| Name of Business | Weekday Hours | Saturday Hours | Sunday Hours |
|--------------------|--|--------------------|-------------------|
| Chelmsford Library | 9:30 am- 9:00 pm (close at 5:30 pm on Friday) | 9:30 am - 5:30 pm | Closed |
| EmbroidMe | 9:00 am – 6:00 pm | 10:00 am-1:00 pm | Closed |
| Java 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.

| 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.



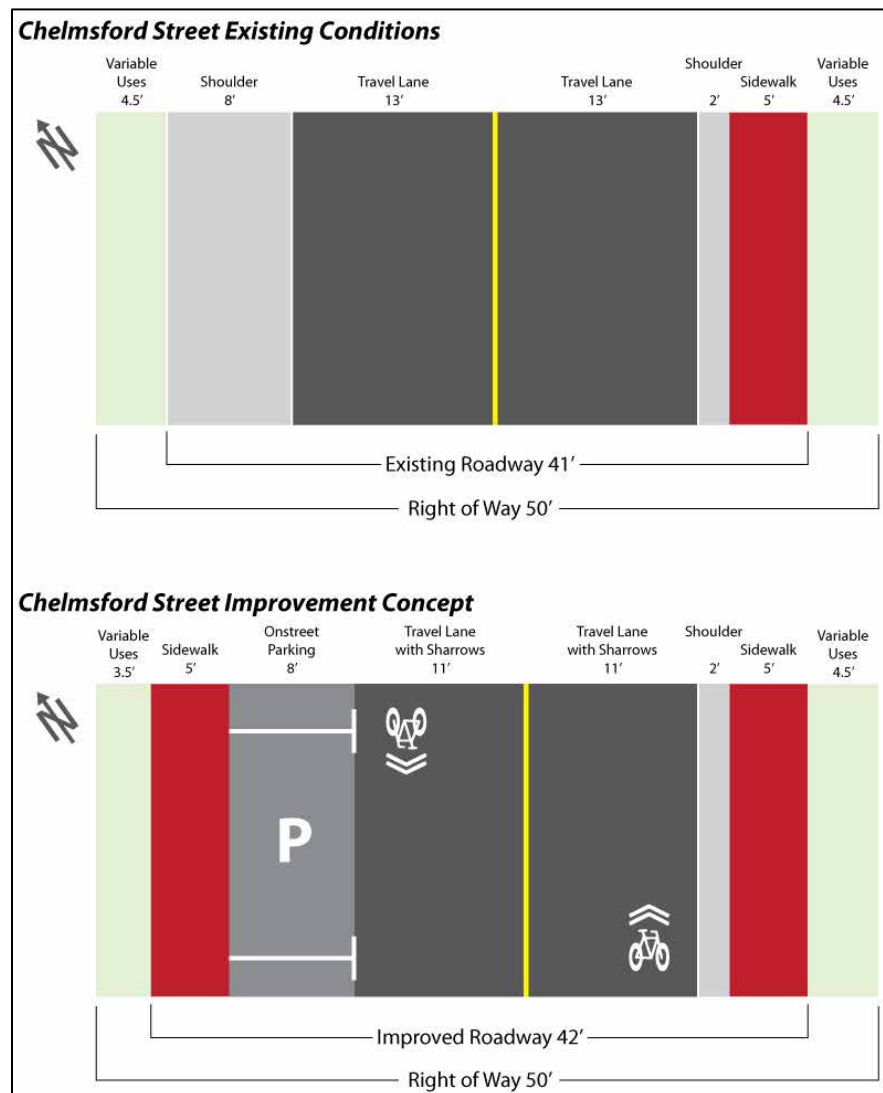
Photo 44: Chelmsford Street Concept Plan (Courtesy Town of Chelmsford)

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

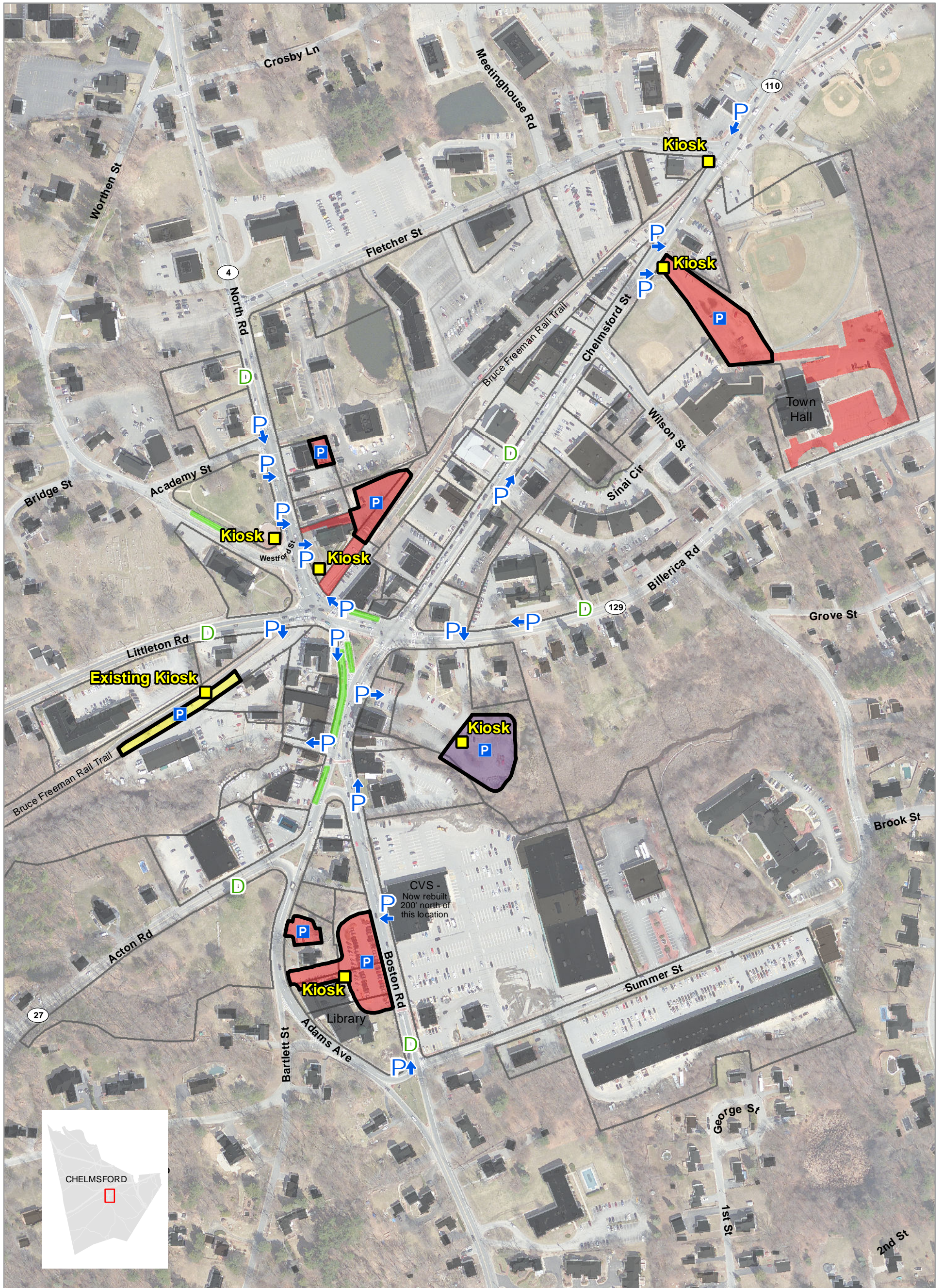
One of the biggest issues in the Center is the lack of signage notifying users of available public parking areas. While dedicated parking for the BFRT can be found at the Stop and Shop on Chelmsford Street (Route 110), roughly 2 miles away from Chelmsford Center, there is no signage along Route 110, 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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(978) 454-8021 nmcog.org

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

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



Photo 45: MUTCD bicycle signage

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.

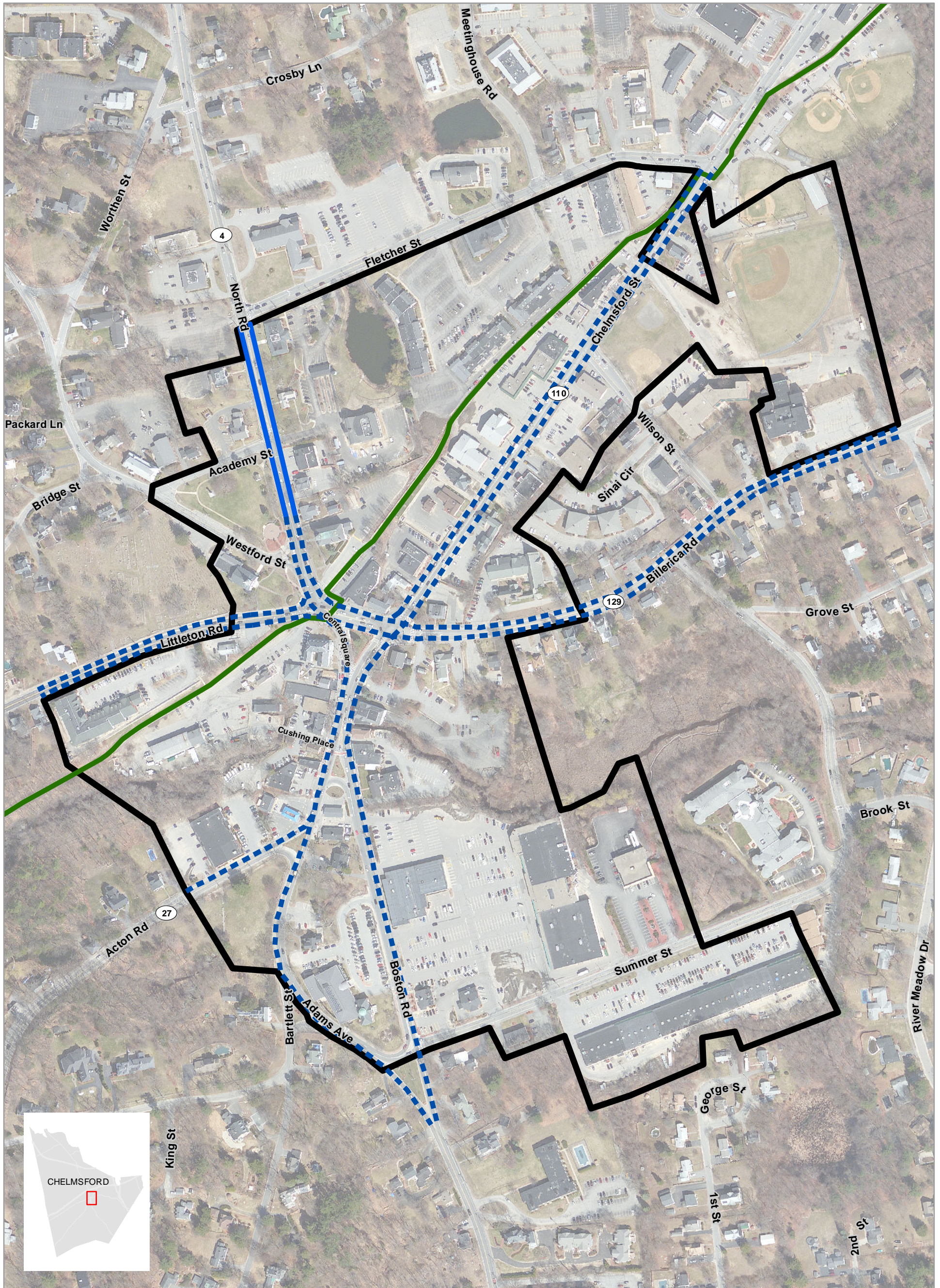







Photo 46: A sharrow pavement marking

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
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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



TABLE OF CONTENTS

1.0 INTRODUCTION

2.0 PURPOSE AND GOALS OF THE DESIGN GUIDELINES AND STANDARDS

- 2.1. Purpose and Intent
- 2.2. General Village Center Design Goals
- 2.3. Applicability
- 2.4. How to Use These Design Guidelines and Standards
- 2.5. Administration
- 2.6. Character Examples
- 2.7. References

3.0 VILLAGE CENTERS DESIGN CONTEXT & PRINCIPLES

- 3.1 Design Context
- 3.2 Overall Design Principles
- 3.3 Block Activation and Façade Design
- 3.4 General Design Provisions for All Buildings and Sites
- 3.5 Building and Site Design in the Village Centers
- 3.6 Scale, Massing and Proportion of Buildings
- 3.7 Building Façade Design
- 3.8 Individual Storefront Design

4.0 BUILDING DESIGN OBJECTIVES AND GUIDELINES

- 4.1. Facades
- 4.2. Exterior Materials
- 4.3. Doors and Windows
- 4.4. Awnings, Canopies and Marquees
- 4.5. Lighting
- 4.6. Storefronts
- 4.7. Signage
- 4.8. Building Systems

5.0 REVITALIZATION APPROACHES

- 5.1 Removal
- 5.2 Repair and Maintenance
- 5.3 Renovation and Reconstruction
- 5.4 Infill Construction

6.0 SPECIAL PROVISIONS FOR SPECIFIC TYPES OF DEVELOPMENT

- 6.1. Large Commercial and Mixed Use Site Planning and Building Design
- 6.2. Large Residential Buildings and Sites
- 6.3. Industrial Buildings and Sites

7.0 PUBLIC AND CIVIC SPACE DESIGN GUIDELINES

- 7.1. General Design Objectives
- 7.2. Civic and Open Space Types

8.0 DESIGN REVIEW COMMITTEE

9.0 ANATOMY AND TERMINOLOGY OF BUILDING FACADES

- 9.1. Anatomy of a Building Facade
- 9.2. Glossary of Terms



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

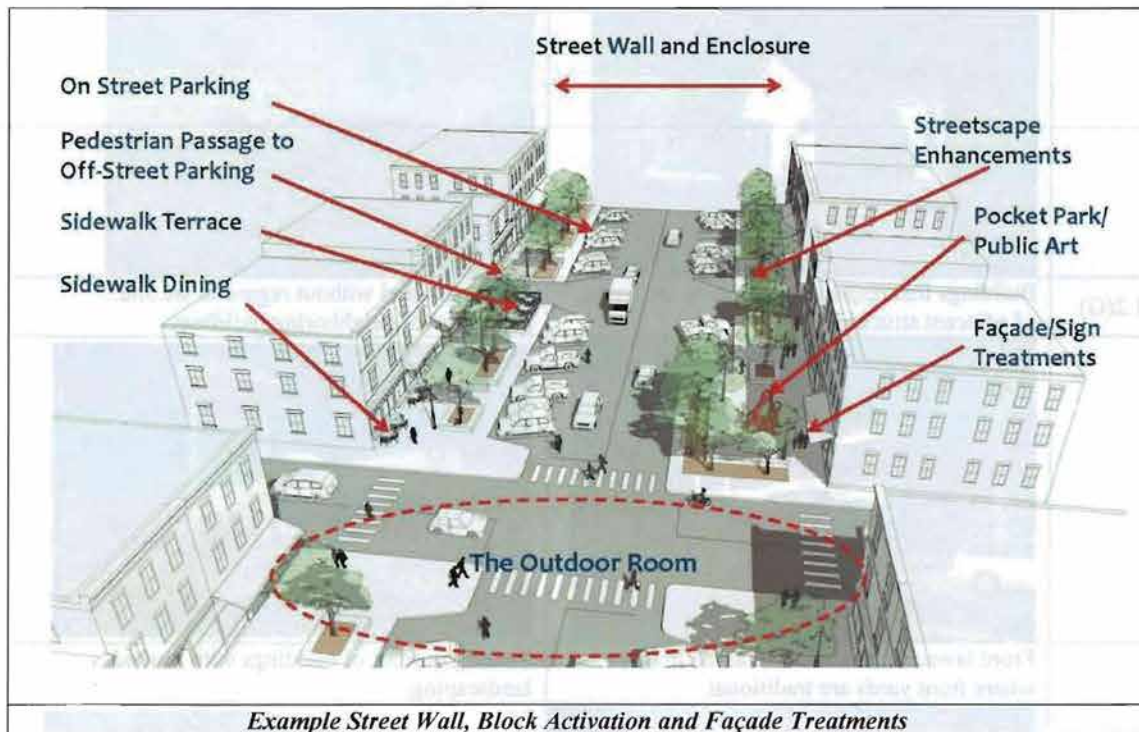
The overall design principles described in these guidelines and standards are intended to guide the applicant in the development of site and building design and the Planning Board in its review of proposed actions. These principles and guidelines should not be regarded as inflexible requirements and 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:

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| <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 style="text-align: center;">➔</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> <p style="text-align: center;">➔</p> |  |

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| 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.



Example Street Wall, Block Activation and Façade Treatments

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> |
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| 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. |

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| 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. |
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| | 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


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| 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. |  |






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| 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

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| STANDARD OR GUILDELINE | <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> |  |

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| 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> |  |


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| 3.5.1.7(G) | <p>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.</p> |  |
| 3.5.1.8(G) | <p>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.</p> |  |



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

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| 3.6.1.1(G) | <p>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.</p> |  |
| 3.6.1.2(G) | <p>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.</p> | |
| 3.6.1.3(G) | <p>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</p> | |



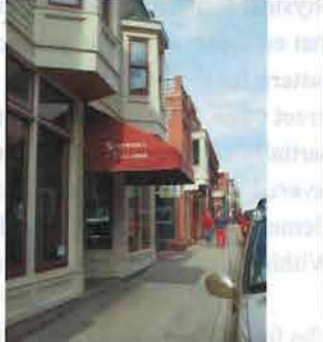
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| | height, floor levels, roof forms, parapets, cornice treatments, belt courses, pilasters, window reveals, forms and color as appropriate to each site can create shadows and texture and add to the character of a building | |
| 3.6.1.4(G) | Floor 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"> o All windows and doors should be of high quality materials and character. o Large plate glass windows are discouraged unless they are broken with mullions or muttons. o Mirrored glass or colored metal panels are not acceptable windows. o 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

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| 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. |  |

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| 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

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| 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> |  |

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| 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.

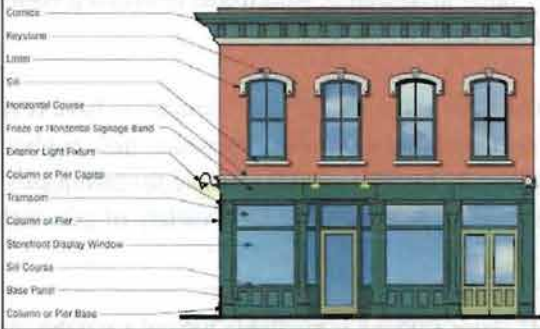



Alley leading to public parking lot before and after pedestrian and streetscape enhancements

3.8 Individual Storefront Design

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

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| 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 |

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| | 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 |
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| | <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

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| 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> | |


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| 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> | |


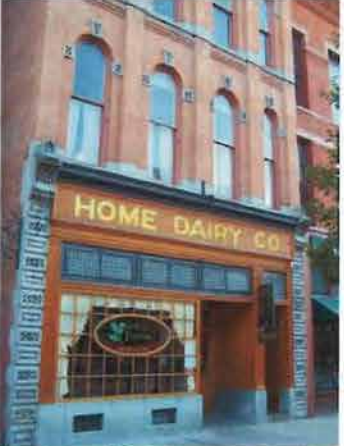

4.2 Exterior Materials

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

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| 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

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| <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> |  |

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| 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) | <p>Materials: Historic door material and hardware should be restored or repaired where possible. Repair should match existing size, species, profile and configuration.</p> <p>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.</p> |  |
| | 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) | <p>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.</p> <p>An individual, "punched" window expression rather than continuous horizontal or vertical "strip" windows is encouraged whenever possible and appropriate to the building style.</p> |  |
| 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. |  |



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| 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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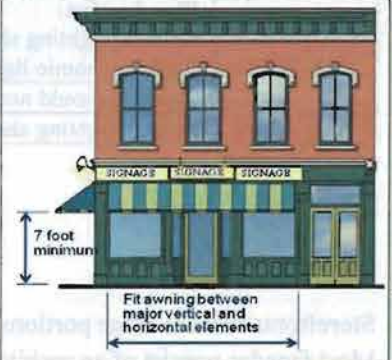
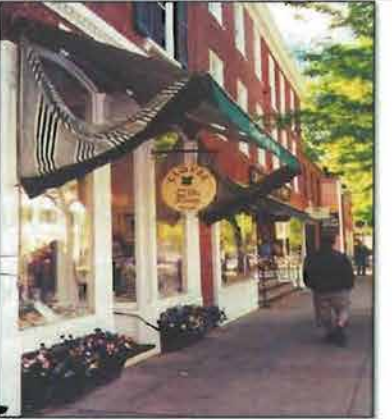
4.4 Awnings, Canopies and Marquees

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

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| 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> | |


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| 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

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| 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> |  |

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| 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




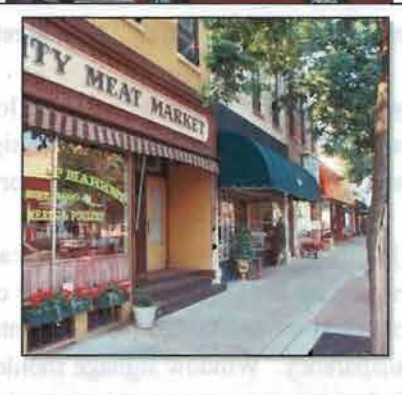

Storefronts refer to those portions of the facade that directly relate to the street and the commerce inside. Most facades consist of an architectural framework designed intentionally for one or more storefronts to occur. The expression of the storefronts should respect the framework and not expand beyond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

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| 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. | |

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| 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.



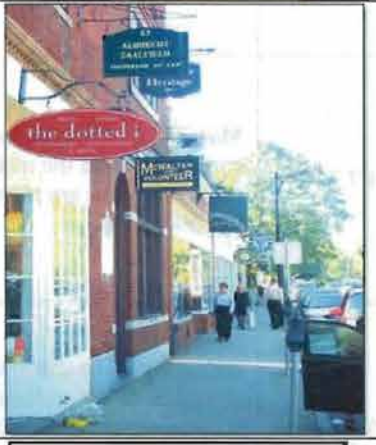


Awning: A third option is to use the lower edge of a canvas or other material awning to advertise the name of the store. As with the wall sign, the dimensions of the signage will be determined by that of the awning. Typically either an awning or wall sign will be used, but not both.


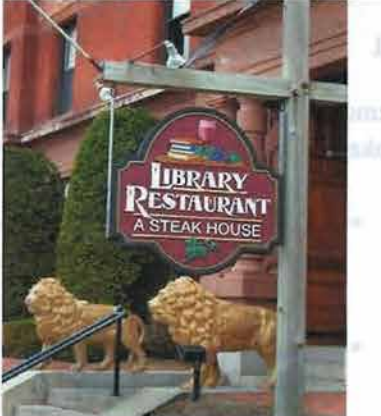
Window signs: Storefront windows can be used as another signage solution, particularly for short-term or periodic advertising needs. Property owners should avoid installing solid signs which block visibility into stores and are encouraged to use painted or adhesive letterings to provide information while 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

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| <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> |  |

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| 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. |   |


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| 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

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| 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> | | |

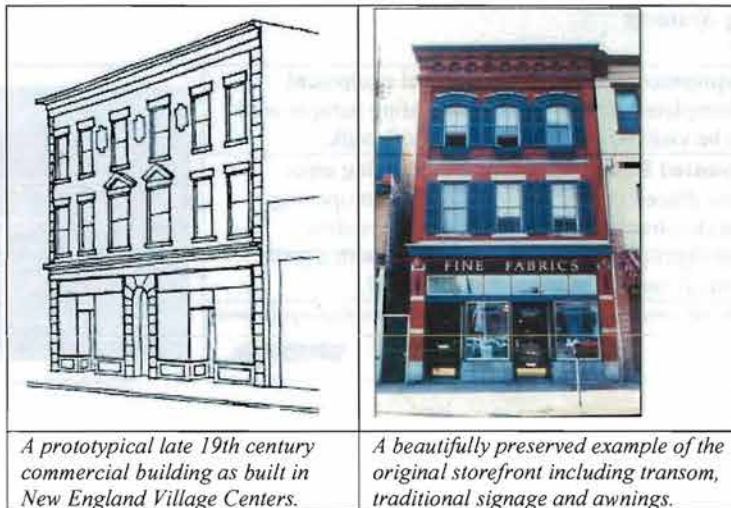
5.0 REVITALIZATION APPROACHES

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.



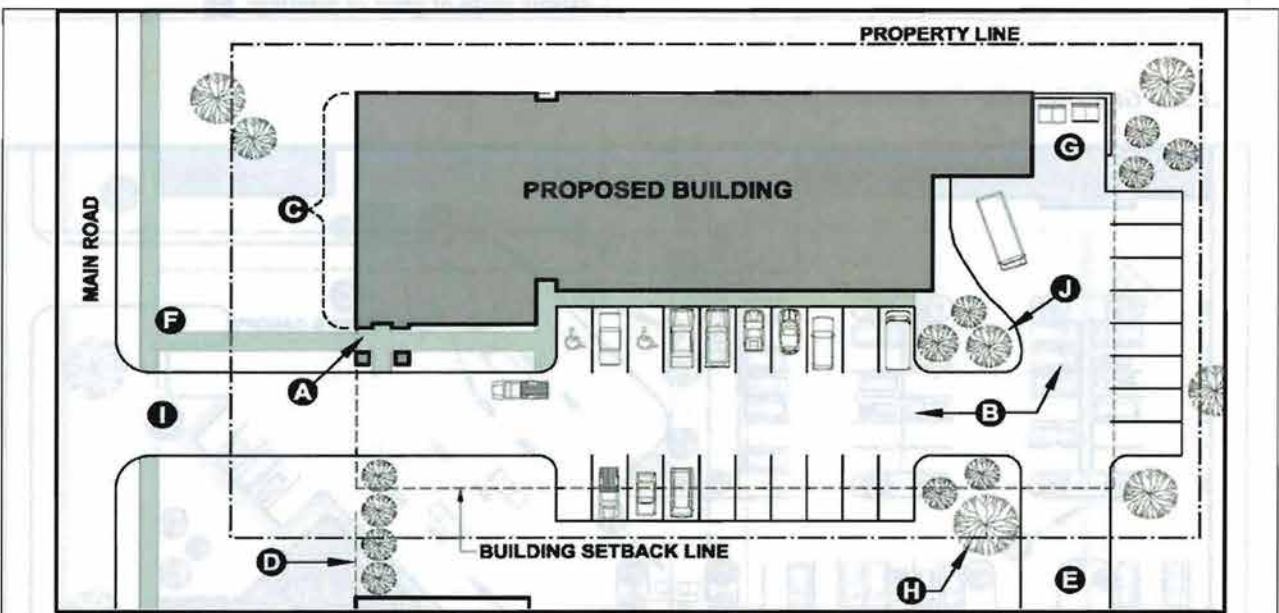
6.0 SPECIAL PROVISIONS FOR SPECIFIC TYPES OF DEVELOPMENT

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

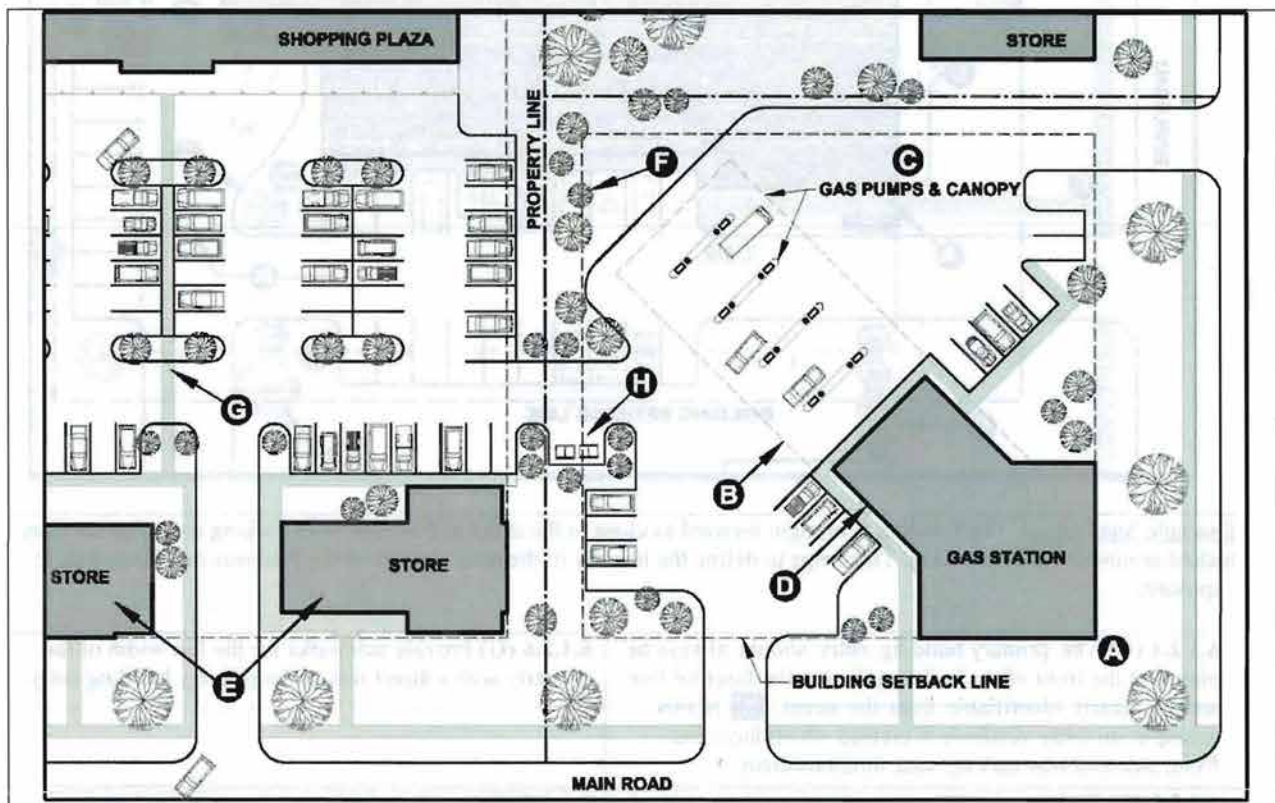


Example Site Layout: The building is brought forward as close to the street as possible, with parking and other services tucked around the side and back. This helps to define the identity of the street and gives the business maximum public exposure.

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| <p>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.</p> | <p>6.1.2.6 (G) Provide sidewalks for the full width of the property with a direct link to the primary building entry. (F)</p> |
| <p>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)</p> | <p>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)</p> |
| <p>6.1.2.3 (G) Place as much of the building width at the front</p> | <p>6.1.2.8 (G) Incorporate any existing, older trees into new</p> |



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| 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

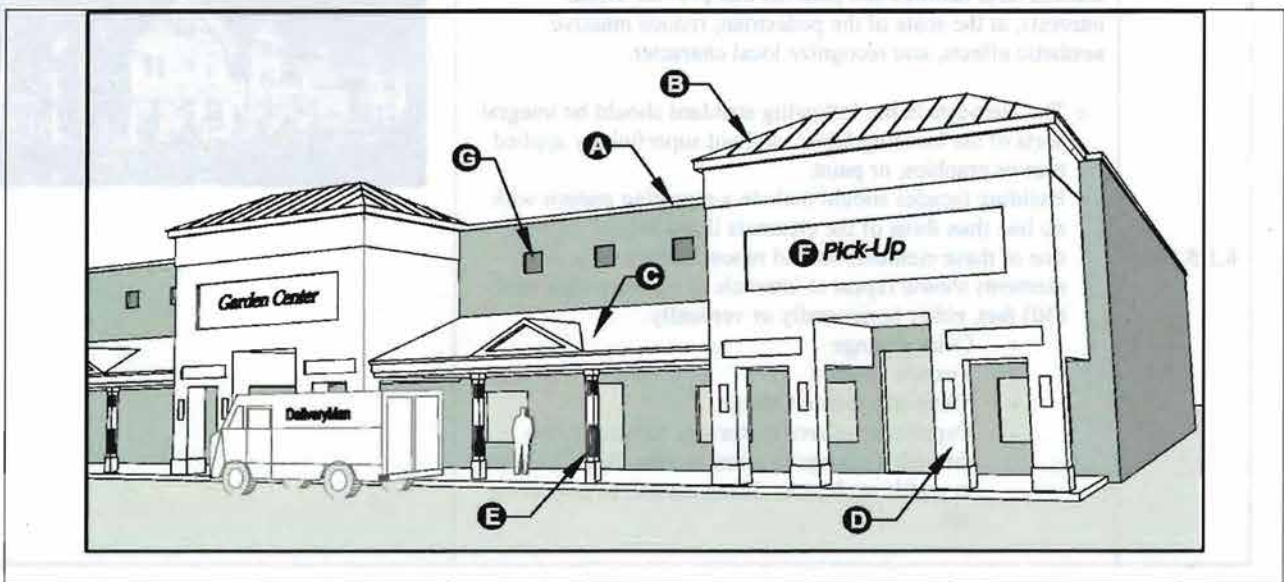


Examples of Defining the Edges: Corner lots are especially important in defining the street. Special attention should be paid to bringing the building mass all the way out to meet the corner. Large shopping plazas should also attempt to infill the front of their lots with new commercial space to take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

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| 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> |
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| <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




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| <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

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| 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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| <p>6.1.5.2(G)</p> | <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. |  |
| <p>6.1.5.3(G)</p> | <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. |  |
| <p>6.1.5.4(G)</p> | <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 | |

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| | <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

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| 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 |

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| | <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. | Insert Photo |
| 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 | Insert Photo |
| 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 | Insert Photo |
| 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 | Insert Photo |

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| | 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.

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| 6.3.1(G) | <p>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.</p> <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 |

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| | 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. | |
| 6.3.3(G) | 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. | |
| 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) | 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. |  |
| 6.3.6(G) | 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. | |
| 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. | |

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| | <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 | |

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| | 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"> ○ <u>Fencing Materials</u> - 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. ○ <u>Height and Location</u> - 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.



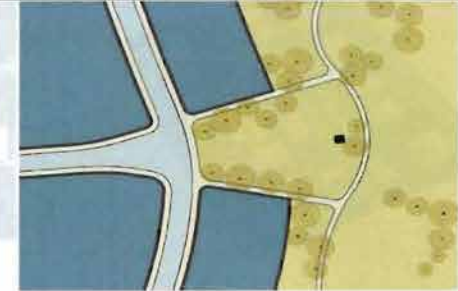

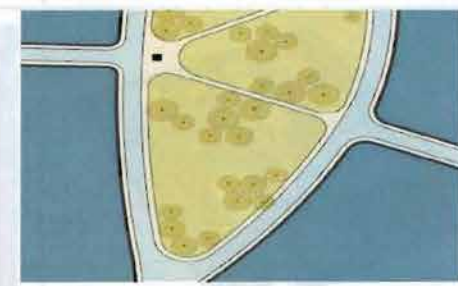

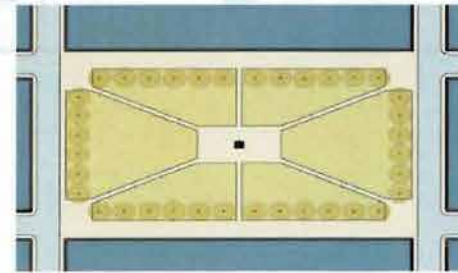

Squares and Plazas Standards – Squares and plazas shall be located so that building walls facing the open space shall have at least 25% of the overall façade in transparent windows, and at least 40% of the ground floor façade in transparent windows.

7.2 Civic and Open Space Types

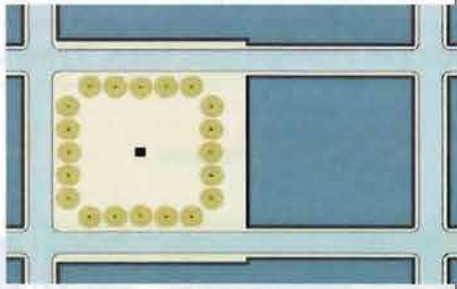
Specific public and private open space types are identified in Figure 7-1 below, and are intended for the gathering of people for passive or active recreation, entertainment, and organized communal activities.

| <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 |

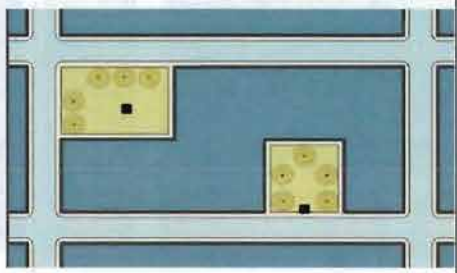
Figure 7-1: Public and Private Open Space Types and Standards*

| 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> |  |  |

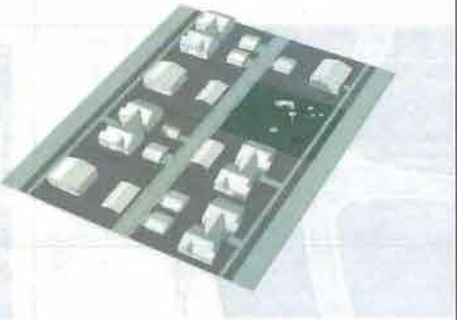
Plaza: An open space, available for civic purposes and commercial activities. A plaza is typically spatially defined by building frontages. Its landscape shall consist primarily of pavement. Trees are optional. Plazas may be located at the intersection of important streets.



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.

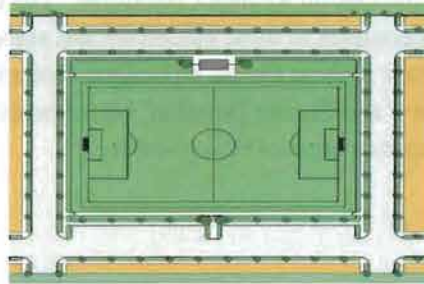


Private Yards and Gardens:

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

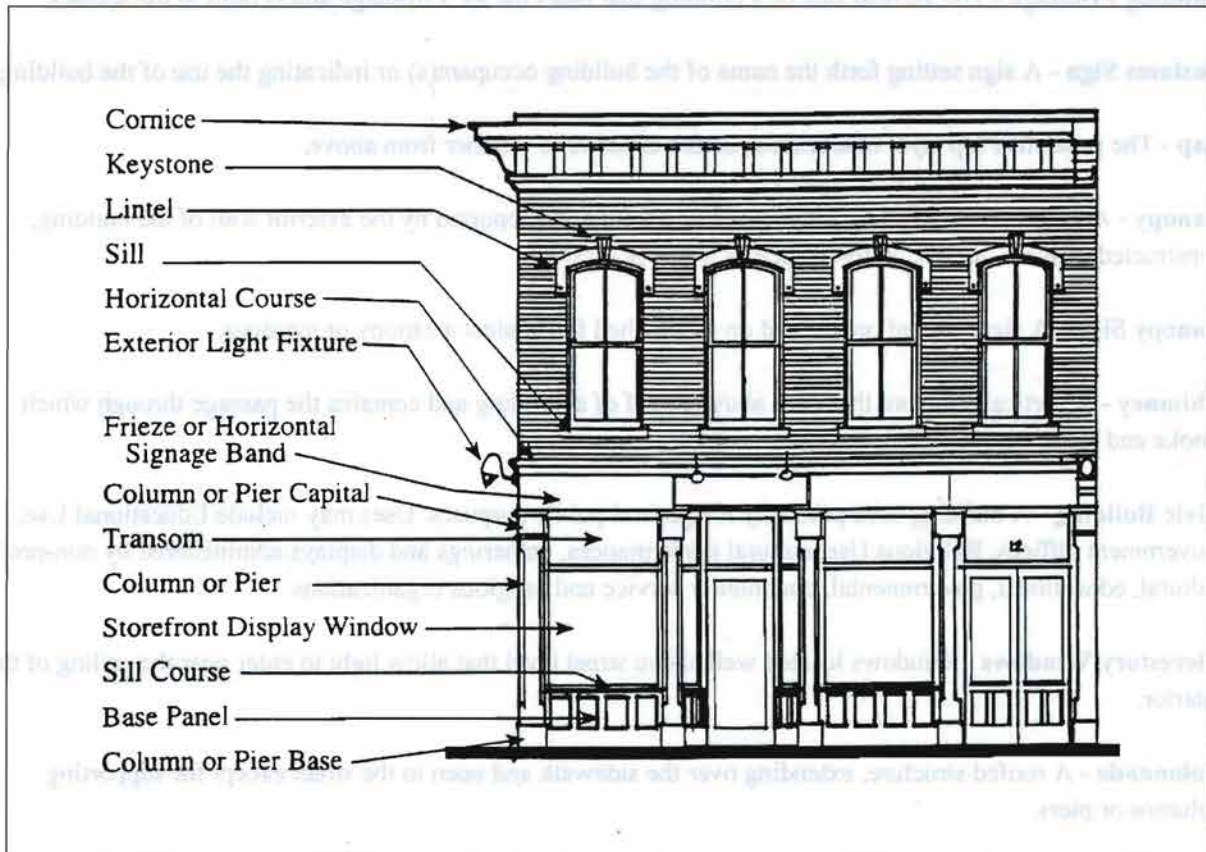
The **Chelmsford Planning Board shall serve as the Design Review Committee** for the purpose of evaluating site plans for building and site improvements under these guidelines and standards. The Design Review Committee may seek the input of the Board of Selectmen, Board of Adjustments, Historical Commission, 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
NMCOC

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?

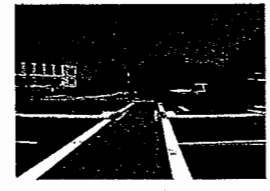
| | | | | |
|--|---|---|---------------------------------------|--|
| Private lot <input checked="" type="checkbox"/> | Lot behind Chelmsford Center for the Arts <input type="checkbox"/> | Lot behind Sovereign Bank/ Odd Fellows Hall <input type="checkbox"/> | On Street <input type="checkbox"/> | Other,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

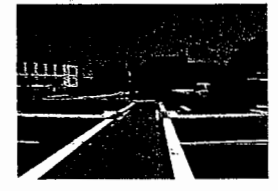
| | | | | |
|-------------------------------------|---|---|--------------------------|-------------------------------|
| Private lot | Lot behind Chelmsford Center for the Arts | Lot behind Sovereign Bank/ Odd Fellows Hall | On Street | Other, please explain: |
| <input checked="" type="checkbox"/> |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



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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Business ID/Name: Bestuccis

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 & Ginnoral Plaza 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>Ginnoral Plaza 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:
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: 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?

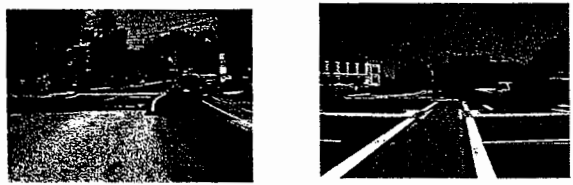
| | | | | |
|-------------------------------------|---|---|-------------------------------------|------------------------|
| Private lot | Lot behind Chelmsford Center for the Arts | Lot behind Sovereign Bank/ Odd Fellows Hall | On Street | Other, please explain: |
| <input checked="" type="checkbox"/>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

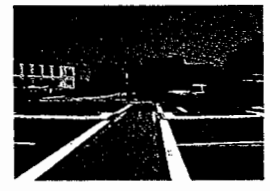
| | | | | |
|--------------------------|---|---|-------------------------------------|------------------------|
| Private lot | Lot behind Chelmsford Center for the Arts | Lot behind Sovereign Bank/ Odd Fellows Hall | On Street | Other, please explain: |
| <input type="checkbox"/> | <input checked=""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



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: 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 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Other, please explain:
behind building
off Cushing Place

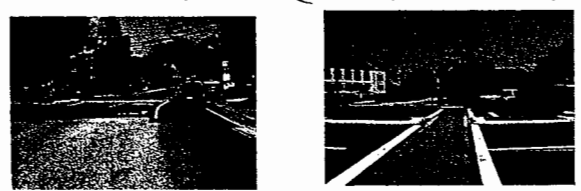
4. Where do your employees park?

| | | | |
|-------------------------------------|---|---|--------------------------|
| Private lot | Lot behind Chelmsford Center for the Arts | Lot behind Sovereign Bank/ Odd Fellows Hall | On Street |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Other, please explain:
behind Cushing
Place

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



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: ANTHROP

Address: 37 CENTER SQ

1. How many employees work at your business? ~~10~~ 1

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

3. Where do your customers park?

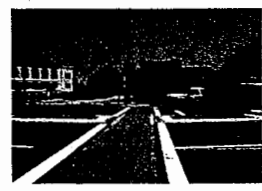
| | | | | |
|--------------------------|---|---|-------------------------------------|------------------------|
| Private lot | Lot behind Chelmsford Center for the Arts | Lot behind Sovereign Bank/ Odd Fellows Hall | On Street | Other, please explain: |
| <input type="checkbox"/> | <input type="checkbox"/>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

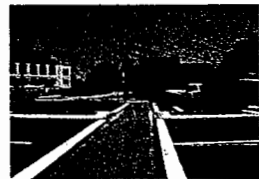
| | | | | |
|-------------------------------------|---|---|--------------------------|------------------------|
| Private lot | Lot behind Chelmsford Center for the Arts | Lot behind Sovereign Bank/ Odd Fellows Hall | On Street | Other, please explain: |
| <input checked="" type="checkbox"/> | <input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

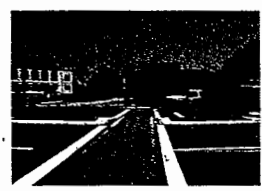
| | | | | |
|-------------------------------------|---|---|--------------------------|------------------------|
| Private lot | Lot behind Chelmsford Center for the Arts | Lot behind Sovereign Bank/ Odd Fellows Hall | On Street | Other, please explain: |
| <input checked="" type="checkbox"/> | <input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

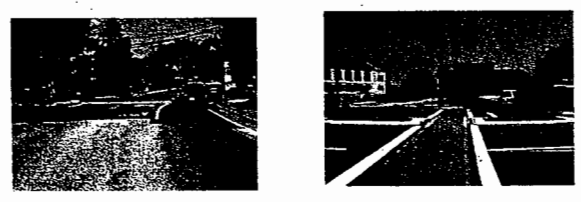
| | | | | |
|-------------------------------------|---|---|--------------------------|------------------------|
| Private lot | Lot behind Chelmsford Center for the Arts | Lot behind Sovereign Bank/ Odd Fellows Hall | On Street | Other, please explain: |
| <input checked="" type="checkbox"/> | <input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

[Empty box for suggestions]



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: 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

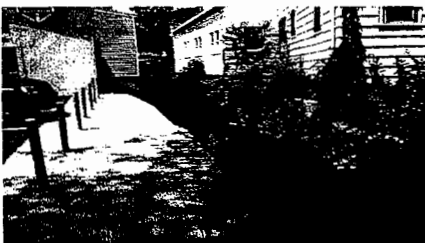
- EXPOSURE INCREASED

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

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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?

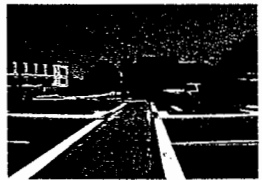
| | | | | |
|-------------------------------------|---|---|--------------------------|------------------------|
| Private lot | Lot behind Chelmsford Center for the Arts | Lot behind Sovereign Bank/ Odd Fellows Hall | On Street | Other, please explain: |
| <input checked="" type="checkbox"/> | <input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

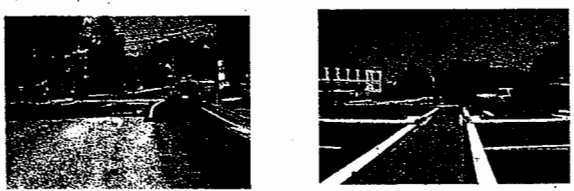
| | | | | |
|--------------------------|---|---|-------------------------------------|------------------------|
| Private lot | Lot behind Chelmsford Center for the Arts | Lot behind Sovereign Bank/ Odd Fellows Hall | On Street | Other, please explain: |
| <input type="checkbox"/> | <input type="checkbox"/>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

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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?

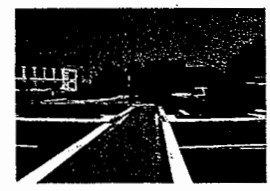
| | | | | |
|-------------------------------------|---|---|--------------------------|------------------------|
| Private lot | Lot behind Chelmsford Center for the Arts | Lot behind Sovereign Bank/ Odd Fellows Hall | On Street | Other, please explain: |
| <input checked="" type="checkbox"/> | <input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

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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:
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 06 2013

N.M.C.O.G.

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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

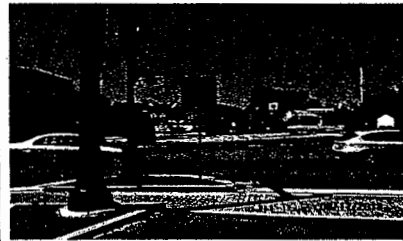
C. Had no impact

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 BIKE PARK BEHIND CCA.

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

NO



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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

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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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40 Church Street Suite 200
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?

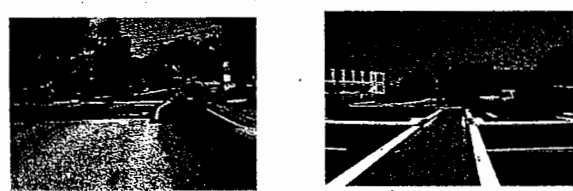
| | | | | |
|-------------------------------------|---|---|-------------------------------------|------------------------|
| Private lot | Lot behind Chelmsford Center for the Arts | Lot behind Sovereign Bank/ Odd Fellows Hall | On Street | Other, please explain: |
| <input checked="" type="checkbox"/>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

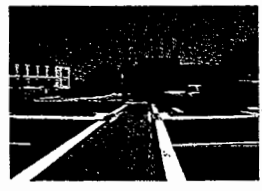
| | | | | |
|-------------------------------------|---|---|--------------------------|------------------------|
| Private lot | Lot behind Chelmsford Center for the Arts | Lot behind Sovereign Bank/ Odd Fellows Hall | On Street | Other, please explain: |
| <input checked="" type="checkbox"/> | <input 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:
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Lowell, MA 01852



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

RECEIVED

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

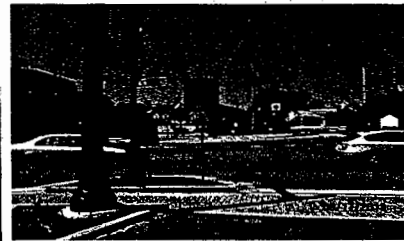
9. Do your customers/clients have difficulty parking? If so, is the parking issue more prevalent at certain times of the day or certain days of the week? Please explain:

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.



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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?

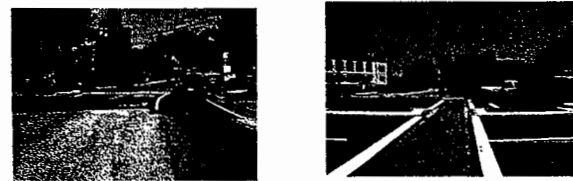
| | | | | |
|-------------------------------------|---|---|-------------------------------------|------------------------|
| Private lot | Lot behind Chelmsford Center for the Arts | Lot behind Sovereign Bank/ Odd Fellows Hall | On Street | Other, please explain: |
| <input checked="" type="checkbox"/>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

[Empty box for suggestions]



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40 Church Street Suite 200
Lowell, MA 01852



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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"/> | |

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.



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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?

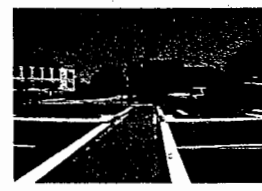
| | | | | |
|-------------------------------------|---|---|--------------------------|--------------------------|
| Private lot | Lot behind Chelmsford Center for the Arts | Lot behind Sovereign Bank/ Odd Fellows Hall | On Street | Other, please explain: |
| <input checked="" type="checkbox"/> | <input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



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Lowell, MA 01852

