

Town of Billerica, MA

2018 Master Plan



















Prepared for: Town of Billerica

Prepared by: Vhb / NMCOG

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Executive Summary

Overview

The previous Master Plan of Billerica was completed in 2002. In early 2015, the Town of Billerica embarked on a journey to develop a new Master Plan that will re-establish a path towards a more vibrant, prosperous, and sustainable Billerica. The driving forces behind this Master Plan are rooted in a commitment to preserving Billerica's social, economic and natural heritages while embracing changes that will renew the Town as a better and more desirable place to live, work, and play for all generations.

The 2015 Master Plan planning process was led by a Master Plan Committee (MPC) consisting of a diverse group of citizen stakeholders representing residents, town boards, municipal departments, businesses, and community organizations. The Town secured the services of Vanasse Hangen Brustlin, Inc. (VHB) to facilitate the process. From April to December 2015, the MPC met monthly to discuss the baseline assessments along with issues, challenges, and opportunities for four Master Plan elements including Land Use; Transportation; Natural, Historic, and Cultural Resources; and Public Facilities and Services. The tireless work of the MPC resulted in the visions, goals, and implementation actions for each element.

The Town and MPC identified several outreach efforts that were tailored to gain meaningful public input throughout the process. Two Master Plan Public Workshops were held in July and September 2015, soliciting input from the community members to help shape and prioritize the vision, goals, and actions for the future of Billerica. Over 100 people participated in the Public Forum's and actively contributed to the development of the Master Plan. The Town also lunched an online public engagement forum hosted on the platform of MySidewalk (formerly known as MindMixer) to encourage public input online. In addition, a Visual Preference Survey was created to help understand the community member's preference on various land use topics. The planning process would not have been as successful without the commitment of all community participants, the input gained from town departments, and the commitment from the MPC. This collective input has led to the creation of this 2015 Master Plan, which is an important guiding document that is structured to position the Town to advance goals, actions, and strategies that will help the Town proactively get closer to where it wants to be in the next 10 to 15 years.

Snapshot of Billerica: Past and Present

Originated from a Praying Indian village named Shawshin in the early 1630s and incorporated into a township in 1655, Billerica went through a serious of growth eras to get to the town known today. The early days of Billerica featured a primarily agricultural village of subsistence and market farms. The industrial heritage of the Town first sprouted in the 1660s with mills harnessing the rivers.

The first wave of prosperity and expansion arrived after the Revolutionary War when new and larger homes were built in town. Transportation improvements during the 19th century, such as the stagecoaches, the Middlesex Canal, and particularly the railroads, not only established Billerica's role as a transportation center but also introduced more industries and businesses, stimulated planned housing development for workers and residents, and attracted increasing numbers of visitors. By the end of the 19th century, resort communities had grown up along the pond and river shores in town.



Canal crossing on the Middlesex Canal

While the town kept growing throughout early 20th century, Billerica's most significant suburban residential development and modern industrial growth burgeoned during the second half of the 20th century with the construction of Route 3 and other limited-access highways. Between 1950 and 2000, the population of Billerica nearly quadrupled from 10,000 to nearly 40,000 people. The town gradually transformed, in items of its physical land uses. Large farms were displaced by residential subdivisions and resort cottages of previous decades winterized for year-round occupancy. Industrial and business growth was strong and shifted during this period when Billerica's traditional mills were replaced by more diversified industry.





Billerica Mills Historic District

After half a century's growth, Billerica is approaching its build-out with limited vacant and buildable land. Presently, Billerica is home to approximately 40,100 residents in 14,276 households¹ and provides jobs to over 21,000 employees². The sense of community is well valued by its residents, so is the rich history, the rivers and lakes, and the remaining open spaces.

Situated 20 miles northwest of Boston along U.S. Route 3 and less than 3 miles from the Massachusetts Route 128/Interstate 95 "high-tech" beltway, Billerica is well positioned for the next round of social, economic, and physical revitalization. However, the town faces a series of challenges as a mature suburb. The distinctive office and industrial parks begin to show some signs of tiredness in occupancy rates, physical conditions, and types of businesses. The roadways are burdened with traffic and congestion at key locations while pedestrian, bicycle, and transit improvements remain somewhat static. The aging of the infrastructure accelerates in concurrence with an aging population. Valuable resources in town, both natural and historic, are under growing development pressure. During the first public meeting participants were ask to identify some of the issue and assets that should be considered in developing the Master Plan. The following one-word exercise captures the major issues and assets that were identified.



Master Plan Public Workshop – Issues Word Cloud

¹ 2009-2013 American Community Survey 5-Year Estimates

² EOLWD Employment and Wages 2013 Annual Report



Master Plan Public Workshop - Assets Word Cloud

Shaping Billerica's Future: Vision for Tomorrow

In the next 10 to 15 years the Town of Billerica will be known by its residents, workers, visitors, and investors as a healthy and well-connected Smart Growth community that embraces its rich places and unique land use patterns while becoming more balanced in terms of its commercial, residential, industrial, and institutional land uses. A community that is inter-linked, with an accessible and ever-expanding open space and recreation network. Our land use sectors will better transition between our residential neighborhoods and natural resource areas with environmental sensitivity and our community character and quality of life will be enhanced through an integrated land use pattern.

Billerica will have advanced projects focused on providing a more complete transportation system that will better serve the Town's entire population.

Billerica will be renowned for its abundant natural resources and open spaces with their environmental integrities preserved and enhanced. Our connection to the Concord and Shawsheen Rivers, forests, and open lands will be widely known, accessible, and appreciated by residents and visitors alike; our critical wildlife habitats within our landscapes and ponds will be restored for ecological balances at a local and regional level; and our wetlands will be protected as valuable green infrastructures to enhance our climate resilience. Together, these resources are woven and connected within the community fabric and help define the unique characters of Billerica.

Billerica will be known for its work to preserve and enhance its historic resources. The town will be a recognized leader in providing physical and educational links between the town's historic resources and the Concord and Shawsheen Rivers, which help define Billerica's heritage and have resulted in unique architecture and special places like Faulkner Mills. The historic character of the town's diverse neighborhoods are preserved through the responsible design of both alterations to older buildings and new construction, enhancing each neighborhood's quality of life. The town's residents interacts with these resources on a regular basis, making the Billerica's heritage an active economic and cultural benefit.

Billerica will be known for being proactive in maintaining and developing its infrastructure and public services, with continued support and improvements of the school system, fire station, parks and recreation, library, and water and sewer.

Land Use

Introduction

Land use forms the basis for comprehensive planning and to a large extent determines a community's need to provide public facilities and infrastructure, transportation networks services, and protection of environmental resources. The Land Use element of the Master Plan encompasses all other elements as it provides guidance on how land resources in the community should be strategically used in order to facilitate decision-making and address related issues.

Billerica has historically been a typical New England community that has transformed gradually from an agricultural community, has seen a period of industrial growth, and has led to more recent land use pattern that include technology employment centers and residential suburban development³. The town's long industrial history has left a rich industrial heritage embodied by the active industrial and office parks but has also resulted in several brownfield sites that pose ongoing environmental concerns. The town's residential landscape shows a mix of older, more densely development neighborhoods and newer suburban subdivision housing. The remaining areas of agriculture, woodland, and open fields are faced with continuing pressure on land development due to the town's regional location within the Greater Lowell area.

As Billerica plans for its future, the Town has the ability to control land use and development patterns through a variety of mechanisms, including zoning and subdivision regulations and incentives, provision of public utilities and infrastructure, as well as acquisition and other open space conservation approaches. Build upon the past and present, Billerica aspires to take advantage of new development and preservation opportunities to revitalize the historic town center and gateway areas, balance commercial, industrial, and residential growth, and enhance open space protection and public accessibility.

Baseline Assessment

³ Town of Billerica Community Development Strategy, January 2014

The following section provides a brief review of the changing historic land use patterns of Billerica since the 1970s, when development pressure started shifting from Lowell to its surrounding communities. Existing land use characteristics will be analyzed to set the baseline conditions, identify pressing issues, and inform land use goals and recommendations.

Historic Land Use

According to the historic land use data available through Massachusetts Office of Geographic Information (MassGIS), in early 1970s more than half of Billerica was natural undeveloped land (see **Table 1-1** and **Figure 1-1**). These open land areas are scattered throughout the town and largely define the rural landscape of the community. Over 30 percent of the town was dedicated to residential use, mostly medium density residential with homes on 1/4 - 1/2 acre lots. Commercial uses, accounting for 1.3% of the town, were primarily located along sections of Boston Road (Route 3A) – Billerica's main street connecting Burlington to the south and Lowell to the north. The town's industrial uses primarily clustered around Route 3 exits, on Concord River, and along the railroads, including the 553-acre Iron Horse Park site which was added to the Environmental Protection Agency's (EPA) list of Superfund sites in 1984 due to serious contaminations⁴.

Table 1-1 Historic Land Use Patterns - 1971 and 2005

| | 19 | 71 | 1985 | | 1999 | | 200 | 5 |
|---|------------|---------------|---------|---------------|---------|---------------|---------|---------------|
| | Acreage | % of Total | Acreage | % of Total | Acreage | % of Total | Acreage | % of Total |
| Agriculture | 690.7 | 4.1% | 553.8 | 3.3% | 323.4 | 1.9% | 188.2 | 1.1% |
| Open Undeveloped Land | 643.5 | 3.8% | 531.1 | 3.2% | 551.6 | 3.3% | 331.8 | 2.0% |
| Commercial | 215.7 | 1.3% | 310.6 | 1.8% | 328.8 | 2.0% | 365.7 | 2.2% |
| Industrial/Transportation /Mining | 804.2 | 4.8% | 1,472.7 | 8.8% | 1,638.3 | 9.7% | 1,527.2 | 9.1% |
| Higher Density Residential | 544.7 | 3.2% | 617.8 | 3.7% | 659.1 | 3.9% | 1,006.2 | 6.0% |
| Medium Density Residential | 4,049.9 | 24.1% | 4,806.0 | 28.6% | 5,585.6 | 33.2% | 3,807.7 | 22.6% |
| Low Density Residential | 493.8 | 2.9% | 757.0 | 4.5% | 787.8 | 4.7% | 1,437.7 | 8.5% |
| Urban Open /Institutional/Recreation | 526.7 | 3.1% | 607.1 | 3.6% | 522.2 | 3.1% | 601.8 | 3.6% |
| Natural Land /Undisturbed Vegetation | 8,510.7 | 50.6% | 6,810.4 | 40.5% | 6,074.9 | 36.1% | 7,191.4 | 42.7% |
| Water | 332.0 | 2.0% | 345.3 | 2.1% | 340.0 | 2.0% | 384.7 | 2.3% |
| Total | 16,811.9 a | acres | | | | | | |

Source: MassGIS Land Use 1971, 1985, 1999, and 2005

⁴ Environmental Protection Agency Waste Site Cleanup & Reuse in New England – Iron Horse Park

Figure 1-1 Historic Land Use in 1971

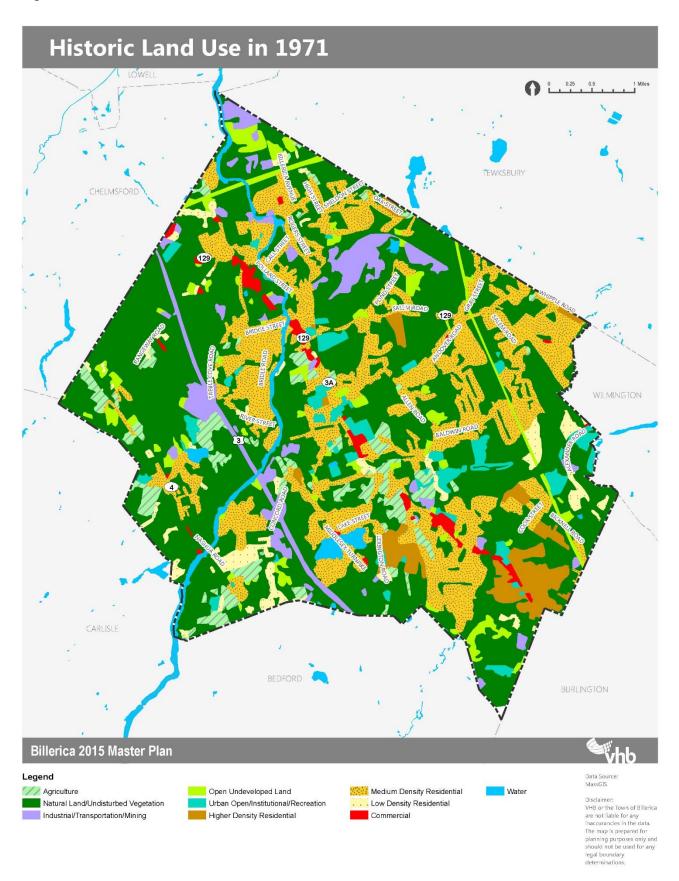
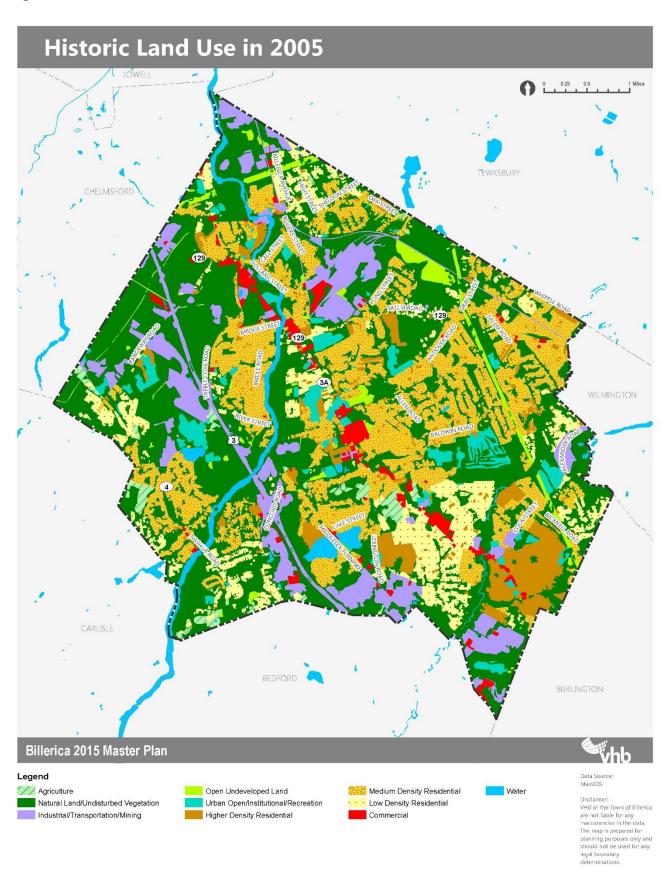


Figure 1-2 Historic Land Use in 2005



Billerica first experienced rapid suburbanization in the 1950s when the construction of Route 3 brought improved regional transportation access to the town. This trend of suburbanization further accelerated in the 1970s due to increased development pressure in the Great Lowell region. In this wave of growth, the town's development pattern became more random, as subdivisions were sited according to the availability of land⁵. After decades of suburban expansion, by 2005 - the peak of land development before the economic downturn – the town's land use pattern has changed dramatically (see **Figure 1-2**).

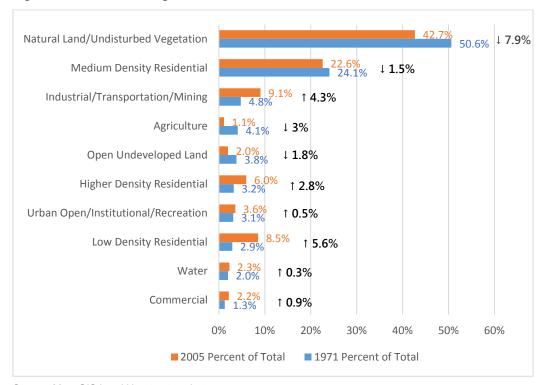


Figure 1-3 Land Use Change, 1971-2005

Source: MassGIS Land Use 1971 and 2005

Most notably as shown in **Figure 1-2** and **1-3**, between 1971 and 2005 the town's natural vegetated land declined by 7.9 percent and agriculture land declined by 3 percent. In contrast, industrial and low density residential land increased by 4.3 percent and 5.6 percent respectively. Residential development basically radiated outwards from established neighborhoods, including higher density residential uses in the Pinehurst neighborhood. Industrial growth between 1971 and 2005 was characterized by both continuous expansions from existing industrial areas and enclaves of new industrial areas into previously undeveloped land, with most of the growth occurred along the Route 3 corridor and the tri-town area where Billerica, Bedford and Burlington meet.

On the other hand, commercial land in Billerica experienced limited growth between 1971 and 2005 with less than 1 percent total increase. Most of the new commercial development occurred in the form of retail strip malls along Boston Road, as shown in **Figure 1-2**.

Existing Land Use

⁵ Town of Billerica Open Space and Recreation Plan, 2008

⁶ Residential units on larger than ½ acre lots

A land use interpretation was made based upon the latest 2015 assessor's database available on MassGIS to help understand Billerica's existing land use pattern⁷. As shown in **Figure 1-4** and **1-5**, the largest land use sector in Billerica today is single family residential, which accounts for 38 percent of the town. Higher density residential uses, including condo, multifamily, and apartments etc. present another 6 percent of the town.

The second largest land use type is industrial, totaling 21 percent of the town. Commercial land takes up 5 percent of the total area in town. The remaining agriculture and natural vegetated land accounts for 1 percent and 3 percent of the town respectively. It is notable that a significant amount of land in town, totally 18 percent, can be classified as "Open Undeveloped Land". These include all vacant parcels in various zoning districts, either privately or publicly owned, as indicated in the assessor's database.

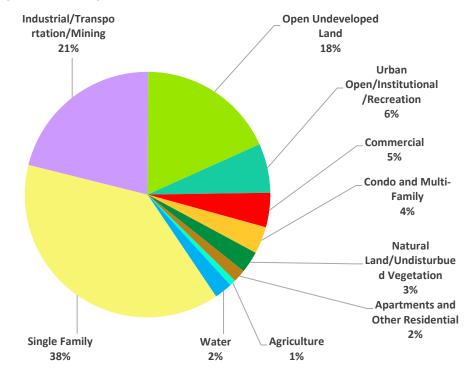
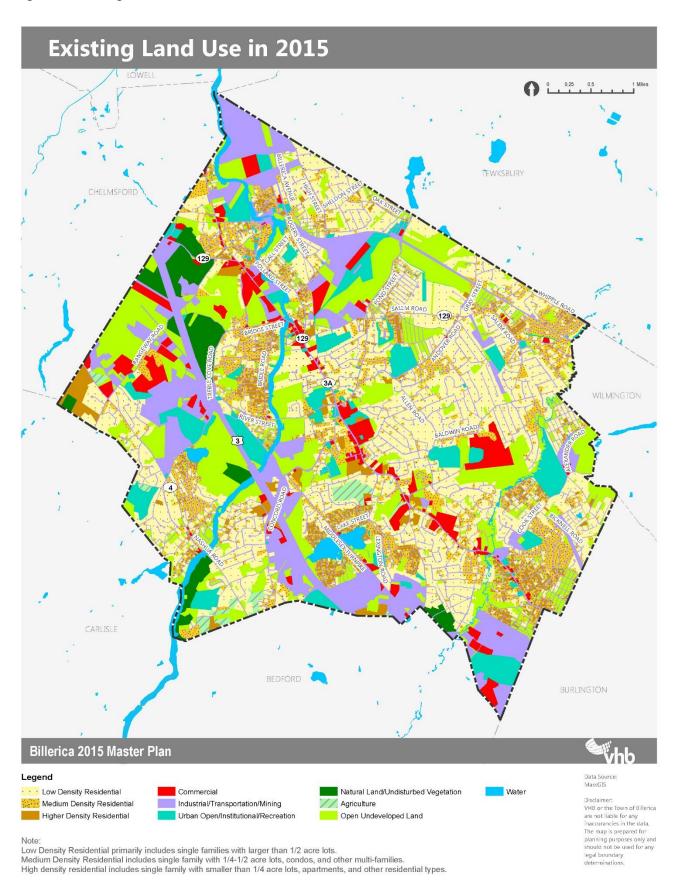


Figure 1-4 Existing Land Use Pattern, 2015

Source: Town of Billerica, 2015 Assessor Data accessible on MassGIS

⁷ The existing land use analysis represents an interpretation of the Town of Billerica's 2015 assessor's database using the Massachusetts Property Type Classification Codes of all parcels in town. The existing land use interpretation is therefore for planning reference purpose only and is not quantitatively comparable to the historic 1971 and 2005 land use data and maps provided by MassGIS, as those were generated by satellite image interpretation, which is an entirely different methodology.

Figure 1-5 Existing Land Use in 2015



Residential Land Use

The town's residential land use pattern clearly exhibits a shift from the earlier traditional higher density residential villages to lower density single family subdivisions in recent decades. As shown in **Figure 1-5**, there are six pockets of medium to higher density residential areas with ½ acre or smaller lots in East Billerica, Pinehurst, Nutting Lake, Rio Vista, River Pines, and North Billerica. These are the older and more mature residential neighborhoods that were historically formed with more compact and cohesive land use patterns featuring smaller lots and denser street networks. The majority of the town's newer residential areas, on the other hand, are typical suburban large lot subdivisions radiating outwards from older neighborhoods.

Industrial and Office Land Use

The town's Industrial and office uses are primarily clustered within nine industrial districts. In North Billerica there are the food processing and manufacturing facility of Baker Commodities and the Riverview Technology Park, a recently renovated office park available for new occupants. Off High Street adjacent to the present commuter rail line is the notorious Superfund site of the Iron Horse Park with a long industrial history dating back to 1913. The site has been undergoing vigorous environmental remediation since its Superfund site designation in 1984. Cleanup activities at the B&M Lagoons have been completed. The Shaffer Landfill which went through remedy construction activities, now hosts a 6 Megawatt solar farm facility that went online in August 2014. There is still ongoing soil, surface water, sediment, and groundwater remediation for the remaining areas⁸. While currently there are a few office and distribution facilities still in use on the site, most of the site is in dilapidated conditions. These two industrial areas, though located on the commuter rail line, lacks immediate access to the regional highway system.

The town's more active industrial areas are primarily located along the Route 3 corridor with good highway access. The Republic-Esquire-Sterling Road industrial belt by Exit 28 of Route 3 is dominated by high volume trucking facilities. A medical marijuana overlay district at this industrial area has been approved by Town Meeting in 2014. Off Concord Road near Exit 27 there are two office parks – Federal Street and Technology Park – that have few or no amenities. The prime location of these areas offer good potentials for mixed use development.



Manning Park

Off Middlesex Turnpike, there are Manning Park and Suburban Park that primarily offer light manufacturing and office uses. Further down Middlesex Turnpike at Plank-Dunham-Progress Road is the Middlesex Corporate Park industrial area that mostly has storage and distribution facilities. In addition, the recently developed EMD Serono R&D hub,

⁸ Environmental Protection Agency Waste Site Cleanup & Reuse in New England – Iron Horse Park

along with two hotels, in the southern most corner of Billerica abutting Burlington and Bedford is the town's first 43D campus created through expedited permitting. From a strategic location and regional market standpoint, the Middlesex Turnpike corridor and the tri-town area where the three-B towns (Billerica, Bedford, Burlington) meet offer great potential for future growth.

Commercial Land Use

Billerica has a distinct commercial corridor along Boston Road that features four established shopping centers and many smaller strip malls, retail stores, and restaurants. All four of the shopping centers – Treble Cove Plaza, O'Connor Hardware Plaza, Shops at Billerica, and Towne Plaza – are typical suburban strip malls anchored by a few large retailer, chain convenience stores, and supermarkets (notably Market Basket) that primarily serve the local communities. These shopping plazas are generally vehicle-oriented with low density and exposed parking lots.



Intersection at Treble Cove Plaza



O'Connor Hardware Plaza

Conservation and Recreation Land Use

A more detailed discussion on the town's open space and conservation resources will be provided in Chapter 3 Natural, Historic and Cultural Resources. In general, there are over 2,000 acres recreation, conservation, agricultural, and other types of open spaces in Billerica, owned by various public and private entities. The Town of Billerica owns approximately 1,070 acres of open spaces in town, with the largest three sites are the

Vietnam Veterans Park by Winning Pond, Jones Town Forest at the end of Windsor Road by the Country Club of Billerica, and the McDonald Knowles Conservation Land off Treble Cove Road. Among all of the town-owned open spaces, about 40 percent are used for recreation purpose, including playgrounds, fields, recreation complex, etc., and 33 percent are used for conservation. Over three quarters are protected in perpetuity while another 22 percent have limited protection. Majority (80 percent) of the town-owned properties allow public access.



Fishing access at Winning Pond

There are also nearly 550 acres of conservation and recreation land owned by the state, including Billerica State Forest and Warrant H. Manning State Forest by Route 3, and Governor Thomas Dudley Park on Concord River with river access. The United States Fish and Wildlife Service manages the roughly 116 acres Great Meadows National Wildlife Refuge along Concord River and off West Street. In addition, the Sudbury Valley Trustees owns over 80 acres of conservation land, primarily the Ralph Hill Conservation Area, fronting Concord River. All of these state, federal and land trust properties are permanently protected and allow public access.

Land Use Vision, Goals and Actions

Vision Statement

Billerica will be enjoyed by its residents, workers, visitors, and investors as a healthy and well-connected Smart Growth community that embraces its rich places and unique land use patterns while becoming more balanced in terms of its commercial, residential, industrial, and institutional land uses. A community that is inter-linked, with an accessible and ever-expanding open space and recreation network. Our land use sectors will better transition between our residential neighborhoods and natural resource areas with environmental sensitivity and our community character and quality of life will be enhanced through an integrated land use pattern.

Goals

- **Goal 1** Promote better and higher use of the Town's commercial centers, industrial clusters, and underutilized brownfield areas, and seek places for mixed use.
- **Goal 2** Preserve and strategically utilize the Town's natural resources and open spaces to improve quality of life and healthy living in Town.
- **Goal 3** Encourage diversified housing developments that are also contributive to Billerica's state-mandated affordable housing stock and proactive to address specific housing needs in Town, particularly that of the seniors.
- **Goal 4** Improve the design and connectivity of our public realms, including gateway areas, streets and sidewalks, parks and open spaces, and civic places, to reinforce our community character while fostering a healthy and active lifestyle.

Actions

- **Goal 1** Promote better and higher use of the Town's commercial centers, industrial clusters, and underutilized brownfield areas, and seek places for mixed use.
 - **LU-1** Update zoning ordinance to diversify the type and intensity of industrial and office uses for various industrial zoning districts while enhancing protection for adjacent residential neighborhoods by addressing issues related to setback, access, buffering, and screening.
 - LU-2 In synergy with the Town's economic development efforts, explore more opportunities for expedited permitting, such as 43D district or streamlined site plan review process, to attract technological, research and development, laboratory, and value-added light industrial uses along the Route 3 corridor.
 - **LU-3** Continue collaborating with federal, state agencies, private landowners and developers, and the public to leverage brownfield remediation and incentivize reuse/redevelopment of vacant and underutilized sites.

- **LU-4** In synergy with the Town's economic development efforts, identify priority areas in Billerica, particularly along the Route 3A corridor where market support is stronger, for designated mixed-use districts or mixed-use infill development. Modify zoning to encourage mixed-use in these areas.
- **Goal 2** Preserve and strategically utilize the Town's natural resources and open spaces to improve quality of life and healthy living in Town.
 - **LU-5** Continue preserving existing forests and conservation land while collaborating with state agencies, land trusts, and private landowners to seek more opportunities to expand the trail network and enhance public accessibilities for passive recreation.
 - **LU-6** Identify town-owned land as well as other opportunity sites along Concord and Shawsheen rivers as target areas for creating public access points to the river.
 - LU-7 Coordinate regionally to develop long range land use strategies along the Concord and Shawsheen River corridors that will promote water quality improvements, wildlife habitat restoration, and public access to regional waterfront recreation resources.
 - **LU-8** Identity parcels to expand and connect the existing open space and natural resources.
- **Goal 3** Encourage diversified housing developments that contributive to Billerica's statemandated affordable housing stock and proactively address specific housing needs in Town, particularly that of the seniors.
 - LU-9 Provide more development incentives and flexibilities in zoning bylaws to expand and diversify Billerica's housing stock that will meet the prevailing and emerging housing needs in town, particularly for senior housing. These could include density bonus, conversion of existing structures into multi-unit housing, flexible dimensional and parking requirements, and the creation of accessory dwelling units.
 - **LU-10** Monitor and seek housing rehabilitation opportunities especially in older, higher density neighborhoods. Consider the adoption of zoning, regulatory, permitting and other procedural incentives to promote residential reinvestment and enhance the existing housing stock.
 - **LU-11** Examine and amend zoning along the Route 3A commercial corridor to allow diversified, higher density, and/or mixed use housing development, such as multi-family, townhouses, assisted living or other types of senior housing.
- **Goal 4** Improve the design and connectivity of our public realms, including gateway areas, streets and sidewalks, parks and open spaces, and civic places, to reinforce our community character while fostering a healthy and active lifestyle.
 - **LU-12** Develop design standards and guidelines for the Town Center and Route 3A commercial corridor to enhance building character, parking configuration, and public realm interface.
 - **LU-13** Leverage public and private capital investment, as well as permitting and site plan review process, to beautify Billerica by improving the quality of public realm design and enhancing neighborhood identities.

Billerica 2018 Master Plan | FINAL

Land Use

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Transportation

Introduction

Transportation infrastructure serves as the backbone of a community, connecting the Town's residents to its businesses, cultural resources and neighboring communities. The Transportation element of the Master Plan provides an overview of the existing transportation network as well as providing a strategy on how to enhance the existing infrastructure to provide a more cohesive community.

Billerica's existing transportation network is typical of a historic New England town, with a main corridor through its center and numerous spokes that provide access to the residential neighborhoods located off the mainline. This is a typical roadway layout for a Town that began as an agricultural community before converting to a suburban commuter-based society. As Billerica plans for its future, the Town has the ability to focus enhancements to its transportation network in a way that takes advantage of the existing infrastructure, as well as providing new and improved connections to the Town's numerous natural, cultural and economic resources. By building around these resources, Billerica aspires to develop a modern transportation system that serves the needs of all of its residents.

Baseline Transportation Assessment

The Town of Billerica is located in Middlesex County in northeastern Massachusetts. The northeastern region has a healthy mix of cities, suburbs, and rural areas. The community is bordered by Tewksbury and Chelmsford to the north, Wilmington to the east, Bedford and Burlington to the south and Carlisle to the west. Billerica is approximately 20-miles northwest of Boston. The highways in the community offer excellent regional transportation access and mobility including:

Route 3: is a limited access highway that bisects the Town and provides north-south mobility and access to a significant amount of the Town's residential areas, as well as

the Town's commercial and industrial areas. There are two interchanges within the Town and one immediately to the north in Chelmsford.

- Route 3A: is a principal arterial that bisects the Town and provides north-south mobility within the Town and the region. This roadway serves as the principal access to the Town's commercial areas.
- Route 4: a minor arterial that is located on the westerly side of Town and provides north-south mobility and access to mostly residential homes and neighborhoods, as well as serving as a local bypass of Route 3.
- Route 129: a minor arterial roadway on the easterly side of Town that provides eastwest mobility between Route 3A and the predominantly residential areas to the east.

Figure 2-1 illustrates the Billerica transportation network. The MBTA provides commuter rail service to and from North Station in Boston via the North Billerica commuter rail station, which is located on the Lowell service branch. In addition, the town is served by the Lowell Regional Transit Authority (LRTA) and two (2) primary bus routes (Routes 13 and 14) that serve the community; Route 15 briefly passes through North Billerica as it travels between Westford and Lowell. Both Routes 13 and 14 travel between the Kennedy Center in Lowell and Burlington, with Route 13 using the Middlesex Turnpike and Route 14 using Route 3A.

During meetings with Town Officials and residents, or online surveys, a number of transportation themes were identified, including:

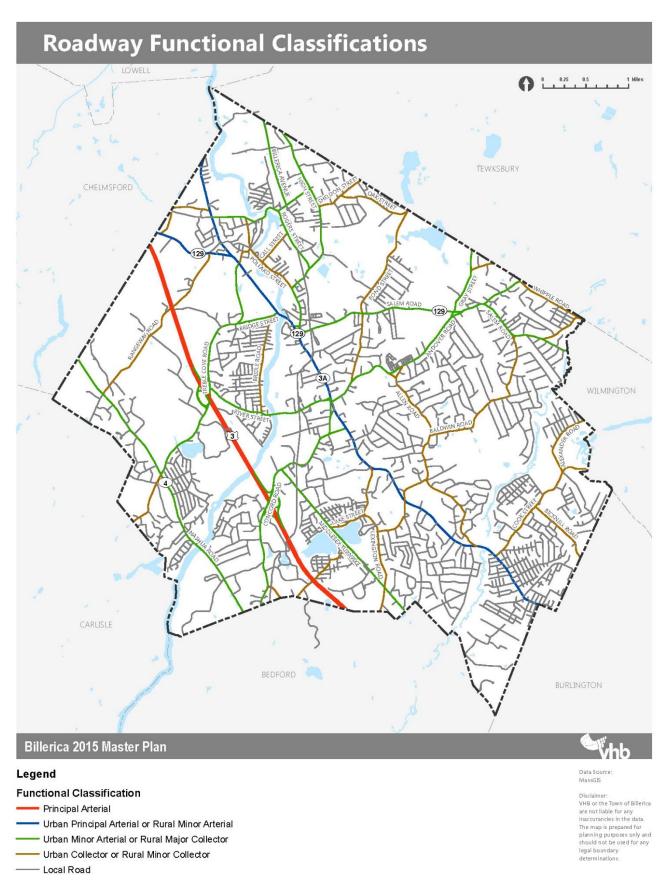
- Traffic congestion; especially in the vicinity of the Town Common.
- Lack of sidewalk facilities.
- Lack of education about existing public transit service.
- Lack of recreation facilities; including lack of bicycle and walking paths.

Existing Transportation System

The transportation system within Billerica varies dramatically from tight-knit streets that make up the downtown, to the roads that provide access to some of the more rural portions of the community, and to the corridors that provide regional connections to other communities and regions. These roadways can be referred to as interstates, arterials, collectors, and local roadways. Each contributes toward creating a street "hierarchy", whereby each type of street should promote a combination of access and/or mobility.

Billerica is within driving distance of Boston (20 miles), Lowell (8 miles), and Nashua, NH (23 miles). The Town is also centrally situated within the region's interstate system, with I-93 to the east, I-95 to the south and I-495 to the north. See **Figure 2.1** for a map illustrating the transportation network. Route 3A runs through the downtown; which is made up of a dense mix of residential, retail and commercial uses.

Figure 2-1 Roadway Functional Classifications



Modes of Travel

To gain a better understanding of how people move within and through Billerica, the mode share for commuters (or workers) was reviewed. **Figure 2.2** provides a breakdown of the mode split data provided by the U.S. Census Bureau9. Based on the available information the overwhelming majority of Billerica's working age population (93-percent) relies predominantly on the automobile, be it driving alone or carpooling, to get to and from work. Public transit makes up the next most popular means of commuting (3-percent combined). Commuters that walked or biked to work made up a combined 1-percent of the working population. Approximately 3-percent of Billerica residents work from home.

Since the mode share heavily favors the automobile, it is important to also get an understanding of the commuting patterns for both residents of Billerica and for workers of Billerica-based employers. **Table 2.1** presents the information collected as part of the 2010 U.S. Census; which in summary:

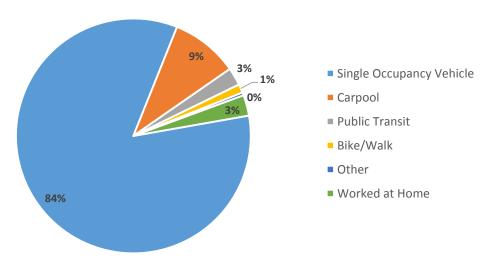


Figure 2-2: Means of Transportation

Source: U.S. Census Bureau, American Community Survey 2010-2013 Three-year estimates.

Approximately 20-percent of almost 20,900 Billerica residents surveyed work in Billerica. Approximately 19-percent of approximately 21,300 workers surveyed in Billerica also live in Billerica.

Given the substantial portion of individuals that both live and work in the Town of Billerica, the potential exists to substantially reduce the number of commuting trips made via automobile. While the existing mode share within the town leans heavily towards the automobile, targeted transportation improvements could be made that would promote travel by other modes. Improvements could range from better educating residents on available means of transportation to expanding bus service to constructing new sidewalks bicycle accommodations.

Table 2-1: Census Journey-to-Work Data for Billerica Residents and Employees

⁹ Mode share data based on U.S. Census Bureau, 2007-2011 American Community Survey (http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml)

| Location of Employment ¹ | Percent of Residents | Percent of Workers | Location of Residence |
|---|----------------------|--------------------|---|
| Billerica | 19.5% | 19.1% | Billerica |
| Burlington | 10.2% | 12.1% | Lowell |
| Boston | 8.8% | 3.5% | Dracut |
| Woburn | 5.6% | 3.5% | Nashua, NH |
| Bedford | 4.7% | 3.3% | Tewksbury |
| Chelmsford | 3.7% | 2.4% | Boston |
| Wilmington | 3.6% | 1.9% | Methuen |
| Lowell | 3.4% | 1.8% | Burlington |
| Cambridge | 3.3% | 1.5% | Medford |
| Waltham | 3.1% | 1.4% | Framingham |
| Lexington | 2.7% | 1.4% | Woburn |
| Newton | 2.2% | 1.3% | Westford |
| Tewksbury | 2.1% | 1.3% | Wilmington |
| Andover | 1.3% | 1.2% | Tyngsborough |
| Malden | 1.1% | 1.2% | Lawrence |
| Medford | 1.1% | 1.1% | Marlborough |
| Somerville | 1.0% | _ | _ |
| 95 Other Towns/Cities (combined) ¹ | 22.8% | 42.0% | 173 other Towns/Cities (combined) |

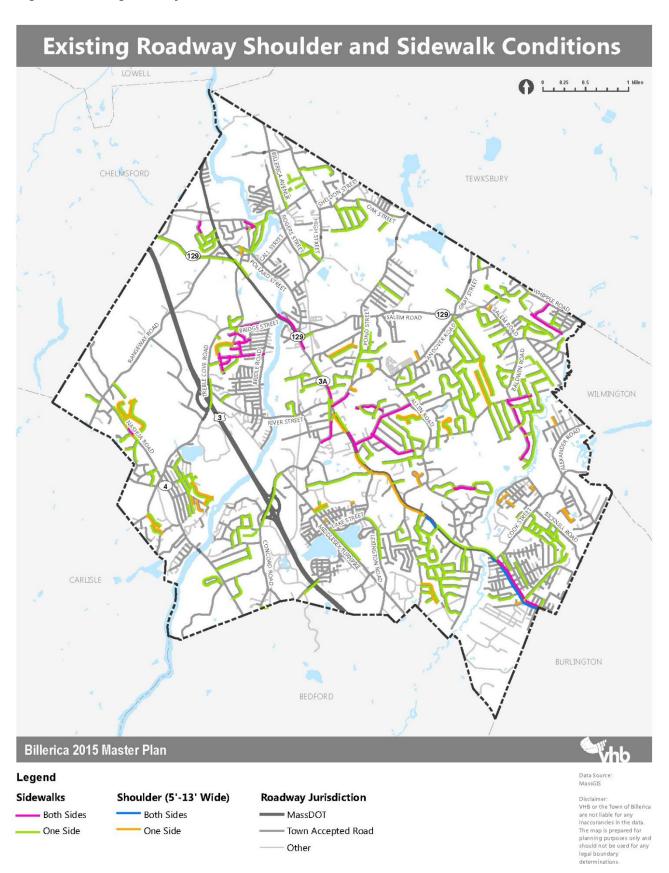
Source: U.S. Census Bureau, 2010 Census Journey-to-Work Data

Pedestrian and Bicycle Accommodations

Pedestrian and bicycle mobility are an important part of any transportation plan, as providing better access for non-motorized alternatives and encouraging these modes will help reduce congestion and the overall number of vehicle miles traveled. In return environmental benefits can be realized as the number of automobiles on the road is reduced. **Figure 2-3** displays the existing pedestrian and bicycle facilities within the Town.

¹ Other Towns and Cities not listed comprise one percent or less each

Figure 2-3 Existing Roadway Shoulder and Sidewalk Conditions



Pedestrian Access

The Town has approximately 63-miles of sidewalks, as illustrated in **Figure 2-3**. Most of these sidewalks are located along Route 3A and scattered through the various residential roadways throughout the Town. The ability of Billerica residents to commute and accomplish other errands via walking is limited once one leaves most residential streets. It should also be noted, that while sidewalks may be present, they are not necessarily in walkable condition as many show signs of significant wear.

It was previously stated that less than 1-percent of residents in Billerica walk to work; therefore, it is important to maintain and provide new sidewalks so that this number can increase. Maintaining sidewalks is also important since many of the bus stops are located along roadways that have sidewalks, so it is necessary to improve pedestrian connectivity to the residential areas. The town is now requiring new sidewalks for new developments that come before the Planning Board; which is part of the Major Development Review process. Just as important as sidewalks, pedestrian crosswalks and handicap accessible ramps need to be reviewed.

What is VMT or Vehicle Miles Traveled?

A central goal of most sustainable transportation plans is to reduce overall Vehicle Miles Traveled (VMT) in a community or region; this refers to the total number of miles traveled in a vehicle in an area over a certain period of time. VMT is correlated with household density, access to transit, distance to shops/services, and proximity to employment, land use and income.

A collection of methods and strategies for reducing vehicle congestion and VMT is called a Transportation Demand Management (TDM) program. There are many strategies that can be considered as part of a TDM program; including but not limited to: improved transportation options, incentives to use alternative modes of transportation, parking management, and policy and institutional reforms.

According to a 2010 study prepared by the Metropolitan Area Planning Council (MAPC), the average household in the Commonwealth drive more than 75-miles per day; which is based on data from over 149 cities and towns. This study identified Billerica as a town where residents travel less on a daily basis than the average community surveyed. The average daily vehicles miles traveled (VMT) for residents of Billerica was between 50-and 75-miles per day. According to the same study, residents of Billerica have a round-trip commute of between 15 and 20 miles, on average. Non-commuting trips made by Billerica residents range, on average, from 1 to 8 miles, with the low end of the range focused around the Town Center and the longer trips from residents that live on either the east or west edges of the Town.

Bicycling

There are currently no signed bikeways within Billerica and limited facilities within the Town that accommodate bicycles. Bicycle facilities can generally be classified as on-road (bicycle accommodating shoulders, bike lanes, etc.) or off-road (bike and/or mixed-use paths). The bicycle facilities within Town are limited to approximately 18-miles of bicycle accommodating shoulders, the majority of which are not continuous, thus forcing cyclists into the traveled way or to find an alternate route. Based on MassDOT's database, the longest continuous stretch where bicycle accommodating shoulders are provided on both sides of the roadway is located on Route 3A from the Burlington Town Line north to

Beaumont Avenue, which is a stretch of approximately three-quarters of a mile. It should be noted that the shoulders often reduce to 2-feet at intersections. Figure 2-3 illustrates roadways in town that have a shoulder width of more than 5-feet; shoulders that are 5-feet or greater are determined by MassDOT to be sufficient for accommodating bicycles.

It should also be noted that there are several bikeways in the surrounding Towns that serve as the basis for a regional bicycle infrastructure. These bikeways include:

- The Bedford Narrow-Gauge Rail Trail: runs from the Billerica Town Line to the beginning of the Minuteman Commuter Bikeway in Bedford Center
- the Minuteman Commuter Bikeway: runs from Bedford Center to Cambridge
- the Bruce Freeman Trail: runs between Lowell, Chelmsford and Westford

The Yankee Doodle Bike Path is a proposed bike path from the Billerica High School to the Narrow Gauge Rail Trail in Bedford. Once constructed the Yankee Doodle Bike Path would serve as the principal arterial for bicycle and pedestrian travel within the Town, as well as providing convenient links to other Towns. It should also be noted that there are numerous local off-road trails within conservation areas in Billerica and in the adjacent communities that are isolated due to the current lack of bicycle access.

The proposed Yankee Doodle Bike Path will serve as a portion of the Bay Circuit Trail that connects multiple suburban communities with-in metro Boston.

Roadway Safety

Providing a safe transportation network is critical for multiple reasons beyond limiting injuries and damage to personal property. Unsafe roadways and intersections can result in dividing lines within a community as well as keeping outside travelers from using town roadways and thus limiting potential business growth.

Why Do Crashes Happen?

Rear-end collisions are often a result of congestion or vehicles stopping to allow vehicles to enter the mainline of traffic from a street or a driveway; also called "courtesy crashes".

Angle type collisions typically occur when there are high side-street volumes trying to enter the mainline traffic stream.

Sideswipe collisions are often a result of on-street parking or vehicles attempting to pass vehicles attempting to turn into side streets or driveways

Numerous studies, conducted by both public and private entities, have looked at existing safety concerns at various locations within the town. The North Middlesex County of Governments (NMCOG) and MassDOT have undertaken studies analyzing crash data in all of North Middlesex County to identify the most hazardous intersections and roadways in the region. Most recently MassDOT has identified areas in Billerica that are high crash cluster locations.10 These clusters have been identified as part of MassDOT's Highway Safety Improvement Program (HSIP)11 in conjunction with the Federal Highway Administration (FHWA). The following eight locations were identified; which were illustrated in **Figure 2-1**:

MassDOT Top Crash Locations map application www.services.massdot.state.ma.us/maptemplate/TopCrashLocations/ 11 Massachusetts Strategic Highway Safety Plan (http://www.mhd.state.ma.us/default.asp?pgid=content/traffic/shsp&sid=level2)

- Route 3 and Concord Road
- Route 3 and Treble Cove Road
- Boston Road (Route 3A) and Wyman Road
- Boston Road (Route 3A) and Charnstaffe Lane
- Boston Road (Route 3A) and Concord Road
- Boston Road (Route 3A) and Chelmsford Road (Route 129)
- Salem Road (Route 129) and Pond Street
- Salem Road (Route 129) and Andover Street/Gray Street

In addition to providing a summary of the high crash locations in Town identified by MassDOT, VHB developed a Town Wide Crash Chart (**Figure 2-4**) to summarize the number of crashes along major corridors. This data was prepared by VHB using the MassDOT database for the most recent five years (2009 through 2013). According to the MassDOT database approximately 2,500 crashes occurred on roads within the Town of Billerica (not including Route 3) between the years of 2009 and 2013. Of the crashes within Town, more than a third (949 incidents) occurred along Route 3A; the roadway with the next highest percentage of crashes was Concord Road at 10 percent (246 total incidents). Some information taken from the review of crashes along these corridors:

- Of the crashes reviewed along Route 3A approximately 43-percent were angle-type crashes, 33-percent were rear-end crashes, and 15-percent were sideswipe-style crashes.
 - This variety of crashes reflects the higher traffic volumes, high density of curb cuts and intersection, as well as the constrained roadway cross-section in 4-lane sections.
- Of the crashes reviewed along Salem Road (Route 129) approximately 43-percent were angle-type crashes and 23-percent were single-vehicle crashes.
 - The high percentage of single-vehicle crashes along this roadway may be attributed to a combination of roadway geometry (there are several horizontal curves along the road) and higher vehicle speeds (noted during public meetings).
- Of the crashes reviewed along Concord Road approximately 36-percent were rearend crashes, 26-percent were single-vehicle crashes, and 22-percent were angle-type crashes.
 - The higher percentage of rear-end crashes is reflective of a commuter road with numerous traffic signals along it.
- Of the crashes reviewed along the Middlesex Turnpike approximately 42-percent were rear-end crashes and 39-percent were angle-type crashes.
 - The higher percentage of rear-end crashes is reflective of a commuter road with higher peak hour volumes, while the angle crashes are a reflection of the numerous unsignalized intersections along the roadway.
- Of the crashes reviewed along Route 4 approximately 40-percent were angle-type crashes and 31-percent were single-vehicle crashes.
 - The high percentage of single-vehicle crashes along this roadway may be attributable to a higher percentage of crashes occurring with wet or icy pavement conditions (approximately 31-percent), as well as a narrow cross-section with numerous roadside obstructions (i.e. guard rail, trees, mail boxes, etc.).

The incidents along these corridors are likely due to, among other reasons: (i.) high traffic volumes during the day and peak commuting hours; (ii.) a high number of access points (or driveways) along the corridor; which increases vehicle-conflicts; and/or (iii.) a constricted roadway cross-section which limits the ability for drivers to react to incidents around them.

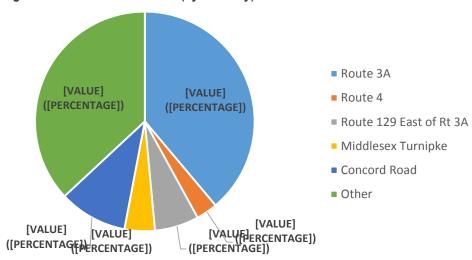


Figure 2-4 Town Wide Crashes (by roadway)

Source: MassDOT database for the most recent five years (2009 through 2013)

Some additional information that was taken from the review of MassDOT crash data included:

- There were 3 crashes during the time period reviewed that resulted in fatalities. These crashes occurred on Treble Cove Road, Allen Road and Route 3A
 - Each of the fatal crashes occurred during non-daylight hours
 - The fatality on Route 3A involved a pedestrian being struck by a vehicle
- Over this time period there were approximately 28 crashes involving pedestrians and 15 crashes involving a cyclist within the Town.

Public Transportation

Passenger Rail Service

The MBTA's Commuter Rail provides service to Billerica and the surrounding communities via the North Billerica Commuter Rail Station, located at the corner of Station Street and Ruggles Street. The North Billerica station is the second to last stop on the MBTA's Lowell Line, which provides service between Lowell and North Station in Boston, with stops in Wilmington, Woburn, and Medford along the way. A 541 space parking facility, operated by the Lowell Regional Transit Authority (LRTA), is provided at the station, which provides parking for \$4/day. With a Billerica residency sticker parking is \$2/day and free on weekend and holidays. Based on the MBTA's website, this lot rarely fills up on an average weekday (Average availability of 35%). However, it was noted by the Master Plan Committee that this lot fills up on a typical weekday. Based on MBTA's 2010 Ridership Statistics, the North Billerica Station accounted for 16% of the total average inbound boardings on the MBTA's Lowell Line (third highest amount).

TDM: The goal of Travel Demand Management (TDM) is to reduce overall impacts of traffic. By their very nature, TDM programs attempt to change people's behavior, and to be successful, they must rely on incentives or disincentives to make these shifts in behavior attractive. Examples are: Ridesharing Programs, Transit Programs, Bicycle Measures. Beyond recommendations already made, the Town could work with local employers or resident groups to implement Ridematching services through local Transportation Management Associations (TMA), which help match commuters/employees in an effort to encourage ridesharing.



North Billerica Station

Bus and Para Transit Service

The LRTA operates two (2) primary bus routes (Routes 13 and 14) through the Town that serve the community; a third; Route 15, briefly passes through North Billerica as it travels between Westford and Lowell. Both Routes 13 and 14 travel between the Kennedy Center in Lowell and Burlington, with Route 13 servicing the Middlesex Turnpike and Route 14 servicing Route 3A. Route 13 is the only route that serves the North Billerica MBTA station. The LRTA also operates a para transit service within the Town, providing door-to-door service for ADA-eligible patrons.

Roadway Access Management

What is Access Management and its benefits?

The goal of access management is to control the location, number, spacing, and design of curb cuts/access points along a major roadway while promoting alternate access to parcels through supporting street systems and interconnecting driveways between parcels. Promoting improved access results in a roadway that operates more safely and efficiently for all users. Poor access management can result in the following consequences:

- An increase in vehicle crashes:
- Collisions involving pedestrians or bicyclists;
- Reduction in roadway efficiency;

Transportation

- Unsightly commercial strip development;
- Degradation of roadside landscaping;
- Promotion of cut-through traffic on residential streets;
- An increase in commuting times;
- Costly improvements to correct poor access management; and
- Safe access concerns for businesses.

Access is generally based on the functional classification of a roadway, and typically access is most desired from either a collector roadway or local roadway.

Table 2-2: Existing Access Points: Route 3A Corridor

| Roadway | Posted Speed Limit | Location | Total number of Access Points | Length of Roadway (in miles) | Access Density (per mile) | Access Density (per mile total) |
|---|-----------------------|----------|--|------------------------------------|---------------------------------|------------------------------------|
| Boston Road (Route 3A) | 35 mph | Eastside | 44 | | 31.6 | |
| between Burlington TL and Concord Rd | | Westside | 48 | 1.39 miles | 34.5 | 66.2 |
| Boston Road (Route 3A) | 35 mph | Eastside | 55 | | 16.6 | |
| between Concord Rd and Chelmsford TL | | Westside | 50 | 3.31 miles | 15.1 | 31.7 |

Notes: Based on observation data collected by VHB in 2015 and Google Earth 2015. Roadway unsignalized and signalized intersections are included in the totals.

Managing the number of access points (or driveways) along a particular corridor is called access management. The goal of access management is to control (or manage) the location and number of driveways along a corridor. One measure used to determine if a corridor is managed adequately is to determine what is called "access density"; which is the measure of access points along a corridor over a certain distance. If a roadway has high access density, safety and/or mobility can be compromised. The Route 3A corridor was reviewed to determine the access density. **Table 2-2** summarizes the access density for each.

Driveway spacing is generally determined by the posted speed limit. As shown in **Table 2-3**, a posted speed limit of 40 miles per hour would require a driveway spacing of approximately 530-feet, or a driveway density of 10 access points per mile (5280-feet / 530-feet). This spacing can depend on the type of roadway; for example, if a median is present in the roadway the access density could be greater since a median would limit the number of conflict points and it would provide a more efficient access.

Table 2-3: Driveway Spacing

| | Opposite Side of Roadway (undivided) | | | Same Side of Roadway (with median) | | |
|--------------|--------------------------------------|---------------------------|--------------|------------------------------------|--|--|
| Posted Speed | Required Min. Driveway Spacing | Access Density (per mile) | Posted Speed | Required Min. Driveway Spacing | | |
| 30 mph | 370 feet | 14 | 30 mph | 370 feet | | |
| 35 mph | 460 feet | 11 | 35 mph | 460 feet | | |
| 40 mph | 530 feet | 10 | 40 mph | 530 feet | | |
| 45 mph | 670 feet | 8 | 45 mph | 670 feet | | |
| 50 mph | 780 feet | 7 | 50 mph | 780 feet | | |

Source: NCHRP Report 348, Access Management Guidelines for Activity Centers, Table 7-8 page 63 (undivided) and TRB, Access Management Manual, Table 9-7, page 152 (median).

Based on the tables above, the Route 3A corridor has a high number of access points per mile. This high number of access points is likely a contributing factor to some of the

^{*} This segment of Route 2 has a raised center median with breaks at intersections to allow for access to developments on each side of the roadway.

issues that have been previously identified; however, further study is needed to consider the level of activity (or traffic generation) at each driveway. Many of the driveways along these roadways appear to be residential properties; which, while generating very little traffic, can cause congestion and crashes due to the speed differential of vehicles turning in and out for the driveways.

Transportation Vision, Goals and Actions

Vision Statement

Billerica will have advanced projects focused on providing a more complete transportation system that will better serve the Town's entire population.

Goals

- **Goal 1** Become a bicycle and pedestrian friendly community by expanding existing bicycle and pedestrian facilities.
- Goal 2 Improve the use of public transit by Town residents and employees.
- Goal 3 Improve Town-wide traffic flow and connectivity.
- Goal 4 Improve Town-wide curb appeal.

Actions

- **Goal 1** Become more of a bicycle and pedestrian friend community by expanding existing bicycle and pedestrian facilities.
 - T-1 Seek funds to advance design/construction of the Yankee Doodle Bike Path.
 - **T-2** Develop a Town-wide sidewalk/bicycle accommodations inventory and construction/maintenance plan.
 - **T-3** Focus new sidewalk construction in areas with missing segments and around attractions (e.g. Schools and Resource Areas, and the Commuter Rail Station).
 - **T-4** Work to upgrade existing pedestrian facilities to conform to current ADA/AAB standards.
 - **T-5** Use signage and pavement markings to define an-on-street bicycle network.
 - **T-6** Educate the community on bike rules, safety, and use of bikes for both commuting and non-commuting trips. Provide information on programs including "Safe Routes to Schools", existing on-road/off-road bike facilities and bikeable destinations within Town (stores, offices, schools, etc.)
 - **T-7** Explore the potential to develop and adopt a complete streets policy.
- Goal 2 Improve the use of public transit by Town residents and employees.

- **T-8** Improve wayfinding signage to Commuter Rail Station, and seek to improve and expand the parking.
- **T-9** Work with the LRTA, neighboring Towns and local businesses to implement a town-wide shuttle service, enhance external connections and extend local service and operating hours.
- **T-10** Work with LRTA to add support facilities (benches, shelters, parking, etc.) at existing LRTA bus stops.
- **T-11** Work to expand door-to-door service for disabled and aging residents who rely on handicap accessible vehicles.
- **T-12** Educate residents on available public transit services (post schedules in public places, including public school, Town Hall and the library).
- Goal 3 Improve Town-wide traffic flow and connectivity.
 - **T-13** Work with MassDOT to advance design on existing projects along Route 3A, especially those aimed at reducing traffic congestion around the Town center.
 - **T-14** Work with MassDOT to advance safety improvements at HSIP-eligible locations, particularly at the intersections of Route 3A/Wyman Road, Pond Street/Salem Road (Rt 129), Route 3A/Concord Rd, Andover Rd/Salem Rd (Rt 129).
 - **T-15** Improve wayfinding signage through-out the Town.
- Goal 4 Improve Town-wide curb appeal.
 - **T-16** Develop Town-wide streetscape standards and implement the adoption of the scenic road program.
 - T-17 Develop gateways at Town entrance points and land use transition points (i.e. residential to commercial, commercial to industrial, etc.). Look to involve community volunteer groups to assist in maintenance such as Garden Clubs and potential partnerships with the School Department
 - **T-18** Identify and advance strategic streetscape projects while promoting context sensitive design.
 - **T-19** Re-evaluate existing bylaws related to signage, in an effort to reduce sign clutter.

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Public Facilities and Services

Introduction

The public services and facilities element of a comprehensive plan should serve as a guide for decision-making about the public buildings, infrastructure, utilities and services provided by a local government. The adequacy of municipal facilities – which affects the ability of municipal employees to serve the community – is largely determined by four factors:

- The form, size and organization of the local government;
- Projected population and economic growth;
- The community's land use pattern; and
- The expectations of residents and businesses for the types and levels of services, and the ability of the Town to meet those expectations.

What is a Public Facility?

A public facility is any municipal property that has been improved for public purposes, such as a town hall, library, police or fire station, parks and playgrounds, and schools.

It also includes municipal services and utilities such as water or sewer service, and solid waste facilities such as a transfer station or recycling center.

ability to provide adequate services to the community requires both short- and long-term planning. Effective capital planning and asset management policies are often challenged by limited revenue for government operations, which can put long-term investment at risk. Prioritizing and setting goals for short- and long-term investment needs can help a Town ensure that it meets the community's expectations for municipal services, which Billerica has largely been able to do.

Billerica receives limited funding from non-local sources and relies almost entirely on its residents and businesses for financial support. Some of Billerica's facilities are inadequate to meet current and future needs in order to accommodate the personnel, equipment, technology and records storage that government organizations need to run efficiently.



Billerica Town Hall

One of the key issues facing the Town is how to prioritize and pay for its many capital needs. Given the growing demands on public services and facilities, the Town is challenged in how it can meet and balance those needs. Economic development opportunities, such as those discussed in the Land Use chapters of this Plan, can provide the major source of funds to help to increase the Town's tax base to support improvements.

This chapter includes an analysis of the adequacy of the following public services and facilities in Billerica. The services and facilities listed below are among those that were identified by Town officials and residents through interviews, input from the public forums.

- Town Hall
- Fire Department
- Police Department
- Schools
- Council on Aging/ Senior Center
- Public Library

DPW

Note that the Parks and Recreation Department was assumed to be addressed separately in the Towns Open Space and Recreation element which is being developed outside of this planning effort.

Baseline Assessment

Town Services

The municipal services that Billerica provides are fairly typical of Massachusetts towns. Many local government services qualify as "essential" regardless of whether the state mandates them.

The table below summarizes the essential municipal services provided by the Town.

Table 3.1 Billerica's Public Services

| Administration and Finance | Public Safety | Public Works |
|--------------------------------------|--------------------------------|--------------------------|
| Town Manager | Police Department | Highway |
| | | |
| Town Clerk | Animal Control | Water and Sewer |
| Assessor | Fire Department | Snow and Ice |
| Purchasing | Emergency Management | Trash/Recycling |
| | | Cemetery |
| | | Properties and Buildings |
| | | Forestry |
| Personnel | | Parks |
| Town Treasurer/Collector | | |
| Information Technology/ | | |
| Accountant | | |
| Community Development and | | |
| Planning | Human Services | Culture and Recreation |
| Building, Plumbing& Gas , Electrical | Council on Aging/Senior Center | Billerica Library |
| Planning | Commission on Disability | Recreation Department |
| Conservation | Schools | |
| | Veteran Services | |

Source: Billerica Town website, http://www.town.billerica.ma.us/129/Departments

Capital Improvement Plan

The Town has an established capital improvement planning process in place. The Billerica Capital Improvement Plan (CIP) is a five year plan that includes all known capital

needs for each department (including schools), regardless of the source of funding. The key components of the CIP are as follows:

- Status of existing capital funds and projects
- Details on new projects
- Coordination issues related to public works projects
- Protection of investments

The CIP planning process is an integrated and coordinated process and includes several key members of the administration. Such coordination is imperative to ensure that a comprehensive view of capital needs is considered rather than having each department operate in a silo with respect to their individual capital needs.

Department of Public Works

The Department of Public Works operates with XX staff members and is headquartered at 365 Boston Road. There are divisions under the DPW that include, Cemetery, Parks and Streets; Engineering, Highway, Wastewater, and Water. The DPW departments are located a multiple locations that include: 365 Boston Road, 130 Andover Road; 250 Boston Road; 70 Letchworth Avenue. In addition, there are many services that are provided by the Public works department that include;

- Repairing, maintaining, plowing, and sweeping of streets and sidewalks in order to ensure that all public rights-of-way are safe and accessible at all times
- Managing the Town's municipal water program, which includes the Water Treatment Plant and water distribution system
- Managing the Town's municipal wastewater program, which includes the Wastewater Treatment Plant and sanitary sewer collection system
- Grave-site preparation and other burial services, and grounds maintenance at the Town's cemeteries
- Managing the efforts related to the design development and construction of the Town's various infrastructure improvement projects
- Managing the Town's Residential Trash and Recycling Program

The Administration Division is responsible for the overall management of the Department. It is also responsible for accounting, record keeping, water and sewer billing, permitting, and responding to service requests.

The Highway Division is responsible for all aspects of road construction and maintenance parking lot maintenance. The Division is also responsible for permit review, issuance and inspection. The Snow and Ice Division performs deicing operations, snow plowing and removal, and sidewalk and bus stop clearing.

The Water Division maintains underground water mains of various sizes. It is also responsible for water services to residential and commercial buildings including meter reading. In addition, the Water Division maintains fire hydrants in town and is responsible for the annual flushing of the water system through fire hydrants. The Sewer and Drain Division is responsible for the operation and maintenance of sewer lines and residential sewer connections. It also maintains and operates storm drain lines and storm drains.

The Public Works Department manages the Trash and Recycling program which is collected weekly.

Police Department

The Billerica Police Department is headquartered at 6 Good St, which was built in the 1960's. Currently, there are approximately four lieutenants, six sergeants and twenty-nine patrol officers.

Billerica Police Department

There are ten divisions within the Police Department

- Administration
- Animal Control
- Criminal Division
- Communications Division
- Emergency Medical Services
- Honor Guard
- K9
- Patrol Division
- Records Division
- Traffic Division

Key Services that are provided by the Police department include:

- Child Safety Seats
- CodeRed
- Domestic Violence
- Enhanced 911
- Elder Affairs
- Fingerprint
- Fire Alarm Testing
- Fire Arms testing
- Fire Arms Licensing
- ► H.E.A.T. Substance Abuse Program
- Juvenile
- MYPD Mobile App
- Neardoor
- Police Activities League
- Records Division
- Sex Offender Registry
- Twitter

The Department has response vehicles under its jurisdiction including cruisers, motorcycles and SUV's. They are maintained and repaired internally by the Department with the exception of major repairs. The Town's CIP routinely allocates money for the replacement of the Department's vehicle fleet.

Fire Department

The Fire Department maintains five stations. The Department has eighty full time and two part-time staff. It operates five engines, one ladder truck, and one rescue truck. The Department also has one brush truck, two reserve engines, and one reserve ladder truck. As is the case with the Police Department, vehicle replacement is scheduled in the CIP.

Fire Stations:

Headquarters – 8 Good Street (Moved to building in 1986, Built in 1960's)

- Engine 1
- Ladder 1
- Rescue 1
- Service 2
- Engine 6 (Brush Truck)
- Hazardous Materials Response Trailer



Billerica Fire Headquarters

- Technical Rescue Trailer
- Boat 1

North Billerica - 21 Lowell Street (Built in 1967-8)

- Engine 2
- Boat 2
- Engine 8 (Reserve Piece)
- Service 1 (Mechanic)

Pinehurst – 832 Boston Road (Built in 1955)

- Engine 3
- Engine 7 (Reserve Piece)

East Billerica - 295 Salem Road (Built in 1975

- Engine 4
- Ladder 2 (Reserve Piece)

West Billerica - 359 Treble Cove Road (Built in 1974)

- Engine 5
- Tank 1
- Boat 5

Overall, the Fire Department is concerned about its future level of service, in particular to the Pinehurst Station and its training facilities. Staffing is at its lowest level and recent development places even more strain on the staff as service calls are expected to continue to rise. As is the case in similar older communities, the Department is constantly challenged by the narrow and often congested roads, which can make access difficult when responding to emergency calls. The Middlesex Turnpike area has the longest response time.

Billerica Public Library

The Billerica Public Library is located on 15 Concord Road. The current Public Library is Billerica's third library. The first was originally known as the Social Library was formed in Billerica in 1772, a second was known as the being incorporated in 1809. The current library was built in 1880, and was a gift of Eleanor Bennett and her daughters.

This library is affiliated with the library system that serves Billerica, MA. The collection of the library contains 118,377 volumes. The library circulates



338,306 items per year. The library serves a population of 40,243 residents.

The library offers children's, young adult programs and Readers Corner, which include:

Children's Programs:

Billerica Public Library

- Story Times
- New Children's Titles
- Recommended Reading programs
- And resources for teachers and parent

Young Adults Programs are geared towards teen from grades 5-12:

- Book related websites
- Annual Scrap Book
- ► Teen Volunteer Program

Readers Corner:

- Finding Books
- Book Awards
 - Book Clubs
 - E-books

The library's hours of operation are:

- Monday through Thursday (9am-9pm)
- Friday and Saturday (9am-5pm)
- Sunday (1pm-5pm)

The Library's key staff include:

- Director
- Assistant Director
- ► Head of Children's
- Head of Circulation /Adult Programming
- Head of Technology
- Teen Services
- Outreach
- Interlibrary Loan

Cataloging Local History

School District

Like residents of other towns, Billerica voters have traditionally supported their public schools and worked hard to assure that children receive an excellent education. Good schools benefit a community's families and help to preserve high property values for everyone, so investing in public schools is very important. At several points during the public outreach residents mentioned the quality of the schools as a significant asset in Billerica. In addition, many people come into contact with school buildings, not only parents and children, but also residents participating in community or recreational activities that take place inside school facilities.

A total of 2,384 students were enrolled in Billerica's six elementary schools (PK-5), 1,324 students in two middle schools (6-8), 1,277 students one high school (9-12), and 159 students in the preschool, for a total of 5,144 students.

There were 379 full-time equivalent teachers in the system during the 2014-2015 academic year, yielding a student-teacher ratio of 16.1 to 1. The statewide average is 13.3 to 1.12 In 2013, the Town spent an average of \$13,609 per pupil in, up from \$12,872 in 2012. By comparison, the statewide average was higher – in 2013 it was \$14,021 per pupil, up from \$13,637 in 2012.13

The School District operates 10 school buildings:

- Billerica Memorial High School, 1955 Memorial Building / 1975 New Addition
- Locke Middle School, Built in 1968
- Marshall Middle School, Built in 1972
- Eugene C. Vining Elementary School, Built in 1957
- Frederick J. Dutile Elementary School, Built in 1965
- S.G. Hajjar Elementary School, Built in 1970
- John F. Kennedy Elementary School, Built in 1966
- Parker Elementary School, Built in 2012
- Thomas Ditson Elementary School, Built in 2001
- Project Support Preschool, Built in 1953

¹² Department of Elementary and Secondary Education,

http://profiles.doe.mass.edu/profiles/finance.aspx?orgcode=00310000&orgtypecode=5&

Department of Elementary and Secondary Education,
http://profiles.doe.mass.edu/profiles/finance.aspx?orgcode=00310000&orgtypecode=5&



Billerica Memorial High School



Parker Elementary

During the public outreach process, community members identified the need to continue to invest in Billerica's schools and noted that maintenance of and the need to replace key facilities should be a big priority. Plan are actively underway to rebuild the high school, which would provide a state of the art new facility. The design of this new facility accommodates the potential for the building to be used as a community center. The School Department has prepared a school master plan for its building that was prepared in 2012, and identifies the specific need and plan for its inventory of schools.

Public Facilities and Services Vision Statement

Vision Statement

Historic Resources Vision, Goals and Actions Billerica will be known for being proactive in maintaining and developing its infrastructure and public services, with continued support and improvements of the school system, fire station, parks and recreation, library, and water and sewer.

Goals

- **Goal 1** Develops plans and funding to rebuild, expand, or replace key public facilities.
- Goal 2 Develop plans for key infrastructure elements that need improvement.

- Goal 3 Improve maintenance and operation of existing and planned facilities.
- **Goal 4** Explore opportunities for sustainable energy within the Towns facilities and services.
- **Goal 5** Continue to provide quality services to the residents and property owners within Billerica.
- **Goal 6** Maintain, upgrade or replace school infrastructure as needed to accommodate the changing educational needs of the community.

Actions

- Goal 1 Develops plans and funding to rebuild, expand, or replace key public facilities.
 - **PFS-1** Continue to advance plans to rebuild the High School, which includes the strategy of using the school for a Community Center.
 - **PFS-2** Develop a master plan for all the fire stations, and in particular, a feasibility study for the replacement of the Pinehurst Fire Station, considering the opportunity to incorporate a Maintenance Garage and Training Facilities.
 - **PFS-3** Develop a master plan and feasibility study to expand the Senior Center.
 - **PFS-4** Develop a master plan and feasibility study to create a consolidated DPW Facility.
- **Goal 2** Develop plans for key infrastructure elements that need improvement.
 - **PFS-5** Develop a water master plan and storm water master plan that identify maintenance and capital improvements that are needed for these Town facilities for the next 10-20 years.
 - **PFS-6** Sewer Expansion: Continue with the implementation of Town Sewer based on the existing long range plan for growth and expansion of that system.
- **Goal 3** Improve maintenance and operation of existing and planned facilities.
 - **PFS-7** Undertake a study to explore the Town's maintenance operations to improve efficiency through a potential centralized approach (or location) for maintenance.
 - **PFS-8** Develop a master plan for the Town Hall that considers the current utilization of the facilities.
- **Goal 4** Continue to take advance of opportunities for sustainable energy within the Towns facilities and services.
 - **PFS-9** Undertake an energy audit of municipal buildings and develop a plan to implement recommendations
 - **PFS-10** Undertake a vehicle fleet assessment to ascertain opportunities to right size vehicles and increase fuel efficiency

- **PFS-11** Incorporate cost-effective Green Infrastructure strategies into all municipal projects for stormwater management, drainage.
- **PFS-12** Seek ways to increase recycling and reduce solid waste disposal.
- **PFS-13** Educate Town residents about stormwater issues and proper management.

Natural, Cultural, and Historic Resources

Natural Resources Introduction

Similar to many suburban towns in Massachusetts, Billerica's geological presence results from glacial movements during the most recent ice age and many millennia's erosion and sedimentation since. Most of the town lies at elevations between 80 and 150 feet, with only five percent at an elevation of more than 250 feet 14. Among a few low hills in Billerica, Fox Hill at 320 feet above sea level and Gilson Hill at 310 feet are the highest points in town.

Prior to the rapid suburbanization of Billerica over the past half century, the town's landscape was characterized by farms, mill villages, and waterfront vacation cottages. The suburbanization process has created a mosaic of natural and built environments where large tracks of open natural areas became fragmented and disconnected. Nonetheless, Billerica still boasts a great amount of natural resources that will play an increasingly essential role in the healthy sustaining of the community.

Natural Resources Baseline Assessment

Water Resources

Billerica has abundant water resources. There are two major rivers - Concord River and Shawsheen River – running northwards through the town. Majority of the town is within the Concord and Shawsheen River Watersheds, with a small portion in the east drains to the Ipswich River Watershed (see **Figure 4-1**). Both Concord and Shawsheen Rivers are tributaries of the Merrimack River and have been playing important roles in shaping the ecological system and socio-economic evolution of the town.

Concord River enters Billerica from Bedford where an extensive, flat, freshwater marsh begins to narrow, and the Great Meadows National Wildlife Refuge extends along the river for about one mile into Billerica from Bedford. This southern portion of the Concord

¹⁴ Town of Billerica Open Space and Recreation Plan, 2008

River, upstream of the Route 3 bridge in Billerica, along with the Sudbury and Assabet Rivers to the south, have been designated a Wild and Scenic River by the federal government. Concord River has a total of nineteen miles of shoreline in Billerica, among which over nine miles are surrounded by dense foliage with little public view or access except at bridge crossings. Only two miles of the Concord River shoreline are publiclyowned. These areas are dispersed among the Great Meadows Wildlife Refuge, Vietnam Veterans Park, the Middlesex County House of Correction, Edgehill Road Conservation Land, Contribution Park, two town-owned parcels on River Street, and school department land. However, there are few public access points to the river.

Shawsheen River has a meandering course with a wide marshy floodplain. Along the ten miles of Shawsheen riverbank in Billerica, there are 10.6 acres of protected open space and nearly 250 acres of open space with limited protection. These areas include the Jones and Shaloo Meadow Town Forests, Shawsheen Valley Regional Technical School, and the Akeson Park, as well as land belonging to the Conservation Commission¹⁵.

In spite of significant residential and industrial development along the riverbanks of these two rivers in Billerica, both rivers have retained their rural charm. Water qualities issues caused by stormwater and sewage discharge, non-point source stormwater runoff, and septic system failures are still of major concern to the town as well as the entire watersheds.



Nutting Lake

¹⁵ Town of Billerica Open Space and Recreation Plan, 2008

Figure 4-1 Major Watershed and Aquifer

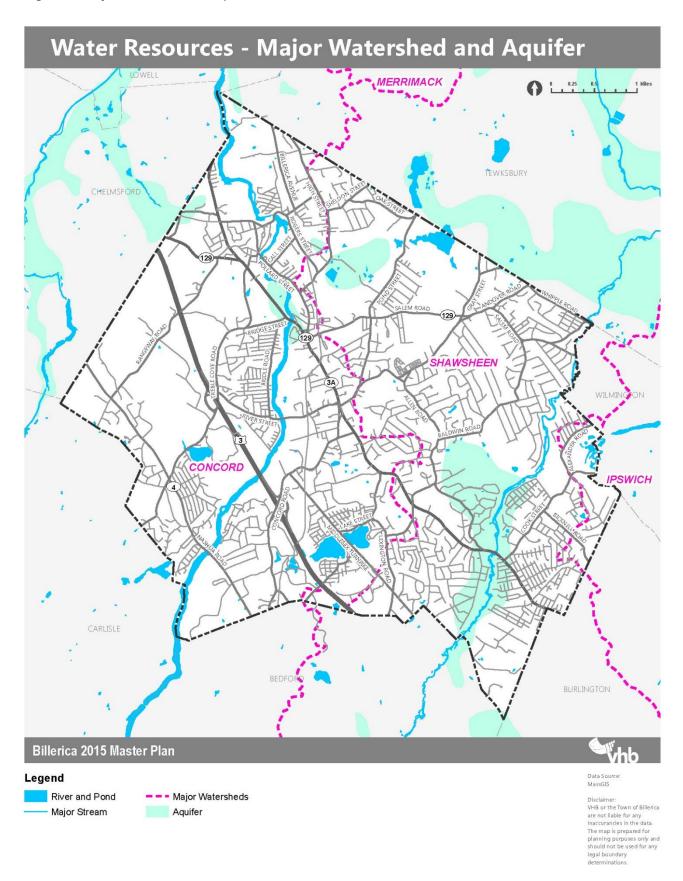
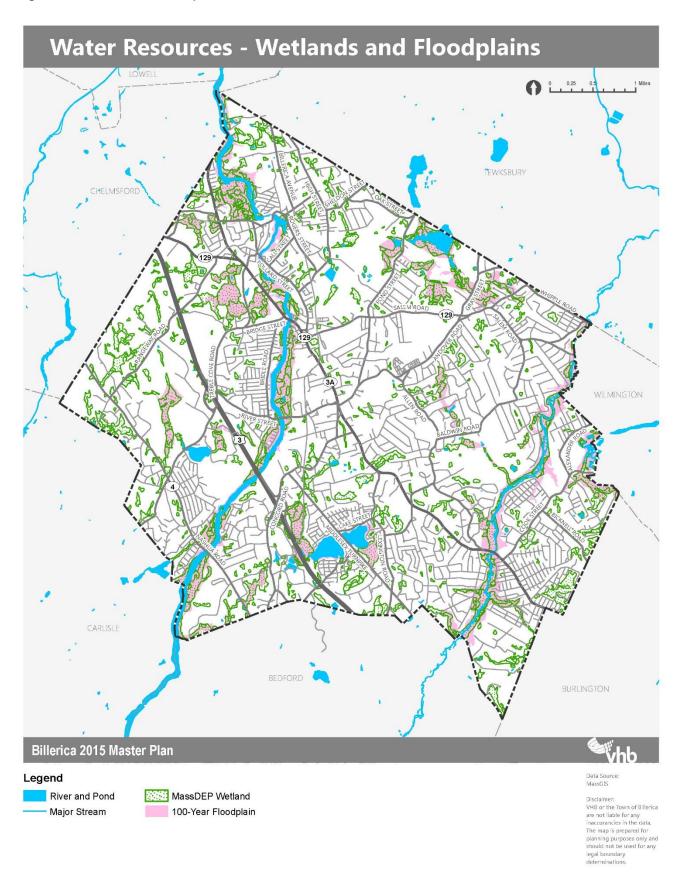


Figure 4-2 Wetlands and Floodplains



In addition to the rivers, Billerica also has Nutting Lake and Winning Pond, both of which are classified as Great Ponds by the state and served as attractions for resort development at the turn of the century. Nutting Lake is approximately eighty acres in size and is bisected by the Middlesex Turnpike. After years of suburbanization, the lake is mostly surrounded by year-round residences. Water quality of the Nutting Lake used to be deteriorated due to extensive development and septic seepage around the lake, but has been gradually restored since the 1970s. Micozzi Beach, a public swimming area appreciated by many residents, is located on the northern portion of the lake. Winning Pond is about twenty acres in size and is half surrounded by residential development. The remaining half of Winning Pond's shoreline abuts the town's Vietnam Veterans Park where a boat landing is provided for public use.



Micozzi beach

There are a substantial amount of wetlands in Billerica, totaling 2,100 acres according to the latest Massachusetts Department of Environmental Protection wetland data layer. The wetlands scatter across all areas in town, but most of the continuous ones are located in the floodplains of the Concord and Shawsheen Rivers, the surface lake and ponds, or along other small streams (see Figure 4-2). Wetlands are often mistakenly viewed as barriers to land development due to various environmental regulations. However, it is essential to recognize that wetlands provide tremendous environmental benefits and play critical roles in the ecological health of our community and larger regions. Wetlands serve as natural drainage ways and help minimize flood impact during server storms. They not only recharge groundwater, but also purify the air and water of pollutants by serving as siltation basins. Many wildlife and endangered species rely on and migrate through the essential habitats provided by wetlands. In addition, it has been widely recognized that wetlands play a major role in the global carbon cycle as they are an important carbon sink for atmospheric carbon dioxide. Among all the 2,100 acres of wetlands in Billerica, only 400 acres or less than 20 percent are located within protected open space and conservation areas.

Conservation Land

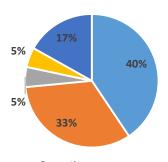
As briefly mentioned in Chapter 1 Land Use, there are over 2,800 acres of protected or recreational open space in Billerica under various ownership and jurisdictions, including the Town of Billerica, the state and federal governments, land trust, private entities, and other municipalities (see **Figure 4-4**). Nearly 1,500 acres of town's open spaces are protected in perpetuity, among which 136 acres are under conservation restrictions and 49 acres under agricultural preservation restrictions.

The Town of Billerica owns approximately 1,070 acres of open spaces in town, including parks, playgrounds, cemeteries, and conservation lands, etc. The largest three sites are the Vietnam Veterans Park by Winning Pond, Jones Town Forest at the end of Windsor Road by the Country Club of Billerica, and the McDonald Knowles Conservation Land off Treble Cove Road. Among all of the town-owned open spaces, about 40 percent are used for recreation purpose, including playgrounds, fields, recreation complex, etc., and 33 percent are used for conservation. Over three quarters are protected in perpetuity while another 22 percent have limited protection. Majority (80 percent) of the town-owned properties allow public access (see Figure 4-4).

Figure 4-3 Town-owned Recreation and Conservation Land

etnam Veterans d, Jones Town Vindsor Road by illerica, and the onservation Road. Among all en spaces, about or recreation aygrounds, fields, tc., and 33 conservation. The protected in the region of the region of

Town of Billerica VIETNAM VETERANS PARK



by Primary Purpose

- Recreation
- Conservation
- Recreation and Conservation
- Historical/Cultural
- Other

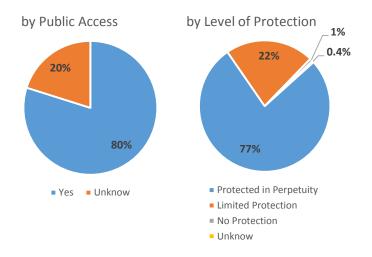


Figure 4-4 Open Space and Recreation Resources

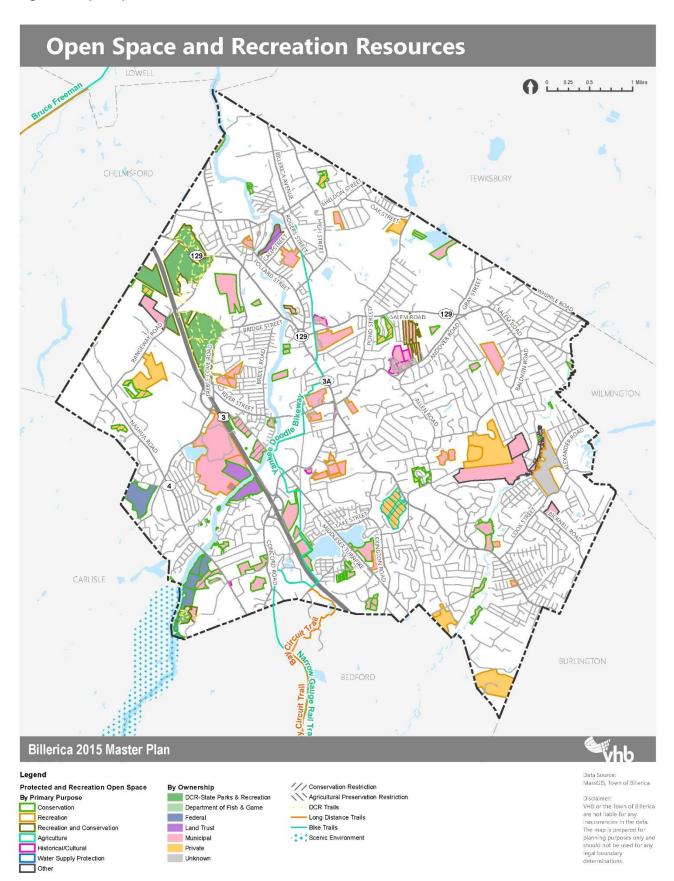
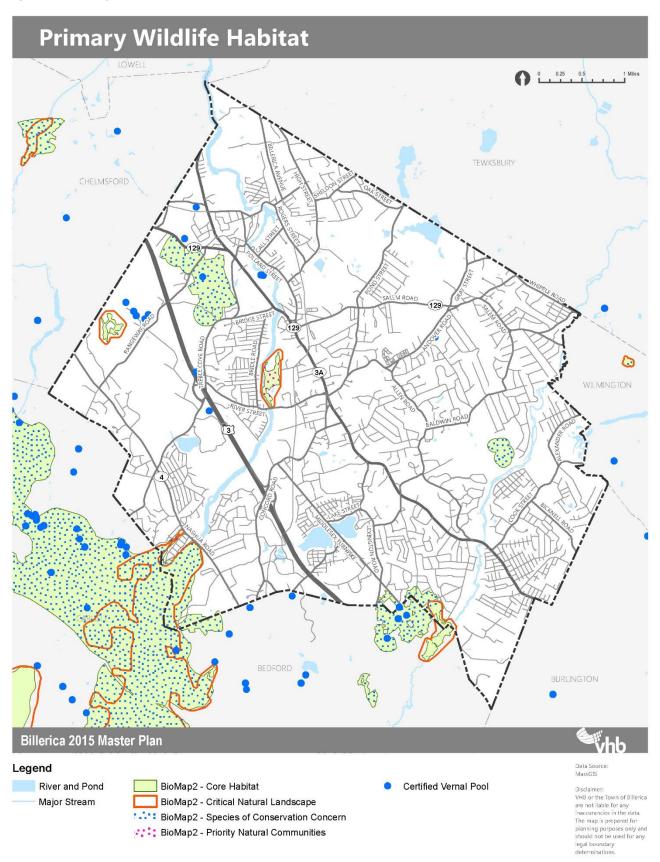


Figure 4-5 Primary Wildlife Habitat



There are also nearly 550 acres of conservation and recreation land owned by the state, including Billerica State Forest and Warrant H. Manning State Forest by Route 3, and Governor Thomas Dudley Park on Concord River with river access. Billerica State Forest is a 141-acre undeveloped property located in the northwest part of the town. Utilized primarily by local residents and due to a lack of parking, the network of trails and forest roads on this property provides hikers with an opportunity to access nature in an otherwise dense suburban setting. Warren H. Manning State Forest, named for influential landscape architect Warren H. Manning (1890-1938), is a 183-acre property located predominantly on the east side of Route 3 and bisected by Chelmsford Road/Route 129 into two distinctly separate sections: a developed northern section and an undeveloped southern section. There are approximately 3.4 miles of trails at Manning State Forest, all located in the eastern portion of the property. In addition, there are a number of other amenities on this property, including the recreation area operated by the town's Recreation Department in the northern section of the forest. Governor Thomas Dudley State Park is just under 11 acres in size and located off Dudley Road, a locally designated scenic road, providing access to the Concord River. Access to this property is through an adjacent town-owned conservation parcel, as there is no frontage on Dudley Road. There is a small network of passive walking and hiking trails on this property, though there is no boat access to the river. The Governor Thomas Dudley State Park was identified in the Massachusetts Scenic Landscape Inventory of 1982. 16.



Warren H. Manning State Forest

¹⁶ Lowell/Great Brook Planning Unit Resource Management Plan, Massachusetts Department of Conservation and Recreation, 2014

The United States Fish and Wildlife Service manages the roughly 116 acres Great Meadows National Wildlife Refuge along Concord River and off West Street. In addition, the Sudbury Valley Trustees owns over 80 acres of conservation land, primarily the Ralph Hill Conservation Area, fronting Concord River. All of these state, federal and land trust properties are permanently protected and allow public access.





Great Meadows National Wildlife Refuge

Critical Habitats

In 2010, MassWildlife and The Nature Conservancy issues "BioMap 2: Conserving the Biodiversity of Massachusetts in a Changing World". The guide identified two types of areas of conservation importance: Core Habitat and Critical Natural Landscape. The former is crucial for the long-term persistence of rare species and other species of conservation concern. The latter provides habitat for wide-ranging native wildlife, supports intact ecological processes, and maintains connectivity among habitats. Protection of both areas is "important to conserve the full suite of biodiversity" in Massachusetts¹⁷.

According to the latest 2012 BioMap 2 report, there are 628 acres of Core Habitat and 300 acres of Critical Natural Landscape in Billerica (see Figure 4-5). 260 acres or 41.4 percent of the Core Habitat and 84 acres or 28 percent of the Critical Natural Landscape are protected. 18. Core Habitat has been designated on 72 acres of Warrant H. Manning State Forest, encompassing roughly two-thirds of the land between Route 3 and Route 129/Chelmsford Road. The only rate species recorded in the Manning State Forest, the blue-spotted salamander, is an amphibian that utilizes wetland habitat for reproduction and upland forest habitat for foraging. In the Billerica State Forest, there are also 26 acres of core habitat encompassing a semi-circular shaped area on the northern boundary of the forest, extending northwest from the intersection of Treble Cove Road and Winning Street. The Natural heritage and Endangered Species Program (NHESP) identified two rare species, Blanding's turtle and river bulrush, in the Governor Thomas Dudley State Park.

Vernal pools are also important components of Billerica's ecosystem. As temporary bodies of fresh water, vernal pools provide critical habitat for many vertebrate and invertebrate wildlife species 19. Many of the species which are entirely dependent on vernal pool habitats are listed by the state as rare species. According to the latest data from MassGIS, there are 13 vernal pools in Billerica that have been officially certified by Massachusetts Natural Heritage & Endangered Species Program to date. In additional, another 71 potential vernal pools have been identified through aerial photograph interpretations.

¹⁸ BioMap 2 Billerica, 2012

¹⁷ MassWildlife and The Nature Conservancy, 2012

¹⁹ Natural Heritage Endangered Species Program, Vernal Pool Fact Sheet

Natural Resources Vision, Goals and Actions

Vision Statement:

Billerica will be renowned for its abundant natural resources and open spaces with their environmental integrities preserved and enhanced. Our connection to the Concord and Shawsheen Rivers, forests, and open lands will be widely known, accessible, and appreciated by residents and visitors alike; our critical wildlife habitats within our landscapes and ponds will be restored for ecological balances at a local and regional level; and our wetlands will be protected as valuable green infrastructures to enhance our climate resilience. Together, these resources are woven and connected within the community fabric and help define the unique characters of Billerica.

Goals

- **Goal 1** Continue to inventory and publicize the natural resources in Town and make them connected and accessible for public enjoyment.
- **Goal 2** Preserve and enhance our existing conservation and open space resources with Smart Growth land use approaches while targeting priority areas for future resource acquisition.
- **Goal 3** Protect our surface waters from non-point source pollutions and improve the overall water qualities.
- **Goal 4** Enhance our climate resilience against severe storm and flooding events through the protection of wetland and floodplain resources.

Actions

- **Goal 1** Continue to inventory and publicize the natural resources in Town and make them connected and accessible for public enjoyment.
 - NR-1 Maintain and promote a centralized information hub (such as the town's website) to publicize access information regarding Billerica's natural resource and open space assets in order to increase public awareness, use, and appreciation of these resources, and to build support for continuous resource protection, management, and acquisition.
 - NR-2 Inventory existing trails and paths in town and identify critical parcels that will help expand the trail network and improve the accessibility and connectedness of existing open space resources. Create additional trail linkages through a variety of means, such conservation easements, land donations, and town acquisition.
 - **NR-3** Establish a comprehensive wayfinding system for the town's open space and trail systems that also offers educational and interpretive information for the benefit of residents and visitors alike.
 - **NR-4** Collaborate with stakeholders, town departments, and volunteers to reclaim deserted, blocked, and/or encroached public access to rivers and ponds in town.

- **Goal 2** Preserve and enhance our existing conservation and open space resources with Smart Growth land use approaches while targeting priority areas for future resource acquisition.
 - NR-5 Adopt innovative Smart Growth land use regulations, such as Transfer of Development Rights and Open Space Residential Design, to preserve open spaces while stimulating well-planned development.
 - NR-6 Identify and inventory additional parcels of critical environmental values, such as for open space linkage, wetland and floodplain integrity, public waterfront access, intrinsic biodiversity, agriculture, or continuity with larger tracks of conservation land, etc. Actively seek public and private partnership and funding sources for resource acquisition and encourage Agricultural Preservation Restriction and Conservation Restriction by landowners.
- **Goal 3** Protect our surface waters from non-point source pollutions and improve the overall water qualities.
 - NR-7 Enforce the Town of Billerica Stormwater Management By-law.
 - **NR-8** Adopt stormwater Best Management Practices such as Low Impact Development in site design standards, particularly for commercial and industrial districts in close proximity to open waters.
- **Goal 4** Enhance our climate resilience against severe storm and flooding events through the protection of wetland and floodplain resources.
 - **NR-9** Enforce the Town of Billerica Wetlands Protection By-law to ensure no net loss of total wetlands in town.
 - NR-10 Stay up-to-date on FEMA flood hazard information. Preserve existing and projected floodplains for their flood storage values by siting new development away from high hazard floodways.

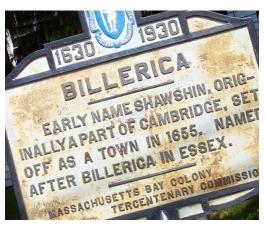
Historic Resources Introduction

Historic resources serve many roles, including creating a tangible link to a town's heritage, and providing distinctive characteristics to a town's many neighborhoods. They inspire pride in a town's history, provide solid building stock, and serve as a catalyst for economic development. Keeping a balance between the preservation of these resources while allowing for the growth and change of the built environment is one of the biggest challenges faced by towns that have a long and rich heritage, such as Billerica.

The character of Billerica's neighborhoods are provided by the streetscapes, buildings, and landscapes. In order to maintain the neighborhood character that has attracted Billerica's residents over time, the town needs to promote the merits of older housing stock and help alleviate concerns about its continued maintenance. Often, activities such as demolition or unsympathetic renovations effect a cumulative and irreversible impact on an entire neighborhood. There are a number of resources available regarding the maintenance and continued use of older buildings, which can be collated and made available to Billerica property owners through the town's website and other communications channels.

Billerica has a strong history of preservation advocacy and rehabilitation of older buildings for modern uses. The town previously benefitted from an active group of residents who achieved major accomplishments, such as saving the train depot and completing an inventory of several hundred buildings constructed during the 18th and 19th centuries. More recently, the town's historical entities have accomplished their goals with fewer interested parties. There is a direct relationship between the visibility of these entities and the attraction of interest from local residents and regional visitors. It is important to allow more expansive restoration projects and history-based programming, and maintain that level of visibility, while ensuring that commissioners and volunteers are not overextended in their responsibilities. The abundance of natural resources in the town, and their interrelationship with historic resources, provides an opportunity for symbiotic partnerships in which entities combine their efforts, which will enhance the enjoyment of both sets of resources. Vacant, high-profile buildings such as the Howe School afford the opportunity to turn an unused property into a true public gem, continuing to serve Billerica's residents through its evolving use. Projects on this scale require detailed planning for both construction and ongoing operations, a challenge made less onerous by programs such as the Community Preservation Act and the Massachusetts Preservation Projects Fund.

Historic Resources Baseline Assessment



Courtesy of the Billerica Historical Society

The rivers and rolling terrain that give Billerica its unique natural landscape helped shape the town's cultural landscape as well. Established as the plantation of "Billirikeyca" or "Billericay" in 1655, the town's early history as a Colonial period agricultural economy and later as a 19th century industrial center was supported by the Concord and Shawsheen Rivers. These were supplemented by a variety of transportation routes including the Middlesex Turnpike and the Middlesex Canal by the early 19th century, which connected Billerica to major regional trade centers. The 1804 canal was soon displaced by the Boston & Lowell Railroad, ushering in a period of steady growth.

Although the formation of nearby towns gradually eroded the extent of the town boundaries, North Billerica's mills remained strong into the 20th century, attracting an Irish immigrant population. After World War II, manufacturing in Billerica declined just as the popularity of its natural attractions, such as Nutting Lake, drew the interest of families looking for both primary and secondary residences in an attractive, pleasant atmosphere. Billerica's remarkable ability to evolve according to its economic opportunities displays a story of resilience that is physically evident through its historic resources.

By the numbers

Billerica has hundreds of archaeological sites and above-ground cultural resources that have been documented, several of which have received local, state, and national recognition for their importance. The documentation for these resources have been researched, prepared, and maintained by a variety of entities, for several different purposes. The Massachusetts Historical Commission (MHC) serves as the central repository for these files, which can be found in a searchable public database called MACRIS (Massachusetts Cultural Resource Information System) at www.mhc-macris.net, and its companion GIS website at maps.mhc-macris.net.

Archaeological sites

Billerica is home to nearly 100 previously recorded archaeology sites, and likely dozens more that remain to be discovered. The resources that made this area a desirable Colonial settlement benefitted the Native American populations as well, and Billerica boasts as many pre-Contact archaeological sites as post-Contact sites. Despite the distribution of these sites throughout the town, there are large areas that have yet to be subject to archaeological survey.

Above-ground resources

This large category of historic resources includes buildings, structures, objects, sites, and landscapes that are physical reminders of Billerica's extensive heritage. These resources can be documented on an individual basis, such as a building or a farm, or grouped into districts that collectively tell a broader cultural story. Some resources have been listed in the National Register of Historic Places, which is the national list of significant places that are especially worth of preservation, while others have received similar recognition on the state and/or local level. These resources help define the character of Billerica, providing an anchor for the town's distinctive and livable neighborhoods. As of August 2015, the

MACRIS database identified 400 recorded individual historic resources and 22 recorded districts/areas in Billerica (Appendix A).

Billerica has seven resources that have been listed in the National Register for national, state, or local significance. These resources include both districts and individual properties:

- Middlesex Canal (two separate districts)
- Billerica Town Common Historic District
- Billerica Mills Historic District (this is also a Local Historic District, explained below)
- Manning Manse
- Dutton-Holden Homestead

The town has a total of 20 recorded districts/areas, some of which are listed in the National Register and are listed above. The significance of these resource groups may be identified in many ways, though it is most often tied directly to the group's architectural characteristics or historical development. A well-preserved set of resources representing an architectural style, form, or period of construction may be represented by an assemblage of mid-20th century vacation cabins or mill workers' housing developed during the late 19th century. A mill complex, village "Main Street" district, or hospital campus may represent an intact example of a town's historical development patterns. In Billerica, these areas/districts often overlap, indicating multiple designations for a single geographical location. Since each of these designations represents an architectural and historical theme, their overlap in a single location hints at Billerica's complex heritage. The town's area/districts include:



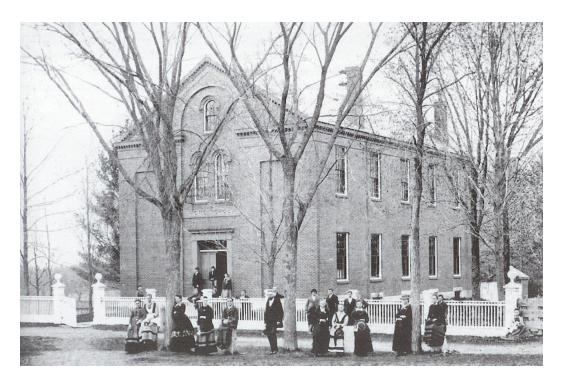
North Mill Pond. Courtesy of the Billerica Historical Society

- 5 National Register districts
- 4 Local Historic districts
- 11 Inventoried Areas
 - Note: Inventoried Areas are similar to districts, but have not received designation as of yet. Often, these areas are recorded in order to demonstrate a coherent collection of resources that share a common historic theme, development pattern, geographical location, aesthetic, or building type/style.

There are approximately 400 individually recorded historic resources in Billerica, as well. These resources represent more than three centuries of the town's history, ranging from high-style municipal buildings, to humble farmhouses, to war memorials.

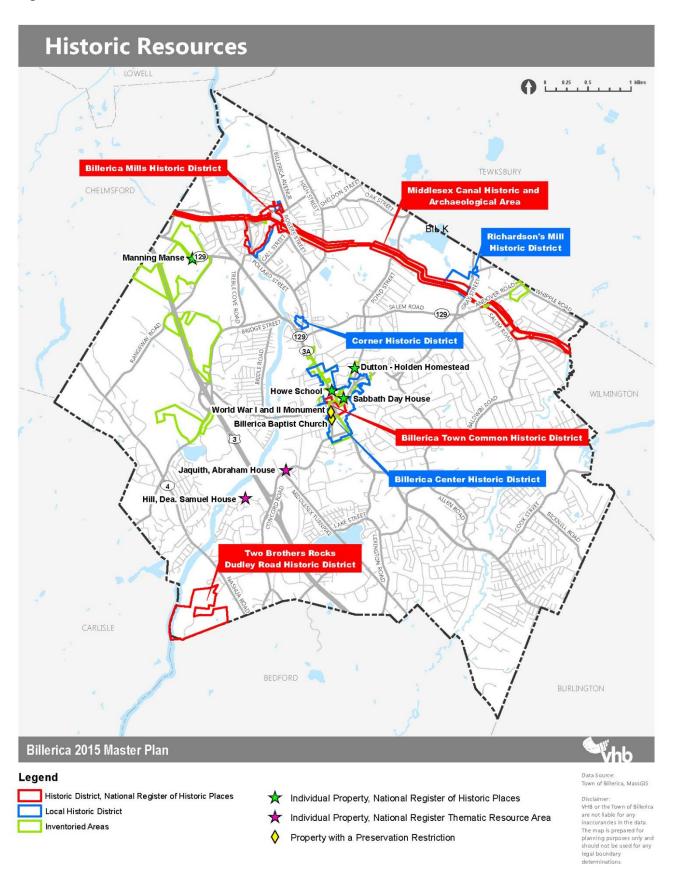
More than ¾ of these resources are located within a National Register district, Local Historic District, or Inventoried Area, and are therefore recorded as part of a larger, collective group of resources.

- 2 individual properties have Preservation Restrictions
- Note: Preservation Restrictions are easements voluntarily placed on a property to prevent inappropriate alterations. These may be donated or purchased by a government body or private preservation organization.
- At least 40 of these resources have been demolished since they were originally recorded.



Howe School, late 19th century. Courtesy of the Billerica Historical Society.

Figure 4-6 Historic Resources



Bylaws regarding historic resources

Billerica has several bylaws concerning historic resources, as well as bylaws concerning the appointed commissions designed to help protect these resources, as the built environment of the town evolves over time. These bylaws form a solid foundation for promoting historic resources into the future.

The town has three commissions that oversee historic resources, as well as a demolition delay bylaw, which is exercised for properties located outside a Local Historic District.

Historical Commission (Article II, 15)

The Billerica Historical Commission is responsible for community-wide preservation planning as well as the preservation of historically significant properties, structures, and landmarks. The Commission also oversees the demolition delay process outside of the Local Historic Districts (see below). Recent activities include participation in the nomination of National Register historic districts, including the joint nomination with the Bedford Historical Preservation Commission of the Two Brothers Rocks-Dudley Road Historic District, and the Circa Sign initiative, which coordinates the fabrications of plaques that recognize important historic sites within the town. The Commission comprises three to seven members, who are appointed by the Board of Selectmen.

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Rendering of Billerica Center. Courtesy of the Billerica Historical Society.

Commissions (Article II, 16; Establishment By-Law 1990)

The Billerica Historic Districts Commission (http://www.town.billerica.ma.us/171/Historic-Districts-Commission) is responsible for the review and approval of proposed construction, demolition, and alterations within the town's four Local Historic Districts. According to the bylaw, the Commission's purpose is to:

"...promote the educational, cultural, economic, and general welfare of the public through the preservation and protection of the distinctive characteristics of the buildings and places significant in the history and architectural heritage of the Town of Billerica, through the maintenance and improvement of settings for such buildings and places, through the encouragement of design compatible therewith, and through the prevention of development which would impair or be unduly detrimental to the locally or nationally significant structures of the districts."

These Local Historic Districts include (Figure 4-7):

- Center District
- Billerica Mills District
- Richardson's Mill District
- Corner District

In order to perform its review of proposed work within the Local Historic District, the Commission is responsible for compiling and administering the Review Standards of the Billerica Historic Districts Commission (Appendix B, currently being updated). The standards outline the historical characteristics of the districts, and provide guidelines for property owners seeking to make changes to their properties. These guidelines include information regarding appropriate changes that will help preserve the historic character of the districts, while recognizing that the built environment is constantly evolving and modernizing.

The Commission has three to seven members, who are appointed by Board of Selectmen. These include district property owners (2), an attorney (1), a Billerica Historical Society nominee (1), a Board of Realtors nominee (1), AIA nominees (2), and the Town Planner (ex officio).





Center Fire Department (left) and Sheldon Band (right). Courtesy of the Billerica Historical Society.

HISTORIC DISTRICTS

SCALE 1 inch = 200 feet

Figure 4-7 Billerica Local Historic Districts

Billerica Museum Committee (Article II, 22)

This Committee was charged with the development and operation of a Town Museum, identified as a potential future use for the Howe School. The Committee was designed to have nine members, who are appointed by the following: Town Manager (1), Town Moderator (1), School Committee (1), Board of Selectmen (2). The Committee also included one Selectman, one member of the Historical Society, one member of the Historical Commission, and one member of the Arts Council. The Billerica Museum Committee is no longer a functioning committee.

Demolition Review By-Law (Article V)

As noted above, Billerica has a demolition delay bylaw, overseen by the Billerica Historical Commission and applied to properties located outside of the Local Historic Districts. The properties subject to this bylaw are located throughout the town, and are codified in an inventory of historic properties maintained by the Commission. Historically, this Commission inventory has been tied to the MACRIS inventory.

- Demolition review process steps:
 - Inspector of Buildings forwards all demolition applications for inventoried buildings to Commission for review
 - Commission determines significance
 - If significant, the Commission votes whether the property is "preferably preserved." This step involves a public hearing.
 - If "preferably preserved," there may be up to a 6-month waiting period before demolition permit issued

- Definition of "significant":
 - Listed in National and/or State Register (or listing is pending)
 - Within local historic district
 - Included in most recent Inventory of Historical Properties by the Commission
 - Determined significant by Commission vote
- ► Enforcement: \$300 fine for demolition without approval, no building permit issued for property for 2 years



History on the move, the Bull House. Courtesy of the Billerica Historical Society.

Historic Resources Vision, Goals and Actions

Vision Statement

Billerica is known for its work to preserve and enhance its historic resources. The town is a recognized leader in providing physical and educational links between the town's historic resources and the Concord and Shawsheen Rivers, which help define Billerica's heritage and have resulted in unique architecture and special places like Faulkner Mills. The historic character of the town's diverse neighborhoods are preserved through the responsible design of both alterations to older buildings and new construction, enhancing each neighborhood's quality of life. The town's residents interacts with these resources on a regular basis, making the Billerica's heritage an active economic and cultural benefit.

Goals

- **Goal 1** Enhance Billerica's civic education programs and instill pride in the town's rich heritage.
- **Goal 2** Develop programming and key projects to promote opportunities for everyday interactions with the town's history and resources.
- **Goal 3** Explore the potential adoption of the Community Preservation Act, in order to provide funding for historic preservation, open space, and affordable housing projects.

Actions

- **Goal 1** Enhance Billerica's civic education programs and instill pride in the town's rich heritage.
 - **HR-1** Enhance the current local history curriculum in schools by coordinating with the Billerica Historical Society's existing program.
 - **HR-2** Publicize and expand recent school heritage projects, such as the student walking tour of the town center and the creation of the Ditson School mural.
 - **HR-3** Support and promote ongoing preservation activities and priorities.
- **Goal 2** Develop programming and key projects to promote opportunities for everyday interactions with the town's history and resources.
 - HR-4 Develop relationships with key partners to encourage complementary, interactive programming (such as Department of Public Works; Billerica Arts Council; Cemetery Commission; Conservation Commission, Recreation Department; Sudbury Valley Trustees; Middlesex Canal Association; and Billerica Historical Society).
 - **HR-5** Develop a ten-year strategic plan for the former Howe School.
 - **HR-6** Seek grants and survey and project funding through MHC and other entities that support local heritage and outreach projects.

- **HR-7** Evaluate the consolidation of the Middlesex Canal Museum and the Howe museum with the mill district.
- **HR-8** Enhance the town's historic inventory by identifying neighborhoods which have not been previously studied and are integral to the town's historic development, such as Nutting Lake.
- **Goal 3** Explore the potential adoption of the Community Preservation Act, in order to provide funding for historic preservation, open space, and affordable housing projects.
 - **HR-9** Connect with the Community Preservation Coalition to discuss strategies, challenges, and potential residents' concerns, and connect with neighboring towns that have passed CPA to gain input based on their experience, such as Bedford, Carlisle, Chelmsford, and Tewksbury.
 - HR-10 Identify priority projects which are highly visible and have the highest public benefit, such as the establishment of the museum, or creating connections between interpretive markers in the village and along the Middlesex Canal with a bicycle/pedestrian path, for consideration and feasibility as potential future CPA projects.

5

Economic Development

The Economic Development element for the Master Plan was compiled as a stand-alone document entitled "Billerica Economic Development Strategy." The Strategy was prepared by the regional planning agency, Northern Middlesex Council of Governments (NMCOG), utilizing a DLTA grant for technical assistance. The content was developed with other economic development studies that included substantial public review and comment. As a self-contained document the Strategy includes goals and implementation action items that would otherwise be found in the Implementation Chapter.



October 2017

Prepared for: The Town of

Billerica

Prepared by: Northern Middlesex Council of

Governments

Executive Summary

The Town of Billerica requested the assistance of the Northern Middlesex Council of Governments (NMCOG) in developing an Economic Development Strategy that addressed the present and future economic development needs of the community. Through funding provided under the District Local Technical Assistance (DLTA) program, NMCOG staff worked closely with the Billerica Town Manager, Assistant Town Manager, Chief Assessor, Planning Director and Economic Development Director to complete this document. Once approved by the Billerica Town Manager, NMCOG staff is available to make a presentation to the Billerica Board of Selectmen for their adoption of the document. This document will also serve as the Economic Development section of the updated Billerica Master Plan. Once adopted, this document should serve as the "economic blueprint" for the Town of Billerica in supporting and encouraging the business community to maintain and expand private investment and utilize the local workforce.

The *Billerica Economic Development Strategy* utilizes population, household and employment projections prepared by the Massachusetts Department of Transportation (MassDOT) with input from NMCOG. In 2015 MassDOT developed population, household and employment projections for the Greater Lowell region through 2040. These projections were based upon a statewide model that assigns a specific share of population to each Metropolitan Planning Organization (MPO) region and then to its individual communities. NMCOG provided comments on the draft projections and the final projections were adjusted accordingly.

Demographic Analysis

The *Billerica Economic Development Strategy* provides a comprehensive analysis of the existing demographic and economic conditions of Billerica. Within the Demographic Analysis section of the document, the focus is on population, age distribution, racial and ethnic diversity, residents with disabilities, housing, income, and employment. Outlined below are some of the primary findings in this section:

- Billerica had a population of 40,243 in 2010. According to population estimates developed by the U.S. Census Bureau as of July 1, 2015, Billerica's estimated population was 42,683. This population is expected to increase to 43,582 in 2040, according to the MassDOT projections.
- In terms of age distribution, the majority of Billerica residents in 2000 and 2010 were between the ages of 25 and 59. Between 2020 and 2040, residents aged 75+ will increase by 95.9%, while those between 60 and 74 years of age will increase by 21.3%. The largest age cohort in 2040 will be those between the age of 60 and 74 years of age at 18.6% of the entire population.
- The white population in Billerica declined from 94.68% in 2000 to 90.16% in 2010. The
 African American population increased by 96.53% during the same period of time, while
 Hispanic residents increased by 72.5%.
- According to the 2010-2014 American Community Survey, approximately 8.7% of Billerica's population was disabled.
- The number of households in Billerica, which represents approximately 13% of the total households in the Greater Lowell region, is projected to increase from 12,919 households in 2000 to 17,206 households in 2040 or by 33.2%.

- Billerica's housing stock is principally comprised of single-family units (81.7%), while there is a mix of multifamily units as well.
- The median household income increased from \$67,799 in 1999 to \$93,761 in 2010-2014, or by 38.3%. Billerica's median household income is well above the median household incomes for the Greater Lowell region, the Commonwealth and the United States.
- The median family income increased from \$72,102 in 1999 to \$105,700 in 2010-2014, or by 46.6%. Billerica's median family income is well above the median family income for the Greater Lowell region, the Commonwealth and the United States.
- Per capita income in Billerica increased from \$24,953 in 1999 to \$37,332 in 2010-2014, or by 49.6%. Billerica's per capita income was slightly above the per capita income for Massachusetts, but well above the Greater Lowell region and the United States.
- The majority of households in Billerica (61.1%) had incomes greater than \$75,000.
- In 2010-2014 those individuals living in poverty represented 5.6% of the total population.
- Between July 2005 and July 2015, the labor force grew from 22,584 to 23,091 workers or by 2.2%.
- By 2040, local employment in Billerica is expected to reach 23,012 workers, growing by 11.2% from 20,693 workers in 2010.

Characteristics of the Local Economy

Within the Characteristics of the Local Economy section, the focus is on Educational Attainment, Journey to Work and Commuting Patterns, Employment Levels and Unemployment, Business Patterns, Industry Composition (includes Location Quotients), Major Employers, Wages, and Local Business Characteristics. Outlined below are some of the primary findings in this section:

- As of 2010-2014, 92.7% of Billerica's adult population had a high school degree or better, which is higher than the Greater Lowell region at 89.2%. However, the percentage of Billerica adults who possess a Bachelor's degree or higher (32.3%) is still lower than the region (35.2%).
- The MCAS scores for Billerica students in 2014 were higher than Dracut and Lowell students, but less than other Greater Lowell students.
- Manufacturing employment for Billerica residents decreased by 28.8% between 2000 and 2010-2014, while construction employment increased by 3.7%.
- The largest employment gains in the service-providing industry for Billerica residents between 2000 and 2010-2014 were Educational Services, Health Care and Social Services (33.4%), Arts, Entertainment, Recreation, Accommodation and Food Services (24.2%), Public Administration (21.3%) and Professional, Scientific, Management, and Administrative and Waste Services (18.2%).
- Billerica residents worked mostly in Middlesex County (77.6%), while only 2.8% of Billerica residents commuted to jobs outside of Massachusetts, principally New Hampshire and Maine.
- The July 2015 unemployment rate for Billerica was 4.8% and then declined to 4.4% in July 2017.

- The total number of establishments in Billerica was 1,221 in 2005 and 1,274 in 2015 for an increase of 53 businesses or 4.3%.
- Average monthly employment for Billerica establishments decreased from 22,892 in 2005 to 22,733 in 2015, yet the employment figures have been increasing since 2010.
- Average weekly wages for Billerica workers increased from \$ 1,234 in 2005 to \$ 1,338 in 2015.
- In terms of local industry composition, the number of establishments within the goodsproducing domain decreased by 10.8% from 2005 to 2015, while the service-providing domain establishments increased by 10.9% during the same time period.
- The Location Quotient figures show that Billerica has strengths in the Transportation and Warehousing, Manufacturing, Wholesale Trade, Construction, Professional and Technical Services and Trade, Transportation and Utilities industries as compared to the Greater Lowell Workforce Development Area (GLWDA).

Community Assets and Liabilities

In addressing the community's assets and liabilities, the Town of Billerica established a District Local Technical Assistance (DLTA) agreement with the Northern Middlesex Council of Governments (NMCOG) in November 2014 to undertake the Economic Development Self-Assessment Tool (EDSAT) project with Northeastern University. The Town set up a licensing agreement with Northeastern University and began to work with Professor Barry Bluestone and his staff from the Dukakis Center on the EDSAT project. EDSAT attempts to identify "deal-makers" and "deal-breakers", through a collaboration of public and private officials and based on the responses by the Town to the 200-plus questions in the EDSAT questionnaire. The Town of Billerica hosted two meetings on June 2, 2015 and October 1, 2015 at Billerica Town Hall to hear presentations from Professor Barry Bluestone on the responses to the questionnaire and the EDSAT report results. The "deal-makers" identified for Billerica were Critical Mass Firms, Cross Marketing, Quality of Available Space, Crime Rates, Housing, Local Schools, State and Local Business Incentives, Website, and Rail. The "deal-breakers" identified included Timeliness of Approvals, Highway Access, Physical Attractiveness, Amenities, Public Transit and Citizen Participation in the Review Process.

Based upon the input provided through the EDSAT sessions and final report, the previous economic development material in the 2002 Master Plan and some of the initial land use work in the 2016 Master Plan, the following Goals and Strategies were developed:

1. Streamline the Permitting Process and Assist Local Businesses with other permits.

- **a.** Ensure that industrial and commercial permits are issued within 180 days once a complete application package has been submitted.
- **b.** Develop a permitting handbook that includes an approval flowchart and check list for the permitting process that can be accessible through the web site
- **c.** Designate the Director of Planning as the point person to assist local businesses through the local, state and federal permitting processes.
- **d.** Explore more opportunities for expedited permitting, such as through the Chapter 43D program or streamlined site plan review.
- **e.** Reorganize and consolidate the permitting and land use departments.

2. Promote better and higher use of the Town's commercial centers and industrial clusters.

- a. Identify priority areas within the commercial centers that can be designated for mixed-use development.
- Build upon the existing industrial clusters to attract technological, research and development, laboratory and value-added light industry along the Route 3 corridor.
- c. Identify needed amenities, such as restaurants, hotels, day care, workforce housing and retail shops, which can be targeted for the Middlesex Turnpike Commercial area and other appropriately zoned areas.

3. Maintain current Economic Development marketing program that includes a prominent place on the Town's web site.

- a. Reach out to local businesses to determine what their needs are and how the Town can assist them.
- b. Follow up with those businesses that leave the community to determine whether there was anything the Town could have done to keep them in town.
- c. Develop an education and outreach program to attract new businesses to the community.
- d. Identify available properties for development on the Town's web site and social media venues and make this list available to the regional and state economic development organizations.

4. Identify the target industries that would fit within the community.

- a. Review Billerica's economic data and determine which industries would fit within the town.
- Work with UMass Lowell to determine whether research and development space could be developed in Billerica and provide space for spin-off incubator businesses.

5. Focus on the development and redevelopment of commercial and industrial properties to create local employment opportunities and tax revenues.

- a. Develop a list of available commercial and industrial properties.
- Work with the Massachusetts Office of Business Development, MassDevelopment and other state agencies to identify potential businesses for these properties.
- c. Reuse former mill space with a focus on transit oriented development and reuse brownfield properties to create new economic development opportunities.

6. Utilize the Workforce Development system to address the training needs of Billerica businesses.

 Work with the Greater Lowell Workforce Development Board (GLWDB) to identify training programs for local businesses that can enhance the skills of their workforce.

- b. Utilize the resources of Billerica Memorial High School and Shawsheen Tech, the GLWDB, Middlesex Community College and UMass Lowell to address the skill training needs of Billerica businesses.
- c. Work in conjunction with Middlesex Community College and UMass Lowell to develop special training programs for particular industry clusters.

7. Work with local and regional business organizations to promote collaboration with the local business community.

- a. Partner with the Greater Lowell Chamber of Commerce, the Middlesex 3 Coalition, the Burlington Area Chamber of Commerce and the Billerica Alliance to host programs in Billerica that address the needs of the local business community.
- b. Reach out to other business organizations, including various trade organizations, to identify the needs of businesses in relocating to Billerica.

8. Identify federal, state, and other funding resources to address the community's economic development needs.

- a. Continue to utilize the Economic Development Incentive Program (EDIP),
 Chapter 43D, the MassWorks program and the Commonwealth Community
 Compact to support commercial and industrial development.
- b. Work with expanding local businesses to identify funding resources to address their needs.
- c. Continue to build upon the Life Science industry cluster and identify funding from the Massachusetts Life Sciences Center.
- d. Link business infrastructure and economic development with private and public funding.

9. Build the Organizational Capacity to support an active Economic Development program

- a. Maintain staff support for the Town's Economic Development Program and leverage other resources to implement these recommendations.
- b. Provide the necessary training for Town staff in assuming these roles.
- c. Work in conjunction with other regional economic development organizations, such as the Northern Middlesex Council of Governments, Middlesex 3 Coalition and the Greater Lowell Chamber of Commerce.
- d. Participate on the Greater Lowell Comprehensive Economic Development Strategy (CEDS) Committee to become aware of regional economic development trends that could benefit Billerica.

10. Develop Additional Housing Options for local businesses

- a. Build upon the housing program established through Billerica's Housing Production Plan to address unmet housing needs identified by local businesses.
- b. Develop appropriate housing for young workers and their small families, as well as multi-unit housing for older workers.

Access and Infrastructure Analysis

Access to a community and its overall infrastructure – sewer, water supply, utilities and transportation network – determine to a large extent the type and nature of businesses that can be supported. Billerica has aggressively undertaken a multimillion dollar sewer expansion program which is designed to sewer the entire Town by 2035. Currently, the municipal sewer system services approximately 75% of the community.

The Concord River provides the sole source of drinking water for the Town of Billerica. The Town broke ground in 2003 on a new \$25 million water treatment plant located off Treble Cove Road, with a capacity of 14 million gallons per day (gpd). The Town has MassDEP approval to withdraw 5.26 million gallons per day (gpd) on an annual average. The Town's annual water consumption in FY 15 was approximately 1.784 billion gallons, with the average of 4.89 million gallons of water used per day (gpd). The highest daily pumping occurred on May 27, 2017 when 8.79 million gallons were produced. The water treatment plant has been upgraded since 2003 to improve its energy savings by \$46,400 per year through collaboration with National Grid. Major water projects throughout the community have been undertaken to improve the efficiency and effectiveness of the water supply system in providing both improved water quantity and quality.

Gas and electricity are provided to Billerica residents and businesses through National Grid, while cable and cable internet services are provided by Comcast. Transportation access is made possible through a highway network that includes Route 3, which connects directly to Route 128 (I-95), I-495, and the Lowell Connector, as well as the Middlesex Turnpike, Route 3A, Route 129 and Route 4. The Town's public transit needs are addressed by the Lowell Regional Transit Authority (LRTA) and MBTA commuter rail service via the North Billerica Commuter Rail Station. The Middlesex 3 TMA was recently created to address reverse commuting from the Boston/Cambridge area to Billerica businesses. Air travel is accommodated through Logan International Airport in Boston or Manchester-Boston Regional Airport in Manchester, New Hampshire.

Commercial and Industrial Activity

The commercial and industrial activity within any community begins with the zoning provisions for business and industrial districts. Under the current Billerica Zoning Bylaw, there are three commercial (Neighborhood Business (NB), General Business (GB) and Commercial (C)) districts and a single industrial (Industrial (I)) district. The permitted uses and those uses allowed by special permit are outlined in the Commercial and Industrial Activity section. Within the Billerica Zoning Bylaw, there are five Special Zoning Districts – Refuse Transfer Station (RT), Private & Private Dumping Ground (DG), Alcohol & Drug Rehabilitation Hospital (AD), Composting (CP) and Adult Entertainment (AE). The Billerica Zoning Bylaw also includes nine Overlay Districts – Flood Plain (FP), Historic (H), Residential Cluster (RC), Townhouse (TH), Elderly Housing (EH), Self-Service (SS), Mill Conversion and Reuse (MCROD), Medical Marijuana (MMOD) and Planned Unit Development (PUD). For the purpose of this document, the focus is on the Mill Conversion and Reuse Overlay District (MCROD) and the Planned Unit Development Overlay District (PUD).

The Billerica Mill Conversion and Reuse Overlay District (MCROD) is designed to facilitate and reuse the North Billerica historic mill buildings in a manner that is consistent with the surrounding neighborhood and the economic development and housing goals of the community. Its proximity to the North Billerica Commuter Rail Station provides additional development options not available in the rest of the community. The Fall 2016 Billerica Town Meeting approved the Planned Unit Development Overlay District (PUD) as part of the Zoning Bylaw. The PUD overlay bylaw identified two types of PUDs – PUD-G for Planned Unit Development General District – for PUDs overlaid in the industrial, commercial and industrial zones – and PUD-R for Planned Unit Development District- Residential – for PUDs overlaid in industrial and residential zones. Three initial PUD sites were approved at the Fall 2016 Town Meeting – the "Nashua Road PUD-R Parcel Inventory", the PUD-G entitled the "Boston Road North Parcel Inventory" and the PUD-G entitled "Boston Road Center PUD Parcel Inventory". These initiatives have been designed to improve the Zoning Bylaw so that it encourages the types of businesses that the Town wants to attract. In terms of commercial and industrial permits, the Billerica Building Department issued 267 commercial and 465 industrial building permits between 2012 and 2016 for a total estimated construction cost of \$64,368,868 and \$137,242,884 respectively.

The Town of Billerica has been an active participant in the State's Economic Development Incentive Program (EDIP), which is a three-way partnership between the Commonwealth of Massachusetts, a municipality and a growing company. During the past six years, three Billerica businesses - Pharmalucence, E Ink Corporation and PAREXEL International Corporation – were approved by the Economic Assistance Coordinating Council (EACC) for EDIP assistance. The Town of Billerica has utilized the Chapter 43D program at the state level in relation to the development of EMD Serono on Middlesex Turnpike and in the creation of the Middlesex 3 Coalition. The Town has received MassWorks funding from the State to improve the roadway and water infrastructure south of the Town Center and has recently applied for additional MassWorks funding to address roadway improvements for the area north of the Town Center. The Town has been able to develop a Permitting Handbook through the use of District Local Technical Assistance (DLTA) funds, which has been update and placed on the Town's web page so that prospective applicants can access the document prior to visiting Town Hall. When focusing upon economic development opportunities in Billerica, the Town Center and the Mill Conversion and Reuse Overlay District (MCROD) in North Billerica have long been studied as ideal locations for economic revitalization opportunities. Town staff have identified several other potential development sites as well – Riverview Technology Park, Cabot Corporation (Cabot Road site), 800 and 1400 Technology Park Drive, 164 Lexington Road, 158 Lexington Road, the Boston Road North Planned Unit Development District and the Boston Road Center Planned Unit Development District.

Issues and Opportunities

The future development of an effective public/private partnership in Billerica is critical to economic growth in the community. Working with the Middlesex 3 Coalition, Greater Lowell Chamber of Commerce, Billerica Community Alliance, Inc. and Northern Middlesex Council of Governments, the Town has been able to focus on its economic development agenda. Its relationships with the Executive Office of Housing and Economic Development (EOHED), the Department of Housing and Community Development (DHCD), the Massachusetts Office of

Business Development (MOBD) and MassDevelopment has enabled the Town to access state funds to address public infrastructure issues needed to attract private investment.

Billerica has been clearly advanced in its expedited permitting procedures, particularly related to the availability of a Permitting Handbook online and the use of a review team approach to hear presentations from developers. The Middlesex 3 Coalition has been actively encouraging its member communities to further streamline their permitting procedures in accordance with the recommendations outlined in "A Best Practices Model for Streamlined Local Permitting" developed by the Massachusetts Association of Regional Planning Agencies (MARPA) in conjunction with the Executive Office of Housing and Economic Development (EOHED) in 2017. During the EDSAT process, Professor Barry Bluestone stated than an effective permitting process is more valuable to site finders and private businesses than economic incentives because of the amount of time permitting a project has on the development costs faced by private investors.

Billerica has been able to attract businesses from Kendall Square in Cambridge and the Greater Boston area. The relocation of these firms from Greater Boston to Billerica raises some issues in terms of the mobility of the younger workforce. The Middlesex 3 Coalition has been able to create a Transportation Management Association (TMA) to work with the private firms to help address these issues. The Middlesex 3 Community Compact Transportation Study will outline options for improving and enhancing transportation services within the Route 3 corridor. Special training needs for these workers will need to be addressed through work with the Greater Lowell Workforce Development Board (GLWDB), Middlesex Community College and UMass Lowell. Transportation infrastructure needs remain a challenge for Billerica, although the Town has taken advantage of the MassWorks program and the Northern Middlesex Metropolitan Planning Organization (NMMPO) Transportation Improvement Program (TIP). Through the use of these programs, the Town has been able to implement the Boston Road Revitalization Program (south of the Town Center) and are in the process of implementing Phase 3 of the Middlesex Turnpike Roadway Improvement Project and the Boston Road Revitalization Program (north of the Town Center).

The improvements in the Town's business climate has resulted in the development of the following private sector projects:

- Aspen 384 rental unit Chapter 40 B development located off Rangeway Road;
- Alliance 200 luxury rental apartments under Chapter 40 B at 164 Lexington Road;
- Alpine 178 garden-style rental apartments under Chapter 40 B off Boston Road;
- Panera Bread 8,400 square foot commercial project at Treble Cove/Boston Road;
- Hawthorn 151 unit Independent/Congregate Living Community (ICLC) at 44 Nashua Road; and
- EMD Serono Potential 200,000 square foot expansion to existing campus at 45 Middlesex Turnpike.

Recommendations

Through the input provided by the EDSAT sessions and final report, the previous economic development material in the 2002 Master Plan and the initial land use information from the 2016

Master Plan, the following recommendations based upon the Goals and Strategies section were developed:

- Continue to streamline the local permitting process and assist local businesses with state and federal permits as necessary.
- Designate the Community Development Director as the single-point of contact to assist businesses through the local permitting process.
- Promote better and higher use of the Town's commercial centers and industrial clusters.
- Identify priority areas within commercial centers that can be designated for mixed-use development.
- Build upon the existing industry clusters to attract technological, research and development, laboratory and value-added light industry along the Route 3 corridor.
- Identify needed amenities, such as restaurants, hotels, day care, workforce housing and retail shops, which can be targeted for the Middlesex Turnpike commercial area and other appropriately zoned areas.
- Update the Economic Development marketing program and maintain it on the Town's web site.
- Develop a survey for local businesses to determine what their needs are and how the Town can assist them.
- Complete a follow-up survey with companies that leave the community to determine what the Town could do differently in the future.
- Identify available properties for development on the Town's web site and social media venues and make this list available to regional and state economic development organizations.
- Based upon the economic data within this report, identify the target industries that would best fit within the Town's economic structure.
- Work with UMass Lowell to determine whether research and development space could be developed in Billerica for spin-off incubator businesses.
- Work with the Massachusetts Office of Business Development, MassDevelopment and other state agencies to identify potential businesses for the identified commercial and industrial properties.
- Reuse former mill space with a focus on transit-oriented development and reuse brownfield properties to create new economic development opportunities.
- Work with the Greater Lowell Workforce Development Board (GLWDB) to identify training programs for local businesses that can enhance the skills of their workforce.
- Utilize the resources of Billerica Memorial High School and Shawsheen Tech, the GLWDB, Middlesex Community College and UMass Lowell to address the skill training needs of Billerica businesses.
- Work in conjunction with Middlesex Community College and UMass Lowell to develop special training programs for particular industry clusters.
- Partner with the Greater Lowell Chamber of Commerce, the Middlesex 3 Coalition, the Burlington Area Chamber of Commerce and the Billerica Alliance to host programs in Billerica that address the needs of local businesses.
- Continue to utilize the Economic Development Incentive Program (EDIP), Chapter 43D, the MassWorks program and the Commonwealth Community Compact to support commercial and industrial development.

- Build upon the Life Science Industry cluster and identify funding from the Massachusetts Life Sciences Center.
- Build the organizational capacity to support an active Economic Development program.
- Work in conjunction with other regional economic development organizations, such as the Northern Middlesex Council of Governments, Middlesex 3 Coalition and the Greater Lowell Chamber of Commerce.
- Participate on the Greater Lowell Comprehensive Economic Development Strategy (CEDS) Committee to become aware of regional economic development trends that could benefit Billerica.
- Develop additional housing options for local businesses.

In addition to these economic development recommendations, there are additional recommendations that tie in with the Land Use and Natural Resources sections of the 2016 Master Plan. The following recommendations are linked to the specific action goals within the Land Use and Natural Resources sections:

- In promoting better and higher use of the Town's commercial centers, industrial clusters, and underutilized brownfield areas, as well as to identify locations for mixed-use:
 - Update the Zoning Bylaw to diversity the type of industrial and office uses while protecting residential neighborhoods;
 - Enhance the Town's expedited permitting practices through increased use of the Chapter 43D program or a streamlined site plan review process to attract technological, research and development, laboratory and value-added light industrial uses along the Route 3 corridor. Implement the recommendations from the Middlesex 3 Coalition Streamlined Permitting "Best Practices" report.
 - Continue collaborating with federal and state agencies, as well as private landowners and developers, to encourage "brownfield" remediation and the reuse/redevelopment of vacant and underutilized sites.
 - Identify priority areas, particularly along the Route 3A corridor, for designated mixed-use districts or mixed-use infill development and modify the zoning to encourage these activities.
- In encouraging diversified housing developments that contribute to Billerica's statemandated affordable housing stock and proactively address specific housing needs in town, particularly that of seniors:
 - Examine and amend zoning along the Route 3A corridor to allow diversified, higher density, and/or mixed-use housing development, such as multi-family, townhouses, assisted living or other types of senior housing. This effort should provide additional housing opportunities for businesses and their workforce.
- In improving the design and connectivity of our public realms, including gateway areas, streets and sidewalks, parks and open spaces, and civic places, to reinforce our community character, while fostering a healthy and active lifestyle:
 - Utilize the design standards and guidelines developed for the Town Center and develop similar design standards and guidelines for the Route 3A commercial corridor to enhance the "town" character and implement the necessary infrastructure improvements to be funded through MassWorks, other federal and state programs, or local resources.
- In continuing to inventory and publicize the natural resources in town and make them connected and accessible for public enjoyment:

- Establish a comprehensive wayfinding system for the Town's open space and trail systems, including the proposed Yankee Doodle Bike Path, that also offers educational and interpretive information for the benefit of businesses, workers, residents and visitors.
- In preserving and enhancing our existing conservation and open space resources with Smart Growth land use approaches, while targeting priority areas for future resource allocation:
 - Adopt innovative Smart Growth land use regulations to preserve open spaces while stimulating well-planned developments as a means to balance economic growth with quality of life.

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Introduction

The Billerica Economic Development Strategy (EDS) has been developed by the Northern Middlesex Council of Governments (NMCOG) through the use of District Local Technical Assistance (DLTA) funds from the Massachusetts Department of Housing and Community Development (DHCD). This document will also serve as the Economic Development chapter of the updated Billerica Master Plan. The main goal of economic development is to improve the economic well being and quality of life in Billerica through the attraction of private investment that leads to jobs, property taxes and economic opportunities for the community. This economic development strategy is intended to enable local decision-makers, such as the Billerica Board of Selectmen, to determine how they wish to diversity and strengthen the local economy. The community can establish its own direction through the targeting of economic growth locally, while building upon what occurs in the broader regional economy. The Town needs to actively address its economic development needs through an economic development "blueprint" that has widespread support from the community.

The *Billerica Economic Development Strategy* includes a comprehensive analysis of the existing demographic and economic conditions of Billerica. This consists of a discussion of population, housing, income levels, workforce development, commercial and industrial activity, transportation access and infrastructure. In addition, the document focuses on the need for economic development capacity building, the redevelopment and reuse of underutilized or vacant property and addressing the special needs of the Town Center, Route 3A and Middlesex Turnpike. The Town has been largely successful in addressing these issues through the support of the Board of Selectmen and Town Meeting, as well as the active work of the Billerica staff. This document attempts to chart a future course that will raise the economic capacity of the community to a higher level while maintaining the quality of life in Billerica.

The development of the EDS was facilitated through an active working relationship between NMCOG staff and the Billerica Economic Development workgroup. Building upon the work completed in the 2002 Billerica Master Plan, NMCOG staff facilitated the establishment of the Economic Development Self-Assessment Tool (EDSAT) project with Northeastern University's Dukakis Center for Urban and Regional Policy through the use of DLTA funds. As part of this project, Billerica staff completed 200 plus questions in a questionnaire developed by the University and then hosted two meetings on June 2, 2015 and October 1, 2015 to hear the feedback from the Dukakis Center staff. The final report identified both "deal-makers" and "deal-breakers" that would have an impact upon the economic future of Billerica. These results are outlined in the Community Assets and Liabilities section. Based upon this information and the development of updated information on the community, the *Billerica Economic Development Strategy* was compiled as an economic development blueprint for the future of Billerica.

The Billerica Economic Development Strategy attempts to address the following questions and, hopefully, will contribute to the Town's ongoing economic development strategy going forward:

 What should the Town do to retain and attract additional businesses? What specific types of businesses should be targeted? How should the Town build upon the "clusters" of businesses already in place?

- Does the retail and commercial mix in the town address the needs of Billerica residents and workers? What types of additional businesses, such as restaurants, be added to the Town Center or along the Middlesex Turnpike?
- Should the Town establish an Economic Development Committee to implement the recommendations outlined in this report or should it continue to utilized the Economic Development working group consisting of Billerica staff?
- While the Town has identified several potential development sites within this study, how
 are the potential development sites made available to private developers? Are these
 sites listed on the Town's web site?
- What specific infrastructure issues need to be addressed to support continued economic growth?
- How do "green initiatives" fit within the Town's economic development program and what needs to be done to support these initiatives? What other types of industry should be attracted to the community and are there adequate support facilities?
- How can economic growth be managed so that the quality of life in town is not negatively impacted? What protections need to be in place to ensure that the community character is not negatively impacted?

These questions should be part of an ongoing dialogue between the Town and its residents, businesses and workers. Hopefully, this Economic Development chapter of the Master Plan will provide the necessary data for that discussion.

I. Demographic Analysis

The Demographic Analysis section provides an overview of the demographic changes that have occurred in Billerica since the publication of the Billerica Master Plan in 2002. Using data from the U.S. Census Bureau on household, age, race, ethnicity, disability, and income, this section analyzes past, current and future demographics in Billerica in order to determine demographic trends and what the future holds for the community.

A. Town of Billerica

The Town of Billerica is located along Route 3 approximately twenty miles northwest of Boston. The Town is also situated less than three miles from Route 128 and two miles from Route 495. Billerica contains 26.38 square miles of land and surface water area, and just over 40,243 people, according to the 2010 U.S. Census. Billerica borders the City of Lowell and the following towns: Bedford, Burlington, Carlisle, Chelmsford, Tewksbury, and Wilmington. The Shawsheen River and Concord River are the two major rivers in the community, while Nutting Lake provides a public beach and recreational water activities.

Billerica is a collection of neighborhoods and villages: East Billerica, North Billerica, Nutting Lake, Pinehurst, Rio Vista, River Pines, Riverdale, Riverside and South. The growth of Billerica's textile mills in North Billerica fueled the industrial development in the community. The Middlesex Canal flows through the length of the town and provided transportation of goods between Lowell and Boston in the 1800s. The Boston and Lowell railroad, running between Lowell and Boston, still provides transportation through the North Billerica station. In the early twentieth century, Billerica was considered a resort destination with summer cottages located at Nutting Lake, similar to many areas in the Greater Lowell region.

Today, Billerica is predominantly residential, with the greatest population increases having occurred during the 1960s, when the population grew by 76.2%, and the 1970s, when it grew by 16.7% percent. There are significant commercial and industrial parcels located throughout town, principally along Route 3A, the Middlesex Turnpike and in North Billerica. Billerica has three exits off Route 3 and has worked closely with its neighbors on the Middlesex 3 Coalition in an attempt to market the region for increased private investment. The need for a balance between economic growth and quality of life is constantly debated. However, the potential for increased employment and private investment is significant.

B. Population

According U.S. Census Bureau, Billerica had a population of 40,243 residents residing in 14,034 households in 2010. Over the last two decades, the population in Billerica, as well as in the Greater Lowell region as a whole, has increased steadily. According to the 2011 *Regional Strategic Plan for Greater Lowell*, the population in the region grew by 70% between 1960 and 2010 from 169,403 to 286,901 or an average of 14% per decade. Similarly, Billerica's population increased by 125.2% between 1960 and 2010, from 17,867 to 40,243, with a growth rate of 3.6% in 2000 (Table 1). Between 2000 and 2010, an additional 1,262 residents were added to Billerica's population. According to the 2010-2014 American Community Survey, Billerica had an estimated population of 41,446. More recently, the U.S. Census Bureau estimated that the population in Billerica as of July 1, 2015 was 42,683.

Table 1: Actual and Projected Population

| Year | Billerica | Growth Rates (Percent) ¹ | Greater Lowell Region | Regional Growth Rate (Percent) ¹ | Community as a Percent of the Region |
|------|-----------|--|--------------------------|---|--|
| 2000 | 38,981 | 3.6 | 281,225 | 6.7 | 13.9 |
| 2010 | 40,243 | 3.2 | 286,901 | 2.0 | 14.0 |
| 2020 | 40,942 | 1.7 | 291,101 | 1.5 | 14.0 |
| 2030 | 41,647 | 1.7 | 295,370 | 1.5 | 14.1 |
| 2040 | 43,582 | 4.6 | 306,913 | 3.9 | 14.2 |

Source: U.S. Census Bureau, 2000 and 2010 Census. Projections developed by Mass DOT in consultation with NMCOG. ¹Growth rate applies to the periods: 1990-2000, 2000-2010, 2010-2020, 2020-2030.and 2030-2040.

Table 1 also shows population projections prepared by the Massachusetts Department of Transportation (MassDOT). These projections are based upon a statewide model that assigns a specific share to each Metropolitan Planning Organization (MPO) region and then to its individual communities. The initial projections for the Greater Lowell region have been modified based upon the comments provided by NMCOG.

Billerica's growth rate, as well as that of the region, has slowed. The town's growth rate decreased to 3.2% between 2000 and 2010, while the regional growth rate decreased to 2% during the same timeframe. Due to these reduced rates, future population growth across the region and for Billerica is expected to be steady over the next two decades. The MassDOT projections show that Billerica will grow by 8.3% between 2010 and 2040 reaching a total population of 43,582 in 2040. An average annual growth of approximately 0.28% is expected over the forecast period, however, between 2020 and 2030, the annual growth rate is expected to slow to around 0.17%. While a reduced rate of growth is expected compared to previous decades, the projections indicate that Billerica's population will comprise a growing proportion of the region's total population – increasing slightly from 14% in 2010 to 14.2% in 2040.

1. **Age Distribution**

The U.S. Census also provides an indication of the age distribution of Billerica residents. In both 2000 and 2010, the majority of Billerica residents were between the ages of 25 and 59. The median age of Billerica residents in 2010 was 40.1 years, as compared to 35.9 years in 2000. Over the past decade, most age groups experienced growth, with the Town's elderly population (60+) growing significantly. However, the 0-9, 25-34 and 35-44 age groups decreased by 942 (16.8%), 1,103 (18.6%) and 1,416 (18.7%) respectively, as outlined in Table 2 on the next page.

The growing elderly population is consistent with aging population trends, better medical treatment and the demographic shift associated with the baby boomer generation moving into retirement that is occurring across the nation. Likewise, the decline in the number of children under the age of 9 in Billerica is likely the result of a reduced number of younger families moving into town than in previous decades.

Table 2: Age Distribution of Billerica Residents

| Ü | ; | 2000 | 2010 | | Percent Change | Percent | |
|------------------|--------|---------|--------|---------|-------------------|---------|---------|
| Age Groups | Number | Percent | Number | Percent | 2000-2010 | Number | Percent |
| 0-9 years | 5,601 | 14.4 | 4,659 | 11.6 | -16.8 | 4,701 | 11.3 |
| 10-19 years | 5,277 | 13.5 | 5,539 | 13.8 | 5.0 | 5,142 | 12.4 |
| 20-24 years | 2,002 | 5.1 | 2,236 | 5.5 | 11.7 | 2,377 | 5.7 |
| 25-34 years | 5,931 | 15.2 | 4,828 | 12.0 | -18.6 | 5,470 | 13.2 |
| 35-44 years | 7,553 | 19.4 | 6,137 | 15.2 | -18.7 | 5,838 | 14.1 |
| 45-59 years | 7,736 | 19.8 | 9,582 | 23.8 | 23.9 | 9,948 | 24.0 |
| 60-74 years | 3,575 | 9.2 | 5,383 | 13.4 | 50.6 | 6,018 | 14.5 |
| 75+ years | 1,306 | 3.4 | 1,879 | 4.7 | 43.9 | 1,952 | 4.7 |
| Total Population | 38,981 | 100.0 | 40,243 | 100.1 | 3.2 | 41,446 | 99.99 |

Source: U.S. Census Bureau, 2000 and 2010 Census and 2010-2014 ACS.

Due to rounding, the totals may not add up to 100%.

To understand the changes within age groups for the MassDOT population projections, NMCOG developed an age breakout of population projections for the years 2020 to 2040 utilizing the percentages established through the Metro Future project and applying these to the MassDOT projections so that the numbers are consistent. This data provides a useful indication of the likely age distribution of residents expected in the future. It is forecast that Billerica's total population will increase by 7.6% between 2020 and 2040. The age group that will increase the most is the 75+ group, which is expected to increase by 95.9% and comprise 6.7% of the Town's population by 2040. Please refer to Table 3 below for this information.

Table 3: Projected Age Distribution of Billerica Residents (2020-2040)

| | 20 | 20 | 20 | 30 | 2040 | 0 | Change |
|------------------|--------|---------|--------|---------|--------|---------|----------------|
| Age Groups | Number | Percent | Number | Percent | Number | Percent | 2020 - 2040 |
| 0-9 years | 4,934 | 12.1 | 5,147 | 12.4 | 5,357 | 12.3 | 8.6 |
| 10-19 years | 5,032 | 12.3 | 4,898 | 11.8 | 5,108 | 11.7 | 1.5 |
| 20-24 years | 2,256 | 5.5 | 2,037 | 4.9 | 2,096 | 4.8 | -7.1 |
| 25-34 years | 5,583 | 13.6 | 5,392 | 12.9 | 5,287 | 12.1 | -5.3 |
| 35-44 years | 5,596 | 13.7 | 6,533 | 15.7 | 7,070 | 16.2 | 26.3 |
| 45-59 years | 9,387 | 22.9 | 7,983 | 19.2 | 7,663 | 17.6 | -18.4 |
| 60-74 years | 6,668 | 16.3 | 7,491 | 18.0 | 8,090 | 18.6 | 21.3 |
| 75+ years | 1,486 | 3.6 | 2,166 | 5.2 | 2,911 | 6.7 | 95.9 |
| Total Population | 40,504 | 100.0 | 41,647 | 100.1 | 43,582 | 100.0 | 7.6 |

Projections developed by Mass DOT in consultation with NMCOG. Age cohort breakouts provided by Metro Future.

The growth in the 60-74 and 75+ age cohorts demonstrates how the population in Billerica is aging. The expected growth in the number and proportion of older adults has important economic implications for the Town's future in terms of the available labor force, delivery of health care, quality of life issues, income support and the development of affordable and specialized housing.

The growth in the 0-19 year old age cohorts (10.1%) between 2020 and 2040 illustrates the importance of the youth sector to the future of Billerica. While the rates of growth in these age groups are not as high as previously experienced, there are likely to be increasing demands on Billerica's public school system to accommodate additional students. On the other hand, the decrease in the number of 20-24 (-7.1), 25-34 (-5.3%) and 45-59 (-18.4%) age cohorts will also have implications for the community as well.

2. Racial and Ethnic Composition

Generally, Billerica is a racially homogenous community. In 2000, 94.68% of residents identified themselves as white, while 2.76% identified themselves as Asian and another 1.54% indicated they were part of the Hispanic and/or Latino community. The U.S. Census figures show that between 2000 and 2010 the white population decreased by 1.68%, while most minority populations increased, as outlined in Table 4 on the next page. Black or African American residents increased by 96.53%, while Asian and Hispanic/Latino residents increased by 104.28% and 72.5% respectively.

In addition, the American Indian and Alaska Native population increased by 51.28% between 2000 and 2010, albeit from a very low starting base in 2000. The only minority population experiencing a decrease was the Native Hawaiian and Other Pacific Islander communities, which decreased by 50%. Even with the increases in minority populations, the white population still represented 90.16% of the population in 2010. Although Billerica remains a primarily homogeneous community, the number of minority residents is growing.

Table 4: Racial and Ethnic Diversity of Residents (2000 and 2010)

| rabio ir riadiai aria Errinio Errordity di | 1001001110 (=0 | | / | | |
|--|----------------|---------|------------|-------------------|--------|
| | 2000 | | 2010 | Percent Change | |
| | | | | | 2000- |
| Racial/Ethnic Category | Population | Percent | Population | Percent | 2010 |
| White | 36,906 | 94.68 | 36,285 | 90.16 | -1.68 |
| Black or African American | 432 | 1.11 | 849 | 2.11 | 96.53 |
| American Indian and Alaska Native | 39 | 0.10 | 59 | 0.15 | 51.28 |
| Asian | 1,074 | 2.76 | 2,194 | 5.45 | 104.28 |
| Native Hawaiian and Other Pacific Islander | 16 | 0.04 | 8 | 0.02 | -50.00 |
| Some Other Race and Two or More Races | 514 | 1.32 | 848 | 2.11 | 64.98 |
| Total Population | 38,981 | 100.01 | 40,243 | 100.00 | 3.24 |
| Hispanic or Latino (All races) | 600 | 1.54 | 1,035 | 2.57 | 72.50 |

Source: U.S. Census Bureau, 2000 and 2010 Census. Due to rounding, the totals may not add up to 100%.

3. Residents with Disabilities

Examining the disabilities of Billerica residents is also important in understanding Billerica's workforce, particularly those residents who may work with a disability or may be unable to work due to their disability. Disability data for Billerica is available in the 2000 U.S. Census, and in the 2010-2014 American Community Survey (ACS). There was no disability data collected in the 2010 U.S. Census. According to the U.S. Census Bureau, shortly after the 2000 U.S. Census was released, there was growing agreement that survey questions on disability did not coincide with recent models of disability. An interagency group was formed to develop a new set of questions, which were introduced in 2008. These questions categorize a disability having a difficulty in one of the following: hearing, vision, cognition, walking or climbing stairs (ambulatory), self-care (difficulty bathing or dressing), and independent living (difficulty doing errands alone such as visiting a doctor's office or shopping).

Because of the changes to the questions, the U.S. Census Bureau recommends that the new ACS disability questions not be compared to the previous ACS disability questions or the 2000 U.S. Census disability data. As a result, this section focuses only on disability data from the 2010-2014 ACS. According to the 2010-2014 ACS, there were an estimated 3,524 disabled residents in Billerica, of which 48.1% were between the ages of 18 and 64. Overall, approximately 8.7% of Billerica's resident population is disabled.

Table 5: Age Characteristics of the Disabled Community

| Age Characteristics | Estimated No. of Residents | Percent of Total |
|------------------------------------|----------------------------|------------------|
| 5-17 years old | 188 | 5.3 |
| 18-64 years old | 1,694 | 48.1 |
| 65+ years old | 1,642 | 46.6 |
| Total Number of Disabled Residents | 3,524 | 100.0 |

Source: U.S. Census Bureau, American Community Survey 2010-2014

C. Housing

The availability of housing is a critical component for relocation specialists in determining where to invest. Outlined below is some information on the housing situation in Billerica. More detailed housing information is available in the Housing section of the Master Plan.

1. Households

Household growth rates in both Billerica and the Greater Lowell region have experienced a slow-down since the turn of the century. This slow-down is a logical result of the decreases in population growth discussed above and the national recession of 2007-08. In 2010, there were 14,034 households in Billerica with an average household size of 2.79 people, which is slightly higher than the Massachusetts average household size of 2.48.

Household growth rates in Billerica are expected to continue to fluctuate with a general decrease from 10.5% in 2000 to 5.7% in 2040 (Table 6 on the next page). Between 2010 and 2040, the Town's households are projected to increase by 22.6% to 17,206 households, which is higher than the 20.9% regional growth rate for the same period. Over the next 25 years,

Billerica's households are expected to comprise a steady proportion of the region's total households – increasing slightly from 13.5% in 2010 to 13.7% in 2040.

Table 6: Total Number of Households (2000-2040)

| | D:II: | | Cus stantan | | |
|------|------------|--------------------------------|-------------|--------------------------------|-------------------------|
| | Billerio | ca | Greater Low | ell Region | Billerica Households as |
| Year | Households | Percent Change ¹ | Households | Percent Change ¹ | a Percent of the Region |
| 2000 | 12,919 | 10.5 | 99,342 | 10.2 | 13.0 |
| 2010 | 14,034 | 8.6 | 104,022 | 4.7 | 13.5 |
| 2020 | 15,406 | 9.8 | 113,223 | 8.8 | 13.6 |
| 2030 | 16,275 | 5.3 | 119,635 | 5.7 | 13.6 |
| 2040 | 17,206 | 5.7 | 125,795 | 5.1 | 13.7 |

Source: US Census Bureau, 2000 and 2010 Census. Projections developed by MassDOT in consultation with NMCOG.

2. Housing Unit Types

Billerica supports a variety of housing units from single-family homes to multi-family unit dwellings. According to the U.S. Census Bureau, in 2000 there were 13,071 housing units in Billerica, of which 82.4% were single-family homes. Multi-unit dwellings accounted for an additional 12.6%, and two-unit dwellings accounted for 4.2% of the town's housing stock. Mobile homes or other types of housing were estimated to be 0.8% of the total units. As outlined in Table 7 below, the number of housing units increased by 13.6% to 14,854 units in 2010-2014. The increase in housing units was due principally to the increase in single-family, multi-family, and mobile/other units, with only the two-unit dwellings experiencing a decline. Since data from the American Community Survey is based upon estimates, there may be a larger margin of error among each housing category. According to the U.S. Census Bureau, the composition of the housing stock has remained relatively unchanged over the past fourteen years.

Table 7: Housing Units by Type (2000 and 2010-2014)

| | 2000 Housing Stock | | Estimate | - 2014 d Housing ock | 2000 – 2010/2014 Change in Housing Stock | |
|----------------------------|-----------------------|-------|----------|----------------------------|--|---------|
| Housing Units | Number Percent | | Number | Percent | Number | Percent |
| Single-family | 10,764 | 82.4 | 12,139 | 81.7 | 1,375 | 12.8 |
| 2 units | 548 | 4.2 | 379 | 2.6 | -169 | -30.8 |
| 3 - 4 Unit Multifamily | 232 | 1.8 | 313 | 2.1 | 81 | 34.9 |
| 5 - 19 Unit Multifamily | 437 | 3.3 | 716 | 4.8 | 279 | 63.8 |
| 20 + Unit Multifamily | 980 | 7.5 | 1,138 | 7.7 | 158 | 16.1 |
| Mobile or other | 110 | 0.8 | 169 | 1.1 | 59 | 53.6 |
| Total | 13,071 | 100.0 | 14,854 | 100.0 | 1,783 | 13.6 |

Source: 2000 U.S. Census and 2010-2014 ACS.

To determine how accurate these estimates were, NMCOG staff worked with the Assessor's Office to determine the number of housing units that had been constructed since 2000. Building

¹Percent Change applies to the periods: 1990-2000, 2000-2010, 2010-2020, 2020-2030, and 2030-2040.

upon the 2000 housing stock data provided by the U.S. Census Bureau, the Assessor's Office determined that 1,954 additional housing units had been constructed through 2015. The Assessor's Office also determined that there were only 76 mobile home sites in Billerica. Therefore, the breakdown of housing units through this analysis is as follows: single-family (12,175 units or 81.2%), 2 units (558 units or 3.7%), 3-4 multifamily units (236 units or 1.6%), 5-19 multifamily units (437 units or 2.9%), 20+ multifamily units (1,509 units or 10.1%) and mobile/other units (76 units or 0.5%). While some minor adjustments would need to be made for any demolition or conversion of housing units that may have occurred since 2000. These figures reflect the need to expand the number of multi-family units to provide affordable housing to those who cannot afford to purchase a single-family home.

D. Income

Since prosperity is one of the key goals of economic development activities, this section of the Economic Development Strategy provides a summary of income levels in Billerica. Financial metrics such as per capita income, median household income, and poverty levels can be used to gauge the health of the local economy and assess the standard of living.

1. **Median Household Income**

Over the past twenty years, Billerica has seen a significant increase in its median household income, which is similar to that of the Greater Lowell region as a whole. The median household income in Billerica increased by 38.3%, from \$67,799 in 1999 to \$93,761 in 2010-2014 (Table 8 below). This increase in median household income is similar to the increases experienced elsewhere in the region. In 2010-2014, Billerica's median household income was estimated to be 23.5 % higher than that for the Greater Lowell region and 38.2% above the State median household income. While the Commonwealth experienced a 34.3% increase in its median household income between 1999 and 2010-2014, the Greater Lowell region and the United States had increases of 29.8% and 27.5% respectively for the same time period.

Table 8: Median Household Income for Selected Geographies (1999 and 2010-2014)

| Geographic Area | 1999 | 2010-2014 | % Increase 1999 to 2010-2014 |
|-----------------------|----------|-----------|------------------------------------|
| Billerica | \$67,799 | \$93,761 | 38.3 |
| Greater Lowell region | \$58,472 | \$75,903 | 29.8 |
| Massachusetts | \$50,502 | \$67,846 | 34.3 |
| United States | \$41,944 | \$53,482 | 27.5 |

Source: U.S. Census Bureau, 2000 U.S. Census and 2010-2014 American Community Survey

While median household incomes have increased in Billerica, it is important to adjust these values for inflation so an absolute comparison can be made. According to the Bureau of Labor Statistics (BLS) Inflation Rate Calculator, one dollar in 1999 has the same buying power as \$1.42 in 2014 dollars, which indicates a rate of inflation of 42% between 1999 and 2014. The inflation calculator uses the average Consumer Price Index (CPI) for a given calendar year, and the data represents changes in prices of all goods and services purchased for consumption by urban households. This value is confirmed by the Cumulative Inflation Rate Calculator on inflationdata.com, which shows an inflation rate of 43.4% between June 1999 and June 2014.

When adjusted for inflation, Billerica and the Greater Lowell region both experienced negative growth in terms of median household income, with incomes decreasing by 2.6% and 8.5% respectively. Massachusetts and the U.S. also had decreases of 5.4% and 10.2%. This indicates that the increases in median household incomes have not kept pace with inflation.

2. Median Family Income

Median family income is based on the income of the householder and all other individuals (15 years old and over) who are related. Median family income is often greater than median household income because a household can include single individuals, whereas family income always consists of two or more individuals. Between 1999 and 2010-2014, median family income increased in Billerica, the Greater Lowell region, Massachusetts and the United States.

Table 9: Median Family Income for Selected Geographies (1999 and 2010-2014)

| Geographic Area | 1999 | 2010-2014 | % Increase |
|-----------------------|----------|-----------|------------|
| Billerica | \$72,102 | \$105,700 | 46.6 |
| Greater Lowell region | \$67,583 | \$93,530 | 38.4 |
| Massachusetts | \$61,664 | \$86,132 | 39.7 |
| United States | \$50,046 | \$65,443 | 30.8 |

Source: U.S. Census Bureau, 2000 Census and 2010-2014 American Community Survey

Billerica's median family income increased from \$72,102 in 1999 to \$105,700 in 2010-2014 – an increase of 46.6%. Median family incomes also increased across the region, state and nation at similar levels of growth. Billerica's median family income in 2010-2014 was 61.5% higher than the nation's median family income and 22.7% higher than the Commonwealth's. Billerica's median family income was also 10.9% higher than that for the Greater Lowell region. When adjusted for inflation, Billerica experienced a positive growth of 3.2% in median family income. The Greater Lowell region, Massachusetts and the United States had negative growth in median family income, with incomes decreasing by 2.5%, 1.6% and 7.9% respectively.

3. Per Capita Income

Between 1999 and 2010-2014, Billerica's per capita income increased from \$24,953 to \$37,332, or an increase of 49.6%. This is slightly higher than the per capita income increases for the Greater Lowell region (45%) and higher than the State (40.4%), and moderately higher than the nation's per capita increase of 32.3%. See Table 10 below.

Table 10: Per Capita Income for Selected Geographies (1999 and 2010-2014)

| Geographic Area | 1999 | 2010-2014 | % Increase 1999- 2010-2014 |
|-----------------------|----------|-----------|----------------------------------|
| Billerica | \$24,953 | \$37,332 | 49.6 |
| Greater Lowell region | \$24,081 | \$34,907 | 45.0 |
| Massachusetts | \$25,952 | \$36,441 | 40.4 |
| United States | \$21,587 | \$28,555 | 32.3 |

Source: U.S. Census Bureau, 2000 Census and 2010-2014 American Community Survey

When adjusted for inflation, Billerica experienced a positive per capita income growth of 5.4%, while the Greater Lowell region had a 2.1% growth in per capita income. The national per capita income decreased by 6.8%, while the State's growth rate decreased by 1.1%.

4. Income Distribution

While median household and family incomes are valuable socio-economic indicators, they do not account for the range of household incomes in a community. According to the 2010-2014 American Community Survey, approximately 46.2% of all households in Billerica made \$100,000 or more, while more than sixty percent (61.1%) of these households have an income of \$75,000 or more as shown in Table 11 below.

Table 11: Household Income Distribution (2010-2014)

| | 2 | 2010-2014 | | | |
|------------------------|----------------------|-----------------------|--|--|--|
| Income Category | Number of Households | Percent of Households | | | |
| Less than \$15,000 | 572 | 4.0 | | | |
| \$15,000-\$24,999 | 758 | 5.3 | | | |
| \$25,000-\$34,999 | 966 | 6.7 | | | |
| \$35,000-\$49,999 | 1,088 | 7.5 | | | |
| \$50,000-\$74,999 | 2,223 | 15.4 | | | |
| \$75,000-\$99,999 | 2,156 | 14.9 | | | |
| \$100,000 to \$149,999 | 4,023 | 27.9 | | | |
| \$150,000 to \$199,999 | 1,676 | 11.6 | | | |
| \$200,000 or more | 973 | 6.7 | | | |
| Total | 14,435 | 100.0 | | | |

Source: 2010-2014 American Community Survey

5. Area Median Income

Affordable housing requirements base a household's eligibility for income restricted units on a series of income thresholds. The U.S. Department of Housing and Urban Development (HUD) defines these thresholds as percentages of Area Median Income (AMI) – a number determined by the median family income in a given Metropolitan Statistical Area (MSA). Income thresholds are often capped at 80%, 50%, and 30% of AMI, but vary depending on the number of individuals in the household.

In general, households earning 80% of AMI are considered "low income", whereas those earning 50% of AMI and 30% of AMI are considered "very low income" and "extremely low income", respectively. HUD income thresholds for the Lowell Metro FMR area, which Billerica falls within, are used to determine which households in the region are eligible for incomerestricted units, including Chapter 40B, Section 8, and Low Income Housing Tax Credit units. The values presented in Table 12 on the next page are based on the AMI for the Lowell Metro FMR area, which HUD lists as \$88,700 for FY 2016.

Table 12: Adjusted Income Limits by Household Size, Lowell Metro FMR Area, FY 2016

| Income | Median | FY 2015 Income | Household Size | | | | | |
|--|----------|------------------------|----------------|--------------|--------------|--------------|--------------|--------------|
| Limit Area | Income | Limit Category | 1- Person | 2- Person | 3- Person | 4- Person | 5- Person | 6- Person |
| Lowell, MA HUD Metro FMR Area | \$88,700 | 30% - Extremely Low | \$19,150 | \$21,900 | \$24,650 | \$27,350 | \$29,550 | \$32,580 |
| | | 50% - Very Low | \$31,950 | \$36,500 | \$41,050 | \$45,600 | \$49,250 | \$52,900 |
| | | 80% - Low | \$46,000 | \$52,600 | \$59,150 | \$65,700 | \$71,000 | \$76,250 |

Source: U.S. Department of Housing and Urban Development, May 2016

Currently, there is no available data that breaks down Billerica's income by family size. However, using household income data and HUD thresholds, it is possible to make some generalized assumptions about the number of Billerica residents who may be eligible for HUD assistance. Assuming a four-person household, it is possible to estimate the percent of households that fall into each income category. This is done by matching each income category with the most appropriate HUD threshold, as outlined in Table 13 on the next page.

Table 13: Income Categories and HUD Thresholds

| Income Category | 2010-2014 | | HUD Threshold | |
|---------------------|-----------|---------|---------------------------------------|--|
| Income Category | Number | Percent | nob infestiola | |
| Less than \$15,000 | 572 | 4.0 | Extremely Low Income | |
| \$15,000-\$24,999 | 758 | 5.3 | Extremely Low Income | |
| \$25,000-\$34,999 | 966 | 6.7 | Extremely Low Income/ Very Low Income | |
| \$35,000-\$49,999 | 1,088 | 7.5 | Very Low Income/Low Income | |
| \$50,000-\$74,999 | 2,223 | 15.4 | Low Income | |
| \$75,000-\$99,999 | 2,156 | 14.9 | Low Income/Median Income/Above AMI | |
| \$100,000-\$149,999 | 4,023 | 27.9 | Above AMI | |
| \$150,000-\$199,999 | 1,676 | 11.6 | Above AM | |
| \$200,000 or more | 973 | 6.7 | Above AM | |
| Total | 14,435 | 100.0 | | |

Source: US Census Bureau, American Community Survey 2010-2014

After matching each income category to a HUD threshold, the percent of households in Billerica that are associated with various income thresholds can be estimated. An estimated 36.5% of residents are above the AMI, and an estimated 14.6% earn median income. Approximately 48.8% of households earn moderate, low, very low, or extremely low income. This indicates that while there are some very high earning households in Billerica, nearly half of all households still earn less than the AMI and may be eligible for HUD assistance. (Note: these calculations may over or underestimate percentages.)

6. Veterans' Income

Information on Veterans is limited in the ACS, and in most instances information on veterans is not provided and is described as being "not applicable or not available". However, the ACS does describe that of the population 18 years and older in Billerica, approximately 2,763 are veterans who earned a median income of \$42,063 in 2010-2014. An estimated 9.4% of veterans were unemployed, which was a third higher than the unemployment rate of the general population (6.6%).

7. Residents Living In Poverty

Every year, the U.S. Department of Health and Human Services (HHS) and the U.S. Census Bureau establish Federal Poverty Guidelines. These income thresholds vary by family size and composition to determine who is living in poverty (Table 14). If a family's total income is less than the family's threshold, then that family, and every individual in it, is considered to be living

in poverty. The official poverty thresholds do not vary geographically, but they are updated for

inflation using the Consumer Price Index (CPI). The official poverty definition uses income before taxes and does not include capital gains or noncash benefits (such as public housing, Medicaid, and food stamps). In 2010-2014, approximately 5.6% of Billerica's total population was living in poverty. As outlined below in Table 15, approximately 59.6% of those in poverty were between the ages of 18 to 64, with more than thirty-four percent (34.5%) of the poverty population under the age of 18. Residents over the age of 65 accounted for only 6% of the poverty population.

| 7 | Table 14: Federal Poverty Guidelines (2016) | | | | | |
|----------|---|--|--|--|--|--|
| I | Number of Persons in Family | Poverty Guideline | | | | |
| | 1 | Number of Households Percent of Households\$11,880 | | | | |
| 6 | 2 | \$16,020 | | | | |
| ******** | 3 | \$20,160 | | | | |
| ******** | 4 | \$24,300 | | | | |
| ******** | 5 | \$28,440 | | | | |
| | 6 | \$32,580 | | | | |
| ******** | 7 | \$36,730 | | | | |
| ******** | 8 | \$40,890 | | | | |
| | For each additional person | \$4,160 | | | | |
| - | | | | | | |

Source: U.S. Department of Health and Human Services, January 25,

Table 15: Characteristics of the Population Living in Poverty (2010-2014)

| Characteristics | Number Below Poverty Level | Percent of those in poverty |
|-------------------------------------|-------------------------------|-----------------------------|
| Age | | |
| Under 18 Years | 780 | 34.5 |
| 18 to 64 Years | 1,349 | 59.6 |
| 65 Years and Older | 135 | 6.0 |
| Sex | | |
| Male | 1,123 | 49.6 |
| Female | 1,141 | 50.4 |
| Total Individuals Living in Poverty | 2,264 | 5.6 |

Source: U.S. Census Bureau, American Community Survey 2010-2014

²⁰ For more information about how the U.S. Census Bureau defines poverty thresholds, refer to: http://www.census.gov/hhes/www/poverty/methods/measure.html.

E. Employment

This section summarizes historic labor force and general employment levels, as well as providing an estimate of future employment in Billerica.

1. Labor Force

The labor force is described as those individuals that have a job or are seeking a job, are at least 16 years old and not serving in the military or institutionalized. According to data available from the Executive Office of Labor and Workforce Development (EOLWD), Billerica had an estimated labor force of 23,091 people in July 2015. Historically, the number of people available for work in the Billerica labor force has continued to increase as the population has grown. Between July 2005 and July 2015 the labor force grew from 22,584 to 23,091 workers or only 2.3%. This was lower than regional labor force growth rate, as well as the 8.4% labor force growth rate at the state level.

2. Employment Levels

According to the most recent data available from the EOLWD, there were 21,981 Billerica residents employed in fulltime work in July 2015. As illustrated belowin Figure 1, employment levels have fluctuated over the last decade, largely due to the impacts of the "dot.com" recession of the early 2000s and the national recession of 2007 – 2008.

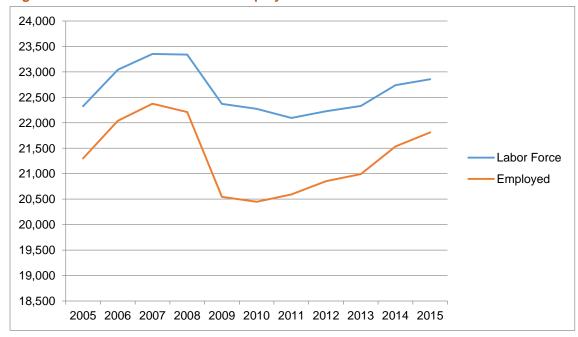


Figure 1: Billerica Labor Force and Employment Numbers 2005-2015

Source: Executive Office of Labor and Workforce Development, Labor Force and Unemployment Data

Between July 2005 and July 2015 the number of employed Billerica residents increased by 523 people or 2.4%, indicating that employment levels have finally exceeded the employment levels in the early 2000s. Billerica has fared slightly better than the region as a whole, which had an increase of 2,971 jobs during this time period or 2% growth. The fluctuations in employment levels in Billerica align with the unemployment rates described in the following section.

3. Employment Projections

Similar to the population projections outlined previously, MassDOT also developed employment projections for the Greater Lowell region (Table 16 below). These projections are an estimate of future number of jobs within each community. MassDOT applied a "top-down" approach that utilizes employment projections for the state, as a whole, and then assigns shares of these figures to the MPO regions and individual communities within those regions. Based upon this approach, the employment projections at the state level are considered more accurate than those for the region or individual communities. Nevertheless, there is merit in understanding the projected employment numbers that have been calculated for Billerica and the Greater Lowell region.

Table 16: Local and Regional Employment Projections: 2010-2040

| Community | 2010 | 2020 | 2030 | 2040 | % change 2010- 2040 |
|-----------------------|---------|---------|---------|---------|------------------------|
| Billerica | 20,693 | 22,916 | 22,779 | 23,012 | 11.2 |
| Chelmsford | 20,846 | 22,547 | 23,152 | 23,389 | 12.2 |
| Dracut | 4,852 | 6,160 | 6,224 | 6,287 | 29.6 |
| Dunstable | 256 | 246 | 249 | 251 | -2.0 |
| Lowell | 33,381 | 35,729 | 36,098 | 36,467 | 9.2 |
| Pepperell | 1,386 | 1,725 | 1,743 | 1,760 | 27.0 |
| Tewksbury | 15,294 | 15,400 | 15,559 | 15,718 | 2.8 |
| Tyngsborough | 4,145 | 4,928 | 4,979 | 5,030 | 21.4 |
| Westford | 11,743 | 13,552 | 13,692 | 13,834 | 17.8 |
| Greater Lowell region | 112,596 | 123,203 | 124,475 | 125,748 | 11.7 |

Source: US Census Bureau, 2010 U.S. Census

Projections for 2020, 2030, and 2040 developed by Mass DOT with input from NMCOG.

MassDOT projected consistent steady employment growth over the next three decades with overall employment growth anticipated to increase by 11.7% for the region. Employment levels in each community are also anticipated to increase with Billerica projected to grow by 11.2%. By 2040, local employment in Billerica is expected to reach 23,012, growing from 20,693 jobs in 2010. While there are some limitations with the projections developed by MassDOT, the MassDOT 2010 employment projection for Billerica was relatively close to the annualized level of employment (19,930) reported by EOLWD for that year.

II. Characteristics of the Local Economy

The purpose of this section is to provide an overview of the existing economic conditions in Billerica. The data is of interest to those considering investing in the local economy and highlights the issues the community needs to work on if a successful economic development outcome is to be achieved. The data is also useful in determining what kinds of economic development activities the community should pursue in the future.

The section examines trends and changes in the types of industries in which the Billerica workforce is employed, the wages they are earning, and trends in employment over the past decade, as well as educational attainment. It also examines layoffs in the region which have affected the local workforce. While the focus of this section is Billerica, comparisons are also made with the Greater Lowell region, state and nation, where necessary, to gain additional insight into economic trends.

A. Educational Attainment

Towns, cities and regions cannot develop a skilled workforce without investment in universities, community colleges, and the K-12 education system. The level of education attainment and the quality of education are therefore key indicators of Billerica's quality of life, workforce preparedness and economic potential.

Figure 2 on the following page compares the educational attainment among Billerica residents 25 years and older in 2000, 2008-2012 and 2010-2014. In 2000, approximately 10.9% (2,840) of adults living in Billerica had not earned a high school diploma or its equivalent. In 2008-2012 that rate dropped to 7.8% (2,165) and dropped even more in 2010-2014 (2,123 or 7.3%). Adults who had only earned a high school diploma or equivalent accounted for 36.5% of the adult population in 2000, 33.8% in 2008-2012 and 33% in 2010-2014.

Since the 2000 U.S. Census, educational attainment in Billerica has shifted so that by 2010-2014, nearly sixty percent of adults (59.8%) had completed some college. In 2000 those adults with Associate's Degrees comprised 9.2% (2,386) of total residents 25 years and older, while those adults with Bachelor's and Advanced Degrees accounted for 23.4% (6,104). In 2008-2012 approximately 10.3% (3,021) of all adults over the age of 25 had earned an Associate's Degree, and more than one quarter (29.2%) of the adult population had earned a Bachelor's Degree or greater. In 2010-2014, 2,983 adults (10.2%) over the age of 25 earned an Associate's Degree. Those adults with Bachelor's and Advanced Degrees accounted for 32.2% (9,421) of the total adult population.

In essence, the improvements in educational attainment are likely to influence the types of positions Billerica workers are employed in, such as higher skilled, more intensive training, and better paying jobs. This is also consistent with the distribution of incomes among residents that was described in the earlier section of this report.

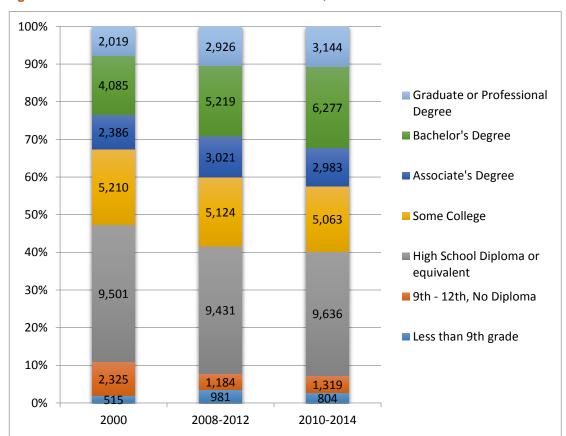


Figure 2: Educational Attainment in Billerica: 2000, 2008-2012 and 2010-2014

Source: 2000 U.S. Census, 2008-2012 and 2010-2014 American Community Survey

As of 2010-2014, 92.7% of Billerica's adult population had a high school diploma or better, which is higher than the region at 89.1%. However, the percentage of Billerica adults who possess a Bachelor's degree or higher (32.2%) is still lower than the region (35.2%).

Table 17: Years of School Completed, Billerica and Greater Lowell region: 2010-2014

| Subject | Billeri | ca | Greater Lowell region | | |
|-----------------------------------|-----------|---------|-----------------------|---------|--|
| Subject | 2010-2014 | Percent | 2010-2014 | Percent | |
| Less than 9th grade | 804 | 2.8 | 11,255 | 4.9 | |
| 9th - 12th, No Diploma | 1,319 | 4.5 | 13,507 | 5.9 | |
| High School Diploma or equivalent | 9,636 | 33.0 | 66,161 | 29.0 | |
| Some College | 5,063 | 17.3 | 38,531 | 16.9 | |
| Associate's Degree | 2,983 | 10.2 | 18,144 | 8.0 | |
| Bachelor's Degree | 6,277 | 21.5 | 48,519 | 21.3 | |
| Graduate or Professional Degree | 3,144 | 10.8 | 31,750 | 13.9 | |
| Total (25 years and older) | 29,226 | 100.1 | 227,867 | 99.9 | |

Source: 2010-2014 American Community Survey

Billerica's levels of educational attainment exceed the national rate and match the state rate in terms of residents with a high school diploma or better. In Massachusetts, 89.2% of residents have at least a high school diploma or better. This is also above the U.S. average of 85.7%. In terms of holding a Bachelors degree or higher, Billerica residents fell below the state average of 39% and ahead of the national average of 28.5%, with a 32.2% attainment rate.

Educational performance data for the K-12 system for Billerica and the region is provided below. Table 18 presents a snapshot of the results of the 2013 Massachusetts Comprehensive Assessment System (MCAS) testing that is conducted in elementary school and high school. Students who take the test are categorized as advanced and proficient, needing improvement, or warned and failing. The percentage of students that were categorized as proficient or higher is shown in the table. Billerica students generally perform better than Lowell and Dracut students, but not as well as students from other communities within the region.

Table 18: 2014 MCAS Scores for Billerica and Greater Lowell

| | | 2014 MCAS | | | | | |
|---|--------------------------|-------------------|---------|--|--|--|--|
| | | % Proficient or I | Higher | | | | |
| School District | English Language Arts | Math | Science | | | | |
| Billerica | 72 | 59 | 54 | | | | |
| Chelmsford | 83 | 75 | 75 | | | | |
| Dracut | 66 | 55 | 51 | | | | |
| Groton - Dunstable | 83 | 81 | 78 | | | | |
| Lowell | 50 | 47 | 27 | | | | |
| Pepperell (part of North Middlesex Regional School District) | 74 | 63 | 62 | | | | |
| Tewksbury | 75 | 64 | 56 | | | | |
| Tyngsborough | 78 | 65 | 58 | | | | |
| Westford | 89 | 87 | 85 | | | | |
| Source: Massachusetts Department of Education | | | | | | | |

B. Employment Sectors for Billerica Residents

Billerica residents work in virtually every industry, from skilled labor fields such as engineering, manufacturing and construction, to food services and retail, business, law, and public administration. Table 19 on the next page shows the primary occupations by industry for Billerica residents in 2000 and 2010-2014. This table illustrates the changing picture of employment opportunities for Billerica residents since the onset of the national recession and the rebounding economy since the recession. Workers employed in the education, health care, and social service fields since 2000 have made up the largest proportion of employed Billerica residents, employing 3,168 residents in 2000 and 4,258 residents in 2010-2014. Manufacturing was the second highest proportion of employed Billerica residents, employing 3,399 residents in 2000 and 2,638 residents in 2010-2014. A greater proportion of Billerica residents are being employed in the Professional, Scientific, Management and Administrative and Waste Services

increasing from 2,643 residents in 2000 to 3,231 residents in 2010-2014. Other industries that experienced growth were Agriculture and Forestry (43.8%), Arts, Entertainment, Recreation, Accommodation and Food Services (24.2%), Public Administration (21.3%), Retail Trade (11.4%), Construction (3.7%), Finance, Insurance and Real Estate (3.5%), and Transportation, Warehousing and Utilities (0.6%).

Decreases in the employment of residents were experienced between 2000 and 2010-2014 in the Wholesale Trade (-39.7%), Information (32.9%), Manufacturing (-28.8%), and Other services, except Public Administration (-21.9%) industries.

Table 19: Primary Employment Industries for Billerica Residents in 2000 and 2010-2014

| Industry | 2000 | 2010-2014 | Percent Change 2010 - 2014 |
|---|-------|-----------|----------------------------------|
| Agriculture, Forestry, Fishing and Hunting, and Mining | 36 | 64 | 43.8 |
| Construction | 1,618 | 1,680 | 3.7 |
| Manufacturing | 3,399 | 2,638 | -28.8 |
| Wholesale Trade | 968 | 693 | -39.7 |
| Retail Trade | 2,258 | 2,548 | 11.4 |
| Transportation, Warehousing, and Utilities | 1,259 | 1,267 | 0.6 |
| Information | 934 | 703 | -32.9 |
| Finance, Insurance, and Real Estate (including leasing) | 1,364 | 1,414 | 3.5 |
| Professional, Scientific, Management, and Administrative and Waste Services | 2,643 | 3,231 | 18.2 |
| Educational Services, Health Care, and Social Assistance | 3,168 | 4,758 | 33.4 |
| Arts, Entertainment, Recreation, Accommodation and Food Services | 1,232 | 1,625 | 24.2 |
| Other services, except Public Administration | 1,001 | 821 | -21.9 |
| Public Administration | 852 | 1,082 | 21.3 |

Source: 2000 U.S. Census (Sample Data) and 2010-2014 American Community Survey

C. Journey to Work and Commuting Patterns

In addition to understanding the industries in which Billerica residents are employed, it is important to know how many residents work in the county and state. Table 20 on the next page shows where Billerica residents worked in 2010-2014. According to Table 20, 77.6% of Billerica residents worked in Middlesex County, while 19.6% of Billerica residents commuted to work

elsewhere in Massachusetts. Approximately 2.8% of Billerica t residents commuted to jobs outside of Massachusetts, principally in New Hampshire and Maine.

Table 20: Place of Employment for Billerica Residents in 2010-2014

| Place of Employment | Number of Workers |
|-----------------------------|----------------------|
| Massachusetts | 21,510 |
| Middlesex County | 17,183 |
| Outside of Middlesex County | 4,327 |
| Outside of Massachusetts | 622 |
| Total | 22,132 |

Source: U.S. Census Bureau, 2010-2014 American Community Survey

In 2010-2014, 93.3% of Billerica workers, aged 16 and older, commuted to work by car, either alone or, less frequently, in carpools. Approximately 2.7% of workers took public transit to work, 0.5% walked to work and 3% worked from home, as outlined in Table 21 below. For all workers, regardless of mode of transportation, approximately 34.1.4% had a commute time of less than 20 minutes; another 44.6% of residents had commutes between 20 and 45 minutes, and 21.4% of workers commuted for longer than 45 minutes. The mean travel time was 28.3 minutes.

Table 21: Mode of Transportation to Work in 2010-2014

| Mode | Number | Percent |
|---|--------|---------|
| Car, truck, or van drove alone | 19,182 | 86.7 |
| Car, truck, or van carpooled | 1,453 | 6.6 |
| Public transportation (excluding taxicab) | 593 | 2.7 |
| Walked | 107 | 0.5 |
| Other means | 122 | 0.6 |
| Worked at home | 675 | 3.0 |

Source: U.S. Census Bureau, 2010-2014 American Community Survey

D. Employment Levels and Unemployment

Employment opportunities for the Billerica workforce have varied since 2000. While employment levels consistently increased between 1996 and 1999, employment declined sharply during the economic recession of the early 2000s. Prior to the national recession in 2007, the lowest levels of employment occurred between July 2003 and July 2004. The national recession appears to have had the greatest impact on the local labor force than any other economic downturn since the Depression.

The unemployment rates for Billerica from July 2005 to July 2015 are presented in Figure 3 on the next page. Examining these rates over time reveals that employment levels were fairly low in July 2005 at 4.9% due partly to the layoffs in the information technology and computer manufacturing fields associated with the "dot.com" recession in the early 2000s. With the beginning of the national recession, unemployment in Billerica began to increase rising from 4.6% in July 2007 to 8.9% in July 2009, when 1,935 local workers were unemployed. Since 2009, unemployment rates have declined to the July 2015 rate of 4.8%, which is below the pre-

recession unemployment levels, but not yet at the rates experienced during the late 1990s/early 2000s.

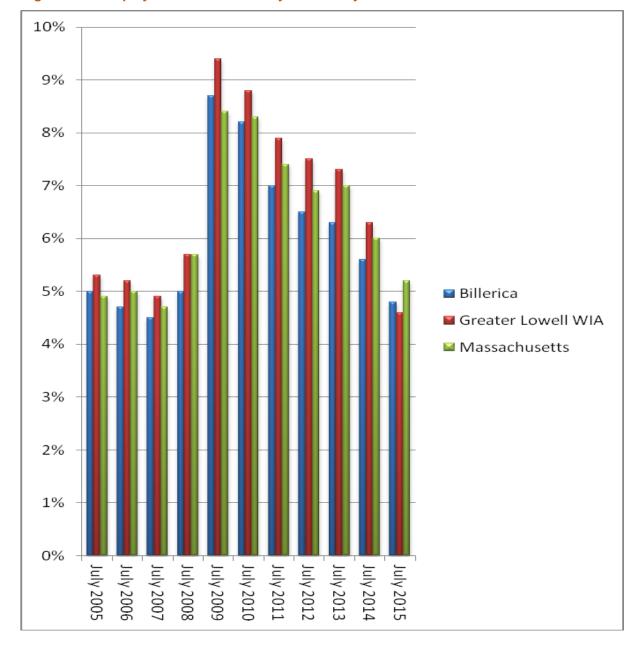


Figure 3: Unemployment Rates from July 2005 - July 2015

Source: Executive Office of Labor and Workforce Development LURR Reports

The unemployment rate in Billerica has consistently been lower than the regional Workforce Development Area (WDA) rate and has also been lower than the state unemployment rate since 2005. Given that the majority of Billerica residents likely work in the region, the increase in unemployment due to the national recession largely reflected layoffs occurring in the region.

E. Business Patterns

The business contraction and expansion patterns of local businesses over the past decade mirror the trends in the Billerica workforce. Figure 4 below illustrates the changes in the total number of establishments between the third quarter of 2005 (1,221) and the third quarter of 2015 (1,274). As illustrated below, beginning at a peak in 2005, the total number establishments declined at the outset of the national recession and hit their lowest point in 2009. Since 2009, the number of establishments increased until 2011, then decreased in 2012 and 2013, before exceeding the 2005 levels in 2014 and 2015.

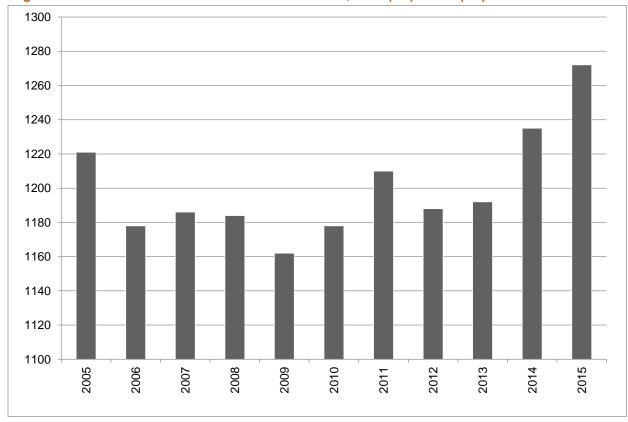


Figure 4: Total Number of Establishments in Billerica, 2005 (Q3) - 2015 (Q3)

Source: Executive Office of Labor and Workforce Development ES-202 Reports

Figure 5 on the next page shows the average monthly employment for Billerica establishments between 2005 (Q3) (22,892) and 2015 (Q3) (22,733). As the economic recovery began, the average monthly employment began to increase from its low point in 2010. However, the average monthly employment figures have yet to exceed the pre-recession employment level in 2006 (Q3) (22,960).

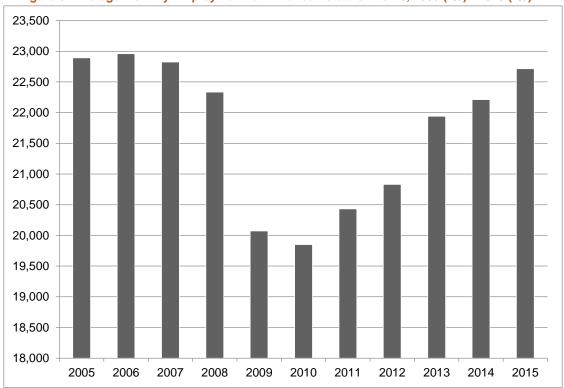


Figure 5: Average Monthly Employment for Billerica Establishments, 2005 (Q3) - 2015 (Q3)

Another indicator of local economic vitality is the average weekly wages paid to workers, which provides an indication of the quality of the jobs in town. Figure 6 on the next page reflects the changes in average weekly wages (across all industries) paid to workers employed in Billerica for the third quarter of each year between 2005 and 2015. Average weekly wages in Billerica have slowly increased from \$1,234 in 2005 to an initial high of \$1,276 in 2007. Since 2007 the average weekly wage increased to \$1,337 in 2010, dropped in 2011-2013 and then increased to \$1,338 in 2015.

While average weekly wages have grown by 8.4% since 2005, these average weekly wages have consistently exceeded the regional and state average weekly wages. In the third quarter of 2005, the average weekly wage in the Greater Lowell Workforce Development Area (GLWDA) was \$1,031, while the state's average weekly wage was \$947. In the third quarter of 2015, the average weekly wage in the region was \$1,187 and in the state it was \$1,119. Given the rate of inflation between 2005 and 2015, the average weekly wages in 2015 do not have the same purchasing power as in 2005. In other words, one dollar (\$1.00) in 2005 had the same buying power as \$1.21 in 2015 (source: http://www.bls.gov/data/inflation_calculator.htm).

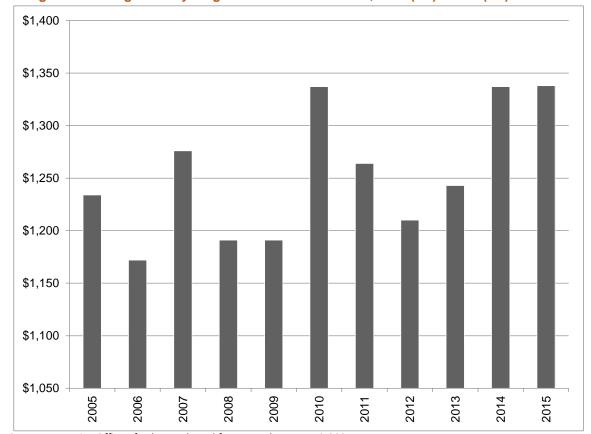


Figure 6: Average Weekly Wages for Billerica Workers, 2005 (Q3) - 2015 (Q3)

F. Industry Composition

The composition of industries in Billerica is diverse, ranging from construction and manufacturing firms to social service agencies and restaurants. Fewer people are employed in manufacturing firms now than twenty years ago. The composition of industries operating in Billerica has become more diversified, as reflected in Table 22 on the next page. While the service-providing domain establishments are nearly three times larger than those in the goods-producing domain, the construction industry remains the largest sector in Billerica based on the number of establishments. Between the third quarter of 2005 and the third quarter of 2015, the total number of establishments in Billerica increased from 1,221 to 1,272 or by 4.2%.

Table 22: Changes in Local Industry Composition: 2005 (Q3) - 2015 (Q3)

| Industry Type | Number of E | Number of Establishments | | |
|--------------------------------------|-------------|--------------------------|-----------|--|
| maast y Type | 2004 (Q3) | 2015 (Q3) | 2004-2015 | |
| Goods-Producing Domain | 380 | 339 | -10.8 | |
| Construction | 246 | 224 | -8.9 | |
| Manufacturing | 134 | 113 | -15.7 | |
| Durable Goods Manufacturing | 111 | 96 | -13.5 | |
| Non Durable Goods Manufacturing | 23 | 17 | -26.1 | |
| Service-Providing Domain | 841 | 933 | 10.9 | |
| Trade, Transportation and Utilities | 274 | 283 | 3.3 | |
| Wholesale Trade | 108 | 118 | 9.3 | |
| Retail Trade | 110 | 103 | -6.4 | |
| Transportation and Warehousing | 56 | 61 | 8.9 | |
| Information | 25 | 27 | 8.0 | |
| Financial Activities | 45 | 45 | 0 | |
| Finance and Insurance | 24 | 23 | -4.2 | |
| Real Estate and Rental and Leasing | 21 | 22 | 4.8 | |
| Professional and Business Services | 231 | 246 | 6.5 | |
| Professional and Technical Services | 143 | 156 | 9.1 | |
| Mgt. of Companies and Enterprises | 9 | 8 | -11.1 | |
| Administrative and Waste Services | 79 | 82 | 3.8 | |
| Education and Health Services | 56 | 142 | 153.6 | |
| Educational Services | 8 | 12 | 50.0 | |
| Health Care and Social Assistance | 48 | 130 | 170.8 | |
| Leisure and Hospitality | 85 | 91 | 7.1 | |
| Arts, Entertainment, and Recreation | 11 | 17 | -54.5 | |
| Accommodation and Food Services | 74 | 74 | 0 | |
| Other Services | 118 | 88 | -25.4 | |
| Public Administration | 7 | 11 | 57.1 | |
| Total All Industries | 1,221 | 1,272 | 4.2 | |

In terms of the goods-producing domain, the number of establishments decreased from 380 in 2005 to 339 in 2015, or by 10.8%. Manufacturing establishments decreased by 15.7%, which was comprised of durable goods manufacturing establishments decreasing by 13.5% and nondurable goods manufacturing establishments decreasing by 26.1%, between the third quarters of 2005 and 2015. Construction establishments decreased by 8.9% from 246 establishments in 2005 to 224 establishments in 2015.

The service-providing establishments increased by 10.9% from 841 establishments in 2005 to 933 establishments in 2015. The most significant growth was in the Education and Health Services industry, which experienced an overall growth rate of 153.6% between 2005 and 2015. Within that particular industry, Health Care and Social Assistance establishments increased from 48 establishments in 2005 to 130 establishments in 2015, or by 170.8%. The Information industry establishments increased from 25 firms in 2005 to 27 firms in 2015, while

establishments within the Financial industry remained the same at 45 firms. The Leisure and Hospital industry increased by 7.1% from 85 establishments to 91 establishments, while the Professional and Business Services industry increased by 6.5%. The only industry to experience a decrease in establishments was the Other Services, except for Public Administration industry, which lost 30 establishments between 2005 and 2015. These trends are consistent with larger issues related to the emergence of a service-oriented economy in the 21st century, a trend which has been impacting the region, state, and nation as a whole for the past twenty years.

G. Location Quotients

Location quotients (LQ) are a useful tool for assessing the various industry clusters located in a particular region. Location quotient analyses help us better understand the strengths of a local economy by assessing which industries are concentrated within it, relative to the region or state as a whole. Location quotients-- which are essentially a ratio of the concentration of a particular industry in one area (in this case, Billerica) to the concentration of the same industry in a larger geographic area (Greater Lowell Workforce Development Area) - are understood to be significant when they are greater than 1.0.

Using the Greater Lowell Workforce Development Area (GLWDA) as a basis of comparison, location quotients were developed with third quarter 2015 data for each of the industries with a presence in Billerica. Quotients were calculated for both the total number of establishments and average monthly employment among each industry sector. Figure 7 on the next page illustrates the current location quotients for each of the primary industry sectors operating in Billerica, according to both the total number of establishments and average monthly employment.

According to third quarter 2015 figures, the goods-producing sector with the highest location quotient in terms of number of establishments was Manufacturing. With 224 manufacturing businesses located in Billerica, and 2,187 workers employed in manufacturing, this represents more than 12% of the workforce development area's manufacturing workforce. While this sector represents a small segment of the local and area economies, its concentration in Billerica affords the town location quotients of 2.01 for total number of establishments, and 1.52 for average monthly employment. Within the manufacturing industry, Durable Goods Manufacturing has an LQ of 2.19 in establishments and 1.55 in average monthly employment. Within the Non Durable Goods Manufacturing industry, the LQs are The concentration of manufacturing firms enables Billerica's goods-producing industries to have a 1.65 LQ for the number of establishments and a 1.53 LQ for average monthly employment. There are other types of industries concentrated in Billerica relative to the GLWDA . Within the goods-producing domain, non-durable goods manufacturing was also concentrated in Billerica compared to the region with LQs of .91 for establishments and LQ of 1.75 for average monthly employment.

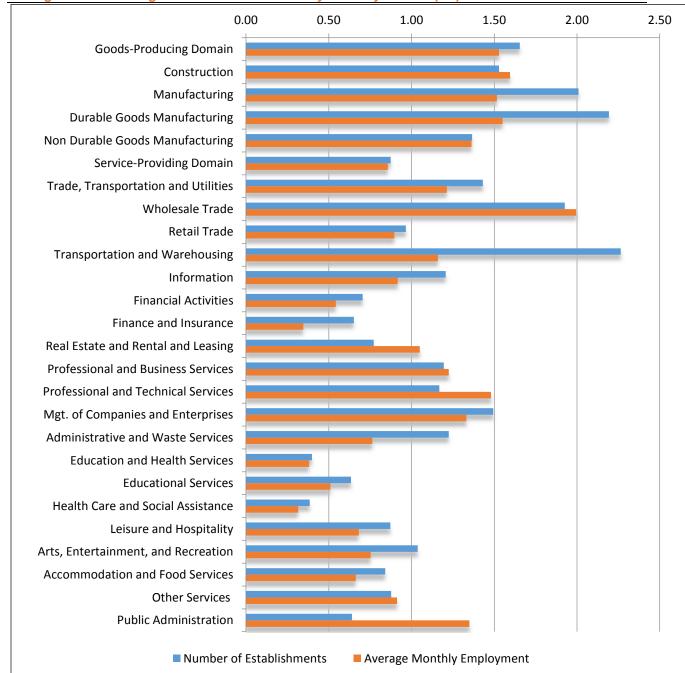


Figure 7: Local-Regional Location Quotient by Industry in 2015 (Q3)

Source: Executive Office of Labor and Workforce Development ES-202 Reports (2015 Q3)

Billerica has a high concentration of many construction sectors with the best performing sector being the Building Foundation/Exterior Contractors with a LQ of 1.99 in number of establishments and 2.78 in average monthly employment. Other sectors with relatively high concentrations of the region's average monthly employment include Specialty Trade Contractors (1.86), Building Equipment Contractors (1.82), Other Specialty Trade Contractors (1.69) and Building Finishing Contractors (1.28). Table 23 on the next page provides the location quotients for the goods-producing industries in Billerica in 2015 (Q3).

Table 23: Economic Statistics for Goods-Producing Industries in 2015 (Q3)

| NAICS | Industry | Number of Establishments | Average Monthly Employment (AME) | Average Weekly Wages | Location Quotient - Number of Establishments | Location Quotient - Avg. Monthly Employment |
|-------|---|-----------------------------|---|----------------------------|---|--|
| 23 | Construction | 224 | 2187 | \$1,319 | 1.53 | 1.60 |
| 236 | Construction of Buildings | 42 | 100 | \$1,242 | 1.24 | 0.66 |
| 2361 | Residential Building Construction | 40 | 81 | \$989 | 1.37 | 0.77 |
| 237 | Heavy and Civil Engineering Construction | 8 | 138 | \$1,213 | 1.18 | 0.81 |
| 2371 | Utility System Construction | 4 | 45 | \$1,528 | 1.21 | 0.66 |
| 238 | Specialty Trade Contractors | 174 | 1949 | \$1,330 | 1.64 | 1.86 |
| 2381 | Building Foundation/Exterior Contractors | 32 | 376 | \$1,715 | 1.99 | 2.78 |
| 2382 | Building Equipment Contractors | 83 | 1148 | \$1,243 | 1.68 | 1.82 |
| 2383 | Building Finishing Contractors | 25 | 161 | \$1,205 | 1.21 | 1.28 |
| 2389 | Other Specialty Trade Contractors | 34 | 264 | \$1,238 | 1.73 | 1.69 |
| | Manufacturing | 113 | 5172 | \$1,807 | 2.01 | 1.52 |
| | Durable Goods Manufacturing | 96 | 4331 | \$1,809 | 2.19 | 1.55 |
| | Non-Durable Goods Manufacturing | 17 | 841 | \$1,793 | 1.37 | 1.36 |
| 325 | Chemical Manufacturing | 8 | 626 | \$1,976 | 3.18 | 4.43 |
| 3254 | Pharmaceutical & Medicine Manufacturing | 3 | 477 | \$2,183 | 6.35 | 5.26 |
| 327 | Nonmetallic Mineral Product Mfg | 5 | 52 | \$1,223 | 2.89 | 2.09 |
| 332 | Fabricated Metal Product Manufacturing | 23 | 453 | \$1,326 | 1.92 | 1.76 |
| 3323 | Architectural and Structural Metals | 3 | 56 | \$1,196 | 1.27 | 0.97 |
| 3327 | Machine Shops and Threaded Products | 18 | 284 | \$1,170 | 2.49 | 2.17 |
| 333 | Machinery Manufacturing | 14 | 467 | \$1,739 | 2.69 | 1.41 |
| 3332 | Industrial Machinery Manufacturing | 6 | 271 | \$1,875 | 3.46 | 1.51 |
| 3339 | Other General Purpose Machinery Mfg | 6 | 162 | \$1,676 | 3.46 | 1.64 |
| 334 | Computer and Electronic Product Mfg | 42 | 2737 | \$1,973 | 2.59 | 1.77 |
| 3341 | Computers and Peripheral Equipment | 3 | 45 | \$2,327 | 2.72 | 0.56 |
| 3342 | Communications Equipment Manufacturing | 6 | 137 | \$1,876 | 3.81 | 1.58 |
| 3344 | Semiconductor and Electronic Components | 13 | 469 | \$1,352 | 1.83 | 1.09 |
| 3345 | Electronic Instrument Manufacturing | 20 | 2086 | \$2,112 | 3.10 | 2.19 |
| 339 | Miscellaneous Manufacturing | 6 | 409 | \$1,776 | 1.27 | 2.63 |
| 3391 | Medical Equipment and Supplies Mfg | 4 | 98 | \$1,393 | 1.34 | 1.17 |
| | Total Goods-Producing Domain Source: Executive Office of Labor and Workforce | 339 | 7,368 | \$1,660 | 1.65 | 1.53 |

Billerica also has high concentrations of establishments and average monthly employment in Service-Providing industries. However, the Service-Providing industries as a whole are below an LQ of 1.0, signifying that these industries are not as prevalent in Billerica as they are in the GLWDA. The Trade,

Transportation and Utilities industries had location quotients greater than 1.0 in the number of establishments (1.43) and average monthly employment (1.21). Within that industry, the Transportation and Warehousing subsector had location quotients of 2.27 in number of establishments and 1.16 in average monthly employment. The Wholesale Trade subsector also had location quotients greater than 1.0 in the number of establishments (1.93) and average monthly employment (2.00).

Similarly, the Professional and Business Services industry had location quotients greater than 1.0 – 1.20 in number of establishments and 1.23 in average monthly employment. Except for the Information industry, which had a location quotient of 1.21 in number of establishments, every other Service-Providing industry had location quotients less than 1.0. Table 24 below and on the next few pages illustrates the most significant Service-Providing industries in Billerica, as compared to the workforce development area.

Table 24: Economic Statistics for Service-Providing Industries in 2015 (Q3)

| Table | 24. Economic Statistics for | Oct vice-i Tovialii | g maastrics m | 2013 (43) | | |
|-------|---|-----------------------------|---|----------------------------|--|--|
| NAICS | Industry | Number of Establishments | Average Monthly Employment (AME) | Average Weekly Wages | Location Quotient - Number of Establishments | Location Quotient - Avg. Monthly Employment |
| | Trade, Transportation and Utilities | 283 | 4,559 | \$952 | 1.43 | 1.21 |
| 42 | Wholesale Trade | 118 | 1860 | \$1,348 | 1.93 | 2.00 |
| 423 | Merchant Wholesalers, Durable Goods | 60 | 1160 | \$1,327 | 1.90 | 2.05 |
| 4233 | Lumber and Supply Merchant Wholesalers | 8 | 92 | \$1,392 | 1.88 | 1.23 |
| 4234 | Commercial Goods Merchant Wholesalers | 15 | 243 | \$1,476 | 2.12 | 1.68 |
| 4237 | Hardware & Plumbing Merchant Wholesalers | 5 | 56 | \$1,497 | 2.27 | 2.32 |
| 4238 | Machinery & Supply Merchant Wholesalers | 9 | 123 | \$1,642 | 1.73 | 1.98 |
| 4239 | Misc Durable Goods Merchant Wholesalers | 6 | 36 | \$939 | 2.72 | 1.91 |
| 424 | Merchant Wholesalers, Nondurable Goods | 14 | 190 | \$1,179 | 1.85 | 1.07 |
| 4249 | Misc Nondurable Goods Merchant Whsle | 5 | 28 | \$942 | 2.12 | 0.55 |
| 425 | Electronic Markets and Agents/Brokers | 44 | 510 | \$1,460 | 2.00 | 2.72 |
| | Retail Trade | 103 | 1,698 | \$468 | 0.97 | 0.90 |
| 441 | Motor Vehicle and Parts Dealers | 15 | 215 | \$764 | 1.25 | 0.99 |
| 4413 | Auto Parts, Accessories, and Tire Stores | 10 | 118 | \$640 | 1.59 | 1.50 |
| 4453 | Beer, Wine, and Liquor Stores | 11 | 33 | \$381 | 1.59 | 0.99 |
| 446 | Health and Personal Care Stores | 13 | 180 | \$603 | 1.12 | 1.03 |
| 447 | Gasoline Stations | 13 | 75 | \$478 | 1.06 | 0.88 |

| Table 2 | 24 (cont.): Economic Statis | iles for Service-r | Average | ouries iii 20 | 15 (&3) | Location |
|---------|---|--------------------|------------|---------------|-------------------|--------------|
| | | | Monthly | Average | Location Quotient | Quotient - |
| | | Number of | Employment | Weekly | - Number of | Avg. Monthly |
| NAICS | Industry | Establishments | (AME) | Wages | Establishments | Employment |
| 448 | Clothing and Clothing Accessories Stores | 5 | 125 | \$248 | 0.84 | 2.21 |
| 4481 | Clothing Stores | 4 | 123 | \$250 | 1.02 | 2.56 |
| 453 | Miscellaneous Store Retailers | 10 | 95 | \$343 | 0.96 | 1.01 |
| 4532 | Office Supply, Stationery & Gift Stores | 3 | 59 | \$261 | 1.19 | 1.27 |
| 4539 | Other Miscellaneous Store Retailers | 4 | 28 | \$516 | 0.91 | 0.88 |
| 454 | Nonstore Retailers | 9 | 65 | \$1,546 | 1.73 | 0.95 |
| | Electronic Shopping & Mail- | | | 7-75 15 | | 0.00 |
| 4541 | Order Houses | 4 | 46 | \$1,721 | 1.69 | 0.94 |
| 4543 | Direct Selling Establishments | 4 | 17 | \$1,212 | 1.59 | 0.90 |
| | Transportation and Warehousing | 61 | 1,001 | \$1,038 | 2.27 | 1.16 |
| | - | | | | | |
| 484 | Truck Transportation | 32 | 556 | \$1,113 | 2.57 | 2.62 |
| 4841 | General Freight Trucking | 20 | 389 | \$1,122 | 3.02 | 2.75 |
| 4842 | Specialized Freight Trucking | 12 | 167 | \$1,092 | 2.06 | 2.38 |
| 485 | Transit and Ground Passenger Transport | 8 | 79 | \$375 | 1.37 | 0.48 |
| 4853 | Taxi and Limousine Service | 6 | 15 | \$190 | 1.91 | 0.46 |
| 488 | Support Activities for Transportation | 8 | 124 | \$967 | 2.12 | 3.09 |
| 4884 | Support Activities, Road Transportation | 4 | 16 | \$586 | 1.69 | 1.27 |
| 492 | Couriers and Messengers | 5 | 85 | \$648 | n/a | n/a |
| 4921 | Couriers | 4 | 74 | \$626 | n/a | n/a |
| 493 | Warehousing and Storage | 4 | 69 | \$1,490 | 3.63 | 3.24 |
| 4931 | Warehousing and Storage | 4 | 69 | \$1,490 | 3.63 | 3.24 |
| | Information | 27 | 704 | \$1,819 | 1.21 | 0.92 |
| 511 | Publishing Industries | 10 | 497 | \$1,993 | 1.27 | 2.12 |
| 5112 | Software Publishers | 8 | 204 | \$2,128 | 1.34 | 1.38 |
| 517 | Telecommunications | 9 | 72 | \$1,509 | 1.36 | 0.21 |
| 5172 | Wireless Telecommunications Carriers | 3 | 20 | \$1,516 | 1.36 | 1.25 |
| 518 | ISPs, Search Portals, & Data Processing | 3 | 92 | \$1,647 | 1.73 | 0.82 |
| 5182 | Data Processing and Related Services | 3 | 92 | \$1,647 | 1.73 | 0.82 |
| | Financial Activities | 45 | 330 | \$1,626 | 0.71 | 0.54 |
| 52 | Finance and Insurance | 23 | 152 | \$1,276 | 0.65 | 0.35 |
| 522 | Credit Intermediation & Related Activity | 9 | 75 | \$993 | 0.50 | 0.23 |

| Table | Average Location | | | | | Location |
|-------|--|----------------|------------|------------------|-------------------|--------------|
| | | | Monthly | Average | Location Quotient | Quotient - |
| | | Number of | Employment | Weekly | - Number of | Avg. Monthly |
| NAICS | Industry | Establishments | (AME) | Wages | Establishments | Employment |
| | Depository Credit | | | | | |
| 5221 | Intermediation | 9 | 75 | \$993 | 0.64 | 0.32 |
| | Insurance Carriers & Related | | | | a =a | |
| 524 | Activities | 9 | 53 | \$1,148 | 0.70 | 0.54 |
| 5242 | Insurance Agencies, Brokerages & Support | 9 | 53 | \$1,148 | 0.72 | 0.58 |
| 3242 | Real Estate and Rental and | <u> </u> | - 55 | \$1,140 | 0.72 | 0.38 |
| 53 | Leasing | 22 | 178 | \$1,924 | 0.77 | 1.05 |
| 531 | Real Estate | 16 | 98 | \$2,325 | 0.71 | 0.95 |
| 551 | | | | | | |
| 5311 | Lessors of Real Estate | 5 | 85 | \$2,494 | 0.81 | 2.11 |
| | Offices of Real Estate Agents & | | | | | |
| 5312 | Brokers | 9 | 10 | \$1,112 | 1.33 | 0.50 |
| 532 | Rental and Leasing Services | 4 | 73 | \$1,527 | 0.71 | 1.13 |
| | Professional and Business | | | | | |
| | Services | 246 | 4,561 | \$1,744 | 1.20 | 1.23 |
| | Professional and Technical | 156 | 3029 | ¢1.074 | 1.17 | 1 40 |
| 54 | Services Legal Services | 156 6 | 12 | \$1,974 \$517 | 0.30 | 1.48 0.13 |
| 5411 | Accounting and Bookkeeping | U | 12 | \$317 | 0.30 | 0.13 |
| 5412 | Services | 14 | 113 | \$949 | 0.87 | 0.95 |
| | Architectural and Engineering | | | <u> </u> | | |
| 5413 | Services | 31 | 465 | \$1,657 | 1.89 | 1.74 |
| | Computer Systems Design and | | | | | |
| 5415 | Rel Services | 40 | 740 | \$1,985 | 1.17 | 0.93 |
| F 416 | Management & Technical Consulting Svc | 30 | 200 | \$2,434 | 1.40 | 0.64 |
| 5416 | Scientific Research and | 30 | 200 | Ş2,454 | 1.40 | 0.04 |
| 5417 | Development Svc | 18 | 1342 | \$2,209 | 2.04 | 4.03 |
| | Advertising and Related | | | | | |
| 5418 | Services | 5 | 41 | \$1,536 | 1.22 | 1.91 |
| | Other Professional & Technical | | | | | |
| 5419 | Services | 10 | 76 | \$901 | 0.88 | 0.83 |
| | Management of Companies | 0 | F02 | Ć1 071 | 1.40 | 4.22 |
| 55 | and Enterprises Management of Companies | 8 | 592 | \$1,871 | 1.49 | 1.33 |
| 551 | and Enterprises | 8 | 592 | \$1,871 | 1.49 | 1.33 |
| | Management of Companies | | | 7 - 7 - 7 - 7 | | 2.00 |
| 5511 | and Enterprises | 8 | 592 | \$1,871 | 1.49 | 1.33 |
| | Administrative and Waste | | | | | |
| 56 | Services | 82 | 940 | \$920 | 1.23 | 0.76 |
| | Administrative and Support | 70 | 000 | 6047 | 4.24 | |
| 561 | Services Employment Services | 78 7 | 893 340 | \$917 \$883 | 1.24 0.63 | 0.77 0.70 |
| 5613 | . , | | | | | |
| 5614 | Business Support Services | 3 | 54 | \$483 | 0.79 | 1.12 |
| F.1.1 | Investigation and Security | 2 | 12 | ¢.co.2 | 0.70 | 0.06 |
| 5616 | Services Services to Buildings and | 3 | 13 | \$693 | 0.79 | 0.06 |
| 5617 | Dwellings | 54 | 408 | \$897 | 1.54 | 1.27 |
| | | | | | | |
| 5619 | Other Support Services | 6 | 35 | \$1,345 | 2.24 | 2.71 |

| Table 2 | Average Location | | | | | |
|---------|--|----------------|------------|---------|-------------------|--------------|
| | | | Monthly | Average | Location Quotient | Quotient - |
| | | Number of | Employment | Weekly | - Number of | Avg. Monthly |
| NAICS | Industry | Establishments | (AME) | Wages | Establishments | Employment |
| | Waste Management and | | | | | |
| 562 | Remediation Service | 4 | 47 | \$984 | 1.02 | 0.65 |
| | Remediation and Other Waste | | | | | |
| 5629 | Services | 3 | 23 | \$958 | 1.19 | 1.15 |
| | Education and Health Services | 142 | 2,049 | \$802 | 0.40 | 0.38 |
| 61 | Educational Services | 12 | 923 | \$957 | 0.64 | 0.51 |
| | Elementary and Secondary | | | | | |
| 6111 | Schools | 4 | 918 | \$959 | 1.02 | 0.78 |
| 6116 | Other Schools and Instruction | 7 | 4 | \$382 | 0.71 | 0.07 |
| | Health Care and Social | | | | | |
| 62 | Assistance | 130 | 1126 | \$675 | 0.39 | 0.32 |
| 624 | Ambulatory Health Care | 35 | 250 | ¢1.065 | 0.61 | 0.23 |
| 621 | Services | | | \$1,065 | 0.61 | |
| 6211 | Offices of Physicians | 6 | 65 | \$1,155 | 0.34 | 0.20 |
| 6212 | Offices of Dentists | 15 | 115 | \$1,138 | 0.82 | 0.66 |
| | Offices of Other Health | | | | | |
| 6213 | Practitioners | 8 | 42 | \$655 | 0.67 | 0.46 |
| 622 | Nursing and Residential Care Facilities | 11 | 521 | ¢coa | 0.77 | 0.66 |
| 623 | Residential Mental Health | 11 | 521 | \$692 | 0.77 | 0.00 |
| 6232 | Facilities | 6 | 40 | \$787 | 0.72 | 0.32 |
| | | 84 | 355 | \$375 | 0.32 | 0.44 |
| 624 | Social Assistance | | | | | |
| 6241 | Individual and Family Services | 74 | 225 | \$341 | 0.30 | 0.42 |
| 6244 | Child Day Care Services | 10 | 130 | \$434 | 0.95 | 0.61 |
| | Leisure and Hospitality | 91 | 1,533 | \$362 | 0.87 | 0.68 |
| | Arts, Entertainment, and | | | | | |
| 71 | Recreation | 17 | 337 | \$343 | 1.04 | 0.75 |
| 713 | Amusement, Gambling & Recreation Ind | 15 | 332 | \$338 | 1.24 | 0.90 |
| /13 | Other Amusement & | 13 | 332 | 7556 | 1.24 | 0.50 |
| 7139 | Recreation Industries | 15 | 332 | \$338 | 1.25 | 0.91 |
| | Accommodation and Food | | | | | |
| 72 | Services | 74 | 1196 | \$367 | 0.84 | 0.66 |
| 721 | Accommodation | 3 | 127 | \$517 | 0.95 | 0.98 |
| 7211 | Traveler Accommodation | 3 | 127 | \$517 | 1.06 | 1.00 |
| | Food Services and Drinking | | | | | |
| 722 | Places | 71 | 1069 | \$350 | 0.84 | 0.64 |
| 7223 | Special Food Services | 4 | 22 | \$656 | 0.48 | 0.17 |
| | Drinking Places (Alcoholic | | | | | |
| 7224 | Beverages) | 3 | 30 | \$246 | 0.68 | 0.94 |
| 7005 | Restaurants and Other Eating | 64 | 1016 | 6346 | 0.00 | 0.67 |
| 7225 | Places | 64 | 1016 | \$346 | 0.89 | 0.67 |

| NAICS | Industry | Number of Establishments | Average Monthly Employment (AME) | Average Weekly Wages | Location Quotient - Number of Establishments | Location Quotient - Avg. Monthly Employment |
|-------|--|-----------------------------|---|----------------------------|--|--|
| | Other Services | 88 | 659 | \$759 | 0.88 | 0.91 |
| 81 | Other Services, Ex. Public Admin | 88 | 659 | \$759 | 0.88 | 0.91 |
| 811 | Repair and Maintenance | 43 | 375 | \$1,032 | 1.15 | 1.18 |
| 8111 | Automotive Repair and Maintenance | 30 | 239 | \$864 | 1.06 | 1.43 |
| 8112 | Electronic Equipment Repair/Maintenance | 8 | 89 | \$1,264 | 2.54 | 0.75 |
| 8113 | Commercial Machinery Repair/Maintenance | 5 | 46 | \$1,477 | 1.38 | 2.05 |
| 812 | Personal and Laundry Services | 30 | 136 | \$467 | 0.82 | 0.55 |
| 8121 | Personal Care Services | 22 | 94 | \$382 | 0.87 | 0.68 |
| 8123 | Drycleaning and Laundry Services | 4 | 27 | \$676 | 0.79 | 0.43 |
| 813 | Membership Organizations & Associations | 8 | 145 | \$332 | 0.69 | 1.03 |
| 8134 | Civic and Social Organizations | 5 | 131 | \$344 | 0.91 | 1.36 |
| 8139 | Professional and Similar Organizations | 3 | 15 | \$205 | 0.83 | 0.75 |
| 814 | Private Households | 7 | 4 | \$401 | 0.48 | 0.21 |
| 8141 | Private Households | 7 | 4 | \$401 | 0.48 | 0.21 |
| | Public Administration | 11 | 951 | \$1,412 | 0.64 | 1.35 |
| | Total Service-Providing Domain | 933 | 15,347 | \$1,183 | 0.87 | 0.86 |

Source: ES-202 Reports for 2015 (Q3), Executive Office of Labor and Workforce Development

H. Major Employers

The following major employers with 250 or more employees are located in Billerica:

| Company | | Nature of Business | Approx. |
|-------------------------------|--------|-------------------------------------|---------|
| Employees | | | |
| PAREXEL International | Medica | /Clinical Diagnostics | 1000+ |
| Lantheus Medical Imaging | | Medical Imaging | 500+ |
| EMD Serono | | Medical/R&D/Labs | |
| 500+ | | | |
| Middlesex House of Correction | Prison | | 500+ |
| The Potpourri Group | | Multi-Catalog Line Call Center | 500+ |
| Cabot Corporation | | Carbon Black Research & Development | 300+ |
| Bruker Bioscience | | Medical Research & Development | |
| 300+ | | | |
| GE Measurement & Control | | Manufacturer | |
| 300+ | | | |
| DeMoulas Supermarkets | | Supermarket | |
| 250+ | | | |

250+

I. Wages

Table 25 below reflects the total wages and average weekly wages earned for all industries in Billerica during the third quarters of 2005 and 2015. In sum, the total wages paid by Billerica employers across all industries increased by \$27,678,672 (7.5%) during this time period. Similarly, the average weekly wage increased by 8.4% from \$1,234 in 2005 to \$1,338 in 2015.

Both the goods-producing domain and the service-providing domain saw increases in their aggregate annual and average weekly wages between 2005 and 2015. The goods-producing domain saw their total wages increase by 8.9%, while the total wages for the service-providing domain increased by 6.6%. Similarly, the average weekly wages for the goods-producing domain increased by 19.6%, while those for the service-providing domain increased by 2.8%.

Table 25: Total Wages and Average Weekly Wages by Industry: 2005 (Q3) and 2015 (Q3)

| Industry Total Wages (Q3) | | Percent Change | Average Weekly Wages (Q3) | | Percent Change | |
|---|---------------|-------------------|------------------------------|---------|-------------------|---------|
| | 2005 | 2015 | 2005-15 | 2005 | 2015 | 2005-15 |
| Goods-Producing Domain | \$145,989,989 | \$159,040,306 | 8.9 | \$1,388 | \$1,660 | 19.6 |
| Construction | \$31,121,189 | \$37,501,484 | 20.5 | \$1,049 | \$1,319 | 25.7 |
| Manufacturing | \$114,868,800 | \$121,477,826 | 5.8 | \$1,521 | \$1,807 | 18.8 |
| DUR- Durable Goods Manufacturing | \$94,829,248 | \$101,872,729 | 7.4 | \$1,539 | \$1,809 | 17.5 |
| NONDUR - Non Durable Goods Manufacturing | \$20,039,551 | \$19,605,097 | -2.2 | \$1,438 | \$1,793 | 24.7 |
| Service-Providing Domain | \$221,341,811 | \$235,970,166 | 6.6 | \$1,151 | \$1,183 | 2.8 |
| Trade, Transportation and Utilities | \$79,779,483 | \$56,428,723 | -29.3 | \$1,092 | \$952 | -12.8 |
| Wholesale Trade | \$49,506,616 | \$32,594,599 | -34.2 | \$1,652 | \$1,348 | -18.4 |
| Retail Trade | \$12,759,612 | \$10,323,179 | -19.1 | \$530 | \$468 | -11.7 |
| Transportation and Warehousing | \$17,514,255 | \$13,505,081 | -22.9 | \$920 | \$1,038 | 12.8 |
| Information | \$18,195,274 | \$16,651,893 | -8.5 | \$1,684 | \$1,819 | 8.0 |
| Financial Activities | \$2,536,576 | \$6,974,647 | 175.0 | \$699 | \$1,626 | 132.6 |
| Finance and Insurance | \$1,585,653 | \$2,521,491 | 59.0 | \$717 | \$1,276 | 78.0 |
| Real Estate and Rental and Leasing | \$950,924 | \$4,453,156 | 368.3 | \$671 | \$1,924 | 186.7 |
| Professional and Business Services | \$85,108,910 | \$103,380,098 | 21.5 | \$1,746 | \$1,744 | -0.1 |
| Professional and Technical Services | \$58,842,065 | \$77,732,793 | 32.1 | \$1,916 | \$1,974 | 3.0 |
| Mgt. of Companies and Enterprises | \$18,795,098 | \$14,398,989 | -23.4 | \$2,259 | \$1,871 | -17.2 |
| Administrative and Waste Services | \$7,471,747 | \$11,248,316 | 50.5 | \$769 | \$920 | 19.6 |
| Education and Health Services | \$13,926,130 | \$21,365,770 | 53.4 | \$675 | \$802 | 18.8 |
| Educational Services | \$7,365,379 | \$11,486,410 | 56.0 | \$652 | \$957 | 46.8 |
| Health Care and Social Assistance | \$6,560,751 | \$9,879,360 | 50.6 | \$704 | \$ 675 | -4.1 |
| Leisure and Hospitality | \$5,110,280 | \$7,214,821 | 41.2 | \$307 | \$362 | 17.9 |
| Arts, Entertainment, and Recreation | \$874,973 | \$1,503,690 | 71.9 | \$327 | \$343 | 4.9 |
| Accommodation and Food Services | \$4,235,307 | \$5,711,131 | 34.8 | \$304 | \$367 | 20.7 |
| Other Services | \$5,345,845 | \$6,502,451 | 21.6 | \$578 | \$759 | 31.3 |

| Public Administration | \$11,339,312 | \$17,451,763 | 53.9 | \$1,177 | \$1,412 | 20.0 |
|-----------------------|---------------|---------------|------|---------|---------|------|
| Total, All Industries | \$367,331,800 | \$395,010,472 | 7.5 | \$1,234 | \$1,338 | 8.4 |

Although the goods-producing domain in Billerica has declined as a proportion of all industries over the past twenty years, the manufacturing and construction industries continued to have among the highest wages for their workers. The total wages in the manufacturing industry increased by 5.8% between 2005 and 2015, while the construction industry experienced a 20.5% increase in total wages for the same time period. Average weekly wages also increased in the manufacturing (18.8%) and construction (25.7%) industries for the same period of time. In 2015 the average weekly wage in the manufacturing industry was \$1,807, while the average weekly wages for the construction industry was somewhat lower at \$1,319. Non Durable Goods Manufacturing experienced a 2.2% decline in total wages between 2005 (\$20,039,551) and 2015 (\$19,605,097), but had a 24.7% increase in average weekly wages from \$1,438 in 2005 to \$1,793 in 2015.

Within the service-providing domain, the Professional and Business Services and the Trade, Transportation and Utilities industries had the highest total wages at \$85.1 million and \$79.8 million respectively in 2005. While the total wages for the Professional and Business Services industry increased by 21.5% between 2005 and 2015, the total wages for the Trade, Transportation and Utilities sector decreased by 29.3% during the same time period. However, the average weekly wages actually decreased by 0.1% and 12.8% for these two industries. The highest average weekly wages in the service-providing domain in 2015 were in the Information (\$1,819), Professional and Business Services (\$1,744), Financial Activities (\$1,626) and Public Administration (\$1,412) sectors

J. Local Business Characteristics

As described above, the Executive Office of Labor and Workforce Development in their *ES-202 Reports* compiles detailed information about local businesses in Massachusetts. According to the 2015 (Q3) ES-202 report, there were 8,078 businesses operating in Billerica.

1. Number of Employees

According to the Executive Office of Labor and Workforce Development, there are on average 119,432 workers employed by these businesses. This equates to an average of 14.8 workers per business. More than 80% of businesses operating in Billerica have less than twenty employees and it is assumed that the majority of these businesses employ between one and five workers. Approximately 98.7% are privately-owned, with an array of single location businesses, headquarters and subsidiaries, and individual branches in Billerica.

2. Municipal Taxation and Spending

Compared to the other Greater Lowell communities, Billerica had the second highest amount (419.81 acres) of commercial land use in 2005, after Lowell. In terms of industrial land use, Billerica had the highest amount (1,071.70 acres), which represented nearly thirty percent (29.6%) of the entire industrial land in the region. This information is provided in the *Regional Strategic Plan* developed by NMCOG in 2011.

Billerica has a split tax rate with a much lower tax rate for residential properties. In Fiscal Year 2016, Billerica had the highest commercial and industrial property tax rate in the region (\$33.22). The high tax rate would appear to make Billerica a less attractive location for businesses and

industries looking to locate in the Greater Lowell area. However, businesses in the Greater Boston area have found the availability of land and buildings, as well as the town's location, critical factors in relocation to Billerica. The tax rates for the Greater Lowell communities are compared in Table 26 below.

Table 26: Fiscal Year 2016 Tax Rates by Class for the Greater Lowell region

| Community | Residential | Open Space | Commercial | Industrial | Personal Property |
|--------------|-------------|---------------|------------|------------|----------------------|
| Billerica | \$14.14 | \$0.00 | \$33.22 | \$33.22 | \$33.22 |
| Chelmsford | \$18.03 | \$0.00 | \$18.03 | \$18.03 | \$18.03 |
| Dracut | \$14.84 | \$0.00 | \$14.84 | \$14.84 | \$14.84 |
| Dunstable | \$16.55 | \$0.00 | \$16.55 | \$16.55 | \$16.55 |
| Lowell | \$15.16 | \$0.00 | \$31.22 | \$31.22 | \$31.22 |
| Pepperell | \$16.53 | \$0.00 | \$16.53 | \$16.53 | \$16.53 |
| Tewksbury | \$16.35 | \$0.00 | \$27.46 | \$27.46 | \$27.46 |
| Tyngsborough | \$17.56 | \$0.00 | \$17.56 | \$17.56 | \$17.56 |
| Westford | \$16.30 | \$0.00 | \$16.50 | \$16.50 | \$16.30 |

Rate per \$1,000 valuation. Source: Mass. Department of Revenue, Division of Local Services, 2016

According to the Massachusetts Department of Revenue's Division of Local Services, \$109,763,921 in property taxes was levied during Fiscal Year 2016 in Billerica. Approximately 55.6% of these taxes were obtained through residential properties, which had a total assessed value of more than \$4.3 billion. Commercial properties yielded nearly \$10.6 million in taxes, while industrial properties were levied at \$28,739,218, as illustrated in Table 27 below. In FY 2016, the Town generated an additional \$9,413,452 in revenue from personal property taxes.

Table 27: Fiscal Year 2016 Tax Classification

| Tax Classification | Assessed Values | Tax Levy | Tax Rate |
|--------------------|-----------------|---------------|----------|
| Residential | \$4,315,444,301 | \$61,020,382 | \$14.14 |
| Commercial | \$318,810,014 | \$10,590,869 | \$33.22 |
| Industrial | \$865,117,927 | \$28,739,218 | \$33.22 |
| Personal Property | \$283,367,000 | \$9,413,452 | \$33.22 |
| Total | \$5,782,739,242 | \$109,763,921 | |

Source: MA Department of Revenue Division of Local Services At a Glance Report, May 2016

Like every municipality in the Commonwealth that depends on state and federal funds to support local initiatives, Billerica's annual operating budgets have been affected by the national economic recession. Figure 8 on the next page illustrates the breakdown of municipal revenue sources for Fiscal Years 2010 and 2016. As the economy has begun to rebound from the national recession, an increase in state aid is shown in this timeframe. In FY 2010, just under seventy percent of the Town's budget (68.7%) came from levied taxes, while 18.7% of the budget came from state sources. Another 11.7% of the Town's budget came from local receipts, while 0.9% of the budget came from "other" sources.

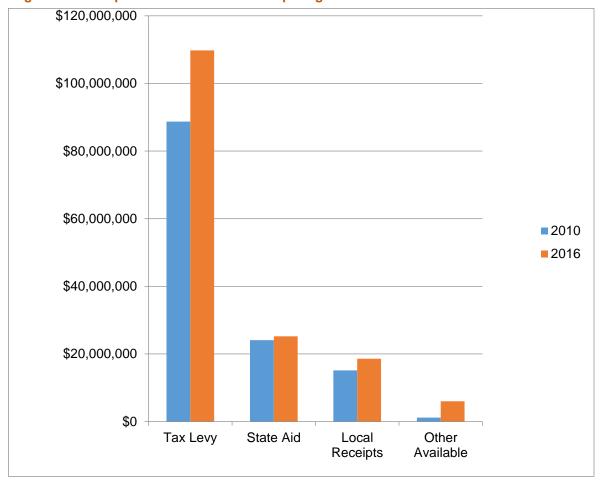


Figure 8: Municipal Revenue Sources Comparing FY 2010 and 2016

Source: MA Department of Revenue Division of Local Services. At a Glance Report

Municipal revenue from levied taxes increased by \$21,041,169 between FY 2010 and FY 2016, while State Aid increased by \$1,148,103. Local receipts and "other" sources of revenue increased by \$3,479,218 and \$4,819,944 respectively. In total, Billerica's municipal revenue sources increased by \$30,488,434 between FY 2010 and FY 2016.

Figure 9 on the following page shows municipal spending in Billerica for FY 2016. Education comprised just 43% of total expenditures, while public safety and public works projects comprised nearly 24%.

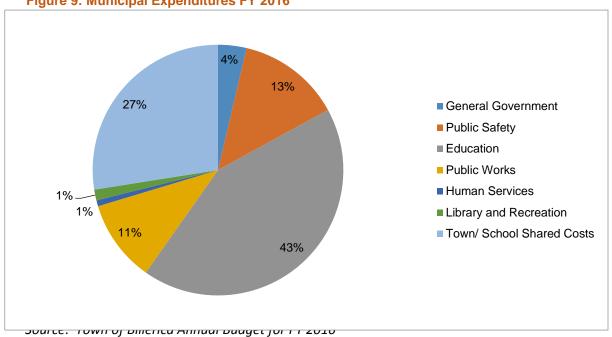


Figure 9: Municipal Expenditures FY 2016

III. Community Assets and Liabilities

In assessing the economic development potential of a community, it is important to determine what the assets and liabilities of a community are through the perspective of the community's residents and the business community. The Northern Middlesex Council of Governments (NMCOG) worked with the Town of Billerica to establish the Economic Development Self-Assessment Tool (EDSAT) project with Northeastern University and have two public forums for input on the business climate in Billerica. These forums provided an opportunity for town officials, business owners and economic development stakeholders to weigh in on the state of economic development in Billerica. This section focuses on the results from the EDSAT report and then builds upon the economic development recommendations outlined in the 2002 *Billerica Master Plan*. The Economic Development Goals and Strategies outlined at the end of this section are intended to be part of the 2016 *Billerica Master Plan*.

A. EDSAT Report

Based upon the EDSAT report, the Town of Billerica had several strengths that the Town should build upon and promote to prospective businesses and developers. The EDSAT Report identified several notable strengths in the *Important* Location Factors as follows:

- Critical Mass Firms: As a member community of NMCOG, Billerica is part of the Greater Lowell Comprehensive Economic Development Strategy (CEDS). Billerica targets specific industry types and sectors that overlap with both the regional and state economic development strategies. These industries include Alternative Energy, Travel and Tourism, Information Technology, Financial Services, Traditional Manufacturing, and Other Life Sciences (including Biotech and Healthcare).
- **Cross Marketing:** Billerica actively enlists the services of firms already located in its jurisdiction to assist in attracting new firms.
- Quality of Available Space: Billerica has a moderate level of experience with the
 redevelopment of contaminated or brownfield sites compared to the Comparison Group
 Municipalities (CGM), which has limited experience. Also only 0-10% of Billerica's
 percentage of available sites in its jurisdiction would be considered vacant or severely
 underutilized shopping centers compared to the 11-20% of the CGM.
- **Crime Rates:** The Town's crime rates across all listed categories are considerably lower than the CGM.
- **Housing:** The homeownership rate in Billerica is 76% or greater, which is higher that the CGM rate.
- **Local Schools:** The percentage of students in Billerica who tested proficient in English or Mathematics is 81% or greater, which is higher than the CGM average. The percentage of high school freshmen who normally graduate within five years is 95% or more compared to the CGM percentage of 81-94%.
- State and Local Business Incentives: Billerica is eligible for state investment tax credits, job training tax credits, research and development tax credits, low interest loans, loan guarantees, equity financing and workforce training grants and the Town takes great advantage of these programs. The Town participates in the State's Economic Development Incentive Program (EDIP) and offers Tax Increment Financing (TIF) options to businesses in order to foster job creation and stimulate business growth.

The EDSAT report then identified the following strengths under the *Less Important* Location Factors:

- Website: Initially, the Town's website appeared to be very comprehensive, but upon
 exploring it further, the majority of the links did not work. Assurances have been made
 that these issues will be addressed. The Town has ensured that all the links will be
 working and the website will provide ample information for businesses looking to locate
 in Billerica.
- Rail: Billerica has inter-city passenger rail service through the North Billerica stop, which
 is part of the Lowell-Boston commuter line. The Town also has freight rail service, which
 is uncommon in Massachusetts.

Within the EDSAT report, the Town of Billerica had several weaknesses that the Town should address to minimize challenges to successful development. Among the *Very Important* Location Factors were the following:

- **Timeliness of Approvals:** Billerica's approval times are excessive in comparison to the CGM. Since approvals in Billerica take a considerable amount of time, permitting is slowed down and the "time to market" for businesses is as well.
- Highway Access: Billerica is below the CGM in percentage of available sites for manufacturing that are within two miles of an entrance or exit to a limited-access major highway. Billerica is also below the CGM in percentage of available sites for general office space that is within two miles of an entrance or exit to a limited-access major highway.

The EDSAT report identified the following weaknesses under the *Important* Location Factors:

- **Physical Attractiveness:** Billerica weakly enforces codes and regulations on abandoned properties, abandoned vehicles and trash disposal. Billerica also has a higher percentage of vacant commercial and industrial space than the CGM.
- **Amenities:** Billerica does not have fast food restaurants, fine dining, day care or retail shops within one mile of existing development sites.
- Public Transit: Billerica is below the CGM in percentage of available retail trade, manufacturing sites, and general office space within a quarter mile of public bus or rail rapid transit.
- Citizen Participation in the Review Process: Abutters and organized neighborhood groups slow permitting processes in Billerica significantly, in spite of efforts by public officials to intervene.

The Dukakis Center then highlighted the factors most highly correlated with an increase in establishments for fifty Massachusetts municipalities between 2001 and 2011. According to their data, the most important factors were Economic Development Marketing, Timeliness of Approvals, Parking, Public Transit, Cross Marketing, Low Traffic Congestion, Fast Track Permitting and Site Availability. When reviewing Billerica's strengths, the three areas that are most prominent are Cross Marketing, Low Traffic Congestion and Site Availability. Similarly, when reviewing Billerica's weaknesses, the three most prominent areas were Timeliness of Approval, Public Transit and Fast Track Permitting.

Within the Conclusion section, the EDSAT report outlines Things to Think About as follows:

- Approval Process Billerica's approval process for site plan reviews and zoning
 variances is slow for new projects. The review process is also slow for new projects in
 regards to the appeal process, site plan review and zoning variance. Billerica could gain
 an advantage if it helped reduce the "time to market" by consolidating and centralizing
 the permitting process thus speeding it up.
- **Economic Development Strategy** Billerica should construct a strong, realistic economic development plan that includes transit-oriented development and enlist local business people as volunteer advisors and marketing partners.
- Billerica has many good things going for it:
 - Low crime rates and good public schools
 - A high homeownership rate
 - Exceptional marketing follow-up strategies
- Billerica could be better positioned to attract business investment and jobs by:
 - Streamlining permitting review processes
 - Making better use of the public transit assets

In conclusion, the EDSAT report recognized that Billerica is "a town on the rise" and that the Town Manager and a network of dedicated development professionals have been involved in a number of promising planning and development exercises. Within the past five years, Billerica has attracted several powerhouse companies, such as E Ink, Raytheon, GE Measurement and Control Solutions and Avaya, Inc. The overall recommendations were as follows:

- Create more timely approval and permitting processes in the interest of speeding up the "time to market (high);
- Enforce codes and regulations on abandoned property more vigorously, and make a strong effort to fill vacant commercial and industrial properties (medium); and
- Encourage construction of amenities near development sites and consider transitoriented development planning near the North Billerica commuter rail stop.

The EDSAT report concluded that Billerica has "a strong community economic development office charged with carrying out the Town's economic development and industrial attraction efforts". The report recognized that Billerica was updating its 2002 Master Plan and hoped that the EDSAT results would be part of that updated document. The Core Strengths of the community were identified as follow:

- An up-to-date development strategy within its economic development plan;
- Good job targeting specific industry types/sectors: Alternative Energy, Traditional Manufacturing and Life Sciences, including Biotech and Health Care:
- Excellent job enlisting the service of existing businesses to attract new businesses though a cross-marketing effort;
- Aggressive use of state business incentives to attract private businesses and investment;
- Available space is of high quality and moderate experience with the redevelopment of contaminated and brownfield sites;
- Family-oriented community with low crime rates, high home ownership rates and high quality school system;
- Strong freight and commuter rail connections with unlimited potential to further develop the North Billerica commuter rail stop as a community asset; and

 Exceptional marketing follow-up strategies, including an early intervention system to address concerns expressed by local businesses.

The EDSAT report also summarized the areas of improvement that need to be addressed by the Town. Chief among these areas of improvement was Billerica's permit approval process. By consolidating and centralizing the permitting process, the Town could reduce the "time to market" for local businesses. Suggestions to accomplish this include having a single presentation before all the relevant permitting boards and commissions, providing an approval flowchart and checklist to interested developers and providing a handbook to prospective developers. Billerica could also pre-permit certain districts for development and incorporate "fast track" permitting into the Town's marketing strategy. Providing assistance with state and federal permitting and enhanced code enforcement could also improve this process. Other suggested areas of improvement included:

- Physical Attractiveness: Billerica should do what it can to step up code enforcement and fill its vacant commercial and industrial space either with new business tenants or through adaptive reuse.
- Amenities near development sites and public transit: Concentrating living, shopping, entertainment and employment opportunities near development sites and public transit will enhance those sites. Utilizing "transit-oriented development" initiatives will make shoppers less reliant on cars to commute or conduct errands.

B. Economic Development Goals and Strategies

The Town of Billerica has moved its economic development agenda forward since the *Billerica Master Plan* was completed in 2002. The Town's active participation in the State's Economic Development Incentive Program (EDIP) has resulted in several Tax Incentive Financing (TIF) agreements, which has brought more jobs and tax revenues to the community. The willingness of the Board of Selectmen and Town Manager to reach out to the business community has the potential for more expansion of existing businesses and the attraction of new businesses. The establishment of increased staffing in the form of the Community Development Director, working in tandem with the Chief Assessor and the Planning Director, has increased the Town's capacity to be proactive in attracting additional private investment. Notwithstanding the positive efforts that have taken place over the last fourteen years, there are new opportunities available to the community that would balance economic growth and the quality of life that Billerica residents have appreciated for many years.

In the *Billerica Master Plan*, four goals were established, which focused on attracting new businesses to maintain a stable tax base, working with the existing business community to maintain the Town's economic vitality, establishing an economic development policy designed to create and retain good jobs for Billerica residents and encouraging the growth of small shops within existing retail space. In order to achieve those goals, ten objectives were outlined:

- Develop a list of businesses located in town including information regarding type of business, type of employees, expansion potential and site requirements;
- Develop a list of the type of businesses the Town would like to attract;
- Schedule company tours with local businesses;
- Explore the possibility of tax incentives for expanding local businesses;

- Work through the School Department to prepare students for the requirements of local jobs;
- Work through the School Department to promote job opportunities in local businesses to residents;
- Ensure that there are a variety of housing types available to future workers of all levels;
- Schedule company tours with local retail shops to determine if there is anything that the Town can do to help the businesses succeed;
- Work with the local Chamber of Commerce and the State to develop a list of the retail businesses that are already located in Town, including information regarding type of business, type of employees, expansion potential, and site requirements; and
- Explore the possibility of a small business loan pool to assist small retail businesses that create or retain jobs as they expand.

For the purposes of this document, the Goals and Strategies have been developed based upon the EDSAT Study and forums, as well as some of the initial land use work in the 2016 Master Plan. In general, the Goals and Strategies build upon the strengths and weaknesses identified in the EDSAT Study. Outlined on the next page are the ten economic development Goals and their associated strategies. Additional economic development recommendations will be provided at the end of the Economic Development Strategy.

1. Streamline the Permitting Process and Assist Local Businesses with other permits.

- a. Ensure that industrial and commercial permits are issued within 180 days once a complete application package has been submitted.
- b. Develop a permitting handbook that includes an approval flowchart and check list for the permitting process and that can be accessible through the web site
- c. Designate the Community Development Director to assist local businesses through the local, state and federal permitting processes.
- d. Explore more opportunities for expedited permitting, such as through the Chapter 43D program or streamlined site plan review.
- e. Reorganize and consolidate permitting and land use departments.

2. Promote better and higher use of the Town's commercial centers and industrial clusters.

- a. Identify priority areas within the commercial centers that can be designated for mixed-use development.
- Build upon the existing industrial clusters to attract technological, research and development, laboratory and value-added light industry along the Route 3 corridor.
- c. Identify needed amenities, such as restaurants, hotels, day care, workforce housing and retail shops, which can be targeted for the Middlesex Turnpike Commercial area and other appropriately zoned areas.

3. Maintain current Economic Development marketing program that includes a prominent place on the Town's web site.

a. Reach out to local businesses to determine what their needs are and how the Town can assist them.

- b. Follow up with those businesses that leave the community to determine whether there was anything the Town could have done to keep them in town.
- c. Develop an education and outreach program to attract new businesses to the community.
- d. Identify available properties for development on the Town's web site and social media venues and make this list available to the regional economic development organizations.

4. Identify the target industries that would fit within the community.

- a. Review Billerica's economic data and determine which industries would fit within the town.
- Work with UMass Lowell to determine whether research and development space could be developed in Billerica and provide space for spin-off incubator businesses.

5. Focus on the development and redevelopment of commercial and industrial properties to create local employment opportunities and tax revenues.

- a. Develop a list of available commercial and industrial properties.
- Work with the Massachusetts Office of Business Development,
 MassDevelopment and other state agencies to identify potential businesses for these properties.
- c. Reuse former mill space with a focus on transit oriented development and reuse brownfield properties to create new economic development opportunities.

6. Utilize the Workforce Development system to address the training needs of Billerica businesses.

- a. Work with the Greater Lowell Workforce Development Board (GLWDB) to identify training programs for local businesses that can enhance the skills of their workforce.
- b. Utilize the resources of Billerica Memorial High School and Shawsheen Tech, the GLWDB, Middlesex Community College and UMass Lowell to address the skill training needs of Billerica businesses.
- c. Work in conjunction with Middlesex Community College and UMass Lowell to develop special training programs for particular industry clusters.

7. Work with local and regional business organizations to promote collaboration with the local business community.

- a. Partner with the Greater Lowell Chamber of Commerce, the Middlesex 3 Coalition, the Burlington Area Chamber of Commerce and the Billerica Alliance to host programs in Billerica that address the needs of the local business community.
- b. Reach out to other business organizations, including various trade organizations, to identify the needs of businesses in relocating to Billerica.

8. Identify federal, state, and other funding resources to address the community's economic development needs.

- a. Continue to utilize the Economic Development Incentive Program (EDIP), Chapter 43D, the MassWorks program and the Commonwealth Community Compact to support commercial and industrial development.
- b. Work with expanding local businesses to identify funding resources to address their needs.
- c. Continue to build upon the Life Science industry cluster and identify funding from the Massachusetts Life Sciences Center.
- d. Link business infrastructure and economic development with private and public funding.

9. Build the Organizational Capacity to support an active Economic Development program

- a. Maintain staff support for the Town's Economic Development Program and leverage other resources to implement these recommendations.
- b. Provide the necessary training for Town staff in assuming these roles.
- c. Work in conjunction with other regional economic development organizations, such as the Northern Middlesex Council of Governments, Middlesex 3 Coalition and the Greater Lowell Chamber of Commerce.
- d. Participate on the Greater Lowell Comprehensive Economic Development Strategy (CEDS) Committee to become aware of regional economic development trends that could benefit Billerica.

10. Develop Additional Housing Options for local businesses

- a. Build upon the housing program established through Billerica's Housing Production Plan to address unmet housing needs identified by local businesses.
- b. Develop appropriate housing for young workers and their small families, as well as multi-unit housing for older workers.

IV. Access and Infrastructure Analysis

This section examines the existing sewer, water supply, utilities and transportation infrastructure in Billerica. Physical infrastructure is a critical component of an area's development capacity and long-term attractiveness to private investment and business growth. Through an understanding of the current infrastructure system, the infrastructure "gaps" can be readily identified so that initiatives can be undertaken to secure federal, state or local funds to address those infrastructure "gaps". This summary is based upon a review of previous documents, including the *Greater Lowell Comprehensive Economic Development Strategy (CEDS) for 2009-2013*, the *Regional Strategic Plan for Greater Lowell* (2011), and the *Town of Billerica Housing Production Plan for 2015-2019*, as well as more recent information provided through the Town's web site and Annual Reports.

1. Sewer Capacity and Wastewater Management

The Town is in the process of completing an aggressive \$15 million sewer expansion program. The Town's public sewer system covers 75% of the community, up from 70% in 2004. The wastewater collection system is comprised of 185 miles of sewer ranging from 8 inch to 45 inch gravity lines and force mains. The Town operates a Grade 7 Wastewater Treatment Plan with design capacity of 5.5 million gallons per day (MGD). Billerica is making \$2 million in upgrades to the Shawsheen River Pump Station (aka George Brown Street Pump Station). In addition, the Letchworth Avenue Wastewater Treatment Facility just completed a CoMag process in an effort to reduce phosphorous from the wastewater that enters the Concord River. The plant treated 1,397.3 gallons of wastewater in 2015 and the average daily flow at the plant was approximately 3.8 MGD, a significant increase (>2 MGD) from 2002 levels. There are twenty-five (25) pumping stations located throughout town.

The Town has been fairly aggressive in expanding the sewer system in order to serve the entire community. The following sewer contracts have been completed or recently initiated:

- Contract 34B 5.9 miles of sewer and 1.1 miles of water infrastructure. 370 homes in East Billerica to be serviced. Substantial completion in Summer 2015. Punch list.
- Salem Road Infrastructure 2,600' sewer, 2,800' water and 1,000' drain. Sidewalk and signal. Completion date of June 2017.
- Rangeway Road (Aspen Apartments) Private sewer extension. 18 properties to be serviced. Completed in November 2016 with final paving in 2017.

Sewer contract 35 was approved by Town Meeting for the East Billerica area. Sewer contract 36 for \$14 million has been designed for the Route 129/Andover Road area and will be implemented in the Spring 2017. The Town spends \$20-25 million every two years on sewer expansion projects. The completion date is anticipated to be 2035 after spending an additional \$140 million. The Town actively uses an Enterprise Fund to plan for the expansion of the sewer system. Several other areas to be addressed include the High School area and Middlesex Corporate Park. While the treatment plant is fully built out, Waterline Industries was awarded a \$4 million contract for Phase 2 renovations at the plant in June 2015, which included the rehabilitation of primary clarifiers and aeration tanks, the installation of a second Fournier Press and replacement of a sludge conveyor, primary sludge pumps and supporting electrical equipment and piping.

2. Public Water Supplies

The Concord River is the sole source of drinking water for the Town of Billerica, with public water available to the entire Town. The first Water Treatment Plant was built in 1955 with a capacity of 3.5 million gallons per day (MGD) with expansion capacity up to 7 MGD. By 1967 the plant was expanded to its intended maximum capacity. With more extensive growth in Billerica, the plant's capacity was increased to 14 MGD in 1976. Due to problems with the existing water treatment plant, the Town broke ground in 2003 on a new \$25 million water treatment plant located off Treble Cove Road, with a capacity of 14 million gallons per day (gpd). The new water treatment plant was in response to numerous problems with the existing plant not being able to meet current water quality standards. The new plant did not increase the amount of water withdrawn from the Concord River; however it was designed to improve the quality of the drinking water.

The Town has MassDEP approval to withdraw 5.26 million gdp on an annual average. The town's annual water consumption in FY 15 was approximately 1.784 billion gallons, with an average of 4.89 gallons of water used per day. The highest daily pumping occurred on the 27th of May 2017 when 8.79 million gallons were produced. The water treatment plant has benefited from assistance from National Grid through the installation of 57 Variable Frequency Drives (VFD) through ICS Corporation at a cost of \$95,000 by National Grid. The installation of these VFDs has resulted in an annual electricity savings of \$46,400 per year. Major water projects in the community have included the following:

- Christina Avenue, Dee Dee Circle 1 mile of water main replacement. Water work completed in 2015, paving completed in 2016.
- Lupine Lane
- Poe Road 568 feet of six inch ductile water main was replaced
- Lamont and Ivanhoe Streets mains were looped to alleviate chronic water quality problems
- Rio Vista Street a new twelve inch ductile iron water main was installed (3,567 feet of pipe)
- Kenwood Street 525 feet of new ten inch ductile iron water main was installed by Defelice Corp from Rio Vista Street to Brandon Street.
- Governor Carver Road a new eight inch main was installed from Governor Hutchinson Road looping to Andover Road.

The Water Department completed its 26th year of their Backflow Prevention Program in FY 2015. Thirty-five properties were survey or resurveyed for cross connections. A combined total of 2,248 backflow prevention device tests were performed.

3. Utilities and Telecommunications

Billerica is well served in terms of utilities and telecommunications. Gas and electricity are provided by National Grid, while Comcast provides cable and cable internet services to residents and business owners in town. Table 28 depicts the pricing scheme for energy delivery services. These service rates are for small commercial and industrial customers with average usage less than 10,000 kWh per month or 200 kW of demand.

Table 28: National Grid Rates for General Delivery Service 2016

| | Rate |
|--------------------------------------|---------------|
| Customer Charge | \$10.00/month |
| Distribution Charge First 2,000 kWh* | 4.912 ¢/kWh |
| Transmission Charge | 2.401¢/kWh |
| Transition Charge | 0.042¢/kWh |
| Energy Efficiency Charge | 0.875¢/kWh |
| Renewables Charge | 0.050¢/kWh |

^{*} Includes: Basic Service Adjustment Factor (0.12¢), Residential Assistance Adjustment Factor 0.557¢, Storm Recovery Adjustment Factor 0.039¢, Storm Fund Replenishment Adjustment Factor 0.231¢, Pension/PBOP Adjustment Factor 0.256¢, Revenue Decoupling Mechanism Factor 0.002¢, Net CapEx Factor 0.202¢ Attorney General Consultant Expenses Factor 0.002¢ and Solar Cost Adjustment Factor 0.011¢.

Source: National Grid, 2016

Table 29 illustrates Demand Service rates designed for commercial and industrial customers with average use exceeding 10,000 kWh per month and demand not exceeding 200 kW.

Table 29: National Grid Rates for Demand Service 2016

| | Rate |
|-----------------------------|---------------|
| Customer Charge | \$25.00/month |
| Distribution Demand Charge | \$8.50/kWh |
| Distribution Energy Charge* | 1.152¢/kWh |
| Transmission Charge | 2.372¢/kWh |
| Transition Energy Charge | 0.031¢/kWh |
| Energy Efficiency Charge | 0.0875¢/kWh |
| Renewables Charge | 0.050¢/kWh |

^{*} Includes: Basic Service Adjustment Factor (0.12¢), Residential Assistance Adjustment Factor 0.557¢, Storm Recovery Adjustment Factor 0.039¢, Storm Fund Replenishment Adjustment Factor 0.231¢, Pension/PBOP Adjustment Factor 0.256¢, Revenue Decoupling Mechanism Factor 0.002¢, Net CapEx Factor 0.202¢, Attorney General Consultant Expenses Factor 0.002¢ and Solar Cost Adjustment Factor 0.011¢.

Source: National Grid. 2016

For large commercial and industrial customers with demand greater than 200 kW, energy services are charged on the basis of time-of use. The fee structure for time-of-use service is illustrated in Table 30 below. Fees differ depending on whether energy is consumed during peak or non-peak times. Peak hours are from 8:00 a.m. to 9:00 p.m. daily on Monday through Friday, excluding holidays. Off-Peak hours are from 9:00 p.m. to 8:00 a.m. daily Monday through Friday, and all day on Saturdays, Sundays, and holidays.

Table 30: Time of Use Fee Structure

| | Rate |
|----------------------------|----------------|
| Customer Charge | \$223.00/month |
| Distribution Demand Charge | \$5.75/kW |

| Distribution Charge Peak Hours* | 1.289¢/kWh |
|-------------------------------------|------------|
| Distribution Charge Off-Peak Hours* | 0.536¢/kWh |
| Transmission Charge | 2.161¢/kWh |
| Transition Energy Charge | 0.023¢/kWh |
| Energy Efficiency Charge | 0.875¢/kWh |
| Renewables Charge | 0.050¢/kWh |

^{*} Includes: Basic Service Adjustment Factor (0.12¢), Residential Assistance Adjustment Factor 0.557¢, Storm Recovery Adjustment Factor 0.039¢, Storm Fund Replenishment Adjustment Factor 0.231¢, Pension/PBOP Adjustment Factor 0.256¢, Revenue Decoupling Mechanism Factor 0.002¢, Net CapEx Factor 0.202¢, Attorney General Consultant Expenses Factor 0.002¢ and Solar Cost Adjustment Factor 0.011¢.

Source: National Grid, 2016

4. Transportation Access

Billerica is served by a regional transportation network comprised of several modes, including automobiles, commuter rail, buses and bicycles. Access to the regional highway network is a major asset for Billerica businesses. Route 3 has three (3) exits in Billerica – Concord Road, Treble Cove Road and Route 129. I-495 is one exit away from the Route 129 exit on Route 3, as is the Lowell Connector. Middlesex Turnpike and Route 3A provide additional access to industrial, commercial and residential neighborhoods throughout the community. There are 227.68 centerline miles (453.59 lane miles) of roadway, ranging from numbered state roads such as Routes 3, 3A, 4 and 129 to local roads. The majority of the roads in Billerica are local, urban roads.

MBTA commuter rail service to Lowell and Boston is available at the North Billerica commuter rail station, which contains 541 surface parking spaces. Twenty-one (21) round trips are provided on weekdays with eight (8) round trips on Saturday, Sunday and holidays. The cost of a one-way ticket to Boston from North Billerica is \$9.25, while a one-way ticket to Lowell costs \$2.75. Approximately 540,000 passenger trips were served to and from the North Billerica station in 2015. The Lowell Regional Transit Authority (LRTA) manages the North Billerica commuter rail station under a cooperative agreement with the Town of Billerica and the MBTA. Additional train service is available at the Gallagher Intermodal Transportation Center in Lowell.

The LRTA provides a general public fixed-route bus service to Billerica through three routes: #03 South Lowell/North Billerica, #13 Billerica Route along Route 3A and #14 Billerica/Lahey Clinic Route:

- Route #03 operates between the Kennedy Center Bus Hub in Lowell and the North Billerica commuter rail station. There are sixteen (16) daily roundtrips from Monday through Saturday. Buses initially depart at 6:05 A.M. in Lowell and make their final departure at 6:05 P.M. in North Billerica on weekdays.
- Route #13 operates along Route 3A between Lowell and the Billerica/Burlington town line. There are thirteen (13) round trips each weekday and ten (10) round trips on Saturday. The first bus leaves Billerica at 6:30 A.M. and the last bus leaves Lowell at 6:30 P.M.

 Route #14 connects Lowell and the Lahey Clinic in Burlington by operating along routes 129, 3A, Concord Road and Middlesex Turnpike in Billerica. There are fourteen (14) round trips per day on weekdays and ten (10) round trips on Saturdays. The first bus leaves Lowell at 6:00 A.M. and the last bus leaves Lahey Clinic at 8:00 P.M.

A full fare within Billerica is \$1.00 and \$1.50 between Billerica and surrounding communities. Senior citizens and disabled passengers pay half fare. Billerica had an estimated 322,500 fixed- route passenger trips in FY 2015. The LRTA also links its service with MBTA service at the Billerica/Burlington town line, the Oracle Technologies campus in Bedford and the Burlington Mall. The fixed-route service is provided by Lowell Transportation Management, Inc. under contract to the LRTA.

In addition to these fixed-route services, the LRTA also provides a demand responsive paratransit service known as the "Road Runner". This service consists of dial-a-ride and prescheduled paratransit services that are available to Billerica residents sixty years old and older, or to residents who have a disability. This service is provided by the LRTA central dispatch in Lowell and is available with a 48 hour advanced reservation or a 24 hour advanced reservation for ADA clients. Road Runner clients must be registered with the Road Runner prior to their first trip reservation. An in-town service is available Monday through Saturday, 8am to 3pm. Out-of-town services are available to Chelmsford on Mondays, Lowell on Tuesdays, Tewksbury on Wednesdays, and Burlington Mall and Lahey Clinic on Fridays. Road Runner costs \$1.00 in-town and \$1.50 out-of-town each-way.

A second senior demand response transportation is provided to the town residents through the Billerica Council on Aging. The COA operates two 12 passenger vans provided by the Lowell Regional Transit Authority. The service is available Monday through Friday 8:00 am – 3:30 pm, and requires a one-day advance reservation. The cost of a one-way trip is \$2.00 in-town and \$3.00 out of town.

The Middlesex 3 TMA was created as an affiliate organization of the Middlesex 3 Coalition. The TMA region includes the participating communities of Billerica, Bedford, Burlington, Chelmsford, Lowell, Tewksbury, Tyngsborough and Westford. The TMA was formed to:

- Create a community consciousness regarding transportation and the need to reduce traffic congestion and improve air quality;
- Provide leadership in combining area resources to maximize mobility within and access to the communities;
- Coordinate a network of transportation resources to effectively move people;
- Offer direct services to business partners that encourage employees to choose not to drive alone to work;
- Enhance the area's economic vitality while minimizing the impact of development; and
- Make the most efficient use of nearby public transportation services.

The TMA addresses a variety of needs, including reverse commuting from the Boston/Cambridge area to businesses in the TMA communities. Currently, the companies participating in this program include MITRE, E Ink, the Crosby Corporate Center and iRobot. The TMA principally provides shuttle service from these businesses to and from Alewife Station in Arlington. In the case of E Ink, a Billerica firm, shuttle service is also provided from

Haymarket Station and to Sullivan Square and JFK/UMass Station. The TMA provides a means to address transportation barriers for Boston/Cambridge residents and to provide skilled workers for these TMA companies. The Middlesex TMA is managed by TransAction Associates.

V. Commercial and Industrial Activity

This section presents the Town's commercial and industrial zoning districts, as well as the Mill Conversion and Reuse Overlay District and the recently adopted Planned Unit Development (PUD) District. The commercial and building permits issued for the past ten years are also examined. The Town's effective utilization of development and tax incentives and enhanced expedited permitting demonstrates how the community has reached out to the private sector to encourage private investment. Billerica is a community that strives to strike a balance between economic growth and quality of life. During the past ten years, the Town has examined its development options in the Town Center, along Middlesex Turnpike, in North Billerica and at the three interchanges along Route 3. Based upon this study effort and the various zoning changes and initiatives, the Town has identified examines commercial and industrial zoning and permit trends in order to gauge the level of economic development activity occurring in Billerica. Following the permit analysis, a summary of some of the economic development incentives that the town promotes is provided.

A. Zoning

As illustrated in Table 31, Billerica's Zoning Bylaw provides for three commercial zoning districts and a single industrial zoning district. These zoning districts account for 3,570.4 acres of land or 21.7% of the town's land area. The Industrial District comprises 87% of the land area for these commercial and zoning districts. Map 1 on the following page shows the commercial and industrial zoning districts in Billerica.

Table 31: Commercial and Industrial Zoning Districts

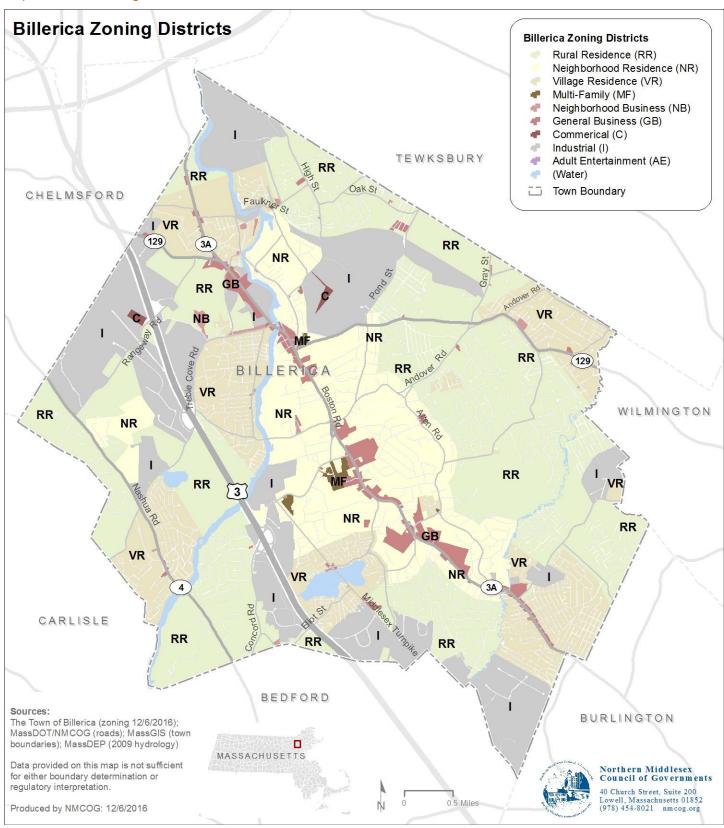
| 54.9 (.33) |
|-----------------|
| |
| 380.2 (2.31) |
| 22.1 (.13) |
| 3,113.2 (18.93) |
| 3,570.4 (21.7) |
| |

Source: NMCOG GIS

1. Commercial Districts

The Commercial Districts are located throughout the town, but differ in terms of their location. The General Business (GB) and Commercial (C) Districts are principally located along the Route 3A corridor and allow for a mix of office and retail uses. The Neighborhood Business (NB) District is intended to accommodate small retail and service establishments and can be found in various neighborhoods throughout the town. As shown in Map 1 on the following page,

Map 1: Billerica Zoning Districts



the General Business and Neighborhood Districts appear to be interspersed along Route 3A and in the various neighborhoods throughout the town. Each commercial district has different allowed uses as outlined in Table 32.

Table 32: Allowed Uses Within Commercial Districts

| Neighborhood Pusiness | |
|--|--|
| Neighborhood Business | |
| Agricultural (uses permitted by right in the Multifamily Residence District) | Educational (uses permitted by right in the Village Residence District) |
| Bank, Loan Agency, Offices, Personal Services, Tradesman's shop | Governmental (uses permitted by right in the Multifamily Residence District) |
| Funeral Home | Recreational – Antique show, bowling alley, conservation, driving range, fairs and bazaars, indoor amusement, non-municipal athletics, other recreational events and swimming pool, non-accessory. |
| Research Facility | Religious (uses permitted by right in the Village Residence District) |
| Christmas Tree Sales | Residential (uses permitted by right in the Village Residence District) |
| Garaging of Light Commercial Vehicles (one or two) | Service (uses permitted by right in the Village Residence District) |
| Repair Shop | Utility (uses permitted by right in the Village Residence District) |
| Retail Store | |

| General Business | |
|--|--|
| Agricultural (all uses permitted by right in the Multifamily Residence District) | Governmental (all uses permitted by right in the Village Residence District) |
| Business (all uses permitted by right in the Neighborhood Business District) | Recreational (all uses permitted by right in the Neighborhood Business District) |
| Pet Shop | Religious (all uses permitted by right in the Village Residence District) |
| Veterinarian | Residential (all uses permitted by right in the Neighborhood Business District) |
| Commercial (all uses permitted by right in the Neighborhood Business District) | Service (all uses permitted by right in the Village Residence District) |
| Garaging or parking of one heavy commercial vehicle | Utility (all uses permitted by right in the Village Residence District) |
| Educational (all uses permitted by right in the Village Residence District) | |

| Commercial | |
|--|---|
| Agricultural (all uses permitted by right in the Multifamily Residence District) | Educational (all uses permitted by right in the Village Residence District) |

| Business – Loan agency, office, pet shop, personal services and tradesman's shop | Governmental (all uses permitted by right in the Village Residence District) |
|---|---|
| Contractor's Yard | Recreational (all uses permitted by right in the Neighborhood Business District) |
| Garaging or parking of one or more light commercial vehicles and/or one or more heavy commercial vehicles | Religious all uses permitted by right in the Village Residence District) |
| Greenhouse that is not agricultural | Residential – Temporary manufactured or mobile home while a residence is being rebuilt. |
| Open air sales | Service (all uses permitted by right in the Village Residence District) |
| Truck washing | Utility (all uses permitted by right in the Village Residence District) |

Uses allowed by special permit within these commercial districts are outlined below in Table 33:

Table 33: Uses Allowed by Special Permit Within Commercial Districts

| Neighborhood Business | |
|--|--|
| Accessory Uses to Scientific Development | Riding stable (uses allowed by special permit in the Village Residence District) |
| Garaging or parking of one heavy Commercial vehicle | Swimming pool (uses allowed by special permit in the Village Residence District) |
| Motel or Hotel | Residential (uses allowed by special permit in the Village Residence District) |
| Restaurant | Service (uses allowed by special permit in the Village Residence District) |
| Philanthropic (uses allowed by special permit in the Multifamily Residence District) | Utility (uses allowed by special permit in the Village Residence District) |
| Golf course (as allowed by special permit in the Village Residence District) | |

| General Business | |
|---|--|
| Business (uses allowed by special permit in the Neighborhood Business District) | Fast-order food establishment |
| Dog kennel for three or more dogs | Light manufacturing |
| Dog daycare and dog training | Wholesale use |
| Auto parking, repair, sales, service, and washing | Philanthropic (all uses allowed by special permit in the Village Residence District) |
| Drive-up and drive-through restaurant | Recreational (uses allowed by special permit in the Neighborhood Business District) |
| Fully automated business | Residential (all uses allowed by special permit in the Neighborhood Business District) |
| Garden shop, including open air sale of garden-related equipment and supplies | Service (all uses allowed by special permit in the Village Residence District) |

| Open air sales | Utility (all uses allowed by special permit in the Village Residence District) |
|----------------|--|
| Supermarket | |

| Commercial | |
|--|--|
| Accessory uses to scientific research or development consistent with Neighborhood Business District required findings. | Philanthropic (all uses allowed by special permit in the Village Residence District). |
| Research facilities consistent with Neighborhood Business District required findings. | Golf course consistent with Village Residence District required findings. |
| Auto parking, repair, sales, service and washing consistent with General Business District required findings. | Outdoor recreation consistent with General Business District required findings. |
| Drive-up and drive-through restaurant consistent with General Business District required findings. | Riding stable consistent with General Business District required findings. |
| Fully automated business consistent with General Business District required findings. | Assistant living residence consistent with Neighborhood Business District required findings. |
| Truck body work, leasing, repair, sales and service. | Nursing home consistent with Neighborhood Business District required findings. |
| Fast-order food establishment consistent with General Business District required findings. | Service (all uses allowed by special permit in the Village Residence District). |
| Industrial (all uses allowed by special permit in the General Business or Commercial Districts). | Utility (all uses allowed by special permit in the Village Residence District). |

2. Industrial District

The Industrial District (I) is found principally along Route 3 and Middlesex Turnpike, as well as in North Billerica along Billerica Avenue, Rogers Street and Rangeway Road. As mentioned previously, the Industrial (I) District comprises nearly one-fifth of the town's land area and has received the major focus in terms of economic development in the community. Access from the three interchanges along Route 3 and Middlesex Turnpike make it convenient for businesses to locate in these areas, both for their employees and customers. Outlined below in Table 34 are the permitted uses within the Industrial (I) District.

Table 34: Permitted Uses Within the Industrial District

| Industrial | |
|---|---|
| Agriculture (all uses permitted by right in the Multi-Family District). | Educational (all uses permitted by right in the Village Residence District) |
| Business – loan agency, personal services, tradesman's shop and offices | Governmental (all uses permitted by right in the Village Residence District) |
| Garaging or parking of one or more light commercial vehicles and/or one or more heavy commercial vehicles | Industrial – Light manufacturing |
| Greenhouse (non-agricultural) | Recreational – Antique shows, bowling alley, conservation, driving range, fairs and bazaars, non-municipal athletics, other recreational events and |

| | swimming pool, non-accessory to residence. |
|-------------------|---|
| Truck washing | Service (all uses permitted by right in the Village Residence District) |
| Contractor's yard | Utility (all uses permitted by right in the Village Residence District) |

Uses allowed by special permit in the Industrial (I) District are listed on the next page in Table 35.

Table 35: Uses Allowed by Special Permit Within the Industrial District

| Industrial 1 | |
|--|---|
| Business –Bank, dog daycare and dog training | Automotive sales and services |
| Fully automated business consistent with General Business District required findings. | Wholesale use |
| Motel or hotel consistent with Neighborhood Business District required findings. | Recreational (all uses allowed by special permit in the Commercial District) |
| Repair shop | Residential (all uses allowed by special permit in the Commercial District) |
| Restaurant | Service (all uses allowed by special permit in the Village Residence District) |
| Fast-order food establishment consistent with General Business District required findings. | Utility (all uses allowed by special permit in the Village Residence District). |
| Accessory retail and automotive services | |

The dimensional requirements for the commercial and industrial districts in Billerica are outlined below in Table 36:

Table 36: Table of Standard Dimensional Requirements

| | Neighborhood Business (NB) | General Business (GB) | Commercial (C) | Industrial (I) |
|--------------------------------|--|--|--|--|
| Minimum Lot Area (square feet) | 25,000 | 25,000 | 25,000 | 60,000 |
| Minimum Lot Frontage (feet) | 125 | 125 | 125 | 150 |
| Minimum Front Yard (feet) | 50 | 50 | 50 | 100 |
| Minimum Side Yard (feet) | 25 | 25 | 25 | 35 |
| Minimum Rear Yard (feet) | 35 | 35 | 35 | 50 |
| Maximum Lot Coverage (%) | 25 | 25 | 25 | 50 |
| Maximum Height (feet) | 35 (2.5 stories) | 45 (3 stories) | 45 (3 stories) | 45 above grade plain (roof surface not to exceed 55 above) |
| Green Strip (feet) | 10 per 75% of the building perimeter | 10 per 75% of the building perimeter | 10 per 75% of the building perimeter | 20 per 75% of the building perimeter |
| Green Space (%) | 25 | 25 | 25 | 25 |

3. Special and Overlay Districts

Within the Billerica Zoning Bylaw, there are five (5) Special Zoning Districts – Refuse Transfer Station (RT), Private & Public Dumping Ground (DG), Alcohol & Drug Rehabilitation Hospital (AD), Composting (CP) and Adult Entertainment (AE). Additionally, there are nine (9) Overlay Districts – Flood Plain (FP), Historic (H), Residential Cluster (RC), Townhouse (TH), Elderly Housing (EH), Self-Service (SS), Mill Conversion and Reuse (MCROD), Medical Marijuana and Planned Unit Development (PUD). For the purposes of this economic development section, we will focus on the Mill Conversion and Reuse Overlay District (MCROD) and the Planned Unit Development (PUD) Overlay District. The location of the Overlay Districts is provided in Map 2 on the next page.

a. Mill Conversion and Reuse Overlay District (MCROD)

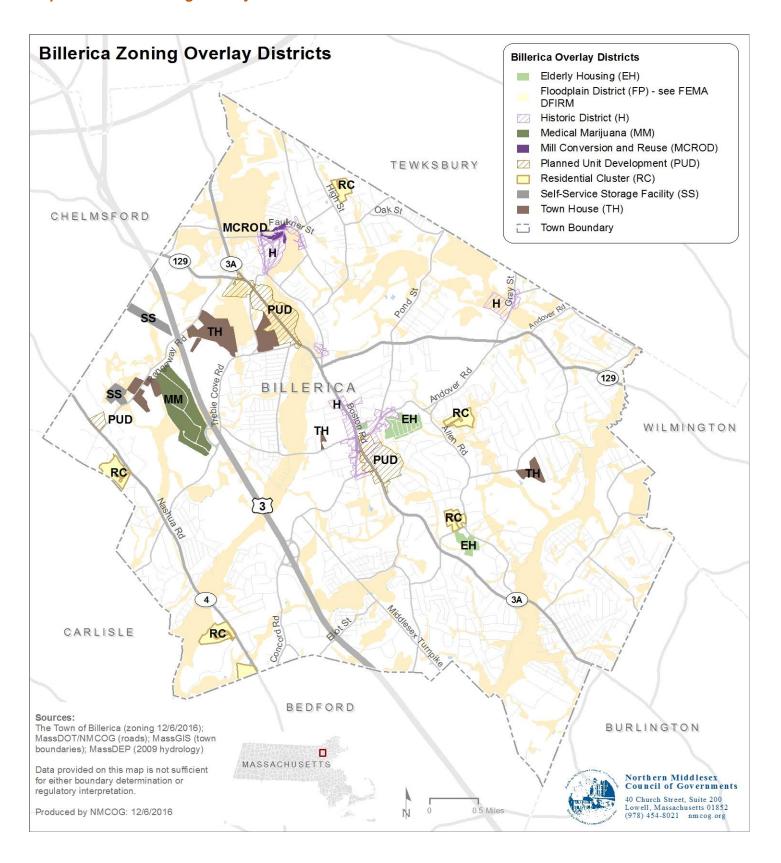
The purpose of the Mill Conversion and Reuse Overlay District (MCROD) is to "facilitate and encourage the reuse of the North Billerica historic mill buildings in a fashion that is appropriate for the individual properties and compatible with the surrounding land uses; promote diverse housing choices in the Town of Billerica; provide flexibility in meeting the Town's housing and economic development needs; prevent disinvestment and deterioration of historic structures and encourage sustainable mixed-use development, including transit-oriented development, in the area of the North Billerica Commuter Rail Station.

The Billerica Zoning Bylaw indicates that the MCROD may be applied to the Neighborhood Business, General Business, Commercial or Industrial Districts. However, the specific parcels approved at Billerica Town meeting to date are as follows:

| Parcel Number | <u>Address</u> |
|---------------|----------------------|
| 9-102 | Old Elm Street |
| 9-103 | Old Elm Street |
| 9-219 | Old Elm Street |
| 9-207 | Old Elm Street |
| 9-94 | 1 Old Elm Street |
| 10-231 | Faulkner Street |
| 9-93-1 | 21 Indian Knoll Road |
| | |

Within the MCROD, all requirements of the underlying district(s) remain in effect except where these regulations supersede or provide an alternative to such requirements. The regulations of the MCROD shall apply to those properties developed consistent with the overlay district. The Planning Board shall serve as the Special Permit Granting Authority (SPGA) for the MCROD. Proposed developments under the MCRODA shall address specific requirements related to buffer areas, removal and replacement of vegetation, roadways, parking spaces, commercial vehicles, parking areas, pedestrian accommodations, loading, stormwater management, utilities, emergency systems and lighting. Expanded and new buildings are permitted, but they must be consistent with the existing buildings historic character and scale. Specific requirements for the redevelopment of housing units must be addressed and at least 25% of the housing units must be affordable (less than 80% AMI) in perpetuity.

Map 2: Billerica Zoning Overlay Districts



b. Planned Unit Development Overlay District (PUD)

Billerica Town Meeting approved the Planned Unit Development Overlay District (PUD) as part of the Zoning Bylaw in 2016. The purpose of the PUD is "to encourage the construction of Planned Unit Developments (PUDs) in designated Districts within the Town". These PUDs shall "permit a mix of land uses, densities and building types in one development; facilitate high quality, integrated planning of large-scale developments beneficial to the Town and constructed in a manner with is highly responsive to specific sites and their surroundings; and require more rigorous development standards than those found in other zoning districts". The PUD shall cover all or part of Industrial and General and Neighborhood Business Districts and designated portions of Residential Districts on the Billerica Zoning Map. The PUD Overlay bylaw identifies two types of PUDs – PUD-G for Planned Unit Development General District – for PUDs overlaid in the industrial, general and neighborhood business zones and PUD-R for Planned Unit Development District-Residential overlaid in industrial and residential zones.

Developers may choose to conform to either the zoning regulations which govern the underlying district or to the PUD overlay regulations and procedures. The Special Permit process shall consist of a pre-application conference (optional), preliminary PUD plan review and final PUD plan review by the Planning Board as the Special Permit Granting Authority (SPGA). The minimum size of a PUD development parcel shall be 60,000 square feet. Permitted uses under the PUD Overlay Zone include office; research and development; hotel; restaurant (with no drive-thru service); place of assembly; recreation; retail; financial institution; consumer service, ancillary to a permitted private use; parking (including structured parking) to accommodate the other uses; light manufacturing; residential uses within 200 feet of Residence Districts and open space. Specific dimensional requirements and setbacks and buffers are outlined for PUD developments. Proposed developments under the PUD Overlay shall address additional requirements related to environmental standards; transportation; significant traffic impact; circulation; parking, including shared parking; roadways; public works standards; design quality; building placement; building massing/articulation; roofline articulation; building materials; landscape treatment; parking lots; pedestrian amenities and utilities.

4. Zoning Changes to Attract Private Investment and Promote Higher/Better Uses

The Town of Billerica has responded to the concerns of the private sector by making changes to the Zoning Bylaw, which seek to encourage more private investment and promote higher and better uses within its commercial and industrial zoning districts. These proposed changes, which were approved at Town Meeting, include the following:

a. 2016 Spring Town Meeting

- Parking requirement for restaurants has been identified as one of the reasons that
 private investors don't invest in Billerica. The proposed zoning change was to require
 one parking space per four seats instead of two and a half seats, which was approved
 by Town Meeting. As a result, a 70-seat restaurant will only be required to provide
 twenty-eight spaces instead of thirty-eight spaces.
- Billerica has only three hotels and 486 rooms. Hotel developers have expressed an
 interest in investing in Billerica, but the ten acre requirement and a minimum of 100
 guest rooms or suites is generally prohibitive and limits access to smaller hotels. The
 proposed zoning change was to require three acres of land instead of ten acres of land,
 which was approved by Town Meeting.

b. 2016 Fall Town Meeting

- Parking requirements for industrial uses can be a limiting factor for new construction and redevelopment of existing structures since it requires more paving for parking spaces. The proposed zoning change was to require one space per each two employees of the maximum working shift, plus one space for each eight hundred square feet of floor area instead of one space per each two employees of the maximum working shift, plus one space for each six hundred square feet of floor area, which was approved by Town Meeting. As a result, an industrial facility of 24,000 square feet which employs 28 workers per shift will only need to provide forty-four parking spaces instead of fifty-four parking spaces. This zoning change could result in an increase in the size of the proposed buildings and less impervious surfaces that would have an environmental benefit.
- Contractor's Yards have traditionally been allowed by right under the Zoning Bylaw.
 Given that the Town wants to promote higher and better uses within its industrial parks, it was proposed that Contractor's Yards be permitted by Special Permit instead of by right under the Zoning Bylaw. This change approved by Town Meeting will enable the Town to have more control over the approval of Contractor's Yards and to encourage better and higher uses for its industrial parks.
- The Town proposed bylaw changes to establish a Planned Unit Development (PUD) Overlay District as a means to provide more flexibility in attracting private investment. Proposals by private developers, such as the development at 44 Nashua Road (driving range) and an Independent Living Community proposal, did not meet the current zoning requirements. Town Meeting approved the establishment of the PUD Overlay District and then approved three initial sites as follows: Planned Unit Development R (PUD-R) entitled the "Nashua Road PUD-R Parcel Inventory" Planned Unit Development G (PUD-G) entitled the "Boston Road North Parcel Inventory", and Planned Unit Development G (PUD-G) entitled the "Boston Road Center PUD Parcel Inventory".
- A former gas station located at 581 Boston Road had been abandonded for several years and the deed restriction for the site disallowed residential use for a site previously used for industrial activities. Yet, the site was zoned residential, which would not permit any commercial activities on the site. The Town proposed changing the zoning for the site from Neighborhood Residence District to Neighborhood Business District, which was approved by Town Meeting. This zoning change will enable the site to be cleaned up and redeveloped as an active commercial use.

B. Commercial and Industrial Building Permits Issued

The level of commercial and industrial activity and interest in a town can be partially measured by examining commercial and industrial permit trends. Between 2012 and 2016, the Billerica Building Department issued 267 commercial and 465 industrial building permits for a total estimated construction cost of \$64,368,868 and \$137,242,884 respectively. Based upon the number of permits and the estimated construction cost, the average estimated construction cost for a commercial permit was \$241,081.90, while the average estimated construction cost for an industrial permit was \$295,145.99. Generally, the total estimated construction cost for commercial permits ranged from \$1.8 million to \$3.7 million, however, in 2016 the total estimated construction cost for commercial permits was \$52.4 million. Industrial permits ranged from \$14 million in 2015 to \$40 million in 2012. Table 37 on the next page summarizes the number of new construction permits by year from 2012 to 2016.

Table 37: Commercial and Industrial Permits Issued in Billerica 2012-2016

| ., | Commercial | | Industrial | |
|-------|------------|--------------------------------|------------|--------------------------------|
| Year | Permits | Estimated Construction Cost | Permits | Estimated Construction Cost |
| 2016 | 67 | \$52,390,707 | 104 | \$37,741,265 |
| 2015 | 75 | \$3,199,143 | 84 | \$14,006,396 |
| 2014 | 36 | \$3,261,408 | 94 | \$24,961,842 |
| 2013 | 47 | \$3,718,308 | 91 | \$20,598,867 |
| 2012 | 42 | \$1,799,302 | 92 | \$39,934,514 |
| Total | 267 | \$64,368,868 | 465 | \$137,242,884 |

Source: Billerica Building Department and Assessor's Office

It has been estimated that the current vacancy rates for commercial and industrial properties range from 10-15%.

C. Development Incentives, Tax Incentives and Expedited Permitting

The Town of Billerica has actively participated in the Commonwealth's *Economic Development Incentive Program* (EDIP), which is a three-way partnership between the Commonwealth of Massachusetts, a municipality and a growing company. The EDIP is a tax incentive program designed to foster job creation and stimulate business growth throughout the Commonwealth. Participating companies may receive state and local tax incentives in exchange for job creation, manufacturing job retention and private investment commitments.

During the past six years, Pharmalucence, E Ink Corporation and PAREXEL International Corporation were approved by the Economic Assistance Coordinating Council (EACC). The Pharmalucence project was approved on June 30, 2010 for an award of \$1,260,000. At the time of approval, Pharmalucence employed 75 workers and established a target employment of 100 workers. As of December 13, 2013, the workforce had grown to 103 workers, thus exceeding their initial goal. E Ink Corporation was approved for \$1,800,000 on June 29, 2011 and had 254 employees at the time of the award. E Ink Corporation established a target employment goal of 354 employees and, as of December 13, 2013, had 237 workers. PAREXEL International Corporation received an ITC award of \$29,879 on June 29, 2011 and had 212 employees at that time. PAREXEL established an employment target of 392 workers at that time and by December 13, 2013, had 1,079 workers employed. With the recent passage of the Economic Development bill, there have been changes to the EDIP program.

Besides taking advantage of the EDIP program, the Town of Billerica has utilized the Chapter 43D program in relation to the development of the EMD Serono project on Middlesex Turnpike and has also accessed funds from the State's MassWorks program to finance infrastructure improvements in the Town Center area. Through the use of District Local Technical Assistance (DLTA) funds administered by NMCOG, the Town was able to develop a Permitting Handbook that provides information to prospective private developers and entrepreneurs on the permitting process in the Town. This document has been placed on the Town's web site so that businesses going through the municipal permitting process can determine what steps need to be taken prior to coming to Billerica Town Hall. These "streamlined permitting" practices help Billerica set itself apart from other communities as a business-friendly community.

D. Balance between Economic Growth and Quality of Life

"Quality of life" is a term used to describe various, sometimes intangible factors that make a community attractive to live. A quality-of-life strategy assumes government of some type of public/private partnership is able to have a significant influence on these factors and improve them over time. In theory new businesses will be attracted to communities with the most appropriate combination of factors, and existing businesses will expand for the same reason. People also use quality of life indicators to measure neighborhood and community desirability.

E. Economic Development Opportunities

There are several areas and sites in Billerica that offer potential for future economic development. These areas are also ideal locations for where economic revitalization efforts should be targeted. In particular, as was identified in the SWOT session, the Town Center (Figure 10) represents a key opportunity for the Town, as does the Mill Conversion and Reuse Overlay District (MCROD) (Figure 11). A number of other potential development sites have been identified by Billerica staff through the preparation of this strategy by the Economic Development Committee. These potential development sites are outlined in Figures 12-18 on the following pages. Some remediation of these sites may be necessary, but they represent an opportunity for private developers to invest in the community.

Billerica Town Center has been the focus of several studies by NMCOG over the past 10-15 years. In September 2005 NMCOG issued its *Billerica Smart Growth Technical Assistance Mixed Use Zoning Study* that focused on Billerica Center, Route 3A between Bridge Street and Treble Cove Road, the Kmart Warehouse and the North Billerica area. Working with the Billerica Smart Growth Project Advisory Committee, NMCOG outlined a set of recommendations for each project area. The recommendations for the Town Center included the establishment of a Town Center Overlay District, the utilization of District Improvement Financing (DIF) for infrastructure improvements and the encouragement of mixed-use projects. The principal result of this study was the establishment of the Mill Conversion and Reuse Overlay District in North Billerica. Several years later NMCOG followed up on the Town Center Overlay District recommendation and some improvements were made to the Town Center, principally through the use of MassWorks funding for infrastructure in the Town Center. Businesses have been attracted to the Billerica Mall as a result of the state and local funding. Figure 10 on the next page shows the Town Center area.

Figure 10: Billerica Town Center **Billerica Town Center** Billerica Town Center River St Town Boundary Grace Ave Pages Ct Richardson St Charnstaffe Ln Tower Farm Rd Cunningham Ln Mitchell Rd Sources: The Town of Billerica (2016 parcels); NMCOG (5/14/10 town center parcels map); MassDOT/NMCOG (roads); MassGIS (town MASSACHUSETTS boundaries); MassDEP (2009 hydrology) Data provided on this map is not sufficient Northern Middlesex Council of Governments for either boundary determination or regulatory interpretation. 40 Church Street, Suite 200 Lowell, Massachusetts 01852 (978) 454-8021 nmcog.org Produced by NMCOG: 8/9/2017

As mentioned previously, the Mill Conversion and Reuse Overlay District was established as a result of the *Billerica Smart Growth Technical Assistance Mixed Use Zoning Study.* The

purpose of this overlay district was to provide more flexibility for the owners of the Faulkner and Talbot Mills to sell their properties to various businesses compatible with the site and the neighborhood.



| Size There are two mills; the Faulkner and Talbot Mills that occupy 15+ acres and over 3 between the two complexes. | | | |
|---|--|--|--|
| Zoning | The site is zoned Industrial ; however, there is a Mill Conversion and Reuse District Overlay District. | | |
| Ownership | Two separate owners for the Faulkner and Talbot Mills | | |
| Site Characteristics | The site is located along the Concord River less than three miles from exit 37 on I495 and less than 1,000 feet from the North Billerica Commuter Rail station. One of the mills is multi-tenant (Faulkner) while the other is occupied by a single tenant (Pace Industries). The proximity to the train station and river, in addition to the relationship with Middlesex Canal Museum, suggests that strategic planning, investment, and limited redevelopment could bring amenities to the neighborhood | | |

Figure 12: Riverview Technology Park



| Size | The site totals 120 acres of land area—some of which is in adjoining communities—and currently houses a 563,322 square foot facility |
|----------------------|---|
| Zoning | The site is zoned Industrial |
| Ownership | Single Private Owner |
| Site Characteristics | The site is located along the Concord River less than one mile from exit 37 on I495 and less than 1.5 miles from the North Billerica Commuter Rail station. Just 30 minutes north Boston this is one of the largest unoccupied facilities along 495/North corridor; ideal for offices, R&D, or light manufacturing. The site provides direct access to key New England markets and a highly educated workforce. |

Figure 13: Cabot Corporation—Concord Road site



| Size | The site totals 18 acres of land |
|----------------------|---|
| Zoning | The site is zoned Industrial |
| Ownership | Single Private Owner |
| Site Characteristics | The site is located along the Concord River less than one mile from exit 27 on Route 3. Cabot Corporation, the owners of the property, has explored the expansion of their adjoining campus in the past. There are wetlands on the site, and the Yankee Doodle Bike Path is designed to cross the property close to the Concord River. An enhanced intersection and roadway has been constructed at the entrance to the site from Concord Road. |

Figure 14: 800 and 1400 Technology Park Drive



| Size | 800 Technology Park Drive is 3.68 acres 1400 Technology Park Drive is 5.06 acres |
|----------------------|--|
| Zoning | The site is zoned Industrial |
| Ownership | Single Private Owner |
| Site Characteristics | Technology Park is a 70 acre master planned development that totals 1,219,000 square feet of space. Presently, a total of 975,000 square feet has been developed. There is presently 244,000 square feet (150,000 SF at 800 Technology Park Drive and 94,000 SF at 1400 Technology Park Drive) available as a build-to-suit opportunity to complete the build out of the park. |

Figure 15: 164 Lexington Road



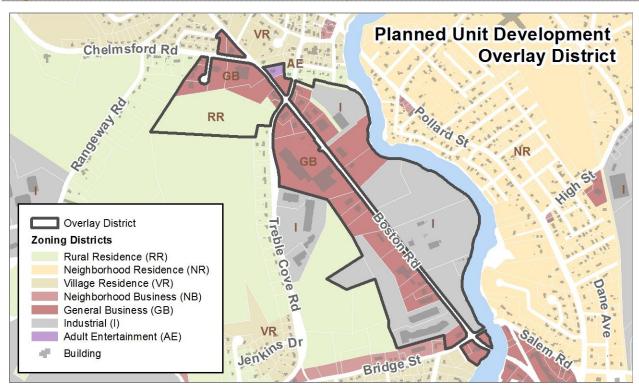
| Size | The site totals 4.18 acres of land and currently houses a 64,140 square foot facility |
|----------------------|--|
| Zoning | The site is zoned Industrial |
| Ownership | Single Private Owner |
| Site Characteristics | The site is located along the Middlesex Turnpike two miles from exit 26 on Route 3. Although the building is reasonably recent (built approximately 35 years ago) the Turnpike has changed significantly and the site's location is primed for redevelopment, especially with the upgrades expected with the Middlesex Turnpike Phase 3 construction and the site's location at a signalized intersection. |

Figure 16: 158 Lexington Road



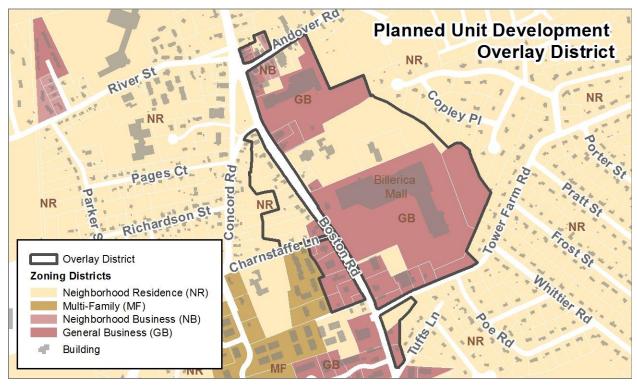
| Size | The site totals 4.52 acres of land and currently is the location of a contractors yard within a highly developed industrial park |
|----------------------|---|
| Zoning | The site is zoned Industrial |
| Ownership | Single Private Owner |
| Site Characteristics | The site is located along the Middlesex Turnpike two miles from exit 26 on Route 3. Like 164 Lexington Road, the site's location is primed for redevelopment, especially with the upgrades expected with the Middlesex Turnpike Phase 3 construction and the site's location at a signalized intersection. The site has been identified by Billerica staff as a good location for a hotel to service international businesses (EMD Serono and SunPharma) that have a need for hotels in the area. |

Figure 17: Boston Road North Planned Unit Development District



| Size | The overlay district covers 53 distinct parcels covering approximately 120 acres. |
|----------------------|---|
| Zoning | The site is covered by a Planned Unit Development mixed use overlay , with underlying zoning of General Business, Industrial, Residential, and Adult Entertainment. |
| Ownership | Multiple private owners and 14+ acres of town owned land |
| Site Characteristics | The PUD district run along Boston Road in North Billerica running—in approximation—from the 129 junction in the north to the Concord River in the South. This corridor is vital to providing jobs to the community and acts as an "amenity center" for other businesses in the region. There are various pad sites (200 Boston Road, 188-190 Boston Road), blighted facilities (257 Boston Road), an undeveloped empty lot (184 Boston Road), and town owned property (250 Boston Road) that may be poised for redevelopment. |

Figure 18: Boston Road Center Planned Unit Development District



| Size | The overlay district covers 70 distinct parcels covering approximately 92+ acres. | | | |
|----------------------|--|--|--|--|
| Zoning | The site is covered by a Planned Unit Development mixed use overlay , with underlying zoning of General Business, Neighborhood Business, and Residential. | | | |
| Ownership | Multiple private owners | | | |
| Site Characteristics | The PUD district run along Boston Road in Billerica running—in approximation——in approximation—from Andover Road in the north to Tower Farm Road in the South. Focused development in this area – especially in further investment in the Billerica Mall at 480 Boston Road is a proactive attempt to spur investment in the retail center of Billerica. | | | |

VI. Issues and Opportunities

The further development of an effective public/private partnership in Billerica is critical to economic growth in the community. Currently, the Town's economic development staff works closely with developers and landowners in the community, as well as with the Middlesex 3, Coalition, Greater Lowell Chamber of Commerce, Billerica Community Alliance, Inc., and the Northern Middlesex Council of Governments. The Town has also had a longstanding relationship with the Executive Office of Housing and Economic Development (EOHED), the Department of Housing and Community Development (DHCD), the Massachusetts Office of Business Development (MOBD), and MassDevelopment that has enabled the community to access state funds to address public infrastructure issues that have encouraged private investment. In the past, the Town has had an Economic Development Committee, similar to many communities in the Greater Lowell region. However, it seems that the Billerica economic development staff has been able to market available properties to potential private investors without having to work with an Economic Development Committee. The staff has also been able to convince Billerica Town Meeting of the need to change the Zoning Bylaw to provide more flexibility in the zoning provisions to enable specific targeted industries to invest in various locations throughout the community. These efforts have made Billerica a more businessfriendly community without affecting the overall quality of life.

Compared to its neighboring communities, Billerica has been quite advanced in its expedited permitting procedures. The availability of a Permitting Handbook online is a distinct advantage in outlining the local permitting process for potential applicants and developers, while the designation of the Director of Planning as the single point of contact will provide further support for permitting applicants to go through the permitting process. The Town utilizes a project review team approach to hear presentations from developers, which enables permitting staff to provide advanced warning to the permitting boards and agencies of potential issues that will need to be addressed. For the most part, permitting decisions in Billerica are made within the state's 180-day guidelines once a complete application has been submitted. The Middlesex 3 Coalition has been actively encouraging its member communities to further streamline their permitting practices in accordance with the recommendations outlined in "A Best Practices Model for Streamlined Local Permitting" developed by the Massachusetts Association of Regional Planning Agencies (MARPA) in conjunction with the Executive Office of Housing and Economic Development (EOHED) in 2007. Specific improvements to the Town's permitting process, such as utilizing development agreements, encouraging electronic filing of project submissions and considering combined public hearings, could make the current system even more efficient and effective. During the EDSAT process, Professor Barry Bluestone stated that an effective permitting process is more valuable to site finders and private businesses than economic incentives because of the amount of time permitting a project has on the development costs faced by private investors.

The Town of Billerica has been quite competitive with other communities in Massachusetts in attracting businesses to the community. The influx of businesses from Kendall Square in Cambridge show that Billerica is an excellent location for high tech and biomedical firms. One issue that comes from the relocation of these firms from Greater Boston to Billerica relates to the mobility of the workforce. Young workers from the Greater Boston area, who don't have private vehicles, need a way to get back and forth to the new location in Billerica. Through the assistance of the Middlesex 3 Coalition, the Middlesex 3 Transportation Management Association (TMA) was created to address the reverse commuting needs of workers. The TMA

principally provides shuttle service from Middlesex 3 businesses to and from Alewife Station in Arlington, which is part of the MBTA's red line service. In the case of E Ink, shuttle service is also provided from Haymarket Station and to Sullivan Square and JFK/UMass Station. The Town has also been working with the Lowell Regional Transit Authority (LRTA) and private companies to determine the options for shuttle service to and from the North Billerica Commuter Rail Station. The Middlesex 3 Community Compact Transportation Study will provide options for improving and enhancing transportation services within the Route 3 corridor. Another issue to be addressed is the availability of restaurants and entertainment facilities along the Middlesex Turnpike to meet the needs of these young, professional workers. The Town also needs to work more closely with the Greater Lowell Workforce Development Board (GLWDB), Middlesex Community College and UMass Lowell to identify specific training opportunities for these companies and their workforce. In some cases, the GLWDB has worked with cluster industries that can benefit from similar training programs for their workers.

Infrastructure issues remain a challenge for Billerica, nothwithstanding their aggressive sewer expansion program, water facility and infrastructure capacity and telecommunications facilities. The Town has been quite active in improving its roadway system through the use of Chapter 90 funds and federal/state funds under the Northern Middlesex Metropolitan Planning Organization (NMMPO) Transportation Improvement Program (TIP). As mentioned previously, the Town has applied for MassWorks funds to address its infrastructure needs in connection with private development projects. The Boston Road Revitalization Program (south of the Town Center) received MassWorks funds in 2014 to complete a \$2.635 million roadway and public realm project in conjunction with \$3.9 million funds in private funds to improve the Shops of Billerica in the Town Center. This year the Town applied for \$2 million in MassWorks funds for Phase 2 of the Boston Road Revitalization Project (north of the Town Center) to match \$3 million in private funds, as well as the combined \$176 million in state and local funds for the new Billerica High School. These improvements from Floyd Street to the Town Center will hopefully be financed through TIP funds as well. In addition, MassDOT recently awarded a contract for \$38 million to construct Phase 3 of the Middlesex Turnpike Roadway Improvement Project in late 2017. Under this project, Middlesex Turnpike will be widened to two lanes in each direction, new traffic control signals will be installed at 900 Middlesex Turnpike and Manning Road and bike lanes and sidewalks will be installed. Once the project is completed by 2022, traffic through the Tri-Town corridor linking Burlington, Bedford and Billerica will be greatly improved.

The improvements in the Town's business climate has resulted in a number of projects that are currently being developed. These projects include those that address the housing needs of the community, build upon the zoning changes approved in 2016 by Billerica Town Meeting or expand existing businesses. These active projects provide an example of what is being accomplished in Billerica:

Aspen- This project has been developed under Chapter 40B and is located off Rangeway Road in North Billerica All permits are in place and construction has begun on the 384 rental units. It is expected that this multi-building complex will be completed and occupied in 2019.

Alliance – This project has been described as a "friendly" Chapter 40B project, or Local Initiative Project (LIP), which will be comprised of 200 luxury rental apartments at 164 Lexington Road on the Middlesex Turnpike. This 4.1 acre site has been unoccupied for more than ten years. The developer has received approval from DHCD and has been working with the Conservation Commission and Zoning Board of Appeals to receive their approvals. It is anticipated that the project will be completed and occupied in 2019.

Alpine – This is another "friendly" Chapter 40B LIP project to construct 178 garden-style rental apartments and one single-family affordable unit off Boston Road in North Billerica. Trammel Crow is the new developer and they have been working with the Building Department about permits. It is expected that the project will be completed and occupied by mid-2019.

Panera Bread – At the Spring 2016 Billerica Town Meeting, zoning for two parcels (44 Treble Cove Road and 186 Boston Road) was changed from residential to General Business. In July 2017 the developer submitted a proposal for a 8,400 square foot, three tenant retail complex. More than half of the site (4,500 square feet) will be devoted to Panera Bread. Sidewalks would be provided to ensure pedestrian safety.

Hawthorn – The Fall 2016 Billerica Town Meeting approved the Planned Unit Development (PUD) mixed-use overlay language and identified 44 Nashua Road, a former golf driving range, as one of the prospective sites. Hawthorn Senior Living has proposed to develop a 151-unit Independent/Congregate Living Community (ICLC) on the 12 acres of industrially zoned land. The Town has developed a Memorandum of Agreement (MOA) for consideration by the developer, which also addresses connecting the site to public sewer.

EMD Serono – This project was originally developed under Chapter 43D and provided the impetus for the Town of Billerica to identify barriers to development along the Route 3 corridor and, eventually, the creation of the Middlesex 3 Coalition. In an attempt to maximize the development potential of their campus at 45 Middlesex Turnpike, the company is proposing to construct a 500-space garage in 2018 and an additional 500-space garage in 2019. This preparatory work would enable EMD Serono to build 200,000 square feet of additional buildings on their campus and increase their employment level above 1,000 employees.

The Town of Billerica is committed to working with the business community and supporting economic growth that maintains the quality of life in the community.

VII. Recommendations

The Town of Billerica has been recognized for its extensive work in attracting private investment and utilizing public resources at the federal and state levels to facilitate businesses locating to the community. The EDSAT report outlines those recommendations by the Dukakis Center of Northeastern University that would make the community even more attractive to private investors and site finders. The focus on utilizing the Town's web site to highlight the community's streamlined permitting process and business marketing program was held in much higher regard than providing economic incentives. The incorporation of this economic development section within the Town's updated Master Plan ties together the economic development "blueprint" with the other elements of the Master Plan.

The Town has continued to utilize the Economic Development Incentive Program (EDIP) and Chapter 43D programs at the state level, which enables the Town to partner with the State and private businesses to create jobs and expand the tax base. The Town has also focused on the redevelopment and reuse of underutilized or vacant property. The development of available commercial and industrial properties depends on listing these properties on the Town web site and even tying into the NMCOG web site as well. Within this Economic Development Strategy, a number of potential development properties are identified, which need to be updated as their status changes. Fully utilizing the tools available at the state level will held redevelop these properties.

The Town has been proactive in utilizing overlay districts, including the new PUD Districts, which provide flexibility to private developers. Town staff should continue to make recommendations to the Board of Selectmen and Town Meeting on the initiatives needed to enhance economic development opportunities in the community. Nothwithstanding the improvements that have been made to date, there are a number of recommendations that can be made. These recommendations should be fully reviewed by Town staff before they're presented to the Board of Selectmen or Town Meeting for adoption. Another issue that needs to be addressed is to identify which party or parties will be responsible for the implementation of these recommendations. The Economic Development work group or the Master Plan Implementation Committee should be responsible for following up on the implementation of these recommendations and reporting to Town Meeting on the overall progress in implementing the Master Plan.

Based upon the input provided through the EDSAT sessions and final report, the previous economic development material in the 2002 Master Plan and the initial land use information from the 2016 Master Plan, the following recommendations based upon the Goals and Strategies section were developed:

- Continue to streamline the local permitting process and assist local businesses with state and federal permits as necessary.
- Designate the Community Development Director as the single-point of contact to assist businesses through the local permitting process.
- Promote better and higher use of the Town's commercial centers and industrial clusters.
- Identify priority areas within commercial centers that can be designated for mixed-use development.

- Build upon the existing industry clusters to attract technological, research and development, laboratory and value-added light industry along the Route 3 corridor.
- Identify needed amenities, such as restaurants, hotels, day care, workforce housing and retail shops, which can be targeted for the Middlesex Turnpike commercial area and other appropriately zoned areas.
- Update the Economic Development marketing program and maintain it on the Town's web site.
- Develop a survey for local businesses to determine what their needs are and how the Town can assist them.
- Complete a follow-up survey with companies that leave the community to determine what the Town could do differently in the future.
- Identify available properties for development on the Town's web site and social media venues and make this list available to regional and state economic development organizations.
- Based upon the economic data within this report, identify the target industries that would best fit within the Town's economic structure.
- Work with UMass Lowell to determine whether research and development space could be developed in Billerica in order to provide space for spin-off incubator businesses.
- Work with the Massachusetts Office of Business Development, MassDevelopment and other state agencies to identify potential businesses for the identified commercial and industrial properties.
- Reuse former mill space with a focus on transit-oriented development and reuse brownfield properties to create new economic development opportunities.
- Work with the Greater Lowell Workforce Development Board (GLWDB) to identify training programs for local businesses that can enhance the skills of their workforce.
- Utilize the resources of Billerica Memorial High School and Shawsheen Tech, the GLWDB, Middlesex Community College and UMass Lowell to address the skill training needs of Billerica businesses.
- Work in conjunction with Middlesex Community College and UMass Lowell to develop special training programs for particular industry clusters.
- Partner with the Greater Lowell Chamber of Commerce, the Middlesex 3 Coalition, the Burlington Area Chamber of Commerce and the Billerica Alliance to host programs in Billerica that address the needs of local businesses.
- Continue to utilize the Economic Development Incentive Program (EDIP), Chapter 43D, the MassWorks program and the Commonwealth Community Compact to support commercial and industrial development.
- Build upon the Life Science Industry cluster and identify funding from the Massachusetts Life Sciences Center.
- Build the organizational capacity to support an active Economic Development program.
- Work in conjunction with other regional economic development organizations, such as the Northern Middlesex Council of Governments, Middlesex 3 Coalition and the Greater Lowell Chamber of Commerce.
- Participate on the Greater Lowell Comprehensive Economic Development Strategy (CEDS) Committee to become aware of regional economic development trends that could benefit Billerica.
- Develop additional housing options for local businesses.

In addition to these economic development recommendations, there are additional recommendations that tie in with the Land Use and Natural Resources sections of the 2016 Master Plan. These recommendations are tied to the specific action goals within the Land Use and Natural Resources sections. The recommendations are as follows:

- In promoting better and higher use of the Town's commercial centers, industrial clusters, and underutilized brownfield areas, as well as to identify locations for mixed-use:
 - Update the Zoning Bylaw to diversity the type of industrial and office uses while protecting residential neighborhoods;
 - Enhance the Town's expedited permitting practices through increased use of the Chapter 43D program or a streamlined site plan review process to attract technological, research and development, laboratory and value-added light industrial uses along the Route 3 corridor. Implement the recommendations from the Middlesex 3 Coalition Streamlined Permitting "Best Practices" report.
 - Continue collaborating with federal and state agencies, as well as private landowners and developers, to encourage "brownfield" remediation and the reuse/redevelopment of vacant and underutilized sites.
 - Identify priority areas, particularly along the Route 3A corridor, for designated mixed-use districts or mixed-use infill development and modify the zoning to encourage these activities.
- In encouraging diversified housing developments that contribute to Billerica's statemandated affordable housing stock and proactively address specific housing needs in town, particularly that of seniors:
 - Examine and amend zoning along the Route 3A corridor to allow diversified, higher density, and/or mixed-use housing development, such as multi-family, townhouses, assisted living or other types of senior housing. This effort should provide additional housing opportunities for businesses and their workforce.
- In improving the design and connectivity of our public realms, including gateway areas, streets and sidewalks, parks and open spaces, and civic places, to reinforce our community character, while fostering a healthy and active lifestyle:
 - Utilize the design standards and guidelines developed for the Town Center and develop similar design standards and guidelines for the Route 3A commercial corridor to enhance the "town" character and implement the necessary infrastructure improvements to be funded through MassWorks, other federal and state programs, or local resources.
- In continuing to inventory and publicize the natural resources in town and make them connected and accessible for public enjoyment:
 - Establish a comprehensive wayfinding system for the Town's open space and trail systems, including the proposed Yankee Doodle Bike Path, that also offers educational and interpretive information for the benefit of businesses, workers, residents and visitors.
- In preserving and enhancing our existing conservation and open space resources with Smart Growth land use approaches, while targeting priority areas for future resource allocation:
 - Adopt innovative Smart Growth land use regulations to preserve open spaces while stimulating well-planned developed as a means to balance economic development with quality of life.

Housing

The Housing element for the Master Plan was compiled as a stand-alone document entitled "Town of Billerica Housing Production Plan, 2015-2019." The Plan was prepared by the regional planning agency, Northern Middlesex Council of Governments (NMCOG), utilizing a District Local Technical Assistance (DLTA) grant for planning services. The content was developed with other housing studies that included substantial public review and comment. As a self-contained document the Plan includes goals and implementation action items that would otherwise be found in the Implementation Chapter.

Town of Billerica Housing Production Plan

2015 - 2019





Nicholas Common

Villas at Old Concord II

January 2015

Prepared by

Northern Middlesex Council of Governments 40 Church Street, Suite 200 Lowell, MA 01852

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Executive Summary

Billerica is the most populated suburban community in the Greater Lowell region with a land area of 26.38 square miles and a population of 40,243 according to the 2010 U.S. Census. The town is located approximately twenty miles northwest of Boston along Route 3. Route 128/Interstate 95 is located less than three miles to the south, while Interstate 495 is less than two miles to the north. Billerica has been developed with several small neighborhoods that include East Billerica, North Billerica, Nutting Lake, Pinehurst, Rio Vista, River Pines, Riverdale and Riverside. Despite suburban development patterns and continuing pressures for growth, Billerica has maintained some rural characteristics through the preservation of forested areas, a large open space network focused along the town's water bodies and waterways, and other distinctive landscape features, such as Gilson Hill and Fox Hill.

The Town of Billerica requested the assistance of the Northern Middlesex Council of Governments (NMCOG) in developing a Housing Production Plan (HPP) that met the Chapter 40B Comprehensive Permit requirements for affordable housing production in Massachusetts. Through funding provided under the District Local Technical Assistance (DLTA) program administered by the Department of Housing and Community Development (DHCD), NMCOG staff worked closely with the Billerica Affordable Housing Trust over the past year to complete this document. Building upon previous work undertaken as part of the *Greater Lowell Regional Strategic Plan*, NMCOG staff made presentations to the Billerica Planning Board and Billerica Board of Selectmen on the importance of this document to housing production in Billerica. The *Billerica Housing Production Plan for 2015-2019* outlines a housing production schedule that addresses the community's overall housing needs, while also meeting the state's requirements, as outlined under Chapter 40B, to produce more affordable housing for residents.

The following provides a summary of the primary components of the Billerica Housing Production Plan.

A. Comprehensive Needs Assessment

Billerica residents have a range of housing needs based upon household size, income, household type and age. The following summarizes the primary findings from the Comprehensive Needs Assessment section:

Population and Households

- Between 2000 and 2010, Billerica's population grew by 3.2% resulting in a population of 40,243 in 2010. The Town's population represents 14% of the total population for the Greater Lowell region in 2010. By 2035 Billerica's population is expected to reach 42,560 residents.
- The number of households in Billerica grew by 8.6% between 2000 and 2010 to 14,034 households. Between 2010 and 2020 households are projected to increase by 2.3%. The growth rate will then increase to 4.2% between 2020 and 2030, and by 2035 it is projected that there will be 15, 250 households in Billerica. This represents an overall increase of 1,216 households from 2010.
- In 2010 nearly 75% of Billerica's households were family households, with two-person family households the most prevalent (31.2%).
- Billerica's population is aging. The number of residents aged 60 and above is projected to increase by approximately 48% from 2010 to 2035. The changes in household composition and

- projected aging trends will impact housing demand in Billerica as needs and housing unit preferences are likely to change.
- Between 2001 and 2013 public school enrollments decreased by 16.2%. In the future, initial enrollment projections forecast an increase of 168 students or a 3.2% increase by 2021 in the public schools, principally through an increase in elementary school enrollments.

Income

- In 2012 the median household income in Billerica was \$89,957. This represented an increase of approximately 33% from 1999, which is comparable to increases in household income experienced across the region. When adjusted for inflation, this figure represents a 3.9% decrease in median household income from 1999.
- In contrast, when adjusted for inflation, median family income in Billerica rose by a modest 1.4% to \$100,852. This increase contrasts with the Greater Lowell region, Massachusetts and the United States, which all experienced declines in median family inflation adjusted income.
- Similar to the nation, state and region, per capita income in Billerica decreased when adjusted for inflation. In 2012 the median per capita income in Billerica was \$33,839.
- According to the American Community Survey (ACS), 43% of Billerica households earn \$100,000 or more, which represents the largest income earning category in the town.
- In 2012 it was estimated that 2,512 residents, or 6.2% of the town's population, was living in poverty. More than half of those living in poverty were between 18 and 64 years of age, while 46% were youth under the age of 18 and 4% were senior citizens.

Housing Production, Sales and Costs

- The overwhelming majority of housing units in Billerica are single-family, detached homes, comprising nearly 83% of the town's housing stock. Approximately 84% of all housing units are owner-occupied.
- Between 2002 and 2011 there were 959 residential building permits issued for 1,772 housing units in Billerica. Of the permitted units, 51% were for single-family homes and nearly 42% were issued for multi-family houses of five or more units, demonstrating that some progress has been made towards providing some housing diversity in the town.
- The number of residential building permits issued and housing units permitted peaked in 2005 and bottomed out in 2007-08 as the housing crisis took hold across the state. In 2009 and 2010 housing permits increased with a focus on single family houses and multi-unit housing.
- Since the end of 2012, the housing market in Billerica has begun to show signs of recovery with an upward sales trend. The number of home sales increased from 346 in 2011 to 552 in 2013, which almost matches the town's pre-recession housing market.
- In 2012 nearly 35% of owner-occupied households in Billerica were considered moderately burdened by their housing costs because they paid more than 30% of their income on these costs. Approximately 36% of rental households were considered moderately burdened by their renting costs.
- Billerica has been proactive at increasing the number of affordable housing units within town through inclusionary zoning and other strategies, which resulted in doubling the town's

affordable housing supply between 2004 and 2014. As of August 13, 2014, the town's Subsidized Housing Inventory (SHI) is 5.9% of the 2010 year-round housing units, or 857 affordable units. In order to exceed the State's 10% affordable housing goal, 588 additional affordable housing units need to be added to the SHI.

B. Addressing Local and State Affordability Goals for Housing Production

Based on findings from the comprehensive needs assessment and previous affordable housing efforts, the Billerica Affordable Housing Trust developed the following goals. These goals are explained in Section II of the Plan:

- 1. Provide a variety of housing opportunities that serve all socio-economic groups within the community, especially those below 80% of the area median income.
- 2. Protect the quality of life and maintain the residential and historic character of the town through housing development.
- 3. Create diverse rental units, in terms of types of units (duplexes vs. multi-family) and number of bedrooms (three or more) for residents.
- 4. Support the creation of workforce²¹ housing units and broaden the range of potential home-buyers and tenants.
- 5. Develop rental and ownership options for senior citizens, disabled residents and veterans that allow them to live independently.
- 6. Receive credit on the Subsidized Housing Inventory (SHI) for the affordable housing units developed under the inclusionary provisions within the Town's Zoning Bylaw.
- 7. Update the zoning bylaws, development review processes and permitting policies so they are clear and consistent.
- 8. Ensure consistency in the interpretation and administration of affordable housing requirements by the Affordable Housing Trust, Affordable Housing Committee, Housing Authority, Board of Selectmen, Planning Board and Zoning Board of Appeals.
- 9. Ensure that affordable housing development in Billerica adheres to the Commonwealth's Sustainable Development Principles (see *Figure 9*).
- 10. Utilize the DHCD-approved Housing Production Plan as a management tool to develop new housing opportunities in meeting the Town's annual housing production goals. Update the Housing Goals on a regular basis.

C. Strategies to Address Housing Needs and Increase Production

In order to implement the goals identified previously, strategies to address the housing needs of the community have been developed. These strategies are designed to increase and improve housing opportunities in Billerica for all income groups. The strategies are outlined below and in Section II.

Maintain Existing Housing and Expand Housing Opportunities

1. Be proactive in monitoring and maintaining existing affordable housing units.

²¹ Workforce housing is a term commonly used to describe "housing for the occupations needed in every community, including teachers, nurses, police officers, fire fighters and many other critical workers." This is typically defined as 80-120% AMI. Source: Center for Housing Policy, 2011 - https://www.housingpolicy.org/

- 2. Develop more affordable rental housing (less than 30% of annual income) with the increased availability of 3- and 4-bedroom units.
- 3. Encourage re-use or redevelopment of underutilized property.
- 4. Document the specific needs of Billerica veterans and construct affordable veterans housing units that meet those needs. Organizations, such as the <u>Veterans Northeast Outreach Center</u> and the local Veteran's agent, can be consulted for housing assistance.
- 5. Consider Chapter 61 properties as potential affordable housing opportunities in the future.
- 6. Examine opportunities available under the Chapter 40R Smart Growth Overlay District.
- 7. Consider additional zoning changes to increase affordable housing production.
- 8. Monitor the level of affordable housing development created through the inclusionary requirements of the Town's Zoning Bylaw.
- 9. Incorporate the Housing Production Plan into future updates to the Billerica Master Plan and utilize the Affordable Housing Trust to implement the DHCD-approved Plan.
- 10. Work with State agencies and other stakeholders to develop group homes to provide supported, supervised living arrangements for citizens with mental and physical disabilities.

Policies, Programs and Services

- 1. Evaluate and revise existing development regulations and guidelines, including the Housing Partnership Guidelines, for fairness and efficiency through the development of an Affordable Housing Permitting Guide to assist applicants in navigating the review process.
- 2. Working in conjunction with the Planning Board, Board of Selectmen, Zoning Board of Appeals, Housing Partnership Committee, Affordable Housing Trust and other town committees and boards, build upon the approved zoning changes so as to provide more affordable housing opportunities, such as through special permits for multi-family units, accessory apartments, assisted living facilities, and retirement communities.
- 3. Consider adopting the Community Preservation Act to support affordable housing development with a focus on the following programs and services:
 - Community education regarding affordable housing programs;
 - First-time home buyer's assistance program;
 - Rental assistance;
 - Renovation and sale of properties as affordable unit(s) from acquired town tax lien properties;
 - Purchase of property for use as an affordable housing development;
 - Betterments for donated buildings and land for use as affordable housing; and
 - Partnerships with private developers and public agencies for affordable housing initiatives that address the housing needs of the community.
- 4. Support legislative and/or regulatory reforms at the state level that recognize the efforts of communities like Billerica to proactively provide "workforce housing" to serve households at 80-120% of the area median income (AMI), in addition to current efforts supporting households earning below 80% of the AMI.
- 5. Adopt local selection preferences that are consistent with the DHCD Affirmative Fair Housing Marketing Plan (AFHMP) Guidelines and all applicable State and Federal laws and

regulations. The project will justify the extent of the local preference (the percentage of units proposed to be set aside for local preference), but in no event will the local preference exceed 70% of the (affordable) units in a project.

- Allowable Preference Categories
 - (1) Current residents: A household in which one or more members is living in the city or town at the time of application. Documentation of residency should be provided, such as rent receipts, utility bills, street listing or voter registration listing.
 - (2) Municipal Employees: Employees of the municipality, such as teachers, janitors, firefighters, police officers, librarians, or town hall employees.
 - (3) Employees of Local Businesses: Employees of businesses located in the town.
 - (4) Households with children attending the locality's schools, such as METCO students.

Education

- 1. Provide affordable housing training and educational opportunities to local Board and Committee members and staff, including the Affordable Housing Trust. These training opportunities could include updates on current policies to support affordable housing (i.e., the Comprehensive Permit Guidelines) and any revisions to state law or regional opportunities. This will allow boards and committees to provide guidance to the development community so as to improve the quality of proposals and result in a more expedited permitting process.
- 2. Increase public awareness of and support for affordable housing through increased outreach and public education.

Funding

- 1. Utilize the developer funds made available under the inclusionary provisions of the Town's Zoning Bylaw to build or purchase affordable housing units and/or provide a subsidized buydown on the purchase price to qualified first-time homebuyers.
- 2. Develop local partnerships with developers to utilize the State's Local Initiative Program (LIP) as a means to develop "friendly 40B" development projects and to document the units developed under the Inclusionary Zoning Bylaw.
- 3. Research federal and state grant opportunities for the enhancement of affordable housing including: HUD's Housing for the Elderly (Section 202) Program, <u>Community Economic Development Assistance Corporation</u> (CEDAC) and <u>NeighborWorks Capital</u> (NWC).

Regional Coordination

- 1. Participate in a Regional Housing Committee to create a Regional Housing Plan for the Greater Lowell region.
- Work with non-profit entities, such as the <u>Common Ground Development Corporation</u>, a subsidiary of Community Teamwork, Inc., the Coalition for a Better Acre (CBA) and Habitat for Humanity to develop and manage affordable housing projects.
- 3. Collaborate with other communities to promote First-Time Homebuyer Program opportunities in the region and State to make existing homes more affordable.

4. Research and promote Foreclosure Assistance Programs through the State's Emergency Homeowners Loan Program (EHLP) or Community Teamwork, Inc. to help homeowners avoid foreclosure and maintain strong residential neighborhoods.

D. Housing Production Plan Implementation Requirements

Section III of the Housing Production Plan describes the preferred characteristics for affordable housing in Billerica, the zoning changes that would be needed to be made in order to generate more affordable housing opportunities and the specific locations in the community that have been identified as potential subsidized housing sites.

To meet the State's requirements for developing a Housing Production Plan, the Town identified private and public parcels with the potential for future affordable housing development. Five privately-owned and sixteen publically-owned sites were identified through this process. It is anticipated that between 75 and 150 new housing units could be developed on these sites. The list of potential housing sites will be utilized as a guide in implementing the Housing Production Plan.

Introduction

A. Overview of Housing Production Plan

The development of housing that is accessible and affordable to people with a range of incomes, household characteristics, and demographic qualities is critical to successful and sustainable community planning. The Massachusetts Comprehensive Permit Law (Chapter 774 of the Acts of 1969, a.k.a. Chapter 40B of the Massachusetts General Laws), enacted in 1969, is designed to "increase the supply and improve the regional distribution of low- or moderate-income housing by allowing a limited override of local requirements and regulations which are inconsistent with local and regional affordable housing needs" (DHCD 2009). While many residents understand the need for more affordable housing options, housing developments proposed vis-à-vis the Comprehensive Permitting process are often controversial.

The development and approval of a local Housing Production Plan (HPP) is an integral component of achieving safe harbor status from Comprehensive Permit/Chapter 40B proposals in Massachusetts. The Massachusetts Department of Housing and Community Development (DHCD) defines a Housing Production Plan (HPP) as:

"A community's proactive strategy for planning and developing affordable housing by: creating a strategy to enable it to meet its affordable housing needs in a manner consistent with the Chapter 40B statute and regulations; and producing housing units in accordance with the HPP."

To qualify for approval from DHCD, an HPP must contain three main components: a Comprehensive Needs Assessment, Affordable Housing Goals and Strategies, and Implementation Strategies. The purpose of the Comprehensive Needs Assessment section is to determine the community context, which relies on demographic, community development (zoning and infrastructure), and economic data to assess the extent to which housing needs match the existing housing stock in the community.

The Affordable Housing Goals and Strategies component determines the appropriate housing mix for the community, paying special attention to local and regional needs. This section also sets the minimum affordable housing production goal, as determined by the total number of year-round housing units in the most recent decennial Census. According to recent revisions to the Chapter 40B requirements, the minimum annual affordable housing production goal is greater or equal to 0.5% of the year-round housing stock.

Finally, the purpose of the Implementation Strategies section of the plan is to identify potential growth areas and zoning districts, target specific sites for the production of affordable housing, assess municipally-owned land to develop into mixed-income housing, and identify regional housing development collaboration opportunities.

Once approved by DHCD, an HPP is valid for five years. Additionally, communities may apply to have their HPP certified by DHCD. A community will be certified in compliance with an approved HPP if, during a single calendar year, it has increased its number of low- and moderate-income housing units by at least 0.5%. Certification lasts for one year if the community has increased its Subsidized Housing

Inventory (SHI) units by 0.5%, and two years if it has increased the number of SHI units by 1.0%. According to Chapter 40B, once a plan has been certified, the local community has greater power in controlling new residential development because a decision by the Zoning Board of Appeals to deny a Comprehensive Permit application will be considered "consistent with local need," meaning that the ZBA's decision would be upheld by DHCD's Housing Appeals Committee (HAC).

The state's subsidizing agencies have entered into an Interagency Agreement that provides more guidance to localities concerning housing opportunities for families with children. The agreement requires that at least 10% of the units in affordable production developments that are funded, assisted or approved by a state housing agency have three or more bedrooms with some exceptions (e.g. age-restricted housing, assisted living, supportive housing for individuals, SROs, etc.).

B. Defining Affordable Housing

There are several definitions of affordable housing in the United States depending on whether one utilizes Federal or State criteria. The United States Department of Housing and Urban Development (HUD) considers housing affordable if housing costs do not exceed 30% of a household's annual income. For rental units this includes gross rent plus utilities, whereas for ownership units this includes the cost of mortgage, property taxes, and insurance. According to HUD's affordability criteria, when a household pays more than 30% of its income on housing-related costs, it is considered burdened by housing, and households spending 50% or more of their income on housing are considered severely burdened.

Another measure of housing affordability is based on Area Median Income (AMI). AMI calculations are the most popular way of prioritizing households for affordable housing opportunities. According to HUD, extremely low income characterizes households earning 30% or less of AMI; very low income households earn between 31% and 50% of AMI; low income households earn between 51% and 80% of AMI; and moderate income households earn between 81% and 100% of AMI.

At the state level, DHCD counts a housing unit as affordable if it is subsidized by state or Federal programs that support low- and moderate- income households at or below 80% AMI. Generally speaking, programs that subsidize rental units target households earning within 50% or 60% AMI, and first-time homebuyer programs apply income limits of up to 80% AMI.

Under Chapter 40B, housing is considered "affordable" if it meets the following criteria:

- 1. The unit(s) must be part of a subsidized development built by a public agency, non-profit, or limited dividend corporation;
- At least 25% of the units in the development must be income-restricted to households earning ≤80% AMI and have rent/sale prices restricted to affordable levels (determined by AMI).
 Affordability restrictions must run in perpetuity unless there is demonstrated justification for a shorter term;
- 3. The development must be subject to a regulatory agreement and monitored by a public agency or non-profit organization; and
- 4. Project sponsors must meet affirmative marketing requirements.

If Billerica has achieved certification within 15 days of the opening of the local hearing for the Comprehensive Permit, the ZBA shall provide written notice to the Applicant, with a copy to DHCD, that it considers that a denial of the permit or the imposition of conditions or requirements would be consistent with local needs, the grounds that it believes has been met, and the factual basis for that position, including any necessary supportive documentation.

If the Applicant wishes to challenge the ZBA's assertion, it must do so by providing written notice to the Department, with a copy to the Board, within 15 days of its receipt of the ZBA's notice, including any documentation to support its position. DHCD shall thereupon review the materials provided by both parties and issue a decision within 30 days of its receipt of all materials. The ZBA shall have the burden of proving satisfaction of the grounds for asserting that a denial or approval with conditions would be consistent with local needs, provided, however, that any failure of the DHCD to issue a timely decision shall be deemed a determination in favor of the municipality. This procedure shall toll the requirement to terminate the hearing within 180 days.

C. Data Sources and Definitions

The *Billerica Housing Production Plan for 2015-2019* relies on a variety of data sources from the U.S. Census Bureau, the U.S. Department of Housing and Urban Development (HUD), the U.S. Department of Health and Human Services (HHS), the Massachusetts Department of Transportation (MassDOT), the Department of Housing and Community Development (DHCD), and NMCOG. The two main survey tools used are the U.S. Census and the American Community Survey (ACS) from the U.S. Census Bureau.

It is important to note that differences in sampling methodology, terminology, and timeframe can make it difficult to compare one source to another. For instance, one key difference between the U.S. Census and the ACS is that the Census samples every individual in a community, whereas the ACS samples a subset of the community. This is because the Census strives to provide counts of people for the purpose of Congressional apportionment, whereas the ACS is designed to measure social and economic characteristics of the U.S. population, which can be achieved through estimates.

These differences in sampling methodology mean that some values, such as the number of households in a community, are reported differently in the ACS versus the Census. More accurate household numbers are available through the Census, because it samples everyone in a community. However, ACS numbers still hold value because the survey asks a wider variety of questions. Information on household income, for instance, is only available in the ACS, and was not included as part of the 2010 U.S. Census.

Another key difference between the Census and the ACS is that the Census collects data once every ten years, whereas ACS data are collected continuously. Typically, data from the Census are collected between March and August in a single year, whereas data from the ACS are collected each month and reflect conditions throughout the year.

Furthermore, there are differences in questions and terminology across the Census and the ACS. For example, the Census Bureau introduced a new set of disability questions in the 2008 ACS Questionnaire, which makes comparisons of disability data from 2008 or later with prior years quite difficult. Within the HPP there will be an attempt to minimize any confusion about these data sources and to note where two different data sources are being used. Comparison across data sources is avoided whenever possible. When comparison is unavoidable, the HPP will describe any caution that should be taken.

In addition to these various data sources, it is important to clarify the definitions for terms, such as *housing unit, household* and *family*. The U.S. Census Bureau utilizes the following definitions:

Housing Unit – A house, an apartment, a mobile home or trailer, a group of rooms, or a single room occupied as separate living quarters, or if vacant, intended for occupancy as separate living quarters. Separate living quarters are those in which the occupants live separately from any other individuals in the building and which have direct access from outside the building or through a common hall. For vacant units, the criteria of separateness and direct access are applied to the intended occupants whenever possible. In general the term housing units refers to all the residential structures in the community.

Household – A household includes all the people who occupy a housing unit as their usual place of residence. The term "households" includes all family or nonfamily households.

Family – A group of two or more people who reside together and who are related by birth, marriage or adoption.

For other definitions, consult the U.S. Census Bureau web page at www.census.gov.

The *Billerica Housing Production Plan for 2015 to 2019* utilizes population and household projections prepared by the Massachusetts Department of Transportation (MassDOT) with input from NMCOG. MassDOT developed these population and household projections for the Greater Lowell region from 2020 through 2035. These projections are based upon a statewide model that assigns a specific share of population to each Metropolitan Planning Organization (MPO) region and then to the individual communities. NMCOG staff provided comments on the draft projections and the final projections were adjusted accordingly.

I. Comprehensive Needs Assessment

The Comprehensive Needs Assessment includes a demographic analysis and a housing stock analysis. The demographic analysis involves a discussion of population, household types, age cohorts, school enrollment, race, ethnicity, disabled community and income. The housing stock analysis provides an analysis of unit types, tenure, new residential development and housing market conditions. This section also examines housing affordability, gaps between existing housing needs and current supply, and affordable housing efforts in Billerica.

A. Demographic Analysis

The Demographic Analysis provides an overview of the demographic changes that have occurred in Billerica since the publication of the *Billerica Affordable Housing Productivity Plan* in 2004. Using data from the U.S. Census on household, age, race, ethnicity, disability, and income, this section analyzes past, current and future demographics in Billerica in order to envision future population changes and to inform the Housing Needs section of this plan.

1. Population

According to the 2010 U.S. Census, Billerica had a population of 40,243 residents, which represented 14% of the Greater Lowell region's population. With a land area of 25.89 square miles, the population density is approximately 1,554 persons per square mile. Over the last few decades, the population in

Billerica, as well as in the Greater Lowell region as a whole, has steadily increased. According to the *Regional Strategic Plan for Greater Lowell* (2011), between 1960 and 2010, the population in the region grew by 70% from 169,403 to 286,901 or an average of 14% per decade. In contrast, Billerica's population increased significantly between 1960 and 2010, from 17,867 to 40,243 (about 125%) with a growth rate of 3.2% in 2010 (see Table 1, next page).

Billerica has been the largest town in the Greater Lowell region since 1970, second only to the City of Lowell in total population. Its overall proportion of the region's population has declined from 15.6% in 1980 to 14% in 2010 due largely to growth in the outlying suburban towns of Pepperell, Tyngsborough and Westford, as well as the effects of the 2007-08 economic downturn. The population grew by 3.6% between 1990 and 2000 and by 3.2% between 2000 and 2010, as compared to the region's growth rate of 6.7% and 2% for the same time periods.

Table 2: Actual and Projected Population (2000-2035)

| Year | Billerica | Growth Rate (%) ¹ | Greater Lowell Region | Regional Growth Rate (%) ¹ | Billerica as a Percent of Region |
|------|-----------|---------------------------------|--------------------------|--|-------------------------------------|
| 2000 | 38,981 | 3.6 | 281,225 | 6.7 | 13.9 |
| 2010 | 40,243 | 3.2 | 286,901 | 2.0 | 14.0 |
| 2020 | 40,690 | 1.1 | 297,000 | 3.5 | 13.7 |
| 2025 | 41,340 | 1.6 | 304,000 | 2.4 | 13.6 |
| 2030 | 41,810 | 1.1 | 312,000 | 2.6 | 13.4 |
| 2035 | 42,560 | 1.8 | 320,000 | 2.6 | 13.3 |

Sources: U.S. Census Bureau, 2000 and 2010 Census;

Projections developed by Mass DOT in consultation with NMCOG

Population projections for the Town of Billerica, as outlined in Table 1 above, reflect a lower future growth rate for the town compared to the region as a whole. Between 2010 and 2020 Billerica will experience a growth rate of 1.1%, which is anticipated to increase to 1.8% between 2030 and 2035 reaching a total projected population of 42,560 in 2035. The projections indicate that Billerica's population will consistently comprise around 13-14% of the Greater Lowell region's total population.

2. Households and Household Types

According to the U.S. Census Bureau, a household consists of all the people who occupy a housing unit (e.g. house, apartment, single room). A household includes the related family members and all the unrelated people, if any, such as lodgers, or foster children who share the housing unit. A person living alone in a housing unit, or a group of unrelated people sharing a housing unit, is also counted as a household. The household count excludes group quarters.

Household growth rates in both Billerica and the Greater Lowell region have experienced a slow-down since the turn of the century. However, Billerica's slowdown was not as dramatic as the region's. In 2000 there were 12,919 households in Billerica and by 2010 an additional 1,115 households (8.6%) had been added in the town. The region's household growth rate decreased from 10.2% in 2000 to 4.7% in 2010. This slowdown is due principally to the housing and economic downturn in 2007-2008.

Overall, household growth in Billerica is expected to decline from 8.6% in 2010 to 2% (15,250 households) in 2035 (see Table 2). This is similar to the regional household growth rates, which are also expected to decrease from 4.7% to 2.9% over the same timeframe. Over the next twenty- five years, Billerica's households are expected to comprise nearly 13% of the region's total households. However, Billerica's household growth rate after 2020 will be less than that of the region as a whole, leveling off at 2% in 2035. The Billerica household projections for 2020 to 2035 were prepared by the Massachusetts Department of Transportation (Mass DOT) prior to the release of the final 2010 U.S. Census. Therefore, the growth rate anticipated between 2010 and 2020 may be lower than the region due to the lower 2010 Billerica household estimates by MassDOT.

Table 3: Total Number of Households: 2000 through 2035

| Year | Billerica | Greater Lowell Region | Billerica |
|------|-----------|-----------------------|-----------|

^{1.} Growth rate applies to the periods: 1990-2000, 2000-2010, 2010-2020, 2020-2025. 2025-2030 and 2030-2035.

| | Households | Growth Rate (%) ¹ | Households | Growth Rate (%) ¹ | |
|------|------------|---------------------------------|------------|---------------------------------|------|
| 2000 | 12,919 | 10.5 | 99,342 | 10.2 | 13.0 |
| 2010 | 14,034 | 8.6 | 104,022 | 4.7 | 13.5 |
| 2020 | 14,350 | 2.3 | 108,800 | 4.6 | 13.2 |
| 2025 | 14,700 | 2.4 | 112,100 | 3.0 | 13.1 |
| 2030 | 14,950 | 1.7 | 115,500 | 3.0 | 12.9 |
| 2035 | 15,250 | 2.0 | 118,900 | 2.9 | 12.8 |

Sources: U.S. Census Bureau, 2000 and 2010 Census

Projections developed by MassDOT in consultation with NMCOG.

Growth rate applies to the periods: 1990-2000, 2000-2010, 2010-2020, 2020-2025. 2025-2030 and 2030-2035.

Household types are divided into two categories: family and non-family. In a family household, those who occupy a housing unit are related by birth, marriage or adoption, whereas in a non-family household, those who occupy a housing unit are not related (e.g. roommates). According to the 2010 U.S. Census, nearly three-quarters of the 14,034 households in Billerica are family households (Table 4 below).

Table 4: Household Types (2000 and 2010)

| Hausahald Typa | | 2000 | 2010 | | | | |
|--|--------|------------|--------|------------|--|--|--|
| Household Type | Number | Percentage | Number | Percentage | | | |
| Family households | 10,245 | 79.3 | 10,511 | 74.9 | | | |
| Non-family households | 2,674 | 20.7 | 3,523 | 25.1 | | | |
| Total Households | 12,919 | 100.0 | 14,034 | 100.0 | | | |
| Source: U.S. Census Bureau, 2000 and 2010 Census | | | | | | | |

In 2000

family

households (10,245) comprised 79.3% of all households, while non-family households (2,674) comprised 20.7% of all households. In 2010 the proportion of family households decreased to 74.9% and non-family households increased to 25.1%, reflecting nearly a 5% decrease share of family households.

a. Age Distribution

The U.S. Census also provides an indication of the age distribution in Billerica's households. In 2000 the majority of residents in both family and non-family households were between 35 and 64 years of age. Approximately 72% of residents in family households and 53% of residents in non-family households were in this age cohort (Table 5). In 2010 the proportion of household residents 35-64 years of age remained relatively consistent. Family and non-family households aged 65years and older experienced increases, while the number of households in the youngest age cohort (34 and younger) experienced a decrease in numbers. This reflects the aging population in Billerica.

Table 5: Age Distribution (2000 and 2010)

| Household Type | 20 | 00 | 2010 | | |
|-----------------------|-------------------|------|--------|------------|--|
| Household Type | Number Percentage | | Number | Percentage | |
| Family households | 10,245 | 79.3 | 10,511 | 74.9 | |
| 34 Years and Under | 1,713 | 16.7 | 1,192 | 11.3 | |
| 35-64 Years Old | 7,346 | 71.7 | 7,524 | 71.6 | |
| 65 Years and Older | 1,186 | 11.6 | 1,795 | 17.1 | |
| Non-family households | 2,674 | 20.7 | 3,523 | 25.1 | |

| 34 Years and Under | 536 | 20.0 | 658 | 18.7 | | |
|--|-------|------|-------|------|--|--|
| 35-64 Years Old | 1,422 | 53.2 | 1,763 | 50.0 | | |
| 65 Years and Older | 716 | 26.8 | 1,102 | 31.3 | | |
| Source: U.S. Census Bureau, 2000 and 2010 Census | | | | | | |

b. Household Size

Another important factor when assessing the housing needs of a community is household size. According to the U.S. Census, the average household size in Billerica decreased from 2.92 persons per household in 2000 to 2.79 persons per household in 2010. In the Greater Lowell region, the average household size in 2000 was 2.77 persons per household in 2000 and 2.76 persons per household in 2010. In general, the average household size in Billerica is decreasing and as of 2010 remains slightly larger than that for the region as a whole.

The U.S. Census data generally shows that the size of Billerica's family households tends to be four persons or less. Family households typically contain two to four people, with two-person family households the most prevalent in the town. Only 16.7% of family households contain five or more people (Table 5, below).

Table 6: Household Size (2010)

| Household Type | Household Size (Number of People) | | | | | | | |
|---------------------------|-----------------------------------|-------|-------|-------|-------|-----|-----|--------|
| Household Type | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Total |
| Family Households | | | | | | | | |
| Number in each category | 0 | 3,718 | 2,537 | 2,495 | 1,137 | 404 | 220 | 10,511 |
| % in each category | 0.0 | 35.4 | 24.1 | 23.7 | 10.8 | 3.8 | 2.1 | 74.9 |
| Nonfamily Households | | | | | | | | |
| Number in each category | 2,770 | 667 | 67 | 14 | 1 | 1 | 3 | 3,523 |
| % in each category | 78.6 | 18.9 | 1.9 | 0.4 | 0.0 | 0.0 | 0.1 | 25.1 |
| Total Households | 2,770 | 4,385 | 2,604 | 2,509 | 1,138 | 405 | 45 | 14,034 |
| Total % of all Households | 19.7 | 31.2 | 18.6 | 17.9 | 8.1 | 2.9 | 0.3 | 100.0 |

Source: U.S. Census Bureau, 2010 Census Totals may not sum due to rounding.

Similarly, non-family households most often contain one or two people with single-person households most dominant (78.6%). Only 2.4% of non-family households contain three or four people, and there are only five non-family households in Billerica with more than four people in the home. These numbers clearly indicate a trend towards smaller households in Billerica.

c. Household Characteristics

Household characteristics can also be analyzed to provide insight into the diversity of the family unit. Data from the U.S. Census shows that over the past ten years, Billerica's family households are becoming increasingly diverse. Married couples with children under 18 comprised 36.2% of family households in 2010, whereas married couples without children and non-married family households comprised 63.8% in 2010 – an increase of 9.8% since 2000, as outlined below in Table 6.

Table 7: Household Characteristics (2010)

| Household Type | 2 | 000 | 2010 | | |
|-----------------------------------|--------|------------|--------|------------|--|
| Household Type | Number | Percentage | Number | Percentage | |
| Family households | 10,245 | 79.3 | 10,511 | 74.9 | |
| Married - children under 18 years | 4,137 | 40.4 | 3,806 | 36.2 | |

| Married - no children under 18 years | 4,398 | 42.9 | 4,683 | 44.6 |
|---|-------|------|-------|------|
| Non-married - male householder, no spouse | 493 | 4.8 | 592 | 5.6 |
| Non-married - female householder, no spouse | 1,217 | 11.9 | 1,430 | 13.6 |
| Non-family households | 2,674 | 20.7 | 3,523 | 25.1 |
| Householders living alone | 2,113 | 79.0 | 2,800 | 79.5 |
| Householders 65 and older living alone | 679 | 32.1 | 942 | 33.6 |
| Householders living with others | 561 | 21.0 | 753 | 21.4 |

Source: U.S. Census Bureau, 2000 and 2010 Census

Values have been rounded to the nearest percent, so totals may not sum due to rounding.

Indented text indicates a sub-category.

The proportion of non-family households comprising people living alone has remained relatively consistent from 79% in 2000 to 79.5% in 2010. However, there has been an increase in non-family households, which may indicate an increase in the number of Billerica residents who choose to live with roommates due to economic necessity or other personal reasons. These trends indicate single-person, single-parent families and married couples without children are becoming more prominent in Billerica. This could be due to a variety of factors, including an aging population whose children have moved out of the home, increases in the divorce rate, or couples deciding to have children later in life.

3. Age Cohorts

In order to determine how best to meet future housing demand in Billerica, it is important to examine the current age of the population, as well as projected aging trends over time. Data from the U.S. Census Bureau indicates that in both 2000 and 2010, the majority of Billerica residents were between the ages of 25 and 59. In 2010 the median age in Billerica was 40.1 years. Over the past decade, the 60-74 age group grew by 50.6% and the 75+ age group grew by 43.9%, while the 0-9 years and 25-39 year age groups all experienced declines. At the same time, there has been modest growth in the 10-19, 20-24 and 40-59 year cohorts (Table 7 and Figure 1, below).

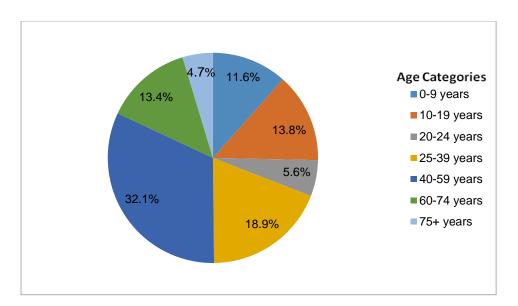
Table 8: Age Distribution of Billerica Residents (2000-2010)

| Age Groups | 2 | 000 | 20 | Percent Change | |
|-------------|--------|---------|--------|-------------------|-----------|
| | Number | Percent | Number | Percent | 2000-2010 |
| 0-9 years | 5,601 | 14.4 | 4,659 | 11.6 | -16.8 |
| 10-19 years | 5,277 | 13.5 | 5,539 | 13.8 | 5.0 |
| 20-24 years | 2,002 | 5.1 | 2,236 | 5.6 | 11.7 |
| 25-39 years | 9,708 | 24.9 | 7,619 | 18.9 | -21.5 |
| 40-59 years | 11,512 | 29.5 | 12,928 | 32.1 | 12.3 |
| 60-74 years | 3,575 | 9.2 | 5,383 | 13.4 | 50.6 |
| 75+ years | 1,306 | 3.4 | 1,879 | 4.7 | 43.9 |
| Total | 38,981 | 100.0 | 40,243 | 100.0 | |

Sources: U.S. Census Bureau, 2000 and 2010 Census

Note: the 25-39 and 40-59 year old age cohorts have been estimated for 2000.

Figure 1: Age Distribution of Billerica Residents: 2010



To understand future population trends, MassDOT, with input from NMCOG, developed population projections for 2020 to 2035. Utilizing these projections, it is projected that Billerica's total population will increase by 5.8% between 2010 and 2035 (Table 1). To determine the projected age distribution of Billerica's future residents, NMCOG utilized available data from Metro Future age cohort breakdowns in Table 8, on the next page. The age cohort breakdowns have been applied to the MassDOT projections so that the numbers are consistent. This data provides a useful indication of the likely age distribution of residents expected in the future.

Table 9: Projected Age Distribution of Billerica Residents (2020-2035)

| Age Groups | 2020 | | 20 | 030 | 20 | Percent Change | |
|-------------------------|--------|---------|--------|---------|--------|-------------------|----------------|
| Age Groups | Number | Percent | Number | Percent | Number | Percent | 2010 - 2035 |
| 0-9 years | 4,902 | 12.0 | 5,167 | 12.4 | 5,229 | 12.3 | 12.2 |
| 10-19 years | 5,003 | 12.3 | 4,916 | 11.8 | 4,988 | 11.7 | -9.9 |
| 20-24 years | 2,242 | 5.5 | 2,044 | 4.9 | 2,049 | 4.8 | -8.4 |
| 25-39 years | 8,528 | 21.0 | 8,958 | 21.4 | 8,849 | 20.8 | 16.1 |
| 40-59 years | 11,912 | 29.3 | 11,032 | 26.4 | 10,700 | 25.1 | -17.2 |
| 60-74 years | 6,630 | 16.3 | 7,521 | 18.0 | 7,900 | 18.6 | 46.8 |
| 75+ years | 1,474 | 3.6 | 2,173 | 5.2 | 2,845 | 6.7 | 51.4 |
| Total Population | 40,690 | 100.0 | 41,810 | 100.1 | 42,560 | 100.0 | 5.8 |

Source: Projections developed by MassDOT in consultation with NMCOG utilizing MetroFuture age cohort breakouts. Totals may not sum due to rounding.



Billerica Senior Center
http://www.town.billerica.ma.us/Facilities/Facility/Details/Billerica-Senior-Center-10

The age groups that will increase the most are the 60 to 74 year olds and the 75+ age group, which are expected to increase 46.8% and 51.4% respectively by 2035. These trends indicate the population in Billerica is aging, and the need for starter homes is likely declining, while the need for elderly housing

may be increasing. This increase is a logical consequence of an aging population in a society where most people, on average, will live into their eighties.²²

The expected population growth in Billerica, especially the increase in the elderly population, has important implications for housing planning and development. In addition to a general need for more housing units, special attention will need to be paid to the housing needs of seniors and for housing stock that can adapt to the needs of an aging population. This Housing Production Plan will consider these unique housing needs as it develops a framework for housing production in Billerica over the next five years.

 $^{^{22}\,\}underline{http://www.ssa.gov/planners/life expectancy.htm}$

4. School Enrollment and Projections

School enrollment trends are a crucial component of Billerica's town-wide growth and population trends. An analysis of school enrollment trends helps frame a discussion of the potential future impacts of population change on the school system and Town, and helps better plan for future local housing needs. The results of the analysis are useful in formulating an affordable housing strategy that is sensitive to these changes over time.

The Billerica Public School System is a comprehensive public school system serving 5,242 students in grades Pre-K to 12 in 2013. The district consists of six elementary schools, three middle schools, and one high school. The schools include Billerica Memorial High School, Eugene C. Vining School, Frederick J. Dutile School, Hajjar Elementary, Locke Middle School, Marshall Middle School, Parker Elementary School, Thomas Ditson School, and Project Support Preschool.

Billerica students also attend the vocational school at the Shawsheen Valley Technical High School in



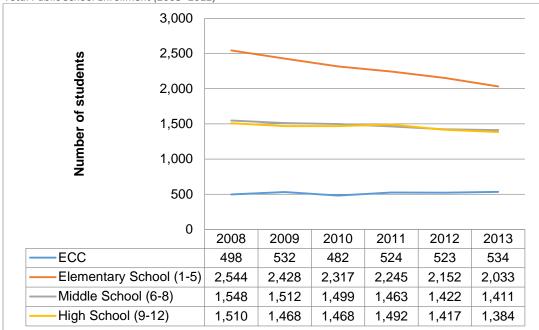
Parker Elementary School http://www.massschoolbuildings.org/node/43563

Billerica, as well as a variety of charter schools and parochial schools. Local Charter Schools in the region include the Innovation Academy (Tyngsborough), Lowell Middlesex Academy Charter School (Lowell), Lowell Community Charter School (Lowell), and the Advanced Math and Science Charter School (Marlborough). Billerica students also attend parochial schools, such as the Academy of Notre Dame (Tyngsborough), Middlesex Academy (Lowell), and Austin Preparatory School (Reading), as well as a number of other schools within the Greater Lowell and Greater Boston regions. According to 2013 data from the Massachusetts Department of Elementary and Secondary Education, within the Billerica school district 569 high school students attended vocational/technical regional schools, 32 students attended collaborative schools, 201 students attended Charter Schools, 43 students attended out-of-district public schools, 45 students are home schooled and 324 students attended private and parochial schools.

Dore and Whittier Architects recently completed the *Billerica Schools Facilities Study* on behalf of the Billerica Schools Department, which addresses both the educational and facility needs across the school district. According to the study and further data provided by the School Department, total public school enrollment decreased from 6,396 students to 5,362 students or about 16.2 percent from 2001 and 2013. Figure 2, on the next page, provides a detailed breakdown of public school enrollments over the past six years. The declining school enrollments could be the result of a several factors, including increased enrollment of students at vocational, charter and parochial schools. It is also noted that historically, approximately 100 middle school students transfer to the Shawsheen Vocational High School between grades eight and nine²³. With proposed improvements to facilities at the elementary, middle and the high school levels, the Billerica School District hopes to recapture a portion of the students being lost to charter, parochial and vocational schools.

²³ Dore and Whittier Architects, Inc.

Figure 2: Total Public School Enrollment (2008- 2012) 24



Source: Town of Billerica, 2014

In the future, enrollment targets established in the *Billerica Schools Facilities Study* indicate that student enrollments are expected to continue to decline in Pre-K, Middle School and High School. Some growth is expected in elementary school student enrollments. Estimates indicate that overall, the Pre-K-12 student enrollment for 2021 will be 5,410, an increase of 168 students from 2013, as outlined in Table 9 below.

Table 10: Billerica School Enrolment Projections

| School type | 2013 student enrollment | 2021-2022 student enrollment | | | | |
|--|----------------------------|------------------------------|--|--|--|--|
| Preschool and Kindergarten | 219 | 160 | | | | |
| Elementary School | 2,179 | 2,500 | | | | |
| Middle School | 1,438 | 1,350 | | | | |
| High School | 1,406 | 1,400 | | | | |
| Total | 5,242 | 5,410 | | | | |
| Source: Billerica Schools Facilities Study, 2012 | | | | | | |

Based on recommendations outlined in the *Billerica Schools Facilities Study*, the Billerica School District made a decision to pursue construction of a new/renovated high school facility. In June 2014 the Massachusetts School Building Authority (MSBA) approved Billerica Memorial High School's request to undertake a feasibility study, thereby moving the high school project into the capital pipeline and committing MSBA funding. The feasibility study will identify the most cost-effective solutions to the

²⁴ ECC = Early Childhood & Care

deficiencies identified at Billerica Memorial High School, including determining whether or not to renovate the existing school or construct a new facility.

5. Race and Ethnicity

By and large, Billerica is a racially and linguistically homogenous community. In 2000, 94.7% of residents identified themselves as white, while 2.8% identified themselves as Asian and another 1.5% were part of the Hispanic and/or Latino community. The U.S. Census indicates that between 2000 and 2010 the white population in Billerica decreased by 1.7%, while the minority populations, other than Native Hawaiian and Pacific Islanders, increased significantly (Table 11 below). Black or African American residents increased by 96.5%, while Asian and Hispanic/Latino residents increased by 104.3% and 72.5% respectively. In addition, the American Indian and Alaska Native population increased by 51.3% between 2000 and 2010. However, it must be recognized that such increases are coming from a low population base, which is why the percentages are considerably high. The only minority population experiencing a decline was the Native Hawaiian and Other Pacific Islander, which decreased by 50%. Even with these increases in minority populations, the white population still represented 90.2% of the population in 2010. Although Billerica remains primarily homogeneous, it is slowly transitioning to an increasingly diverse community.

Table 11: Racial and Ethnic Diversity of Residents: 2000 - 2010

| Racial/Ethnic Category | 2000 | | 201 | Percent Change | |
|--|------------|---------|------------|-------------------|-----------|
| | Population | Percent | Population | Percent | 2000-2010 |
| White | 36,906 | 94.7 | 36,285 | 90.2 | -1.7 |
| Black or African American | 432 | 1.1 | 849 | 2.1 | 96.5 |
| American Indian and Alaska Native | 39 | 0.1 | 59 | 0.1 | 51.3 |
| Asian | 1074 | 2.8 | 2,194 | 5.5 | 104.3 |
| Native Hawaiian and Other Pacific | | | | | |
| Islander | 16 | 0.0 | 8 | 0.02 | -50.0 |
| Some Other Race and Two or | | | | | |
| More Races | 514 | 1.3 | 848 | 2.1 | 65.0 |
| Total Population | 38,981 | 100.0 | 40,243 | 100.0 | 3.2 |
| Hispanic or Latino (All races) | 600 | 1.5 | 1,035 | 2.6 | 72.5 |
| Source: U.S. Census Bureau, 2000 and 2 | 010 Census | | | | |

6. Residents with Disabilities

Understanding the needs of disabled Billerica residents is also a crucial aspect of planning for housing. Disability data for Billerica is available in the 2000 U.S. Census, but no disability data was collected for the 2010 U.S. Census. Therefore, disability data in the 2008-2012 American Community Survey (ACS) is the most recent data. According to the U.S. Census Bureau, shortly after the 2000 Census, there was growing agreement that survey questions on disability did not coincide with recent models of disability. An interagency group was formed to develop a new set of questions, and new questions were introduced in 2008. These questions categorize a disability as one having difficulty in one of the following: hearing, vision, cognition, walking or climbing stairs (ambulatory), self-care (difficulty bathing

or dressing), and independent living (difficulty doing errands alone such as visiting a doctor's office or shopping).

Because of the changes to the questions, the U.S. Census Bureau recommends that the new ACS disability questions not be compared to the previous ACS disability questions or the 2000 U.S. Census disability data. As a result, this section focuses only on disability data available from the 2008-2012 ACS. According to the ACS, there were an estimated 3,682 disabled residents in Billerica, of which just over half were between the ages of 18 and 64 (Table 11).

Table 12: Age Characteristics of the Disabled Community in Billerica (2008-2012)

| Age Characteristics | Estimate | Percent of Total |
|---------------------------------|--------------|----------------------|
| Under 5 | 11 | 0.3 |
| 5-17 years old | 278 | 7.6 |
| 18-64 years old | 1,886 | 51.2 |
| 65+ years old | 1,507 | 40.9 |
| Total Number of Disabled | | |
| Residents | 3,682 | 100.0 |
| U.C. Consus Burgay, 2009, 2012 | American Con | anarraitus Creminais |

U.S. Census Bureau, 2008-2012 American Community Survey Note: Totals may not sum due to rounding.

In Billerica, the most common disability reported in the 2008-2012 ACS was an ambulatory disability, which means that a person experienced serious difficulty walking or climbing stairs. Following that, the next most common disabilities are cognition, independent living, and hearing difficulty (Figure 3).

Figure 3: Disabilities Reported for Billerica Residents (2008-2012) 2.000 1,800 Number of residents 1,600 1,400 1,200 1,000 800 600 400 200 0 Independent Vision Cognitive Ambulatory Self-care Hearing living difficulty difficulty difficulty difficulty difficulty difficulty 1,363 1,247 694 1,324 1,764 538

Source: U.S. Census Bureau, 2008-2012 American Community Survey

It is important to note that some residents experience more than one disability, which is why the values in Figure 3 sum to greater than the total number of disabled residents. In addition, this data is based on a survey sample and is therefore subject to sampling variability, which can result in a degree of uncertainty.

Billerica residents comprise approximately 12.3% of the reported disabled community in the Greater Lowell region. As shown below in Table 13, this figure is much lower than Lowell, which comprised 46.5% of the reported disabled community. Dunstable has the lowest percentage of disabled residents with 0.5%.

Table 13: Characteristics of the Disabled Community in the Greater Lowell region 2012

| Age Characteristics | Billerica | Chelmsford | Dracut | Dunstable | Lowell | Pepperell | Tewksbury | Tyngsborough | Westford | Total |
|---|-----------|------------|--------|-----------|--------|-----------|-----------|--------------|----------|--------|
| Under 5 | 11 | 0 | 0 | 0 | 103 | 0 | 0 | 16 | 10 | 140 |
| 5 to 17 | 278 | 169 | 219 | 27 | 1,260 | 136 | 231 | 135 | 182 | 2,637 |
| 18 to 64 | 1,886 | 1,091 | 1,390 | 69 | 8,586 | 627 | 1,358 | 579 | 436 | 16,022 |
| 65 over | 1,507 | 1,632 | 1,291 | 67 | 3,943 | 256 | 1,419 | 434 | 546 | 11,095 |
| Percent Regional Disabled Population | 12.3 | 9.7 | 9.7 | 0.5 | 46.5 | 3.4 | 10.1 | 3.9 | 3.9 | 100.0 |
| Total | 3,682 | 2,892 | 2,900 | 163 | 13,892 | 1,019 | 3,008 | 1,164 | 1,174 | 29,894 |
| Source: U.S. Census Bureau, 2008-2012 American Community Survey Totals may not sum due to rounding. | | | | | | | | | | |

Disabled residents often have unique housing needs, both in terms of the physical design/accessibility of their homes and the cost relative to a fixed or limited income. For this reason, a comprehensive affordable housing plan should be sensitive to the specific needs of the disabled community and incorporate their issues into the goals and strategies for future affordable housing production. These issues will be addressed in the Affordable Housing Goals and Strategies and Housing Production Plan Implementation Requirements sections.

7. Household and Family Income

This section examines median household, family and per capita incomes in Billerica, and compares Billerica's income distribution to HUD eligibility thresholds and U.S. poverty thresholds. By examining these values, we can understand the proportion of Billerica residents who may be in poverty or living on a restricted income.

a. Median Household Income

According to the U.S. Census Bureau, median household income is calculated based on the income of the householder and all other individuals 15 years old and over in the household. Over the past twenty years Billerica has seen a significant increase in its median household income, which exceeds that of the Greater Lowell region as a whole.

The median household income in Billerica increased approximately 33% from \$67,799 in 1999 to \$89,957 in 2012 (Table 14). The increase in Billerica's median household income is at the higher end of increases in the region, which as a whole experienced a 24.4% growth in median household income. In 2012 Billerica's median household income was estimated to be 24 % higher than the Greater Lowell region's median household income. This percentage reflects a considerable increase from the 1999 figures that showed Billerica's median household income being only 16% higher than the median household income in the Greater Lowell region.

Billerica and the Commonwealth of Massachusetts both experienced increases in median household income of around 32% between1999 and 2012, whereas Greater Lowell and the United States saw incomes increase by around 25%.

| Geographic Area | 1999 | 2012 | % Increase 1999-2012 | % Inflation Adjusted Increase | | |
|--|----------|----------|-------------------------|-------------------------------------|--|--|
| Billerica | \$67,799 | \$89,957 | 32.7 | -3.9 | | |
| Greater Lowell Region | \$58,472 | \$72,760 | 24.4 | -9.8 | | |
| Massachusetts | \$50,502 | \$66,658 | 32.0 | -4.4 | | |
| United States | \$41,944 | \$53,046 | 26.5 | -8.4 | | |
| Sources: U.S. Census Bureau, 2000 Census and 2008-2012 American Community Survey | | | | | | |

It is important to adjust these values for inflation so an absolute comparison can be made. According to the Bureau of Labor Statistics (BLS) Inflation Rate Calculator, one dollar in 1999 has the same buying power as \$1.38 in 2012 dollars, which indicates a rate of inflation of 38% between 1999 and 2012. The inflation calculator uses the average Consumer Price Index (CPI) for a given calendar year, and the data represents changes in the prices of all goods and services purchased for consumption by urban households. This value is confirmed by the Cumulative Inflation Rate Calculator on www.inflationdata.com, which indicates an inflation rate of 38.07% between June 1999 and June 2012.

When adjusted for inflation, Billerica and the Greater Lowell region both experienced negative growth in terms of median household income, with incomes decreasing by 3.9% and 9.8% respectively. Massachusetts and the nation also decreased by 4.4% and 8.4% respectively. This indicates that growth in median household incomes has not kept pace with inflation.

b. Median Family Income

Median family income is calculated based on the income of the householder and all other individuals 15 years old and over in the household who are related. Median family income is often greater than median household income because a household can consist of single individuals, whereas family income always consists of two or more individuals. Over the past decade, median family incomes have increased in Billerica, the Greater Lowell region, Massachusetts and the United States (Table 15).

Table 15: Median Family Income for Selected Geographies (1999-2012)

| Geographic Area | 1999 | 2012 | % Increase 1999 - 2012 | % Inflation Adjusted Increase | | |
|---|----------|-----------|---------------------------|-------------------------------------|--|--|
| Billerica | \$72,102 | \$100,852 | 39.9 | 1.4 | | |
| Greater Lowell Region | \$67,583 | \$89,927 | 33.1 | -3.6 | | |
| Massachusetts | \$61,664 | \$84,380 | 36.8 | -0.8 | | |
| United States | \$50,046 | \$64,585 | 29.1 | -6.5 | | |
| Source: U.S. Census Bureau, 2000 Census and 2008-2012 American Community Survey Note: Totals may not sum due to rounding. | | | | | | |

Billerica's median family income increased from \$72,102 in 1999 to \$100,852 in 2012 – an increase of 39.9%. Median family incomes also increased across the region, state and nation, albeit not at the same level of growth experienced in Billerica. When adjusted for inflation, Billerica has experienced marginal

growth in median family income. In contrast, the Greater Lowell region, Massachusetts and the United States all experienced negative growth in inflation adjusted median family income, with incomes decreasing by 3.6%, 0.8% and 6.5% respectively.

c. Per Capita Income

The U.S. Census Bureau defines per capita income as the average income received in the past 12 months for every man, woman, and child in a geographic area. It is derived by dividing the total income of all people 15 years old and over in a geographic area by the total population in that area. Income is not collected for people under 15 years old even though those people are included in the denominator of per capita income. Between 1999 and 2012, Billerica's per capita income increased from \$24,953 to \$33,839, or an increase of 35.6%. This is slightly lower than the per capita income increase for both the region and state (36.7%), and moderately higher than the nation's per capita increase of 29.9%. See Table 16 below.

Table 16: Per Capita Income for Selected Geographies: 1999 and 2012

| Geographically area | 1999 | 2012 | % Increase 1999 - 2012 | % Inflation Adjusted Increase |
|----------------------------------|----------------|--------------|---------------------------|-------------------------------------|
| Billerica | \$24,953 | \$33,839 | 35.6 | -1.7 |
| Greater Lowell Region | \$24,081 | \$32,914 | 36.7 | -1.0 |
| Massachusetts | \$25,952 | \$35,485 | 36.7 | -0.9 |
| United States | \$21,587 | \$28,051 | 29.9 | -5.8 |
| Sources: U.S. Census Bureau, 200 | 0 Census and 2 | 008-2012 Ame | rican Community S | urvey |

When adjusted for inflation, Billerica experienced negative per capita income growth of 1.7%. Similarly, the State of Massachusetts and the Greater Lowell region saw per capita incomes decrease by 0.9% and 1.0% respectively in real terms. A higher loss was felt at the national level with negative per capita income growth of 5.8%.

d. Income Distribution

While median household and median family incomes are valuable social and economic indicators, they do not account for the range, or distribution, of household incomes in a community. The median household income in Billerica is \$89,957, which is lower than the median family income of \$100,852. As previously mentioned, it is typical for household income to be less than family income because, by definition, a "family" includes at least two people, which often includes two income earners.

The distribution of income across Billerica households has changed significantly since 1999. In Billerica, more than 60% of households made \$75,000 or more in 2012 and 43% of households made \$100,000 or more (Table 17, next page). Since 1999, the number of households earning more than \$100,000 in Billerica has more than doubled, whereas all other income categories decreased as a percentage of the total household population.

Table 17: Income Distribution for Billerica Households in 1999 and 2012

| | 1 | 1999 | 20 | 12 | Percent Change |
|---------------------------|-----------------|---------------------|--------------------|---------|----------------|
| Income category | Number | Percent | Number | Percent | 2000-2012 |
| Less than \$15,000 | 754 | 5.8 | 539 | 3.9 | -28.5 |
| \$15,000-\$24,999 | 816 | 6.3 | 766 | 5.5 | -6.1 |
| \$25,000-\$34,999 | 875 | 6.8 | 788 | 5.7 | -9.9 |
| \$35,000-\$49,999 | 1720 | 13.3 | 1,232 | 8.8 | -28.4 |
| \$50,000-\$74,999 | 3324 | 25.6 | 2,193 | 15.7 | -34.0 |
| \$75,000-\$99,999 | 2,615 | 20.2 | 2,424 | 17.4 | -7.3 |
| \$100,000 or more | 2,857 | 22.0 | 5,991 | 43.0 | 109.7 |
| Total: | 12,961 | 100.0 | 13,933 | 100.0 | 7.5 |
| Sources: U.S. Census Bure | au, 2000 Census | s and 2008-2012 Ame | erican Community S | Survey | |

Income distribution by age in Billerica indicates that the highest median income, \$122,500, is earned by those residents aged less than 25 years (Table 17, below). However, it is acknowledged that according to the ACS, incomes in this age category have a very high degree of sampling error and is therefore subject to considerable inaccuracies. Billerica residents between 25 and 64 years of age are also high earners, receiving close to \$100,000 on average in 2012. For residents over the age of 64, the median income reduces dramatically, and is less than half of the other age cohorts (\$48,198), reflecting the retirement status of these residents.

Table 18: Median Income by Age in Billerica (2012)

| Age | 2012 | | | |
|---|-----------|--|--|--|
| Under 25 years | \$122,500 | | | |
| 25 - 44 years | \$100,448 | | | |
| 45-64 years | \$98,360 | | | |
| 65 years and older | \$48,198 | | | |
| Median Household Income | \$89,957 | | | |
| Source: U.S. Census Bureau, 2008-2012 American Community Survey | | | | |

e. Area Median Income

Affordable housing requirements base a household's eligibility for income restricted units on a series of income thresholds. The U.S. Department of Housing and Urban Development (HUD) defines these thresholds as percentages of Area Median Income (AMI) – a number determined by the median family income in a given Metropolitan Statistical Area (MSA). Income thresholds are often capped at 80%, 60%, 50%, and 30% of AMI, but vary depending on the number of individuals in the household.

In general, households earning 80% of AMI are considered "moderate income", whereas those households earning 60% of AMI are considered "low income". Those earning 50% of AMI and 30% of AMI are considered "very low income" and "extremely low income", respectively. HUD income thresholds for the Greater Lowell Region are used to determine which households in the region are eligible for income-restricted units, including Chapter 40B, Section 8, and Low Income Housing Tax Credit units. The values presented in Table 18 below are based on the AMI for the Lowell region, which HUD lists as \$90,700 for 2014.

| Income | Median | FY 2012 Income | | | Househ | old Size | | |
|-----------------|----------|---------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Limit Area | Income | Limit Category | 1- Person | 2- Person | 3- Person | 4- Person | 5- Person | 6- Person |
| Lowell, | | 30% - Extremely Low | \$19,050 | \$21,800 | \$24,500 | \$27,200 | \$29,400 | \$31,600 |
| MA HUD Metro | \$90,700 | 50% - Very Low | \$31,750 | \$36,300 | \$40,850 | \$45,350 | \$49,000 | \$52,650 |
| FMR Area | | 80% - Moderate | \$44,750 | \$51,150 | \$57,550 | \$63,900 | \$69,050 | \$74,150 |

Source: http://www.mass.gov/hed/docs/dhcd/hd/home/hudincome.pdff
Billerica is included in the Lowell Metropolitan Fair Market Rent (FMR) region.

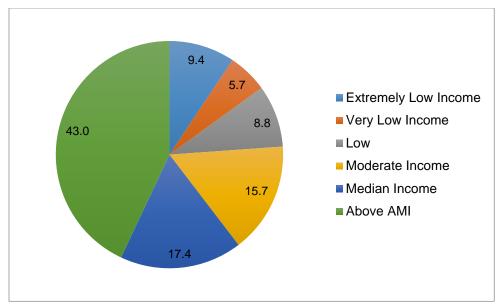
There is currently limited data available that categorizes Billerica's income by family size. However, using household income data and the HUD thresholds, it is possible to make some generalized assumptions about the number of Billerica residents who may be eligible for HUD assistance. Assuming a three person household, it is possible to estimate the percent of households that fall into each income category. This is done by matching each income category with the most appropriate HUD threshold (Table 19, below).

Table 20: Income Categories and Associated HUD thresholds

| Income estadory | 2012 | | HUD Threshold | | |
|--|--------|---------|----------------------|--|--|
| Income category | Number | Percent | HOD Tilleshold | | |
| Less than \$15,000 | 539 | 3.9 | Extremely Low Income | | |
| \$15,000-\$24,999 | 766 | 5.5 | Extremely Low Income | | |
| \$25,000-\$34,999 | 788 | 5.7 | Very Low Income | | |
| \$35,000-\$49,999 | 1,232 | 8.8 | Low Income | | |
| \$50,000-\$74,999 | 2,193 | 15.7 | Moderate Income | | |
| \$75,000-\$99,999 | 2,424 | 17.4 | Median Income | | |
| \$100,000 or more | 5,991 | 43.0 | Above AMI | | |
| Total: | 13,933 | 100.0 | | | |
| Sources: US Census Bureau, 2008-2012 American Community Survey | | | | | |

After matching each income category to a HUD threshold, the percentage of households in Billerica that are associated with various income thresholds can be generally estimated. As shown in Figure 4, on the next page, an estimated 43% of Billerica households earn above the Lowell Metro AMI, and an estimated 17.4% earn an income that is generally in the range of the AMI. This indicates that over 60% of households in Billerica are average to high earning households, whereas an estimated 39.6% still earn less than the AMI and may be eligible for HUD assistance.

Figure 4: Estimated Percent of Billerica Households in each AMI Category



Source: NMCOG staff Analysis of ACS Data

8. Residents Living In Poverty

Every year, the U.S. Department of Health and Human Services (HHS) and the U.S. Census Bureau establish Federal Poverty Guidelines. These income thresholds vary by family size and composition to determine who is living in poverty (Table 20). If a family's total income is less than the family's threshold, then that family, and every individual in it, is considered to be living in poverty. The official poverty thresholds do not vary geographically, but they are updated for inflation using the Consumer Price Index (CPI). The official poverty definition uses income before taxes and does not include capital gains or noncash benefits (such as public housing, Medicaid, and food stamps).

Table 21: Federal Poverty Guidelines (2014)

| Number of Persons in Family | Poverty Guideline Income | | |
|---|-----------------------------|--|--|
| 1 | \$11,670 | | |
| 2 | \$15,730 | | |
| 3 | \$19,790 | | |
| 4 | \$23,850 | | |
| 5 | \$27,910 | | |
| 6 | \$31,970 | | |
| 7 | \$36,030 | | |
| 8 | \$40,090 | | |
| For each additional | | | |
| person | \$4,060 | | |
| Source: Department of Health & Human Services | | | |

Source: Department of Health & Human Services http://aspe.hhs.gov/Poverty/14poverty.cfm

Table 22: Characteristics of the Billerica Population Living in Poverty in 2012

| | Number Below Poverty Level | Percent of those in poverty |
|-------------------------------------|-------------------------------|-----------------------------------|
| Age | | |
| Under 18 Years | 1,150 | 45.8 |
| 18 to 64 Years | 1,261 | 50.2 |
| 65 Years and Older | 101 | 4.0 |
| Sex | | |
| Male | 1,264 | 50.3 |
| Female | 1,248 | 49.7 |
| Total Individuals Living in Poverty | 2,512 | 6.2 |
| Total Billerica Population | 40,479 | |

Source: U.S. Census Bureau, 2008-2012 American Community Survey

In 2012 approximately 6.2% (2,512 individuals) of Billerica's total population was classified as living in poverty. Of those residents, more than half are between the ages of 18 to 64, with 45.8% under the age of 18, and 4% over the age of 65 (Table 22, above). Of the total population in Billerica, 23,502 are considered to be in the labor force, which represents that part of the population 16 years and older and able to work. Of that group, 793 people, or 3.4% are below the poverty line. There are 7,807 Billerica residents who are over the age of 16, but do not work. Of these individuals, 726, or 9.3% are below the poverty line.

²⁵ For more information about how the U.S. Census Bureau defines poverty thresholds, refer to: http://www.census.gov/hhes/www/poverty/methods/measure.html.

B. Existing Housing Stock Analysis

This section examines the characteristics and condition of the current housing stock and local housing market in Billerica. By analyzing housing types, home values, development and sales trends, and housing affordability, this examination provides a summary of affordable housing efforts in Billerica since the publication of the 2004 Affordable Housing Productivity Plan.

1. Housing Unit Types

Billerica supports a variety of housing units from single-family homes to multi-unit dwellings. According to the 2000 U.S. Census, there were 13,058 housing units in Billerica of which 82.4% were single-family homes. Duplexes accounted for 4.2% of the housing stock, while multi-unit dwellings accounted for an additional 12.6%. In addition there were 97 (or 0.7%) nontraditional housing units (e.g. mobile homes) in 2000. In order to understand how Billerica's housing stock has changed over time, housing stock data from the 2000 US Census has been compared with estimates from the 2008-2012 ACS. Results indicate that while the amount of housing stock has increased over time, the proportional distribution of housing types within Billerica has remained relatively unchanged over the past twelve years (Table 22).

Table 23: Housing Units by Type (2000-2012)

| 2000 Housing Stock | | | | Change 2000-2012 | |
|-----------------------|---|---|--|--|---|
| Number | Percent | Number | Percent | Number | Percent |
| 10,764 | 82.4 | 11,976 | 82.9 | 1,212 | 11.3 |
| 548 | 4.2 | 259 | 1.8 | -289 | -52.7 |
| 232 | 1.8 | 328 | 2.3 | 96 | 41.4 |
| 437 | 3.3 | 694 | 4.8 | 257 | 58.8 |
| 980 | 7.5 | 1,066 | 7.4 | 86 | 8.8 |
| 97 | 0.7 | 124 | 0.9 | 27 | 27.8 |
| 13,058 | 100.0 | 14,447 | 100.0 | 1,389 | 10.6 |
| | Housin Number 10,764 548 232 437 980 97 | Housing Stock Number Percent 10,764 82.4 548 4.2 232 1.8 437 3.3 980 7.5 97 0.7 | Housing Stock Housing Number Number Percent Number 10,764 82.4 11,976 548 4.2 259 232 1.8 328 437 3.3 694 980 7.5 1,066 97 0.7 124 | Housing Stock Housing Stock Number Percent Number Percent 10,764 82.4 11,976 82.9 548 4.2 259 1.8 232 1.8 328 2.3 437 3.3 694 4.8 980 7.5 1,066 7.4 97 0.7 124 0.9 | Housing Stock Housing Stock 2000- Number Percent Number Percent Number 10,764 82.4 11,976 82.9 1,212 548 4.2 259 1.8 -289 232 1.8 328 2.3 96 437 3.3 694 4.8 257 980 7.5 1,066 7.4 86 97 0.7 124 0.9 27 |

In 2012 single-family homes continued to make up the majority of all homes, followed by larger multifamily units (5 to 20+) and then duplex units. Multi-family units containing 3-4 units, duplexes and mobile homes comprised the lowest percentage of the housing stock. These values may indicate the need to continue to expand multi-family units to provide affordable housing to those who cannot afford to purchase a single-family home. There appears to be a reduction in the number of duplexes recorded from 2000 to 2012, which may be due to the different survey methods used by the Census and American Community Survey. Additionally, the increased sampling error for the ACS makes it difficult to compare the information directly with the U.S. Census data.

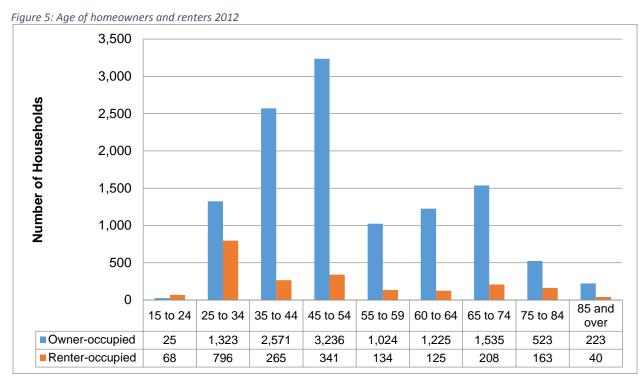
2. Housing Tenure

Information on housing tenure and age of householders provides additional information to plan for the appropriate types of housing to accommodate current and future households. Housing tenure figures indicate that the majority of units are owner-occupied, which has been consistent for the past twelve years with about 84% of homes owner-occupied and 16% renter-occupied in 2000 and 2012 (Table 24).

Table 24: Housing Tenure of Occupied Housing Units: 2000 - 2012

| Characteristics | 2000 | | 20 | 012 | Percent Change | |
|---|--------|---------|--------|---------|-------------------|--|
| Ondraotoristics | Number | Percent | Number | Percent | 2000 - 2012 | |
| Owner- Occupied | 10,889 | 84.4 | 11,685 | 83.9 | 7.3 | |
| Renter- Occupied | 2,020 | 15.6 | 2,248 | 16.1 | 11.3 | |
| Occupied Housing Units | 12,909 | 100.0 | 13,933 | 100.0 | 7.9 | |
| Source: U.S. Census Bureau, 2000 Census and 2008-2012 American Community Survey | | | | | | |

The age of householders, both owner-occupied and renter-occupied, was also analyzed. Figure 5 below shows that home ownership is more common for every age group except for 15-24 year olds where renting is preferred. Ownership peaks at the 45 to 54 age group and then declines. However, even in the 85+ age group, home ownership is still more common than renting.



Source: U.S. Census Bureau, 2008-2012 American Community Survey

3. New Residential Development

Examining available residential building permit data between 2002 and 2011 from Mass Benchmarks provides insight into the residential development that has occurred in Billerica since the 2000 U.S. Census. According to Mass Benchmarks, between 2002 and 2011 there were 959 residential permits issued for 1,772 residential units in Billerica (Table 25). The number of residential units permitted is greater than the number of permits because one permit can be issued for multiple units in the case of multi-family dwellings.

Table 25: Residential Units Permitted in Billerica: 2002 through 2011

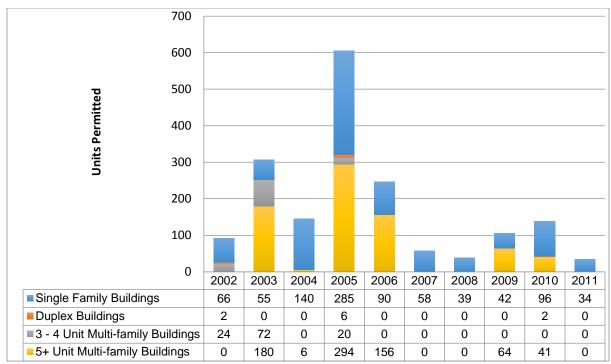
| Year | Total Building Permits Issued | Total Residential Units Permitted |
|-------|----------------------------------|---|
| 2002 | 73 | 92 |
| 2003 | 77 | 307 |
| 2004 | 141 | 146 |
| 2005 | 300 | 605 |
| 2006 | 95 | 246 |
| 2007 | 58 | 58 |
| 2008 | 39 | 39 |
| 2009 | 44 | 106 |
| 2010 | 98 | 139 |
| 2011 | 34 | 34 |
| Total | 959 | 1,772 |

Source: 2002-2011 from Mass Benchmarks -

http://www.massbenchmarks.org/statedata/data.htm

There has been a range of residential units permitted, varying from years when single family permits were predominant to other years when multi-family dwellings received the most permits. Notably, there were large numbers of multi-family units permitted in 2003, 2005 and 2006 (Figure 6, next page) with the number of permits peaking at 300 in 2005. In general, the number of units permitted has declined since 2005 with 2008 representing the lowest point for the issuance of permits. The decrease in the number of permits issued in the years following 2005 was largely the result of the downturn in the housing market and the national recession that began in December 2007. As of 2009 and 2010, permits appear to have spiked with a focus on single family houses and multi-unit housing of five or more dwellings. This trend did not continue into 2011 with only 34 permits issued that year.

Figure 6: Residential Units Permitted by Housing Type (2002-2011)



Source: 2002-2011 from Mass Benchmarks - http://www.massbenchmarks.org/statedata/data.htm

According to valuations data provided by Mass Benchmarks, the average valuation per residential unit in Billerica has fluctuated since 2002. The lowest valuation per unit occurred in 2005 when the highest number of permits was issued. Likewise, average unit valuations peaked in 2011 at \$155,401, at the time when the lowest number of permits were issued.

Table 26: Residential Units Permitted in Billerica: 2002 through 2011

| Year | Total Building Permits Issued | Total Units Permitted | Total Valuation | Average Valuation Per Unit |
|-------|----------------------------------|--------------------------|--------------------|-------------------------------|
| 2002 | 73 | 92 | \$9,337,645 | \$101,496 |
| 2003 | 77 | 307 | \$25,948,679 | \$84,523 |
| 2004 | 141 | 146 | \$20,729,172 | \$141,981 |
| 2005 | 300 | 605 | \$44,131,796 | \$72,945 |
| 2006 | 95 | 246 | \$25,786,834 | \$104,825 |
| 2007 | 58 | 58 | \$8,872,706 | \$152,978 |
| 2008 | 39 | 39 | \$4,722,458 | \$121,089 |
| 2009 | 44 | 106 | \$10,566,236 | \$99,681 |
| 2010 | 98 | 139 | \$15,764,669 | \$113,415 |
| 2011 | 34 | 34 | \$5,283,646 | \$155,401 |
| Total | 959 | 1,772 | \$171,143,841 | \$96,582 |

Source: 2002-2011 from Mass Benchmarks - http://www.massbenchmarks.org/statedata/data.htm

This section examines trends in Billerica's housing market since 2006 in order to assess local market conditions since the development of the 2004 Town of Billerica Affordable Housing Productivity Plan. Special attention is needed to evaluate the extent to which the Town has been impacted by the economic recession and downturn of the housing market in 2007-08. This section concludes with a discussion of the housing burden in Billerica based on past and present housing market conditions.

a. Residential Sales

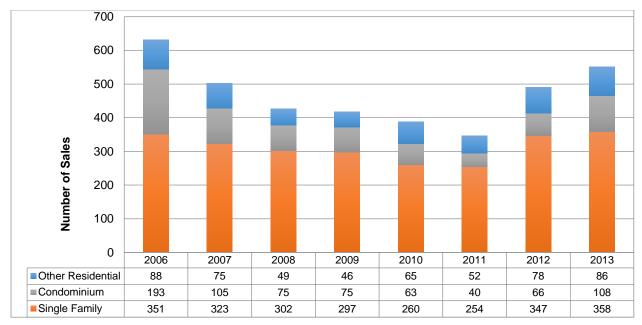
Since the end of 2012, the housing market in Billerica appears to be on a path of recovery. According to the Warren Group, the number of home sales in Billerica increased from 346 in 2011 to 552 in 2013. Data from the Warren Group also indicates that for the period from 2006 to 2013, Billerica experienced its highest number of sales in 2006, and its lowest sales figures in 2011. The proportion of sales for single-family homes, condominiums and other residential units has remained relatively consistent (See Figure 7: Residential Sales in Billerica (2006-2013) on the next page). However, in 2006 and 2007 the proportion of condominium sales was higher.

Table 27: Recorded Sales for Residential Properties in Billerica: 2006 - 2012

| esidentiai Properties III Bilierica. 2006 - 2012 | | | | | |
|--|--------------------------|----------------------------------|--|--|--|
| Period | Last Recorded Sale | Percent of All Recorded Sales | | | |
| 2006 | 632 | 19.7 | | | |
| 2007 | 503 | 15.7 | | | |
| 2008 | 426 | 13.3 | | | |
| 2009 | 418 | 13.0 | | | |
| 2010 | 388 | 12.1 | | | |
| 2011 | 346 | 10.8 | | | |
| 2012 | 492 | 15.3 | | | |
| 2013 | 552 | 14.7 | | | |
| Total | 3,204 | 100.0 | | | |
| Source: The Warren Group , 2013 | | | | | |

Single-family homes represent the largest group of residential sales, comprising 66% of all sales between 2006 and 2013. This was followed by condominiums and other residential homes (including apartment complexes and multi-family houses), which comprised 19% and 14% of all sales recorded between 2006 and 2013. Over the seven year period from 2006 to 2013, annual condominium sales declined the most, decreasing by 44%. Other residential sales declined by 2%, while single-family have grown by a modest 2% since 2006, despite the downturn experienced between 2008 and 2011.

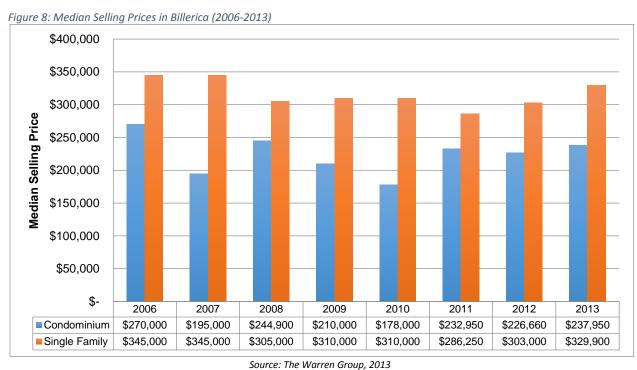
Figure 7: Residential Sales in Billerica (2006-2013)



Source: The Warren Group, 2013

b. Median Selling Prices

The median selling price of single-family homes and condos in Billerica has decreased from 2006 to 2013 (Figure 8). Specifically, the median condominium sale price fell by 11.9% and the median single-family home sales price declined by 4.4% during this eight year period.



Source. The Warren Group, 2015

Table 28: Comparison of Median Selling Prices in Billerica with the Greater Lowell region: 2012

| Community | Single Family Median Sales | | Condos - Median Sales | Number of Sales | Total Median Sales | Total # of Sales |
|-----------|-------------------------------|--|--------------------------|--------------------|--------------------------|---------------------|
|-----------|-------------------------------|--|--------------------------|--------------------|--------------------------|---------------------|

| Billerica | \$303,000 | 347 | \$226,660 | 66 | \$296,500 | 491 | |
|--------------------------------|-----------|--------|-----------|--------|-----------|--------|--|
| Chelmsford | \$315,000 | 312 | \$178,625 | 106 | \$280,000 | 467 | |
| Dracut | \$230,000 | 238 | \$135,000 | 113 | \$210,500 | 426 | |
| Dunstable | \$406,469 | 32 | \$0 | 0 | \$400,450 | 36 | |
| Lowell | \$185,000 | 417 | \$120,647 | 234 | \$167,950 | 944 | |
| Pepperell | \$241,000 | 89 | \$125,100 | 13 | \$222,550 | 130 | |
| Tewksbury | \$292,500 | 254 | \$225,000 | 139 | \$275,500 | 452 | |
| Tyngsborough | \$285,000 | 89 | \$172,500 | 54 | \$235,000 | 175 | |
| Westford | \$433,250 | 212 | \$280,000 | 115 | \$382,500 | 389 | |
| Greater Lowell | | | | | | | |
| region | \$299,024 | 1,990 | \$162,615 | 840 | \$274,550 | 3,510 | |
| Massachusetts | \$290,000 | 46,932 | \$277,000 | 19,065 | \$283,000 | 85,818 | |
| Source: The Warren Group, 2013 | | | | | | | |

For single-family homes in Billerica, the median sales price was \$303,000 in 2012. When compared to the region, this was higher than every community, except for Chelmsford, Dunstable and Westford (Table 28). For condominiums in Billerica, the 2012 median sales price of \$226,660 was higher than every community, except for Westford. In 2012 the total median sales price for all homes in Billerica was \$296,500. This figure was higher than the median sales price for the Greater Lowell region and the State, as well as every Greater Lowell community, except for Dunstable and Westford.

c. Foreclosures

Through information provided by the Warren Group, foreclosure petition data from 2007 through 2013 are summarized below in Table 28. The number of foreclosure petitions in Billerica decreased from 168 in 2007 to 32 in 2013, or by 81%, which is consistent with declining foreclosure trends across the state and nation. Given their higher cost and greater share of housing stock, single-family homes have consistency comprised around 90% of the foreclosures occurring in Billerica.

Table 29: Foreclosure petitions in Billerica (2007-2013)

| Year | Number of Single-family Foreclosures | Number of Condominium Foreclosures | Total |
|-----------------|--|--|-------|
| 2007 | 155 | 13 | 168 |
| 2008 | 92 | 10 | 102 |
| 2009 | 129 | 9 | 138 |
| 2010 | 130 | 9 | 139 |
| 2011 | 60 | 7 | 67 |
| 2012 | 85 | 4 | 89 |
| 2013 | 31 | 1 | 32 |
| Total | 682 | 53 | 735 |
| Source: The War | ren Group. 2013 | | |

5. Housing Affordability Analysis

Public officials generally agree on a definition of affordable housing as that which costs no more than 30% of a household's total annual income. Households that spend between 30% and 50% of their annual incomes on housing and related costs (including basic utilities and fuels) are said to be moderately burdened, while those spending more than half of their incomes are considered severely burdened.

This section analyzes the housing costs for homeowners and renters in Billerica and provides an overall analysis of the rental market.

a. Housing Burden

Viewing monthly housing costs for homeowners as a percentage of annual household costs can shed light onto the housing burden faced by Billerica residents. In Billerica, 39.7% of homeowners with a mortgage and 16.9% without a mortgage were considered at least moderately burdened by their housing costs as shown in Table 29.

Table 30: Monthly Housing Costs as a Percentage of Annual Household Income: 2012

| Characteristics | Households in Billerica | No Burden (between 20%- Burdened (30% or more | | (between 20%- | | lened | |
|---|----------------------------|---|---------|---------------|---------|--------|---------|
| | | Number | Percent | Number | Percent | Number | Percent |
| Households with a | | | | | | | |
| mortgage | 9,235 | 2,462 | 26.7% | 3,044 | 33.0% | 3,664 | 39.7% |
| Households | | | | | | | |
| without a | | | | | | | |
| mortgage | 2,450 | 1,706 | 69.6% | 279 | 11.4% | 413 | 16.9% |
| Source: 2008-2012 American Community Survey. Note: This does not include households with zero or negative income. | | | | | | | |

In total, 4,077 households, or 34.9%, are spending more than 30% of their annual household income on housing costs and are therefore considered 'moderately burdened'. Not surprisingly, homeowners with a mortgage are more likely to be burdened than those without a mortgage.

b. Rental Market

Renters are also burdened by monthly rental payments. According to data collected in the 2008-2012 ACS, 854 rental households in Billerica or 36.5%, have a rent payment that creates a moderate burden because it is greater than or equal to 30% of their income (Table 30).

Table 31: Gross Rent as a Percentage of Household Income for Renters 2012

| Rent as a Percent of Income | Number of Rental Households | Percent of Rental Households | | | |
|---|--------------------------------|---------------------------------|--|--|--|
| Less than 15% | 408 | 18.8% | | | |
| 15% to 19.9% | 406 | 18.7% | | | |
| 20% to 29% | 499 | 23.0% | | | |
| 30% to 34.9% | 148 | 6.8% | | | |
| 35% or more | 706 | 32.6% | | | |
| Not computed | 81 | 3.7% | | | |
| Total (excl. not computed) 2,167 103.7% | | | | | |
| Source: U.S. Census Bureau, 2008-2012 American Community Survey | | | | | |

Fair Market Rents (FMRs) are primarily used to determine standard payment amounts for the Housing Choice Voucher program, initial renewal rents for some expiring project-based Section 8 contracts, initial rents for housing assistance payment (HAP), contracts in the Moderate Rehabilitation Single Room Occupancy program (Mod Rehab), and to serve as a rent ceiling in the HOME rental assistance

program.²⁶ HUD annually establishes FMRs for 530 metropolitan areas and 2,045 nonmetropolitan county FMR areas. The final FMRs for use in any fiscal year must be published and available for use on the first of October. The 2014 FMR for a single bedroom apartment in the Lowell, MA HUD Metro FMR area was \$901 per month (Table 32).

Table 32: Fair Market Rent for Lowell, MA HUD Metro FMR Area (2014)

| | Efficiency | 1-Bedroom | 2-Bedroom | 3-Bedroom | 4-Bedroom | |
|---|------------|-----------|-----------|-----------|-----------|--|
| Fair Market Rent | \$783 | \$901 | \$1,157 | \$1,441 | \$1,697 | |
| Source: FY 2014 Lowell, MA HUD Metro FMR Area, Fair Market Rent Documentation System, effective October 1, 2013 | | | | | | |

According to the ACS data, Billerica had a median gross rent of \$1,266 in 2012 (Table 32). This figure is higher than all of the Greater Lowell region communities, except for Tewksbury and Westford. Upon analyzing available rental listings in January 2014 for Billerica, the median rent for a two-bedroom unit was \$1,300 (Table 33).²⁷ This figure does not include utilities or other housing costs. While there seemed to be several options for two- and three-bedroom units, searches for vacant studio, onebedroom and four-bedroom rental apartments came back with only limited availability.

Table 33: Median Gross Rent in the Greater Lowell Region 2012

| 1 LOWell Region 2012 | | | | |
|--|----------------------|--|--|--|
| Community | Median Gross Rent | | | |
| Billerica | \$1,266 | | | |
| Chelmsford | \$1,136 | | | |
| Dracut | \$1,141 | | | |
| Dunstable | \$ 900 | | | |
| Lowell | \$ 952 | | | |
| Pepperell | \$1,133 | | | |
| Tewksbury | \$1,386 | | | |
| Tyngsborough | \$1,008 | | | |
| Westford | \$1,274 | | | |
| Source: U.S. Census Bureau, 2008-2012 American Community Survey | | | | |

Table 34: Median Gross Rent for Vacant Apartments, January 2014

| Unit Size | Median Gross Rent | | | | |
|--|----------------------|--|--|--|--|
| Studio | \$ 922 | | | | |
| 1 Bedroom | \$1,170 | | | | |
| 2-Bedroom | \$1,300 | | | | |
| 3-Bedroom | \$1,400 | | | | |
| 4-Bedroom | \$1,700 | | | | |
| Source: http://www.realtor.com/homesforrent/Billerica_MA | | | | | |

²⁶ HOME is the largest Federal block grant to State and local governments designed exclusively to create affordable housing for low-income households. States and localities use HOME grant to fund a wide range of activities that build, buy, and/or rehabilitate affordable housing for rent or homeownership or provide direct rental assistance to low-income people. ²⁷Source: Realtor.com, http://www.realtor.com/homesforrent/Billerica_MA

c. Subsidized Housing Inventory (SHI)

The Department of Housing and Community Development (DHCD) regularly reports on the housing developments in a community that count toward its 10% affordability goal through the issuance of a Subsidized Housing Inventory (SHI) report. This information summarizes individual projects by project names, housing type (rental versus homeownership), total subsidized housing units, affordability expiration, subsidizing agency, and whether or not the development was built using a Comprehensive Permit. Based upon the 2010 U.S. Census, Billerica had 14,442 year-round housing units and therefore, its 10% goal would be 1,444 units. Billerica's current SHI totals 857 units or 5.93%. Table 34 on the next page reflects the housing developments included in Billerica's Chapter 40B SHI Report as of August 2014.



Barrett Farms
Subsidized housing on Boston Rd, Billerica
http://mahr.chapa.org/index.php/saved_developments/view/83

Units are added and subtracted from the SHI throughout the cycle of their initial approval and occupancy. A unit is added to the SHI once it has received a Comprehensive Permit. The Town must then document that a building permit has been issued within one year and a certificate of occupancy has been granted within a year and a half from the issuance of a building permit to remain on the inventory. The Town has determined that there are 27 units to be added to the SHI, which are also shown in Table 34.

It should be noted that group quarters are also part of the SHI. Group quarters are institutional (e.g. nursing homes, mental hospitals, and prison wards) and non-institutional (e.g. university dormitories, military barracks, and shelters) residences. As outlined in the SHI, there are 60 DDS and DMH Group Home units on the Billerica SHI.

Table 35: Billerica Subsidized Housing Inventory (SHI) as of August 2014

| | | | Total SHI | Affordability | Built with | Subsidizing |
|----------------------------------|--|-----------|--------------|---------------|-------------------|------------------------|
| Project Name | Address | Туре | Units | Expires | a Comp Permit? | Agency |
| Parker House | 16A River Street | Rental | 8 | Perpetuity | No | DHCD |
| Talbot Ave | 33 Talbot Avenue | Rental | 33 | Perpetuity | Yes | DHCD |
| River Street Apts | 13 River Street | Rental | 64 | Perpetuity | No | DHCD |
| River Street Apts | 16 River Street | Rental | 80 | Perpetuity | No | DHCD |
| McCullough House | 609 Boston Road | Rental | 8 | Perpetuity | No | DHCD |
| BHA Family – Scattered Sites | 78 Lexington Road 30 Harjean Road 116 Boston Road 104 Pollard Street 27 Chelmsford Road 16 Dartmouth Street 29-31 Treble Cove Road (2 units) 1 Plenty Street 829 Boston Road | Rental | 12 | Perpetuity | No | DHCD |
| | (3 units) | 5 | | 2024 | | 51105 |
| Hesed House | 34 Andover Road | Rental | 8 | 2031 | No | DHCD |
| Salisbury Hill | 81 Salem Road | Ownership | 11 | 2101 | Yes | FHLBB |
| Villas at Old Concord | Riverhurst Road | Rental | 180 | 2102 | Yes | FHLBB |
| DDS Group Homes | Confidential | Rental | 52 | N/A | No | DDS |
| DMH Group Homes | Confidential | Rental | 8 | N/A | No | DMH |
| Barrett Farms | 41 Boston Road | Ownership | 15 | Perpetuity | Yes | FHLBB |
| Villages at Pinehurst | Pinehurst Avenue | Ownership | 15 | Perpetuity | Yes | FHLBB |
| Habitat for Humanity | Austin Road | Ownership | 1 | Perpetuity | No | DHCD |
| Villas at Old Concord | Riverhurst Road | Rental | 144 | 2104 | Yes | FHLBB |
| McKenna Woods | McKenna Drive & Mellon Road | Ownership | 5 | Perpetuity | Yes | FLHBB /Mass Housing |
| Mount Pleasant Place | Mount Pleasant Street | Ownership | 4 | Perpetuity | Yes | FHLBB |
| Princeton at Boston Road | 795R Boston Road | Rental | 156 | Perpetuity | Yes | MassHousing |
| Nicholas Common | 159 Allen Street | Ownership | 5 | Perpetuity | No | DHCD |
| Village at Fox Run | 51 Baldwin Road | Ownership | 4 | Perpetuity | No | DHCD |
| Oak Hill Village | Cunningham Lane | Ownership | 2 | Perpetuity | No | DHCD |
| Aspen Apartments | Rangeway Road | Rental | 0 | Perpetuity | Yes | MHP |
| Charnstaffe Village | 10 Charnstaffe Lane | Ownership | 2 | Perpetuity | No | DHCD |
| Rose Hill Manor | 1 Grace Avenue | Rental | 41 | Perpetuity | Yes | MassHousing /HUD |
| TOTAL | | | 857 | | | |
| Units to be added | | | | | | |
| BHA Glenside | 22 Glenside Avenue | Rental | 1 | Perpetuity | No | ВНА |
| Barrett Farms | 41 Boston Road | Ownership | 18 | Perpetuity | Yes | FHLBB |
| Ava Estates (Arakalian Farms) | 90 Rangeway Road | Ownership | 4 | Perpetuity | No | (LAU/LIP) |
| Stonewall Farm | 215 Rangeway Road | Ownership | 1 | Perpetuity | No | (LAU/LIP) |
| Village at Fox Run II | 53 Baldwin Road | Ownership | 3 | Perpetuity | No | (LAU/LIP) |
| GRAND TOTAL | | | 884 | | | |

| Project Name | Address | Туре | Total SHI Units | Affordability | Built with a Comp Permit? | Subsidizing Agency | |
|--|---------|------|-----------------------|---------------|---------------------------------|-----------------------|--|
| Source: Department of Housing & Community Development CH40B SHI August 2014 and Billerica Affordable Housing Trust | | | | | | | |

In terms of the units to be added to the SHI, the Town has copies of letters from DHCD approving the LIPs for Ava Estates and Village at Fox Run Phase II. The Town will need to locate a similar letter for Stonewall Farm and submit the necessary paperwork for the BHA Glenside and Barrett Farms units as well.

In addition to the projects listed on the August 2014 SHI and those units to be added to the SHI, there are four additional projects in the "pipeline" that have been issued building permits or are in the process of finalizing their material to be approved by the Town. Once built, these projects would add 397 subsidized housing units to Billerica's SHI bringing the total to 1,281 units or 8.87% (including the units to be added to the SHI shown in Table 34 on the previous page).

Table 36: Pipeline of Subsidized Housing Inventory Projects

| Project Name | Address | Туре | Affordability Expires | Built with a Comprehensive Permit | Total SHI Units |
|-------------------------|------------------------------------|-----------|--------------------------|---|-----------------------|
| Alexander Estates | 38 Alexander Road | Ownership | Perpetuity | Yes | 4 |
| Aspen Apartments | Rangeway Road | Rental | Perpetuity | Yes | 384 |
| Village Crossing | Treble Cove Road and Bridge Street | Ownership | Perpetuity | No | 8 |
| Habitat for Humanity | Friendship Street | Ownership | Perpetuity | No | 1 |
| Total | | | | | 397 |
| Source: Town of Billeri | ca, August 2014 | | | | |

d. Subsidized Housing Inventory Changes in the Region

In March 2004 there were 421 subsidized units in Billerica, representing 2.9% of the 2000 U.S. Census year-round housing stock in the community. Compared to the region at the time, as seen in Table 36, Billerica had a similar affordable housing supply as Dracut and Pepperell. Only the City of Lowell and Tyngsborough had a subsidized housing stock that exceeded the 10% target level. The remaining Greater Lowell region communities had SHI rates ranging between zero in Dunstable and 5.3% in Chelmsford.

According to the 2010 U.S. Census, the number of year-round housing units in Billerica increased to 14,442 units. As of August 13, 2014, the number of subsidized housing units in Billerica had more than doubled, reaching 857 units. Based upon the increase in subsidized housing units, Billerica's SHI percentage increased from 2.9% in March 2004 to 5.93% in August 2014. Within the Greater Lowell region, Billerica currently ranks below Lowell (12.6%), Tewksbury (9.5%), Chelmsford (8.5%), Tyngsborough (8.2%), Westford (7.5%) and Dracut (6.4%) in terms of percentage of subsidized housing. Billerica ranks higher than Pepperell (3%) and Dunstable (0%) in terms of the proportion of year-round housing units that are subsidized.

Table 37: SHI Reports for the Greater Lowell Region: March 2004 and August 2014

| Community | Year -Round Housing Units | Total Subsidized Housing Inventory (SHI) Units | | | Percent SHI Units | | | | |
|---|---|--|----------------|-------------------|-------------------|----------------|--|--|--|
| Community | 2010 | March 2004 | August 2014 | Percent Change | March 2004* | August 2014 | | | |
| Billerica | 14,442 | 421 | 857 | 103.6 | 2.9 | 5.9 | | | |
| Chelmsford | 13,741 | 730 | 1,169 | 60.1 | 5.3 | 8.5 | | | |
| Dracut | 11,318 | 290 | 719 | 147.9 | 2.6 | 6.4 | | | |
| Dunstable | 1,085 | 0 | 0 | 0 | 0 | 0 | | | |
| Lowell | 41,308 | 5,293 | 5,215 | -1.5 | 12.8 | 12.6 | | | |
| Pepperell | 4,335 | 117 | 129 | 10.3 | 2.7 | 3.0 | | | |
| Tewksbury | 10,803 | 429 | 1,030 | 140.1 | 4.0 | 9.5 | | | |
| Tyngsborough | 4,166 | 382 | 340 | -11.0 | 10.1 | 8.2 | | | |
| Westford | 7,671 | 143 | 575 | 302.1 | 1.9 | 7.5 | | | |
| Greater Lowell Region 108,869 7,805 10,034 28.6 7.2 9 | | | | | | | | | |
| Source: Massachusetts DHCD, C | Source: Massachusetts DHCD, Chapter 40B SHI, March 2004 and August 2014 | | | | | | | | |

*Based upon 2000 Year-Round Housing Units

e. Future Affordable Housing Development in Billerica

The Town of Billerica has made some progress towards addressing the housing needs of the community since the submission of the *Billerica Affordable Housing Productivity Plan* in 2004. However, the development of affordable housing units was not as extensive as outlined in the Plan (502-818 units), largely due to the fact that the private sector was not able to produce the number of affordable units envisioned. As of August 2014, the Town has been credited with 857 subsidized housing units, which reflects the net addition of 436 subsidized housing units over the past ten years. In establishing the *Billerica Housing Production Plan* this time, the Billerica Affordable Housing Trust wants to be more realistic in its subsidized housing schedule for the next five years.

Based upon the 2010 U.S. Census, Billerica had 14,442 year-round housing units and, therefore, needs to have 1,444 subsidized housing units to meet its 10% goal. With the Town being credited with 857 units of subsidized housing as of August 13, 2014, the Town needs an additional 587 affordable units to attain its 10% goal. With the 27 units to be added to the SHI, that number is reduced to 560 units. Therefore, the Town would need an additional 112 subsidized units per year over the next five years to meet its 10% goal. If the 397 projected "pipeline" subsidized units, as outlined in Table 36, are included in this analysis, the Town would only need to develop 163 additional subsidized units over this five year period. These additional subsidized housing units would likely be targeted for the potential affordable housing sites outlined in Section III.

If you utilize the average growth rate in total housing units in Billerica between 2000 and 2010, or 10.6%, and apply it to the year-round housing units in 2010 (14,442), an average of 153 housing units per year would be produced. Therefore, an additional 765 housing units could potentially be added to the Town's total housing stock between 2015 and 2019 to reach 15,713 total units. In order to attain affordable housing unit "gap" of 560 units (assuming 27 units are added to the SHI), 112 of the 153 units per year would need to be affordable. Table 38 below outlines a timeframe for the development of those units.

| Year | Number of Market Rate Units | Number of Affordable Units | Additional Affordable Units | Total Units ¹ | Percent Affordable ² |
|------|-----------------------------------|----------------------------------|-----------------------------------|--------------------------|------------------------------------|
| 2015 | 14,211 | 884 | 112 | 15,207 | 6.9% |
| 2016 | 14,252 | 996 | 112 | 15,360 | 7.7% |
| 2017 | 14,293 | 1,108 | 112 | 15,513 | 8.4% |
| 2018 | 14,335 | 1,220 | 112 | 15,667 | 9.2% |
| 2019 | 14,376 | 1,332 | 112 | 15,820 | 10.0% |

Source: U.S. Census Bureau, 2010 U.S. Census; NMCOG estimates from DHCD SHI Report, August 13, 2014

Since the housing market is not always predictable and the private housing market may fluctuate from year to year in the quantity of market-rate and affordable housing units developed, two alternative scenarios have been developed. Table 38 on the next page outlines two additional scenarios for Billerica, which projects the growth in subsidized housing units at 0.5% and 1.0% increases per year. A community will be certified to be in compliance with an approved Housing Production Plan (HPP) if, during a single calendar year, it has increased the number of subsidized units in accordance with the production schedule approved by DHCD. Certification lasts for one year if the community has produced the equivalent of 0.5% of year-round housing units as SHI units, and two years if it has produced 1.0%.

According to M.G.L. Chapter 40B, once a plan has been certified, the local community has greater power in controlling Chapter 40B developments because a decision by the Zoning Board of Appeals (ZBA) to deny a Comprehensive Permit application will be considered "consistent with local need," and would be upheld by the Housing Appeals Committee (HAC). Based on the 2010 U.S. Census, Billerica needs to produce 73 affordable units annually to achieve 0.5% development certification and 144 units per year to achieve 1.0% development certification.

If Billerica has achieved certification within 15 days of the opening of the local hearing for the Comprehensive Permit, the ZBA shall provide written notice to the Applicant, with a copy to DHCD, that it considers that a denial of the permit or the imposition of conditions or requirements would be consistent with local needs, the grounds that it believes has been met, and the factual basis for that position, including any necessary supportive documentation.

If the Applicant wishes to challenge the ZBA's assertion, it must do so by providing written notice to the Department, with a copy to the Board, within 15 days of the receipt of the ZBA's notice, including any documentation to support its position. DHCD shall thereupon review the materials provided by both parties and issue a decision within 30 days of its receipt of all materials. The ZBA shall have the burden of proving satisfaction of the grounds for asserting that a denial or approval with conditions would be consistent with local needs, provided, however, that any failure of the DHCD to issue a timely decision shall be deemed a determination in favor of the municipality. This procedure shall toll the requirement to terminate the hearing within 180 days.

If either the Board or the Applicant wishes to appeal a decision issued by the Department pursuant to 760 CMR 56.03(8)(a), including one resulting from failure of the Department to issue a timely decision,

¹ Estimate of 2014 total housing units based upon growth rate between 2000 and 2010

²Based upon percentage of year-round housing units (14,442) in the 2010 U.S. Census.

that party shall file an interlocutory appeal with the Committee on an expedited basis, pursuant to 760 CMR 56.05(9)(c) and 56.06(7)(e)(11), within 20 days of its receipt of the decision, with a copy to the other party and to the Department. The Board's hearing of the project shall thereupon be stayed until the conclusion of the appeal, at which time the Board's hearing shall proceed in accordance with 760 CMR 56.05. Any appeals to the courts of the Commonwealth shall not be taken until after the Board has completed its hearing and the Committee has rendered a decision on any subsequent appeal.

As with the previous scenario, Table 38 assumes a 1.06% annual growth rate in housing units over five years. The timeline includes the additional 437 "pipeline" units (see Table 36) distributed in the same manner as the previous scenario: 2015-85 units; 2015-88 units; 2017-88 units; 2018-88 units and 2019-88 units. Under the 0.5% scenario, the Town would fall short of its 10% goal and only reach 9.1% by the end of 2019. Under the 1.0% increase in units per year, the Town would surpass its 10% goal in 2018 and reach 11.1% by the end of 2019.

Table 39: Affordable Housing Production Timeline for Billerica – 0.5% or 1% Annually

| # of | | | 0.5% Inc | crease | | 1.0% Increase | | | |
|------|-------------------------|-----------------------------|-------------------------------|----------------|------------------|------------------------------|-------------------------------|----------------|----------------------------|
| Year | Market Rate Units | # of Affordable Units | Additional Units - 0.5% | Total Units | % Affordable* | # of Affordabl e Units | Additional Units - 1.0% | Total Units | Percent Affordable * |
| 2015 | 14,238 | 884 | 85** | 15,207 | 6.7% | 884 | 145 | 15,207 | 7.1% |
| 2016 | 14,303 | 969 | 88** | 15,360 | 7.3% | 1,029 | 145 | 15,360 | 8.1% |
| 2017 | 14,368 | 1,057 | 88** | 15,513 | 7.9% | 1,174 | 145 | 15,513 | 9.1% |
| 2018 | 14,434 | 1,145 | 88** | 15,667 | 8.5% | 1,319 | 145 | 15,667 | 10.1% |
| 2019 | 14,499 | 1,233 | 88** | 15,820 | 9.1% | 1,464 | 145 | 15,820 | 11.1% |

Source: U.S. Census Bureau, 2010 U.S. Census; NMCOG estimates from DHCD SHI Report, January 28, 2014

^{*}Based upon percentage of year-round housing units (14,442) in the 2010 U.S. Census.

^{**&}quot;Pipeline" projects figures exceed the 73 unit figure under 0.5%.

6. Gaps between Existing Housing Needs and Current Supply

a. Small Households and Families

In 2010 most residents in Billerica were between the ages of 35 and 64. Seventy-one percent of family households and 50% of non-family households were in this age group. Two-person households are the most common comprising 4,385 people, or 31.2% of all households in Billerica. One-person non-family households are the second most common comprising 2,770 households or 19.7% of total households in Billerica. Around 79% of non-family householders lived alone, with 33.6% (942) over the age of 65.

Between 2000 and 2012, there was a large growth in single family homes - 1,212 single-family units were added, comprising 82.9% of the housing stock in 2011. The next largest increase was in 5-19 unit multi-family developments, which added 257 units. Three-four and 20+ multi-family developments grew by 96 and 86 units respectively. These multi-family units will accommodate some of the smaller households that are increasing in number, such as the one-person households, 65+ householders, and the two-person family households. However, the total provision of smaller housing units in the town, of 2,347 units, falls well short of the number of one and two-person households in Billerica, despite the fact that some two-person family households may not choose to live in smaller units if, for example, they plan to have children.

As with many suburban communities in the Greater Lowell region, most of the housing is owner-occupied. In Billerica, 83.9% is owner occupied with the majority of the housing units occupied by residents in the 45-54 age cohort. Renter-occupied housing mainly consists of householders aged 25 -34 and 45-54. This shows that rental housing needs to be somewhat diverse considering the variety of ages that occupy these units, with a focus on not just one or two-bedroom units, but three and four-bedrooms being available for growing families. From 2000 to 2012, owner-occupied units increased by 7.3% and renter-occupied units increased by 11.3%. While renter housing has increased, with just over 16% of Billerica's housing stock constituting rental housing there is a need to provide more affordable and flexible housing opportunities in the community.

The growth and prevalence of non-traditional households justifies the need to provide a variety of housing types that do not fit within the traditional, market rate, detached single-family home model. In particular, this data indicates the importance of providing smaller, affordable dwelling units — especially for those residents who need to live with a roommate due to economic necessity. Future housing types will also need to accommodate a growing proportion of residents over the age of 65 who may want to "age in place." In addition to a diverse supply of housing in terms of size and structure, a range of affordability options are needed for households and families who cannot afford to pay market rate prices.

b. Aging Population

Overall, the population is getting older in Billerica. Between 2000 and 2010 the largest increase in age groups was between the ages of 60-74 and 75 plus, which increased by 50.6% and 43.9% respectively. Between 2010 and 2035, the 75+ age group is expected to grow the most – increasing by an additional 51.4%. Large increases are also expected for the 60-74 age cohort, which will grow by 46.8%. By 2035 residents aged 60 and older are projected to comprise more than one quarter of Billerica's population.

In 2010, 50% of Billerica's population was 40 years of age or older, with the 40-59 age cohort representing 32% of the overall total population. While the proportion of the population more than 40 years of age is expected to remain at around 50%, the 40-59 year old cohort is expected to decline by 17.5%. In contrast, by 2035 the 25-39 age cohort is expected to increase by 16.1%. Younger age cohorts in Billerica are expected to decrease between 2010 and 2035. The 10-19 age group is expected to decrease by 9.9%, and the 20-24 age group is expected to decrease by 8.4%. In contrast, some growth is expected in the 0-9 age cohort, which will increase by 12.2% over the next 25 years.

Considering the current trend of people get married and settling down later in life and the substantial increase in residents 65 and older, the *Housing Production Plan* needs to promote housing that is affordable and flexible to meet the diverse lifestyles and income earning capacities of these two groups. Convenient and amenable access to services, public transit, open space, and amenities are in demand. For its senior citizens, the Town will need to consider not just what is inside the unit, but what is available outside of it as well. This requires thoughtful siting and planning of housing for all age groups.

c. Incomes and Poverty

The median household income in Billerica increased by 32.7% between 1999 and 2012, which surpassed increases experienced across the region, state and nation. Billerica's median household income in 2012 was \$89,957, which was well above the region, state and nation. Residents earning more than \$100,000 per year increased by 109.7% during the same period. Residents aged 25-44 in 2012 had per capita incomes of \$100,448, which represented the highest income earning age group in Billerica. However, when adjusted for inflation, Billerica and the Greater Lowell region both experienced negative growth in median household income, with incomes decreasing by 3.9% and 9.8% respectively. The State and nation also experienced decreases of 4.4% and 8.4%. As a result, many Billerica residents have seen a gradual decrease in household incomes, when adjusted for inflation.

In Billerica, 2,512 residents, or 6.2% of the total population, were living in poverty in 2012. Just over half (50.2%) of the impoverished community in town were adults ages 18-64, while 45.8% were youth under the age of 18. Senior citizens represented 4% of this group. Approximately 40% of households in Billerica are estimated as having moderate, low, very low, or extremely low income in 2012. Therefore, while there are some very high income households in Billerica, nearly 40% of the households still earn less than the AMI and may be eligible for HUD assistance.

d. Households with Housing Costs that Exceed Affordability Thresholds

In addition to looking at income, it is important to compare how much of that income is being spent on housing to determine the extent of housing burden in the town. In Billerica, 39.7% of households with a mortgage pay more than 30% of their income towards housing costs. For renters, 39.4% of rental households pay more than 30% of their income on housing. It is also noted that these figures do not

take into consideration the cost of transportation in Billerica, which is likely to be the second highest cost facing households in suburban locations.

While renters in Billerica are less burdened than homeowners, the Harvard Joint Center for Housing Studies recently provided important and crucial information regarding rental properties. Their report entitled *America's Rental Housing: Meeting Challenges, Building on Opportunities,* finds "long-term increases in rents and utility costs combined with falling renter incomes put strain on many renters' budgets. The Great Recession made matters worse, increasing the cost burden on once-secure working and middle class Americans." Between falling "real-value" incomes and rising rent prices, housing and rental properties that are affordable for all ages need to continue to be encouraged to maintain affordability in Billerica.

7. Affordable Housing Efforts in Billerica

The Town of Billerica outlined its previous housing goals through the development of the *Town of Billerica Master Plan* in 2002 and the *Town of Billerica Affordable Housing Productivity Plan* in 2004.

a. Town of Billerica Master Plan, 2002

Mullin Associates, Inc. completed the *Town of Billerica Master Plan* in October 2002, which included an analysis of the current housing situation and recommendations to increase the number of affordable housing units in the community. The consultants noted that there had been "little diversity in the type of construction" that occurred between 1990 and 2000 with the focus upon "large and expensive single-family homes". Local realtors described the housing market as "tight" and there was little housing available for sale or rent. The Master Plan found that a major weakness in the community was a lack of affordable housing (only 1.6% of the Town's year-round housing units), particularly for young people who wanted to settle in Billerica, and there was an opportunity for the Town to provide affordable housing.

Accordingly, it was determined that the most significant housing issue facing the community was the affordable housing shortage and that the Town needed "to be able to control its future development growth and maintain affordable numbers in perpetuity". Based upon these issues, the following housing goals and objectives were developed by the Housing Sub-Committee as part of the *Town of Billerica Master Plan*, 2002:

- **Goal 1**: The Town should review and update (as needed) the housing goals on a regular basis.
- **Objective A:** The Long Range Master Planning Committee, in coordination with the Housing Authority and the Housing Partnership Committee will be charged with the periodic oversight of the goals set forth.
- **Goal 2:** Provide for the housing needs of the existing and projected Billerica population (including all socio-economic groups).

²⁸ America's Rental Housing: Meeting Challenges, Building on Opportunities, Harvard Joint Center for Housing Studies, 2011. http://www.worldpropertychannel.com/

Objective A: Planning Board and Director of Planning to draft and propose zoning bylaw changes to allow mixed use affordable developments/housing units over or within commercial property in certain areas. This would be by special permit of the Planning Board.

Objective B: Planning Board and Director of Planning to draft and propose zoning bylaw changes allowing subsidized housing units to be built by the Billerica Housing Authority or by private partnerships with Housing Authority oversight.

Objective C: Planning Board and Director of Planning to draft and propose zoning bylaw changes to allow non-family renting of in-law apartments when for state approved affordable use. Qualification would be regulated by state standards.

Objective D: Planning Board and Director of Planning to draft and propose zoning bylaw to establish linkage fees from large commercial and industrial developments to fund affordable housing.

Objective E: Planning Board and Director of Planning to draft and propose zoning bylaw to establish fee waivers or reductions to encourage affordable housing.

Objective F: Planning Board and Director of Planning to draft and propose zoning bylaw to require that single-family developments have the same 10% affordable component as multifamily projects.

Objective G: Planning Board and Director of Planning to draft and propose zoning bylaw changes to promote density bonuses for developments that provide more than 10% affordable requirements.

Objective H: Ensure that affordable housing units remain affordable in perpetuity.

Goal 3: <u>Protect the residential living environment of existing and proposed residential areas.</u>

Objective A: Allow development only if the infrastructure is adequate and available to serve it. The Town shall be responsible for establishing plans that will make explicit what standards must be met prior to development approval. Infrastructure in this sense includes water, sewer, roads and public services such as schools and fire protection.

Objective B: Require industrial and commercial uses to be buffered from residential and other sensitive land uses.

Objective C: Utilize wetlands and other lands that are unsuitable for development as buffers between residential areas and other uses and to provide passive recreation opportunities and an open space setting for residential development.

Objective D: Protect wetlands, steep slopes and other environmentally sensitive areas by prohibiting development of housing sites in these areas.

Goal 4: Locate housing of varying densities on sites, which are appropriate for such densities.

Objective A: Continue to keep lower density single-family residential uses on medium to large lots (40-50,000 square feet) in areas of the Town where the level of activity is less intensive.

- **Objective B:** Sites near highways and business areas that can be effectively served by public services and facilities should be considered for multi-family housing.
- **Objective C:** Use rational location criteria as a tool for evaluating sites that are appropriate for multifamily use.
- **Goal 5:** <u>Provide affordable housing opportunities at locations that are compatible with surrounding land</u> use and are conducive to the well-being of Town residents.
- Objective A: Billerica will address the state standard of making 10% of housing stock available for persons and families of low and/or moderate income by actively pursuing the production of affordable housing units, working with local developers to encourage that each new project has at least 10% affordable housing included, and to work with Habitat for Humanity or other non-profit agencies.
- **Objective B:** Encourage and assist the development of affordable housing for families of various sizes, incomes and ages by the following means:
 - Establish a revolving fund to purchase existing units for resale as affordable under the state required restrictions.
 - Explore the possibility of an ecumenical or other cooperation to build affordable housing (Habitat for Humanity model).
 - Provide incentives to developers to give back pro bono labor.
 - Encourage the development of a non-profit Community Development Corporation (CDC) to develop Town-owned or private property.
 - Seek private donations of land for affordable housing development via a CDC.
- **Objective C:** Continue to actively participate in the state's Housing Partnership Program.
- **Objective D:** Dedicate personnel to work with the Planning Board and Director of Planning to research state funding sources/grants for and to otherwise promote private/public development of affordable housing.
- **Objective E:** Encourage the location of affordable housing in appropriate areas with no undue concentrations of low and moderate-income families.
- **Objective F:** Encourage the location of affordable housing in small-scale developments scattered in all areas of the Town.

b. Town of Billerica Affordable Housing Productivity Plan, 2004

The Productivity Plan provides a more detailed and quantified approach towards helping Billerica achieve its 10% subsidized housing goal. Building upon the goals, objectives and actions of the *Billerica Master Plan, 2002* the Town outlined the following short-term, intermediate and long-term strategies in its *Town of Billerica Affordable Housing Productivity Plan* in 2004. In addition, minimum and maximum quantitative affordable housing goals were established for each initiative.

1. Short-Term (1st Year):

Establish non-profit Affordable Housing entity.
 (provides flexibility in implementing housing projects and receiving outside funds);

Move 40B projects in pipeline forward.

(could provide up to 385 additional affordable housing units);

Encourage "friendly" 40Bs through the utilization of the LIP Program.

(provides new opportunities for a partnership between developers and the Town);

Establish partnership with Common Ground.

(Common Ground can provide housing capacity as the non-profit Affordable Housing entity is being organized);

Identify funding for rehab projects.

(Rehab projects can qualify as affordable housing units for 15 years and funds are available at DHCD); and

Identify industrial land suitable for housing.

(identify 3-5 sites for potential housing development).

| | Affordable Units | | | |
|---|------------------|---------|--|--|
| Short- Term (First Year) | Minimum | Maximum | | |
| Non-profit Affordable Housing Partnership | NA | NA | | |
| 40B Projects in pipeline | 50 | 70 | | |
| "Friendly" 40Bs/LIP Program funding | 5 | 10 | | |
| Partnership with Common Ground | 2 | 5 | | |
| Funding for rehab projects | 10 | 15 | | |
| Identify industrial land suitable for housing | NA | NA | | |

2. Intermediate-term (2nd and 3rd Years)

Identify funding for support staff for non-profit Affordable Housing entity.

(Build local housing capacity through seed funds and other resources);

Implement projects through non-profit entities.

(Identify initial projects to be implemented by the non-profit entity through staff or contractors, such as Common Ground);

- Implement 40B projects in pipeline.
- Develop new 40B project partnerships.

(Utilize LIP funding to establish new 40B projects);

Build senior housing, such as through Chapter 202 funds.

(Implement Chapter 202 project);

Apply for rehab funds from DHCD.

(Target 10-20 houses for DHCD housing rehab funds, which can then be included as affordable housing units for 15 years);

Establish funding pool for rental "buy downs".

(Work with NMCOG to identify funding sources including existing housing funds for rental "buy downs");

- Initiate Chapter 40R or mixed-use overlay under 40A Smart Growth- proposal; (Develop conceptual proposal for North Billerica and Boston Road areas);
- Regional Cooperative Housing Initiative; and
 (Work with communities in the region to implement a regional affordable housing project); and
- Rezone industrial land for housing or use Chapter 40B exemption. (Bring 1-2 rezoning proposals to Town Meeting)

| | Affordable Units | | |
|---|------------------|---------|--|
| Intermediate- Term (Second and Third Years) | Minimum | Maximum | |
| Support staff for non-profit | NA | NA | |
| Initial non-profit projects/Common Ground | 5 | 10 | |
| 40B Projects in pipeline | 100 | 140 | |
| New 40B Partnership Projects | 10 | 20 | |
| Senior housing, such as Chap. 202 | 50 | 100 | |
| Rehab projects | 5 | 10 | |
| Rental buy-downs | 10 | 20 | |
| Chapter 40R- smart growth | 10 | 20 | |
| Regional Cooperative Housing Initiative | 5 | 10 | |
| Rezone industrial land for housing | 10 | 20 | |

3) Long-term (4th and 5th Years)

Achieve self-sustaining non-profit Affordable Housing entity.

(Access local and outside funding sources to provide staff for the non-profit entity);

- Complete implementation of 40B projects in pipeline.
- Implement new 40B projects through partnerships.
 (Utilizing LIP funds and other resources, work with developers to implement "friendly" affordable housing projects);
- Build senior housing, such as through Chapter 202 funds or other possible funding sources.
 (Complete Chapter 202 project);
- Continue rehab program and target areas for public investments.

 (Identify 10-15 houses for rehabilitation under DHCD's program that can be designated a affordable housing units for 15 years. Also target public investments to these same areas to improve the overall quality of life);
- Establish agreements with property owners on rental "buy downs".
- Implement Chapter 40R- "smart growth"- proposal or mixed-use overlay under Chapter 40A.
 (Implement North Billerica or Boston Road project);
- Rezone industrial land for housing.
 (Work with developer(s) to build housing on former industrial land);
- Re-assess Housing Productivity Plan

(Begin process for the development of new five-year Housing Productivity Plan.)

| | Affordable Units | | |
|------------------------------------|------------------|---------|--|
| Long-Term (Fourth and Fifth Years) | Minimum | Maximum | |

| Non-profit projects | 10 | 15 |
|------------------------------------|-----|-----|
| 40B Projects in pipeline | 100 | 133 |
| New 40B Partnership Projects | 15 | 20 |
| Senior housing, such as Chap. 202 | 50 | 100 |
| Rehab projects | 10 | 20 |
| Rental buy downs | 15 | 20 |
| Chapter 40R- smart growth | 10 | 20 |
| Rezone industrial land for housing | 20 | 40 |
| New Productivity Plan | NA | NA |

The Town of Billerica has implemented some of these strategies, which has resulted in an increase in the number of subsidized housing units in the community. Notably, the Town established the Billerica Affordable Housing Trust with the purpose of creating and preserving affordable housing in 2011. In May 2014, Town Meeting approved the rezoning of 127 acres of industrial and rural-residential land on Treble Cove Road and Nashua Road to the Neighborhood Residential Zone.

8. Affordable Housing Entities

a. Billerica Housing Authority (BHA)

The Billerica Housing Authority was established in 1963 and is responsible for administering all state and federal public housing programs in town. The mission of BHA is "providing safe, decent and sanitary housing for current BHA tenants and creating affordable housing opportunities for qualified and eligible Billerica residents". BHA is comprised of a five member Board of Commissioners; four of whom are elected for staggered five-year terms and one member appointed by the Governor, who also serves a five-year term . The Board meets monthly and is responsible for setting policy.

The BHA currently administers state and federal programs totaling 270 units and also owns a single-family home. BHA units include;

- State Aided Elderly/Disabled 1 bedroom apartments 97 units
- Federally subsidized 1 bedroom elderly/disabled apartments 80 units
- State Aided Family Housing (scattered sites) 12 units
- State Aided Special Population Housing 16 units
- BHA owned single-family home 1 unit

The BHA is also authorized and funded by HUD to administer 65 Section 8 Housing Choice Vouchers. Due to a lengthy wait time, BHA is not currently accepting applications for this program.

b. Billerica Affordable Housing Trust (BAHT)

The Billerica Affordable Housing Trust was established in 2012 and is comprised of a seven member Board appointed by the Board of Selectman for staggered two year terms. Members include two Selectmen, two BHA Commissioners and three members from the community. The Executive Director of the Housing Authority and the Town Manager serve as ex-officio members. The mission of the BAHT is to "create and preserve affordable housing for qualified and eligible Billerica residents".

| The BAHT meets on a quarterly basis (or as necessary) and works closely with the BHA and other town officials and Boards to carry out its mission. |
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C. Development Constraints and Limitations

This section examines land constraints and limitations that have an impact on the development of new housing opportunities in Billerica. It includes a land use, natural and physical constraints assessment, zoning and infrastructure analyses, and concludes with a summary of the plans that the town has to address these limitations.

1. Land Use Development Patterns and Potential

The land use development patterns have changed in Billerica from 1971 to 2005. In 1971 there were 5,290 acres of land developed (31.3% of total land). Of that land, residential uses comprised nearly 90%. By 2005 the amount of developed land had increased to 9,832 acres or 59% of the Town's total land, with residential uses comprising 73.9% (Table 40).

From 1971-2005 the amount of land developed for commercial and industrial uses increased significantly. Commercial land nearly doubled, while industrial land use more than tripled resulting in the Town of Billerica having the most land used for industry the Greater Lowell region. Residential land use also increased, albeit there was only 53% growth between 1971 and 2005. As a result of such development, Billerica's supply of undeveloped land declined by nearly 40% over this timeframe. As of 2005, about 41.5% (6,983.72 acres) of Billerica's total acreage remained undeveloped. It is anticipated that the remaining developable land will be utilized principally for commercial or residential purposes.

| | | Acre | es | | _ , | Percent of | |
|-------------|-----------|-----------|-----------|-----------|----------------------------------|-------------------------------------|--|
| Land Use | 1971 | 1985 | 1991 | 2005 | Percent Change 1971 - 2005 | Greater Lowell Region 2005 | |
| Developed | 5,288.78 | 6,646.10 | 8,145.91 | 9,831.96 | 85.9 | 16.7 | |
| Commercial | 216.6 | 283.80 | 397.00 | 419.81 | 93.8 | 17.0 | |
| Industrial | 324.6 | 692.28 | 1,083.57 | 1,071.70 | 230.2 | 29.7 | |
| Residential | 4,747.58 | 5,670.02 | 6,665.34 | 7,265.28 | 53.0 | 16.5 | |
| Undeveloped | 11,608.93 | 10,251.61 | 8,751.80 | 6,983.72 | -39.8 | 10.6 | |
| Total | 16,897.71 | 16,897.71 | 16,897.71 | 16,815.68 | N/A | 13.4 | |

Table 40: Land Use Development Patterns in Rillerica: 1971 - 2005

2. Natural and Physical Constraints

When considering the development potential of land, natural and physical constraints, such as protected open space, wetlands, surface water, and endangered species habitats may be considered limitations. These development constraints, as they affect Billerica, are briefly summarized on the next few pages and are identified on Map 5 in the Appendix. Their presence may result in portions of a property being unbuildable. The *Town of Billerica Master Plan, October 2002* provides a more comprehensive analysis of development limitations and constraints across the town.

a. Wetlands

Wetlands help prevent flooding and storm damage, purify drinking water supplies and support a variety of wildlife. The *Wetlands Protection Act [Massachusetts General Laws (MGL) Chapter 131, Section 40]* protects wetlands and the public interests they serve, while Billerica's Wetland Protection Bylaw

regulates all proposed activities and alternatives within wetland resource areas and within 100 feet of all such resource areas. These public interests are protected by requiring a careful review of proposed work that may alter wetlands. The Wetlands Act protects not only wetlands, but other resource areas, such as land subject to flooding (100-year floodplains), the riverfront area (added by the *Rivers Protection Act*), and land under water bodies and waterways. Given the limitations on development activity within wetland areas, they often cannot be developed.

Approximately 600 acres or 3.6% of Billerica's land area is covered by wetlands, which form a distinctive feature of the town's landscape character. Wetlands are scattered throughout the town, with the majority located on land adjacent to the Shawsheen River, Concord River and Nutting Lake. Given the extent of wetland areas in Billerica, they are considered a significant constraint to residential development. In addition, 100 foot buffer zones, which extend from the edges of bordering vegetated wetlands, are strictly regulated areas, and a permit must be obtained from the Billerica Conservation Commission before any work is undertaken in these areas. These buffer zones may therefore limit future development.

b. Floodplains

The majority of floodplain affected land in Billerica is found along the Concord River, Shawsheen River, Jones Brook and Content Brook, and associated tributaries. Flooding occurs along both rivers and their tributaries, typically in the spring, as a result of melting snow and ice, and in the late summer due to storms²⁹.

Billerica has instituted regulations to protect floodplains from new development. The first 200 feet from the edge of a perennial stream are regulated as "riverfront area", and the first 100 feet from a vegetated wetland or stream bank are regulated as "buffer zone." Many existing buildings were constructed in the floodplain before the new regulations were in place, and thus, some developed riverfront areas are vulnerable to flooding.

c. Rare and Endangered Species Habitat

Estimated Habitats for Rare Wildlife are regulated under the *Massachusetts Wetlands Protection Act*, and any developments within the Habitat area must be reviewed under the state Natural Heritage and Endangered Species Program (NHESP). Within Billerica, the NHESP lists one amphibian, two reptiles, and one fish. The blue-spotted salamander (*Ambystoma laterale*), spotted turtle (*Clemmys guttata*), and bridle shiner (*Notropis bifenatus*), a fish, are listed as species of special concern. Blanding's turtle (*Emydoidea blandingii*) is listed as threatened³⁰.

3. Zoning

This section summarizes the local zoning regulations that are pertinent to the development of housing, particularly affordable housing, in Billerica. It includes a discussion of the density and dimensional requirements for residential subdivision and development, as well as a summary of affordable housing opportunities provided in the current Zoning Bylaw.

a. Residential Development

Approximately 74% of Billerica's developed land is used for residential purposes and single-family homes are the most common residential use. Table 41 below summarizes the allowed uses by residential zoning district –Village Residence (VR), Neighborhood Residence (NR), Rural Residence (RR) and Multifamily Residence (MF) -according to the current Zoning Bylaw.

Table 41: Permitted Residential Uses by Residential Zoning District

| | Residential Zoning District | | | | | | |
|--|-----------------------------|----------------------------------|-----------------------|----------------------------------|--|--|--|
| Residential Use | VR-Village Residence | NR- Neighborhood Residence | RR-Rural Residence | MF-Multi- Family Residence | | | |
| Single Family Dwelling | Yes | Yes | Yes | Yes | | | |
| Two- Family Dwellings | No | No | No | SP | | | |
| Multifamily Dwellings | No | No | No | SP | | | |
| Townhouse | No | No | No | No | | | |
| Cluster Development | No | No | No | No | | | |
| In-law apartment | SP | SP | SP | SP | | | |
| Group home for six or less unrelated persons | Yes | Yes | Yes | Yes | | | |
| Rental of five or less rooms | Yes | Yes | Yes | Yes | | | |
| Rental of more than five rooms | SP | SP | SP | SP | | | |
| Affordable housing unit on an undersized lot | SP | SP | SP | SP | | | |
| Assisted living residence | SP | SP | SP | SP | | | |
| Elderly Housing | No | No | No | No | | | |

Source: Town of Billerica Zoning Bylaws, 2011

SP: Special Permit with the Zoning Board of Appeals designated as the Special Permit Granting Authority (SPGA)

Single-family development is permitted by right in all residential zoning districts, while two-family and multi-family dwellings are only permitted in the Multi-family Residence Zone by special permit from the Zoning Board of Appeals. In-law apartments are permitted by special permit in all four residential zoning districts. Group homes for six or less persons and rental of five or less rooms are also permitted by-right in all residential zones. Rental of more than five rooms, affordable housing units on undersized lots and assisted living residences are permitted in each residential zone by special permit.

Table 42: Permitted Residential Uses by Commercial and Industrial Zoning District

| | Business Zoning District | | | | | |
|------------------------|---------------------------------|------------------------|--------------|--------------|--|--|
| Residential Use | NB- Neighborhood Business | GB-General Business | C-Commercial | l-Industrial | | |
| Single-Family Dwelling | Yes | Yes | No | No | | |
| Two-Family Dwellings | No | No | No | No | | |
| Multifamily Dwellings | No | No | No | No | | |
| Townhouse | No | No | No | No | | |
| Cluster Development | No | No | No | No | | |

| In-law apartment | SP | SP | No | No |
|----------------------------------|--------------|-----|-----|-----|
| Group home for six or | | | | |
| less unrelated | Yes | Yes | No | No |
| persons | | | | |
| Rental of five or | Yes | Yes | No | No |
| less rooms | 165 | res | INO | NO |
| Rental of more than | SP | SP | No | No |
| five rooms | 25 | 34 | INO | INO |
| Affordable housing | | | | |
| unit on an undersized | Yes | No | No | No |
| lot | | | | |
| Assisted living | SP | SP | SP | SP |
| residence | 34 | 34 | 34 | 34 |
| Elderly Housing | No | No | No | No |
| Source: Town of Billerica Zoning | Bylaws, 2011 | | | |

As shown in Table 42 above, the Town's Zoning Bylaw also allows for some residential uses in Billerica's Commercial Zoning Districts. Single-family development, group homes for six or less persons and rental of less than five rooms is permitted by right in the Neighborhood and General Business Zones. Affordable housing units on undersized lots are permitted by right in the Neighborhood Business Zone, while in-law apartments, rental of more than five rooms and assisted living residences are allowed by special permit. All residential uses are prohibited in the Commercial and Industrial Districts, except for assisted living residences, which require a special permit.

DIMENSIONAL AND DENSITY REQUIREMENTS

The dimensional and density requirements for standard residential lot subdivisions / development vary in each residential and commercial zoning district (Table 42). Within the Village Residence district, the minimum lot area required for subdivision is 30,000 square feet, with a 150-foot minimum frontage, 15-foot side yards, 20-foot rear yards, 25% lot coverage and a maximum building height of 35 feet.

Table 43: Dimensional and Density Requirements for Residential Subdivisions or Development (Zoning)

| | | Zoning District | | | | | | | |
|------------------------------|--------|-----------------|--------|--|--------|--------|--------|--|--|
| Requirements | VR | NR | RR | MF | NB | GB | С | | |
| Min. Lot Area (ft²) | 30,000 | 40,000 | 50,000 | 1.5 acres (site) and at least 6,800 ft²/dwelling | 25,000 | 25,000 | 25,000 | | |
| Min. Frontage (ft) | 150 | 175 | 200 | 150 | 125 | 125 | 125 | | |
| Min. Front Yard (ft) | 35 | 35 | 35 | 35 | 50 | 50 | 50 | | |
| Min. Side Yard (ft) | 15 | 15 | 15 | 35 | 25 | 25 | 25 | | |
| Min. Rear Yard (ft) | 20 | 20 | 20 | 30 | 35 | 35 | 35 | | |
| Max. Lot coverage (%) | 25 | 25 | 25 | 30 | 25 | 25 | 25 | | |
| Max. Building Height (ft) | 35 | 35 | 35 | 35 | 35 | 45 | 45 | | |

Within the Multi-family Residence District, the minimum site area is 1.5 acres with at least 6,800 square feet provided for each dwelling. The requirements for the frontage, front yard and building height are the same as the Village Residence Zone: a 35-foot minimum front yard, 150-foot frontage and a 35-foot building height. However, side and rear yards, as well as maximum lot coverage, are higher in the Multi-family Residence Zone. Additionally, the Town Bylaw mandates that at least two off-street parking spaces be designated for any single family, two family and multi-family dwelling unit.

b. Affordable Housing Opportunities

The Town's Zoning Bylaw includes a number of specific allowances intended to encourage the development of housing for special needs populations, including low and moderate-income families, smaller households, and senior citizens. The following subsection summarizes each of these options in Billerica.

MULTI-FAMILY RESIDENCE DISTRICT

The Multi-family Residence District is designed to provide opportunities for more affordable housing and smaller housing units in Billerica. In the three other residential zones, only single-family dwellings are permitted. Thus, the multi-family residence zone provides the only opportunity for the development of two or more residential units in the Town. A special permit is required for any development proposal for two or more residential units. Special permits are issued for multi-family dwellings by the Planning Board subject to site plan approval. Special permits are issued for two-family dwellings by the Zoning Board of Appeals.

The following requirements for use are specified:

- Area and Frontage (as specified in Table 42 on the previous page)
- Density
- Yards
- Green strips
- Height
- Parking
- Infrastructure
- Access

The Multi-family Residence District also includes the following relevant required findings:

- The requested use is desirable to the public convenience or welfare.
- The requested use will not create or add to undue traffic congestion, or unduly impair pedestrian safety.
- The requested use provides for the convenience and safety of vehicular and pedestrian movement.
- The requested use will not overload any public water, drainage or sewer system or any other municipal system.

- The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the public health, convenience or welfare.
- The requested use will not, by its addition to a neighborhood, cause an excess of that particular use that could be detrimental to the character of said neighborhood.
- The design and architectural treatment of the use is not incongruous or inappropriate to the character of the neighborhood in which it is proposed to be constructed.
- There is an adequate landscape buffer strip provided to protect adjoining properties from the effects of noise, lights, air, or visual impact.

In addition, there is an inclusionary housing component requiring that at least 15% of the units created under these provisions are affordable to low- or moderate-income persons or families, whose income is at or below 80% of the AMI. Alternatively, an applicant may contribute a fee per unit to the Town of Billerica to be used for the development of affordable housing in lieu of, or in conjunction with, constructing and offering affordable units on site.

A density incentive is also offered for affordable housing units. Pursuant to the Town of Billerica Zoning Bylaw, densities may be increased by 20% if at least half of all additional units created are affordable.

OVERLAY DISTRICTS

The Town's Zoning Bylaw includes a number of overlay districts designed to promote housing production. The relevant overlay zoning districts are the Residential Cluster (RC), Townhouse (T), Elderly Housing (EH) and Mill Conversion and Reuse (MC) Districts. Under each overlay district, the uses that are permitted by right or by special permit are the same as those in the underlying zoning, except for cluster developments in the RC overlay district, multi-family development in the MC overlay district, elderly housing in the EH overlay district and townhouses in the T overlay district, which all require a special permit from the Planning Board as the Special Permit Granting Authority, subject to site plan approval.

Like the Multi-family Residence Zone, each overlay district includes a series of requirements and required findings. A 15% affordable housing component is required in the Townhouse and Elderly Housing districts. The Mill Conversion and Reuse District has a 25% affordable housing requirement for persons or families qualifying as low or moderate-income residents, whose income is at or below 80% of the AMI. Density bonuses for affordable housing provision are also offered in these overlay districts. Densities may be increased by 20% in the Townhouse and Elderly Housing Districts if at least half of all additional units created are affordable.

DIMENSIONAL AND DENSITY REQUIREMENTS

The dimensional and density requirements for residential development vary in each residential overlay district (Table 44). Within the Residential Cluster, Townhouse and Elderly Hosing district, a minimum of 6,800 square feet of land is required for each dwelling unit.

Table 44: Dimensional and Density Requirements for Residential Subdivisions or Development

| Requirements | Overlay District | | | | | | | | |
|-------------------------------------|---|---|--|--|--|--|--|--|--|
| Requirements | RC | Т | EH | MC | | | | | |
| Min. Lot Area (ft ²) | 10 acres VR, NR and RR. May be reduced to 20,000 ft ² in NR and RR, or 15,000 ft ² in VR At least 6,800 ft ² /dwelling | 200,000 ft ² (site) At least 6,800 ft ² /dwelling | 5 acres (site) At least 6,800 ft²/dwelling | n/a applies to existing mill buildings | | | | | |
| Min. Frontage (ft) | 100 ft 75 ft on cul-de-sacs | 150 | 150 | n/a | | | | | |
| Min. Front Yard (ft) | Comply with Zoning District | 35 | 35 85 if abutting SF | n/a | | | | | |
| Min. Side Yard (ft) | Comply with Zoning District | 50 | 30 85 if abutting SF | n/a | | | | | |
| Min. Rear Yard (ft) | Comply with Zoning District | 25 | 30 85 if abutting SF | n/a | | | | | |
| Max. Lot coverage (%) | Comply with Zoning District | 30 | 30 | n/a | | | | | |
| Max. Building Height (ft) | Comply with Zoning District | 35 | 35 | n/a | | | | | |
| Source: Town of B | illerica Zoning Bylaw, 2011. | | | | | | | | |

IN-LAW DWELLING UNIT

In an effort to allow families to care for their elderly relatives, the Town allows an "In-law apartment" by special permit in all residential and business zones. In-law apartments are designed to provide complete and separate living facilities for occupancy by a maximum of two individuals who are related to the occupants of the principal residence. The following required findings are applicable in all zones:

- The living quarters are separate, but located in the principal building.
- The living quarters do not exceed 800 square feet.
- There are no more than two related persons as occupants.
- There is sufficient off-street parking for the use.
- The principal building in which the use is located retains its single family dwelling appearance.
- The use shall not continue upon vacation of the premises by the occupants.

4. Infrastructure

This section summarizes the existing sewer, water and transportation infrastructure and identifies the infrastructure gaps that present barriers to new residential development. This summary is based upon a review of previous documents, including the *Greater Lowell Comprehensive Economic Development Strategy (CEDS) for 2009-2013* and the *Regional Strategic Plan for Greater Lowell, 2011*.

a. Sewer Capacity

The Town is in the process of completing an aggressive \$15 million dollar sewer expansion program. As of 2014, the Town's public sewer system currently covers approximately 80% of the community, up from 70% in 2004. The Town operates a Grade 7 Wastewater Treatment Plant located at 70 Letchworth Avenue, with a design capacity of 5.5 million gallons of wastewater per day. Based on the Town of Billerica's Comprehensive Wastewater Management Plan, future expansion of the wastewater treatment plant will provide capacity for approximately 6.1 million gallons per day, an increase of nearly 11%.

Currently, there are twenty-five pump stations located throughout the town. There is a current pump station elimination project underway, which will eliminate three problematic wastewater pumping stations located on Bertha Circle, Webb Brook Road (a private station) and Poe Road. The project includes installation of approximately 4,000 feet of new 10-inch gravity sewer. Upon completion of this project, these three troublesome sewage pump stations will be demolished and the sewage in the area will flow entirely by gravity. It is anticipated that the project will significantly decrease the potential for sewage overflows into Webb Brook, while reducing operation and maintenance costs.

The East Billerica Sewer Extension Project is also underway. This project includes the construction of approximately 30,000 linear feet of 8" and 12" PVC gravity sewer, 900 linear feet of low pressure sewer mains, and 6,000 linear feet of ductile iron water mains, including valves, hydrants, service connections and appurtenances. This project is scheduled for completion in February, 2015.

b. Water Supply

The Concord River is the sole source of drinking water for the Town of Billerica, with public water available to the entire Town. The first Water Treatment Plant was built in 1955 with a capacity of 3.5 million gallons per day (MGD) and expansion potential up to 7 MGD. In 1967 the plant was expanded to its intended maximum capacity. As growth in Billerica continued, the plant's capacity was increased in 1976 to 14 MGD. In 2006 the old Water Treatment Plant on Boston Road was taken off line and the new Water Treatment Plant, located off Treble Cove Road, was brought on line. The new Water Treatment Plant has the same capacity as the old plant.

The Town currently has MassDEP approval to withdraw 5.34MGD on an annual average. In 2012 the Billerica Water Division treated and delivered 1.66 billion gallons with the town using on average 4.5 million gallons of water consumed each day. As such, there is 0.84MGD of capacity in the current water supply.

c. Transportation Network and Public Transit

Billerica is served by a regional transportation network comprised of several modes, including automobiles, commuter rail, buses and bicycles. Commuter rail service to Lowell and Boston is available at the North Billerica commuter rail station, which contains 541 surface parking spaces. Twenty-two inbound and outbound trains services to and from North Station are provided on a daily basis. The cost of a one-way ticket to Boston from North Billerica is \$8.00.

Local public transit services are currently available to Billerica residents through the Lowell Regional Transit Authority (LRTA). The LRTA provides a fixed route bus service - Route 13, along Route 3A (Refer to Map 6 in the Appendix). The bus service generally operates on one-hour headways (with half hour peak services) during the week starting at 6.30a.m. from Kennedy Centre, Lowell and running through

6.30 p.m. On Saturday there is a more limited schedule and no services are provided on Sunday. The LRTA also provides a fixed route service to the Lahey Clinic/Burlington Mall/Sun Microsystems area of Burlington and Bedford via the Middlesex Turnpike. On weekdays, this bus operates on one-hour headways during peak hours. No weekend service is available. A full fare within Billerica is \$1.00 and a full fare to or from Lowell it is \$1.50. Senior citizens and disabled passengers ride for a reduced rate which is 50 cents within Billerica and 75 cents to or from Lowell.

In addition to these fixed route services, the LRTA also provides a demand responsive paratransit service known as the "Road Runner". This service consists of dial-a-ride and pre-scheduled paratransit services that are available to Billerica residents sixty years old and over, or to residents who have a disability. This service is provided by the LRTA central dispatch in Lowell and is available with a 48 hour advanced reservation or a 24 hour advanced reservation for ADA clients. Road Runner clients must be registered with the Road Runner prior to their first trip reservation. An in-town service is available Monday through Saturday, 8am to 3pm. Out-of-town services are available to Chelmsford on Mondays, Lowell on Tuesdays, Tewksbury on Wednesdays, and Burlington Mall and Lahey Clinic on Fridays. Road Runner costs \$1.00 in-town and \$1.50 out-of-town each-way.

There are 223.36 centerline miles (442.93 lane miles) of roadway, ranging from numbered state roads such as Routes 3, 3A, 4 and 129 to local roads. The majority of the roads in Billerica are local, urban roads.

II Affordable Housing Goals and Strategies

The Billerica Affordable Housing Trust developed a set of goals and strategies that will assist the Town in its efforts to develop affordable housing units. Building upon the Housing Goals and Strategies developed previously, these updated Housing Goals and Strategies should also serve as the framework for the new Master Plan. These goals are in no particular order of priority.

A. Housing Goals

- Provide a variety of housing opportunities that serve all socio-economic groups within the community, especially those below 80% of the area median income.
- 2. Protect the quality of life and maintain the residential and historic character of the town through housing development.
- Create diverse rental units, in terms of types of units (duplexes vs. multi-family) and number of bedrooms (three or more), for residents.
- 4. Support the creation of workforce³¹ housing units and broaden the range of potential home-buyers and tenants.
- 5. Develop rental and ownership options for senior citizens, disabled residents and veterans that allow them to live independently.
- Receive credit on the Subsidized Housing Inventory (SHI) for the affordable housing units developed under the inclusionary provisions of the Town's Zoning Bylaw.
- Update the zoning bylaw, development review processes and permitting policies so they are clear and consistent.

Figure 9: Commonwealth of Massachusetts' Sustainable Development Principles

- 1. Concentrate Development and Mix Uses
- 2. Advance Equity
- 3. Make Efficient Decisions
- 4. Protect Land and Ecosystems
- 5. Use Natural Resources Wisely
- 6. Expand Housing Opportunities
- 7. Provide Transportation Choice
- 8. Increase Job and Business Opportunities
- 9. Promote Clean Energy
- 10. Plan Regionally
- 8. Ensure consistency in the interpretation and administration of affordable housing requirements by the Affordable Housing Trust, Affordable Housing Committee, Housing Authority, Board of Selectmen, Planning Board and Zoning Board of Appeals.
- 9. Ensure that affordable housing development in Billerica adheres to the Commonwealth's Sustainable Development Principles (see *Figure 9*).
- 10. Utilize the DHCD-approved Housing Production Plan as a management tool to develop new housing opportunities in meeting the Town's annual housing production goals. Update the Housing Goals on a regular basis.

³¹ Workforce housing is a term commonly used to describe "housing for the occupations needed in every community, including teachers, nurses, police officers, fire fighters and many other critical workers." This is typically defined as 80-120% AMI. Source: Center for Housing Policy, 2011 - https://www.housingpolicy.org/

B. Housing Strategies

Maintain Existing Housing and Expand Housing Opportunities

- 1. Be proactive in monitoring and maintaining existing affordable housing units.
- 2. Develop more affordable rental housing (less than 30% of annual income) with the increased availability of 3- and 4-bedroom units.
- 3. Encourage re-use or redevelopment of underutilized property.
- 4. Document the specific needs of Billerica veterans and construct affordable veterans housing units that meet those needs. Organizations, such as the <u>Veterans Northeast Outreach Center</u> and the local Veteran's agent, can be consulted for housing assistance.
- 5. Consider Chapter 61 properties as potential affordable housing opportunities.
- 6. Examine opportunities available under the Chapter 40R Smart Growth Overlay District.
- 7. Consider additional zoning changes to increase affordable housing production.
- 8. Monitor the level of affordable housing development created through the inclusionary requirements of the Town's Zoning Bylaw.
- 9. Incorporate the Housing Production Plan into future updates to the Billerica Master Plan and utilize the Affordable Housing Trust to implement the DHCD-approved Plan.
- 10. Work with State agencies and other stakeholders to develop group homes to provide supported, supervised living arrangements for citizens with mental and physical disabilities.

Policies, Programs and Services

- 1. Evaluate and revise existing development regulations and guidelines, including the Housing Partnership Guidelines, for fairness and efficiency through the development of an Affordable Housing Permitting Guide to assist applicants in navigating the review process.
- 2. Working in conjunction with the Planning Board, Board of Selectmen, Zoning Board of Appeals, Housing Partnership Committee, Affordable Housing Trust and other town committees and boards, build upon the approved zoning changes so as to provide more affordable housing opportunities, such as through special permits for multi-family units, accessory apartments, assisted living facilities, and retirement communities.
- 3. Consider adopting the Community Preservation Act to support affordable housing development with a focus on the following programs and services:
 - Community education regarding affordable housing programs;
 - First-time home buyer's assistance program;
 - Rental assistance;
 - Renovation and sale of properties as affordable unit(s) from acquired town tax lien properties;
 - Purchase of property for use as an affordable housing development;
 - Betterments for donated buildings and/or land for use of affordable housing; and
 - Partnerships with private developers and public agencies for affordable housing initiatives that address the housing needs of the community.
- 4. Support legislative and/or regulatory reforms at the state level that recognize the efforts of communities like Billerica to proactively provide "workforce housing" to serve households at 80-

- 120% of the area median income (AMI), in addition to current efforts supporting households earning below 80% of the AMI.
- 5. Adopt local selection preferences that are consistent with the DHCD Affirmative Fair Housing Marketing Plan (AFHMP) Guidelines and all applicable State and Federal laws and regulations. The project will justify the extent of the local preference (the percentage of units proposed to be set aside for local preference), but in no event will the local preference exceed 70% of the (affordable) units in a project.
 - Allowable Preference Categories
 - (1) Current residents: A household in which one or more members is living in the city or town at the time of application. Documentation of residency should be provided, such as rent receipts, utility bills, street listing or voter registration listing.
 - (2) Municipal Employees: Employees of the municipality, such as teachers, janitors, firefighters, police officers, librarians, or town hall employees.
 - (3) Employees of Local Businesses: Employees of businesses located in the town.
 - (4) Households with children attending the locality's schools, such as METCO students.

Education

- 1. Provide affordable housing training and educational opportunities to local Board and Committee members and staff, including the Affordable Housing Trust. These training opportunities could include updates on current policies to support affordable housing (i.e., the Comprehensive Permit Guidelines) and any revisions to state law or regional opportunities. This will allow boards and committees to provide guidance to the development community so as to improve the quality of proposals and result in a more expedited permitting process.
- 2. Increase public awareness of and support for affordable housing through increased outreach and public education.

Funding

- 1. Utilize the developer funds made available under the inclusionary provisions of the Town's Zoning Bylaw to build or purchase affordable housing units and/or provide a subsidized buydown on the purchase price to qualified first-time homebuyers.
- 2. Develop local partnerships with developers to utilize the State's Local Initiative Program (LIP) as a means to develop "friendly 40B" development projects and to document the units developed under the Inclusionary Zoning Bylaw.
- Research federal and state grant opportunities for the enhancement of affordable housing including: HUD's Housing for the Elderly (Section 202) Program, <u>Community Economic</u> <u>Development Assistance Corporation</u> (CEDAC) and <u>Neighborworks Capital</u> (NWC).

Regional Coordination

- Participate in a Regional Housing Committee to create a Regional Housing Plan for the Greater Lowell region.
- 2. Work with non-profit entities, such as the <u>Common Ground Development Corporation</u>, a subsidiary of Community Teamwork, Inc., the Coalition for a Better Acre (CBA) and Habitat for Humanity to develop and manage affordable housing projects.

- 3. Collaborate with other communities to promote First-Time Homebuyer Program opportunities in the region and State to make existing homes more affordable.
- 4. Research and promote Foreclosure Assistance Programs through the State's Emergency Homeowners Loan Program (EHLP) or Community Teamwork, Inc. to help homeowners avoid foreclosure and maintain strong residential neighborhoods.

III. Housing Production Plan Implementation Requirements

A. Characteristics of Proposed Residential or Mixed-Use Developments

The Board of Selectmen and the Zoning Board of Appeals will consider the adoption of a Comprehensive Permit Policy that reflects the expectations of the Town for housing developed under Chapter 40B. By outlining what our expectations are through the adoption of a Comprehensive Permit policy, we believe that the development community would be able to produce the affordable housing that meets the needs of our community. The components of a Comprehensive Permit Policy will include the following elements:

- The Town will not limit a comprehensive permit submittal process for reasons of zoning districts or geographic location.
- The Town will be proactive in supporting affordable housing developments and the review of such developments will include documentation of the potential impacts upon schools, water, sewer, traffic, recreation, open space, natural resources, community character and the recommendations in the updated Master Plan.
- The Town will consider the future growth impacts on the community as identified in the Housing Production Plan (HPP) and will work in partnership with private developers and public agencies to ensure that the affordable housing initiatives are in the best interest of the community.
- The Town will consider a variety of affordable housing initiatives, including multifamily and open space residential subdivisions (OSRD), accessory apartments, assisted living facilities, retirement communities, and other opportunities.
- Preference for available affordable housing program opportunities will be given to Billerica
 residents and municipal employees. Meeting the needs of our community is primary in our
 vision and plan for future housing growth and opportunities.
- The Town will comply with all applicable federal and state housing policies and will continue to meet the requirements of the Chapter 40B program.

B. Proposed Modifications to Zoning Districts to Create SHI Housing Units

In Billerica single-family development is permitted by right in all residential zoning districts (VR, RR, NR and MF). Two-family dwellings and multi-family dwellings are only permitted with a special permit from the Planning Board in the MF District. Multi-family dwellings are also permitted in the Mill Conversion and Reuse Overlay District (MCROD) with a special permit from the Planning Board. Similarly, townhouses are permitted in the Townhouse Overlay District (T) with a special permit from the Planning Board. Requiring a special permit for all multi-family housing may be a deterrent to the future development of this style of housing and limit affordable housing opportunities in Billerica. Allowing multi-family dwellings by right with site plan review would increase opportunities for creating additional condominium and rental units. Consideration should be given to allowing multi-family housing, two-family housing and townhouses of up to four units, by right with site plan review, in the MF, MCROD and Townhouse Overlay Districts.

Currently, only single-family dwellings are permitted in the Town's Commercial Zoning Districts.

Allowing for multi-family and two-family housing, including the development of upper story floors in

commercial buildings, would create additional housing choices and enhance affordability. Much of this type of development would occur through infill development, and would promote housing in locations near employment centers and essential services.

In addition, the Town has identified a number of privately-owned and publicly-owned parcels of land (Tables 44 and 45) that might require zoning bylaw changes to permit any residential development other than single-family. Any changes to the zoning bylaw will need to be presented to Town Meeting for adoption. Where appropriate, it is anticipated the Town will modify the zoning bylaw to support the creation of affordable housing units in order to meet its housing production goals.

C. Privately-Owned Land with Potential for Affordable Housing

In meeting the DHCD requirement to identify potential affordable housing sites, the Town identified privately- and publicly-owned parcels throughout the community that could be conceivably developed for affordable housing. Numerous parcels were identified and studied for current use, zoning, location and site characteristics. NMCOG staff conducted site visits to those sites that were accessible to identify the development limitations.

As shown on the following page in Table 44, five (5) private sites were identified, which could generate approximately 20-40 additional affordable housing units, depending upon the development constraints on each property. This list of privately-owned land with potential for affordable housing will help guide the Town as it moves forward in addressing its affordable housing needs over the next five years. As stated in the Policy and Regulatory Reform strategies section, the Town is committed to coordinating the actions of the various boards and committees on the development of these parcels to meet the open space and conservation goals of the Town as well. Map 1 in the Appendix shows the location and distribution of these parcels throughout the community, while Maps 2, 3, 4, 5 and 6 show the location of these parcels in relation to the current zoning and overlay districts, water and sewer infrastructure, wetland areas and the LRTA Bus Routes.

Table 45: Privately-owned Parcels with Potential for Affordable Housing

| Name | Address | Map/ Parcel/Lot | Area (acres) | Characteristics/ Site Constraints | Zoning Overlay District | Zoning Bylaw Amendment Y/N |
|---|--------------------------------|------------------------|-----------------|--|-------------------------------|-------------------------------------|
| Airport land | Off Alexander | Map 65 Parcel 83-11 | 48.98 | Large tract of land nestled between two industrial parks located on Alexander Road. The land drops in elevation from the road and towards the interior of the property gets very swampy. The business at 71 and 83 Alexander Road appears to have encroached on the land. Construction would have to be concentrated towards the portion of the property closer to the road and upland from the wetlands and floodplain. | I/FP | Y |
| Private land abutting airport. | Cook Street & Muddy Road | Map 74 Parcel 57 | 15.91 | Property is flat, and thickly covered with vegetation, and wetlands. Swamps, pools of standing water, a pond and a brook can be found throughout the property. The wetlands and floodplain are constraints to future development. | VR/FP | Y |
| Chapt. 61A farmland bordering Chelmsford & Carlisle | 9 Nashua Road | Map 37 Parcel 1 | 78.12 | Property could not be accessed due to private property concerns. From aerial photography portions of the property along Nashua Road are cleared of vegetation. The rear is thickly covered with vegetation. Some wetlands are also present on the property. | RR | Y |
| Chapt. 61A farmland bordering Chelmsford & Carlisle | 9 Nashua Road | Map 46 Parcel 3 | 15.17 | Property could not be accessed due to private property concerns. Based on aerial photography, the parcel appears heavily wooded. | RR | Y |
| Holland's I & II | 1 Winning Road | 5 parcels | 77.00 | Property not inspected. | RR/TH&FP | N |

Zoning Districts: NR – Neighborhood Residence; MF- Multi-family Residence; RR-Rural Residence; VR – Village Residence; and I – Industrial. **Overlay Districts**: FP – Floodplain; TH - Townhouse

D. Publicly-Owned Land with Potential for Affordable Housing

The Affordable Housing Committee has been able to identify sixteen (16) publicly-owned potential housing sites that could provide 55-110 additional affordable units to the SHI Inventory, depending upon the development constraints on each property. The sites outlined in Table 46, on the next two pages, have various constraints to being developed, including wetlands, size constraints and limited access. The Town is committed to evaluating tax possession parcels and any future land use changes on Townowned land to assess the potential for affordable housing development. Map 1 in the Appendix shows the location and distribution of these parcels in the community, while Maps 2, 3, 4 and 5 show the

location of the parcels in relation to current zoning and overlay districts, water and sewer infrastructure, wetland areas and the LRTA Bus Routes.

Table 46: Publicly-owned Parcels with Potential for Affordable Housing

| Name | Address | Map/ Parcel/Lot | Area (acres) | Characteristics/ Site Constraints | Zoning District | Zoning Bylaw Amend't Y/N |
|---|---|--|-----------------|---|--------------------|-----------------------------------|
| BHA property | Albert Street | 83-42-0 83-43-0 | .951 1.00 | Wooded lot that appears to be developable. | RR | Y |
| Land adjacent to Fox Hill Cons. Area | Andover Street & Old Salem Road | Map 34 Parcels 68-5-1, 145, & 69-3 | 30.75 | Mostly vacant land with one house. Property not inspected. | RR | Y |
| Ditson School | 793 Boston Road | Map 99 Parcel 96 | 3.47 | Former school now currently being utilized as a training academy and offices for the Middlesex Sheriff. Parcel houses the school, parking lots and basketball courts. | VR | Y |
| Cabot land | Between Richardson Street and River Street | Map 60 Parcel 80-1 | 39.68 | Vacant land adjacent to the Concord River. Parts of the parcel are encumbered by wetlands and floodplain. The property is also thickly covered with vegetation. | NR/FP | Y |
| | | | Tax Tit | le Properties | | |
| | Arey Street | Map 96 Parcel 34 | 0.23 | Vacant land located in a densely populated residential neighborhood. A cleared, flat and compacted section of the property is used for parking by neighborhood residents. Beyond the vegetation and impromptu car park the land drops forming a bowl that collects water and looks seasonably swampy. | VR | Y |
| | 17 Colby Street | Map 76 Parcel 276 | 0.55 | Vacant land, which is currently landlocked as street is unmade. The property was not explored for that reason. From aerial photography, the parcel is surrounded by occupied single family homes and appears to be covered with thick vegetation. | VR | Y |
| | Cook Street | Map 74 Parcel 40 | 4.05 | Property is flat with thick vegetation, and wetlands. | VR/FP | Y |
| | Dustin Young Lane | Map 82 Parcel 126 | 0.11 | Existing single family house. | RR | Y |
| - | Highview Street | Map 100 Parcel 122 | 0.34 | Small corner lot at Highview and Pinedale Ave. The land drops rapidly as you travel down High View from Pinedale and the property in question does the same a few feet in from the roadway. Due to the steep drop and vegetation, potential development may be limited. Part of the property is also within 100 feet of the wetlands to the | VR | Y |

| Name | Address | Map/ | Area | | Zoning | Zoning Bylaw Amend't |
|------|----------------------|---------------------------|----------|---|----------|----------------------------|
| Name | Address | Parcel/Lot | (acres) | Characteristics/ Site Constraints west. | District | Y/N |
| | Irene Avenue | Map 83 Parce152-2 | 1.79 | Site not inspected. Parcel is encumbered by wetlands according to MassGIS. | RR | Y |
| | 13 Pines Road | Map 82 Parcel | 0.25 | Existing single family house. | RR | Y |
| | Ridgeway Ave | Map 16 Parcel 53 | 0.74 | Vacant land located next to Iron Mountain Industries and a portion of the historic Middlesex Canal. The property is level but two small bodies of water and wetlands dominate the parcel. | NR/FP | Y |
| | Riverbank Terrace | Map 106 Parcel 118 | 2.84 | Vacant land, which is almost entirely comprised of wetlands and floodplain associated with a tributary of the Shawsheen River. The land is flat and level. | VR/FP | Y |
| | Tomahawk Drive | Map 18 Parcel 16 | 0.34 | Vacant land, which appears to be used for the dumping of grass clippings and other yard debris. A culvert runs under Tomahawk Dr and empties onto the western edge of the property. The water then flows through and around the property with wetlands and standing water seen throughout. | RR | Y |
| | Tow Path Drive | Map 35 Parcels 20 & 21 | 0.34 | Vacant, flat, rectangular shaped parcel that is devoid of wetlands and is nestled in a quiet neighborhood. The small size and rectangular shape may limit sizeable development and construction may impact the residence at 58 Tow Path Dr. | VR | Y |
| | | F | uture Ta | x Title Property | | |
| | Saville Street | Map 12 Parcel 36 | 0.46 | This property is located on a narrow dirt road in northeastern Billerica. Overall the lot is flat, vegetated and devoid of wetlands. A trail has been blazed through the property and runs in a North/South orientation. It appears that this trail is for an underground gas line. The property appears to be currently used for dumping trash and as a track for outdoor recreational vehicles. | RR | Y |

Zoning Districts: NR – Neighborhood Residence; MF- Multi-family Residence; RR-Rural Residence; VR – Village Residence; and I – Industrial. **Overlay Districts**: FP - Floodplain

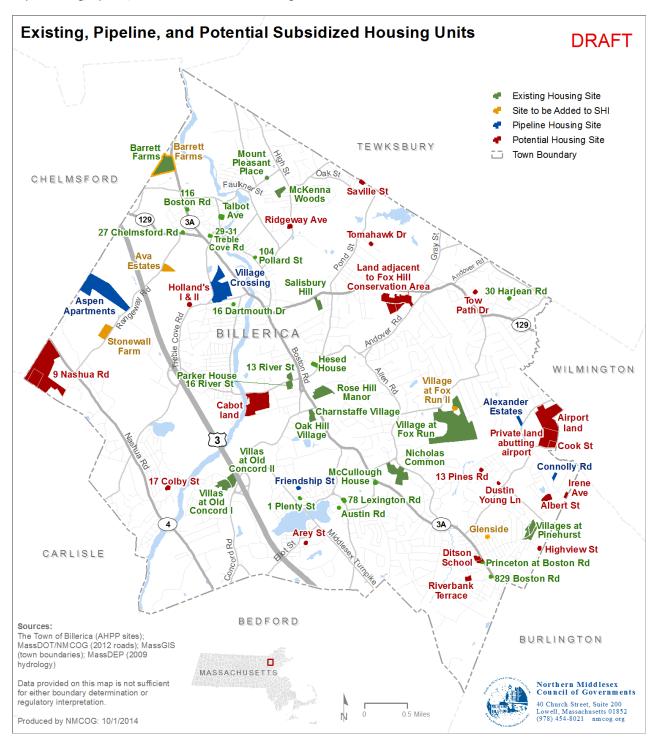
E. Participation in Regional Collaborations that Address Housing Development

Billerica will investigate the following opportunities to participate in regional initiatives to develop affordable housing in the Greater Lowell region:

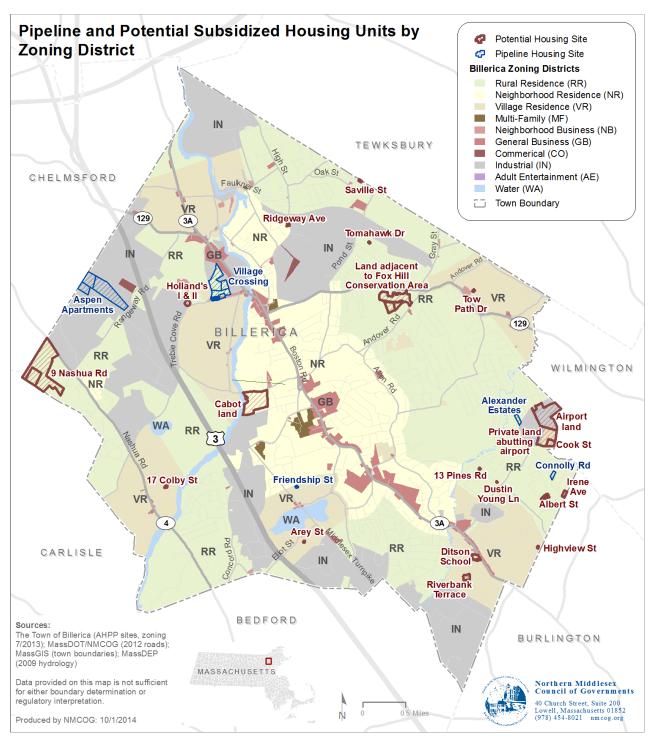
- Work with non-profit entities, such as the <u>Common Ground Development Corporation</u>, a subsidiary of Community Teamwork, Inc., the Coalition for a Better Acre (CBA) and Habitat for Humanity to develop and manage affordable housing projects.
- Participate in the Merrimack Valley Regional Network to End Homelessness which includes several towns in the region;
- Work with the Northern Middlesex Council of Governments (NMCOG), local communities and housing entities in the Greater Lowell region to develop a Regional Housing Plan; and
- Continue to research opportunities to implement development strategies outlined in the *Greater Lowell Regional Strategic Plan*.

Appendix A: Maps

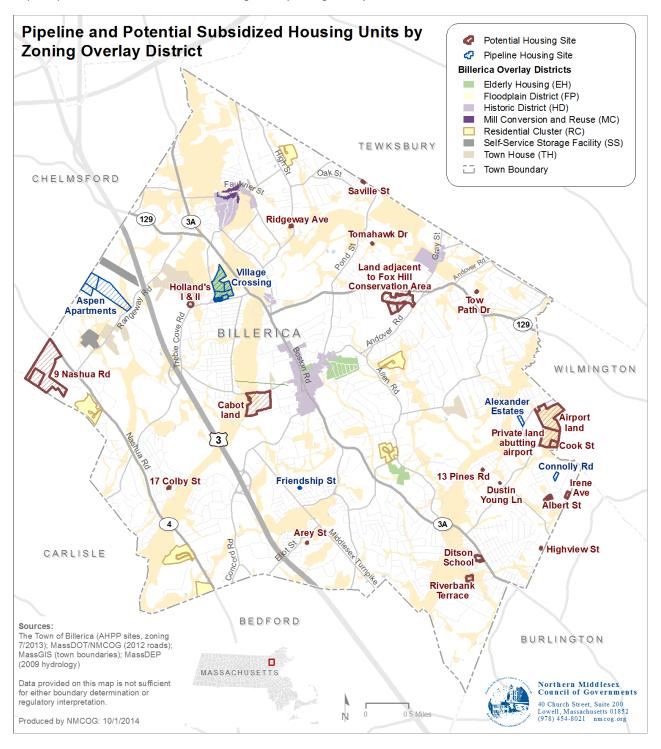
Map 1: Existing, Pipeline, and Potential Subsidized Housing Units



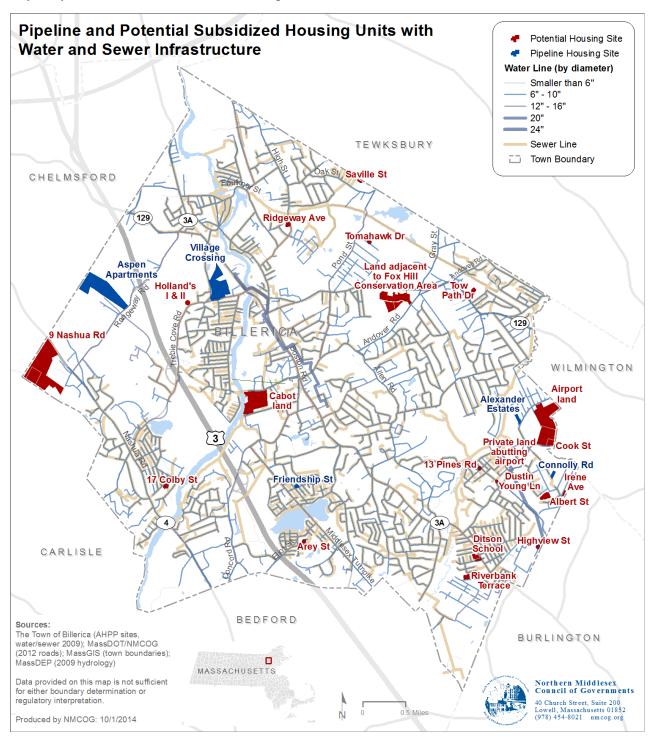
Map 2: Pipeline and Potential Subsidized Housing Units by Zoning District



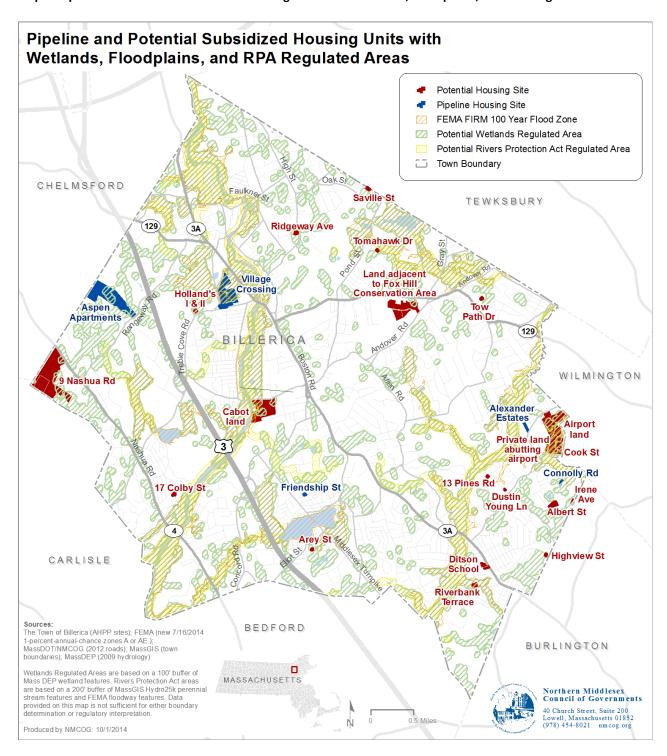
Map 3: Pipeline and Potential Subsidized Housing Units by Zoning Overlay District



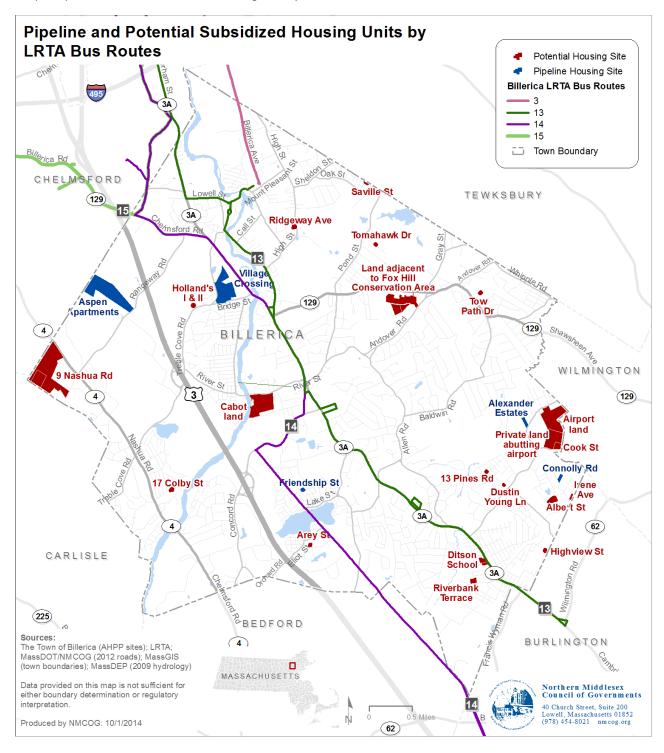
Map 4: Pipeline and Potential Subsidized Housing Units with Water and Sewer Infrastructure



Map 5: Pipeline and Potential Subsidized Housing Units with Wetlands, Floodplains, and RPA Regulated Areas



Map 6: Pipeline and Potential Subsidized Housing Units by LRTA Bus Routes



Implementation

Introduction

This chapter is arguably the most important in the Comprehensive Plan. The implementation recommendations are based on the vision, goals and actions from each chapter. To ensure that this plan is implemented, it is strongly recommended that the Town of Billerica creates a working group comprised of representatives from Town staff, existing boards and commissions, and other key stakeholders in town. This group would be responsible not only for coordinating overall implementation but also ensure that public outreach and education efforts are achieved. A Board of Selectmen-appointed Comprehensive Plan Implementation Committee is recommended that would operate under the auspices of the Planning Board, which is already charged with official adoption of the Plan pursuant to M.G.L. c. 41 §81D.

It is important to note that planning is a dynamic process and priorities can shift over time. A consistent review process allows for these issues to be acknowledged while keeping each specific recommendation on the table unless a situation dictates that it is no longer relevant. In addition to implementing the plan, it is recommended that the Town considers some mechanism for reporting on progress and on barriers to implementation, on a regular basis. Some communities provide this information in annual reports to the Board of Selectmen and/or Town Meeting. Others have developed a follow-up evaluation form that specifically lists each action item and asks for updates.

Table 5-1 below summarizes the specific recommendations found at the end of each of the plan's chapters. The timing for implementation of the recommendations are assigned for short terms, medium terms, and long terms, to assist in suggesting a timeframe for each item to be considered. Some recommendations are ongoing in nature. It should be noted that a short-term recommendation does not necessarily imply a higher priority, although it could. It is important to identify recommendations that can be implemented quickly in order to demonstrate progress and momentum in the early years of plan implementation. Conversely, there may be high priority items that will take a number of years to fully implement because of such factors as cost, design, and/or permitting. Since updating the zoning bylaw should be a high priority, many of the zoning recommendations are scheduled for implementation in the short-term time frame under

the assumption that the zoning amendments would be considered in a comprehensive, rather than piecemeal, manner.

The responsible parties are also listed. If more than one entity could be charged with implementing a particular strategy or recommendation, the lead agencies listed first in bold. **Table 5-2** sorts the recommendations by lead agency.

The following list identifies the acronyms used for responsible parties in the table:

- BHS Billerica Historical Society
- BOH Board of Health
- BOS Board of Selectmen
- CD Commission on Disabilities
- ConComm Conservation Commission
- COA Council on Aging
- FC Finance Committee
- HA Housing Authority
- HC Historical Commission
- HDC Historic Districts Commission
- MHC Massachusetts Historical Commission
- MC Museum Committee
- PB Planning Board
- RC Recreation Commission
- TMC Traffic Management Committee
- YDBPC Yankee Doodle Bike Path Committee
- ZBA Zoning Board of Appeals
- AO Assessor's Office
- BD Building Department
- FD Fire Department
- IT Information Technology
- PD Policy Department
- PL Public Library
- DPW Department of Public Works
- Con Department of Conservation
- Rec Recreation Department
- TM Town Manager
- LRTA Lowell Regional Transit Authority

Implementation Matrix

Table 5-1 Implementation Recommendations – Timing and Responsible Party

| # | Land Use Recommendations | Short Term | Medium Term | Long Term | Ongoing | Responsible Party / Stakeholders | Additional Element(s) this Action Addresses |
|------|---|------------|-------------|-----------|----------|-------------------------------------|---|
| LU-1 | Update zoning ordinance to diversify the type and intensity of industrial and office uses for various industrial zoning districts while enhancing protection for adjacent residential neighborhoods by addressing issues related to setback, access, buffering, and screening. | ✓ | | | | PB, BOS | Economic Development, Housing |
| LU-2 | In synergy with the Town's economic development efforts, explore more opportunities for expedited permitting, such as 43D district or streamlined site plan review process, to attract technological, research and development, laboratory, and value-added light industrial uses along the Route 3 corridor. | √ | | | | PB, ZBA, TM, BOS | Economic Development |
| LU-3 | Continue collaborating with federal, state agencies, private landowners and developers, and the public to leverage brownfield remediation and incentivize reuse/redevelopment of vacant and underutilized sites. | | √ | | √ | PB, ZBA, ConComm | Natural Resources, Economic Development |
| LU-4 | In synergy with the Town's economic development efforts, identify priority areas in Billerica, particularly along the Route 3A corridor where market support is stronger, for | | √ | | | PB, ZBA, TM, BOS | Economic Development |

| # | Land Use Recommendations | Short Term | Medium Term | Long Term | Ongoing | Responsible Party / Stakeholders | Additional Element(s) this Action Addresses |
|------|--|------------|-------------|-----------|---------|-------------------------------------|--|
| | designated mixed-use districts or mixed-use infill development. Modify zoning to encourage mixed-use in these areas. | | | | | | |
| LU-5 | Continue preserving existing forests and conservation land while collaborating with state agencies, land trusts, and private landowners to seek more opportunities to expand the trail network and enhance public accessibilities for passive recreation. | ✓ | | | ✓ | ConComm, Rec, PB | Natural Resources, Open Space and Recreation |
| LU-6 | Identify town-owned land as well as other opportunity sites along Concord and Shawsheen rivers as target areas for creating public access points to the river. | √ | | | | PB, ConComm, Rec | Natural Resources, Open Space and Recreation |
| LU-7 | Coordinate regionally to develop long range land use strategies along the Concord and Shawsheen River corridors that will promote water quality improvements, wildlife habitat restoration, and public access to regional waterfront recreation resources. | | ✓ | | | PB, ConComm | Natural Resources, Open Space and Recreation |
| LU-8 | Identity parcels to expand and connect the existing open space and natural resources. | ✓ | | | | ConComm, Rec, PB | Natural Resources, Open Space and Recreation |
| LU-9 | Provide more development incentives and flexibilities in zoning bylaws to expand and diversify Billerica's housing stock that will meet the prevailing and emerging housing needs in town, particularly for senior housing. These could include density bonus, conversion of existing structures into multi- | √ | | | | PB, ZBA | Housing |

| | Time Forest of Imponentation | | | | | | | | | |
|-------|--|------------|-------------|-----------|---------|-------------------------------------|--|--|--|--|
| # | Land Use Recommendations | Short Term | Medium Term | Long Term | Ongoing | Responsible Party / Stakeholders | Additional Element(s) this Action Addresses | | | |
| | unit housing, flexible dimensional and parking requirements, and the creation of accessory dwelling units. | | | | | | | | | |
| LU-10 | Monitor and seek housing rehabilitation opportunities especially in older, higher density neighborhoods. Consider the adoption of zoning, regulatory, permitting and other procedural incentives to promote residential reinvestment and enhance the existing housing stock. | | √ | | | PB, ZBA, HA | Housing | | | |
| LU-11 | Examine and amend zoning along the Route 3A commercial corridor to allow diversified, higher density, and/or mixed use housing development, such as multi-family, townhouses, assisted living or other types of senior housing. | | √ | | | PB, ZBA | Housing, Economic Development | | | |
| LU-12 | Develop design standards and guidelines for the Town Center and Route 3A commercial corridor to enhance building character, parking configuration, and public realm interface. | √ | | | | PB, ZBA | Economic Development | | | |
| LU-13 | Leverage public and private capital investment, as well as permitting and site plan review process, to beautify Billerica by improving the quality of public realm design and enhancing neighborhood identities. | √ | | | | ZBA , PB, DPW | Economic Development, Public Facilities and Services | | | |

| # | Transportation Recommendations | Short Term | Medium Term | Long Term | Ongoing | Responsible Party / Stakeholders | Additional Element(s) this Action Addresses |
|-----|---|------------|-------------|-----------|---------|---------------------------------------|--|
| T-1 | Seek funds to advance design/construction of the Yankee Doodle Bike Path. | | | | ✓ | DPW , BOS, YDBPC, MassDOT | Natural Resources |
| T-2 | Develop a Town-wide sidewalk inventory and construction/maintenance plan. | √ | | | | TMC, DPW, BOS | Public Facilities and Services |
| T-3 | Focus new sidewalk construction in areas with missing segments and around attractions (e.g. Schools and Resource Areas, and the Commuter Rail Station). | | √ | | | DPW, TMC | Public Facilities and Services |
| T-4 | Work to upgrade existing pedestrian facilities to conform to current ADA/AAB standards. | | √ | | | DPW, TMC | Public Facilities and Services |
| T-5 | Use signage and pavement markings to define an-on-street bicycle network. | √ | | | | TMC, DPW | Historic Resources (HR- 10) |
| T-6 | Educate the community on bike rules and safety, including "Safe Routes to Schools" and other use of bike facilities. | √ | | | | TMC | - |
| T-7 | Explore the potential to develop and adopt a complete streets policy | √ | | | | DPW , TMC, LRTA, MBTA, MassDOT | Public Facilities and Services |
| T-8 | Improve wayfinding signage to Commuter Rail Station, and seek to improve and expand the parking. | √ | | | | DPW , TMC, LRTA, MBTA | Public Facilities and Services |
| T-9 | Work with the LRTA, neighboring Towns and | | | √ | | BOS, LRTA | _ |

| # | Transportation Recommendations | Short Term | Medium Term | Long Term | Ongoing | Responsible Party / Stakeholders | Additional Element(s) this Action Addresses |
|------|--|------------|-------------|-----------|---------|-------------------------------------|--|
| | local businesses to implement a town-wide shuttle service, enhance external connections and extend local service and operating hours. | | | | | | |
| T-10 | Work with LRTA to add support facilities (benches, shelters, parking, etc.) at existing LRTA bus stops. | √ | | | | BOS, LRTA | - |
| T-11 | Work to expand door-to-door service for disabled and aging residents who rely on handicap accessible vehicles. | | | ✓ | | COA, CD, BOS | Public Facilities and Services |
| T-12 | Educate residents on available public transit services (post schedules in public places, including public school, Town Hall and the library). | √ | | | | TMC, BOS, LRTA, MBTA | Public Facilities and Services |
| T-13 | Work with MassDOT to advance design on existing projects along Route 3A, especially those aimed at reducing traffic congestion around the Town center. | | √ | | | DPW, BOS, MassDOT | Land Use (LU-12) |
| T-14 | Work with MassDOT to advance safety improvements at HSIP-eligible locations, particularly at the intersections of Route 3A/Wyman Road, Pond Street/Salem Road (Rt 129), Route 3A/Concord Rd, Andover Rd/Salem Rd (Rt 129). | | ✓ | | | DPW, BOS, MassDOT | - |
| T-15 | Improve wayfinding signage through-out the | ✓ | | | | TMC, DPW | Land Use (LU-6) |

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| # | Transportation Recommendations | Short Term | Medium Term | Long Term | Ongoing | Responsible Party / Stakeholders | Additional Element(s) this Action Addresses |
| | Town. | | | | | | |
| T-16 | Develop Town-wide streetscape standards and implement the adoption of the scenic road program. | √ | | | | PB, DPW, Rec, BOS | Land Use (LU-12, LU- 13) |
| T-17 | Develop gateways at Town entrance points and land use transition points (i.e. residential to commercial, commercial to industrial, etc.). Look to involve community volunteer groups to assist in maintenance such as Garden Clubs and potential partnerships with the School Department. | | | √ | | DPW, Rec, MassDOT | Historic Resources (HR-4), Land Use (LU-13) |
| T-18 | Identify and advance strategic streetscape projects while promoting context sensitive design. | | √ | | | DPW, BOS, MassDOT | Land Use (LU-12, LU- 13) |
| T-19 | Re-evaluate existing bylaws related to signage, in an effort to reduce sign clutter. | √ | | | | PB, BOS | Land Use (LU-12) |
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| # | Natural Resources Recommendations | Short Term | Medium Term | Long Term | Ongoing | Responsible Party / Stakeholders | Additional Element(s) this Action Addresses |
| NR-1 | Maintain and promote a centralized information hub (such as the town's website) to publicize access information regarding Billerica's natural resource and open space assets in order to increase public awareness, use, and appreciation of these resources, and to build support for continuous resource protection, management, and acquisition. | ✓ | | | | Rec, ConComm, IT | Public Facilities and Services, Open Space and Recreation |
| NR-2 | Inventory existing trails and paths in town and identify critical parcels that will help expand the trail network and improve the accessibility and connectedness of existing open space resources. Create additional trail linkages through a variety of means, such conservation easements, land donations, and town acquisition. | √ | | | ✓ | ConComm, Rec, PB | Open Space and Recreation, Land Use |
| NR-3 | Establish a comprehensive wayfinding system for the town's open space and trail systems that also offers educational and interpretive information for the benefit of residents and visitors alike. | | √ | | | ConComm, Rec, TM | Open Space and Recreation, Economic Development |
| NR-4 | Collaborate with stakeholders, town departments, and volunteers to reclaim deserted, blocked, and/or encroached public access to rivers and ponds in town. | ✓ | | | | ConComm, Rec, PB, DPW | Open Space and Recreation |

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| # | Natural Resources Recommendations | Short Term | Medium Term | Long Term | Ongoing | Responsible Party / Stakeholders | Additional Element(s) this Action Addresses |
| NR-5 | Adopt innovative Smart Growth land use regulations, such as Transfer of Development Rights and Open Space Residential Design, to preserve open spaces while stimulating well-planned development. | | | ✓ | | PB, ConComm | Land Use, Economic Development |
| NR-6 | Identify and inventory additional parcels of critical environmental values, such as for open space linkage, wetland and floodplain integrity, public waterfront access, intrinsic biodiversity, agriculture, or continuity with larger tracks of conservation land, etc. Actively seek public and private partnership and funding sources for resource acquisition and encourage Agricultural Preservation Restriction and Conservation Restriction by landowners. | | √ | | | ConComm, PB | Land Use, Open Space and Recreation |
| NR-7 | Enforce the Town of Billerica Stormwater Management By-law. | √ | | | √ | ConComm, PB, ZBA, DPW | - |
| NR-8 | Adopt stormwater Best Management Practices such as Low Impact Development in site design standards, particularly for commercial and industrial districts in close proximity to open waters. | √ | | | | PB, ZBA, ConComm | Land Use |
| NR-9 | Enforce the Town of Billerica Wetlands Protection By-law to ensure no net loss of total wetlands in town. | √ | | | √ | PB, ConComm | Land Use |
| NR-10 | Stay up-to-date on FEMA flood hazard information. Preserve existing and projected floodplains for their flood storage values by siting new development away from high hazard floodways. | | | √ | | PB, ConComm | Land Use |

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| # | Historic Resources Recommendations | Short Term | Medium Term | Long Term | Ongoing | Responsible Party / Stakeholders | Additional Element(s) this Action Addresses |
| HR-1 | Enhance the current local history curriculum in schools by coordinating with the Billerica Historical Society's existing program. | | | | ✓ | HC, BHS | Public Facilities and Services |
| HR-2 | Publicize and expand recent school heritage projects, such as the student walking tour of the town center and the creation of the Ditson School mural. | | | | √ | HC, BOS, BHS, IT, PL | Natural Resources (NR-1) |
| HR-3 | Support and promote ongoing preservation activities and priorities. | | | | √ | | Land Use (LU-9, LU-10) |
| , HR-4 | Develop relationships with key partners to encourage complementary, interactive programming (such as Department of Public Works; Billerica Arts Council; Cemetery Commission; Conservation Commission, Recreation Department; Sudbury Valley Trustees; Middlesex Canal Association; and Billerica Historical Society). | | | | √ | HC, HDC, BOS, ConComm, RC, DPW, Con, Rec, TM, Billerica Arts Council, Cemetery Commission, Sudbury Valley Trustees, Middlesex Canal Association | Transportation (T-16), Natural Resources (NR- 3) |
| HR-5 | Develop a ten-year strategic plan for the former Howe School. | | √ | | | HC, HDC, BOS, TM, MC | Land Use |
| HR-6 | Seek grants and survey and project funding through MHC and other entities that support local heritage and outreach projects. | | | √ | | HC, HDC, BHS, MHC | - |
| HR-7 | Evaluate the consolidation of the Middlesex canal museum and the Howe museum with the mill district. | | | √ | | HC, HDC, BHS, MHC | - |

| # | Historic Resources Recommendations | Short Term | Medium Term | Long Term | Ongoing | Responsible Party / Stakeholders | Additional Element(s) this Action Addresses | | | | | |
|-------|---|------------|-------------|-----------|---------|-------------------------------------|--|--|--|--|--|--|
| HR-8 | Enhance the town's historic inventory by identifying neighborhoods which have not been previously studied and are integral to the town's historic development, such as Nutting Lake. | | | ✓ | | HC, MHC | Land Use | | | | | |
| HR-9 | Connect with the Community Preservation Coalition to discuss strategies, challenges, and potential residents' concerns, and connect with neighboring towns that have passed CPA to gain input based on their experience, such as Bedford, Carlisle, Chelmsford, and Tewksbury. | √ | | | | TM, BOS, FC, HC, HDC, MC, PC, TM | Open Space and Recreation, Housing | | | | | |
| HR-10 | Identify priority projects which are highly visible and have the highest public benefit, such as the establishment of the museum, or creating connections between interpretive markers in the village and along the Middlesex Canal with a bicycle/pedestrian path, for consideration and feasibility as potential future CPA projects. | | ✓ | | | HC, BHS, BOS, MC, PB, RC, Rec | Land Use (LU-5, LU-7), Transportation (T-1, T- 5), Natural Resources (NR-2, NR-3) | | | | | |

| # | Public Services and Facilities Recommendations | Short Term | Medium Term | Long Term | Ongoing | Responsible Party / Stakeholders | Additional Element(s) this Action Addresses |
|-------|---|------------|-------------|-----------|----------|-------------------------------------|--|
| PFS-1 | Continue to advance plans to rebuild the High School, which includes the strategy of using the school for a Community Center. | √ | | | | BOS, TM School Department | PFS-11 |
| PFS-2 | Develop a master plan for all the fire stations, and in particular, a feasibility study for the replacement of the Pinehurst Fire Station, considering the opportunity to incorporate a Maintenance Garage and Training Facilities. | | √ | | | TM, FD, DPW, PD, IT, FC, PB | - |
| PFS-3 | Develop a master plan and feasibility study to expand the Senior Center. | | √ | | | TM, COA, PB, CD, BOH | Open Space and Recreation |
| PFS-4 | Develop a master plan and feasibility study to create a consolidated DPW Facility. | | ✓ | | | TM, DPW, BOH, BD | PSF-5, PSF6 |
| PFS-5 | Develop a water master plan and storm water master plan that identify maintenance and capital improvements that are needed for these Town facilities for the next 10-20 years. | | √ | | | TM, DPW, BOH, BD | PSF-6, PSF-4 |
| PFS-6 | Sewer Expansion: Continue with the implementation of Town Sewer based on the existing long range plan for growth and expansion of that system. | | | | √ | DPW, BOH, BD, Con, TMC, FC, COA, | Transportation (T-3, T-3, T-4, T-15, T-16, T-17) |
| PFS-7 | Undertake a study to explore the Town's maintenance operations to improve efficiency through a potential centralized approach (or location) for maintenance. | √ | | | | TM, DPW, PD, FD, L, Rec, Con, | - |

| # | Public Services and Facilities Recommendations | Short Term | Medium Term | Long Term | Ongoing | Responsible Party / Stakeholders | Additional Element(s) this Action Addresses |
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| PFS-8 | Develop a master plan for the Town Hall that considers the current utilization of the facilities. | ✓ | | | | TM, DPW, Rec, Con, AO, RC, PB, BOS | - |
| PFS-9 | Undertake an energy audit of municipal buildings and develop a plan to implement recommendations | √ | | | | PD, TM, DPW, FD | Historic Resources (HR-5) |
| PFS-10 | Undertake a vehicle fleet assessment to ascertain opportunities to right size vehicles and increase fuel efficiency | √ | | | √ | PD, DPW, PD, FD, TM, PL, FD | - |
| PFS-11 | Incorporate cost-effective Green Infrastructure strategies into all municipal projects for stormwater management, drainage. | | | | ✓ | DPW, TM, PD, FD, | PFS-1, PSF-2, PSF-3, PSF-4, PSF-5 |
| PFS-12 | Seek ways to increase recycling and reduce solid waste disposal. | √ | | | √ | DPW, TM | PSF-4 |
| PFS-13 | Educate Town residents about stormwater issues and proper management. | | | | √ | DPW, PD, CON, PL | PSF-5 |