



**2021**

# Tyngsborough Master Plan Update



**Prepared by:  
The Tyngsborough Master Plan Committee**

**Technical Assistance Provided by:  
The Northern Middlesex Council of Governments and  
Weston and Sampson**



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# I. INTRODUCTION

A Master Plan is a comprehensive planning document that establishes long-term policy recommendations for a community's physical development, and outlines implementation strategies that address land use issues, transportation, housing, community facilities and services, the local economy, and the environment. Chapter 41, Section 81D of the Massachusetts General Laws states:

*“A planning board established in any city or town under section eighty-one shall make a master plan of such city or town or such part or parts thereof as said board may deem advisable and from time to time may extend or perfect such plan. Such plan shall be a statement, through text, maps, illustrations or other forms of communication that is designed to provide a basis for decision making regarding the long-term physical development of the municipality. The comprehensive plan shall be internally consistent in its policies, forecasts and standards.”*

In general, communities use the Master Planning process to understand and manage future growth and development. While the Master Plan is one of the main policy tools utilized by the Board of Selectmen, Planning Board, Zoning Board of Appeals, Conservation Commission, and other local decision-makers, it is important to note that it does not replace other important policy documents, such as the *Housing Production Plan* or the *Open Space and Recreation Plan*. The Master Plan should complement these documents and other planning initiatives undertaken previously and in the future.

Tyngsborough is not the same today as it was a century ago, and fifty years from now the Town will not be the same as it is today. Without the changes made by past generations, there would not be historic homes, the historic Tyngsborough Bridge, or the stone walls and barns that characterize the rural landscape that remains in some parts of town today. The relationships between history, town government, culture and religion are well represented by the remaining historic structures in the Town Center, while more modern structures constructed as part of the town's present day economy can be found along the town's main arterials, such as Middlesex Road and Westford Road. Elements of the past and the present have been woven together to create the Tyngsborough of today.

The goal of this Master Plan is to shape the future of the town in a way that does not detract from its quality of life and character. Effective planning facilitates the transformation of knowledge into action, and is accomplished by understanding the outcomes desired by the community. Toward this end, an extensive public participation process was utilized to help formulate recommendations that reflect the needs and desires of the community. However,

in recognizing that the town will change and evolve over time, the Master Plan should be viewed as a flexible and ever-evolving document.

## THE MASTER PLAN DEVELOPMENT PROCESS

The Master Plan Committee was established in 2018 and is comprised of the following members, representing various town boards and committees, as well as residents at large.

**Table 1.1: Master Plan Committee Members**

Committee Member Name	Represents
Warren Allgrove, Jr.	Historical Commission, Community Preservation Committee, Tyngsborough Water District
Chaz Doughty	Planning Board, Conservation Commission, Community Preservation Committee
Joel Hughes	Resident
Brett Johnson	Resident
Ronald Keohane	Board of Selectmen
Mindy Michalek	Resident
Kimberly O'Brien	Planning Board
David R. Robson	Board of Selectmen
Nancy Van Alst	Resident

The Committee met for over two years to develop the Plan, with assistance from the Northern Middlesex Council of Governments (NMCOG). Opportunities were provided for public input and feedback from a broad array of stakeholders and interested parties living in the community. As shown in Table 1.2, three public input sessions were held, drawing the participation of numerous stakeholders from across the community. Materials and summaries from the input sessions can be found in Appendix A.

**Table 1.2: Public Input Sessions**

Input Session	Date
Visioning Session 1: Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis	January 9, 2019
Visioning Session 2: Land Use, Economic Development, and Housing	March 13, 2019
Visioning Session 3: Open Space, Recreation, Natural and Cultural Resources	February 12, 2020

In addition to the public input sessions, the Master Plan Committee invited stakeholders to provide input during its monthly meetings. Stakeholders were encouraged to submit written comments or speak during any meeting of the Committee. Due to the COVID-19 pandemic, in March 2020 the Master Plan Committee began meeting remotely utilizing the Webinar Platform on Zoom. The documents produced during the planning process were available for public review and comment on the Town's website.

The Master Plan Committee developed and distributed a written survey to every Tyngsborough household, with nearly 400 surveys completed by residents. The results of the survey are briefly summarized below, while a more detailed analysis can be found in Appendix B.

### **Characteristics of survey respondents**

- 65% of respondents have lived in Tyngsborough for more than 10 years.
- 47% of respondents have children 18 years old or under.
- 31% of respondents have a household member aged 65 years or older.
- Many respondents indicated that they chose to live in Tyngsborough because of its access to Route 3, community character, access to retail, and low crime rate.

### **II. Land Use**

- 82% of survey respondents favored creating design guidelines for new development.
- 85% of respondents favored protection of additional agricultural lands.
- 74% of respondents favored more intense economic development in strategic locations.

### **III. Economic Development**

- Approximately half of the survey respondents rated access to employment as excellent or good.
- 49% of respondents rated the availability and access to goods and services as excellent or good.
- The majority of respondents strongly favored promoting business and commercial development, increasing opportunities for small-scale neighborhood style businesses, and encouraging agritourism and ecotourism.

### **IV. Transportation**

- 86% of the survey respondents rated road maintenance as either fair or poor.
- Half of the respondents rated traffic flow in town center as excellent or good, while 62% indicated that traffic flow in other areas of town is either excellent or good.
- 77% of respondents rated speed enforcement as excellent or good.
- 75% of respondents favored increasing available accommodations for non-motorized transportation, by adding sidewalks or trails.

## **V. Housing**

- The majority of respondents rated the diversity of housing options and housing affordability in Tyngsborough as excellent or good.
- The majority of respondents favored creating additional affordable housing for seniors.

## **VI. Open Space and Recreation**

- 48% of respondents rated the number of recreational facilities and opportunities as excellent or good, while 47% of respondents indicated that the mix and type of recreational facilities and programs is excellent or good.
- Approximately half of respondents felt that the amount of protected open space is excellent or good.
- 73% of respondents favored acquiring additional open space.

## **VII. Natural and Cultural Resources**

- 62% of respondents rated the protection of wetlands and water resources as excellent or good.
- 54% of respondents rated the protection of wildlife habitat is excellent or good.
- 58% of respondents rated historic preservation as excellent or good, while 71% of respondents favored creating an historic district in the Town Center and other appropriate locations.
- 46% of respondents rated agricultural preservation as excellent or good, while 85% of respondents favor protecting additional agricultural lands.
- 50% of respondents rated the town's forestry initiatives as excellent or good.
- 56% of respondents rated cultural/community events as excellent or good.

## **VIII. Facilities and Services**

- 72% of survey respondents indicated that Town Hall services are either excellent or good.
- 60% of respondents rated the quality of schools as either excellent or good, while 26% were unfamiliar with the schools.
- 78% of respondents rated the library as either excellent or good.
- 90% of respondents indicated that public safety services and emergency services are excellent or good.
- 63% rate the town's website as excellent or good.
- 78% of survey respondents indicated that the town's trash collection and recycling services are excellent or good.

- Nearly 74% of respondents expanding and improving sewer service.
- 87% of respondents favor adopting energy efficiency and renewable energy initiatives.

## ORGANIZATION AND OVERVIEW OF THE MASTER PLAN

This section provides a summary of the organizational layout of the 2021 Master Plan document and includes the Vision Statement and Goals adopted by the Master Plan Committee.

### CONTENTS OF THE MASTER PLAN

The 2021 Master Plan for the Town of Tyngsborough is organized into nine primary components. The introductory section (Section I) provides an overview of the Master Plan process, and includes a discussion of the Vision Statement and Goals.

Section II focuses on Land Use and Zoning. In addition to a synopsis of land use development patterns in Tyngsborough, it offers a discussion of the Town's existing Zoning Bylaw and the types of uses permitted under these regulations. The Land Use and Zoning chapter includes a presentation of the issues and opportunities inherent to land use planning and zoning, as well as a set of recommendations for the future that allow the town to grow without sacrificing the natural, historical, and cultural integrity of the community.

Section III relies heavily on demographic and industry data to assess the current state of Economic Development in Tyngsborough. The chapter begins with a brief economic and statistical profile of the community, followed by a discussion of existing economic and business conditions in Town. Community assets and liabilities are presented, followed by an infrastructure analysis. An important element of this chapter is a focus on striking a balance between economic development and quality of life—a central theme throughout this Plan. The chapter concludes with an issues and opportunities discussion, coupled with a list of economic development recommendations.

Section IV examines Transportation Planning issues in Tyngsborough. It includes a description of the existing transportation network within the community, data on commuting patterns, traffic volumes, crash statistics, and assesses the current state of the town's overall transportation infrastructure for all transportation modes (automobile, bicycle and pedestrian). As with other sections of the Master Plan, issues and opportunities related to transportation are presented and discussed, and a comprehensive list of recommendations is provided.

Section V assesses Housing issues in the community. It begins with an overview of existing conditions in terms of the town's housing stock and housing market. Topics covered within this section include housing development and sales trends; housing needs, as determined by demographic data available for the community; affordable housing efforts in Tyngsborough; and issues, opportunities, and recommendations for sustainable housing production in the community to meet the needs of residents.

Section VI examines planning issues related to Open Space and Recreation. Building on the Town's Open Space and Recreation Plan, this chapter includes existing conditions, local capacity, open space and recreation planning efforts, and identified community needs. The chapter also includes an analysis of issues and opportunities, as well as a set of recommendations.

Section VII focuses on the Natural and Cultural Resources within Tyngsborough. It includes a discussion of existing environmental, historical and cultural assets, and an analysis of the issues and opportunities inherent to natural, historical and cultural protection and preservation in the community. Finally, a set of recommendations aimed at preserving these important resources is presented.

Section VIII of the plan examines Municipal Facilities and Services. An overview of existing town-owned facilities is provided, as well as a description of town services. Issues and opportunities for improving the efficiency and quality of service delivery is discussed and a set of recommendations is outlined.

Section IX focuses on Climate Change Resiliency and provides a discussion of the anticipated effects of global climate change on Tyngsborough. This section also outlines recommended strategies for preparation and response at the municipal level. It focuses on weather-related threats (e.g., severe storms and episodic droughts) as well as local vulnerabilities (e.g., at-risk populations and infrastructure). Tyngsborough, through the State's Municipal Vulnerability Preparedness (MVP) program, received grant funding to plan for climate-change resiliency which provided the resources for developing this chapter of the Town's master plan.

The final section of the Master Plan includes the Implementation Plan, which consists of a matrix describing each recommendation contained within the document, identifying the specific entities responsible for implementation, and outlining the recommended implementation timeframe.

## THE MASTER PLAN VISION STATEMENT

Over the course of the Master Plan development process, the Master Plan Committee worked to develop the town's Vision for the future, which is presented below. The Vision Statement and Goals were formulated based on the public input provided through the visioning sessions and written survey.

The Master Plan was developed with an eye toward guiding the community in a fashion that will ultimately achieve or be on its way to achieving the following in ten years (2031):

*The Town of Tyngsborough continues to welcome development that respects the town's small town character, promotes sustainable development practices, broadens the community's tax base and provides employment opportunities for its residents. The Middlesex Road corridor and the area surrounding the Route 3 interchanges are considered the economic centers of the community. The Town will further the transformation of the Town Center into a thriving cultural center, with small shops, performing arts, and other village-style activities, which have benefited from the reuse of the Littlefield Library, Winslow School, Old Town Hall, and First Parish Meeting House. The Town will continue to take steps to protect its heritage, by establishing an historic district within the Town Center.*

*The Town is and will continue to be viewed as a safe and pleasant place to live with an educational system known for its high quality. The Town will pursue opportunities to promote and create diverse and affordable housing opportunities for people of all incomes levels, lifestyles and age groups.*

*The Town's infrastructure will continue to be expanded until it is adequate to meet the town's needs well into the future, with adequate water and sewer capacity available. The Town's transportation system shall be well-maintained, safe and efficient, incorporating the needs of all residents through roadway improvements, enhanced transit service, and facilities that are designed to accommodate pedestrians and bicyclists, as well as motorists.*

*Residents, workers and visitors should have the opportunity to enjoy the town-wide system of trails, open spaces and recreation areas that enhance the quality of life in the community. The water quality in the town's lakes and ponds will continue to be enhanced, ensuring that they can be enjoyed for recreational purposes all year long. The Merrimack River shall be viewed as a focal point for residents and visitors, and an iconic asset for the community.*

*Municipal services and programs will be available or expanded to meet the needs of all residents, including youth, young families, seniors, veterans and those with disabilities. The*

*Town will continue to take measures to become sustainable and resilient, protecting environmental resources, undertaking renewable energy and energy efficiency initiatives, and addressing the impacts of climate change.*

*Town government shall be responsive to the needs of the community encouraging a high level of civic engagement. Town officials and local residents will communicate with respectful and open communication ensuring that a strong sense of community prevails.*

## PRINCIPAL GOALS OF THE MASTER PLAN

The principal goals of the Master Plan were initially formulated based on input received during the public visioning process, and were later refined after careful consideration of additional public input, including the results of the written survey.

### **Land Use**

- Preserve the Town's small town feel and remaining open space areas;
- Continue to transform the Town Center through the renovation and improvement of town-owned properties, and encourage investment in small-scale businesses, cultural activities, and appropriate land uses;
- Update and modernize the town's zoning bylaw and development regulations;
- Promote land use and permitting practices that foster sustainability and help preserve the town's remaining agricultural lands and open space; and
- Establish enhanced design guidelines that ensure high quality future development, particularly at the town gateways, in the Town Center, and along the Middlesex Road corridor.

### **Economic Development**

- Implement the 2015 Economic Development Self-Assessment Tool (EDSAT) recommendations by the Dukakis Center of Northeastern University.
- Identify target industries in order to expand the economic base, thus creating more private investment, additional employment opportunities and tax revenue.
- Attract commercial and retail businesses to provide additional shopping and entertainment options.
- Address infrastructure issues related to sewer, water and wastewater treatment in order to support an expanding tax base.
- Balance economic growth with "quality of life" issues in order to maintain the "small town" character of Tyngsborough.

- Support regional and local economic recovery and resiliency initiatives to address the economic injury caused by COVID-19.

### **Transportation**

- Improve the condition of the local roadway network through enhanced pavement management.
- Include bicycle and pedestrian accommodations in future transportation projects.
- Ensure that the Town’s transportation system is as safe as possible.
- Evaluate current public transit service within Tyngsborough to ensure that routes meet community needs.
- Work toward creating an interconnected network of pedestrian and bicycle facilities.

### **Housing**

- Support market-rate and affordable housing units that address the housing needs of the community by partnering with non-profit and for profit developers.
- Provide a variety of housing options with varying styles and densities to meet the needs of all residents.
- Implement the Housing Trust approved by Town Meeting in 2015.
- Implement the 2020-2024 Housing Production Plan approved by DHCD.
- Continue to exceed the 10% affordable housing goal after the release of the 2020 U.S. Census.
- Apply for Housing Choice designation so that the Town can access capital grant funds to address its infrastructure issues.
- Utilize state and local funds and other “tools”, such as Chapter 40R, Inclusionary Zoning and “friendly” 40B developments to increase the supply of affordable housing.
- Increase awareness of first-time homebuyer and foreclosure assistance programs.

### **Open Space and Recreation**

- Increase the quantity and quality of recreation space and facilities.
- Improve maintenance and management of existing recreation and conservation areas.
- Educate residents on the value of open space in the town and the region.
- Increase accessibility of all recreational resources, facilities and programs.
- Connect Tyngsborough’s open space and recreation lands through a network of trails.
- Establish regional greenways along local waterways.
- Acquire additional open space as properties become available and resources permit.

## **Natural and Cultural Resources**

- Protect, promote and improve appropriate access to natural resources with special emphasis on the Merrimack River.
- Institute policies and practices that protect and enhance wildlife habitat.
- Preserve the town's historic artifacts, records, documents, structures and landmarks.
- Improve the maintenance, management and accessibility of existing conservation areas.
- Increase public awareness and appreciation for the town's natural and cultural resources.

## **Facilities and Services**

- Develop a comprehensive facilities plan;
- Provide municipal services that meet the needs of all residents;
- Maintain town facilities in a manner that is consistent with best practices; and
- Continue to reduce municipal energy use through innovative programs, renewable energy, and energy efficiency improvements.

## **Climate Change Resiliency**

- Develop programs and mitigation measures in the high-risk areas;
- Protect critical infrastructure and essential services from disruption;
- Incorporate climate adaptation strategies into all Town departments and boards;
- Incorporate climate adaptation and hazard mitigation measures into policy;
- Stay up to date on emerging risks associated with climate change;
- Plan for all phases of the emergency management cycle;
- Increase awareness and provide resources related to climate change and adaptation;
- Identify funding opportunities specific to hazard mitigation and climate adaptation projects; and
- Increase the Town's capacity for responding to a natural or climate hazard event through coordination with other private sector, nonprofit, and government entities.

The recommendations that comprise the Implementation Plan support the above goals and are drawn from extensive data analysis, community input, and careful assessment of the Town's future needs. Future planned growth and development will require close integration of many elements of the Master Plan, particularly in the areas of housing, economic development, land use, transportation, historic preservation and environmental protection. Master planning is an ongoing process in which a community continually

evaluates and responds to new circumstances and challenges. Therefore, it is important to regularly measure progress toward the implementation of the plan and to revise the document, if appropriate, subject to the approval of the Planning Board.

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## II. LAND USE AND ZONING

### INTRODUCTION

The Land Use and Zoning chapter of the Master Plan examines past development trends and current land use patterns within the community. Land use refers to the physical arrangement of a community's residential, commercial, industrial and institutional development, along with its transportation network, infrastructure and vacant land. Examining spatial development patterns, rates of change, and trends can provide insight into how the town evolved under varying social, economic and environmental conditions. Understanding land use change within a community is a key aspect of the overall Master Plan, and forms the basis for discussion regarding the future direction of the Town.

Many individuals confuse land use with zoning. In the 1900s, local governments began to utilize zoning as a means for regulating the amount and location of development. Zoning is one tool that local officials may utilize to balance private property rights with the public interest in providing for orderly growth and change. In order to understand how zoning may aid in the accomplishment of community goals, this section of the Master Plan begins with a land use analysis, which considers five aspects of Tyngsborough's land use pattern:

- What are the features of Tyngsborough's land use pattern?
- How did this pattern come about?
- What aspects of the town's land use pattern are essential to the character of the town?
- Is the existing land use pattern consistent with community goals?
- What opportunities exist to guide future development in a fashion consistent with the goals of the Master Plan or other established community goals?

### LAND USE AND ZONING GOALS

- Preserve the Town's small town feel and remaining open space areas;
- Continue to transform the Town Center through the renovation and improvement of town-owned properties, and encourage investment in small-scale businesses, cultural activities, and appropriate land uses;
- Update and modernize the town's zoning bylaw and development regulations;
- Promote land use and permitting practices that foster sustainability and help preserve the town's remaining agricultural lands and open space; and
- Establish enhanced design guidelines that ensure high quality future development, particularly at the town gateways, in the Town Center, and along the Middlesex Road corridor.

## BACKGROUND

Tyngsborough's current land use patterns reflect its historical development pattern that evolved as its transportation network was established over time. In pre-colonial times, the island of Wiscasee (now Tyngs Island) was a Native American planting ground and encampment, where corn was safe from bear and deer, and fish were readily available at the Wiscasee Falls. By 1644, the local Native American tribes signed an agreement placing them under the authority of the colonial government. Tyngsborough was settled in 1661, as part of Dunstable township. The period from the mid-1600s to the late-1700s was characterized by fur trading, land clearing, farming, mill and road construction, and occasional hostilities between settlers and local tribes.

In 1660, Boston resident Edward Tyng bought 3,000 acres on the west side of the Merrimack River. In 1668, Tyng deeded these holdings to his son Jonathan, who built a house and began working his land, and in 1674 Dunstable Road was laid out.

In 1760, the county ordered that two roads be built on each side of the Merrimack River, and that they be connected by a ferry. A ford-way was also located at the bend on the Merrimack River. A gristmill and sawmill were operated at Massapoag Pond as early as 1787, and several other mills were located on streams in other parts of town. In 1789, Tyngsborough's parish split from the rest of Dunstable, and Tyngsborough became a recognized district. By 1800, the district had several stores, a tavern, and skilled craftsmen, including a tailor, carpenter, cooper, and blacksmith.

In 1809, Tyngsborough was incorporated as a Town. Around this time, the county operated a chain ferry near the location of the present bridge. In 1835, the Boston and Lowell Railroad began operating, linking Tyngsborough to its neighbors and to other markets. By 1849, a box factory was located near the outflow of Flint Pond in the center of town, and in 1875, a pond was dammed to provide additional waterpower for the factory.

In 1873, an iron bridge was completed across the River. Lakeview Avenue between Lake Mascuppic, and Frost Road was built as a trolley line in 1895. In 1897, electric trolleys began service operating between Lowell and Tyngsborough. By the turn of the century, Tyngsborough was a popular recreation area. River steamers, trains, trolleys, and automobiles brought visitors to a variety of resorts and spas. During this time period, the Town's population was about 652 people, and by 1905 the summer population was double that number.

The trolley service ended in 1930, and the original iron bridge was replaced with the existing Tyngsborough Bridge. Automobiles soon became the main mode of transportation. Industrial activities in the Town Center ceased when the mills were demolished in conjunction with the building of the bridge and realignment of Route 3A.

In 1959, Middlesex Road was widened as a temporary measure to accommodate increased traffic until the new Route 3 was completed in 1961. Route 3, with three interchanges located in Tyngsborough, served as a catalyst for new development, eventually transforming the Town into a bedroom community.

### POPULATION TRENDS

As illustrated in Table 2.1 below, Tyngsborough’s population grew from 2,059 in 1950 to 3,302 in 1960, a growth rate of 60.37%. During the 1960s, the population increased to 4,204, a growth rate of 27.32%. During this time period, other communities in the Northern Middlesex region, such as Billerica and Dunstable, also saw their populations more than double. In the 1970s, 1980s and 1990s, the population continued to increase quickly, growing at rates of 35.18%, 52.07% and 28.22% respectively. Population growth slowed to 1.9% between 2000 and 2010, roughly corresponding to the Greater Lowell regional growth rate of 2.02%. Over half a century (1960 to 2010), Tyngsborough’s population increased by 241.97%, an average of 48.39% per decade. In contrast, the regional population grew by 69.4% during the same time period (from 169,403 to 286,901), an average of 13.88% per decade. With a total area of 18.07 square miles, Tyngsborough’s population density was approximately 625 persons per square mile in 2010.

**Table 2.1: Population Trends - 1950-2010**

Year	Population	% Change
1950	2,059	-
1960	3,302	60.37
1970	4,204	27.32
1980	5,683	35.18
1990	8,642	52.07
2000	11,081	28.22
2010	11,292	1.90

Source: U.S. Census Bureau

Population projections for the Tyngsborough, as outlined in Table 2.2 below, anticipate a higher growth rate for the Town compared to the region as a whole until 2030, followed by a projected lower growth rate between 2030 and 2040. Between 2010 and 2020, Tyngsborough is expected to experience a growth rate of 11.5%. The growth rate is then

anticipated to decrease to 1.1% in the 2020s, with a small population loss of -1.9% predicted in the 2030s, resulting in a total projected population of 12,487 in 2040. These projections, developed by MassDOT, estimate that Tyngsborough’s population will comprise 4.2% of the Greater Lowell region’s population by 2040, approximately the same as the current proportion.

**Table 2.2: Actual and Projected Population: 2010-2040**

Year	Population	Growth Rate	Greater Lowell Region	Regional Growth Rate	Percentage of Region
2010	11,292	-	286,901	-	3.9%
2020	12,595	11.5%	299,617	4.4%	4.2%
2030	12,731	1.1%	298,889	-0.2%	4.3%
2040	12,487	-1.9%	295,061	-1.3%	4.2%

*Source: U.S. Census Bureau; Projections developed by MassDOT in consultation with NMCOG*

## LAND USE TRENDS

Land use in Tyngsborough has generally followed the historic patterns laid out prior to zoning, although more recent development has also been spurred by the construction of Route 3. Over the past half century, residential and commercial development has consumed considerable farmland and other open space, as shown in Table 2.3. Between 1971 and 2018, residential land use grew by 224.2%, while agricultural land decreased by 55.4% (nearly 400 acres). Overall, developed acreage grew by 169.4%, while the acreage of undeveloped land shrank by 30.0%. Map 2.1 on page 17 shows land use in Tyngsborough as derived from data compiled through aerial photo interpretation. The Town remains over 55% undeveloped, although the rural landscape continues to be lost, with 2,369 acres having been developed since 1971.

Collectively, commercial and industrial uses represent less than seven percent (7%) of the Town’s acreage. Although there has been a measurable increase in commercial development since 1971, with nearly 200 acres added, the growth in industrial development has been lower, with an increase of 100 acres over the same time period. It is interesting to note that in 1985 there were 613 acres of industrial uses, nearly 100 acres more than today. This is likely a reflection of the quarrying operations that were active at that time.

**Table 2.3: Land Use Development Patterns in Tyngsborough: 1971 to 2018**

Land Use Category	Total Land Use Area in Acres					Percent Change 1971 -2018 Percent of Total 2018	
	1971	1985	1999	2005	2018		
<i>Residential</i>	1,061	1,771	3,069	3,299	3,440	224.2%	29.7%
<i>Commercial</i>	53	115	199	207	245	362.3%	2.1%
<i>Industrial</i>	424	613	460	489	524	23.6%	4.5%
<i>Government/ Institutional</i>	78	237	143	136	144	84.6%	1.2%
<b>Developed</b>	<b>1,616</b>	<b>2,736</b>	<b>3,871</b>	<b>4,131</b>	<b>4,353</b>	<b>169.4%</b>	<b>37.6%</b>
<i>Agricultural</i>	710	581	435	371	317	-55.4%	2.7%
<i>Other Undeveloped</i>	8,505	7,495	6,502	6,298	6,136	-27.9%	53.0%
<b>Undeveloped</b>	<b>9,215</b>	<b>8,076</b>	<b>6,937</b>	<b>6,669</b>	<b>6,453</b>	<b>-30.0%</b>	<b>55.7%</b>
<i>Water</i>	750	768	774	781	774	3.2%	6.7%
<b>Total</b>	<b>11,581</b>	<b>11,580</b>	<b>11,582</b>	<b>11,581</b>	<b>11,580</b>	<b>N/A</b>	<b>100.0%</b>

Source: University of Massachusetts, MacConnell Land Use Data updated using 2018 Google aerial imagery

Table Notes:

- Due to rounding, acreages in this table may not add up precisely to the totals and subtotals
- Commercial uses include MacConnell land use code (15) Commercial
- Industrial uses include MacConnell land use codes (5) Mining, (16) Industrial, (18) Transportation, and (19) Waste Disposal
- Residential uses include MacConnell land use codes (10) Multi-Family Residential, (11) High Density Residential, (12) Medium Density Residential, and (13) Low Density Residential
- Government and Institutional uses include MacConnell land use code (17) Urban Open
- Agricultural uses include MacConnell land use codes (1) Crop Land and (2) Pasture
- Other Undeveloped uses include MacConnell land use codes (3) Forest, (4) Non-Forested Wetlands, (6) Open Land, (7) Participation Recreation, (8) Spectator Recreation, (9) Water-Based Recreation, and (21) Woody Perennial

## LAND USE CHARACTERISTICS OF EXISTING PARCELS

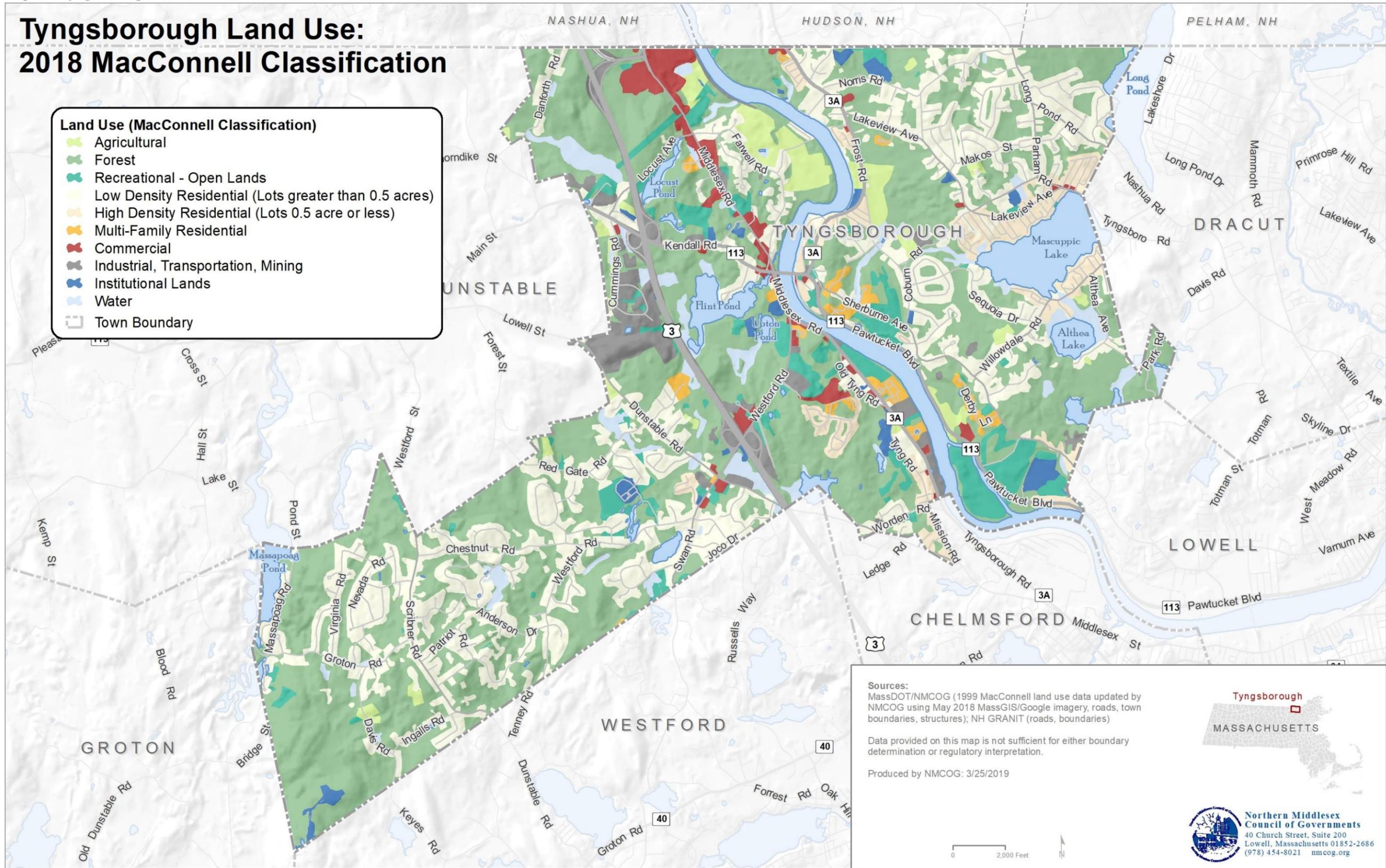
Land use coverage information derived from aerial photo interpretation data differs significantly from parcel-based land use statistics derived from Tax Assessor records. Since land use coverage maps account for the town’s entire geography, they include features such as open water and roadways. By contrast, Tax Assessor parcel maps represent land in recorded plans used to determine the appraised value of taxable property. Given the different characteristics of these two data sources, it is not possible to directly compare one with the other. However, both sources provide useful insights into the Town’s development patterns and identify similar trends. Table 2.4 summarizes parcel-based land use statistics from the Tax Assessor’s database as of June 2018. These land uses are also graphically displayed on Map 2.2 on page 19.

Map 2.1: Tyngsborough Land Use: 2018 MacConnell Classification

# Tyngsborough Land Use: 2018 MacConnell Classification

**Land Use (MacConnell Classification)**

-  Agricultural
-  Forest
-  Recreational - Open Lands
-  Low Density Residential (Lots greater than 0.5 acres)
-  High Density Residential (Lots 0.5 acre or less)
-  Multi-Family Residential
-  Commercial
-  Industrial, Transportation, Mining
-  Institutional Lands
-  Water
-  Town Boundary



Sources:  
 MassDOT/NMCOG (1999 MacConnell land use data updated by  
 NMCOG using May 2018 MassGIS/Google imagery, roads, town  
 boundaries, structures); NH GRANIT (roads, boundaries)

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

Produced by NMCOG: 3/25/2019



**Table 2.4: Current Use of Parcels in Tyngsborough (2018)**

Land Use	No. of Parcels	Total Acres	% of Land Area
Residential - Single Family Dwellings	3,208	4,068.74	40.77%
Residential - Two Family Dwellings	62	62.30	0.62%
Residential - Multi-Family Dwellings	81	482.95	4.84%
Mixed Residential and Agricultural	8	244.04	2.45%
Mixed Residential and Commercial	27	33.77	0.34%
Commercial	83	287.90	2.88%
Industrial	33	144.64	1.45%
Utilities	18	116.30	1.17%
Institutional	22	863.11	8.65%
Agricultural	7	106.62	1.07%
Cemetery	8	28.15	0.28%
Private Outdoor Recreation	5	339.92	3.41%
Municipal Land (excluding conservation)	106	377.74	3.79%
Conservation: State, Municipal, and Private	54	1,090.45	10.93%
Limited Protection Conservation/Open Space	27	691.87	6.93%
Vacant	374	1,041.06	10.43%
<b>Total</b>	<b>4,123</b>	<b>9,979.55</b>	<b>100.00%</b>

Source: Tyngsborough Assessor's Parcel Data and Land Use Codes, June 2018

## RESIDENTIAL LAND USES

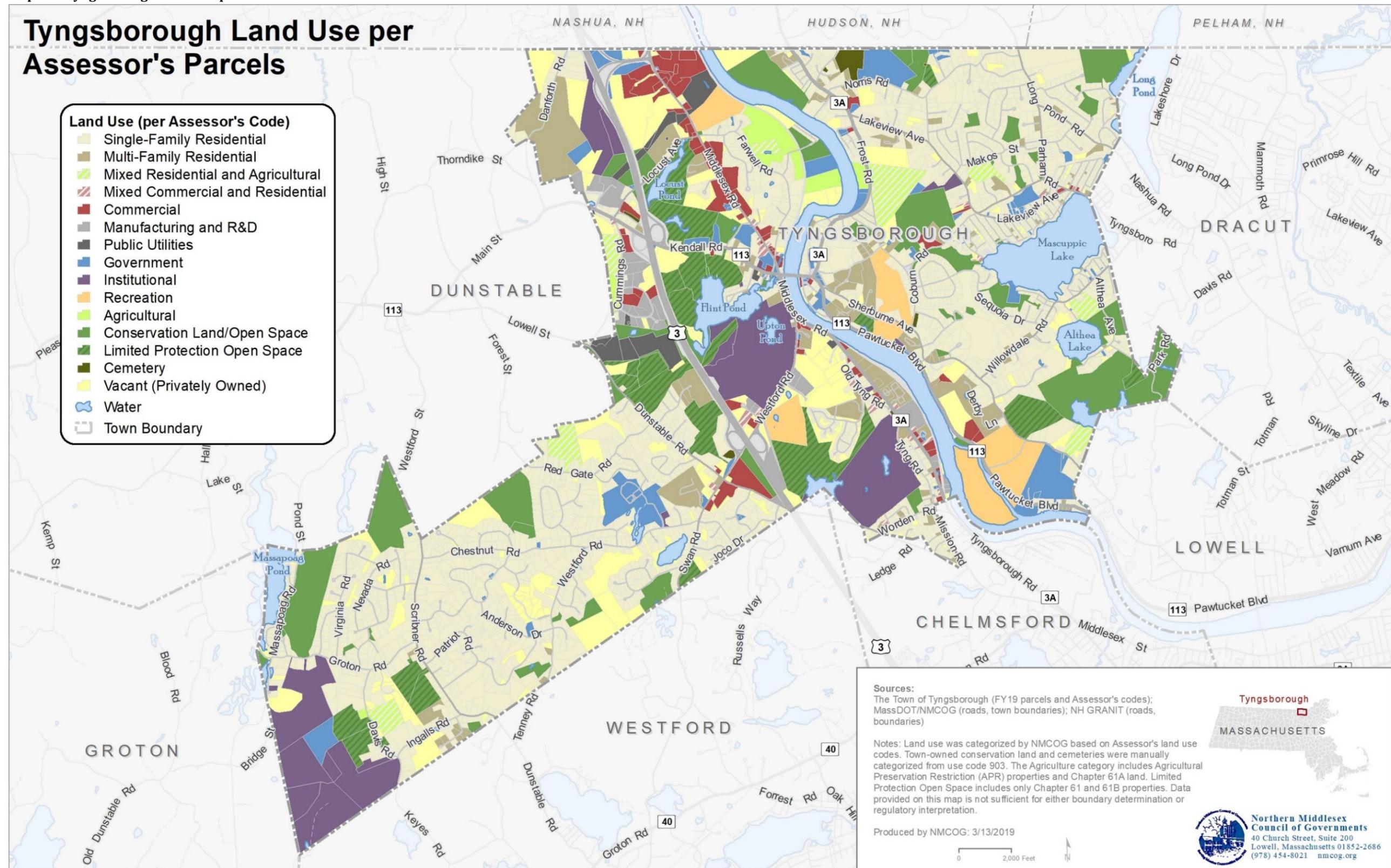
As illustrated in Table 2.4 above, 46.2% of the Town's land is classified as residential according to the Assessor's parcel data. Single family residences, by far the largest residential use, account for 40.8% of the total acreage in Tyngsborough and 88.2% of Tyngsborough's residential acreage. Two family dwellings account for just 0.6% of Tyngsborough's land area, and multi-family dwellings account for 4.8% of total land area.

There are several parcels that the Tax Assessor classifies as residential mixed with commercial or residential mixed with agricultural. Together, these parcels comprise approximately 277.8 acres, or 2.8% of the Town's land area, with 244 acres being residential mixed with agricultural, and the remaining 33.8 acres being residential mixed with commercial.

## COMMERCIAL LAND USES

According to the Assessor's parcel data, commercial land uses account for 2.9% of the total land in Tyngsborough. There are eighty-three (83) separate parcels classified as commercial use, comprising a total of 287.9 acres. Although a majority of commercial uses are located on or close to Middlesex Road, Westford Road or Route 3A, there are several establishments located throughout the other sections of the Town.

Map 2.2: Tyngsborough Land Use per Assessor's Parcels



## INDUSTRIAL LAND USES

Industrial uses account for 144.6 acres comprised of 33 parcels, or 1.45% of the town's land area. Industrial parcels are primarily located in the vicinity of the Route 3/Route 113 interchange, the Route 3/Westford Road interchange and along Cummings Road, though individual industrial parcels are dispersed throughout the Town. Industrial land uses include manufacturing, warehousing, and office space associated with manufacturing operations.

## UTILITIES

Tyngsborough has eighteen (18) parcels totaling 116.3 acres, or 1.2% of the Town's total land, classified as utility by the Assessor's office. The parcels include electrical transmission right-of-ways, electricity substations and generating plants (including solar generation), telephone exchanges, and telephone relay/cell towers.

## INSTITUTIONAL USES

Churches, non-profits, private schools, and tax-exempt charitable organizations own a combined twenty-two (22) parcels accounting for 863.1 acres, or 8.7% of Tyngsborough's total land area. Some of these organizations may not be recognized as tax exempt by the Department of Revenue, but file Massachusetts State Tax Form 3ABC each year in order to receive a local tax exemption on real property. These properties include Notre Dame Academy, the Innovation Charter School, and MIT/Lincoln Labs.

## AGRICULTURAL LANDS

In 2018, Tyngsborough had seven (7) parcels totaling 106.6 acres of land classified as agricultural by the Assessor. Together, this land accounts for 1.1% of the total acreage in Tyngsborough. All seven (7) of these parcels are taxed under the Chapter 61A program, which does not provide permanent protection from future development. As illustrated in Table 2.3, the MacConnell data updated with 2018 aerial imagery showed a significant decline in agricultural land between 1971 and 2018. The most significant agricultural parcels are located along Farwell Road and Frost Road.

## CEMETERIES

There are eight (8) parcels comprising 28.2 acres that are utilized for burial plots. The cemetery properties include the following:

- Drake Cemetery on Middlesex Road;
- Tyngsborough Memorial Cemetery on Fletcher Drive;
- Flint Cemetery on Westford Road;
- Gould Cemetery on Descheneaux Lane;

- Sherburne Cemetery on Coburn Road;
- Thompson Cemetery on Old Kendall Road; and
- Fletcher Cemetery on Ducharme Road.

According to the Assessor’s records, all of above cemeteries are municipally-owned. The Sisters of Notre Cemetery is located on land at Notre Dame Academy and is private, and therefore not included in the above list as it is categorized by the Tax Assessor as institutional.

#### PRIVATE OUTDOOR RECREATION

Private outdoor recreational parcels include a golf course and sportsmen’s clubs. Within Tyngsborough there are five (5) parcels in this category consisting of 339.9 acres, or 3.4% of Tyngsborough entire land area. Such properties include the Vesper Golf Course and the Tyngsborough Sportsmen’s Club.

#### MUNICIPAL, SPECIAL DISTRICT AND STATE LAND (EXCLUDING CONSERVATION)

The Town, State and other governmental entities, including the Tyngsborough Water District, own a combined one hundred six (106) parcels totaling 377.7 acres, or 3.8% of the total land area. This acreage is in addition to the State and municipally owned land classified as conservation and open space, as described below. State property includes the park and ride lot on Kendall Road, while Town lands include the Town Hall and Library, the schools, and town-owned properties in the Town Center.

#### CONSERVATION LAND AND OPEN SPACE

A total of fifty-four (54) parcels owned by the Commonwealth of Massachusetts, the Town of Tyngsborough and the Dracut Water Supply District are identified by the Assessor’s database as conserved open space. Combined, these parcels account for 1,090.5 acres, or 10.9% of the Town’s land. The Commonwealth of Massachusetts owns nearly 529 acres, primarily located in the State Forest, while the Town owns 490.6 acres and the Dracut Water Supply District owns 71.7 acres.

#### LIMITED PROTECTION CONSERVATION LAND AND OPEN SPACE

The Town Assessor’s database identifies twenty-seven (27) parcels as Chapter 61 forestry, Chapter 61B recreation, or as a mixed parcel with residential and Chapters 61 or 61B uses. Combined, these parcels constitute 691.9 acres, or 6.9% of the Town’s total land area. While Chapter 61 and 61B offers tax incentives to keep forest and recreation land undeveloped, these properties are not permanently protected from future development.

## VACANT LAND

There are three hundred seventy four (374) parcels classified as undeveloped or vacant within the Town Assessor's database. Combined, these undeveloped parcels total 1,041.1 acres, and comprise 10.4% of Tyngsborough's total land area.

## ZONING OVERVIEW

Tyngsborough regulates development through zoning, subdivision control, Board of Health regulations, and wetlands regulations. Given its role in guiding the development of vacant land and reuse of developed land, zoning is the most important of these regulatory tools. Zoning establishes districts that determine the allowed uses for every parcel of land in town. Zoning also establishes dimensional regulations that limit the location, size and placement of buildings on each parcel. Tyngsborough adopted its first zoning bylaw in 1955. Since 2003, thirty-three (33) amendments to the bylaw have been voted by Town Meeting and were approved by the Attorney General.

Tyngsborough's zoning framework includes eight (8) conventional use districts and four (4) overlay districts. A use district is a geographic area delineated on a zoning map and designated for specific land uses. Ten (10) of the twelve (12) zoning districts are shown on the Town's zoning map (see Map 2.3 on the following page). The Flood Plain District (FP) and the Wetland District (WT) are not defined on the Town's official zoning map. The FP district boundaries include all special flood hazard area designated as Zones A and AE on the Middlesex County Flood Insurance Rate Map (FIRM) issued by the Federal Emergency Management Agency (FEMA). The FIRM map is on file with the Town Clerk, Planning Board, Building Commissioner, Town Engineer, and the Conservation Commission Director.

The Zoning Bylaw states that the boundaries of the Wetland District are: "coterminous with the bounds of land identified pursuant to the Massachusetts General Laws Chapter 131, Section 40 to be Banks (natural occurring banks and beaches), Bordering Vegetated Wetlands (wet meadows, marshes, swamps and bogs), the land under water bodies and waterways (under any creeks, river, stream, pond, lake) and certain land subject to flooding including bordering and isolated areas."

A zoning overlay district may limit certain uses or allow uses that would otherwise be prohibited in the underlying zoning district. For example, the Mixed Use Overlay District (MUVOD) allows all of the uses permitted in the underlying district, as well as a combination of residential and non-residential uses that would otherwise be prohibited in the underlying district. In contrast, the Wetland District prohibits a number of uses that may result in degradation of the Town's wetlands, surface water and ground water, regardless of the underlying district.

Map 2.3: Tyngsborough Zoning Districts

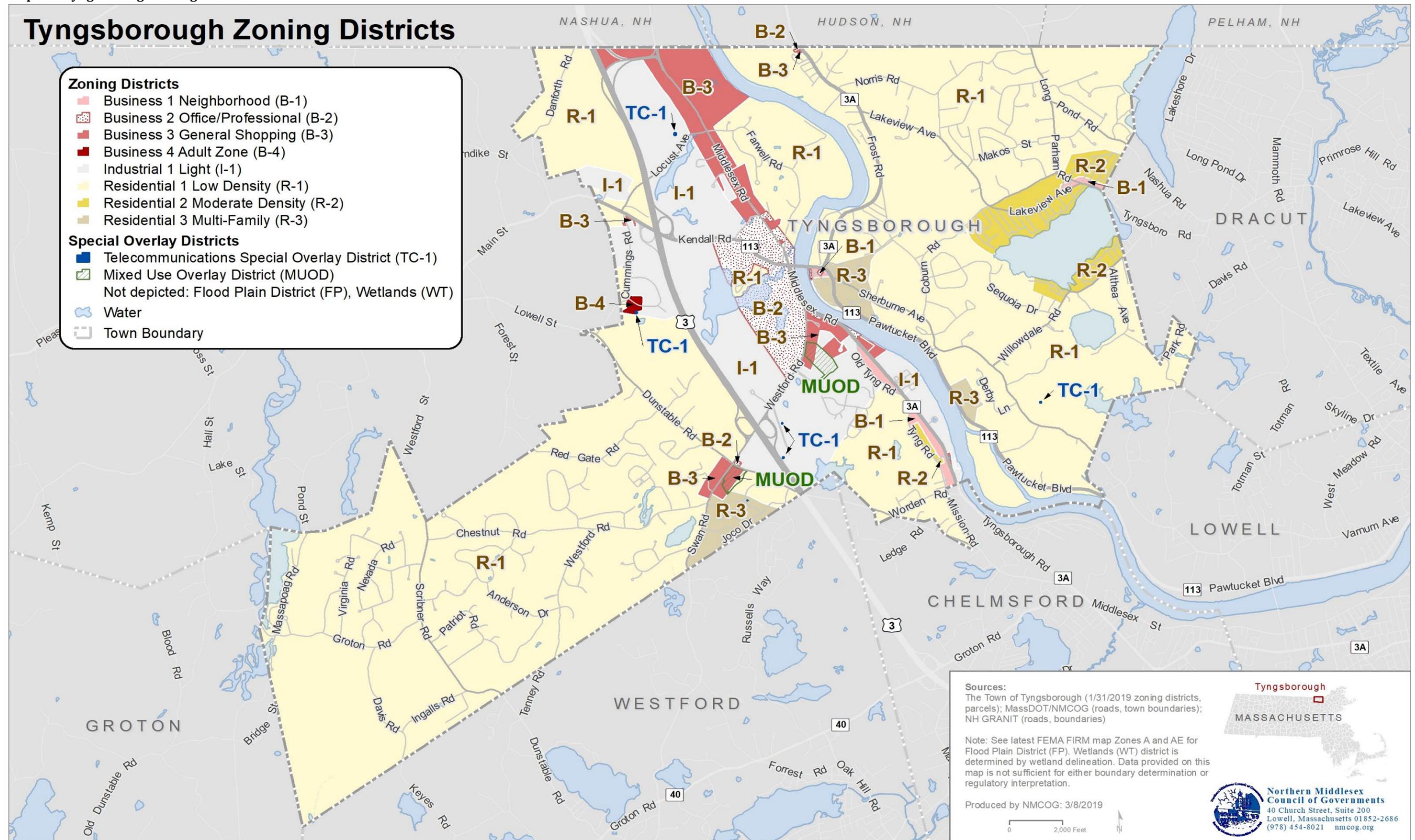


Table 2.5 below summarizes the uses allowed within each of the Town’s zoning districts. It is important to note that many uses are allowed by right, while others require a special permit from either the Planning or Board of Selectmen. The board granting a special permit is called the special permit granting authority (SPGA). The standards for granting a special permit are established with the Town’s Zoning Bylaw, where there are conditions that must be met to ensure that a development project will not detract from the character of the district or the town.

**Table 2.5: Current Zoning Districts and Allowed Uses**

<i>Zoning District</i>	<i>Allowed Uses</i>	
<i>Residential 1 Low Density (R-1)</i>	By Right: <ul style="list-style-type: none"> <li>• Agriculture</li> <li>• Conservation</li> <li>• Recreation</li> <li>• Single-family dwelling</li> <li>• Municipal Uses</li> <li>• Religious Uses</li> <li>• Cemeteries</li> </ul>	By Special Permit: <ul style="list-style-type: none"> <li>• Temporary Independent Living Quarters</li> <li>• Educational</li> <li>• Public or Private Utility Facilities</li> <li>• Daycare Facility</li> <li>• Marina</li> </ul>
<i>Residential 2 Moderate Density (R-2)</i>	By Right: <ul style="list-style-type: none"> <li>• Agriculture</li> <li>• Conservation</li> <li>• Recreation</li> <li>• Single-family dwelling</li> <li>• Municipal Uses</li> <li>• Religious Uses</li> <li>• Cemeteries</li> </ul>	By Special Permit: <ul style="list-style-type: none"> <li>• Temporary Independent Living Quarters</li> <li>• Educational</li> <li>• Public or Private Utility Facilities</li> <li>• Lodge or Club</li> <li>• Daycare Facility</li> <li>• Marina</li> </ul>
<i>Residential 3 Multi-Family (R-3)</i>	By Right: <ul style="list-style-type: none"> <li>• Agriculture</li> <li>• Conservation</li> <li>• Recreation</li> <li>• Single-family dwelling</li> <li>• Two-Family Dwelling</li> <li>• Municipal Uses</li> <li>• Religious Uses</li> <li>• Cemeteries</li> </ul>	By Special Permit: <ul style="list-style-type: none"> <li>• Multi-family dwelling</li> <li>• Temporary Independent Living Quarters</li> <li>• Educational</li> <li>• Nursing Home</li> <li>• Public or Private Utility Facilities</li> <li>• Retail Store Less Than 5,000 G.S.F.</li> <li>• Restaurant (not fast food)</li> <li>• Hotel, Inn or Motel</li> <li>• Combined Business and Dwelling</li> <li>• Lodge or Club</li> <li>• Funeral Home</li> <li>• Boarding Houses</li> <li>• Daycare Facility</li> <li>• Marina<sup>2</sup></li> </ul>
<i>Business 1 Neighborhood (B-1)</i>	By Right: <ul style="list-style-type: none"> <li>• Agriculture</li> <li>• Conservation</li> <li>• Recreation</li> <li>• Municipal Uses</li> <li>• Religious Uses</li> <li>• Nursing Home</li> </ul>	By Special Permit: <ul style="list-style-type: none"> <li>• Temporary Independent Living Quarters</li> <li>• Educational</li> <li>• Public or Private Utility Facilities</li> <li>• Hospitals</li> <li>• Financial Services</li> </ul>

	<ul style="list-style-type: none"> <li>• Post Office</li> <li>• Retail Store Less Than 5,000 G.S.F.</li> </ul>	<ul style="list-style-type: none"> <li>• Restaurant (not fast food)</li> <li>• Combined Business and Dwelling</li> <li>• Veterinary Care</li> <li>• Personal Services</li> <li>• General Services</li> <li>• Studio</li> <li>• Motor Vehicle Service Station</li> <li>• Daycare Facility</li> <li>• Marina</li> <li>• Self-Service Gas Station</li> <li>• Outdoor Sales of Holiday Trees, Etc.</li> <li>• Farmer's Markets, Farm Stands, Etc.</li> </ul>
<i>Business 2</i> <i>Office/professional</i> <i>(B-2)</i>	<p>By Right:</p> <ul style="list-style-type: none"> <li>• Agriculture</li> <li>• Conservation</li> <li>• Recreation</li> <li>• Municipal Uses</li> <li>• Educational</li> <li>• Religious</li> <li>• Nursing Home</li> <li>• Post Office</li> <li>• Retail Store Less Than 5,000 G.S.F.</li> <li>• Combined Business and Dwelling</li> <li>• Lodge or Club</li> <li>• Funeral Home</li> <li>• Veterinary Care</li> <li>• Studio<sup>2</sup></li> </ul>	<p>By Special Permit:</p> <ul style="list-style-type: none"> <li>• Temporary Independent Living Quarters<sup>6</sup></li> <li>• Public or Private Utility Facilities</li> <li>• Hospitals</li> <li>• Financial Services</li> <li>• Restaurant (not fast food)</li> <li>• Personal Services</li> <li>• General Services</li> <li>• Building Trade Shop</li> <li>• Lounge or Pub</li> <li>• Commercial and Trade School</li> <li>• Amusement Facility Indoor</li> <li>• Motor Vehicle Service Station</li> <li>• Parking Facility</li> <li>• Commercial Broadcast Facility (Excluding Studio)</li> <li>• Daycare Facility</li> <li>• Marina</li> <li>• Self-Service Gas Station</li> <li>• Fairs, Carnivals, Etc.</li> <li>• Outdoor Sales of Holiday Trees, Etc.</li> <li>• Farmer's Markets, Farm Stands, Etc.</li> </ul>
<i>Business 3 General</i> <i>shopping</i> <i>(B-3)</i>	<p>By Right:</p> <ul style="list-style-type: none"> <li>• Agriculture</li> <li>• Conservation</li> <li>• Recreation</li> <li>• Municipal Uses</li> <li>• Educational</li> <li>• Religious</li> <li>• Nursing Home</li> <li>• Post Office</li> <li>• Retail Store Less Than 5,000 G.S.F.</li> <li>• Retail Store More Than 5,000 G.S.F.</li> <li>• Financial Services</li> <li>• Restaurant<sup>2</sup> (not fast food)</li> <li>• Restaurant – Fast Food</li> <li>• Hotel, Inn or Motel</li> <li>• Lodge or Club</li> <li>• Funeral Home</li> </ul>	<p>By Special Permit:</p> <ul style="list-style-type: none"> <li>• Temporary Independent Living Quarters</li> <li>• Public or Private Utility Facilities</li> <li>• Hospitals</li> <li>• Professional Offices of Any Size</li> <li>• Commercial Kennel</li> <li>• Lounge or Pub</li> <li>• Commercial Recreation</li> <li>• Amusement Facility Indoor</li> <li>• Amusement Facility Outdoor</li> <li>• Motor Vehicle Service Station</li> <li>• Car Wash</li> <li>• Motor Vehicle Repair or Body Shop</li> <li>• Light Vehicle Sales</li> <li>• Vehicle Equipment Sales</li> <li>• Parking Facility</li> </ul>

	<ul style="list-style-type: none"> <li>• Veterinary Care</li> <li>• Personal Services</li> <li>• General Services</li> <li>• Studio</li> <li>• Building Trade Shop</li> </ul>	<ul style="list-style-type: none"> <li>• Commercial Broadcast Facility (Excluding Studio)</li> <li>• Heliport</li> <li>• Zoo</li> <li>• Marina</li> <li>• Self-Service Gas Station</li> <li>• Lumber Yard</li> <li>• Heating Fuel Sales and Service</li> <li>• Fairs, Carnivals, Etc.</li> <li>• Outdoor Sales of Holiday Trees, Etc.</li> <li>• Farmer’s Markets, Farm Stands, Etc.</li> </ul>
<i>Business 4 Adult zone (B-4)</i>	<p>By Right:</p> <ul style="list-style-type: none"> <li>• Agriculture</li> <li>• Conservation</li> <li>• Recreation</li> <li>• Municipal Uses</li> <li>• Educational</li> <li>• Religious</li> <li>• Post Office</li> <li>• Retail Store Less Than 5,000 G.S.F.</li> <li>• Retail Store More Than 5,000 G.S.F.</li> <li>• Financial Services</li> <li>• Restaurant<sup>2</sup> (not fast food)</li> <li>• Restaurant – Fast Food</li> <li>• Hotel, Inn or Motel</li> <li>• Lodge or Club</li> <li>• Funeral Home</li> <li>• Veterinary Care</li> <li>• Personal Services</li> <li>• General Services</li> <li>• Studio</li> <li>• Building Trade Shop</li> <li>• Commercial and Trade School</li> </ul>	<p>By Special Permit:</p> <ul style="list-style-type: none"> <li>• Temporary Independent Living Quarters</li> <li>• Public or Private Utility Facilities</li> <li>• Hospitals, Professional Offices of Any Size</li> <li>• Commercial Kennel</li> <li>• Lounge or Pub</li> <li>• Commercial Recreation</li> <li>• Amusement Facility Indoor</li> <li>• Amusement Facility Outdoor</li> <li>• Motor Vehicle Service Station</li> <li>• Car Wash</li> <li>• Motor Vehicle Repair or Body Shop</li> <li>• Light Vehicle Sales</li> <li>• Vehicle Equipment Sales</li> <li>• Parking Facility</li> <li>• Commercial Broadcast Facility (Excluding Studio)</li> <li>• Heliport</li> <li>• Zoo</li> <li>• Marina</li> <li>• Self-Service Gas Station</li> <li>• Warehouse</li> <li>• Mini-Warehouse</li> <li>• Construction Yard</li> <li>• Lumber Yard</li> <li>• Heating Fuel Sales and Service</li> <li>• Heavy Vehicle Sales</li> <li>• Heavy Vehicle Repair</li> <li>• Light Manufacturing</li> <li>• Industrial Office/R&amp;D</li> <li>• Adult Entertainment</li> <li>• Fairs, Carnivals, Etc.</li> <li>• Outdoor Sales of Holiday Trees, Etc.</li> <li>• Farmer’s Markets, Farm Stands, Etc.</li> </ul>
<i>Industrial 1 Light (I-1)</i>	<p>By Right:</p> <ul style="list-style-type: none"> <li>• Agriculture</li> <li>• Conservation</li> <li>• Recreation</li> <li>• Municipal Uses</li> </ul>	<p>By Special Permit:</p> <ul style="list-style-type: none"> <li>• Earth Removal</li> <li>• Temporary Independent Living Quarters<sup>6</sup></li> <li>• Correctional Facilities</li> </ul>

	<ul style="list-style-type: none"> <li>• Religious</li> <li>• Public or Private Utility Facilities</li> <li>• Cemeteries</li> <li>• Post Office</li> <li>• Lodge or Club</li> <li>• Studio</li> <li>• Building Trade Shop</li> <li>• Commercial and Trade School</li> <li>• Heating Fuel Sales and Service</li> <li>• Light Manufacturing</li> <li>• Industrial Office/R&amp;D</li> <li>• Public Transit Vehicle Parking</li> </ul>	<ul style="list-style-type: none"> <li>• Retail Store Less Than 5,000 G.S.F.</li> <li>• Retail Store More Than 5,000 G.S.F.</li> <li>• Professional Offices of Any Size</li> <li>• Restaurant<sup>2</sup> (not fast food)</li> <li>• Restaurant – Fast Food</li> <li>• Hotel, Inn or Motel</li> <li>• Commercial Kennel</li> <li>• Personal Services</li> <li>• General Services</li> <li>• Commercial Recreation</li> <li>• Amusement Facility Outdoor</li> <li>• Motor Vehicle Service Station</li> <li>• Car Wash</li> <li>• Motor Vehicle Repair or Body Shop</li> <li>• Parking Facility</li> <li>• Commercial Breeding Facility</li> <li>• Commercial Broadcast Facility (Excluding Studio)</li> <li>• Airport – Fixed Wing Aircraft</li> <li>• Heliport</li> <li>• Rifle Range (Outdoor)</li> <li>• Zoo</li> <li>• Marina</li> <li>• Self-Service Gas Station</li> <li>• Warehouse</li> <li>• Mini-Warehouse</li> <li>• Construction Yard</li> <li>• Lumber Yard</li> <li>• Heavy Manufacturing</li> <li>• Heavy Vehicle Sales</li> <li>• Heavy Vehicle Repair</li> <li>• Waste Recovery</li> <li>• Biological Research</li> <li>• Fairs, Carnivals, Etc.</li> <li>• Outdoor Sales of Holiday Trees, Etc.</li> <li>• Farmer’s Markets, Farm Stands, Etc.</li> </ul>
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Source: Town of Tyngsborough Zoning Bylaw, May 2018

Table 2.6 presents the total acreage for each zoning district within Tyngsborough. Approximately 80.9% of the Town is zoned for residential use, with over 76% of the Town land area located in the R-1 district. Combined, the Business Districts cover only 6.6% of the Town’s land area, while the Industrial zoning district covers 12.5%.

**Table 2.6: Acreage by Zoning District**

Zoning District	Acres	Percentage
Business 1 Neighborhood (B-1)	57.90	0.52%
Business 2 Office/Professional (B-2)	279.95	2.50%
Business 3 General Shopping (B-3)	392.68	3.50%
Business 4 Adult Zone (B-4)	10.11	0.09%
Industrial 1 Light (I-1)	1,396.43	12.45%
Residential 1 Low Density (R-1)	8,569.24	76.40%
Residential 2 Moderate Density (R-2)	289.68	2.58%
Residential 3 Multi-Family (R-3)	219.65	1.96%
<b>Total</b>	<b>11,215.65</b>	<b>100.00%</b>

Source: Town of Tyngsborough GIS data as of September 20, 2018

There are 208 parcels split by zoning districts within Tyngsborough, or approximately 5% of the Town’s total 4,125 parcels. (Of these, 188 parcels have at least 300 square feet in the second zoning district, and 168 parcels have at least 1,000 square feet in the second zoning district.) Administratively, this may be a burden for the Town and the property owners, given that rezoning through a Town Meeting vote may be needed to develop or redevelop a property.

## RESIDENTIAL ZONING

Tyngsborough’s three (3) residential zoning districts include the following and account for 80.9% of the town’s land area: Residential 1 Low Density (R-1), Residential 2 Moderate Density (R-2) and Residential 3 Multi-Family (R-3). These three zoning districts are the only areas where stand-alone single-family dwellings are allowed within all three districts. Single-family and two-family dwellings are allowed within mixed-use buildings in the Business 1 (B-1) and Business 2 (B-2) districts. Stand-alone two-family dwellings are only allowed in the R-3 district, and multi-family dwellings are only allowed in the R-3 district and in the Mixed Use Overlay District. Temporary independent living quarters, which are attached temporary accessory dwelling units specifically for family members, are allowed in all of Tyngsborough’s zoning districts.

The uses allowed by right within the R-1 and R-2 are nearly identical, including most of the uses allowed by Special Permit. The only commercial uses allowed by special permit in the R-1 and R-2 districts are daycare facilities, educational facilities and marinas. In addition, lodges or clubs are allowed by Special Permit in the R-2 district. The principal differences between R-1 and R-2 districts are the dimensional requirements. R-1 requires a minimum lot size of 65,000 square feet (SF), compared to 20,000 SF in the R-2 district. Similarly, the minimum lot frontage in the R-1 district is 200 feet, while the minimum frontage is 75 feet in the R-2 district.

In the R-3 district single-family dwellings are allowed by-right, and it is the only conventional district in Tyngsborough where two-family and multi-family dwellings are allowed. Two-family dwellings are allowed by right, while multi-family dwellings require a Special Permit and a Site Plan Review. Multi-family dwellings are also allowed in the MUVOD district. The minimum lot area in the R-3 district is 20,000 SF, and the minimum lot frontage is 75 feet. Table 2.7 below outlines the allowed residential uses in each zoning district and Table 2.8 provides a summary of the dimensional and density requirements within the residential districts.

**Table 2.7: Permitted Residential Uses by Zoning District**

Residential Use	Zoning District							
	R-1	R-2	R-3	B-1	B-2	B-3	B-4	I-1
Single-Family Dwelling	P	P	P	O	O	O	O	O
Two-Family Dwelling	O	O	P	O	O	O	O	O
Multi-Family Dwelling	O	O	SPB-R	O	O	O	O	O
Temporary Independent Living Quarters	SPB	SPB	SPB	SPB	SPB	SPB	SPB	SPB
Combined Business and Dwelling	O	O	SPB	SPB	P	O	O	O
Boarding Houses	O	O	SPB	O	O	O	O	O
P = Permitted Use O = Prohibited Use SPB = Special Permit-Planning Board -R = Denotes Site Plan Review (Also a Special Permit); for example SS-R denotes a Special Permit by the Board of Selectmen Plus a Site Plan Review Pursuant to Section 1.16.20								

Source: Town of Tyngsborough Zoning Bylaw, May 2018

**Table 2.8: Dimensional and Density Requirements for Districts Allowing Residential Dwellings**

	Zoning District						
	R-1	R-2	R-3*	B-1	B-2	B-3	MUVOD
Minimum Lot Area (sf)	65,000	20,000	20,000*	20,000	20,000	80,000	87,120
Minimum Frontage (ft)	200	75	75*	100	50	150	200
Minimum Lot Width (ft)	50	50	50	50	50	50	-
Minimum Front Yard (ft)	30	30	30	30	30	75	30
Minimum Side Yard (ft)	30	20	15	15	15	30	20
Minimum Rear Yard (ft)	30	20	15	15	15	40	20
Maximum Building Height (stories/ft)	2.5/36	2.5/36	2.5/36	2.5/36	2.5/36	3/40	3.5/45

\* Single-family homes in the R-3 district require 44,000 square feet of area and 200 feet of frontage, and duplexes in the R-3 district require 88,000 square feet of area and 400 feet of frontage.

Source: Town of Tyngsborough Zoning Bylaw, May 2018

## OPEN SPACE RESIDENTIAL DEVELOPMENT

Tyngsborough's Open Space and Residential Development (OSRD) bylaw was created to encourage the preservation of open space and historical resources, protect water supplies, promote better site planning, and allow for the more efficient provision of municipal services. The OSRD regulation allows for flexible site design with reduced lot sizes and dimensional requirements in the R-1 district. Projects in the OSRD district must be sited on at least nine (9) and the number of building lots can be no greater than what would be allowed under a conventional subdivision plan. While reduced lot size is allowed compared to a conventional subdivision, any reduction must be set aside as an area of common land held by a homeowner's association. The bylaw also states that a Conservation Restriction must be granted to the Town. Town Meeting approval of an Open Space Residential Plan is required prior to the granting of the Special Permit.

Although not part of an OSRD bylaw, the Town's Subdivision Rules and Regulations state that 10% of the total land area in subdivisions of greater than fifteen (15) acres in size be devoted to a park or set aside for open space. This open space or park area can contain no more than 50% wetland area, unless it is in the best interest of the Town. This area must have a minimum width of fifty (50) feet with a minimum of fifty (50) feet access to a public roadway.

## AFFORDABLE HOUSING PROVISIONS WITHIN MULTI-FAMILY DEVELOPMENTS

Multi-family development is allowed in the R-3 district, by Special Permit from the Planning Board, and with Town Meeting approval. The special permit requires that the site be five acres in size and that public water and sewer be available, or that developer fund the sewer improvements needed, or that he or she prove that on-site systems will be adequate. The number of dwelling units in a multi-family development may be increased by 25% above the standard one (1) unit per 20,000 square feet of parcel area if affordable housing is provided by: 1) offering no less than 50% of the additional units for "affordable" sale or rent, or 2) transferring no less than 20% of the additional units to the Tyngsborough Housing Authority.

## INCLUSIONARY ZONING

In May 2018, the Town adopted an Inclusionary Zoning bylaw to provide additional housing choices for all income levels, and to increase and maintain the housing stock included in the Subsidized Housing Inventory (SHI) on file with the Department of Housing and Community Development (DHCD). Under the bylaw, any project, other than a conventional subdivision, that results in the creation of seven (7) or more new residential dwelling units is required to also provide affordable housing. For age-restricted housing, at least 15% of the new housing must be designated as affordable in perpetuity. For all other

housing types, at least 12% of the new units must be affordable in perpetuity. For projects with sixteen (16) or fewer units, a cash fee or a donation of developable land may be made in-lieu of providing on-site affordable units. A donation of developable land in the Town of Tyngsborough can be provided to the Tyngsborough Housing Authority, the Town Affordable Housing Trust Fund, or a comparable entity.

#### MIXED USE OVERLAY DISTRICT (MUVOD)

Tyngsborough's Mixed Use Overlay District (MUVOD) permits multi-family dwellings to be commingled with other uses into a single structure or structures, or located in separate structures on the same lot. All uses permitted in the underlying zoning district are also permitted in the MUVOD, and property owners have the option to apply for a Special Permit for a Mixed-Use Development with residential and non-residential uses that are not allowed in the underlying district. The MUVOD is described in greater detail below in the Overlay District section.

#### MOBILE HOMES

A mobile home may only be placed on the site of a residence which has been rendered uninhabitable by accident for a period not to exceed 12 months. Mobile home communities are not allowed under the Zoning Bylaw

#### TEMPORARY INDEPENDENT LIVING QUARTERS

In order to allow residents to help house and care for other members of their extended families and to preserve the character of existing neighborhoods, property owners may apply for a Special Permit to build temporary independent living quarters connected to an existing residential unit. In most communities, these units are referred to as "in-law apartments or accessory dwelling units". The total area of the quarters may not exceed 1,200 square feet, and only one additional bedroom may be constructed. The living quarters must be designed to be easily assimilated into the primary structure once the temporary need ends, and only non-substantial changes to the exterior will be approved.

According to the property tax assessment records, there are ninety-four (94) independent living quarters located throughout town. The houses to which they are attached date back as far as 1733 and continue through 2006. The homes are assessed in a range from \$238,300 to \$671,800 and have a combined assessed value of \$39.5 million.

#### BUSINESS AND INDUSTRIAL ZONING

Tyngsborough has four (4) business zoning districts: Business 1 Neighborhood (B-1), Business 2 Office/Professional (B-2), Business 3 General Shopping (B-3), and Business 4

Adult Zone (B-4), and one (1) industrial zoning district, Industrial 1 Light (I-1). The districts are shown on Map 2.3 found on page 23. Table 2.9 outlines the uses allowed by right within each district.

**Table 2.9: Uses Permitted By Right within Business and Industrial Districts**

<b><i>BUSINESS 1 NEIGHBORHOOD (B-1)</i></b>	
Agriculture	Religious Uses
Conservation	Nursing Home
Recreation	Post Office
Municipal Uses	Retail Store Less Than 5,000 G.S.F.
<b><i>BUSINESS 2 OFFICE/PROFESSIONAL (B-2)</i></b>	
Agriculture	Post Office
Conservation	Retail Store Less Than 5,000 G.S.F.
Recreation	Combined Business and Dwelling
Municipal Uses	Lodge or Club
Educational	Funeral Home
Religious	Veterinary Care
Nursing Home	Studio
<b><i>BUSINESS 3 GENERAL SHOPPING (B-3)</i></b>	
Agriculture	Restaurant (not fast food)
Conservation	Restaurant – Fast Food
Recreation	Hotel, Inn or Motel
Municipal Uses	Lodge or Club
Educational	Funeral Home
Religious	Veterinary Care
Nursing Home	Personal Services
Post Office	General Services
Retail Store Less Than 5,000 G.S.F.	Studio
Retail Store More Than 5,000 G.S.F.	Building Trade Shop
Financial Services	
<b><i>BUSINESS 4 ADULT ZONE (B-4)</i></b>	
Agriculture	Restaurant – Fast Food
Conservation	Hotel, Inn or Motel
Recreation	Lodge or Club
Municipal Uses	Funeral Home
Educational	Veterinary Care
Religious	Personal Services
Post Office	General Services
Retail Store Less Than 5,000 G.S.F.	Studio
Retail Store More Than 5,000 G.S.F.	Building Trade Shop
Financial Services	Commercial and Trade School
Restaurant (not fast food)	

<b>INDUSTRIAL 1 LIGHT (I-1)</b>	
Agriculture	Lodge or Club
Conservation	Studio
Recreation	Building Trade Shop
Municipal Uses	Commercial and Trade School
Religious	Heating Fuel Sales and Service
Public or Private Utility Facilities	Light Manufacturing
Cemeteries	Industrial Office/R&D
Post Office	Public Transit Vehicle Parking

Source: Town of Tyngsborough Zoning Bylaw, May 2018

Single-family, two-family and multi-family dwellings are prohibited in all Business Districts as well as in the Industrial District. However, Temporary Independent Living Quarters are allowed by Special Permit from the Planning Board in all conventional zoning districts, including the Business and Industrial Districts. The intent appears to be to allow Temporary Independent Living Quarters to be added to nonconforming dwellings anywhere in the Town. Uses allowed by Special Permit (with or without a site plan review) from the Planning Board or Board of Selectman include are shown in Table 2.10.

**Table 2.10: Uses Permitted By Special Permit within Business and Industrial Districts**

<b>Business 1 Neighborhood (B-1)</b>	
Temporary Independent Living Quarters	General Services
Educational	Studio
Public or Private Utility Facilities	Motor Vehicle Service Station
Hospitals	Daycare Facility
Financial Services	Marina
Restaurant (not fast food)	Self-Service Gas Station
Combined Business and Dwelling	Outdoor Sales of Holiday Trees, Etc.
Veterinary Care	Farmer's Markets, Farm Stands, Etc.
Personal Services	
<b>Business 2 Office/Professional (B-2)</b>	
Temporary Independent Living Quarters	Motor Vehicle Service Station
Public or Private Utility Facilities	Parking Facility
Hospitals, Financial Services	Commercial Broadcast Facility (Excluding Studio)
Restaurant (not fast food)	Daycare Facility
Personal Services	Marina
General Services	Self-Service Gas Station
Building Trade Shop	Fairs, Carnivals, Etc.
Lounge or Pub	Outdoor Sales of Holiday Trees, Etc.
Commercial and Trade School	Farmer's Markets, Farm Stands, Etc.
Amusement Facility Indoor	

<b>Business 3 General Shopping (B-3)</b>	
Temporary Independent Living Quarters	Vehicle Equipment Sales
Public or Private Utility Facilities	Parking Facility
Hospitals	Commercial Broadcast Facility (Excluding Studio)
Professional Offices of Any Size	Heliport
Commercial Kennel	Zoo
Lounge or Pub	Marina
Commercial Recreation	Self-Service Gas Station
Amusement Facility Indoor	Lumber Yard
Amusement Facility Outdoor	Heating Fuel Sales and Service
Motor Vehicle Service Station	Fairs, Carnivals, Etc.
Car Wash	Outdoor Sales of Holiday Trees, Etc.
Motor Vehicle Repair or Body Shop	Farmer's Markets, Farm Stands, Etc.
Light Vehicle Sales	
<b>Business 4 Adult Zone (B-4)</b>	
Temporary Independent Living Quarters	Zoo
Public or Private Utility Facilities	Marina
Hospitals, Professional Offices of Any Size	Self-Service Gas Station
Commercial Kennel	Warehouse
Lounge or Pub	Mini-Warehouse
Commercial Recreation	Construction Yard
Amusement Facility Indoor	Lumber Yard
Amusement Facility Outdoor	Heating Fuel Sales and Service
Motor Vehicle Service Station	Heavy Vehicle Sales
Car Wash	Heavy Vehicle Repair
Motor Vehicle Repair or Body Shop	Light Manufacturing
Light Vehicle Sales	Industrial Office/R&D
Vehicle Equipment Sales	Adult Entertainment
Parking Facility	Fairs, Carnivals, Etc.
Commercial Broadcast Facility (Excluding Studio)	Outdoor Sales of Holiday Trees, Etc.
Heliport	Farmer's Markets, Farm Stands, Etc.
<b>Industrial 1 Light (I-1)</b>	
Earth Removal	Commercial Broadcast Facility (Excluding Studio)
Temporary Independent Living Quarters	Airport – Fixed Wing Aircraft <sup>2</sup> , Heliport
Correctional Facilities	Rifle Range (Outdoor)
Retail Store Less Than 5,000 G.S.F.	Zoo
Retail Store More Than 5,000 G.S.F.	Marina
Professional Offices of Any Size	Self-Service Gas Station
Restaurant (not fast food)	Warehouse
Restaurant – Fast Food	Mini-Warehouse
Hotel, Inn or Motel	Construction Yard

Commercial Kennel	Lumber Yard
Personal Services	Heavy Manufacturing
General Services	Heavy Vehicle Sales
Commercial Recreation	Heavy Vehicle Repair
Amusement Facility Outdoor	Waste Recovery
Motor Vehicle Service Station	Biological Research
Car Wash	Fairs, Carnivals, Etc.
Motor Vehicle Repair or Body Shop	Outdoor Sales of Holiday Trees, Etc.
Parking Facility	Farmer's Markets, Farm Stands, Etc
Commercial Breeding Facility	

Source: Town of Tyngsborough Zoning Bylaw, May 2018

As shown in Table 2.11, the minimum lot size in the B-1 and B-2 districts is 20,000 square feet, while the minimum on the B-3, B-4, and I-1 districts is 80,000 square feet. Maximum building height ranges from 36 feet in the B-1 and B-2 district to 45 feet in the I-1 district.

**Table 2.11: Dimensional Requirements for Business and Industrial Districts**

	Zoning District				
	B-1	B-2	B-3	B-4	I-1
Minimum Lot Area (sf)	20,000	20,000	80,000	80,000	80,000
Minimum Frontage (ft)	100	50	150	150	200
Minimum Lot Width (ft)	50	50	50	50	100
Minimum Front Yard (ft)	30	30	75	75	100
Minimum Side Yard (ft)	15	15	30	30	40
Minimum Rear Yard (ft)	15	15	40	40	40
Maximum Building Height (stories/ft)	2.5/36	2.5/36	3/40	3/40	3.5/45

Source: Town of Tyngsborough Zoning Bylaw, May 2018

## OVERLAY DISTRICTS

In addition to the conventional zoning districts, Tyngsborough has four (4) overlay districts. As discussed previously, the overlay districts may encourage or limit certain uses. For example, the Mixed Use Overlay District (MUVOD) allows all of the uses permitted in the underlying district, as well as a combination of residential and non-residential uses that would otherwise be prohibited in the underlying district. In contrast, the Wetland District prohibits a number of uses that may result in degradation of the Town's wetlands, surface water and ground water, regardless of the underlying district. A discussion of each overlay district follows.

## FLOOD PLAIN AND FLOODWAY DISTRICT (FP)

The Flood Plain and Floodway District, also referred to as the Flood Plain District includes all special flood hazard areas designated as Zone A and AE on the Middlesex County Flood

Insurance Rate Map (FIRM) issued by the Federal Emergency Management Agency (FEMA). The purpose of the District is to protect persons and property from flood hazards, to maintain the flood storage capacity and flow pattern of the flood plain, and to provide long-term control over the extent of land subject to inundation by flooding.

One section of the bylaw states that no new building is allowed within the Flood Plain district. Furthermore, no existing structure may be altered, enlarged, or moved. The bylaw also prohibits dumping, earth transfer and filling. Another section of the same bylaw states that the Planning Board may issue a special permit for a use in the flood plain if at least 98% of the natural flood storage volume is preserved without compensatory storage, and if the elevation of the lowest level of any new or improved residential structure is at or above base flood elevation. It further states that a special permit may be issued for a non-residential structure if the elevation of the lowest floor is at or above base flood elevation, or is flood-proofed to above the base flood elevation. Any new construction or substantial improvement is to be constructed with flood resistant materials and methods, and must be anchored to prevent flotation and lateral movement. Any new or reconstructed utilities, such water and sewer lines, fuel storage containers, gas lines and electric infrastructure is to be anchored to prevent flotation.

The only use allowed in the floodway are maintenance and repair of existing structures or roadways.

#### MIXED USE OVERLAY DISTRICT (MUVOD)

The MUVOD is intended to encourage a mix of commercial, residential, and recreational uses and to promote compact, village style development that is pedestrian oriented, minimizes impacts on public services, creates a thriving small business environment, attracts new investment and economic development, and creates diverse housing opportunities. The overlay district applies to 43 acres of land located off Westford Road.

Uses permitted in the underlying zoning district are permitted in the MUVOD, however, a property owner has the option to apply for a Special Permit for a Mixed-Use Development with additional residential and non-residential uses allowed. Such uses include multi-family development, retail under 10,000 square feet, restaurants, business and professional offices, personal services, light manufacturing and R&D.

Maximum lot coverage in the MUVOD is 25%, the minimum lot size is 2 acres, maximum building height is 2.5 stories or 45 feet, and a minimum separation of 20 feet is required between buildings on the same lot. However, the Planning Board may waive the dimensional requirements. In addition to dimensional requirements, public restrooms

must be made available, and the MUVOD has its own parking requirements and landscaping requirements. Where the MUVOD provisions are silent on a zoning rule or regulation, the requirements of the underlying zoning apply.

### TELECOMMUNICATIONS DISTRICT (TC-1)

The Telecommunications District consists of several relatively small zoning districts dispersed throughout the Town. The purpose of the District is to minimize adverse impacts of wireless communications facilities, minimize the overall number and height of such facilities to what is essential, and to promote shared use of existing facilities in order to reduce the need for new facilities. A Special Permit is required for installation or replacement of wireless communications facilities, and may only be issued for locations within the TC-1 District. Special Permit requirements address the type and design of structures, siting and screening requirements, and the posting of a bond for the removal of structures after one (1) year from when use is discontinued. Under Tyngsborough's bylaw only monopoles with associated antennae are allowed, while lattice type structures are prohibited. No monopole or attached antenna may exceed 200 feet in height.

### WETLANDS DISTRICT (WT)

The Wetland District (WT) is defined in Tyngsborough's Zoning Bylaws as "coterminous with the bounds of land identified pursuant to the Massachusetts General Laws Chapter 131 s.40 to be Banks (natural occurring banks and beaches), Bordering Vegetated Wetlands (wet meadows, marshes, swamps and bogs) the land under water bodies and waterways (under any creeks, river, stream, pond, lake) and certain land subject to flooding including bordering and isolated areas". The purpose of the WT District is to:

- protect the Town's wetlands, water bodies, water courses and adjoining lands;
- protect the safety of persons and property against flooding and contamination of ground water and surface water;
- preserve and maintain the water retention capability and ecological functions; and
- promote the usefulness of wetlands for recreation, natural beauty, and as habitat for flora and fauna.

Most land uses are prohibited in the WT overlay district, including the construction or enlargement of structures or impervious surfaces, dumping, filling, earth transfer, removal or relocation, sewer and septic disposal, and the storage of fuel, chemicals and hazardous substances. Allowed uses include agriculture and forestry, construction and maintenance of public utilities and existing roadways, piers and docks, and maintenance and improvements (excluding enlargement) of existing structures.

## REGULATIONS FOR LICENSED MARIJUANA ESTABLISHMENTS

In May 2018, Tyngsborough adopted special requirements for licensed medical and adult use marijuana facilities. Such facilities cannot be located within 500 feet of any pre-existing school, day care facility, church, library, playground, or indoor or outdoor recreation area for children. In addition, medical and adult use marijuana establishments cannot be located within 500 of each other. No licensed marijuana establishment may abut a residential district unless a 500-foot buffer is provided. All marijuana facilities must be located in either the B-3 district or the I-1 district and a special permit from the Planning Board is required. All licensed facilities must also provide a security plan, operation and management plan and emergency response plan.

## REGULATIONS FOR RENEWABLE ENERGY

The Zoning Bylaw defines Public or Private Utility Facilities to include facilities, equipment and structures associated with the generation, utilization, transmission and/or storage of solar energy systems equal to 250 kilowatt or greater, hydroelectric energy systems, and geothermal energy systems. These uses are allowed by right in the Industrial District and by Special Permit from the Board of Selectmen in all other conventional zoning districts.

At its November 2018 Special Town Meeting, the Town amended the Zoning Bylaw to add Solar Energy Systems to the Table of Uses and to provide accessory use regulations, dimensional requirements and other regulations for solar energy systems. Following the amendment, ground-mounted systems, roof-mounted systems, and solar energy systems as accessory uses are allowed in all districts either by right or by Special Permit. Large-scale (250 kilowatts or greater) roof mounted systems are allowed by right in all conventional districts, and large-scale ground mounted systems require a Special Permit in all districts other than the Industrial District, where they are allowed by right.

Wind (energy) machines may be authorized as an Accessory Use in any zoning district by Special Permit from the Planning Board. Special Permit requirements state that that wind machine must be set back from all lot lines at least the distance equal to the height of the tower from its base to the highest extension of any part of the wind machine. The Planning Board may allow the wind machine to exceed the maximum height limitations established by the Zoning Bylaw, provided that the setback requirement stated above is met. As an Accessory Use, the wind machine must be designed to serve a separate principal use on the same lot.

## DEVELOPMENT STANDARDS

Tyngsborough has adopted development standards or requirements that govern site design, landscaping, parking and loading, environmental standards, and signage. The site

plan review process and development standards are summarized in the following narrative.

## SITE PLAN REVIEW

The Massachusetts Zoning Act does not specifically authorize site plan review, but the courts have upheld it as a valid exercise of zoning authority and most communities have some type of site plan review procedure. Site plan review is an important component of land use regulation because it creates a mechanism for reviewing development plans for projects that are likely to have a noticeable impact on the surrounding land uses, natural resources and traffic. Site plan review also provides a mechanism for placing reasonable conditions on projects prior to the issuance of a building permit. However, it does not create authority to disapprove uses that are permitted by right. Unlike a subdivision plan or Special Permit, an approved site plan does not “grandfather” any zoning rights.

Tyngsborough requires a site plan review by the Special Permit Granting Authority (SPGA) as part of the Special Permit application process for certain land uses. The Tyngsborough Zoning Bylaw refers to the Special Permits that require site plans as “Site Plan Special Permits”. The Table of Uses identifies which land uses require a Site Plan Special Permit. Such uses include retail stores, professional offices, restaurants, a lounge or pub, commercial recreation, amusement facilities, motor vehicle service stations or repair facilities, car washes, parking facilities, airports, heliport, gas stations, and all industrial uses, except waste treatment or transfer, and public transit parking facilities. In addition, a Site Plan Special Permit is required when certain building modifications or site alterations are made to existing uses identified as requiring a Site Plan Special Permit. A site plan must also be submitted for Special Permits issued pursuant to the Flood Plain District regulations, the Mixed Use Overlay District regulations, as well as for multi-family developments, marijuana establishments, and for major industrial complexes as defined by the Zoning Bylaw.

## LANDSCAPING

Landscaping plans are an important component of the overall development plan and are required by most communities as part of the Site Plan Review process. The SPGA may also require screening of parking areas or other parts of the premises as a condition for granting a Special Permit. For uses requiring a Site Plan Special Permit, a Landscape Plan prepared by a registered landscape architect must be submitted for proposed facilities with a gross floor area of 7,500 square feet, and facilities requiring 40 or more parking spaces. The Landscape Plan must show the limits of work, the existing tree line, all proposed landscape features and improvements, including walks, planting areas with size and type of stock for each shrub or tree, walls, fences, outdoor lighting, and existing and proposed

contours of the land at two-foot intervals. Site plans submitted for Special Permits in the Flood Plain District must be prepared by a registered professional engineer and are required to include all existing and proposed landscape features.

Landscaped buffer areas are required where any non-residential land use located in a Commercial or Industrial District abuts either a Residential District or an existing residential use within the same district along its side or rear lot line. Buffering and screening requirements vary based on the district where the parcel is located.

Landscaping is required on at least three sides of the perimeter of parking lots containing 20 or more spaces. Similarly, landscaped open space is required in the interior parking area for certain parking configurations with 10 or more spaces. Separate rules for landscaped open spaces apply to certain parking configurations in the Mixed Use Overlay District.

In addition, Tyngsborough's Subdivision Regulations require preservation of certain natural and historic features, planting of suitable street trees or shrubs, installation of storm and surface water drainage, and the underground installation of utilities.

## PARKING AND LOADING

Tyngsborough's Zoning Bylaw sets minimum parking and loading standards for various land uses. The Zoning Bylaw also includes guidelines for design, location, and dimensions for parking and loading areas. For single family, two family and multi-family dwellings, there is a minimum one (1) space requirement per dwelling unit, and two (2) spaces are required for dwelling units with two (2) or more bedrooms. In addition to the space(s) required for the dwelling, one (1) space is required for each nonresident employee, in cases where there is a permitted home occupation, plus additional spaces if necessary. Parking requirements for permitted commercial and industrial uses are detailed in the Zoning Bylaw, and are generally based on the size of the establishment, and number of employees or occupancy of the specific use. These requirements may be reduced by Special Permit from the SPGA. If the primary use does not require a Special Permit, the Planning Board serves as the SPGA for parking space reduction.

Common parking areas serving two (2) or more uses on the same or separate lots may be permitted. Common parking areas require that: (1) the parking is within 500 feet of the premises and has excess capacity during all or part of the day; (2) a contract or suitable legal instrument detailing the shared parking and hours available is filed with the permit application; (3) the reduction in area required for parking is reserved in landscaped open

space; and (4) the property owners are responsible for parking if the joint parking arrangement ends.

In addition to parking, buildings that require the delivery or shipment of materials must have bays and suitable maneuvering space for off-street loading of vehicles. The number of berths required is set forth in the Zoning Bylaw, beginning with one berth for retail and service buildings with 5,000 to 8,000 gross floor area, office buildings with a gross area of 4,000 square feet or more, and manufacturing, industrial and warehousing buildings with up to 8,000 gross square feet. Additional berths are required for larger retail, service, manufacturing, industrial, and warehouse buildings.

For land uses requiring a Special Permit, the SPGA may require off-street parking as a condition for granting the permit. For land uses requiring a Site Plan Special Permits, a Site Plan prepared by a registered professional engineer must include parking, fire lanes, and loading spaces.

In addition to the standard Zoning Bylaw parking requirements, developments under the Mixed Use Overlay District require at least 1.5 parking spaces for each dwelling unit, business, office or industrial use, and at least one (1) additional parking space for each 200 square feet of business, industrial or office use, though the Planning Board may reduce the required number. Furthermore, the MUVOD has specific requirements for parking space dimensions, width of maneuvering aisles, and parking lot landscaping and screening. Structured parking facilities, including underground parking and parking garages, are permitted in the MUVOD, and loading bays are not required at loading areas.

## SIGNAGE AND OUTDOOR LIGHTING

Section 3.11 of the Zoning Bylaw addresses signage generally, as well as outlining specific requirements within individual zoning districts. A sign permit is required to erect, enlarge or structurally alter any sign, unless the type of sign is specifically exempted by the Zoning Bylaw. Nonconforming signs erected prior to the adoption of the relevant Zoning Bylaw provision may be continued and maintained, but may not be enlarged or altered unless in conformance with the Bylaw. Temporary signs require a sign permit, and political signs are only allowed on private property. Off-premises signs are limited to a single directional sign and require a sign permit from the Board of Selectmen, if located in the public right-of-way, or a Special Permit from the Zoning Board of Appeals if located on private property. Pennants, streamers, advertising flags, spinners, or similar devices require a sign permit from the Board of Selectmen, and animated, revolving, or flashing signs are prohibited.

Signs may only be lighted by a steady, stationary light, shielded and directed solely at or internal to the sign, and no illumination is permitted to cast glare onto residential premises or on a roadway in a way that creates a traffic hazard. The use of neon or other gaseous elements is prohibited, except as allowed under specific district regulations. Signs may not obstruct street corner visibility, and signs having red or green lights within sight of a traffic signal must be approved as non-hazardous by the Chief of Police.

In Residential Districts, no permit is required for signs up to two (2) square feet indicating only the name of the owner or occupant and the street number. On-premise signs up to 12 square feet may be permitted for non-residential uses, as well as several permanent and temporary signs for specific purposes, including real estate sales and rentals, building construction, and “open” flags. Signs may not be illuminated in any residential district between the hours of 11:00 P.M. and 7:00 A.M. unless the establishment is legally open to the public during those hours.

Regulations for the Business Districts allow one attached sign to be oriented toward each street on which the premises has frontage, with sizes ranging from 12 square feet to 100 square feet, depending on the district. In addition, one freestanding sign for a single business on one lot may be allowed, with sizes ranging from 12 square feet to 25 square feet (or 50 square feet with a Special Permit), depending on the district. Additional regulations apply to signs for multiple businesses on a single lot, as well as permanent and temporary signs for specific purposes. New construction in the B-1, B-2, B-3, and I-1 zones must provide outdoor lighting, including lighting in parking areas, that is arranged to minimize glare and light spillage into neighboring properties.

Within the Industrial District one attached sign up to 200 square feet is allowed, but must be oriented toward the street to which the premises has access. In addition, one freestanding sign, up to 25 square feet, oriented to each street to which the premises has access may also be allowed. There are additional regulations apply to signs for specific purposes.

## PUBLIC INPUT

The Master Plan Committee distributed a written and online survey to residents as a means of gathering public input and received 361 responses. The land use and zoning related input generated from the survey is summarized as follows:

- Each respondent was asked why he or she chooses to live in Tyngsborough, and the following top five responses were provided:
  - Access to Route 3 (45.53%);
  - Public safety/low crime rate (43.02%)

- Community character (41.62%)
- Access to retail and other services (40.78)
- Proximity to employment.
- When asked to rate the availability of goods and services in Town, 51.59% responded excellent (11.08%) or good (40.51%), while 41.77% rated the availability as fair (28.48%) or poor (13.29%).
- Survey respondents were asked to identify the three most critical issues facing Tyngsborough over the next ten years. Attracting business and economic development, overbuilding and sprawl, a sentiment that there are too many condos and apartments, a desire to create a true Town Center, and the need to balance rural character with appropriate development, were the land use related responses identified by ten or more respondents.
- Over 50% of the respondents indicated that it is very important or extremely important for the Town to establish the following as priorities:
  - Creating housing for seniors;
  - Promoting business/commercial development;
  - Creating additional opportunities for small-scale neighborhood development;
  - Encouraging more intense development in strategic locations;
  - Encouraging agritourism and ecotourism;
  - Creating design guidelines for new development;
  - Adopting additional energy and renewable energy initiatives;
  - Acquiring additional open space; and
  - Protecting additional agricultural lands.

The first public Visioning Session was held on January 9, 2019 at the Old Town Hall. The purpose of the session was to provide an overview of the Master Plan process, discuss future opportunities for public involvement, and complete a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis. Forty-six participants attended the session and provided the following land use related input:

#### Strengths

- Historic Town Center
- Open land
- Farms
- “Small town” feel
- Golf course
- Opportunity to create a town center
- Merrimack River
- Proximity to Route 3

- Proximity to mall
- Historic dwelling within ½ mile of town center

#### Weaknesses

- Lack of sidewalks/not pedestrian friendly
- Lack of shopping in the Town Center
- Proximity to grocery store
- Proximity to tax-free New Hampshire
- Town Center is not walkable
- Limited social and cultural facilities
- Lack of town center parking
- Abandoned buildings
- Lack of commercial space/space for small business
- Lack of access to the river

#### Opportunities

- Incorporate “small town” feel into development
- Make new buildings environmentally friendly/solar panels
- Preserve open space
- More open space for recreation and agriculture
- Make town a summer destination
- Developable land along Route 3 corridor/Westford Road
- Improve access to waterways
- The Town Center and the properties around it
- Use river for commercial use
- Town could be a model for Town Center revitalization
- Demolish Winslow School and open up five acres in the town center
- Winslow School reuse/development potential
- The opening of marijuana shops will bring tourism
- Follow through in recommendations from last Master Plan-make town a destination community by showcasing rural areas and historic center
- Opportunity to preserve the historic center and its buildings
- Preserve farms/food security
- A town center alive with arts and culture
- Connect town center properties

#### Threats

- Overdevelopment/commercialization
- Overpopulation
- Fear of development/change

- Looking like Nashua
- Inclusionary zoning not being followed
- Loss of quality of life
- Loss of open space
- Loss of farmland
- Cutting down trees at Notre Dame/deforestation along roadways
- Noise pollution
- Traffic from development
- Water pollution

A second public Visioning Session focusing on Land Use, Housing and Economic Development was held on September 13, 2018 at the Old Town Hall. The program for the session included a discussion whereby participants provided responses to discussion questions posed by NMCOG staff who facilitated the session. Following the discussion, a breakout session and mapping exercise was conducted. The responses to the land use related discussion questions are summarized as follows:

**Question 1: What changes are needed to refine and modernize Tyngsborough’s land use and regulations?**

1. Rezone some properties and update the zoning regulations. There is a need to rezone commercial and industrial areas to reflect today’s standards.
2. It has been 15 years since zoning was addressed – it is time to revisit the regulations.
3. Tyngsborough did not take advantage of zoning: there’s no sewer or water service along Route 3 where the industrial zoned parcels are located.
4. Route 3 traffic should be working in Tyngsborough in terms of attracting development. There is a need to improve zoning to attract businesses and people to town.
5. Changes in zoning should not result in more residential development.
6. Write design guidelines that reflect the community character of Tyngsborough in order to attract businesses that are desired.
7. Zone for the types of businesses that you want to attract. Look at particular areas in town and determine the type of businesses that would best fit. Attract companies that will hire Tyngsborough residents.
8. Review what the surrounding towns are doing to attract businesses.

**Question 2: Are there locations in town with obvious land use conflicts (for example, areas where residential uses and industrial uses abut and are in conflict)?**

1. Cummings Road has conflicts among farmland, residences and light industrial uses.
2. Middlesex Road went from residential to commercial, which created a conflict. Need to decide what the town wants the Middlesex Road corridor to be, instead of strip malls and convenience businesses.
3. "Impulse buy stores" on Middlesex are not working; need a new scheme.
4. Farwell Road has mixed residential and commercial uses, which should be addressed. Split zoned parcels need to be addressed throughout the town.
5. Too many zoning variances have been issued which devalues the zoning guidelines.
6. Need infrastructure, village type development and a comprehensive approach when developments are proposed. Once people move into these developments, how are they going to get around/ shop/ walk?

**Question 3: What steps can the Town take to improve the Town Center area?**

1. Now that the bridge has been rebuilt, the Town could buy property east of the bridge towards Lowell and landscape the area to make it more attractive.
2. The Route 113/ Middlesex Road intersection was identified as the Town Center area. Make Tynsborough a destination location, we need amenities, traffic calming and more street lights.
3. Improve access to the Merrimack River. Utilize the old house on the north side of the bridge to access the river and encourage kayaking and canoeing. Identify an entrepreneur to finance this type of project, as well as a restaurant establishment.
4. Promote pond access at Flint's Pond. Make it a destination spot for local residents and visitors.
5. The town needs to establish and enforce a 25 mph speed limit in the Town Center.
6. Make better use of the waterfall property by advertising it for different events.
7. Reutilize the Winslow School property.
8. Build a water fountain with lights in the Town Center.
9. Develop wayfinding signs and branding for the Town Center.
10. Establish boundaries for the Town Center.
11. Open up river access and vistas. Encourage restaurants along the river.
12. Utilize banners in the Town Center announcing upcoming community events.
13. Establish an active tree program to line the streets with trees and/or shrubs.
14. Bury utility lines in the Town Center.
15. Beautify area around railroad tracks adjacent to the river.

**Question 4: What additional types of businesses are needed to meet the needs of the community?**

1. Establish an Amazon satellite office.
2. Encourage technology repair businesses – computers, cameras, etc.
3. Attract a grocery store.
4. Establish an indoor farmer’s market to be operate year round.
5. Encourage kayak and canoe rental businesses along the river.
6. If the golf course is purchased by the Town, it could be established as an employment resource center.
7. Establish a service company for delivery of goods from south Nashua.

**Question 5: What more can the Town do to attract economic development that will meet the future needs of the community?**

1. Implement the Exit 36, Route 3 South Bound ramp project. Note: project depends upon funding from New Hampshire.
2. Provide sewer and water to undeveloped industrial and commercial lots in order to attract businesses. Develop a concept plan for this project.
3. Identify developable land and how the Town can support private investors. Promote the community as business friendly.
4. Re-establish the Economic Development Committee.
5. Encourage small village style shops in the Town Center to maintain “small town” feel.
6. Encourage the Town Planner/Director of Economic Development to market Tyngsborough to companies around the state.
7. Update the Town website to promote Tyngsborough and developable sites in the community. Utilize flyers to promote community activities.

**Question 6: Are there opportunities to redevelop existing underutilized and vacant properties?**

1. Redevelop the Winslow School and former library. Develop site across the river at the bridge.
2. Reuse former marina property for boating and/or a restaurant.
3. Homes north of bridge by the Merrimack River could be turned into fine dining establishments with an excellent view of the river.

**Question 7: What steps can the Town take to support its agricultural economy?**

1. Support local farms through farm-to-table restaurant(s).
2. Improve farmer’s market through indoor facility making it a year-round activity.
3. Support agricultural areas in Tyngsborough more fully by preserving as much agricultural land as possible.

4. Parlee Farm is an example of successful agricultural entertainment. Does Tyngsborough want more examples of this activity?
5. Establish year-round Community Supported Agriculture (CSA) facility to support local farms. Lawndale Farm is good, but is not year-round. Note: Bear Hill Farm has a CSA.
6. Encourage the Town to sponsor a Grange, which would revive the social aspects related to farming.

Through the mapping exercise, participants identified areas suitable for future business development. These locations were concentrated primarily in the area between Route 3 and Middlesex Road. Participants also mapped locations that would be suitable for multi-family housing at a density of four units per acre. There were three locations identified: (1) between Middlesex Road and the Dunstable town line, south of Route 113; (2) to the east of Route 3 just south of Exit 36; and on Westford Road just to the east of the Route 3 interchange.

## ISSUES AND OPPORTUNITIES

The Town adopted its first zoning bylaw in 1955 and there have been thirty-three (33) amendments since 2003, most of which were undertaken in a piecemeal fashion. Therefore, significant portions of the current bylaw lack clarity and consistency, and many of the standards, definitions, and procedural requirements are in need of modernization and revision. The sections of the bylaw that address signage and lighting need to be reviewed to address new technologies. In addition, there are many uses that have become popular in recent years but are not addressed within the bylaw, such as tap houses, brew pubs, and co-working spaces. A comprehensive review and update of the zoning bylaw should be undertaken by a Zoning Bylaw Review Committee formed for this purpose. Going forward, the Zoning Bylaw Review Committee should also be charged with re-examining the bylaw every five years, and subsequently with bringing forth recommendations to the Planning Board relative to any needed revisions.

There are 208 split-zoned parcels within Tyngsborough, comprising 5% of the Town's tax parcels. Of these, 188 parcels have at least 300 square feet within the second zoning district, and 168 parcels have at least 1,000 square feet within the second zoning district. Administratively, this represents a burden for the Town, property owners and developers. The Planning Board should work to resolve the split-zoned parcels as part of the future rewrite of the Zoning Bylaw.

Tyngsborough's Open Space Residential Development (OSRD) Bylaw has a low requirement for open space set aside relative to most communities. Currently, there is a

10% set aside requirement for a project located on 15 acres, while other area communities typically require that at least 25% of the project be reserved as protected open space. The minimum lot area allowed under the OSRD bylaw is 35,000 square feet, or nearly an acre, compared to 20,000 square feet in similar communities. In addition, the OSRD plan must be approved by Town Meeting, adding a significant hurdle to the approval process. Furthermore, the Town Meeting approval requirement is contrary to the previous Master Plan, which called for building additional incentives into the OSRD bylaw and removing the Town Meeting requirement. In other communities, the Planning Board handles the approval of these projects. In many communities, all subdivision projects over a certain size must be presented as both an OSRD and as a conventional subdivision plan, so that the Planning Board can determine the number of lots that could be created through a typical subdivision. This is the case even if the proponent intends to advance the project as an OSRD.

The Planning Board should consider revising and modernizing the OSRD bylaw to encourage the set aside of additional open space, and reduce minimum lot size requirements for the residential component of an OSRD project, thereby creating larger areas of contiguous open space. The Planning Board should also consider making OSRD mandatory for subdivisions over a certain size threshold. In addition, the OSRD approval and permitting processes should be handled by the Planning Board and other applicable town boards and commissions, rather than requiring Town Meeting approval.

Under the existing Zoning Bylaw, Town Meeting approval is required for multi-family development in the R-3 district. This represents a significant hurdle in the town's permitting process given that a super majority (2/3rds) vote is required. The Master Plan Committee recommends that consideration be given to eliminating the Town Meeting requirement for multi-family projects in the R-3 district and that the permitting process for these projects lie with the Planning Board and other appropriate boards and commissions. Tyngsborough's Zoning Bylaw refers to accessory dwelling units (ADUs) as Temporary Independent Living Quarters (TILQ), although most communities refer to them as "in-law apartments" or "accessory dwelling units". Tyngsborough requires that the residents of in-law apartments be related to the owner of the home. Many communities, including nearby Dunstable, Pepperell and Westford, have eliminated any requirement that residents of these units be related to the owner. Tyngsborough should consider providing additional flexibility within the TILQ/accessory bylaw. Allowing for fewer constraints (for example, not requiring that the accessory unit be occupied by the homeowner's relative) would help to ensure a productive future for many large, older homes, and would provide additional housing options for older adults and young, entry-level workers. It is important to recognize that accessory dwelling units generally blend into the neighborhoods in which they are located and are unobtrusive.

The public input process clearly indicated that residents feel there is a need to improve the Town Center. While some municipal uses, such as Town Hall and the Library, were removed from this area long ago, there are opportunities to utilize several town-owned and recently improved properties in this area. The Town has developed an overall conceptual plan and vision for the area and is moving forward in seeking funding for implementation of certain aspects of the plan. In general, greater attention needs to be paid to improving walkability and pedestrian connectivity, through better pedestrian facilities (e.g. sidewalks, walkways, and crosswalks), and the inclusion of pedestrian enhancements, such as pedestrian scale lighting, benches and street trees. In addition, the town should focus on creating a more unified appearance and a “brand” that sets this area apart from other sections of town. The creation of a Town Center Overlay District and Bylaw tied to specific design guidelines should be considered as a part of this strategy. The bylaw should complement the town’s intent to attract small-scale businesses, shops, and cultural venues and events to the area.

Like most town centers, Tyngsborough Center is not the product of any one historical era, but reflects architectural styles that were built over a period of two hundred years. The challenge for the town is to maintain this unique New England character while allowing the area to continue to grow and thrive in the future. New construction and renovation should respect the existing architecture, retaining whatever visual integrity is possible. New buildings should be compatible with existing design, height and siting patterns, with parking to the rear and with frontage directly on the sidewalk, wherever feasible. When converting residential buildings to commercial use, the architectural character of the building should be maintained.

MassDOT’s investment in the widening of Route 3 increased the property values in the three interchange areas located within Tyngsborough. In the future, demand for commercial properties to address the needs of the area workforce, as well as local residents, will increase. The zoning around each of the Route 3 interchanges should be reexamined with an eye toward encouraging additional commercial development and support services for companies and residents located in these areas. A commercial overlay district should be considered along Kendall Road from the Highway Department garage to Route 3. Much of this area is zoned for industrial use. An industrial property owner has proposed extending sewer service to the lower portion of Kendall Road. Providing infrastructure improvements will be key to the future viability of developing the remaining tracts of industrial land that lie east of Route 3. Furthermore, the addition of the MassDOT Park and Ride facility has already increased the utilization of this interchange and thereby strengthened the potential market for future commercial establishments along the Kendall Road corridor. MassDOT intends to expand the park and ride lot in the future, bringing more commuters to the area.

The Master Plan Committee recommends that the Planning Board consider modifying the zoning bylaw to accommodate the creation of a neighborhood commercial/service node on the east side of the Merrimack River, in the vicinity of Pawtucket Boulevard, Frost Road and Charles Chronopoulos Way. This could be achieved through the establishment of a mixed use overlay zoning district. Such a district is intended for the types of businesses that serve the needs of the neighborhood, such as a bank, convenience store and dry cleaner. This recommendation is similar to what was outlined in the previous Master Plan, prior to the relocation of Pawtucket Boulevard.

The Town could improve the visual quality of commercial and industrial development through stronger design guidelines. The intent of design guidelines is to provide direction regarding design elements such as landscaping, signage, lighting, access and parking lot design, and façade treatments. The inclusion of design guidelines would help improve visual cohesion, particularly in the retail and commercial areas. Design guidelines allow the Planning Board to consider factors beyond the engineering and site design requirements that are currently outlined in the Zoning Bylaw. The intent of the guidelines is not to limit a proponent's creativity or ability to maximize the use of the site. If well-constructed, design guidelines encourage innovative and unique design solutions, while avoiding visual clutter and functional inefficiencies of design decisions that are made independent of the context in which the project is located. Particular attention should be paid to the Middlesex Road and Westford Road corridors.

Through the public involvement process, residents clearly expressed an interest in preserving the town's remaining agricultural landscapes. Tyngsborough has taken some steps to protect its farms through its right-to-farm bylaw, and through the adoption of the Community Preservation Act. The town should consider modifying its zoning bylaw to better articulate its support of agricultural enterprises, such as food processing, shared commercial kitchen facilities that allow for value-added food production, and farmers' co-ops. Tyngsborough should collaborate with neighboring communities to better understand the regional needs of the agricultural community, and to identify opportunities to support its farmers that extend beyond the town.

The Town should consider adopting a Low Impact Development (LID) bylaw. Low impact development (LID) is an environmentally friendly approach to land development that maintains the natural, pre-developed ability of a site to manage rainfall. LID protects the natural ability of the site to capture precipitation and recharge it to the local water table, and is often accomplished by utilizing the following tools:

- Planning during design: preserve the site’s natural features such as wetlands, native vegetation, flood plains, woodland and soils to greatest extent possible;
- Landscaping: plant native vegetation in buffer strips and rain gardens (small planted depressions that can trap and filter runoff);
- Prevention: use vegetated areas to slow runoff, maximizing infiltration and reducing contact with paved surfaces; and
- Reducing impervious surfaces wherever possible through alternative street design techniques, such as the use of pervious pavement, narrower roadways and shared parking areas and driveways.

The adoption of a LID bylaw would provide detailed standards and guidance for managing stormwater for all development projects, and would assist the Town in its compliance with EPA’s new MS4 permit that went into effect last year.

The Town of Tyngsborough recently received a Gold designation through the USDOE’s SolSmart program by implementing the following measures:

- Created an online permitting checklist, increasing transparency for community members and solar installers;
- Reviewed local zoning codes and identified restrictions that intentionally or unintentionally prohibit solar PV development;
- Allowed solar by-right accessory use in all zones (so solar installations don’t require special permits or hearings);
- Cross-trained both inspection and permitting staff on solar PV;
- Provided a streamlined permitting pathway for small PV systems; and
- Created a streamlined process to approve certain solar permit applications over the counter.

More can still be done to promote renewable energy within the town’s development regulations. NMCOG has received funding from the Executive Office of Energy and Environmental Affairs (EOEEA), through the Planning Assistance Grant program, to help Tyngsborough make modifications to its Zoning Bylaw. The objective of the grant is to create reasonable standards that help facilitate the development of solar energy systems for both ground-mounted and rooftop installations. The State’s model zoning bylaw will form the foundation for this work.

## RECOMMENDATIONS

- Update and revise the Town’s Zoning Bylaw to provide clarity and consistency, update uses, and add appropriate design standards, guidelines and performance standards, including updated standards for landscaping, lighting and signage. Conduct a comprehensive review of the town’s Zoning Bylaw and development regulations every five years. In the future, review the Zoning Bylaw every five years to identify needed updates and revisions.
- Resolve the split-zoned parcels, particularly those located within the town’s business districts.
- Revise and modernize the OSRD bylaw to encourage the set aside of additional open space, and reduce minimum lot size requirements for the residential component of an OSRD project, thereby creating larger areas of contiguous open space. In addition, consider making OSRD mandatory for subdivisions over a certain size threshold, and eliminate the requirement for Town Meeting approval of OSRD projects. The Master Plan Committee recommends that either a recognized non-profit entity or the Town hold the open space set aside within an OSRD project, in order to ensure that a responsible party protects, manages and maintains the land.
- Consider eliminating the requirement for Town Meeting approval of multi-family development in the R-3 district. The permitting process for such projects would then lie with the Planning Board and other appropriate boards and commissions.
- Consider providing additional flexibility within the TILQ/accessory bylaw (for example, not requiring that the accessory unit be occupied by the homeowner’s relative), in order to increase housing options for older adults and young, entry-level workers.
- Implement improvements in the Town Center, paying greater attention to walkability and pedestrian connectivity, through better pedestrian facilities (e.g. sidewalks, walkways, and crosswalks), and the inclusion of pedestrian scale lighting, benches and street trees.
- Create a more unified appearance and a “brand” that sets the Town Center area apart from other sections of town through the creation of a Town Center Overlay District and Bylaw, with specific design guidelines that complement the town’s intent to attract small-scale businesses, shops, cultural venues and events.
- The zoning around each of the Route 3 interchanges should be reexamined with an eye toward encouraging additional commercial development and support services for companies and residents located in these areas. A commercial overlay district should be considered along Kendall Road from the Highway Department garage to Route 3.
- Consider modifying the zoning bylaw to accommodate the creation of a neighborhood commercial/service node on the east side of the Merrimack River in

the vicinity of Pawtucket Boulevard, Frost Road and Charles Chronopoulos Way through the establishment of a mixed use overlay zoning district.

- Create design guidelines directed at improving the visual quality of commercial and industrial development. The guidelines will provide direction and recommendations for the development community relative to landscaping, signage, lighting, access and parking lot design, and façade treatments. Particular attending should be paid to the Middlesex Road and Westford Road corridors.
- Modify the Zoning Bylaw to better articulate the Town’s support of agricultural enterprises by including uses such as food processing and packaging, shared commercial kitchen facilities, and farmer’s co-ops.
- Collaborate with neighboring communities to better understand the regional needs of the agricultural community, and identify opportunities to support agriculture that extend beyond the boundaries of the town.
- Revise the Temporary Independent Living Quarters (TILQ) by allowing accessory dwelling units by-right, or at a minimum, allowing for accessory units with fewer constraints, in order to provide additional housing options for older adults and young, entry-level workers.
- Consider adopting a Low Impact Development (LID) bylaw for managing stormwater on site and to assist the Town in meeting the requirements of the new EPA MS4 permit.
- Modify the Zoning Bylaw to further encourage renewable energy initiatives with the assistance of NMCOG.

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## III. ECONOMIC DEVELOPMENT

### INTRODUCTION

The Economic Development section of the Tyngsborough Master Plan focuses on those elements that energize a community in terms of generating financial support for the municipal services that local government provides its citizens. Economic development largely defines a community in terms of its overall health, economy and business activities. Therefore, it includes a number of elements – housing, transportation, job creation, business development, land conservation and land use. An effective economic development strategy provides a balance between economic growth and quality of life in a community. In general, the quality of life within a community attracts residents, shoppers and visitors. If there is an overemphasis upon economic growth, the quality of life within a community will suffer. Economic Development is more than a community’s economic base – it reflects the overall process to attract private investment to provide jobs for community residents, generate property taxes that support local services, creates new contracting opportunities for local businesses and connects the local community with the regional, state and national economy.

The Economic Development section of the Master Plan builds upon the *2004 Tyngsborough Master Plan* prepared by Brian K. Barber, City and Town Planning Consultant, and the *Economic Development Self-Assessment Tool (EDSAT)* report completed by Professor Barry Bluestone and the Dukakis Center for Urban & Regional Policy at Northeastern University in November 2015. The EDSAT report provided a “blueprint” to encourage additional private investment in the community. By building upon its “deal-makers” and addressing its “deal-breakers”, Tyngsborough has an opportunity to expand the economic base, attract more businesses and create jobs for its residents.

### ECONOMIC DEVELOPMENT GOALS

- Implement the 2015 Economic Development Self-Assessment Tool (EDSAT) recommendations by the Dukakis Center of Northeastern University.
- Identify target industries in order to expand the economic base, thus creating more private investment, additional employment opportunities and tax revenue.
- Attract commercial and retail businesses to provide additional shopping and entertainment options.
- Address infrastructure issues related to sewer, water and wastewater treatment in order to support an expanding tax base.
- Balance economic growth with “quality of life” issues in order to maintain the “small town” character of Tyngsborough.
- Support regional and local economic recovery and resiliency initiatives to address the economic injury caused by COVID-19.

Within the Tyngsborough Master Plan, the Land Use and Zoning chapter has already addressed the demographic and zoning issues. The Housing chapter largely addresses housing issues, including household income and the water and sewer infrastructure. The Economic Development Chapter will address the Characteristics of the Local Economy, the Economic and Business Conditions, Community Assets and Liabilities, Commercial and Industrial Activity, Balance between Economic Growth and “Quality of Life”, and summarize the Community Input. At the end of this Chapter, there are a number of Discussion Questions and corresponding responses gathered through the public input process. This input was considered by the Master Plan Committee in formulating the Economic Development recommendations.

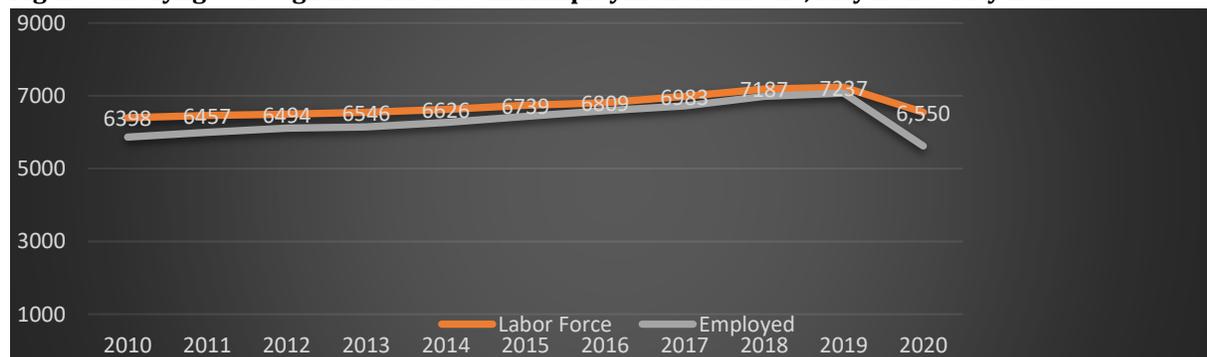
## CHARACTERISTICS OF THE LOCAL ECONOMY

In determining where to locate businesses, private investors focus principally on the quality of the workforce in the community and region. This section focuses on the local labor market from several different perspectives – employment levels and unemployment, income, educational attainment, the current employment sectors for Tyngsborough residents and commuting patterns. For the most part, the local workforce is well educated, works principally in the service sector and commutes outside Tyngsborough for employment.

### EMPLOYMENT LEVELS AND UNEMPLOYMENT

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), Tyngsborough had an estimated labor force of 7,237 people in May 2019. Due to the COVID-19 pandemic, the labor force decreased to 6,550 people in May 2020, as shown in Figure 3.1 below. Similarly, the employment levels for Tyngsborough were at 7,075 workers in May 2019 and then declined to 5,021 workers in May 2020.

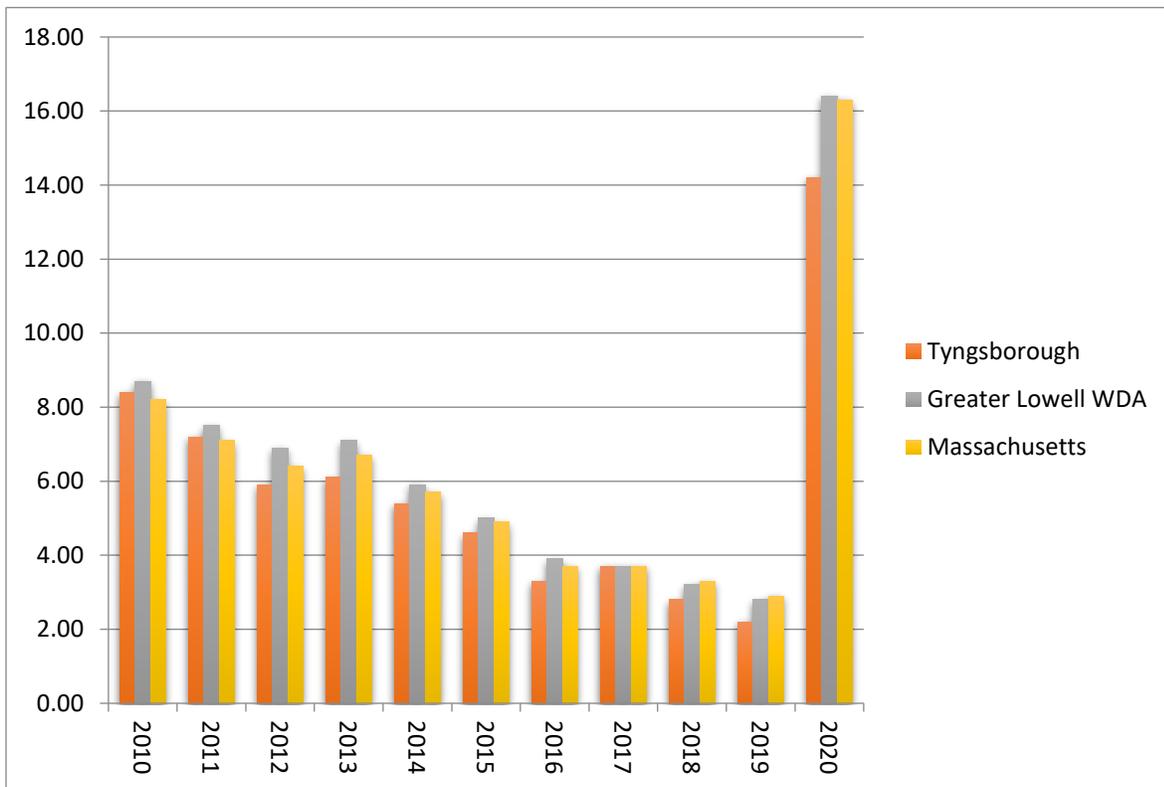
**Figure 3.1: Tyngsborough Labor Force and Employment Numbers, May 2010- May 2020**



Source: Executive Office of Labor and Workforce Development LURR Reports

The unemployment rates for Tyngsborough from May 2010 to May 2020 are presented in Figure 3.2. From a historical perspective, unemployment rates in Tyngsborough averaged less than 4% at the beginning of 2000. With the beginning of the national recession in 2007, unemployment in Tyngsborough began to increase, rising from 4.8% in July 2008 to a peak of 7.7% in July 2010. Since May 2010, unemployment rates steadily declined to 2.2% in May 2019, which was below the early 2000 unemployment levels. However, when the COVID-19 pandemic hit Massachusetts in mid-March 2020, its impact upon Tyngsborough’s unemployment rate was significant – reaching 14.2% in May 2020.

**Figure 3.2: Unadjusted Unemployment Rates: May 2010 – May 2020**



Source: Executive Office of Labor and Workforce Development LURR Reports

In general, Tyngsborough’s unemployment rate has been consistently lower than the rate for the Greater Lowell Workforce Development Area (WDA), but equal to, or higher than the state unemployment rate. In May 2010 the unemployment rate for the Greater Lowell WDA was 8.7%, as compared to Tyngsborough’s unemployment rate of 8.4% and the state unemployment rate of 8.2%. In May 2020 Tyngsborough’s unemployment rate of 14.2% was lower than that for the state (16.3%) or the Greater Lowell WDA (16.4%). The overall unemployment rates are expected to increase until the COVID-19 pandemic is substantially addressed.

## EMPLOYMENT PROJECTIONS

The UMass Donahue Institute developed employment projections for the Greater Lowell region and the Town of Tyngsborough in 2018 as part of their work with MassDOT. These employment projections reflect the number of jobs at Tyngsborough businesses and are an estimate of the future number of jobs within each community. The UMass Donahue Institute applied a “top-down” approach that utilizes employment projections for the state, as a whole, and then assigns shares of these figures to the Metropolitan Planning Organization (MPO) regions and individual communities within those regions. Based upon this approach, the employment projections at the state level are much 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 Tyngsborough and the Greater Lowell region. Outlined in Table 3.1 are the local and regional employment projections from 2020 to 2040:

**Table 3.1: Local and Regional Employment Projections: 2010-2040**

Community	2010	2020	2030	2040	% Change 2010-2040
Billerica	25,070	26,190	25,983	25,975	3.6
Chelmsford	19,603	24,005	23,813	23,806	2.14
Dracut	5,334	6,005	5,958	5,956	11.7
Dunstable	321	300	298	298	-7.2
Lowell	38,411	37,005	36,708	36,699	-4.5
Pepperell	2,050	1,600	1,588	1,587	-22.7
Tewksbury	14,570	16,00	15,872	15,867	8.9
<b>Tyngsborough</b>	<b>4,212</b>	<b>4,800</b>	<b>4,762</b>	<b>4,760</b>	<b>13.0</b>
Westford	9,759	12,515	12,416	12,411	27.2
Greater Lowell Region	119,332	128,420	127,398	127,359	6.7

*Source: MassDET 2010 and projections developed by the UMass Donahue Institute for MassDOT in 2018*

These projections show an increase in employment of 13% for Tyngsborough between 2010 and 2040. This employment increase represents the second highest increase in the Greater Lowell region, which averaged a growth rate of 6.7%. By 2040, local employment in Tyngsborough businesses is expected to reach 4,760 jobs. While there are some limitations with the projections developed by the UMass Donahue Institute, these projections are the only ones available for economic development planning purposes.

## INCOME

Income levels in Tyngsborough are generally reflected in the median household income, median family income and per capita income. The median household income figures can be found in the Housing Chapter of the Master Plan. These income statistics can be used to

gauge the health of the local economy, assess the overall standard of living and compare these figures with those at the regional, state and national levels.

*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. During the past eighteen years, median family income has increased in Tyngsborough, the Greater Lowell Workforce Development Area (WDA), Massachusetts and the nation, as shown in Table 3.2.

**Table 3.2: Median Family Income for Selected Geographies (1999 and 2013-2017)**

<b>Geographic Area</b>	<b>1999</b>	<b>2013-2017</b>	<b>% Increase</b>	<b>% Increase Adjusted for Inflation</b>
<b>Tyngsborough</b>	<b>\$76,680</b>	<b>\$120,579</b>	53.3	7.0
Greater Lowell WDA	\$66,600	\$100,581	51.0	2.7
Massachusetts	\$61,664	\$94,110	52.6	3.8
United States	\$50,046	\$70,850	41.6	-3.7

*Source: U.S. Census Bureau, 2000 U.S. Census and 2013-2017 American Community Survey*

Tyngsborough’s median family income increased from \$76,680 in 1999 to \$120,579 in 2013-2017– an increase of 57.2%. Median family incomes also increased by 51% in the Greater Lowell WDA, 52.6% in Massachusetts and 41.6% in the United States.

Tyngsborough’s median family income in 2013-2017 was 47.2% higher than the nation’s median family income, 10.8% higher than the Commonwealth’s and 3.7% than that for the Greater Lowell WDA.

When adjusted for inflation, Tyngsborough experienced an increase of 7% in median family income. The Greater Lowell WDA and Massachusetts had positive median family income growth when adjusted for inflation as well, increasing by 2.7% and 3.8% respectively. The United States experienced a negative growth of 3.7% in median household income between 1999 and 2013-2017 when adjusted for inflation.

*PER CAPITA INCOME*

Between 1999 and 2013-2017, Tyngsborough’s per capita income increased from \$27,249 to \$43,787 for an increase of 60.7%. The increase in Tyngsborough’s per capita income outpaced the increase in Massachusetts (53.8%), the Greater Lowell WDA (51.7%) and the United States (44.4%), as shown in Table 3.3. The per capital income in Tyngsborough in

2013-2017 was 9.7% higher than that for Massachusetts, 18.3% higher than the Greater Lowell WDA, and 40.4% higher than the United States (31.2%).

**Table 3.3: Per Capita Income for Selected Geographies (1999 and 2013-2017)**

Geographic Area	1999	2013-2017	% Increase 1999-2013-2017	% Increase Adjusted for Inflation
<b>Tyngsborough</b>	<b>\$27,249</b>	<b>\$43,787</b>	60.7	9.3
Greater Lowell WDA	\$24,403	\$37,016	51.7	3.2
Massachusetts	\$25,952	\$39,913	53.8	4.6
United States	\$21,587	\$31,177	44.4	-1.8

Source: U.S. Census Bureau, 2000 U.S. Census and 2013-2017 American Community Survey

When adjusted for inflation, Tyngsborough experienced a positive per capita income growth of 9.3%, while Massachusetts and the Greater Lowell WDA respectively had a 4.6% and 3.2% growth in per capita income. The national per capita income decreased by 1.8% when adjusted for inflation.

## EDUCATIONAL ATTAINMENT

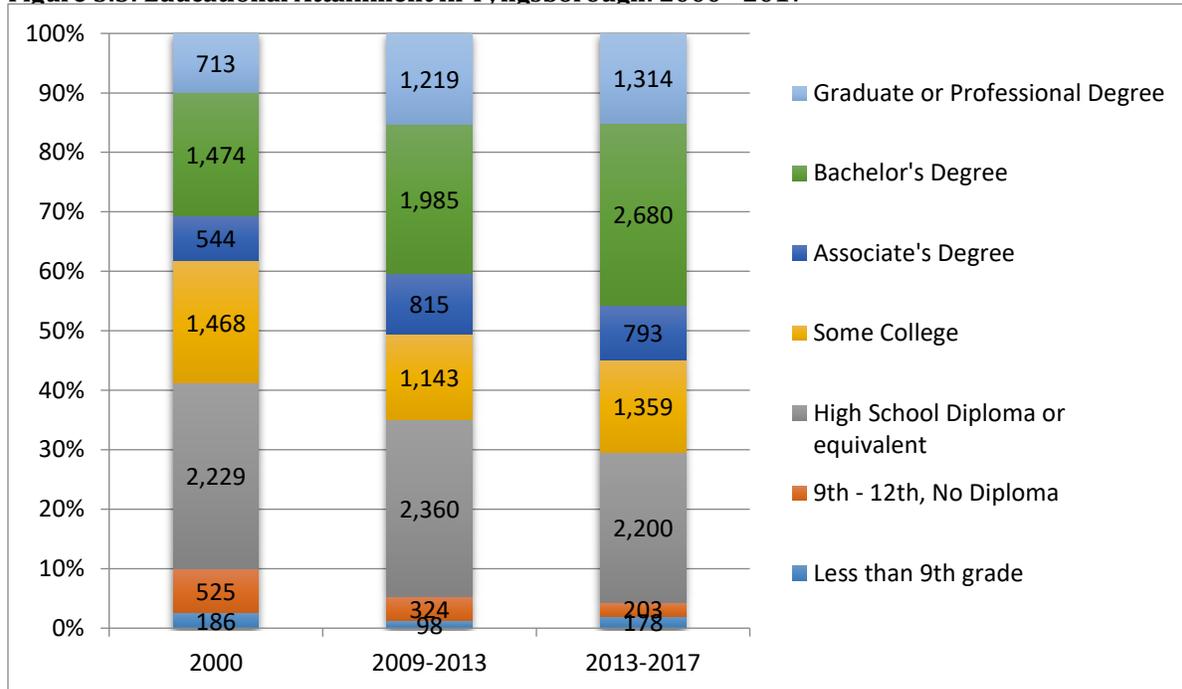
Local communities cannot develop a skilled workforce without public investment in universities, community colleges, and the K-12 education system. The level of education attainment and the quality of education are therefore key indicators of Tyngsborough’s quality of life, workforce preparedness and economic potential.

Figure 3.3 compares educational attainment among Tyngsborough residents 25 years and older in 2000, 2009-2013 and 2013-2017. In 2000, approximately 10% (711) of adults living in Tyngsborough had not earned a high school diploma or its equivalent. In 2009-2013, that rate dropped to 5.3% (422) and dropped even more to 4.4% in 2013-2017 (381). Adults who had only earned a high school diploma or equivalent accounted for 31.2% of the adult population in 2000, 29.7% in 2009-2013 and 25.2% in 2013-2017.

Since 2000, educational attainment in Tyngsborough has shifted with more than a two-thirds of adults (70.4%) in 2013-2017 having completed at least some college. In 2000, Associate’s Degree holders comprised 7.6% (544) of adults, while those with Bachelor’s and Advanced Degrees accounted for 30.6% (2,187). In 2007-2013, approximately 10.3% (815) of all adults over the age of 25 had earned an Associate’s Degree, and more than four in ten adults (40.3%) had earned a Bachelor’s Degree or better. In 2013-2017, 793 adults (9.1%) over the age of 25 earned an Associate’s Degree. Adults in Tyngsborough with Bachelor’s and Advanced Degrees accounted for 45.8% (3,994) of the total adult population.

In essence, the improvements in educational attainment are likely to influence the types of positions Tyngsborough residents are employed in, which is to say, higher skilled, with more intensive training, and better paying jobs.

**Figure 3.3: Educational Attainment in Tyngsborough: 2000 - 2017**



Source: 2000 U.S. Census, 2009-2013 and 2013-2017 American Community Survey

As of 2013-2017, 95.7% of Tyngsborough’s adult population had a high school diploma or better, which is higher than the Greater Lowell region at 90%. The percentage of Tyngsborough adults who possess a Bachelor’s degree or higher (45.8%) is slightly higher than the region (37%). Table 3.4 compares the years of school completed for adults in Tyngsborough and the Greater Lowell region.

**Table 3.4: Years of School Completed - Tyngsborough and Greater Lowell Region**

Subject	Tyngsborough		Greater Lowell Region	
	2013-2017	Percent	2013-2017	Percent
Less than 9th grade	178	2.0	10,843	4.6
9th - 12th, No Diploma	203	2.3	12,737	5.4
High School Diploma or equivalent	2,200	25.2	67,736	28.8
Some College	1,359	15.6	38,659	16.4
Associate's Degree	793	9.1	18,497	7.9
Bachelor's Degree	2,680	30.7	51,472	21.9
Graduate or Professional Degree	1,314	15.1	35,477	15.1

Source: 2013-2017 American Community Survey

K-12 EDUCATION PERFORMANCE

Educational performance data for the K-12 system for Tyngsborough and the region is provided in Table 3.5. This table presents the results of the 2018 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 below. Tyngsborough students generally outperformed every community, except for Westford (tied) in English. In Math Tyngsborough students surpassed every community, except for Chelmsford, Groton–Dunstable, and Westford. Tyngsborough students also did well in Science, outperforming every community, except for Groton-Dunstable and Westford.

**Table 3.5: 2018 MCAS Scores for Tyngsborough and Greater Lowell**

School District	2018 MCAS % Proficient or Higher		
	English Language Arts	Math	Science
Billerica	94	88	90
Chelmsford	97	91	85
Dracut	93	82	71
Groton - Dunstable	97	97	94
Lowell	82	66	59
Pepperell (part of North Middlesex Regional School District)	96	82	85
Tewksbury	92	77	76
<b>Tyngsborough</b>	<b>98</b>	<b>90</b>	<b>92</b>
Westford	98	96	95

Source: Commonwealth of Massachusetts, DESE

EMPLOYMENT SECTORS FOR TYNGSBOROUGH RESIDENTS

Tyngsborough residents work in virtually every industry, from manufacturing and construction to public administration and restaurants. Table 3.6 shows the primary employment industries for Tyngsborough residents in 2000 and 2013-2017. This table reflects the changing employment opportunities for Tyngsborough residents since the onset of the national recession and the rebounding economy since the recession. For instance, the number of manufacturing establishments decreased from 1,152 in 2000 to 1,012 in 2013-2017 or by 12.2%. Similarly, the number of Wholesale Trade establishments decreased from 191 in 2000 to 144 in 2013-2017 or by 32.6%. On the other hand, the number of establishments in the Education, Health Care and Social Service industry increased from 1,133 in 2000 to 1,866 in 2013-2017 or by 64.7%. Other industries that experienced positive growth were Other Services, except Public Administration (50.8%), Professional, Scientific, Management, and Administrative and Waste Services (35.4%), Arts,

Entertainment, Recreation, Accommodation and Food Services (31.3%), Transportation, Warehousing and Utilities (16.8%), Finance (15%) and Retail Trade (13.9%). Due to the COVID-19 impact, the number of establishments in the Health Care and Social Assistance, Accommodation and Food Services, Retail Trade, Construction and Manufacturing may have been reduced, but that data won't be available for a while.

**Table 3.6: Primary Employment Industries for Tyngsborough Residents in 2000 and 2013-2017**

Industry	2000	2013-2017	Percent Change 2000 - 2013/2017
Agriculture, Forestry, Fishing and Hunting, and Mining	0	0	0.0
Construction	513	407	-26.0
Manufacturing	1,152	1,012	-13.8
Wholesale Trade	191	144	-32.6
Retail Trade	516	599	13.9
Transportation, Warehousing, and Utilities	272	327	16.8
Information	299	291	-2.7
Finance, Insurance, and Real Estate (including leasing)	351	413	15.0
Professional, Scientific, Management, and Administrative and Waste Services	740	1,145	35.4
Educational Services, Health Care, and Social Service	1,133	1,866	39.3
Arts, Entertainment, Recreation, Accommodation and Food Services	343	499	31.3
Other services, except Public Administration	213	433	50.8
Public Administration	209	189	-10.6

Source: 2000 U.S. Census and 2013-2017 American Community Survey

## JOURNEY TO WORK AND COMMUTING PATTERNS

In addition to understanding the industries in which Tyngsborough residents are employed, it is important to know how many residents work in the county and state. Table 3.7 shows where Tyngsborough residents worked in 2013-2017. According to the 2013-2017 ACS data, 86.2% of Tyngsborough residents worked in Massachusetts, with 84.2% of those residents working in Middlesex County. Approximately 13.8% of Tyngsborough residents commuted to jobs outside the state, principally in New Hampshire and Maine.

**Table 3.7: Place of Employment for Tyngsborough Residents in 2013-2017**

Place of Employment	Number of Workers	Percent
Massachusetts	6,053	86.2
<i>Middlesex County</i>	<i>5,097</i>	<i>84.2</i>
<i>Outside of Middlesex County</i>	<i>956</i>	<i>15.8</i>
Outside of Massachusetts	965	13.8
<b>Total</b>	<b>7,018</b>	<b>100.0</b>

Source: U.S. Census Bureau, 2013-2017 American Community Survey

In 2013-2017, 94.5% of Tyngsborough workers, aged 16 and older, commuted to work by car, either alone or, in carpools. As outlined in Table 3.8, only 1% of workers took public transit to work, 0.9% walked to work and 3.1% worked from home (this number will increase in the future due to COVID-19). For all workers, regardless of mode of transportation, approximately 24.4% had a commute time of less than 20 minutes; another 47.3% of residents had commutes between 20 and 44 minutes, and 23.3% of workers commuted for longer than 45 minutes. The mean travel time to work was 28.9 minutes.

**Table 3.8: Mode of Transportation to Work in 2013-2017**

Mode	Number	Percent
Car, truck or van – drove alone	6,168	87.9
Car, truck or van – car pooled	463	6.6
Public transportation (excluding taxicab)	71	1.0
Walked	62	0.9
Other means	34	0.5
Worked at home	220	3.1
<b>Total</b>	<b>7,018</b>	<b>100.0</b>

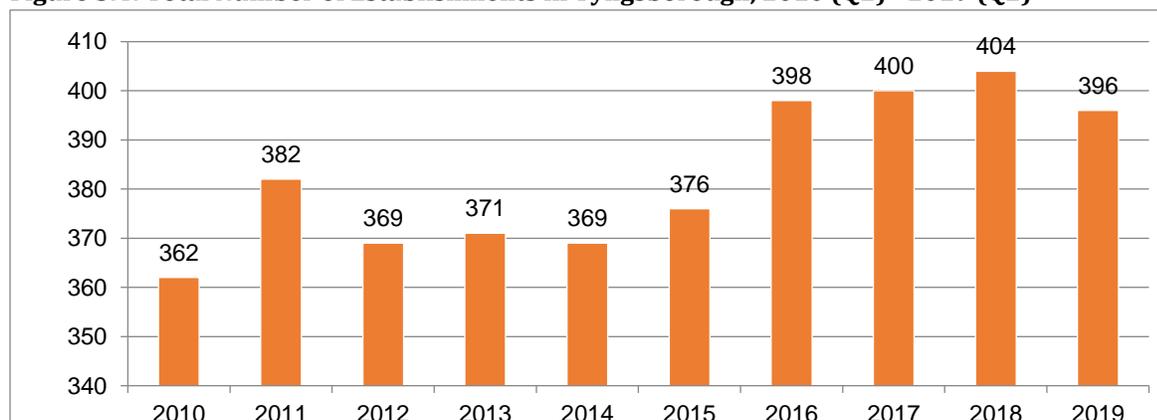
Source: U.S. Census Bureau, 2013-2017 American Community Survey

## ECONOMIC AND BUSINESS CONDITIONS IN TYNGSBOROUGH

### BUSINESS PATTERNS

The growth and decline of business establishments operating in Tyngsborough over the past ten years reflects the local economy. Figure 3.4 illustrates the changes in the total number of establishments between the second quarter of 2010 and the second quarter of 2020, which reflects the most recent data available. The number of establishments in Tyngsborough increased from 362 establishments in 2010 (Q2) to 404 establishments in 2018 (Q2) or by 11.6%, with a slight decline to 396 establishments in 2019 (Q2).

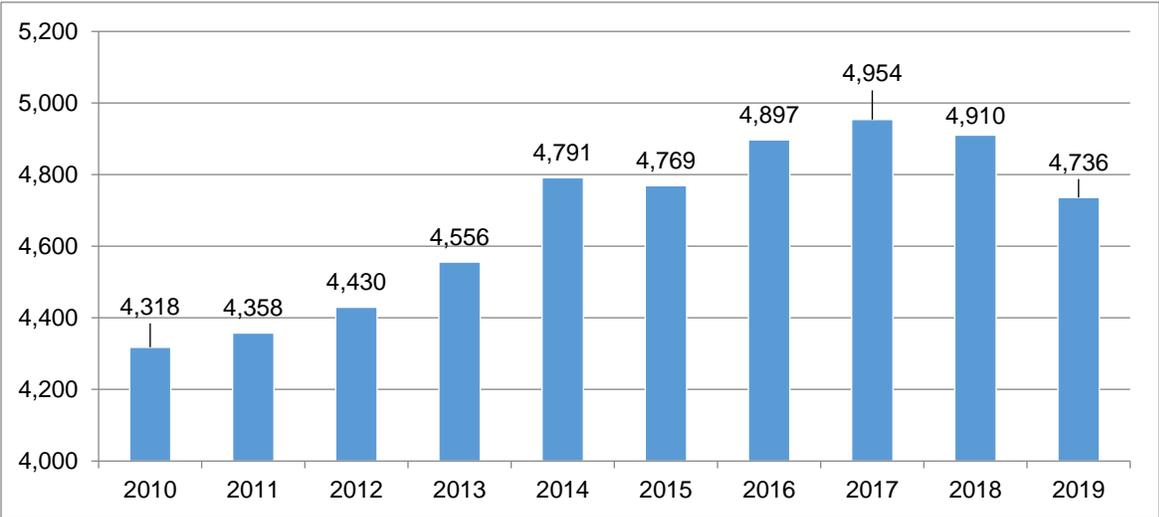
**Figure 3.4: Total Number of Establishments in Tyngsborough, 2010 (Q2) - 2019 (Q2)**



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

The average monthly employment for Tyngsborough businesses between 2010 (Q2) and 2019 (Q3), as shown in Figure 3.5, reflects the impact of the establishment growth. Average monthly employment grew steadily from 4,318 jobs in 2010 (Q2) to 4,954 jobs in 2017 (Q2), or by 14.7%. Average monthly employment decreased by 4.4% between 2017 (Q2) and 2019 (Q2). Between March 21, 2020 and May 30, 2020, 1,426 initial unemployment claims were filed by Tyngsborough residents, which represented 3.6% of the total claims (39,249) filed in the region. These claims will have an impact on the average monthly employment going forward.

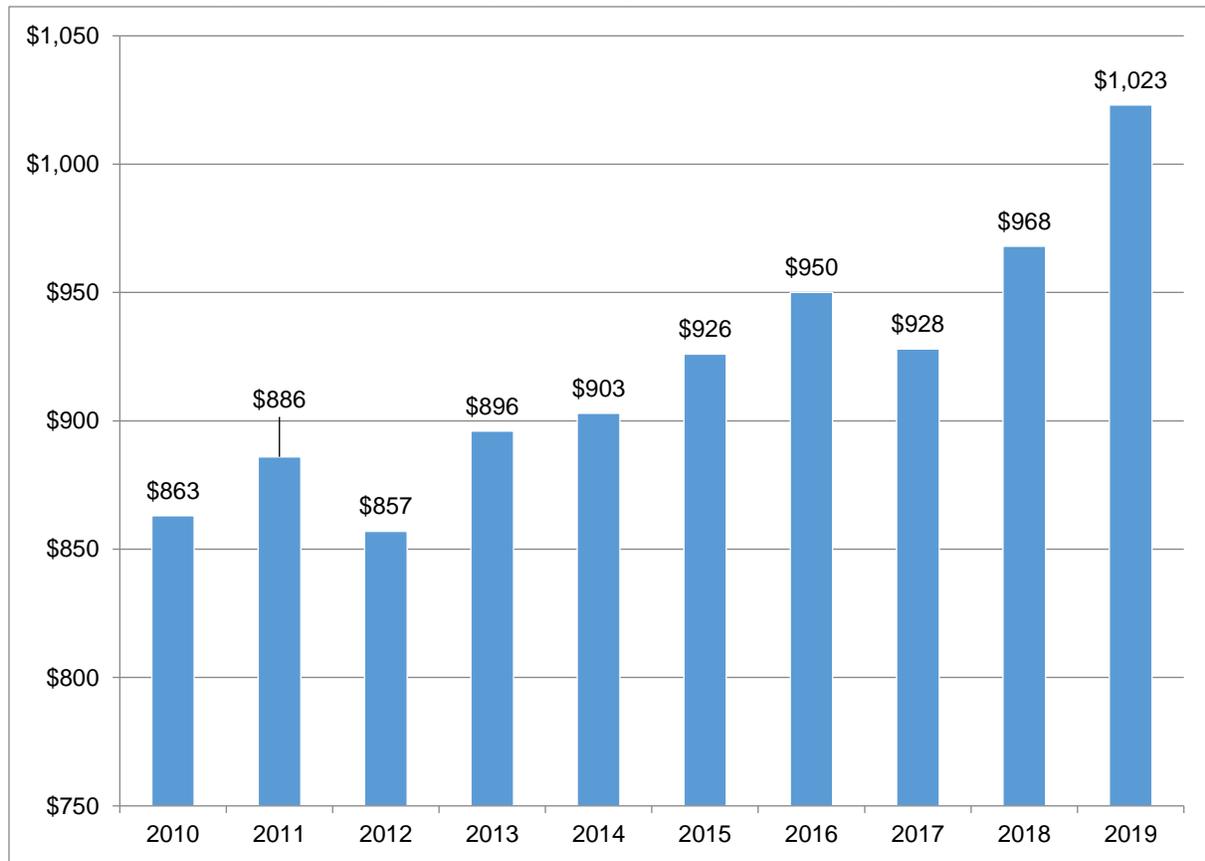
**Figure 3.5: Average Monthly Employment for Tyngsborough Establishments, 2010 (Q2)-2019 (Q2)**



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

Another indicator of the vitality of the local economy is the average weekly wages paid to workers, which provides an indication of the quality of the job. Figure 3.6 reflects the changes in average weekly wages (across all industries) paid to workers employed in Tyngsborough for the second quarter of each year between 2010 and 2019. Average weekly wages in Tyngsborough increased from \$863 in 2010 (Q2) to \$1,023 in 2019 (Q2). While average weekly wages in Tyngsborough grew by 18.5% since 2010, these average weekly wages have consistently fallen well below the state and regional average weekly wages. In the second quarter of 2010, the average weekly wage in the Greater Lowell WDA was \$1,153, while the state’s average weekly wage was \$1,060. In the second quarter of 2019, the average weekly wage in the Greater Lowell WDA was \$1,437 and the average weekly wage in the state was \$1,380. Therefore, the average weekly wages in the region increased by 24.6%, while the state’s average weekly wage increased by 30.2%. The average weekly wages have also been impacted by inflation. Based upon the rate of inflation between 2010 and 2019, one dollar (\$1.00) in 2010 had the same buying power as \$1.17 in 2019.

**Figure 3.6: Average Weekly Wages for Tyngsborough Workers, 2010 (Q2) - 2019 (Q2)**



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

## INDUSTRY COMPOSITION

The composition of industries in Tyngsborough is diverse, ranging from construction and manufacturing firms to social service agencies and restaurants. There is a similar number of manufacturing establishments as there were just five years ago. The composition of industries operating in Tyngsborough has become more diversified, as reflected in Table 3.9. While the service-providing domain establishments were three times greater than those in the goods-producing domain in 2015 (Q2), this disparity has decreased slightly to 2.9 times in 2019 (Q2). Between the second quarter of 2015 and the second quarter of 2019, the total number of establishments in Tyngsborough increased from 376 to 396 or by 5.3%. The overall growth has been split between the Goods-Producing Domain (7.4%) and the Service-Providing Domain (4.6%).

**Table 3.9: Changes in Local Industry Composition: 2015 (Q2) - 2019 (Q2)**

Industry Type	Number of Establishments		Percent Change 2015 (Q2)- 2019 (Q2)
	2015 (Q2)	2019 (Q2)	
<b>Goods-Producing Domain</b>	95	102	7.4
<b>Construction</b>	77	82	6.5
<b>Manufacturing</b>	17	18	5.9
<i>Durable Goods Manufacturing</i>	17	16	-5.9
<i>Non-Durable Goods Manufacturing</i>	0	2	NA
<b>Natural Resources &amp; Mining</b>	0	0	NA
<b>Service-Providing Domain</b>	281	294	4.6
<b>Trade, Transportation and Utilities</b>	66	59	-10.6
<i>Wholesale Trade</i>	24	25	4.2
<i>Retail Trade</i>	34	24	-29.4
<i>Transportation and Warehousing</i>	8	10	25.0
<b>Information</b>	5	8	60.0
<b>Financial Activities</b>	18	18	0.0
<i>Finance and Insurance</i>	8	9	12.5
<i>Real Estate and Rental and Leasing</i>	10	9	-10.0
<b>Professional and Business Services</b>	73	74	1.4
<i>Professional and Technical Services</i>	46	44	-4.3
<i>Administrative and Support Services</i>	23	26	13.0
<b>Education and Health Services</b>	48	63	31.2
<i>Health Care and Social Assistance</i>	36	52	44.4
<b>Leisure and Hospitality</b>	38	39	2.6
<i>Accommodation and Food Services</i>	29	30	3.4
<b>Other Services</b>	28	28	0.0
<b>Total All Industries</b>	<b>376</b>	<b>396</b>	<b>5.3</b>

Source: Executive Office of Labor and Workforce Development, ES-202 Reports for 2015 (Q2) and 2019 (Q2)

Within the Goods-Producing Domain, the number of manufacturing establishments increased from 17 firms in 2015 (Q2) to 18 firms in 2019 (Q2). Construction establishments increased by 6.5% from 77 establishments in 2015 (Q2) to 82 establishments in 2019 (Q2). The number of establishments in these two industries has likely been impacted by the layoffs caused by the COVID-19 pandemic. Between March 21, 2020 and May 30, 2020, initial employment claims were filed by Tyngsborough residents in the manufacturing industry (74) and the construction industry (147).

The most significant growth in the Service-Providing Domain was in the Information sector, which grew by 60% between 2015 (Q2) and 2019 (Q2). The Education and Health Services sector increased by 31.2% going from 48 establishments in 2015 (Q2) to 63 establishments in 2019 (Q2). Establishments within the Leisure and Hospitality and Professional and Business Services industries each increased by one firm. The Trade, Transportation and Utilities industry decreased by 10.6% or by seven establishments. Due

to layoffs of Tyngsborough residents in health care (225), restaurants/bars (164) and retail (99) between March 21, 2020 and May 30, 2020, the number of establishments in these industries have decreased.

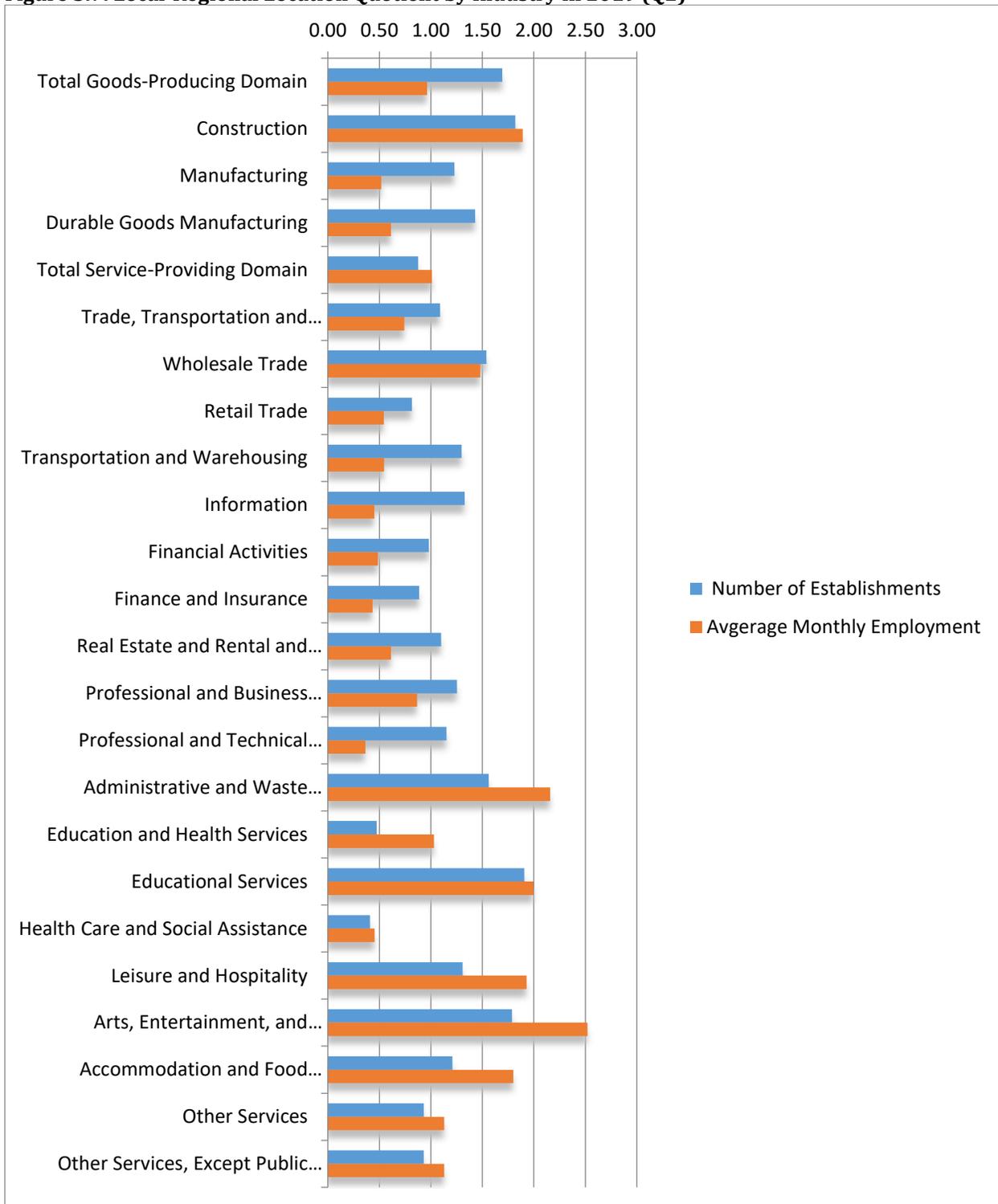
## LOCATION QUOTIENTS

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, Tyngsborough) 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 (WDA) as a basis of comparison, location quotients were developed with 2019 (Q2) data for each of the industries with a presence in Tyngsborough. Quotients were calculated for both the total number of establishments and average monthly employment among each industry sector. Figure 3.7 shows the current location quotients for each of the primary industry sectors operating in town, according to both the total number of establishments and average monthly employment.

According to the 2019 (Q2) figures, the Goods-Producing sector with the highest location quotient in terms of number of establishments and average monthly employment was Construction. With 82 construction businesses and 572 workers employed in construction, this represents 7.8% of the regional construction establishments and 6.9% of construction employment. While this sector represents a small segment of the local and regional economies, its concentration in Tyngsborough affords the town location quotients of 1.82 for total number of establishments and 1.89 for average monthly employment. The concentration of construction firms enables Tyngsborough's Goods-Producing industries to have a 1.69 LQ for the number of establishments and a .96 LQ for average monthly employment.

**Figure 3.7: Local-Regional Location Quotient by Industry in 2019 (Q2)**



Source: Executive Office of Labor and Workforce Development ES-202 Reports (2019 Q2)

Tyngsborough’s Manufacturing Industry registered an LQ of 1.23 for establishments and an LQ of only .52 for employment. Durable Goods Manufacturing had an LQ of 1.43 for

establishments and an LQ of only .61 for employment. Table 3.10 provides the location quotients for each of the goods-producing industries in Tyngsborough during 2019 (Q2).

**Table 3.10: Economic Statistics for Goods-Producing Industries in 2019 (Q2)**

Industry	Number of Establishments	Average Monthly Employment (AME)	Average Weekly Wages	Location Quotient - Number of Establishments	Location Quotient - Avg. Monthly Employment
<b>Construction</b>	<b>82</b>	<b>572</b>	<b>\$1,225</b>	<b>1.82</b>	<b>1.89</b>
Construction of buildings	20	78	\$1,050	2.08	2.56
Residential building construction	19	71	\$1,067	2.24	3.52
Heavy and civil engineering construction	3	20	\$1,060	1.83	0.66
Specialty trade contractors	59	473	\$1,263	1.74	1.96
Building foundation and exterior contractors	13	49	\$882	2.65	1.61
Building equipment contractors	25	267	\$1,187	1.64	1.97
Building finishing contractors	12	142	\$1,561	1.61	4.16
Other specialty trade contractors	9	16	\$990	1.45	0.38
<b>Manufacturing</b>	<b>18</b>	<b>343</b>	<b>\$1,222</b>	<b>1.23</b>	<b>0.52</b>
Durable Goods Manufacturing	16	330	\$1,204	1.43	0.61
Fabricated metal product manufacturing	5	103	\$1,068	1.59	2.00
Machine shops and threaded product mfg.	3	83	\$969	1.58	2.92
Machinery manufacturing	3	96	\$1,550	2.25	1.42
Computer and electronic product manufacturing	4	80	\$993	1.07	0.30
<b>Total Goods-Producing Domain</b>	<b>102</b>	<b>934</b>	<b>\$1,210</b>	<b>1.69</b>	<b>0.96</b>

*Source: Executive Office of Labor and Workforce Development ES-202 Reports (2019 Q2)*

Within the Service-Providing industries, Tyngsborough had an LQ of .88 for establishments and an LG of 1.01 for average monthly employment when compared to the Greater Lowell WDA. Yet, within the Service-Providing sector, there are industries which have LQs higher than 1.0. In particular, the Information (1.33); Leisure and Hospitality (1.31); Professional Business Services (1.25); Administrative and Waste Services (1.15); and Trade, Transportation and Utilities (1.09) have LQs greater than 1.0 in terms of establishments. In terms of average monthly employment, the industries with an LQ greater than 1.0 were the Leisure and Hospitality (1.93); Other Services (1.13); and Administrative and Waste Services (1.04) industries. Wholesale Trade had LQs greater than 1.0 for establishments (1.54) and average monthly employment (1.49). Within the Leisure and Hospitality industry, there were a number of subindustries that had LQs greater than 1.0 including Arts, Entertainment and Recreation and Accommodations and Food Services. Within the Education and Health Services industry, the Education Services subindustry had LQs of 1.91 for establishments and 2.00 for average monthly employment.

The other Service-Providing Industries registered below an LQ of 1.0 for either the number of establishments or average monthly employment. Both the Trade, Transportation and Utilities (0.74) and Information industries (0.45) had LQs less than 1.0 for average monthly employment. The Financial Activities industry had LQs less than 1.0 for establishments (0.98) and average monthly employment (0.48), although the real estate subindustry had LQs greater than 1.0 for establishments (1.32) and average monthly employment (1.01). The Professional and Business Services industry had an LQ of 0.87 for average monthly employment, while Education and Health Care Services industry had an LQ of 0.47 for the number of establishments.

**Table 3.11: Economic Statistics for Service-Providing Industries in 2018 (Q3)**

<b>Industry</b>	<b>Number of Establishments</b>	<b>Average Monthly Employment (AME)</b>	<b>Average Weekly Wages</b>	<b>Location Quotient - Number of Establishments</b>	<b>Location Quotient - Avg. Monthly Employment</b>
<b>Trade, Transportation and Utilities</b>	<b>59</b>	<b>548</b>	<b>\$969</b>	<b>1.09</b>	<b>0.74</b>
Wholesale Trade	25	242	\$1,267	1.54	1.48
Merchant wholesalers, durable goods	21	209	\$1,254	2.04	1.85
Commercial equipment merchant wholesalers	4	16	\$1,508	1.58	0.46
Machinery and supply merchant wholesalers	7	63	\$1,172	3.87	4.33
Retail Trade	24	209	\$574	0.82	0.54
Motor vehicle and parts dealers	5	80	\$711	1.35	1.80
Food and beverage stores	4	11	\$450	0.56	0.07
Gasoline stations	3	24	\$384	0.85	1.33
Clothing and clothing accessories stores	3	15	\$343	1.99	1.57
Clothing stores	3	15	\$343	2.79	1.72
Transportation and Warehousing	10	97	\$1,078	1.30	0.54
Truck transportation	6	41	\$820	1.72	0.92
Specialized freight trucking	4	29	\$731	2.58	1.69
<b>Information</b>	<b>8</b>	<b>61</b>	<b>\$790</b>	<b>1.33</b>	<b>0.45</b>
<b>Financial Activities</b>	<b>18</b>	<b>63</b>	<b>\$936</b>	<b>0.98</b>	<b>0.48</b>
Finance and Insurance	9	40	\$819	0.89	0.43
Credit intermediation and related activities	6	35	\$808	1.21	0.50
Depository credit intermediation	4	35	\$808	1.04	0.63

**Table 3.11 (cont'd): Economic Statistics for Service-Providing Industries in 2018 (Q3)**

<b>Industry</b>	<b>Number of Establishments</b>	<b>Average Monthly Employment (AME)</b>	<b>Average Weekly Wages</b>	<b>Location Quotient - Number of Establishments</b>	<b>Location Quotient - Avg. Monthly Employment</b>
Real Estate and Rental and Leasing	9	23	\$1,140	1.10	0.61
Real estate	9	23	\$1,140	1.32	1.01
Lessors of real estate	3	5	\$545	1.66	0.61
Activities related to real estate	4	14	\$1,377	1.37	1.57
<b>Professional and Business Services</b>	<b>74</b>	<b>736</b>	<b>\$1,148</b>	<b>1.25</b>	<b>0.87</b>
Professional and Technical Services	44	184	\$1,702	1.15	0.36
Legal services	4	8	\$999	0.76	0.52
Accounting and bookkeeping services	11	41	\$1,135	2.37	2.14
Architectural and engineering services	10	68	\$1,579	1.82	0.83
Computer systems design and related services	8	36	\$3,139	0.83	0.23
Management and technical consulting services	5	10	\$1,037	0.88	0.12
Scientific research and development services	3	11	\$2,090	0.98	0.09
Other professional and technical services	3	10	\$490	1.01	0.52
Administrative and Waste Services	16	77	\$730	1.15	1.04
Administrative and support services	16	77	\$730	1.29	1.14
Employment services					
Services to buildings and dwellings	12	68	\$748	1.41	2.53
Waste management/ remediation services					
<b>Education and Health Services</b>	<b>63</b>	<b>1229</b>	<b>\$1,309</b>	<b>0.47</b>	<b>1.03</b>
Educational services	11	889	\$1,596	1.91	2.00
Elementary and secondary schools	3	839	\$1,673	3.03	2.68
Other schools and instruction	5	40	\$304	1.64	1.98
Health Care and Social Assistance	52	340	\$560	0.41	0.45
Ambulatory health care services	13	205	\$557	0.83	0.80
Offices of dentists	6	31	\$1,168	1.18	0.82
Offices of other health practitioners	4	7	\$933	1.09	0.26

**Table 3.11 (cont'd): Economic Statistics for Service-Providing Industries in 2018 (Q3)**

Industry	Number of Establishments	Average Monthly Employment (AME)	Average Weekly Wages	Location Quotient - Number of Establishments	Location Quotient - Avg. Monthly Employment
Social assistance	38	114	\$498	0.36	0.56
Individual and family services	35	64	\$485	0.34	0.45
Child day care services	3	50	\$515	0.87	1.02
<b>Leisure and Hospitality</b>	<b>39</b>	<b>851</b>	<b>\$431</b>	<b>1.31</b>	<b>1.93</b>
Arts, Entertainment and Recreation	9	199	\$460	1.79	2.52
Amusements, gambling, and recreation	9	199	\$460	2.38	2.97
Other amusement and recreation industries	9	199	\$460	2.43	2.99
Accommodation and Food Services	30	652	\$423	1.21	1.80
Food services and drinking places	27	625	\$418	1.13	1.84
Special food services	3	41	\$441	1.18	1.42
Restaurants and other eating places	23	580	\$418	1.12	1.90
<b>Other Services</b>	<b>28</b>	<b>158</b>	<b>\$615</b>	<b>0.93</b>	<b>1.13</b>
Other Services, Except Public Administration	28	158	\$615	0.93	1.13
Repair and maintenance	12	55	\$1,002	1.13	0.99
Automotive repair and maintenance	9	39	\$759	1.11	1.17
Personal and laundry services	12	75	\$523	0.99	1.42
Personal care services	8	53	\$489	0.96	1.68
<b>Total Service-Providing Domain</b>	<b>294</b>	<b>3802</b>	<b>\$977</b>	<b>0.88</b>	<b>1.01</b>

Source: Executive Office of Labor and Workforce Development ES-202 Reports (2019 Q2)

## WAGES

Table 3.12 reflects the total wages and average weekly wages earned for all industries in Tyngsborough during 2015 (Q2) and 2019 (Q2). In sum, the total wages paid by Tyngsborough employers across all industries increased by \$5,574,768 (9.7%) from \$57,388,133 in 2015 (Q2) to \$62,962,921 in 2019 (Q2). Similarly, the average weekly wage increased by 10.5% from \$926 in 2015 (Q2) to \$1,023 in 2019 (Q2).

Both the Goods-Producing domain and the Service-Providing domain saw increases in their aggregate annual and average weekly wages between 2015 (Q2) and 2019 (Q2). The Goods-Producing domain saw their total wages increase by 29.2%, while the total wages

for the Service-Providing domain increased by 4.9%. Similarly, the average weekly wages for the Goods-Producing domain increased by 14.4%, while those for the Service-Providing domain increased by 8.8%.

**Table 3.12: Total Wages and Average Weekly Wages by Industry: 2015 (Q2) and 2019 (Q2)**

Industry	Total Wages (Q2)		Percent Change 2015-19	Average Weekly Wages (Q2)		Percent Change 2015 (Q2)-2019 (Q2)
	2015	2019		2015	2019	
<b>Goods-Producing Domain</b>	<b>\$11,371,657</b>	<b>\$14,694,880</b>	<b>29.2</b>	<b>\$1,058</b>	<b>\$1,210</b>	<b>14.4</b>
<b>Construction</b>	\$6,648,178	\$9,109,168	37.0	\$997	\$1,225	22.9
<b>Manufacturing</b>	\$4,668,787	\$5,446,671	16.7	\$1,213	\$1,222	0.7
DUR- Durable Goods Manufacturing	\$4,668,787	\$5,163,555	10.6	\$1,213	\$1,204	-0.7
<b>Service-Providing Domain</b>	<b>\$46,016,496</b>	<b>\$48,268,041</b>	<b>4.9</b>	<b>\$898</b>	<b>\$977</b>	<b>8.8</b>
<b>Trade, Transportation and Utilities</b>	\$8,768,297	\$6,906,252	-21.2	\$1,155	\$969	-16.1
Wholesale Trade	\$6,523,847	\$3,986,429	-38.9	\$1,701	\$1,267	-25.5
Retail Trade	\$1,155,799	\$1,560,373	35.0	\$445	\$574	29.0
Transportation and Warehousing	\$1,088,650	\$1,359,450	24.9	\$952	\$1,078	13.2
<b>Information</b>	\$398,256	\$626,083	57.5	\$479	\$790	64.9
<b>Financial Activities</b>	\$863,493	\$766,857	-11.2	\$772	\$936	21.2
Finance and Insurance	\$518,966	\$425,969	-17.9	\$688	\$819	19.0
Real Estate and Rental and Leasing	\$344,527	\$340,888	-1.1	\$947	\$1,140	20.4
<b>Professional and Business Services</b>	\$11,489,081	\$10,988,574	-4.4	\$900	\$1,148	27.6
Professional and Technical Services	\$4,018,379	\$4,070,805	-1.3	\$1,515	\$1,702	12.3
Administrative and Support Services	\$3,913,662	\$3,720,779	-4.9	\$515	\$767	48.9
<b>Education and Health Services</b>	\$18,103,446	\$20,919,687	15.6	\$1,259	\$1,309	4.0
Health Care and Social Assistance	\$848,695	\$2,474,558	191.6	\$568	\$560	-1.4
<b>Leisure and Hospitality</b>	\$4,175,968	\$4,771,316	14.3	\$379	\$431	13.7
Accommodation and Food Services	\$3,240,347	\$3,582,120	10.5	\$363	\$423	16.5
<b>Other Services</b>	\$812,275	\$1,262,687	55.5	\$434	\$615	41.7
<b>Total, All Industries</b>	<b>\$57,388,153</b>	<b>\$62,962,921</b>	<b>9.7</b>	<b>\$926</b>	<b>\$1,023</b>	<b>10.5</b>

Source: Executive Office of Labor and Workforce Development ES-202 Reports (2014 Q3 and 2018 Q3)

Although the Goods-Producing domain in Tyngsborough has declined over the last twenty years, the construction and manufacturing industries continued to maintain the highest wages for their workers. The total wages in the construction industry increased by 37% between 2015 (Q2) and 2019 (Q2), while the manufacturing industry experienced a 16.7% increase in total wages for the same time period. Average weekly wages also increased in the construction (22.9%) and manufacturing (0.7%) industries between 2015(Q2) and 2019 (Q2). In 2019 (Q2), the average weekly wage in the construction industry was \$1,225, while the average weekly wages for the manufacturing industry was \$1,222.

Within the Service-Providing domain, the Education Health Services, Professional and Business Services and Trade, Transportation and Utilities industries had the highest total wages at \$20.9 million, \$10.9 million and \$6.9 million respectively in 2019 (Q2). Total wages in the Information (57.5%), Other Services (55.5%), Education and Health Services (15.6%), and Leisure and Hospitality (31.2%) industries increased between 2015 (Q2) and 2019 (Q2). The highest average weekly wages in the Service-Providing domain were in the Education and Health Services (\$1,309), Professional and Business Services (\$1,148), Trade, Transportation and Utilities (\$969), and Financial Activities (\$936) industries in 2019 (Q2).

**MUNICIPAL TAXATION AND SPENDING**

Tyngsborough has a single-rate, uniform tax policy similar to Dracut, Dunstable, Pepperell and Westford, which many companies consider an advantage to locating in town. In Fiscal Year 2020, Tyngsborough had the fifth lowest commercial and industrial property tax rate in the region (\$16.25). The low tax rate would appear to make the town an attractive location for businesses and industries looking to locate in the Greater Lowell area. The tax rates for the communities in the Greater Lowell region are compared in Table 3.13.

**Table 3.13: Fiscal Year 2020 Tax Rates by Class for Tyngsborough and Greater Lowell**

Community	Residential	Open Space	Commercial	Industrial	Personal Property
Billerica	\$12.99	\$0.00	\$30.03	\$30.03	\$30.03
Chelmsford	\$16.45	\$0.00	\$21.18	\$21.18	\$21.04
Dracut	\$13.35	\$0.00	\$13.35	\$13.35	\$13.35
Dunstable	\$16.84	\$0.00	\$16.84	\$16.84	\$16.84
Lowell	\$13.36	\$0.00	\$26.77	\$26.77	\$26.77
Pepperell	\$16.98	\$0.00	\$16.98	\$16.98	\$16.98
Tewksbury	\$15.97	\$0.00	\$28.00	\$28.00	\$28.00
<b>Tyngsborough</b>	<b>\$16.25</b>	<b>\$0.00</b>	<b>\$16.25</b>	<b>\$16.25</b>	<b>\$16.25</b>
Westford	\$16.33	\$0.00	\$16.33	\$16.33	\$16.33

*Rate per \$1,000 valuation. Source: Mass. Department of Revenue, Division of Local Services, 2020*

According to the Massachusetts Department of Revenue’s Division of Local Services, \$28,895,175 in property taxes was levied during Fiscal Year 2020. Approximately 87.6% of these taxes were generated through residential properties, which had a total assessed value of more than \$1.5 billion. Commercial properties yielded \$1,967,118 in taxes, while industrial properties were levied at \$955,507, as illustrated in Table 3.14. In FY 2020, the Town generated an additional \$671,550 in revenue from personal property taxes.

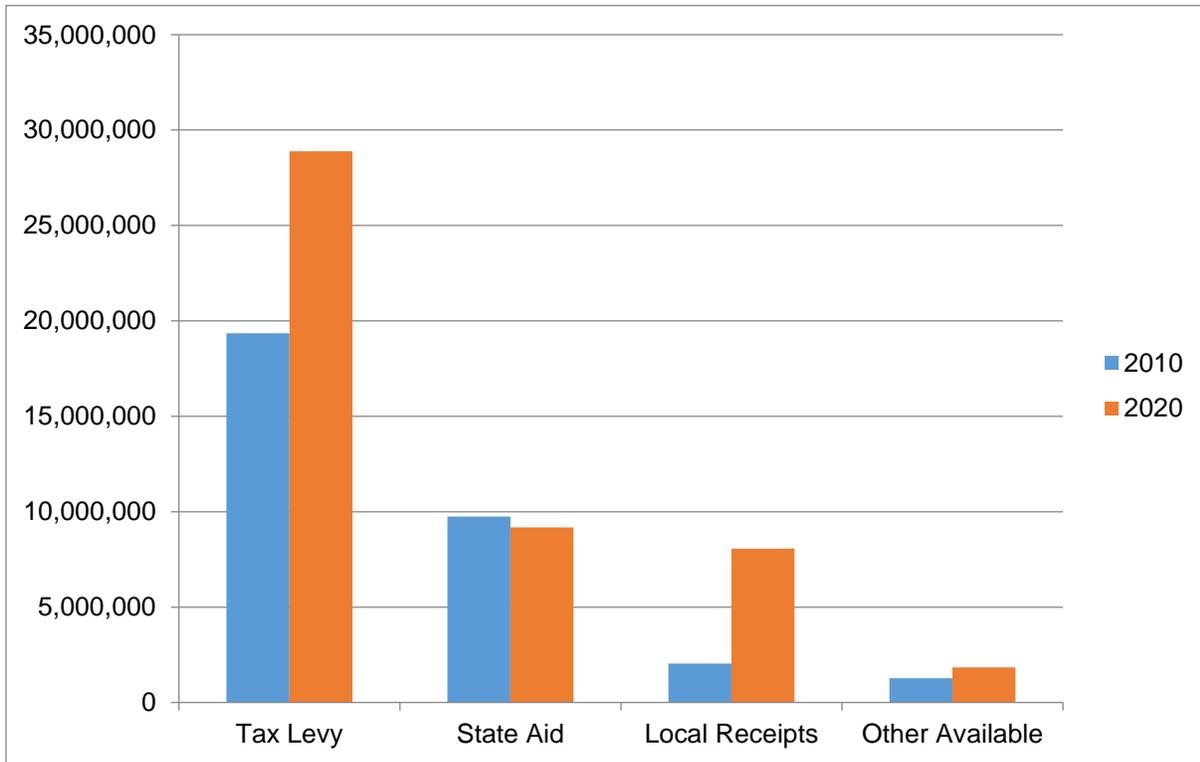
**Table 3.14: Fiscal Year 2020 Tax Classification**

Tax Classification	Assessed Values	Tax Levy	Tax Rate
Residential	\$1,556,984,594	\$25,301,000	\$16.25
Commercial	\$121,053,428	\$1,967,118	\$16.25
Industrial	\$58,800,400	\$955,507	\$16.25
Personal Property	\$41,326,178	\$671,550	\$16.25
<b>Total</b>	<b>\$1,778,164,600</b>	<b>\$28,895,175</b>	

Source: MA Department of Revenue Division of Local Services at a Glance Report, April 2020

Like every municipality in the Commonwealth that depends on state and federal funds to support local initiatives, Tyngsborough’s annual operating budget has been quite tight. Figure 3.8 below illustrates the breakdown of municipal revenue sources for Fiscal Years 2010 and 2020. In FY 2010, nearly 60% of the Town’s budget (59.7%) came from levied taxes, while 30% of the budget came from state sources.. Another 6.3% of the Town’s budget came from local receipts, while 3.9% of the budget came from “other” sources. By FY 2020, those revenue breakouts were as follows: levied taxes (60.3%), state sources (19.1%), local receipts (16.8%) and “other” sources (3.8%). The COVID-19 pandemic has placed additional strain on state and local resources for current and future budgets in supporting the level of services residents have come to expect.

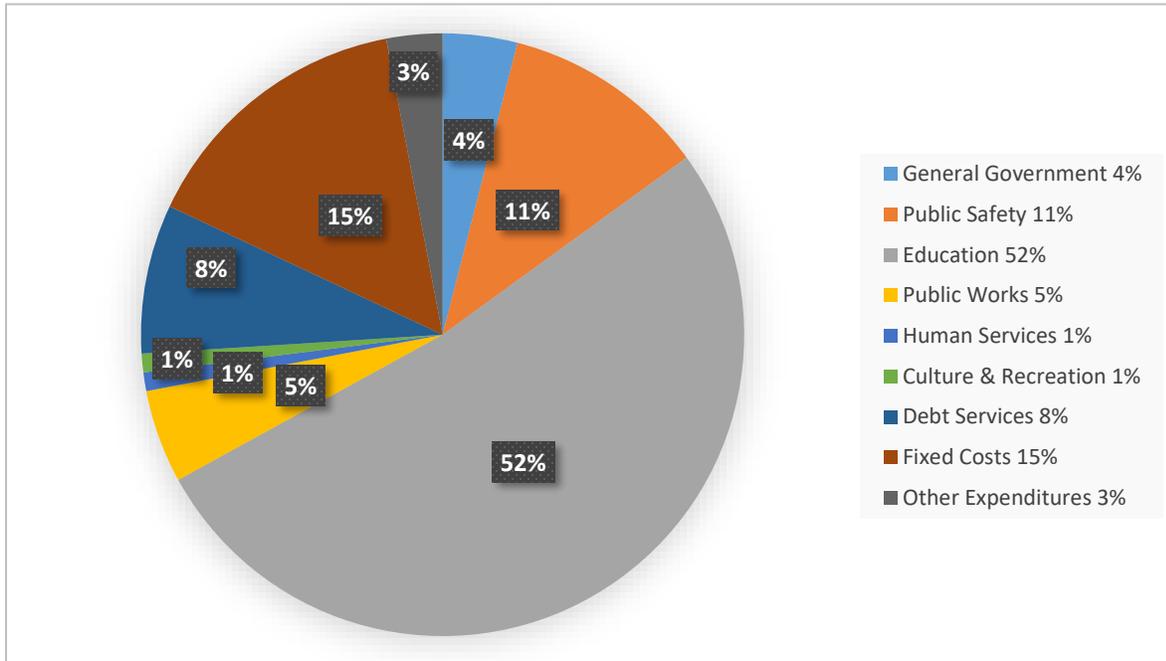
**Figure 3.8: Municipal Revenue Sources, Comparing FY 2010 & 2020**



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

Figure 3.9 shows municipal spending in Tyngsborough for FY 2020. Education comprised 52% of total expenditures, while public safety and public works projects comprised approximately 16% of the entire budget.

**Figure 3.9: Municipal Expenditures FY 2020**



*Source: Mass Dept. of Revenue, Division of Local Services*

## 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 Town of Tyngsborough has received previous input through the *2004 Tyngsborough Master Plan* and the *2015 Economic Development Self-Assessment Tool (EDSAT) Report* completed by the Dukakis Center of Northeastern University. Each of these documents provides the framework for identifying Tyngsborough's assets and liabilities. The input received through the Master Plan update process will build upon these initial assets and liabilities and help develop the overall Goals and Strategies for the Economic Development Chapter of the updated Master Plan.

## 2004 TYNGSBOROUGH MASTER PLAN

The *2004 Tyngsborough Master Plan* established the previous economic development goals for the community. The Vision Statement states that “in twenty years the Town of Tyngsborough will be a destination community that attracts visitors to the community to tour its Village Center with its historic and cultural places and sites, utilizes its recreational facilities and nature trails along the Merrimack River, Mascuppic Lake and Flint Pond and shops at its enhanced commercial center in the Village Center and along Middlesex Road”. The Vision Statement included three economic development components as follows:

- An enhanced village setting for its Town Center and commercial nodes throughout the Town that ties together the history of the community with the specialty shops of the region;
- High technology industrial parks that provide jobs for local residents and help diversify the tax base; and
- Enhanced usage of Middlesex Road as a gateway to the community that strengthens its commercial sector, while maintaining its scenic appeal and connection to the Merrimack River.

The goals and objectives for the Master Plan were established through an extensive participatory process. The process began in 2002 with a series of visioning meetings hosted by the Northern Middlesex Council of Governments (NMCOG). Outlined below are the economic development goals and objectives:

### **Economic Development Goal**

- Expand the economic base in order to provide additional employment opportunities, and to broaden the property tax base.
- Provide for the sale of goods and services currently lacking.
- Make Tyngsborough more of a destination locations instead of a “pass-through town”.
- Specifically look at Middlesex Road for prudent build out opportunities.

### **Economic Development Objectives**

***Expand the economic base in order to provide additional employment opportunities, goods and services currently lacking and to make Tyngsborough a destination location instead of a pass through Town.***

- Increase cultural and artistic venues to attract visitors.
- Develop a marketing plan identifying natural and cultural resources and their connections so that visitors are given the sense of multiple reasons to come to Tyngsborough.

- Develop a plan to identify and encourage the type of businesses that would make the Town a destination location.
- Make better use of existing resources including open space, the old Town Hall and other resources as a way of attracting visitors.
- Identify and develop necessary infrastructure to support business growth.
- Consider developing commercial clusters in neighborhood locations.
- Expand, improve and promote historic district as a way to attract more businesses and shops as well as visitors.
- Develop business-friendly policies.
- Attract anchors and long-term establishments.
- Review potential economic development role of Middlesex Road area.

The *2004 Tyngsborough Master Plan* outlines the following economic development recommendations:

- Locate an I-2 zone northwest of the intersection of Route 3 and Kendall Road, along Cummings Road and Progress Avenue.
- Attract manufacturing and research and development activities with high-tech machinery and equipment.
- Attract a supermarket of appropriate size (less than 50,000 sq. ft.) and with an appropriate mix of food products to provide more entry level and part-time job opportunities.
- Minimize the appearance of strip commercial development. Create shopping villages for retail and service activities. Allow mixed commercial/residential areas in the villages to build local markets, require less travel, and provide for activities in evening hours.
- Extend controlled commercial corridors along Kendall and Westford Roads outward from the Town Center.
- Pass a “Corridor Protection Overlay District” along those roads and Middlesex Road to minimize the appearance and adverse impacts of strip commercial development.
- Re-establish the Tyngsborough Economic Development Commission, a group dedicated to seeking out and attracting appropriate businesses for the Town. Various economic and industrial development groups have been active in the past. Such a group should be reconstituted from past efforts and empowered to proceed with promoting economic development in the future, including both business attraction and retention.
- The following types of businesses should recruited and/or retained in Tyngsborough:
  - Software Development;

- Light manufacturing and research and development, especially in the high-tech and bio-tech industries;
- Office parks with space for small and medium sized services businesses;
- Small scale retail and service businesses that fit into small scale mixed use villages in the town Center and on Middlesex Road;
- A moderate size supermarket and related store (e.g. a pharmacy); and
- More restaurants to fill out the restaurant row on North Middlesex Road.

## EDSAT STUDY

On November 18, 2014 the Town Administrator and NMCOG Assistant Director met with Professor Barry Bluestone and his staff from the Dukakis Center of Northeastern University to hear about the Economic Development Self-Assessment Tool (EDSAT) project. As a result of this discussion, the Town of Tyngsborough established a contract with Northeastern University, through the use of District Local Technical Assistance (DLTA) funds administered by NMCOG, to participate in the EDSAT project. The Dukakis Center identified two crucial factors in economic development: “(1) the municipality’s capability in responding to ever changing market forces and (2) the ability of local government to work with regional agencies, business leaders and academic institutions to work collaboratively to solve municipal weaknesses and market the town’s strengths”.

EDSAT attempts to identify the “deal-breakers” and “deal-makers”, through a collaboration of public and private officials and responding to a 200-question plus questionnaire that either impede or encourage private investment in a community. This questionnaire was developed through input from the National Association of Industrial and Office Properties (NAIOP) and CoreNet Global, which represent site and location experts familiar with what private companies search for in a community. EDSAT includes sections on Access to Customers/Markets, Concentration of Businesses and Services (Agglomeration), Cost of Land (Implicit/Explicit), Labor, Municipal Process, Quality of Life (Community), Quality of Life (Site Amenities), Business Incentives, Tax Rates and Access to Information.

The Town of Tyngsborough hosted two meetings at the Old Town Hall on October 15, 2015 and November 30, 2015 to hear EDSAT presentations from Professor Barry Bluestone. The initial session focused on responses to the questionnaire submitted by Tyngsborough staff to Northeastern and represented an attempt to build consensus among the private, public and non-profit sectors on the appropriate responses to the questionnaire. These revised responses were submitted into the Self-Assessment Tool and provide the basis upon which the EDSAT report was developed. The results for Tyngsborough are then compared with the Comparison Group Municipalities (CGM) results. Professor Barry Bluestone provided the report results at the second session and responded to questions raised by the

attendees. Both the final report and the presentation are available at the Town Administrator's Office.

Based upon the EDSAT report, the Town of Tyngsborough had several strengths and potential "deal-makers" that the Town should build upon and promote to prospective businesses and developers.

Among the *Very Important* Location Factors were the following:

- **Highway Access:** Available retail and office space sites are located within close proximity to the Route 3 Corridor, and the town does not impose weight restrictions on nearby streets and access roads.
- **Parking:** Tyngsborough offers as many parking advantages as the CGM, with most available sites for office, retail and manufacturing uses featuring on-site parking.
- **Traffic:** The average automobile speed during the weekday rush hour commute is higher than the CGM and the town wisely requires a traffic impact analysis for development projects.
- **Infrastructure:** Tyngsborough's current infrastructure capacities (water, gas and electricity) are sufficient for current demand and future growth. However, the lack of sufficient wastewater treatment capabilities is a cause for concern, especially given its importance for controlling water quality and protecting access to natural and cultural resources such as the Merrimack River.
- **Website:** The jurisdiction's website provides information important to businesses, including links to development resources, such as regional planning agencies and demographic data, and traffic planner that is appropriate for a town its size.

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

- **Land:** Tyngsborough currently has a large proportion of vacant developable land that is zoned for commercial and industrial uses.
- **Citizen Participation:** Location specialists consider it a positive attribute that organized neighborhoods slow permitting very little in Tyngsborough and the town's elected officials actively work to expedite development through dialogue with community groups. The fact that no development proposal has been stopped by abutters or neighborhood opposition in the past 5 years is a testament to those efforts.
- **Local Schools:** While Tyngsborough's public schools appear to be slightly lagging on the basis of the level of investment in per student spending, the town's large proportion of high school graduates and low dropout rates should alleviated most concerns.

- **Fast Track Permits:** Tyngsborough has recently adopted Chapter 43D and will receive a boost to expedited permitting for the promotion of economic and housing development on Tyngsborough Road.
- **Local Tax Rates:** Your town outperforms the CGM by maintaining a uniform tax on residential, industrial and commercial properties, which is preferred by location specialists. In addition, it varies its sources of public revenue by collecting hotel and meals tax.

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

- **Proximity to Universities & Research:** Tyngsborough could draw on its nearby network of educational institutions, including the Greater Lowell Technical High School as a means for economic development.

Despite many advantages, Tyngsborough has a number of weaknesses, or “deal-breakers”, that pose a challenge to successful development. These weaknesses are listed in order of priority that should be addressed to improve Tyngsborough’s attractiveness to private investors.

The identified Weaknesses among *Very Important* Location Factors are as follows:

- **Timeliness of Approvals:** The time required from application to completion of the review process for new site plans and zoning variances takes considerably longer than the CGM, while the appeals process for both existing and new structures is noticeably quicker.

The EDSAT report then listed those Weaknesses among *Important* Location Factors as follows:

- **Complementary Business Services:** The town does not currently have an active economic development committee or a nonprofit center focused on advancing economic development objectives.
- **Critical Mass Firms:** Tyngsborough has a relatively weak industrial attraction policy that could serve to unify and direct its various economic development services and initiatives.
- **Cross Marketing:** The jurisdiction does not engage local and regional businesses or regional planning and development organizations to partake in marketing the town.
- **Physical Attractiveness:** Relative to the CGM, Tyngsborough lags in code enforcement --- including the enforcement of codes and regulations on abandoned properties, abandoned vehicles, and trash disposal. A large percentage of the town’s

housing stock is considered dilapidated and, many boarded up or closed down commercial and industrial buildings are in need of renovation.

- **Tax Delinquency:** Relative to the CGM, the town takes a whopping 16 or more years to auction title properties, compared to 1-5 years. One of the main factors behind this hindrance is the lack of an organized or defined process for conducting such auctions.
- **Site Amenities:** The majority of existing development sites are not within a mile of amenities important to local specialists, including fast food restaurants, retail shops, and day-care services.
- **Public Transit:** Tyngsborough does a relatively poorly in this category, with a low number of available sites for retail trade, manufacturing, and general office space situated within close proximity to public bus or rail rapid transit.
- **Local Business Incentives:** Despite granting powers of negotiating the tax abatement to the executive, the jurisdiction does not actively pursue federal or state programs designed to assist in attracting and retaining businesses, nor does it use TIFs or similar programs that provide tax breaks to businesses.
- **State Business Incentives:** Tyngsborough does very little to take advantage of state business incentives.
- **Sites Available:** Tyngsborough does not maintain an active relationship with commercial real estate brokers, developers, and agents with sites in the jurisdiction.
- **Quality of Available Space:** The town has no experience with the redevelopment of contaminated or brownfield sites. In addition, a large percentage of available sites are either vacant or underutilized shopping centers.
- **Housing:** Although home ownership rates are high in Tyngsborough, only a small proportion of workers of firms with major offices live in the community. In addition, the high median sale and rental price for single-family homes and two-bedroom apartments points to flaws in the housing market.

Those Weaknesses among *Less Important* Location Factors were summarized as follows:

- **Airports:** Both the closest regional and international airport are farther from the town than the CGM average and travel time is much longer, not even counting bottlenecks.
- **Permitting Ombudsman:** The town doesn't have a development team in charge of reviewing major developments. It also has a limited number of local officials tasked with ensuring the efficiency of local permitting processes.
- **Rail:** The town does not currently provide either freight rail services and intercity passenger rail.

Within his PowerPoint presentation, Professor Bluestone highlighted the factors that 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 Tyngsborough's strengths, the two areas that were most prominent were Parking and Low Traffic Congestion. When reviewing Tyngsborough's weaknesses, the four areas that needed the most attention were Economic Development Marketing, Timeliness of Approvals, Public Transit and Cross Marketing.

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

- **Approval Process:** Tyngsborough's process for approving site plan reviews and zoning variances is slow for new projects. Your jurisdiction could gain an advantage if it helped reduce the "time to market" by expediting the review and permitting approvals process.
- **Economic Development Marketing:** Your town should consider establishing a volunteer economic development organization to craft an updated economic development strategy. In addition, it should seek to engage local businesses to assist in marketing the community to specific targeted industries.
- **Tyngsborough has many good things going for it:**
  - Relatively lower traffic congestion and an abundance of parking.
  - A large proportion of vacant developable land that is zoned for commercial and industrial uses.
- **But you could be better positioned to attract business investment and jobs by:**
  - Developing an organized and defined process for conducting the auctions of tax delinquent properties and ensuring their success.
  - Actively pursuing federal/state programs designed to assist in attracting and retaining businesses through the Northern Middlesex Council of Governments (NMCOG).

## COMMERCIAL AND INDUSTRIAL ACTIVITY

This section examines commercial and industrial zoning and permitting trends in order to gauge the level of economic development activity occurring in Tyngsborough. A description of the Access and Infrastructure issues follows the initial material. A brief summary of the economic development incentives that are available will follow.

## LAND USE

While there has been considerable increase in commercial development since 1971, with nearly 200 acres added, the growth in industrial development has been 50% of the commercial growth at 100 acres. Collectively, commercial and industrial uses represent less than seven percent (7%) of the Town's acreage.

According to the Assessor's parcel data, commercial land uses account for 2.9% of the total land in Tyngsborough. There are eighty-three (83) separate parcels classified as commercial use, comprising a total of 287.8 acres. The majority of commercial uses are located on or close to Middlesex Road, Westford Road and Route 3A.

Industrial uses account for 144.6 acres, or 1.45% of the Town. Industrial parcels are principally located in the vicinity of the Route 3/Route 113 interchange, the Route 3/Westford interchange and along Cummings Road. Industrial land uses include manufacturing, warehousing and office space associated with manufacturing operations.

## ZONING

As discussed in the Land Use and Zoning Chapter of this Master Plan, Tyngsborough has four (4) business zoning districts: Business 1 Neighborhood (B-1), Business 2 Office/Professional (B-2), Business 3 General Shopping (B-3), and Business 4 Adult Zone (B-4) and one (1) industrial zoning district, Industrial 1 Light (I-1). In addition, the Mixed Use Overlay District (MUVOD) is intended to encourage a mix of commercial, residential and recreational uses and to promote a compact, village style development that is pedestrian oriented, minimizes impacts on public services, creates a thriving small business environment, attracts new investment and economic development, and creates diverse housing opportunities. There are two separate MUVOD districts comprising 43 acres of land located off Westford Road.

## 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. As shown in Table 3.15, 489 commercial permits valued at \$126,043,826 and 15 industrial permits valued at \$4,211,776 were issued between 2009 and 2019. The commercial building permit activity has been fairly consistent ranging from 29 permits in 2009 to 64 permits in 2017. Conversely, the industrial permits have never exceeded four permits per year and four of the years had no permits at all.

**Table 3.15: Commercial and Industrial Permits Issued, 2009 - 2019**

Year	Commercial		Industrial	
	Permits	Valuation	Permits	Valuation
2009	29	\$1,102,085	2	\$785,200
2010	31	\$1,966,110	1	\$2,300,000
2011	45	\$2,305,556	4	\$56,500
2012	44	\$1,111,953	3	\$140,000
2013	39	\$3,945,859	0	\$0
2014	44	\$57,933,065	1	\$183,137
2015	46	\$10,428,858	0	\$0
2016	53	\$11,356,202	0	\$0
2017	64	\$19,218,400	2	\$371,938
2018	45	\$8,219,062	0	\$0
2019	49	\$8,456,676	2	\$375,000
<b>Total</b>	<b>489</b>	<b>\$126,043,826</b>	<b>15</b>	<b>\$4,211,776</b>

*Source: Town of Tyngsborough, Building Department*

## ACCESS AND INFRASTRUCTURE ANALYSIS

This section would typically examine the existing sewer, water supply, utilities and transportation infrastructure in town. Physical infrastructure is a critical component of an area's development capacity and long-term attractiveness to businesses. By identifying the "gaps" in the current infrastructure system, a community can establish priorities to expand the infrastructure system to be more responsive to the needs of the public and private industry. The existing sewer and water supply infrastructure will be examined in the Housing section, while the transportation infrastructure will be discussed in the Transportation chapter. Within this section, we will examine the existing utilities and telecommunications infrastructure.

### UTILITIES AND TELECOMMUNICATIONS

Tyngsborough is well served in terms of utilities and telecommunications. National Grid provides gas and electricity, while Comcast provides cable and cable internet services to residents and business owners in town. The National Grid rates are broken down into supply and delivery service according to the amount of electricity used. National Grid uses delivery fees to address operating costs, which offset the cost of maintaining and building infrastructure that transports the electricity to customers. Tables 3.16 through Table 3.18 shows the rates established by National Grid for small (G-1), medium (G-2) and large (G-3) businesses. In this case, business size is determined by average kilowatt (kWh) used per month.

Table 3.16 shows National Grid’s rates and service delivery charges for small businesses. National Grid defines small businesses as customers with a usage of less than 10,000-kilowatt hours (kWh) per month or a maximum demand of less than 200 kWh. Delivery service under this rate is available for all purposes.

**Table 3.16: National Grid Rates for General Delivery Service (G-1)**

Type of Charge	Rate
Customer Charge	\$10.00/month
<b>Distribution Charge</b>	
Unmetered Charge	\$7.50 per month
Distribution Charge	5.077¢/kWh
Transmission Charge	2.516¢/kWh
Transition Charge	0.061¢/kWh
Energy Efficiency Charge	0.640¢/kWh
Renewable Energy Charge	0.050¢/kWh

*Source: National Grid, Summary of Rates, Massachusetts 2018.*

Table 3.17 illustrates the rates for businesses that use more than 10,000 kWh per month and no more than a maximum demand of 200 kWh. It is available for all purposes and contains a variety of special clauses and conditions.

**Table 3.17: National Grid Rates and Service Delivery (G-2)**

Type of Charge	Rate
Customer Charge	\$25.00/month
Distribution Demand Charge	\$8.50/kW
Distribution Energy Charge	1.067¢/kWh
Transmission Charge	2.333¢/kWh
Transition Charge	0.061¢/kWh
Energy Efficiency Charge	0.640¢/kWh
Renewable Energy Charge	0.050¢/kWh

*Source: National Grid Summary of Rates, Massachusetts 2018*

The G-3 rates shown in Table 3.18 are designed for large business customers. It is mandatory for any customer who has a monthly demand of 200 kWh or greater for three consecutive months. This rate contains a variety of special clauses and conditions, including different rates for “Peak” and “Off-Peak” hours.

**Table 3.18: National Grid Rates and Services (G-3)**

Type of Charge	Rate
Customer Charge	\$223.00/month
Distribution Demand Charge	\$5.76/kW
Energy ON-Peak	1.464¢/kWh
Energy Off-Peak	0.864¢/kWh
Transmission Charge	2.311¢/kWh
Transition Energy Charge	0.057¢/kWh
Energy Efficiency Charge	0.640¢/kWh
Renewable Energy Charge	0.050¢/kWh

*Source: National Grid Summary of Rates, Massachusetts 2018*

## DEVELOPMENT INCENTIVES, TAX INCENTIVES AND EXPEDITED PERMITTING

The Town of Tyngsborough participates in the Commonwealth’s *Economic Development Incentive Program* (EDIP), which is a three-way partnership between the Commonwealth of Massachusetts, a municipality located within an Economic Target Area (ETA), 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.

The process for this incentive program is as follows: first, a company and the respective municipality agree to a tax exemption schedule on future real property taxes reputed to the added value. The company then obtains state approval for a 5% investment tax credit. This credit takes the form of a state income tax reduction. Thirdly, the company commits to a job growth and private investment schedule.

These incentive programs typically continue for five to twenty years. The EDIP program offers several advantages to growing companies, including reducing the financial burden required to grow a company and providing a flexible framework which can accommodate variable tax exemption structures and agreement durations. In January 2010, the state issued new regulations for the EDIP program, which permit manufacturers to apply directly to the state.

### PERMITTING ASSISTANCE

In 2009, the Northern Middlesex Council of Governments undertook an assessment of the Town of Tyngsborough’s permitting process and developed the Town’s *Land Use Development and Permitting Guide* in December 2009. As emphasized in the EDSAT Report,

there needs to be a renewed focus on the streamlined permitting process in Tyngsborough. The following recommendations were made to improve the effectiveness and efficiency of the land use permitting process. These recommendations, in part, would assist businesses that are considering locating in Tyngsborough, with obtaining necessary planning and building information.

1. A single point-of-contact must be appointed and made known to all.
2. Each department should develop a written handout that outlines the department's jurisdiction, permit requirements, permit application checklist, department information and other relevant matters
3. Permit tracking software should be researched.
4. A standard "cover sheet" or checklist should be developed and attached to all approvals outlining "what happens next".
5. There should be a standard condition added to all approvals that indicates that the final plans, approved by all boards and commissions, must be consistent.
6. All abutter notification and legal notice requirements and procedures should be reviewed.
7. A general handout should be developed that can be provided to any potential applicant outlining how to proceed through the permitting process.
8. The town must make sure its website is maintained and up-to-date. Incorrect information can be fatal to the permit approval process.
9. Consideration should be given to establishing pre- and post-application submission staff meetings.
10. The Town should consider utilizing a standardized bonding instrument agreed upon by all departments, boards and commissions.
11. Tyngsborough staff should review the Town of Billerica's Permitting Guide, which can be used as a template, and have all department requirements and the permitting process combined into one document, creating a comprehensive permitting guide.
12. The Town should investigate the feasibility of holding joint meetings when Planning Board, Conservation Commission, ZBA and/or Board of Health approvals are necessary.
13. The permit granting boards and commissions should delegate approval authority, in as many areas as possible, to professional staff if possible, (e.g. the Conservation Agent) while retaining the right to review and appeal staff decisions.
14. Concurrent permit applications should be encouraged whenever possible, bearing in mind any statutory requirements, such as those found in the Massachusetts Wetlands Protection Act, MGL c.131 §40.
15. The Town should review the "Municipal Self-Assessment Checklist" that has been produced by the Massachusetts Executive Office of Housing and Economic

Development (EOHED) in order to determine which areas outlined in the Best Practices Model need to be addressed.

16. Adequate staff should be hired to support not only the land use boards and commissions, but other municipal staff, potential applicants and the general public.

## 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.

## ECONOMIC DEVELOPMENT OPPORTUNITIES

There are several sites in Tyngsborough that offer potential for future economic development, according to the Town Planner/Director, Economic Development. The project sites and their current status are listed below:

### Site Status

<b>440 Middlesex Road</b>	Approved with special permits and site plans for redevelopment (includes a TIF). Building permits still need to be issued.
<b>406/424 Middlesex Road</b>	Located behind the retail plaza and on the market.
<b>54 Locust Street</b>	Owned by same owner of 406 Middlesex Road and could be sold together.
<b>93/98 Kendall Road</b>	The Brox properties with a pending proposal.
<b>116 Kendall Road</b>	Located next to 93 Kendall and Town has received inquiries.
<b>50 Westford Road</b>	Application submitted for 55,000 sq. ft. religious campus.
<b>161-163 Westford Road</b>	Permitted but unconstructed retail plaza. Town trying to coordinate tenant conversations with the owner.
<b>150 Westford Road</b>	Flint's Corner – continued focus for development.

## PUBLIC INPUT

At the Tyngsborough Master Plan Visioning Session II meeting on March 13, 2019, participants were asked to respond to a number of questions related to Land Use and Zoning, Economic Development and Housing. Respondents were able to address each area equally in their responses. Outlined below are the responses to the Economic Development questions:

### **Question 3: What steps can the Town take to improve the Town Center area?**

Responses:

1. Now that the bridge has been rebuilt, the Town could buy property east of the bridge towards Lowell and landscape the area to make it more attractive.
2. The Route 113/ Middlesex Road intersection was identified as the Town Center area. Make Tyngsborough a destination location – need amenities, traffic calming and more street lights.
3. Improve access to the Merrimack River. Utilize old house on the north side of the bridge to access the river and encourage kayaking and canoeing. Identify entrepreneur to finance this type of project, as well as restaurant establishment.
4. Promote pond access at Flint’s Pond. Make it a destination spot for residents and visitors.
5. Need to establish and enforce 25 mph speed in the Town Center.
6. Make better use of the waterfall property by advertising it for different events.
7. Reutilize Winslow School property.
8. Build water fountain with lights in the Town Center.
9. Develop wayfinding signs and branding for the Town Center.
10. Establish boundaries for the Town Center.
11. Open up river access and vistas. Encourage restaurants along the river.
12. Utilize banners in the Town Center announcing upcoming community events.
13. Establish active tree program to line the streets with trees and/or shrubs.
14. Bury utility lines in the Town Center.
15. Beautify area around railroad tracks adjacent to the river.

### **Question 3: What additional types of businesses are needed to meet the needs of the community?**

Responses:

1. Establish Amazon satellite office.
2. Encourage technology repair businesses – computers, cameras, etc.
3. Attract grocery store.
4. Establish Indoor farmer’s market to be operate year round.
5. Encourage kayak and canoe rental businesses along the river.
6. If the golf course is purchased by the Town, it could be established as an employment resource center.
7. Establish a service company for delivery from south Nashua.

**Question 5: What more can the Town do to attract economic development that will meet the future needs of the community?**

Responses:

1. Implement the Exit 36, Route 3 South Bound ramp project. Note: project depends upon funding from New Hampshire.
2. Provide sewer and water to undeveloped industrial and commercial lots in order to attract businesses. Develop a concept plan for this project.
3. Identify developable land and how the Town can support private investors. Promote the community as business friendly.
4. Re-establish the Economic Development Committee.
5. Encourage small village style shops in the Town Center to maintain “small town” feel.
6. Encourage the Town Planner/Director, Economic Development to market Tyngsborough to companies around the state.
7. Update the Town website to promote Tyngsborough and developable sites in the community. Utilize flyers to promote community activities.

**Question 6: Are there opportunities to redevelop existing underutilized and vacant properties?**

Responses:

1. Redevelop the Winslow School and former library. Develop site across the river at the bridge.
2. Reuse former marina property for boating and/or a restaurant.
3. Homes north of bridge by the Merrimack River could be turned into fine dining establishments with an excellent view of the river.

**Question 7: What steps can the Town take to support its agricultural economy?**

Responses:

1. Support local farms through farm-to-table restaurant(s).
2. Improve farmer’s market through indoor facility making it a year-round activity.
3. Support agricultural areas in Tyngsborough more fully by preserving as much agricultural land as possible.
4. Parlee Farm is an example of successful agricultural entertainment. Does Tyngsborough want more examples of this activity?
5. Establish year-round Community Supported Agriculture (CSA) facility to support local farms. Lawndale Farm is good, but is not year-round. Note: Bear Hill farm has a CSA.
6. Encourage the Town to sponsor a Grange, which would revive the social aspects related to farming.

Due to a lack of time to complete the questions, these additional questions were left:

**Question 8: What actions can the Town take to promote and support its creative and cultural economy (e.g. artists and artisans)?**

**Questions 10: What types of infrastructure improvements will be needed to meet the Town’s economic and housing needs in the future?**

The results of the written survey for the Master Plan indicated that Tyngsborough residents felt there was a need for more economic development opportunities in the community, as indicated below:

**Question 3: Why do you choose to live in Tyngsborough?** - Access to retail and other services (146 responses or 40.67%); Proximity to employment (143 responses or 39.83%).

**Question 4E: Please indicate whether you would rate the following services, facilities, and characteristics, as they relate to Tyngsborough, as excellent, good, fair or poor.**

**Economic Development**

	Excellent	Good	Fair	Poor	Unable to score	Total
Access to employment	10.06% (31)	35.71% (110)	19.48% (60)	8.77% (27)	25.97% (80)	308
Availability and access to goods and services in town	11.04% (35)	40.38% (128)	28.71% (91)	13.25% (42)	6.62% (21)	317

**Question 5: In your opinion, list three of the most critical issues facing Tyngsborough over the next ten years. (Note: 10 or more responses)**

**First responses:**

- Condition of roads – 58 responses
- Schools (quality, maintenance and space needs) – 40 responses
- Tax rate/taxes – 39 responses
- Overbuilding/growth/sprawl– 32 responses
- Attracting business/economic development – 13 responses

**Second responses:**

- Condition of roads – 48 responses
- Schools (quality, maintenance and space needs) – 32 responses
- Attracting business/economic development – 29 responses
- Tax rate/taxes – 22 responses

- Overbuilding/growth/sprawl– 20 responses

**Third responses:**

- Attracting business/economic development – 27 responses
- Condition of roads – 23 responses
- Schools (quality, maintenance and space needs) – 22 responses
- Tax rate/taxes – 14 responses
- Sewer – 10 responses
- Open space preservation/maintenance – 10 responses

**Combined top responses:**

- Condition of roads – 129 responses
- Schools (quality, maintenance and space needs) – 94 responses
- Tax rate/taxes – 75 responses
- Attracting business/economic development – 69 responses
- Overbuilding/growth/sprawl– 54 responses

**Question 6: In the future, should the Town establish any of the following as priorities?**

- Creating small scale neighborhood-style business – Yes – 273 (88.93%), No – 34 (11.07%);
- Promoting business/commercial development – Yes – 242 (79.08%), No – 64 (20.92%);
- Encouraging more intense economic development in strategic locations – Yes – 220 (74.32%), No – 76 (25.68%);
- Improving/expanding the sewer infrastructure – Yes – 214 (73.54%), No – 77 (26.46%); and
- Encouraging agritourism and ecotourism – Yes – 211 (73.26%), No – 77 (26.74%).

## ISSUES AND OPPORTUNITIES

The COVID-19 pandemic has had the most significant health and economic impact upon the nation, state, region and Town of Tyngsborough in 2020. During the initial period from January 1, 2020 to May 27, 2020, the Town had 83 COVID cases and 2 deaths, compared to the 4,664 COVID cases and 247 deaths in the Greater Lowell region. As previously shown in Figure 3.2, the unemployment rate for the Town of Tyngsborough increased from 2.2% in May 2019 to 14.2% in May 2020, while the Greater Lowell Workforce Development Area saw an increase from 3.1% in May 2019 to 16.6% in May 2020. Tyngsborough residents filed 1,426 unemployment claims between March 21, 2020 and May 30, 2020, which represented 3.6% of the unemployment claims (39,249) for the region. Within the Greater Lowell region, the primary industries impacted were Health Care and Social Assistance (18.02%), Accommodation and Food Services (14.52%), Retail Trade (11.20%),

Construction (9.91%) and Manufacturing (8.74%). The situation for Tyngsborough residents was similar with the following primary industries impacted - Health Care and Social Assistance (21.66%), Accommodation and Food Services (15.78%), Construction (14.15%), Retail Trade (9.53%) and Professional, Scientific, Technical Services (7.51%). The primary identified occupations impacted for Greater Lowell residents were Food Preparation and Serving Related, Office and Administrative Support, Management, Sales and Related and Personal Care Service, while the primary identified occupations impacted for Tyngsborough residents were Food Preparation and Serving Related (14.46%), Management (14.38%), Office and Administrative Support (12.19%), Healthcare Practitioners and Technical (7.88%) and Sales and Related (7.88%).

The COVID-19 pandemic has impacted the way that businesses operate and employees perform their duties. A far greater number of employees are now working from home and businesses are moving away from brick and mortar facilities. While it is unclear whether this situation will continue after the pandemic is addressed through the availability of vaccines, there are current opportunities available through the different ways that businesses are operating. E-commerce has grown significantly over the past eight months. Distribution and fulfillment centers are becoming more commonplace as consumers increase their use of e-commerce. Ghost kitchens and dark stores provide an alternative to in-house dining. The Town should examine the opportunities available and adjust the Zoning Bylaw accordingly so that these new businesses are not prevented from locating in Tyngsborough.

The enhancement of the current public/private partnership through the re-establishment of the Tyngsborough Economic Development Commission (EDC) will provide numerous benefits to the community in attracting private investment and expanding the tax base. Tyngsborough has numerous economic advantages due to its location along Route 3 and the availability of undeveloped industrial and commercial land. As an advocate for businesses and an advisor to the Board of Selectmen and the Town Administrator on economic development proposals, the CEDC will bring together the private and public sectors in order to create jobs and assist in filling vacant industrial and commercial properties. Through its advocacy of expedited permitting processes for commercial and industrial development, the EDC will ensure that private development proposals are acted upon within 180 days consistent with the State's expedited permitting process guidelines. The Town Planner/Director of Economic Development would provide staff support to the EDC and help develop an overall marketing plan for the Town.

The EDC could also focus on the types of industries to attract to Tyngsborough. Given its favorable location along Route 3 and availability of developable land, Tyngsborough would be attractive to high tech and biotech companies looking to establish headquarters in the

community over the next ten years. Working with the Massachusetts Biotechnology Council, the Town should determine how best to attract these firms and be designated as a Bio-Ready community. Establishing an active partnership with UMass Lowell through its Innovation Hub would be a good way to attract startup firms in the alternative energy and “green” energy fields as well.

Promoting Tyngsborough’s historic assets would help establish the town as a destination community and focus attention on tying together these assets through the redevelopment of the Town Center. Marketing the old Town Hall and the First Parish Meeting House in conjunction with promoting activities related to the Merrimack River would encourage additional pedestrian and vehicular traffic in the Town Center area and lead to additional commercial opportunities related to restaurants and tourism.

In order to accomplish a number of these initiatives, the Town needs to focus on resources at the federal and state levels. While the Town has taken advantage of the MassWorks program to expand its sewer infrastructure, there are other programs, such as the Economic Development Incentive Program (EDIP), Chapter 40R, the Housing Choice Capital grant program, Business Improvement Districts (BID), District Improvement Financing (DIF), and Community Development Block Grants (CDBG), that should be utilized as well. These funds would take the burden off the municipal budget in moving the development of the town forward.

The 2015 Economic Development Self-Assessment Tool (EDSAT) report focused on the need for the Town to streamline its permitting processes in order to expedite approvals for new development projects. While the Town worked with NMCOG to develop its *Land Use Development and Permitting Guide* in December 2009, there is a need to transform this document into a permitting handbook. Other communities, such as Billerica, Chelmsford and Westford, have developed permitting handbooks that provide extensive information to prospective applicants on whom to contact at Town Hall and when the various permitting boards meet. These communities have placed their permitting handbooks on their web sites so that prospective applicants can learn what steps to take before entering Town Hall. According to Professor Bluestone, the permitting process is the most critical aspect to businesses and the web site is the best opportunity for a community to market itself.

The EDSAT report praised the Town for its web site in 2015 noting that it provided information important to businesses, including links to development resources. While the web site has gone through a number of revisions since 2015, it still provides an opportunity to inform private investors and location specialists about the community’s strengths and available resources. Potential development sites should be located on the web site to attract interest from outside the community.

The Town should take greater advantage of the training resources made available through the MassHire Greater Lowell Workforce Board (MHGLWB), UMass Lowell (UML) and Middlesex Community College (MCC). These training resources are designed for small businesses and workers. MHGLWB offers training programs for cluster industries that could reduce the cost of doing businesses, while also providing retraining programs for underemployed and unemployed workers. These workforce training initiatives ensure that the employment opportunities sought are consistent with the current marketplace. Both UML and MCC offer training programs that can benefit small businesses and workers.

The agricultural sector provides another economic development opportunity for the town. Agri-tourism and eco-tourism businesses would build upon the strengths of the community without adversely impacting the quality of life. Having the Agricultural Commission work closely with the proposed EDC would help tie Tyngsborough's agricultural assets into its economic development strategy. Developing a list of existing farms and their products and services would enable the Agricultural Commission to promote these products through cafes, farm-to-table restaurants, country stores, and farm stands. Working with the Agricultural Commissions in neighboring communities would regionalize these services and have a larger economic impact. Promoting the use of recreational areas for nature tours, environmental studies, cross country skiing, and hiking would provide additional incentive for visitors to support Tyngsborough businesses.

While the EDSAT report concluded that "Tyngsborough's current infrastructure capacities (water, gas and electricity) are sufficient for current demand and future growth", the report cautioned that "the lack of sufficient wastewater treatment capabilities is a cause for concern". The Town has expanded its sewer system through the use of MassWorks funds, which has enabled businesses and residents to access this service. However, there is a limited capacity at the Lowell Regional Wastewater Utility (LRWWU) that is insufficient to address future economic growth in the region. The Town of Chelmsford has established a one-year limited moratorium on new sewer connections and increases to flows for existing connections due to limited sewer capacity. Although Tyngsborough is not currently faced with this problem, the whole region will need to address this problem within the next few years. The Town will need to work with its neighboring communities to negotiate with the City of Lowell to ensure that there is equitable distribution of sewer capacity to ensure economic growth in the Greater Lowell region.

The Town has identified several economic development opportunities on Middlesex Road, Kendall Road and Westford Road to pursue in addition to the development of the Town Center. As mentioned previously, the availability of federal and state resources will enable these projects to move forward in conjunction with private investment and local resources.

The Town Planner/Director, Economic Development has focused on these economic development opportunities, as well as other potential needs, such as grocery and drug stores. The implementation of the Town Center Plan will rely upon the development of the Winslow School and Littlefield Library for housing and retail, while also incorporating ties to improvements along the Merrimack River. The availability of transportation funds will help expand the Town Center and make the area more pedestrian friendly. Future expansion of the Town Center to the other side of the bridge should also be considered. The Route 3, Exit 36 Southbound Ramp project should continue to be pursued to create additional small business opportunities. The Town should work with MassDOT in regards to its Route 3 Highway Interchange Market Study and expand it to Tyngsborough if necessary.

## RECOMMENDATIONS

- The COVID-19 pandemic has had a negative impact upon the health and economy of the nation, state, regional and Town of Tyngsborough. NMCOG recently received a \$150,000 technical assistance grant under the CARES Act from the Economic Development Administration (EDA) to develop an Economic Recovery and Resiliency Plan and to improve the capacity of the Greater Lowell communities in accessing additional federal and state grants. NMCOG will be working closely with its CEDS Committee and local communities to address the negative impacts of the pandemic.
- Tyngsborough needs to recognize the prevalence of new industries and ways of doing business as a result of COVID-19. The Town may have to modify its Zoning Bylaw to permit e-commerce activities, such as distribution and fulfillment centers, ghost kitchens and dark stores. These changes may have a short-term impact depending upon how long the pandemic persists, however, they represents what is currently going on in the marketplace.
- The re-establishment of the Economic Development Commission is a critical component to addressing the current and future economic development needs of the community. While it may be desirable to delay this action until the Zoning Bylaw is revised, the benefits of this action would be extensive.
- Work with the Massachusetts Biotechnology Council and the UMass Innovation Hub to attract biotech, high tech, alternative energy and “green” industries to Tyngsborough.
- Promote Tyngsborough’s historic assets as a component of its economic development strategy.

- Secure additional federal and state resources to complement the private and local funds being utilized to implement economic development initiatives.
- Develop a permitting handbook to be available on the web site to educate potential permit applicants on the ways to have local permits approved for specific industries.
- Utilize the Town's web site to provide information on potential development sites in order to attract private investment from out of town.
- Access the training resources at the MassHire Greater Lowell Workforce Board, UMass Lowell and Middlesex Community College to assist small businesses to expand and underemployed and unemployed workers to qualify for new jobs.
- Tie together the agricultural sector with the Town's economic development strategy by promoting local products and services.
- Address the future water and sewer capacity issues in the community by working with neighboring communities and NMCOG.
- Implement the economic development opportunities along Middlesex Road, Kendall Road and Westford Road, as well as the Town Center Plan. Support the Route 3, Exit 36 Southbound Ramp project to create additional small business opportunities and participate in the Route 3 Highway Interchange Market Study with MassDOT to identify future economic opportunities along Route 3.

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# IV. TRANSPORTATION AND CIRCULATION

## INTRODUCTION

A multi-modal transportation system is essential to a community's vitality by providing access to housing, employment centers, local services, retail establishments and recreational amenities. A transportation system must safely and efficiently accommodate all its users, including motorists, pedestrians, bicyclists, and public transit riders. Tyngsborough's streets, sidewalks, trails and regional transit services exert a significant influence on the health, well-being, and quality of life of its residents.

Transportation infrastructure and services strengthen the town economically by connecting the town's residents to employment and needed services, and by serving workers commuting to Tyngsborough from outside the town.

Small suburban communities like Tyngsborough face a number of challenges in providing the level of accessibility that makes the community a desirable place to live. These challenges are amplified by economic conditions, evolving development trends and demographic shifts. Nearly every community struggles with insufficient funding to maintain and improve roads, support public transit services, and upgrade or replace substandard and deteriorating bridges.

The Transportation and Circulation chapter provides an overview of Tyngsborough's existing transportation system, presents an assessment of transportation safety and operational issues, and outlines recommendations for addressing identified needs and deficiencies. An assessment of existing conditions was prepared through background research, field reconnaissance, and input provided by town staff. Some of the information used in this chapter is derived from the *Regional Transportation Plan*<sup>1</sup> (RTP) and the *Transportation Improvement Program*<sup>2</sup> (TIP) prepared by the Northern Middlesex Council of Governments (NMCOG).

## TRANSPORTATION AND CIRCULATION GOALS

- Improve the condition of the local roadway network through enhanced pavement management.
- Include bicycle and pedestrian accommodations in future transportation projects.
- Ensure that the Town's transportation system is as safe as possible.
- Evaluate current public transit service within Tyngsborough to ensure that routes meet community needs.
- Work toward creating an interconnected network of pedestrian and bicycle facilities.

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<sup>1</sup> Northern Middlesex Regional Transportation Plan, 2020-2040, Northern Middlesex Council of Governments, October 2019

<sup>2</sup> FFY 2020-2024 Transportation Improvement Program, Northern Middlesex Council of Governments, May 2020

# EXISTING CONDITIONS

Tyngsborough is directly served by U.S. Route 3, a limited access highway, through three interchanges: Westford Road (Exit 34), Kendall Road (Exit 35) and Middlesex Road (Exit 36). State numbered routes and local roadways are the basis of the town’s transportation infrastructure and are vital to its economic growth and prosperity. Roadways are classified according to their function and purpose in a hierarchy based on mobility and access, as outlined in guidelines established by the Federal Highway Administration<sup>3</sup> (FHWA). Functional classification is the process by which streets and highways are grouped into classes according to the character of traffic service that they are intended to provide. There are three general highway functional classifications: arterial, collector, and local roads. In Massachusetts, arterials can be further classified into interstates, principal arterials and minor arterials, based on the mobility and access provided by the roadway. Table 4.1 summarizes the number of centerline miles by main functional class for Tyngsborough’s roadway network.

**Table 4.1: Roadway Centerline Miles by Functional Classification**

Functional Class	Total Centerline Miles				
	Interstate	Arterial	Collector	Local	Total
	0	24.49	5.54	64.53	94.56

Source: MassDOT Roadway Inventory, 2018

Map 4.1 graphically displays the town’s roadway network by functional classification.

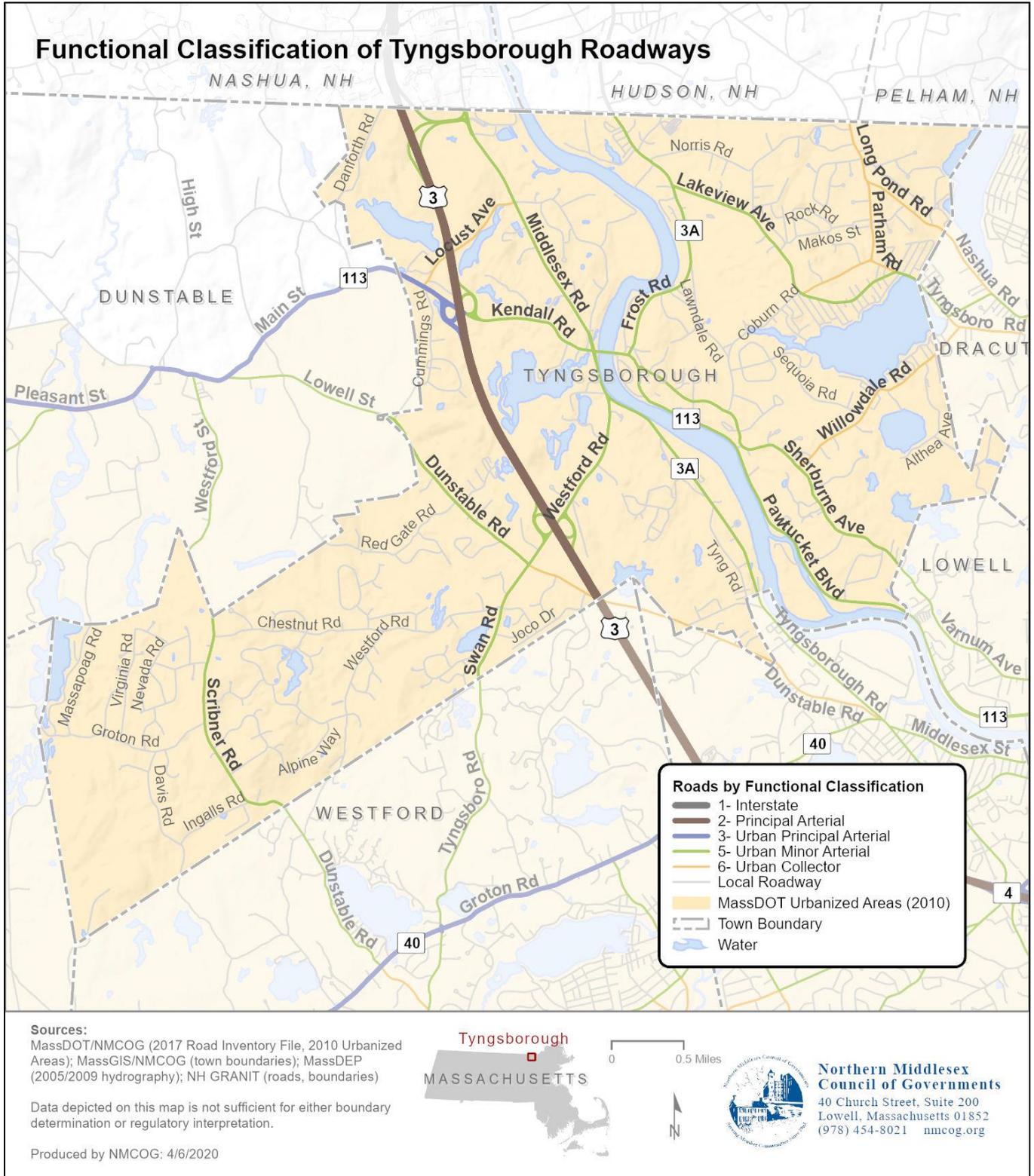
## ARTERIALS

Arterials provide the highest level of service, at the greatest speed, for the longest uninterrupted distance, with some degree of access control. Arterials are a major conduit for travel and commerce, and help link economic regions and urban centers. There are approximately 24.5 miles of arterial roadway, comprising 25.9% of the centerline miles, in Tyngsborough. The characteristics of the town’s principal arterial roadways are outlined below:

- U.S. Route 3 - The Massachusetts Department of Transportation (MassDOT) classifies Route 3 as an urban principal arterial, as it is the major north-south limited access route through the region and connects Greater Boston and Greater Lowell with the New Hampshire cities of Nashua and Manchester. The highway is divided with three lanes in each direction.

<sup>3</sup> Highway Functional Classification Concepts, Criteria and Procedures, Federal Highway Administration, U.S. Department of Transportation, 2013 Edition.

**Map 4.1: Roadway Functional Classification**



- Route 113 (Kendall Road and Pawtucket Boulevard) - Classified as an urban principal arterial west of Route 3 and as a urban minor arterial east of Route 3, Route 113 connects Tyngsborough to the City of Lowell and to Dunstable. Route 113 is generally one lane in each direction, with shoulders ranging from 0 to 8 feet in width. A sidewalk runs along on the south side of the road near the town center and on the north side on the Route 3 overpass.
- Route 3A (Middlesex Road and Frost Road) - Route 3A is classified as an urban minor arterial and runs through Tyngsborough in a general north/south direction. Route 3A connects the town to Chelmsford and Hudson, New Hampshire.
- Dunstable Road – The roadway is classified as an urban minor arterial northwest of its intersection with Westford Road and Swan Road, and as an urban collector southeast of the intersection. Dunstable Road connects Tyngsborough to Dunstable and Westford.
- Middlesex Road (excluding 3A) - North of its intersection with Route 3A at Route 113, Middlesex Road is classified as an urban minor arterial and provides access from Route 113 and Route 3A to Nashua, New Hampshire.
- Sherburne Avenue - Classified as an urban minor arterial, Sherburne Avenue runs in a general northwest/southeast direction providing access from Lowell to Route 113 and Route 3A near the Tyngsborough Bridge.
- Swan Road and Westford Road - Together these urban minor arterials run in a general northeast/southwest direction and provide access to Westford and Route 3, Route 3A and Route 113 in Tyngsborough.

The town also has a number of minor arterials that serve to augment principal arterials and provide intracommunity service for trips of moderate length connecting collector roads to principal arterials.

Table 4.2 summarizes the characteristics of the town’s arterial roadways.

**Table 4.2: Summary of Arterial Roadways in the Town of Tyngsborough**

Roadway	Functional Class	Ownership	Speed Limit (mph)	Roadway Width (ft.)	Shoulder Width (ft.)	Sidewalk
Route 3	Principal Arterial	MassDOT	55	36 (in each direction)	10	None
Route 113	Principal and Minor Arterial	MassDOT and Town	25-45	22-36	0-8	0-5
Route 3A	Minor Arterial	MassDOT and Town	20-45	24-44	0-4	0-4
Dunstable Road	Minor Arterial	Town	35	20	0	0
Lakeview Avenue	Minor Arterial	Town	25-35	24	0-2	0

**Table 4.2 (cont'd): Summary of Arterial Roadways in the Town of Tyngsborough**

Roadway	Functional Class	Ownership	Speed Limit (mph)	Roadway Width (ft.)	Shoulder Width (ft.)	Sidewalk
Middlesex Road (excluding 3A)	Minor Arterial	MassDOT	35	24-46	0-12	0-4
Parham Road	Minor Arterial	Town	30	27	0-2	0
Scribner Road	Minor Arterial	Town	30	22-40	0-2	0
Sherburne Avenue	Minor Arterial	Town	30	22	0-2	0
Swan Road	Minor Arterial	Town	35	24	0-2	0
Westford Road	Minor Arterial	MassDOT and Town	30-35	24	0-12	0

Source: MassDOT Roadway Inventory, 2017

## COLLECTORS

Collector roads are generally shorter than arterials and serve to gather trips from local roads and distribute them to arterials. In designated urban areas such as Tyngsborough, there is no distinction between major and minor collector roads. Collector roads make up 5.9% of all centerline miles in Tyngsborough. Table 4.3 lists the collector roads in Tyngsborough.

Table 4.3: Functionally Classified Collector Roads in Tyngsborough	
Coburn Road	Long Pond Road
Dunstable Road	Parham Road
Locust Avenue	Willowdale Road

Source: MassDOT Road Inventory, 2017

## LOCAL ROADWAYS

Local roads consist of all roads not defined as arterials or collectors, and provide access to land with little or no through movement. There are 64.53 miles of local roadway within the Town of Tyngsborough, accounting for 68.2% of the town's roadway mileage.

## UNACCEPTED ROADS

The Town has 4.7 miles of unaccepted streets, also known as private ways. Private ways are often unaccepted because they do not meet local standards for roadway construction. The current policy is to provide snow plowing, trash pickup and minimum essential maintenance to allow access for public safety operations. In recent years, the Town has made significant progress in bringing unaccepted roadways up to accepted status by dedicating resources to completing survey work and preparing as-built plans. By accepting eligible roadways, the Town is able to receive additional funding through the Chapter 90 program.

JURISDICTION

Roadway ownership is key to identifying the responsible parties for maintaining and improving the transportation network. MassDOT owns 12.8% of the roadway mileage in Tyngsborough, including Route 3 and portions of Route 113 and Route 3A. Of the 94.56 centerline miles of roadway in Tyngsborough, 81.9% are accepted Town-owned roads eligible to receive Chapter 90 funding assistance for maintenance. Table 4.4 summarizes the ownership status of all roadways within Tyngsborough.

**Table 4.4: Roadway Centerline Miles**

Jurisdiction	MassDOT-owned	Town-owned (Accepted)	Town-owned (Unaccepted)	DCR-State Forest	Total
	12.14	77.42	4.69	0.32	94.56

*Source: Massachusetts Department of Transportation (MassDOT), Office of Transportation Planning Road Inventory Year End Report (March 2018)*

ROADWAY MAINTENANCE

Efficient utilization of limited transportation resources requires adequate maintenance and preservation of the existing transportation system. Timely and appropriate maintenance is vital given that construction costs rise annually and government agencies find themselves fiercely competing for funding. In addition, overused, poorly maintained, inadequately lit, and badly signed and striped roads pose a safety hazard. A sound and thoughtful maintenance program leads to the long-term sustainability of roadway infrastructure, and is comprised of the following activities:

- Winter maintenance
- Preservation (resurfacing and crack filling)
- Pavement markings, signs, safety barriers, etc.
- Pavement rehabilitation (restructuring without upgrading nominal load capacity)
- Pavement upgrading (increasing load capacity, environmental features, and low cost measures)
- Structural maintenance (bridges, tunnels, etc.)
- Peripheral maintenance (embankments, drainage, shoulders, etc.)

The Town’s highway department is responsible for the maintenance of all public roads, including snow and ice removal. The department subcontracts roadwork on an as-needed basis. Paved roadways represent one of the largest capital investments in the highway budget. Maintaining the paved surface of a large roadway system involves complex decision-making on how and when to apply surface treatments to best keep the system performing and operating within the funding constraints facing the community.

In 2018, the Town of Tyngsborough contracted with WorldTech Engineering LLC to survey and assess pavement conditions and create a baseline inventory intended to be used in the development of a pavement management program. Data collection focused on identifying distresses in the Town’s roadway network, with a focus on town-owned streets. Pavement distresses identified in the inspection were classified by severity (Low, Moderate, High) and extent (0-100%) for each roadway segment. This attribute data was used to calculate a Pavement Condition Index (PCI) for each roadway segment. The PCI is a numerical measure of the pavement’s integrity and surface operational condition, ranging from 0 (worst) to 100 (best).

Curb, sidewalk, and striping data were also collected and inventoried simultaneously with the pavement data. Curb attributes collected in the field included only the type and reveal. Sidewalk data collected included material type, width, and overall condition. WorldTech worked with the Town to establish roadway repair strategies (i.e. Reclamation, Mill and Overlay, Crack Seal) and to estimate unit costs using PCI banding to reflect the type and severity of pavement distresses. The study classified the PCI ranges by repair strategies. Table 4.5 shows the mileage, repair method and repair cost of the PCI ranges.

**Table 4.5: Pavement Conditions in 2018**

PCI Range	Miles	Percent	Repair Method*	Repair Cost per Square Yard
0 to 30	7.2	9.2	Reclamation	\$84.02
30 to 50	14.1	18.0	Mill Level and Overlay	\$34.87
50 to 70	16.8	21.4	Level and Overlay	\$15.06
70 to 80	9.1	11.6	Overlay	\$11.57
80 to 90	8.5	10.8	Crack Seal	\$1.25
90 to 101	22.8	29.0	Defer Maintenance	\$0.00

\*Actual repair method may vary based on subsurface conditions or other site-specific criteria  
*Source: Evaluation and Recommendations Report, Pavement Management Plan, Tyngsborough, MA, WorldTech Engineering LLC*

Allocating adequate resources for preventive maintenance, such as crack sealing, can increase the life-cycle for certain roadways, while deferring maintenance can lead to a need for full depth reconstruction, which is far more costly. Pavement preservation and rehabilitation type projects are initiated by local communities or MassDOT, and can be funded with federal aid if located on eligible roads. Roadway reconstruction and maintenance projects follow the same procedures for project initiation and approval as other projects programmed on the Transportation Improvement Program.

State funding through the Chapter 90 program can also be utilized for roadway improvement projects. The Chapter 90 Program is funded through the State Transportation Bond Bill and administered by MassDOT. The funds are apportioned by formula based on

local accepted roadway mileage, employment and population. The FY 2020 Chapter 90 allocation calculation for the Tyngsborough is detailed in Table 4.6.

**Table 4.6: Tyngsborough Chapter 90 Apportionment, FY 2020**

MassDOT District	2018 Roadway Miles	2010 Population	2018 Employment	FY 2020 Apportionment
4	77.42	11,292	4,846	\$432,389

Source: MassDOT

Chapter 90 funds must be allocated to roadway projects, such as resurfacing and related work, and other incidental work, such as preliminary engineering, State Aid/Consultant Design Agreements, right-of-way acquisition, shoulders, side road approaches, landscaping and tree planting, roadside drainage, structures (including bridges), sidewalks, traffic control, service facilities, and street lighting (excluding operating costs).

## BRIDGES

MassDOT uses standards developed by the American Association of State Highway and Transportation Officials (AASHTO) to rate all bridges in Massachusetts based on their condition. MassDOT inspects and rates each bridge on a biannual basis. The rating scale runs from 0 to 100, with 100 being the best condition possible. Bridges that score low on the scale are classified as structurally deficient.

A structurally deficient condition indicates a deterioration of significant bridge elements, which may require a restriction in the load capacity of the bridge. It does not necessarily mean that the bridge is unsafe, but indicates that repairs should be made before the condition deteriorates further. There are no structurally deficient bridges in Tyngsborough. Table 4.7 provides information on the condition of bridges within Tyngsborough.



Tyngsborough Bridge  
Route 113 over the Merrimack River

**Table 4.7: Bridge Structural Condition**

Location	Ownership	Functional Class	Year built/rebuilt	MassDOT Inspection Structural Rating <sup>1</sup>	Structural Deficiency
Route 113 over Merrimack River	MassDOT	Urban Minor Arterial	2013	99.6	No
Route 113 over B&M Railroad	MassDOT	Urban Minor Arterial	2012	100	No
Route 3 North over Westford Road	MassDOT	Freeway/ Expressway	2004	100	No
Route 3 South over Westford Road	MassDOT	Freeway/ Expressway	2004	100	No
Route 3 North over Dunstable Road	MassDOT	Freeway/ Expressway	2004	98.1	No
Route 3 South over Dunstable Road	MassDOT	Freeway/ Expressway	2004	98.3	No
Route 113 over Route 3	MassDOT	Urban Minor Arterial	2004	99.6	No
Locust Avenue over Route 3	MassDOT	Rural Minor Arterial	2004	99.9	No
Route 3 North over Route 3 South Connector	MassDOT	Freeway/ Expressway	2004	98.4	No
Route 3 South over Route 3 South Connector	MassDOT	Freeway/ Expressway	2004	98.9	No

<sup>1</sup>MassDOT

## COMMUTING PROFILE

A community's commuting profile is generally influenced by its location within the region, land use patterns and availability of transportation infrastructure and services.

Tyngsborough is served by Route 3 and is conveniently located near I-495, connecting the town to the Boston metropolitan area and New Hampshire. Table 4.8 provides an overview of the travel modes used by Tyngsborough residents to access employment. American Community Survey (ACS) journey to work data collected by the U.S. Census Bureau shows a continued reliance on the single-occupancy vehicle for commuting, with over 87% of Tyngsborough residents driving alone to work. Carpooling now accounts for 8.5% of work trips, while 2% of residents worked from home and 1.4% used public transportation.

**Table 4.8: Mode Choice for Tyngsborough Commuters**

Mode Choice	2006-2010 ACS		2014-2018 ACS		Percent Change
	Number	Percent	Number	Percent	
Total:	5830	100.0	6,963	100.0	19.4
Drove alone	5,276	90.5	6,086	87.4	15.3
Carpooled	233	4.0	592	8.5	153.8
Public transportation (excluding taxicab)	41	0.7	97	1.4	138.9
Bicycle	17	0.3	0	0.0	-100.0
Walked	52	0.9	49	0.7	-7.1
Taxicab, motorcycle, or other means	12	0.2	0	0.0	-100.0
Worked at home	204	3.5	139	2.0	-31.8

Source: 2006-2010 and 2014-2018 American Community Survey

According to 2014-2018 ACS data, 6,963 Tyngsborough residents commuted to work on a daily basis, an increase of 19.4% from 2006-2010 ACS data, which is likely the result of an improving economy. More than eighty-four percent (84.5%) of Tyngsborough's commuters work in Massachusetts, with 69.3% working within Middlesex County. More than fifteen percent (15.5%) of commuters (1,079) work outside of the State, as shown in Table 4.9.

**Table 4.9: Workers by Place of Work - State and County Level**

Mode Choice	2006-2010 ACS		2014-2018 ACS		Percent Change
	Number	Percent	Number	Percent	
Total Workers	5,830	100.0%	6,963	100.0%	19.4
Worked in Massachusetts	5,253	90.1%	5,884	84.5%	12.0
Worked in Middlesex County	4,407	75.6%	4,825	69.3%	9.5
Worked outside Middlesex County	845	14.5%	1,051	15.1%	24.4
Worked outside of Massachusetts	577	9.9%	1,079	15.5%	87.0

Source: 2006-2010 and 2014-2018 ACS

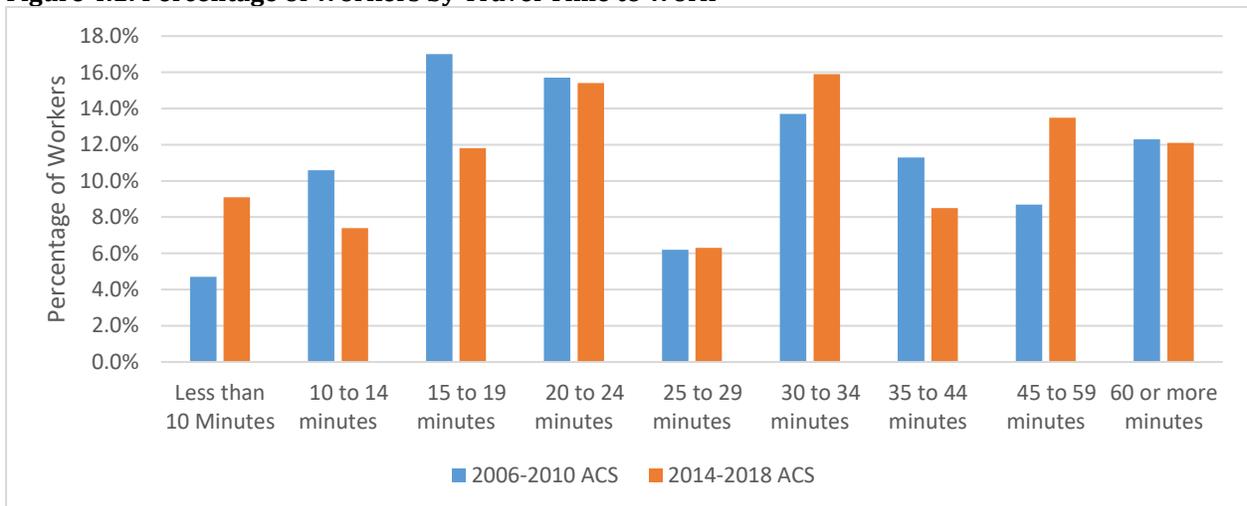
According to the 2014-2018 American Community Survey (ACS) data, over 70% of Tyngsborough residents commute more than 20 minutes, as shown in Table 4.10. The average commute lasts 30.2 minutes, an increase of half a minute from travel times reported in the 2006-2010 ACS. Figure 4.1 graphically displays the travel times to work for Tyngsborough residents.

**Table 4.10: Travel Time to Work for Tyngsborough Residents**

Mode Choice	2006-2010 ACS		2013-2017 ACS		Percent Change
	Number	Percent	Number	Percent	
Total:	15732	100.0	16,062	100.0	2.1
Less than 5 minutes	261	1.7	372	2.3	42.5
5 to 9 minutes	1264	8.0	1249	7.8	-1.2
10 to 14 minutes	1613	10.3	1737	10.8	7.7
15 to 19 minutes	2104	13.4	1443	9.0	0.0
20 to 24 minutes	2636	16.8	1987	12.4	0.0
25 to 29 minutes	928	5.9	1296	8.1	39.7
30 to 34 minutes	2448	15.6	2618	16.3	6.9
35 to 39 minutes	571	218.8	700	4.4	22.6
40 to 44 minutes	899	71.1	891	5.5	-0.9
45 to 59 minutes	1306	81.0	1853	11.5	41.9
60 to 89 minutes	1213	57.7	1481	9.2	22.1
90 or more minutes	489	18.6	435	2.7	-11.0

Source: 2006-2010 and 2013-2017 ACS.

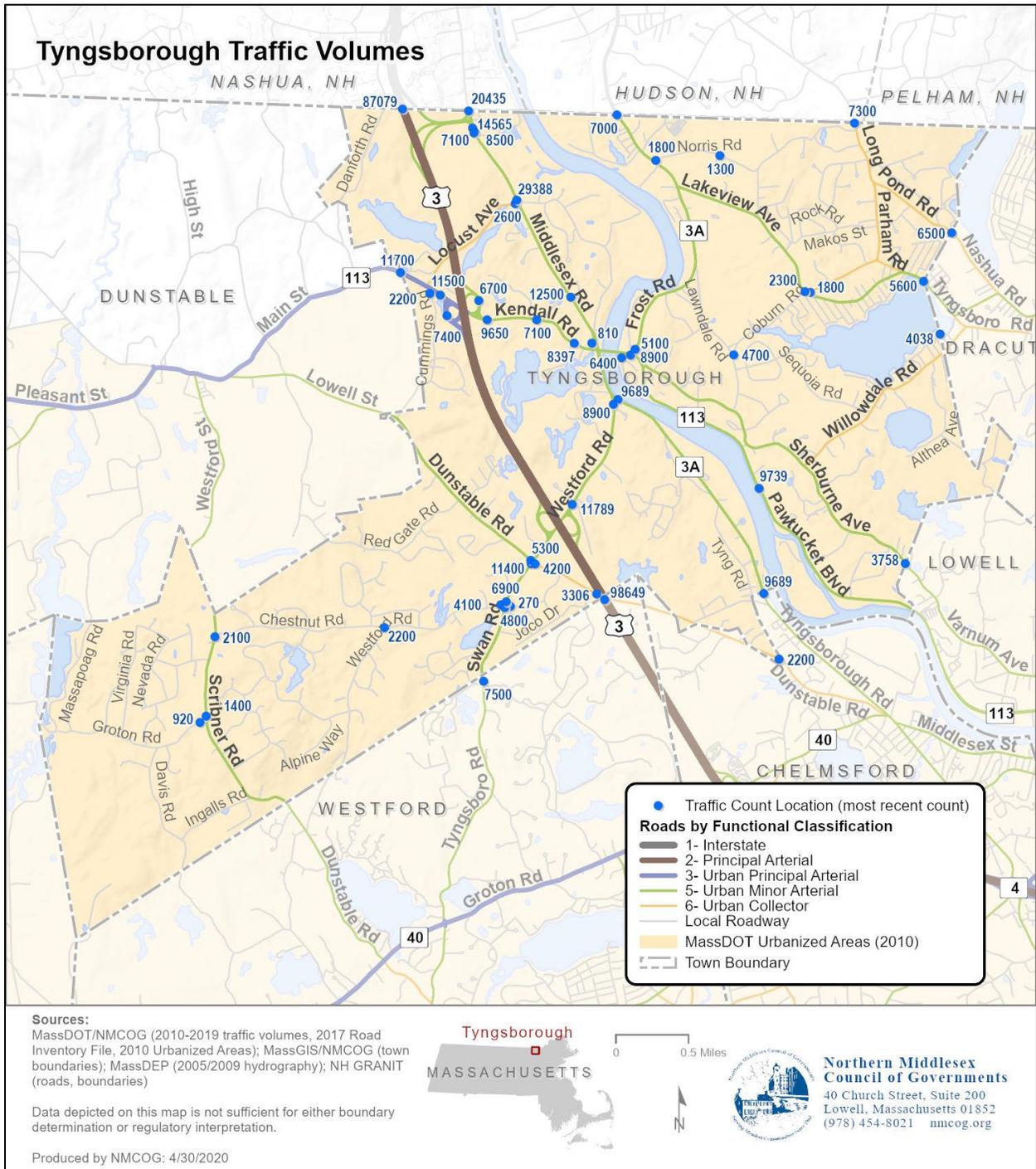
**Figure 4.1: Percentage of Workers by Travel Time to Work**



## TRAFFIC VOLUMES

Traffic volumes are monitored through NMCOG’s traffic counting program, MassDOT’s counting program, and from traffic impact studies prepared for development projects. Generally, the traffic count program runs from April through October. Recorded traffic volumes taken between 2009 and 2019 show that the traffic growth within Tyngsborough has increased approximately 1.0% annually. Map 4.2 shows the location of traffic counts and average daily traffic volumes on Town roadways. Table 4.11 provides a summary of traffic volumes, traffic growth rates and truck percentages at Tyngsborough count locations. The growth rates are calculated for locations with at least three years of volume data, and are shown in Table 4.11 on an annualized basis.

**Map 4.2: Traffic Volumes on Tyngsborough Roadways**



**Table 4.11: Average Daily Traffic Volumes in Tyngsborough**

Location	Average Daily Traffic												Annual Growth Rate	% Heavy Vehicles (Most Recent Count)
	ADT 2008	ADT 2009	ADT 2010	ADT 2011	ADT 2012	ADT 2013	ADT 2014	ADT 2015	ADT 2016	ADT 2017	ADT 2018	ADT 2019		
Chestnut Rd W of Westford Rd			2,100					2,200						0.6
Coburn Rd E of Lakeview Ave		1,800			1,500			1,600			1,800		0.00	1.8
Coburn Rd N of Lawndale Rd			4,500			4,700							1.48	
Cummings Rd S of Rte. 113 (Kendall Rd)					2,200									
Dunstable Rd N of Westford Rd	5,000			4,800						5,300			0.67	3.6
Dunstable Rd S of Westford Rd										4,200				6
Dunstable Rd W of Rte. 3			2,800			2,700			2,600			3,306	2.01	6
Dunstable Rd @ Chelmsford/Tyngsborough Town Line	2,400						2,200							1.4
Frost Rd N of Rte. 113							8,900							3.4
Groton Rd W of Scribner Rd							920							3.1
Lakeview Ave N of Coburn Rd	2,700			2,500					2,300				-1.65	3
Locust Ave W of Middlesex Rd	2,300			2,600	2,600						2,600		1.30	1.4
Long Pond Rd @ NH State Line		7,200			7,300									
Middlesex Rd @ NH State Line	19,500	16,204	20,300	20,586		22,563			20,435				0.38	
Middlesex Rd N of Locust Ave					14,200									
Middlesex Rd N of TJ Maxx Plaza NB only					8,500									
Middlesex Rd N of TJ Maxx Plaza SB only					7,100									
Middlesex Rd S of Bryant Ln			11,700		12,500									
Middlesex Rd S of Rte. 3 Ramps												14,565		
Nashua Rd/Long Pond Rd @ Dracut/Tyngsborough Town Line			6,500			6,500								
Norris St E of Frost Rd						1,900				1,800				3.1

Location	Average Daily Traffic												Annual Growth Rate	% Heavy Vehicles (Most Recent Count)
	ADT 2008	ADT 2009	ADT 2010	ADT 2011	ADT 2012	ADT 2013	ADT 2014	ADT 2015	ADT 2016	ADT 2017	ADT 2018	ADT 2019		
Norris St E of Katy Ln										1,300				2.1
Old Stonehill Rd S of Swan/ Westford Rd										270				2.6
Rte. 113 (Kendall Rd) E of Flint Rd												8,397		9.1
Rte. 113 (Kendall Rd) W of Bryant Ln	7,300			6,400	7,100								-0.68	
Rte. 113 (Kendall Rd) W of Rte. 3					11,500									
Rte. 113 (Kendall Rd/Main St) @ Dunstable/Tyngsborough Town Line		10,300					10,200		11,700				1.94	4.30
Rte. 113 (Pawtucket Blvd) 15 Miles (2.4km) W of Lowell	9,550	9,483	9,388	9,494	9,636	8,565		10,259			9,739		0.20	
Rte. 113 (Pawtucket Blvd) S of Rte. 3A (Frost Rd)		5,000			6,400									
Rte. 113(Kendall Rd) E of Rte. 3												9,650		9.7
Rte. 3 @ Tyngsborough/Westford Town Line	84,673	83,000	86,900	87,987	88,047	96,625		98,649					2.36	
Rte. 3 @ NH State Line	75,832	77,423	73,100			86,453			87,079				1.85	4
Rte. 3 Exit 35 NB Ramps					6,700									
Rte. 3 Exit 35 SB Ramps					7,400									
Rte. 3A (Frost Rd) @ NH State Line		7,700		7,805	6,700		6,800				7,000		-1.14	3.5
Rte. 3A (Tyngsborough Rd/Middlesex Rd) @ Chelmsford/Tyngsborough Town Line			6,500			7,400			7,400			9,689	5.45	3.9
Scribner Rd N of Groton Rd	1,400			1,300			1,400						0.00	1.9
Scribner Rd S of Chestnut Rd									2,100					1.6
Sherburne Ave E of Rte. 3A (Frost Rd)	5,300							5,100						1.9
Swan Rd S of Westford Rd										4,800				2.9

Location	Average Daily Traffic												Annual Growth Rate	% Heavy Vehicles (Most Recent Count)
	ADT 2008	ADT 2009	ADT 2010	ADT 2011	ADT 2012	ADT 2013	ADT 2014	ADT 2015	ADT 2016	ADT 2017	ADT 2018	ADT 2019		
Swan Rd/Tyngsborough Rd @ Tyngsborough/Westford Town Line			6,500			7,500								
Tyngsborough Rd/Parham Rd/Lakeview Ave @ Dracut/Tyngsborough Town Line			6,000			5,600								
Varnum Ave/Sherburne Ave @ Lowell/Tyngsborough Town Line	3,200			2,800				2,700			3,758		1.74	
Westford St @ Dunstable/Tyngsborough Town Line							810							1.3
Westford Rd E of Rte. 3			10,800			10,900						11,789	0.82	
Westford Rd E of Swan Rd										6,900				
Westford Rd S of Rte. 3A (Middlesex Rd)			8,900											
Westford Rd W of Dunstable Rd										11,400				8.7
Westford Rd W of Rte. 3	14,800													
Westford Rd W of Swan Rd										4,100				1.9
Willowdale Rd @ Dracut/Tyngsborough Town Line											4,038			
Winslow Rd N of Rte. 113 (Kendall Rd)			810											

## TRANSPORTATION SAFETY

The Tyngsborough Police Department provides crash records to the Registry of Motor Vehicles on an ongoing basis. MassDOT and NMCOG maintain a database of all crash data reported to the RMV. Table 4.12 provides a summary of the total number of crashes that have occurred in Tyngsborough between 2015 and 2017, which reflects the most recent data available. Of the 1,014 total crashes reported in Tyngsborough between 2015 and 2017, 887 (87.5%) involved property damage only, 124 (12.2%) involved non-fatal injuries crashes, and three involved fatal injuries.

**Table 4.12: Tyngsborough Crash Summary (2015-2017)**

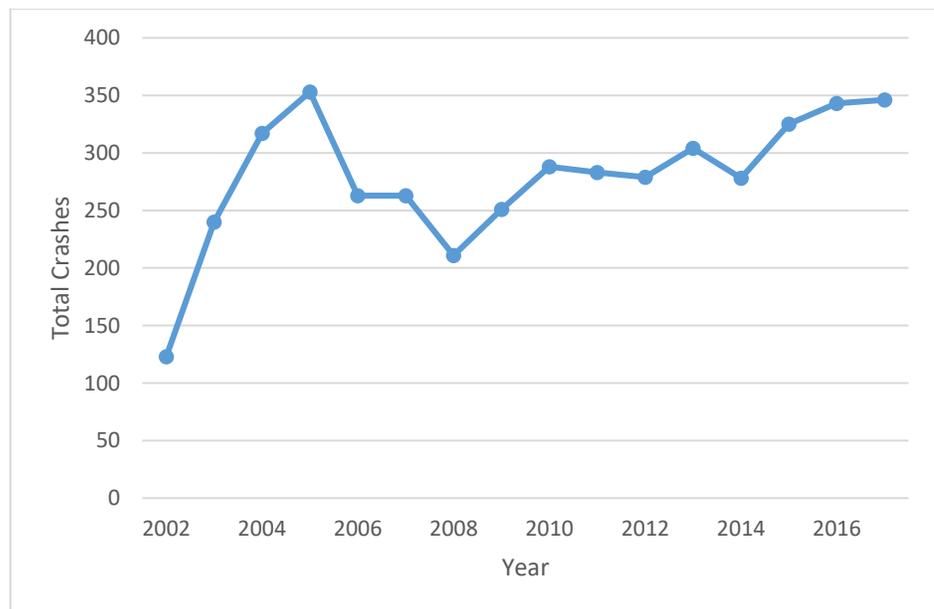
Year	Total Crashes	Property Damage Only Crashes	Injury Crashes	Fatal Crashes
2015	325	282	42	1
2016	343	304	38	1
2017	346	301	44	1

Source: MassDOT Crash Data Record System

Figure 4.2 shows reported Tyngsborough crash data trends between 2002<sup>4</sup> and 2017. Except for a spike in 2005, this data shows a fairly consistent increase from a low of 123 crashes in 2002 to a near high of 346 in 2017. The only year with more crashes than 2017 was 2005 (353 crashes).

NMCOG staff analyzes crash data for key intersections in Tyngsborough to identify locations with potential safety concerns. Three years of data are examined in order to minimize annual variations that can be created by construction, road closures, or various factors at or near each location. The

**Figure 4.2: Reported Crashes involving Motor Vehicles in Tyngsborough 2002 to 2017**



<sup>4</sup> 2002 was the first year Massachusetts began using the current crash data reporting system, requiring local police to send reports to the RMV. Prior to 2002, the RMV used an Accident Records System for reporting purposes.

equivalent property damage only (EPDO) method is used to compare locations in town. In this method, each crash reported is assigned a numeric value based on the severity of the crash. Property damage only crashes are assigned one (1) point, injury crashes are assigned five (5) points, and fatal crashes are assigned ten (10) points. The points assigned for each crash are then added to determine the intersection’s EPDO value. Table 4.13 summarizes crash data for key intersections for years 2014-2016. Intersection level analysis of crash data is currently available only through 2016.

**Table 4.13: Crash Summary at Key intersections in the Town of Tyngsborough (2014-2016)**

Intersection	Intersection Control	Total Crashes	Property Damage Only Crashes	Injury Crashes	Fatal Crashes	EPDO
Rte 113 (Kendall Rd) at Rte 3A (Middlesex Rd)	Traffic Signal	84	54	30	0	204
Middlesex Rd at Locust Ave	Traffic Signal	27	23	4	0	43
Rte 3A (Frost Rd) at Charles Chronopoulos Way	Traffic Signal	19	13	6	0	43
Rte 3A (Middlesex Rd) at Westford Rd	Traffic Signal	19	16	3	0	31
Rte 3A (Frost Rd) at Rte 113 (Pawtucket Blvd)	Traffic Signal	11	7	4	0	27
Westford Rd at Dunstable Rd	Traffic Signal	19	18	1	0	23
Tyngsborough Rd at Stewart St	Stop	7	4	3	0	19
Rte 3A (Frost Rd) at Lakeview Ave	Stop	8	7	1	0	12
Rte 3A (Frost Rd) at Norris Rd	Stop	3	3	0	0	3
Nashua Rd at Stewart St	Stop	2	2	0	0	2

Source: MassDOT Database with NMCOG Crash Analysis

High crash locations identified within Tyngsborough include the intersections of Kendall Road (Route 113) at Middlesex Road (Route 3A), and Middlesex Road at Locust Avenue. These high crash intersections are eligible for Federal Highway Safety Improvement Program (HSIP) funding to assist with the construction of safety-related improvements.

Although three years of crash data is used to analyze safety trends for motor vehicle crashes, longer term data is often needed to determine trends in pedestrian and bicycle crashes. A five-year review (2012-2016) of crashes involving vehicles and pedestrians or bicyclists has been undertaken, in order to identify locations where bicycle and pedestrian safety may be an issue. Of the 1,529 reported crashes in Tyngsborough between 2012 and 2016, six (6) involved bicyclists (0.4%) and seven (9) involved pedestrians (0.6%), as shown in Table 4.14.

Four of the six (67%) reported bicycle-involved crashes resulted in non-fatal injuries between 2012 and 2016. Two of the six (33%) bicycle-involved incidents occurred at intersections, one at a signalized intersection and one at a non-signalized intersection. Pedestrian-involved crashes are similar to bicycle-related incidents in that injuries often occur when the non-motorized user interacts with a moving motorized vehicle. Four of the nine (44%) pedestrian-involved crashes resulted in non-fatal injuries during the time period, while one resulted in death. None of the incidents involving pedestrians occurred at intersections.

**Table 4.14: Tyngsborough Bicycle and Pedestrian Crash Summary, 2012-2016**

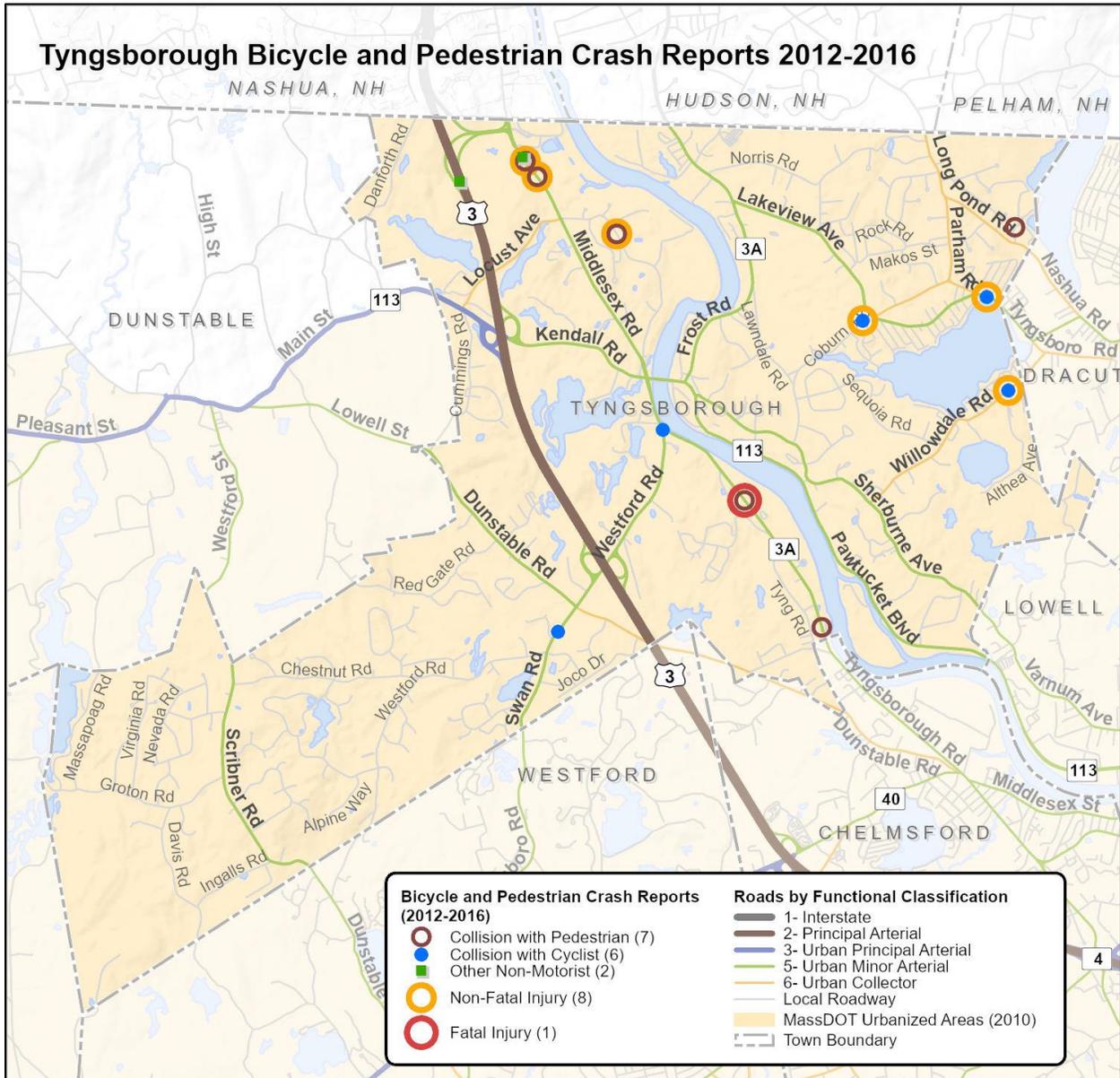
	Crashes	Percentage
<b>Total Crashes in Tyngsborough</b>	<b>1,529</b>	NA
<b>Crashes involving bicycles</b>	6	(0.4% of all crashes)
Injury crashes	4	67%
Crashes at intersections	2	33%
Crashes at signalized intersections	1	17%
Crashes at unsignalized intersections	1	17%
<b>Crashes involving pedestrians*</b>	9	(0.6% of all crashes)
Injury crashes	4	44%
Fatality crashes	1	11%
Crashes at intersections	0	0%

\*Includes other non-motorists (wheelchairs, etc.)

Source: MassDOT database with NMCOG analysis

Map 4.3 shows the locations of all crashes reported to involve vehicles and pedestrians or bicyclists from 2012-2016. The map illustrates higher levels of pedestrian crashes along Middlesex Road and Route 3A south of Westford Road, while the roads around Mascuppic Lake, where the recreational area draws pedestrians and bicyclists, had a number of crashes involving bicyclists.

**Map 4.3: Bicycle and Pedestrian Crashes 2012-2016**



**Sources:**  
 MassDOT/NMCOG (2012-2016 crash reports, 2017 Road Inventory File, 2010 Urbanized Areas); MassGIS/NMCOG (town boundaries); MassDEP (2005/2009 hydrography); NH GRANIT (roads, boundaries)

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

Produced by NMCOG: 4/30/2020



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## PUBLIC TRANSPORTATION

Tyngsborough lies within the Lowell Regional Transit Authority (LRTA) service area. The LRTA is one of sixteen regional transit authorities across the Commonwealth dedicated to the mission of increasing the use of mass transit on a regional basis. In addition to Tyngsborough, the LRTA service area includes Acton, Billerica, Carlisle, Chelmsford, Dracut, Dunstable, Groton, Lowell, Maynard, Pepperell, Tewksbury, Townsend and Westford. The LRTA provides both fixed route bus service and paratransit service. Tyngsborough is also included in the Massachusetts Bay Transportation Authority (MBTA) assessment area, as the Town is contiguous to the community of Lowell, which is served by MBTA commuter rail service.

### COMMUTER RAIL

The MBTA operates commuter rail between the Gallagher Intermodal Transportation Center in Lowell and North Station in Boston. The service consists of twenty-two daily inbound trains operating between 5:35 A.M and 12:10 A.M. Headways are 30 minutes during the peak travel periods, and approximately hourly during other times of the day. In addition to Lowell, the train stops at North Billerica, Wilmington, Anderson, Mishawum, Winchester, Wedgemere and Medford. Weekend and holiday commuter rail service consists of eight daily round trips between Lowell and Boston.

Commuter rail daily ridership from Lowell increased from 655 inbound passengers in March 1975 to 1,522 inbound passengers in March 2018. Similarly, the daily rail ridership from the North Billerica Station increased from 185 inbound passengers in March 1975 to 911 in March 2018. The most recent commuter rail ridership statistics indicate steady growth in the weekend boarding numbers, with 2,007 Saturday passenger boardings and 1,383 Sunday passenger boardings in Lowell, as well as 154 weekend passenger boardings at the North Billerica Station.

### FIXED ROUTE BUS SERVICE

The LRTA operates eighteen fixed bus routes in five communities within its service area (Lowell, Billerica, Chelmsford, Dracut, Tewksbury, Tyngsborough and Westford), as well as in five communities beyond the service area (Andover, Bedford, Burlington, Littleton and Wilmington). All of the LRTA bus routes originate at the Gallagher Intermodal Transportation Center in Lowell, providing a direct link to the MBTA commuter rail station. Bus service is available Monday through Friday from approximately 6:00 A.M. to 8:30 P.M., and on Saturdays from 7:30 A.M. to 6:00 P.M. There is a Saturday service level operated on the following five holidays: Martin Luther King Day, President's Day, Patriot's Day,

Columbus Day and Veterans' Day. A one-year pilot Sunday service was added in June 2019 and operates from approximately 10:00 am to 6:00 pm.

The full price fare for a ride on a fixed route bus is \$1.25 in-town and \$1.85 between two or more communities. For those over the age of 60 or for individuals with a disability, the fare is 60 cents and 90 cents respectively. A transfer fare of 25 cents is charged for in-town connections at the Gallagher Transportation Center, while 50 cents is charged for transfers between communities. \$44 Adult and \$25 Student, Senior and Disability monthly passes are also available for frequent riders. Table 4.15 outlines the characteristics of the three bus routes that operate within Tyngsborough, while Map 4.4 shows the fixed routes and the boundaries of the ADA service area.

**Table 4.15: LRTA Fixed Route Service within Tyngsborough**

Route Number	Route Name	Daily Round-Trips			Average Daily Ridership		
		Weekday	Sat.	Sun.	Weekday	Sat.	Sun.
07	Pawtucketville	30	11	9	750	120	76
10	Dracut/Tyngsborough	14	10	7	225	85	55
17	North Chelmsford	14	11	NA	350	70	NA
19	Tyngsborough/Pheasant Lane Seasonal Saturday Service	NA	6	NA	NA	105	NA

Source: Lowell Regional Transit Authority, National Transit Database reporting

#### TYNGSBOROUGH FIXED ROUTE BUS SERVICE DESCRIPTIONS

The LRTA provides three fixed bus routes and one seasonal bus route within Tyngsborough as described in detail below:

**The #07, Pawtucketville Bus** enters Tyngsborough from Varnum Avenue, traveling for approximately ¼ mile and turning into the Greater Lowell Technical High School. The service operates from 5:55 AM to 9:00 PM, with twenty-eight (28) inbound and twenty-nine (29) outbound runs on weekdays. Saturday service is comprised of eleven (11) inbound and outbound runs from 7:45 AM to 6:25 PM. The average daily ridership is 780 trips on weekdays and 180 trips on Saturdays.

**The #10 Dracut / Tyngsborough Weekday Bus** enters Tyngsborough from Tyngsborough Road in Dracut. The route travels along Lakeview Avenue to Route 3A/Frost Road, terminating at the Hudson N.H. line. The service operates from 6:45 AM to 8:00 PM, with fifteen (15) inbound and twelve (12) outbound runs on weekdays. Saturday service is comprised of ten (10) inbound and outbound runs from 8:00 AM to 5:45 PM. The average daily weekday ridership is 230 trips and 120 trips on Saturdays.

**The #17 North Chelmsford Bus** enters Tyngsborough on Mission Road, from Dunstable Road in Chelmsford. The bus route turns off Mission Road onto Wood Street and travels back into Chelmsford. The service operates from 6:20 AM to 7:10 PM, with fifteen (15) inbound and fourteen (14) outbound runs on weekdays. Saturday service is comprised of ten (10) inbound and eleven (11) outbound runs from 8:00 AM to 5:55 PM. The average daily ridership is 310 trips on weekdays and 100 trips on Saturdays.

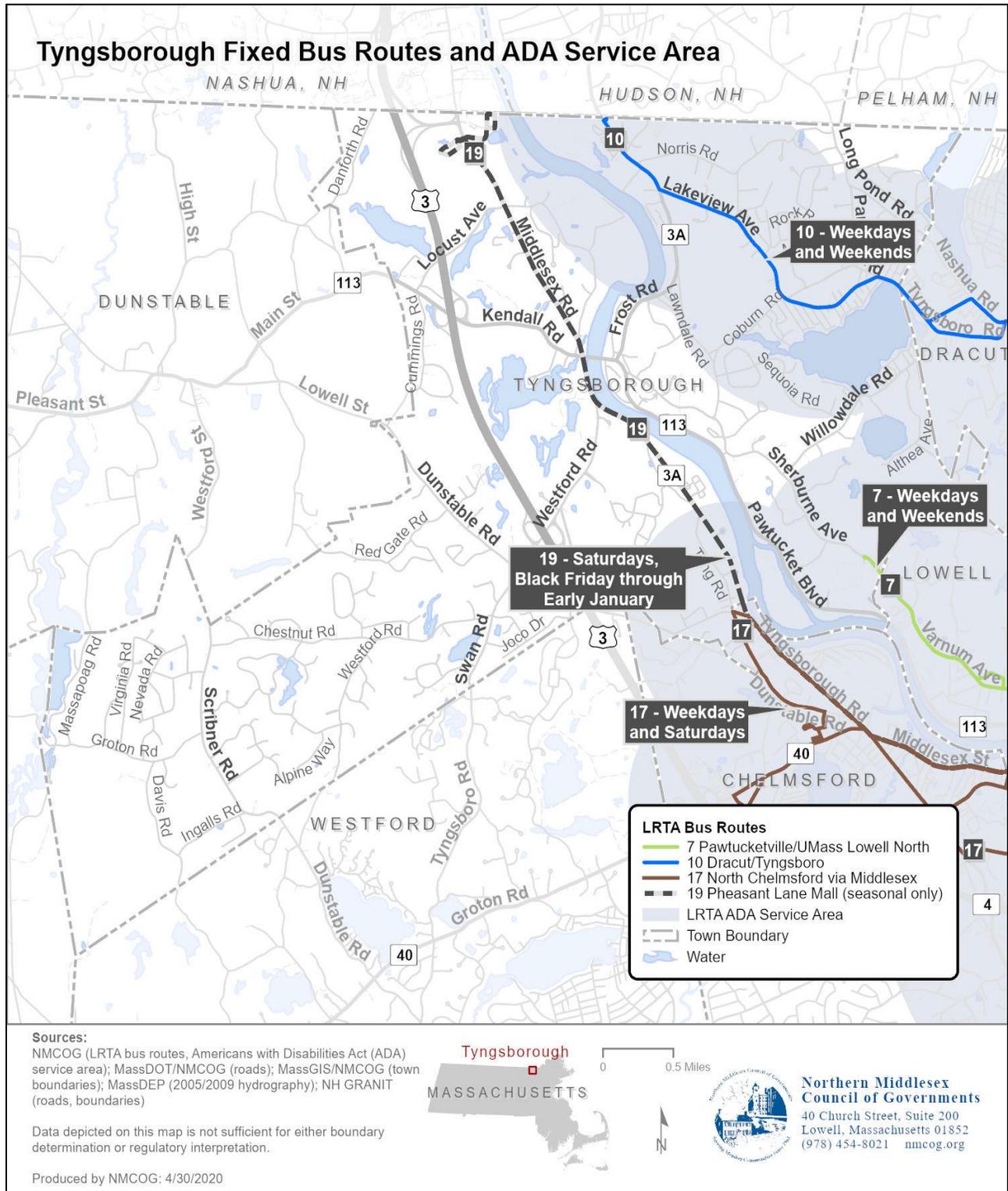
**The #19 Tyngsborough / Pheasant Lane Seasonal Saturday Service Bus** enters Tyngsborough on Middlesex Road (Rte. 3A), from Tyngsborough Road in Chelmsford. The bus route continues along Middlesex Road turning left into AMC Cinema Plaza. From the Plaza, the bus exits back onto Middlesex Road turning right into Pheasant Lane southern roadway, and stopping at the Buffalo Wild Wings entrance to the mall. The seasonal Saturday service operates between Thanksgiving and the middle of January from 9:30 AM to 4:30 PM, with six (6) round trips. The average daily ridership on the Saturday service is 105 trip.

#### PARATRANSIT SERVICE

The LRTA operates paratransit service through two distinct programs, all under the title “Road Runner”. The primary service is the Americans with Disabilities Act (ADA) complementary service, as mandated by Federal law, while the second demand response service is operated by each community’s COA with funds provided by the LRTA. Additionally, the Road Runner program offers transportation to the Bedford VA Clinic and Boston area hospitals every Wednesday. The fare for Road Runner services is \$2.00 each way in-town, and \$3.00 each way between communities. The fare for the Wednesday hospital bus is \$12.50 round trip to the Bedford VA Clinic, and \$25.00 round trip for the Boston hospitals.

In Tyngsborough, the Road Runner ADA paratransit service consists of one or more (depending upon the daily demand) wheelchair lift-equipped minibuses, operating throughout the LRTA fixed route ADA service area, Monday through Friday, from 6:00 A.M. to 6:00 P.M. (7:30 A.M. to 6:00 P.M. on Saturdays). Trips can be scheduled one day in advance by calling the Road Runner office in Lowell. These trips are reserved for disabled passengers who are not able to access a fixed route bus. In general, the ADA complementary service area is defined as a three-quarter mile radius surrounding existing LRTA fixed routes. The ADA service area is smaller on Saturdays, when one fixed route bus does not operate. In Fiscal Year 2019, Tyngsborough residents generated approximately 500 ADA passenger trips.

**Map 4.4: LRTA Fixed Routes and ADA Service Area**



The Road Runner Council on Aging service consists of two wheelchair-lift-equipped minibus operating within the Town, and between Tyngsborough and surrounding communities. The service is available from 8:00 A.M. to 4:00 P.M., Monday through Friday, and requires a two-day (48-hour) advanced booking. The LRTA owns the minivans, leases them to the Town, and provides funds for vehicle operation. Residents schedule trips by calling the Tyngsborough Senior Center. Senior Center staff schedule, dispatch and drive the minibus. The Road Runner COA van reported nearly 3,000 passenger trips in FY 2019.

## PEDESTRIAN AND BICYCLE FACILITIES

In many communities, bicycling and walking have become key factors for measuring community's quality of life. Communities that promote walking and other forms of non-motorized transportation can reap significant social, environmental and health benefits. Safe, convenient and comfortable trails, sidewalks and walkways provide opportunities for exercise, help people meet and socialize, and provide mobility options for children and others who do not drive. With the option to walk or bike available to residents, shoppers and workers, the number of motorized vehicles on the roadways can be reduced, which helps to decrease traffic congestion, air pollution and the need for large parking areas.

## NON-MOTORIZED TRANSPORTATION AND HEALTHY AGING

Being able to get around using the means of transportation one desires is a fundamental aspect of healthy aging. Transportation links older adults to essential goods and services and to social interaction with family and friends, and provides an element of independence that is important to physical and emotional well-being. For the older adults who are not licensed to drive (12% of people 65-69 and 52% of those age 85 and over<sup>5</sup>), walking or public transportation may be the only transportation options available. Older drivers average six trips per week outside their homes, while non-drivers average only two trips.<sup>6</sup> This reduction may have a significant impact on social connections and lead to depression and other mental health issues.

Walking and/or wheelchair use for daily activities is a valuable means for getting recommended daily exercise. Walking has numerous health benefits, such as:

- Improving blood pressure;
- Reducing the risk of heart disease;
- Alleviating depression; and
- Significantly reducing the risk of Alzheimer's.

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<sup>5</sup> Bureau of Transportation Statistics; <https://www.bts.gov/content/licensed-drivers>

<sup>6</sup> Livable Community Indicators for Sustainable Aging in Place, MetLife Mature Market Institute, 2013.

However, walking is more dangerous for older adults than for younger residents. Older adults are more likely to be hit by automobiles, and are more likely to die as a result of such accidents. People age 70 and over comprise less than 10% of the nation's population but account for 18% of pedestrian deaths.<sup>7</sup> Overall, the elderly may be fifteen times more likely to be injured or killed as pedestrians than as drivers.<sup>8</sup> In addition, injuries from falls are a leading cause of death in older adults. Streets, curbs and sidewalks that have uneven surfaces, cracks, grade changes and tripping hazards can present a significant health risk for a community's senior population.

## COMMUNITY INITIATIVES FOR IMPROVING NON-MOTORIZED TRANSPORTATION

Enhancing transportation requires community design improvements to help everyone, including older adults, stay active and healthy in a safe manner. The following measures are typically utilized to address bicycle and pedestrian needs within a community:

- Evaluate local needs for pedestrian, bicycle and trail access and mobility;
- Create a plan for upgrading existing facilities, establishing future networks, and obtaining needed funding;
- Develop and maintain pedestrian and bicycle facilities using state and federal grant funds, and local Community Preservation funds;
- Enact local bylaws and subdivision regulations that enhance compact development and encourage the provision of pedestrian and bicycle accommodations; and
- Consider pedestrian and bicycle needs within the site plan and subdivision review processes.

## SIDEWALKS

Map 4.5 shows the existing sidewalk network in Tyngsborough as of 2018. When considering improvements to bicycle and pedestrian facilities it is important to take into consideration all users, including those with physical impairments. Sidewalks should be wide enough to safely accommodate wheelchairs, and wheelchair ramps at crosswalks should meet ADA standards. When upgrading pedestrian-actuated signals at crosswalks, consideration should be given to those with visual impairments by providing an audible indicator. ADA sidewalk construction guidance requires that a sidewalk have a minimum clear width of four feet, provided it is designed with additional considerations. MassDOT ADA Section 504 Transition Plan defines the additional considerations as:

- Four-foot minimum walk width excluding the curb width; and

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<sup>7</sup> Sandra Rosenbloom, *The Mobility Needs of Older Americans: Implications for Transportation Reauthorization*, The Brookings Institution.

<sup>8</sup> Deborah Howe, *Aging as the Foundation for Livable Communities*, Routledge, 2012.

- Passing areas are required in any case where a five-foot minimum sidewalk width is not provided.

In order to meet ADA requirements, care must be taken when designing sidewalks that also have physical barriers built into them, such as utility poles, fire hydrants and traffic signal bases. An unobstructed three-foot path of travel that excludes the curb must be maintained past any sidewalk obstructions. Adequate width and lack of obstructions are not the only requirements that need to be met. Factors such as wheelchair accessible ramps, slope of the sidewalk and the type of construction material used will factor into the design.

As previously discussed, the Town contracted with WorldTech Engineering LLC in 2018 to survey pavement conditions for a pavement management program. Sidewalk data, including material type, width, and overall condition, was also collected and inventoried. The survey found that sidewalks are provided along 26.4 (34%) miles of town accepted streets. Of these, the total mileage of streets with sidewalk on both sides is 1.1 miles, and additional 25.3 miles of streets have sidewalk on one side only.

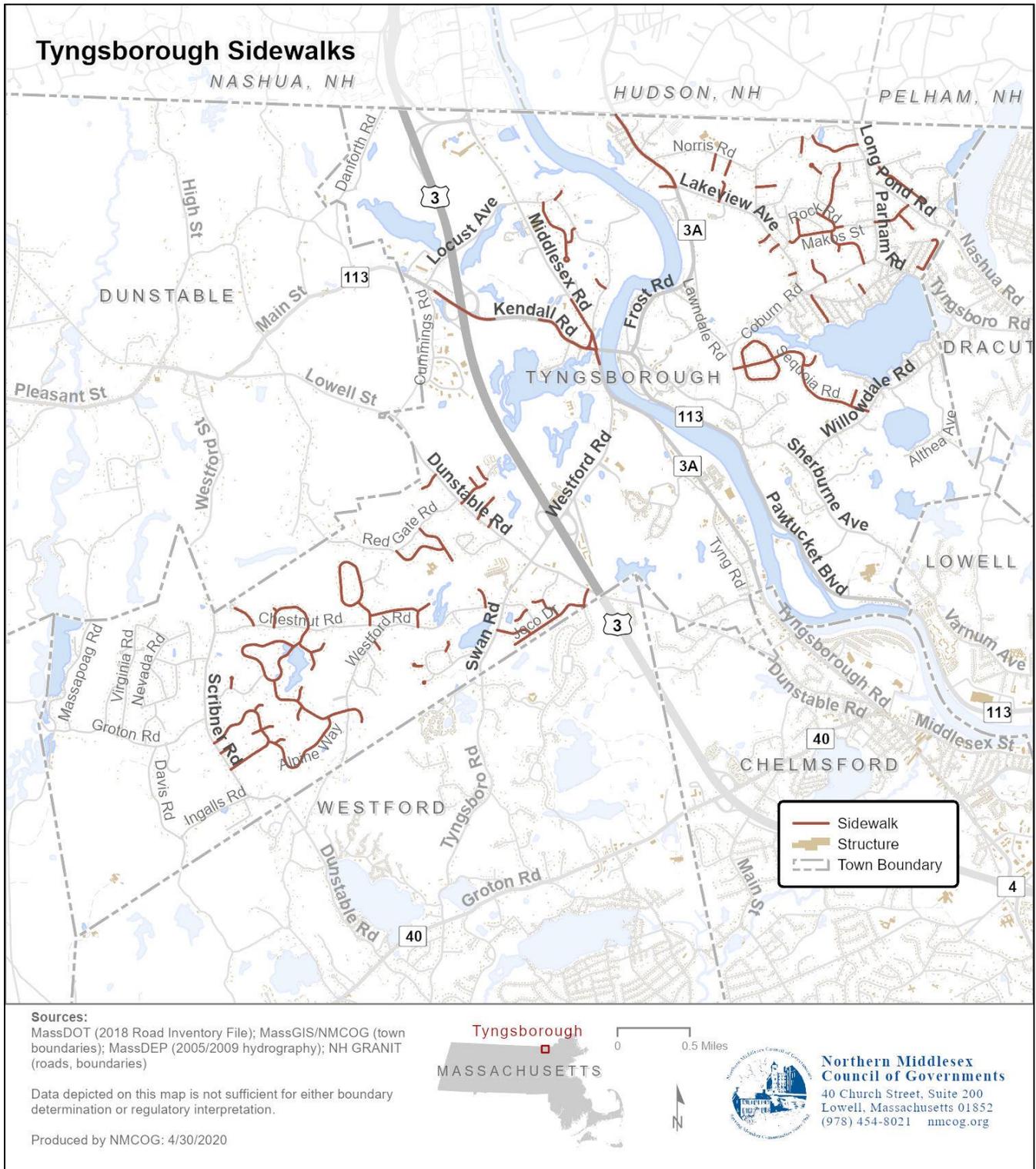
Sidewalk construction is expensive and funding sources are very limited. Without a dedicated funding source, even the best-crafted plan cannot be implemented. The most likely funding source for sidewalk construction is local revenue that provides a predictable capital outlay through the town budget. However, given the Town's budgetary situation, this may not be possible. A more practical approach to funding sidewalk improvements in Tyngsborough may be the establishment of a sidewalk improvement account negotiated as part of the approval process for private development and redevelopment projects.

## BICYCLE FACILITIES AND PATHS

Currently, Tyngsborough has a designated on-road bicycle lane on Westford Road between Old Stone Hill Road and Dunstable Road. Closed circuit trails, multi-use paths and walkways can be found in many of Tyngsborough's parks and open space areas. These trails do not connect to a larger network and do not promote multimodal transportation throughout the community due to their isolation, nonetheless they are important amenities that promote exercise and a sense of community.

The lack of a connected sidewalk and trail system is one of the most notable deficiencies in Tyngsborough's transportation network. Future planning initiatives should focus on closing the gaps in the network, with priority given to linking the town center and neighborhoods with the schools, business districts, and open space and recreation areas. Toward this end, the town should develop a comprehensive Bicycle and Pedestrian Plan that stresses connectivity, safety, and meeting the needs of all users.

**Map 4.5: Tyngsborough Sidewalk Network**



## COMPLETE STREETS

A Complete Street is one that provides safe and accessible options for all travel modes – walking, biking, transit, and motorized vehicles – for people of all ages and abilities. The Massachusetts Department of Transportation (MassDOT) Complete Streets Funding Program was created by legislative authorization through the 2014 Transportation Bond Bill, with the intent of rewarding municipalities that demonstrate a commitment to embedding Complete Streets in policies and practices. The benefits for municipalities that participate include:

- Up to \$50,000 in funding for technical assistance to analyze community needs and develop a Complete Streets Prioritization Plan, and
- Up to \$400,000 in funding for construction of Complete Streets infrastructure projects.

To be eligible for technical assistance, a municipality must attend training and approve a Complete Streets Policy in the manner prescribed. In order to be eligible for project funding, the municipality must complete a Complete Streets Prioritization Plan, which is a targeted investment strategy.

The Tyngsborough Board of Selectmen has approved the Town’s Complete Streets Policy and a Complete Streets Prioritization Plan has been adopted and approved. The Town received \$396,631 in 2019 Complete Streets funding to reconstruct the intersection of Kendall Road and Winslow Road and add new sidewalks and curb extensions, pedestrian signals, and ADA compliant ramps. In addition, a shared use path along Winslow Road will be installed to provide a direct connection to the new recreation center. While Complete Streets improvements were identified at Flint’s Corner and along Westford Road from Wyndbrook Lane to Dunstable Road, these areas were addressed through a MassWorks grant.

The Town’s Complete Streets Prioritization Plan includes a number of locations where improvement are needed to enhance pedestrian and bicycle accommodations as well as ADA compliance, as outlined in Table 4.16.

**Table 4.16: Complete Streets Priority Projects**

Location	Project Description	Estimated Cost
Norris Road from Frost Road to Lawrence Road	Construction of ADA compliant sidewalks and curb ramps; installation of sharrows on primary route to middle school and high school	\$474,000
Coburn Road from Parham Road to Lakeview Avenue	Construction of ADA compliant sidewalks and curb ramps; installation of sharrows on primary route to Valley Collaborative School	\$353,000

**Table 4.16 (cont'd): Complete Streets Priority Projects**

Location	Project Description	Estimated Cost
Lakeview Avenue from Coburn Road to Frost Road	Construction of ADA compliant sidewalks and curb ramps; installation of sharrows on primary route to middle school and high school	\$770,000
Coburn Road from Lakeview Avenue to Robin Hood Road	Construction of ADA compliant sidewalks and curb ramps; installation of sharrows on primary route to the Sherburne Nature Center	\$614,000
Westford Road from Westech Drive to Route 3A	Construction of ADA compliant sidewalks and curb ramps; installation of sharrows	\$499,000
Farewell Road from Middlesex Road to Helena Drive	Construction of ADA compliant sidewalks and curb ramps; installation of sharrows	\$397,000
Frost Road traffic calming from Indian Lane to Lawndale Road	Construction of new sidewalks, curb ramps and crosswalks, new pavement markings, pedestrian-activated warning devices for pedestrian crossing, and high visibility signage	\$497,000
Lakeview Avenue at Palmetto Drive	New crosswalks, wheelchair ramps, and pedestrian-activated warning devices for pedestrian crossing on Lakeview Avenue.	\$21,000
Lakeview Avenue from Coburn Road to Parham Road	Installation of sharrows for bicycle awareness	\$5,000
Dunstable Road from Cannongate Road to Westford Road	Construction of ADA compliant sidewalks and curb ramps; installation of sharrows for primary route to the Middle School and High School	\$386,000
Lakeview Avenue at Coburn Road	Reconstruction of intersection to provide ADA compliant curb ramps, sidewalks and crosswalks	\$113,000
Sherburne Avenue from Cardinal Lane to Coburn Road	Add MUTCD compliant signage at each crosswalk on Sherburne Avenue	\$3,000
Lawndale Road from Coburn Road to Wicasse Road	Construction of ADA compliant sidewalks and curb ramps	\$177,000
Westford Road from Colonial Drive to Palomino Drive	Construction of ADA compliant sidewalks and curb ramps to extend existing sidewalk	\$241,000
Tyng Road from Middlesex Road to Wood Street	Construction of ADA compliant sidewalks and curb ramps to serve the Innovation Charter School	\$329,000

Source: Tyngsborough Complete Streets Prioritization Plan, 2018

## ROUTE 113 PARK AND RIDE LOT

The Tyngsborough Park and Ride lot located at the U.S. Route 3 interchange with Route 113 (Kendall Road) at Exit 88 (formerly Exit 34) was opened in 2006 as mitigation for the Route 3 expansion project. In November 2010, Boston Express, a private commuter bus company, began providing service between Nashua, New Hampshire and Boston, with a stop at



IMAGE 10.1: ROUTE 113 PARK AND RIDE LOT, TYNGSBOROUGH, MA.

the Tyngsborough lot. Latest monitoring results show that occupancy is routinely over 100% and the lot is classified as “Full”. The Town of Tyngsborough, NMCOG and MassDOT are working collaboratively on possible expansion of the lot to handle the increased demand. Figure 4.3 provides a summary of occupancy growth at the Route 113 Park and Ride lot (average spring weekday occupancy) from 2009 to present.

**Figure 4.3: Tyngsborough Route 113 Park and Ride Occupancy**



Given its proximity to New Hampshire and Route 3, the majority (65%) of vehicles parked at the lot have New Hampshire license plates on a typical weekday.

## EXIT 36 PLANNING STUDY

While Middlesex Road in Tyngsborough and the Daniel Webster Highway corridor in Nashua, NH have attracted significant development, the roadway has also incurred significant challenges in the terms of peak hour and weekend traffic congestion. The Exit 36 interchange, recently renumbered as Exit 91, lies just south of the New Hampshire border in Tyngsborough and the ramp system terminates/originates at the signalized intersection with Middlesex Road and the Pheasant Lane Mall. The current configuration of the interchange provides for all movements except for southbound Route 3 traffic. The *Exit 36*

*Southbound Planning Study* provided an analysis of the potential benefits to regional traffic and economic development that would be realized by constructing a Route 3 southbound off ramp at Exit 91 (formerly Exit 36). The study was funded by the Federal Highway Administration through the Transportation System and Community Preservation (TCSP) Grant Program and was undertaken by the Nashua Regional Planning Commission and the Northern Middlesex Council of Governments.

The Exit 91S (formerly Exit 36S) off ramp significantly improves operating conditions along the major roads in the study area, by relieving traffic congestion and delay, reducing greenhouse gas emissions, improving travel times, and decreasing lost productivity. The project enhances the effectiveness of public transportation and would support future passenger rail service should New Hampshire decide to fund the extension of commuter rail service from Lowell to Nashua, Manchester and Concord, NH. The southbound ramp and related improvements will provide more efficient access to services, area business establishments, and local and regional job centers. The improvements would also serve as a catalyst for future economic development and community investment.

The preliminary layout assumes a loop ramp on the west side of US Route 3 in Tyngsborough. The off ramp begins just north of the Massachusetts Border in Nashua NH, passes over the US 3 mainline and meets grade, merging with the existing Exit 91 (formerly Exit 36) northbound off ramp. The intersection of Middlesex Road and the Exit 91 ramps/Pheasant Lane Mall would require the construction of physical improvements to provide three left-turn lanes, two through lanes, and a right-turn lane from the off-ramps, as well as two through lanes, a left-turn lane and a right-turn lane from the Pheasant Lane Mall exit. The north-bound approach of Middlesex Road from Massachusetts would require a redistribution of lanes, changing a through lane into a left turn lane; no changes are needed for the geometry of Middlesex Road southbound at this intersection.

A planning level project cost estimate was developed for a loop ramp concept on the west side of U.S. Route 3 Southbound with bridges crossing over the highway ending in an at grade intersection at Middlesex Road. The cost estimate was shown in 2014 dollars and did not include the cost to acquire the necessary Right of Way to construct the project. Assuming construction began in 2020 and using a 4% inflation factor as recommended by the FHWA, the cost of the project was expected to be approximately \$21M.

## MERRIMACK RIVER CROSSING

The Tyngsborough Bridge, originally constructed in 1932, provides the only crossing of the Merrimack River for the residents of Tyngsborough and neighboring communities of Chelmsford, Dracut, Westford and Dunstable. The next river crossing is located

approximately five miles to the north and six miles to the south. Increased traffic congestion on and around the bridge, from local and regional growth, has resulted in significant congestion and delays. The bridge carries approximately 23,000 vehicles per day.

In February 2002, the *New Tyngsborough Bridge Transportation Study, Feasibility Study, and Conceptual Design for a Second Bridge Crossing of the Merrimack River* was published by MassDOT. The purpose of the study was to assess the need for and feasibility of a second bridge across the Merrimack River. The first part of the study evaluated 14 different alternative crossing locations. The feasibility study indicated that alternatives 5/6 and 14 best met the goals of the study with the least environmental impact.

Alternative 5/6 used the regional access and natural terrain advantages of Westford Road. It connected Westford Road, on the west side of the River, with the relocated Pawtucket Boulevard on the east side of the river via a four-lane bridge and access road. Traffic projections showed that this alternative would attract approximately 23,500 vehicles on a daily basis in the year 2020 and that it is one of the most effective alternatives in drawing traffic away from the existing bridge. Alternative 14 capitalized on the regional connection to Route 3 via Exit 91 (formerly Exit 36). This alternative connects Middlesex Road at the Exit 91 Access Ramp on the east side of the river, to Frost Road on the west side of the river, via a four-lane bridge and access road.

An Environmental Notification Form was filed with MEPA on September 25, 2002. The Massachusetts Secretary of Energy and Environmental Affairs issued a Certificate on November 22, 2002 requiring that an Environmental Impact Report (EIR) be prepared for the proposed project. The EIR would assess the environmental impacts of each of the preferred alternatives. The selection, design, permitting and construction of the additional river crossing would take several years to complete.

## PUBLIC INPUT

The first public Visioning Session was held on January 9, 2019 at the Old Town Hall. The purpose of the session was to provide an overview of the Master Plan process, discuss future opportunities for public involvement, and complete a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis. Forty-six participants attended the session and provided the following transportation-related input:

### **Strengths**

- Proximity to Route 3
- Trails in the State Forest

- Park and Ride/Bus to the airport
- Historic Tyngsborough Bridge

### **Weaknesses**

- Lack of sidewalks/not pedestrian friendly
- Lack of public transportation
- Need a second bridge
- Town Center is not walkable
- Lack of a bike trail
- Lack of parking near the Old Town Hall

### **Opportunity**

- Connect Town Center properties

### **Threat**

- Traffic from development

The Master Plan Committee distributed a written and online survey to residents as a means of gathering public input and received 361 responses. The transportation-related input generated from the survey is summarized as follows:

- Each respondent was asked why he or she chooses to live in Tyngsborough, and access to Route 3 was the number one response (45.53%).
- When asked to rate roadway maintenance, nearly half of the respondents (149) indicated that it is poor, while most other respondents (110) felt it is fair; only 59 respondents indicated that it is excellent or good. If every residents were given \$100 in town funds most indicated that they would spend it on improving the condition of the roads.
- Remarkably, traffic flow in the Town Center and other areas of town, as well as speeding enforcement were viewed favorably by the majority of survey respondents.
- The majority of respondents indicated that there is an overall lack of bicycle accommodations.

## **ISSUES AND OPPORTUNITIES**

The town's transportation system currently has limited sidewalks or dedicated bicycle accommodations. Implementing the recommendations outlined in the town's adopted *Complete Streets Prioritization Plan* will help move the town forward in this regard. Additional linkages, through the establishment of sidewalks, pathways and trail connections, should be pursued in the future, as resources permit. Such efforts should emphasize safety and accommodate users of all abilities.

Funding pedestrian and bicycle transportation projects will require a multi-faceted approach that includes State grants, private developer contributions, Chapter 90 and municipal funds. Town should work with developers and businesses to provide streetscape amenities, such as benches, street trees and pedestrian scale lighting as part of the project approval process in certain areas of town, such as the Town Center. The town's *Complete Streets Prioritization Plan* has identified many locations for new sidewalks, curb ramps, sharrows and ADA compliance improvements. The Town should seek out Complete Streets and Safe Routes to Schools funding to implement these projects in the future. In addition, the town should work with landowners to secure the easements or rights-of-way for future trail and sidewalk connections needed to create a town-wide network.

Bicycle and pedestrian safety cannot be addressed simply by improving bicycle and pedestrian facilities. Educational initiatives for bicyclists, pedestrians and motorists are also essential. Paying particular attention to the needs of children is especially important, since bicycling and walking are their only means of independent transportation and children lack the experience of an adult. Public safety officials and the school department should collaborate on a safety education program for school-age children. There is a need for additional parking in the Town Center, particularly when special events are scheduled. The Town will need to quantify the parking demand in the future and identify opportunities for expanded parking. A need for traffic calming in the Town Center, along the northern end of Middlesex Road, and on Pawtucket Boulevard has been identified. These locations are state-owned and implementation of traffic calming measures will require the cooperation of MassDOT. The Master Plan Committee recommends that the concept of creating a boulevard along Westford Road be further investigated to determine whether it is a viable means of calming traffic and reducing travel speeds, while also improving the aesthetics along the corridor. The use of traffic calming devices should be carefully considered and traffic calming proposals should be reviewed by the Fire and Police Departments, to ensure that any proposed changes will not significantly increase emergency response times or hinder effective evacuation of an area in the event of an emergency.

The parking requirements outlined in the Town's development regulations need to be updated and expanded, to reflect more current standards for various types of land uses. The Planning Board should revise and update the regulations so that they are in keeping with the planning and design goals of the community, including the desire to preserve rural character on low-volume residential streets, while protecting public safety and accommodating the needs of all roadway users.

The parking design standards for commercial and industrial projects should require that parking areas be located to the side and rear of the buildings, in order to create more welcoming and pedestrian-friendly streetscapes. Landscaping on the periphery of a parking facility and within parking areas can be used to soften the appearance of a parking facility from the street. More specifically, expanses of parking should be broken up with landscaped islands and planted strips, which include shade trees and shrubs. Such landscaping provides a tree canopy cover, reduces the heat island effect in the summer, and breaks up the visual impact, making the parking lot feel smaller and less overwhelming.

The Town should re-examine the parking requirements for condominium projects to determine whether the current standard of 1.5 spaces per unit adequately meets the needs of residents and their visitors. The current dimensional requirements for parking spaces should be reviewed and evaluated given that they exceed current industry standards. Reducing the size of parking stall dimensions overall and dedicating a certain percentage of stalls to compact cars can reduce impervious surface cover. While the trend toward larger sport utility vehicles is often cited as a barrier to implementing smaller stalls, width requirements in most local communities are still much larger than the widest SUV. The Planning Board should also consider adding requirements for bicycle parking for commercial and industrial projects.

The current regulations do not address the design of drive-throughs. In addition, COVID-19 will likely change the way that retail businesses and restaurants operate going forward, with more people opting for contactless purchases and curbside pick-up. The town should consider these issues as they review and update the zoning bylaw and subdivision regulations, and when reviewing development and redevelopment projects.

Inadequate roadway maintenance has been cited as a significant concern for Tyngsborough residents. The Town has begun to address this issue through a pavement management program. A financing plan for the needed improvements should be developed. While Chapter 90 funds are available for roadway improvement and maintenance project, other funds will be needed. The Town could pursue funding through the region's Transportation Improvement Program for projects on federal aid eligible roadways.

High crash locations within Tyngsborough include the intersections of Kendall Road and Middlesex Road, and Middlesex Road, Farwell Road, and Locust Avenue. In addition, higher levels of pedestrian-involved crashes occurred along Route 3A south of Westford Road. Residents have also expressed concerns about safety conditions along Pawtucket Boulevard. The Town should continue to work with MassDOT and NMCOG to address safety concerns at these locations as they are state-owned.

The proposed Exit 91 (formerly Exit 36) off ramp project would significantly improve operating conditions at the Route interchange, alleviate traffic at the Exit 90 (formerly Exit 35) interchange and along Kendall Road, while also enhancing economic development opportunities along Middlesex Road in Tyngsborough. The Master Plan Committee supports a continued partnership with MassDOT, the City of Nashua, and NHDOT in the future design and permitting of the project.

Over the long-term, a second river crossing in Tyngsborough will be needed to accommodate regional growth. The feasibility of siting a second bridge across the Merrimack River will need to be undertaken given the significant changes in land use that have taken place since completion of the 2002 study. The Master Plan Committee is supportive of initiating this study in the future as the need arises and resources become available through MassDOT and NMCOG.

The Tyngsborough Park-and-Ride lot opened in 2006 and its occupancy is monitored regularly by NMCOG as part of its congestion management program. Over the past few years that lot has been filled beyond capacity. The Town should continue to work with NMCOG and MassDOT on plans to expand the facility. Furthermore, the temporary trailer utilized for Boston Express ticket sales should be replaced with a permanent structure.

## RECOMMENDATIONS

- Additional pedestrian linkages should be pursued through the establishment of sidewalks, pathways and trail connections, emphasizing safety and accommodating users of all abilities.
- Work with developers and businesses to provide streetscape amenities, such as benches, street trees, and pedestrian scale lighting in certain areas of town, such as the Town Center, through the project approval process.
- Apply for Complete Streets and Safe Routes to Schools funding to implement the projects identified in the *Complete Streets Prioritization Plan*.
- Work with landowners to secure the easements or rights-of-way needed for future trail and sidewalk connections in order to create a town-wide network.
- Create a pedestrian and bicycle safety education program for school-age children through collaboration with public safety officials and the school department.
- Undertake a parking demand study for the Town Center to identify opportunities for expanded parking.
- Work with MassDOT on possible traffic calming measures in the Town Center, along the northern end of Middlesex Road, and on Pawtucket Boulevard.

- Study the concept of creating a boulevard along Westford Road to determine whether it is a viable means of calming traffic and reducing travel speeds, while also improving the aesthetics along the corridor.
- Revise and update the parking requirements outlined in the Town’s development regulations to reflect more current standards for various types of land uses. The parking design standards for commercial and industrial projects should require that parking areas be located to the side and rear of the buildings, in order to create more welcoming and pedestrian-friendly streetscapes. Re-examine the parking requirements for condominium projects to determine whether the current standard of 1.5 spaces per unit adequately meets the needs of residents and their visitors. The current dimensional requirements for parking spaces should also be reviewed and evaluated given that they exceed current industry standards. Consider adding requirements for bicycle parking for commercial and industrial projects.
- Revise and update the zoning and subdivision regulations so that they are in keeping with the planning and design goals of the community, including the desire to preserve rural character on low-volume residential streets, while protecting public safety and accommodating the needs of all roadway users.
- Modify the development regulations to include better design guidance for drive-throughs. Consider evolving retail business and restaurant operating models that focus on contactless purchases and curbside pick-up when updating and revising design requirements for access, egress and parking lot design.
- Develop a roadway maintenance financing plan to address existing and projected future maintenance needs.
- Work with MassDOT and NMCOG to address high crash locations, including the intersections of Kendall Road and Middlesex Road, and Middlesex Road, Farwell Road, and Locust Avenue, and further study the pedestrian-involved crashes that have occurred along Route 3A south of Westford Road.
- Continue to partner with the City of Nashua, NHDOT and MassDOT in the future design and permitting of the Exit 36 off ramp project.
- As a long-term project, work with MassDOT and NMCOG in initiating an updated feasibility study for a second river crossing in Tyngsborough.
- Continue to work with NMCOG and MassDOT on the expansion of the Tyngsborough Park and Ride facility, and replacement of the temporary trailer utilized for Boston Express ticket sales with a permanent structure.

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# V. HOUSING

## INTRODUCTION

The Housing Chapter of the Tyngsborough Master Plan focuses on the available and potential housing stock in the community, as well as the housing demographics of Tyngsborough residents that benefit from the community's housing stock. The Town of Tyngsborough has a predominantly single-family housing stock that has become more diverse over the last 10-20 years. The housing market plays a major role in the community's economy and ability to support the expanding need for municipal services. Tyngsborough's future will depend upon how it addresses the changing housing needs of its residents and balances the need for more diverse housing with the quality of life that attracts people to Tyngsborough.

This Housing Chapter builds upon the work completed in the previous Master Plan and the *Tyngsborough Housing Production Plan for 2020-2024*. These documents stressed the need for more affordable housing and, in particular, affordable housing options for the elderly. This chapter focuses on the entire housing market in Tyngsborough, not just affordable housing, which has been addressed through the *Tyngsborough Housing Production Plan for 2020-2024*. The opportunities for housing development in Tyngsborough are extensive and can address the diverse housing needs of the community. This section will focus on the numerous housing opportunities available to address the extensive housing needs in the community.

This chapter has been divided into five subsections: Existing Conditions, Housing Development and Sales Trends, Housing Needs, Affordable Housing Efforts, Public Input and Additional Questions. The Existing Conditions subsection summarizes the Housing Inventory; Housing Age and Development Type; the Size and Condition of Housing Units; Occupancy, Tenure and Vacancy Rates; and

## HOUSING GOALS

- Support market-rate and affordable housing units that address the housing needs of the community by partnering with non-profit and for profit developers.
- Provide a variety of housing options with varying styles and densities to meet the needs of all residents.
- Implement the Housing Trust approved by Town Meeting in 2015.
- Implement the 2020-2024 Housing Production Plan approved by DHCD.
- Continue to exceed the 10% affordable housing goal after the release of the 2020 U.S. Census.
- Apply for Housing Choice designation so that the Town can access capital grant funds to address its infrastructure issues.
- Utilize state and local funds and other "tools", such as Chapter 40R, Inclusionary Zoning and "friendly" 40B developments to increase the supply of affordable housing.
- Increase awareness of first-time homebuyer and foreclosure assistance programs.

Housing Turnover. The next subsection on Housing Development and Sales Trends focuses on New Residential Development, Number of Home Sales, Median Sales Prices, Comprehensive Permits and Infrastructure Limitations. The Housing Needs subsection provides a Demographic Profile, which complements the information in the Land Use and Zoning and Economic Development chapters, and a Housing Affordability component. The subsection on Affordable Housing Efforts principally provides information from the draft *Housing Production Plan for 2020-2024*. The Public Input subsection summarizes the information provided through the initial SWOT session and Visioning Session II, as well as information from the town-wide survey. The Issues and Opportunities section highlights those areas that the Town of Tyngsborough can focus on to increase the diversity of housing options and to support the growing housing needs of private businesses in the region. The Recommendations section summarizes what's outlined in the Issues and Opportunities section.

## EXISTING CONDITIONS

This section provides an overview to the existing conditions of the local housing stock over time, including changes in the total number of units, historical development patterns, the size and condition of the local housing stock, and housing tenure/turnover trends.

### HOUSING INVENTORY

According to the 2000 U.S. Census, there were 3,806 housing units in Tyngsborough, of which 76.5% were detached single-family homes. The overall percentage of detached single-family houses decreased to 72.6% in 2013-2017, while the percentage of attached single-family houses increased from 5.9% in 2000 to 11.7% in 2013-2017. According to the data shown on Table 5.1, two-family homes increased from 2.7% in 2000 to 3.9% in 2013-2017, while 3-4 units decreased from 2.7% in 2000 to 2% in 2013-2017. Multi-unit housing structures experienced an increase in the 5-9 units from 1.6% in 2000 to 3.2% in 2013-2017, but a decrease in the 10-19 category from 2.2% in 2000 to 1.3% in 2013-2017 and the 20+ category from 7% in 2000 to 5.4% in 2013-2017. The total number of housing units increased by 16.4% between 2000 and 2013-2017 largely due to the growth in both detached and attached single-family homes.

**Table 5.1: Housing Units by Type: 2000 and 2013-2017**

Number of Units per Structure	2000		2013-2017		Percent Change 2000-2013/ 2017
	Number	Percent	Number	Percent	
Single-Family, detached	2,913	76.5	3,215	72.6	10.4
Single-Family, attached	224	5.9	517	11.7	130.8
2 units	101	2.7	172	3.9	70.3
3-4 units	104	2.7	90	2.0	-13.5
5-9 units	61	1.6	140	3.2	129.5
10-19 units	85	2.2	57	1.3	-56.5
20 or more units	267	7.0	240	5.4	-10.1
Mobile Home	42	1.1	0	0.0	NA
Boat, RV, van, etc.	9	0.2	0	0.0	NA
<b>Total Housing Units</b>	<b>3,806</b>	<b>99.9</b>	<b>4,431</b>	<b>100.1</b>	<b>16.4</b>

Source: 2000 U.S. Census; 2013-2017 American Community Survey

## HOUSING AGE AND DEVELOPMENT TYPE

Utilizing the historical data within the Assessor's Office, we can compare the residential properties by land use. According to the Assessor's data base, there were 3,361 residential parcels as of June 20, 2018. These residential properties were broken out by land use in Table 5.2 and show that 96.5% of the parcels are designated as single-family or two single-family (on one parcel):

**Table 5.2: Residential Properties by Land Use**

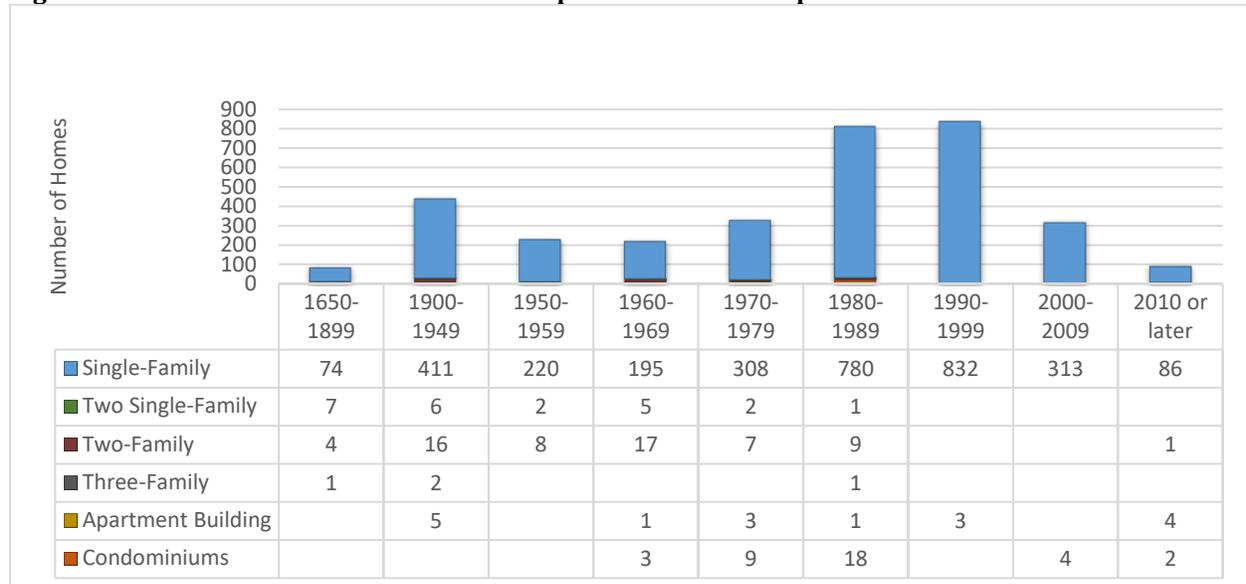
	Number of Parcels	Percent of Total Parcels	Total Acreage	Average Acreage
Single-Family	3,219	95.8	4,274	1.3
Two Single-Family	23	0.7	167	7.3
Two-Family	62	1.8	62	1.0
Three-Family	4	0.1	6	1.5
Condominiums	36	1.1	237	6.6
Apartment Buildings	17	0.5	55	3.2
<b>Total</b>	<b>3,361</b>	<b>100.0</b>	<b>4,801</b>	<b>1.4</b>

Source: Tyngsborough Assessor's Fiscal Year 2019 property assessment database (June 20, 2018 extract)

Figure 5.1 breaks down the residential properties by both the type of housing structure (determined by land use code) and the period in which the housing was built. This data reveals that 756 residential structures were developed prior to 1960 with single-family houses (including two single-family) comprising 95.2% of total residential structures. Since 1960, the number of residential units has increased by nearly three and a half times

that what occurred prior to 1960. Housing growth between 1960 and 2000 represented 65.3% of the total housing structures.

**Figure 5.1: Year Structure Built for all Developed Residential Properties**



*Source: Tyngsborough Assessor's Fiscal Year 2019 property assessment database (June 20, 2018 extract). Excludes six properties lacking Year Built information.*

## SIZE AND CONDITIONS OF HOUSING UNITS

Using the Assessor's database, we were able to break out the characteristics of single-family, two single-family, two-family, three-family, condominium and apartment buildings in Tyngsborough. The specific characteristics of Tyngsborough's housing market are summarized through this data.

### SINGLE-FAMILY HOUSING UNITS

Single-family homes built between 1900 and 1959 have lower assessed values than those single-family homes built before 1900 or after 1960. Part of this may be due to the smaller living areas for these single-family homes. It should be noted that weighted averages are used for the land value, building value and total value in Table 5.3. The largest single-family homes were built between 2000 and 2009 with an average living area of 2,701 square feet. The number of rooms within the single-family homes has remained consistent, but the number of stories per structure increased from one to two after 1980.

**Table 5.3: Characteristics of Single-Family Homes by Age of Housing Unit**

Period	Properties	Land Value	Building Value	Total Value	Lot Area (acres)	Living Area (sq. feet)	Stories	Rooms
1650-1899	74	\$ 139,931	\$161,147	\$ 306,997	1.9	2,251	1	7
1900-1949	411	\$ 127,699	\$129,360	\$ 260,156	1.1	1,591	1	6
1950-1959	220	\$ 121,655	\$133,673	\$ 258,170	0.7	1,569	1	6
1960-1969	195	\$ 131,573	\$146,775	\$ 281,383	1.2	1,776	1	6
1970-1979	308	\$ 140,244	\$180,856	\$ 324,580	1.2	2,083	1	7
1980-1989	780	\$ 151,819	\$218,890	\$ 373,534	1.3	2,347	2	7
1990-1999	832	\$ 162,242	\$252,989	\$ 418,120	1.6	2,501	2	7
2000-2009	313	\$ 137,107	\$310,445	\$ 449,778	1.4	2,701	2	7
2010 or later	86	\$ 138,167	\$327,657	\$ 467,964	1.3	2,574	2	7
<b>Grand Total</b>	<b>3,226</b>	<b>\$104,680</b>	<b>\$204,569</b>	<b>\$312,376</b>	<b>2.3</b>	<b>2,156</b>	<b>2</b>	<b>7</b>

Source: Tyngsborough Assessor's Fiscal Year 2019 property assessment database (June 20, 2018 extract). Total value includes Assessor's Other Value.

**TWO SINGLE-FAMILY HOUSING UNITS**

This category of two single-family housing units seems to be unique to Tyngsborough. It reflects the fact that there are two single-family homes on a single parcel of land. This category of housing accounts for 23 properties and have not been developed since 1989. It will be helpful to learn more about these properties from the Assessor's Office. The characteristics for these housing units are summarized in Table 5.4.

**Table 5.4: Characteristics of Two Single-Family Homes (per parcel) by Age of Housing Unit**

Period	Properties	Land Value	Building Value	Total Value	Lot Area (acres)	Living Area (sq. feet)	Stories	Rooms
1650-1899	7	\$213,843	\$231,857	\$454,186	16.7	3,698	2	7
1900-1949	6	\$131,200	\$167,933	\$302,967	0.4	2,358	1	6
1950-1959	2	\$117,950	\$191,000	\$310,650	0.5	1,770	1	5
1960-1969	5	\$176,680	\$230,960	\$409,880	6.8	3,619	1	6
1970-1979	2	\$163,950	\$213,700	\$382,400	5.9	2,673	2	6
1980-1989	1	\$132,800	\$208,200	\$373,800	0.9	2,136	1	4
<b>Grand Total</b>	<b>23</b>	<b>\$168,004</b>	<b>\$208,826</b>	<b>\$382,887</b>	<b>7.3</b>	<b>3,006</b>	<b>1</b>	<b>6</b>

Source: Tyngsborough Assessor's Fiscal Year 2019 property assessment database (June 20, 2018 extract). Total value includes Assessor's Other Value.

**TWO-FAMILY HOUSING UNITS**

Table 5.5 provides similar information on two-family homes in Tyngsborough. There were 62 two-family homes identified and compared. More than seventy (72.6%) percent of these two-family homes were built before 1970. Some of these structures may have

originally been built as single-family homes and then converted to two-family homes, but the data reflects the property's land use code as of June 20, 2018. The total value for two-family homes increased from 1960 until 1989, and then decreased slightly after 2010 (only one property). It should be noted that weighted averages are used for the land value, building value and total value in Table 5.5. The living area for two-family homes increased between 1970 and 1989, and then decreased after 2010 (only one property).

**Table 5.5: Characteristics of Two-Family Homes by Age of Housing Unit**

Period	Properties	Land Value	Building Value	Total Value	Lot Area (acres)	Living Area (sq. feet)	Stories	Rooms
1650-1899	4	\$127,900	\$191,475	\$329,975	0.9	3,312	2	11
1900-1949	16	\$139,550	\$171,306	\$316,313	0.8	2,339	2	9
1950-1959	8	\$126,500	\$161,213	\$290,713	0.4	2,361	1	10
1960-1969	17	\$128,594	\$181,118	\$314,453	0.8	2,585	1	9
1970-1979	7	\$142,529	\$215,586	\$363,814	1.3	3,005	2	13
1980-1989	9	\$145,744	\$248,289	\$399,178	1.9	3,086	2	10
2010 or later	1	\$148,100	\$232,800	\$390,800	2.6	2,520	2	12
<b>Total</b>	<b>62</b>	<b>\$135,484</b>	<b>\$191,161</b>	<b>\$331,974</b>	<b>1.0</b>	<b>2,659</b>	<b>2</b>	<b>10</b>

Source: Tyngsborough Assessor's Fiscal Year 2019 property assessment database (June 20, 2018 extract). Total value includes Assessor's Other Value.

### THREE-FAMILY HOUSING UNITS

Table 5.6 below provides similar information on three-family homes in Tyngsborough. There were only four (4) three-family homes identified and compared. These three-family homes were built from 1650 to 1989. The total value for three-family homes increased between 1900-1949 and 1980-1989. It should be noted that weighted averages are used for the land value, building value and total value in Table 5.6. The living area for three-family homes increased between 1900-1949 and 1980-1989.

**Table 5.6: Characteristics of Three-Family Homes by Age of Housing Unit**

Period	Properties	Land Value	Building Value	Total Value	Lot Area (acres)	Living Area (sq. feet)	Stories	Rooms
1650-1899	1	\$145,800	\$213,700	\$364,700	2.2	3,160	2	12
1900-1949	2	\$141,900	\$179,200	\$321,450	1.6	2,611	2	12
1980-1989	1	\$111,800	\$260,400	\$372,200	0.4	3,214	2	15
<b>Total</b>	<b>4</b>	<b>\$135,350</b>	<b>\$208,125</b>	<b>\$344,950</b>	<b>1.5</b>	<b>2,899</b>	<b>2</b>	<b>13</b>

Source: Tyngsborough Assessor's Fiscal Year 2019 property assessment database (June 20, 2018 extract). Total value includes Assessor's Other Value.

## CONDOMINIUMS

There were 805 condominiums identified within the Assessor's database. Most of these condominium units built prior to 1980 were likely converted from single-family, two-family, three-family or apartment building units. The majority of the condominiums were built between 1970 and 1989 and between 2000 and 2018. The total living area has steadily decreased from 1999 until today. It should be noted that weighted averages are used for the land value, building value and total value in Table 5.7.

**Table 5.7: Characteristics of Condominiums by Age of Housing Unit**

Period	Properties	Land Value	Building Value	Total Value	Lot Area (acres)	Living Area (sq. feet)	Bldg. Stories	Rooms
1960-1969	12	n/a	\$ 115,325	\$ 115,592	n/a	975	1	4
1970-1979	198	n/a	\$ 120,825	\$ 120,854	n/a	1,067	2	5
1980-1989	280	n/a	\$ 175,429	\$ 176,007	n/a	1,295	2	5
1990-1999	4	n/a	\$ 357,350	\$ 362,125	n/a	2,518	1	8
2000-2009	144	n/a	\$ 270,094	\$ 271,120	n/a	1,822	2	6
2010 or later	167	n/a	\$ 280,362	\$ 280,362	n/a	1,530	2	5
<b>Total</b>	<b>805</b>	<b>n/a</b>	<b>\$ 200,709</b>	<b>\$ 201,128</b>	<b>n/a</b>	<b>1,383</b>	<b>2</b>	<b>5</b>

Source: Tyngsborough Assessor's Fiscal Year 2019 property assessment database (June 20, 2018 extract). Total value includes Assessor's Other Value.

## APARTMENT BUILDINGS

There were seventeen (17) apartment buildings with 132 apartments identified in the Tyngsborough Assessor's database. The majority of the apartment buildings were built between 1900 and 1979. The largest and most expensive apartment building was built between 1980 and 1989. Weighted averages are used for the land value, building value and total value in Table 5.8.

**Table 5.8: Characteristics of Apartment Buildings by Age of Housing Unit**

Period	Properties	Land Value	Building Value	Total Value	Lot Area (acres)	Living Area (sq. feet)	Stories	Apartments
1900-1949	5	\$142,440	\$373,560	\$536,280	1.1	7,289	2	5
1960-1969	1	\$133,800	\$182,900	\$317,100	0.9	2,750	2	4
1970-1979	3	\$ 271,967	\$433,567	\$707,833	1.2	9,167	2	11
1980-1989	1	\$ 986,000	\$2,945,700	\$3,962,200	5.0	42,924	2	57
1990-1999	3	\$510,333	\$1,447,833	\$1,965,100	5.6	19,162	2	20
2010 or later	4	\$793,500	\$2,063,975	\$2,893,500	5.8	39,806	3	35
<b>Total</b>	<b>17</b>	<b>\$432,524</b>	<b>\$1,111,559</b>	<b>\$1,561,971</b>	<b>3.2</b>	<b>19,196</b>	<b>2</b>	<b>19</b>

Source: Tyngsborough Assessor's Fiscal Year 2019 property assessment database (June 20, 2018 extract). Total value includes Assessor's Other Value.

## OCCUPANCY, TENURE AND VACANCY RATES

This section analyzes trends in housing occupancy, ownership and rental tenure, vacancy rates, and housing turnover. Tyngsborough has historically had owner-occupied housing given the predominance of single-family homes. As outlined in Table 5.9, owner-occupied housing units actually increased from 3,455 households in 2010 to 3,748 households in 2013-2017, or by 8.5%. Renter-occupied units increased from 544 households in 2010 to 612 households in 2013-2017, or by 12.5%. Overall, occupied housing units increased by 9%, while the vacancy rate decreased from 4.9% to 1.6%.

**Table 5.9: Housing Tenure (2010 and 2013-2017)**

Tenure Status	2010		2013-2017		Percent Change 2010 -2013/ 2017
	Number	Percent	Number	Percent	
Owner-occupied	3,455	86.4	3,748	86.0	8.5
Renter-occupied	544	13.6	612	14.0	12.5
<b>Occupied Housing Units</b>	<b>3,999</b>	<b>100.0</b>	<b>4,360</b>	<b>100.0</b>	<b>9.0</b>
<b>Vacant Units</b>	<b>207</b>	<b>4.9</b>	<b>71</b>	<b>1.6</b>	<b>-65.7</b>
<b>Total Housing Units</b>	<b>4,206</b>	<b>100.0</b>	<b>4,431</b>	<b>100.0</b>	<b>5.3</b>

Source: 2010 U.S. Census and 2013-2017 American Community Survey

When one compares the owner occupancy levels in Tyngsborough with the Greater Lowell region in 2013-2017, there are significant differences. As shown in Table 5.10, the owner occupancy rate in the Greater Lowell region in 2013-2017 was 66.5% as compared to the Tyngsborough owner occupancy rate of 86%. Similarly, while Tyngsborough had a renter occupancy rate of 14% in 2013-2017, the Greater Lowell region's renter occupancy rate was much higher at 29.2%. The vacancy rates were also significantly different with Tyngsborough at 1.6% and the Greater Lowell region at 4.3%, reflecting a tighter housing market in Tyngsborough. These differences are larger due to the inclusion of the City of Lowell housing stock in the Greater Lowell data.

**Table 5.10: Housing Tenure in the Greater Lowell Region (2013-2017)**

Tenure Status	2013 - 2017	
	Number of Units	Percent of Total
Owner-occupied	85,074	66.5
Renter-occupied	37,320	29.2
Vacant	5,544	4.3
<b>Total Occupied Housing Units</b>	<b>127,938</b>	<b>100.0</b>

Source: 2013-2017 American Community Survey

## HOUSING TURNOVER

Table 5.11 compares the year that Tyngsborough households moved into their current homes with households in Dracut, Dunstable, and Pepperell. Based on this data, Tyngsborough households (7.79%) have been in their current homes longer than Pepperell households (7.22%), but shorter than Dracut households (10.91%) or Dunstable households (9.26%). Since 2014, 96% of Tyngsborough residents have been in their present homes.

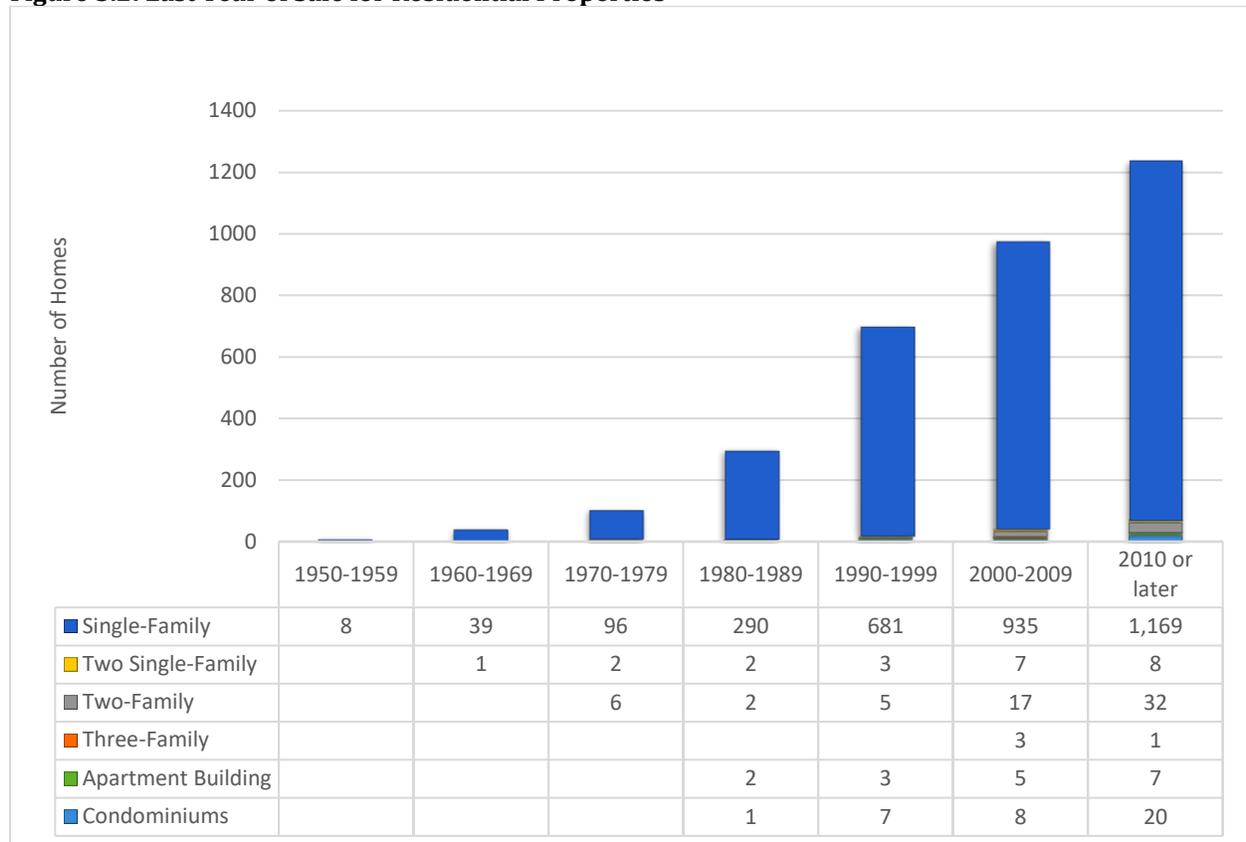
**Table 5.11: Year Household Moved into Present Home for Tyngsborough and Neighboring Communities**

	Tyngsborough		Dracut		Dunstable		Pepperell	
	Number	%	Number	%	Number	%	Number	%
Total population in occupied housing units	12,215	100.02	31,090	100.01	3,337	100.00	12,038	99.99
2015 or later	487	3.99	2,281	7.34	161	4.82	631	5.24
2010 - 2014	2,814	23.04	7,263	23.36	330	9.89	2,579	21.42
2000 - 2009	3,532	28.92	9,422	30.31	1,343	40.25	3,685	30.61
1990 - 1999	3,239	26.52	5,645	18.16	767	22.98	3,241	26.92
1980 - 1989	1,192	9.76	3,088	9.93	427	12.80	1,033	8.58
1979 or earlier	951	7.79	3,391	10.91	309	9.26	869	7.22

Source: 2013-2017 American Community Survey

Figure 5.2 shows the last year of sale for residential properties in Tyngsborough. Based upon the Assessor's database, the data shows that 65.8% of the last residential sales have occurred since 2000. Single-family homes (including two single-family homes) represented 95.8% of total sales between 2000 and June 12, 2018 followed by two-family homes at 2.2%. These figures reflect a large turnover of properties during this timeframe.

**Figure 5.2: Last Year of Sale for Residential Properties**



Source: Tyngsborough Assessor's Fiscal Year 2019 property assessment database (June 20, 2018 extract). Excludes one parcel missing last sale date.

## HOUSING DEVELOPMENT AND SALES TRENDS

This section examines trends in housing development in Tyngsborough, as well as the trends in the sale of existing housing stock. In the first subsection, the residential permits issued by the Tyngsborough Building Department from 2011 to 2018 are summarized, including the estimated construction cost. This data reflects the predominance of single-family homes in the community. Within the second subsection, the total number of housing sales in Tyngsborough and the Greater Lowell region are provided, as well as the median sales prices in Tyngsborough and the Greater Lowell region. The remainder of the section focuses on the status of comprehensive permits and the infrastructure limitations to effective housing development.

### NEW RESIDENTIAL DEVELOPMENT

Table 5.12 and Figure 5.3 show that there were 248 residential permits issued for 260 units of housing between 2011 and 2018. For the most part, the number of permits issued remained steady over these eight years, although there was an increase to 44 building permits and 48 units in 2015, 42 building permits and 42 units in 2017 and 69 building

permits and 69 units in 2018. The breakout of the housing units by housing type is shown in Figure 5.3. Tyngsborough was able to document an increase in residential units between 2013 and 2017 to exceed 3% of its year-round housing stock in 2010 and qualify as a Housing Choice community in 2018.

**Table 5.12: Residential Permits Issued and Units Approved in Tyngsborough: 2011-2018**

Year	Total Building Permits	Total Units Approved	Estimated Construction Cost	Average Est. Construction Cost Per Unit
2011	14	14	\$2,722,000	\$194,429
2012	16	16	\$3,234,500	\$202,156
2013	19	20	\$3,482,675	\$174,134
2014	26	27	\$5,552,483	\$205,648
2015	44	48	\$6,752,360	\$140,674
2016	18	24	\$3,266,600	\$221,254
2017	42	42	\$6,428,689	\$153,064
2018	69	69	\$10,388,000	\$150,351
Total	248	260	\$41,836,298	\$160,909

Source: Tyngsborough Building Department (2011-2018)

**Figure 5.3: Residential Units Permitted by Housing Type: 2011-2018**



Source: Tyngsborough Building Department (2011-2018)

## NUMBER OF HOME SALES

Table 5.13 and Figure 5.4 show the number of residential sales in Tyngsborough between 2012 and 2018, comprised of 783 single-family, 424 condominium and 1,432 total sales. Single-family home sales comprised 54.7% of total residential sales, while condominium

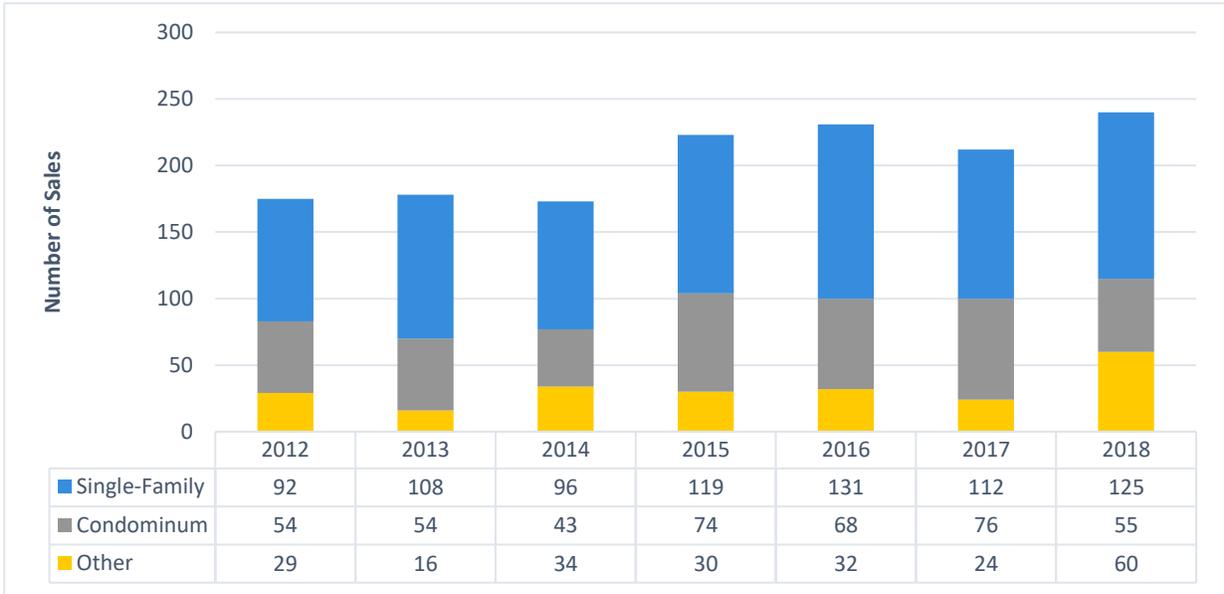
sales comprised 29.6% of total residential sales between 2012 and 2018. Single-family home sales increased by 42.4% between 2012 and 2016 and then decreased by 4.6% in 2018. Condominium sales showed a 40.7% increase between 2012 and 2017 and a 14.5% decrease between 2017 and 2018. The sale of condominium units was noticeable, as compared to the other communities in the Greater Lowell region.

**Table 5.13: Residential Sales in Tyngsborough (2012-2018)**

Period	Single-Family	Condominium	Other	All
2012	92	54	29	175
2013	108	54	16	178
2014	96	43	34	173
2015	119	74	30	223
2016	131	68	32	231
2017	112	76	24	212
2018	125	55	60	240
<b>Total</b>	<b>783</b>	<b>424</b>	<b>225</b>	<b>1,432</b>

Source: The Warren Group, 2019

**Figure 5.4: Residential Sales in Tyngsborough (2012-2018)**

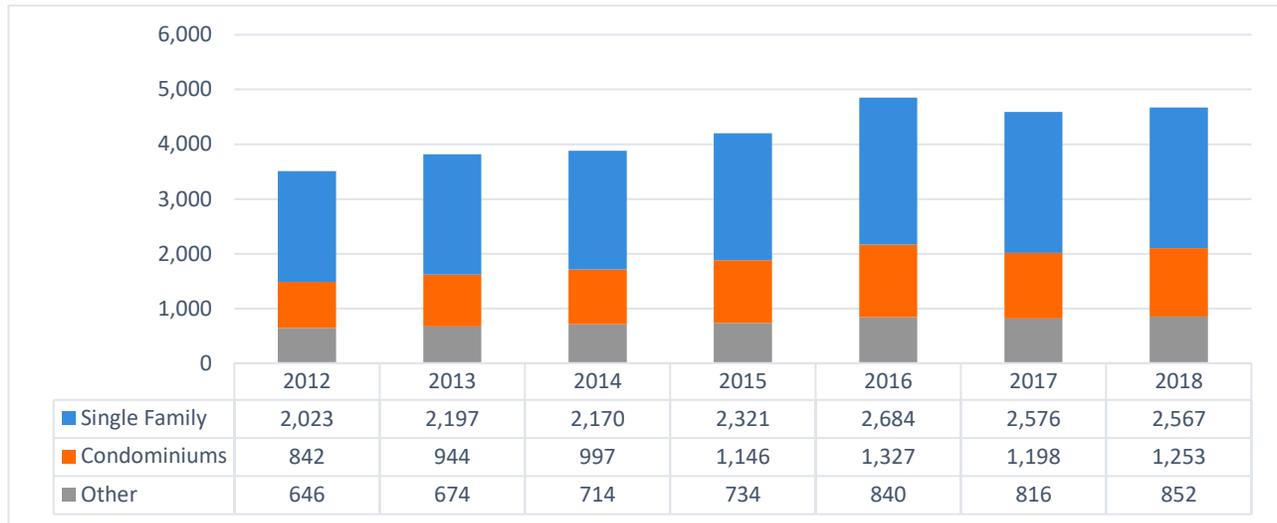


Source: The Warren Group, 2019

The total residential sales in the Greater Lowell region for 2012-2018 are outlined in Figure 5.5. Housing sales in the region reflected an increase of 38.2% from 2012 to 2016 and then experienced a slight decrease of 3.7%. Single-family home sales in the region comprised 56% of total residential sales, while condominiums comprised 26.1% of total home sales. Single-family home sales increased by 32.7% between 2012 and 2016 and

then decreased by 4.4% between 2016 and 2018. Condominium sales showed a 56.6% increase between 2012 and 2016 and a 5.6% decrease between 2016 and 2018. The overall housing sales experienced a lull in 2017, reflecting the cooling down of the housing market, and then bounced back closer to the 2016 figures.

**Figure 5.5: Home Sales in the Greater Lowell Region (2012-2018)**



Source: The Warren Group, 2018

## MEDIAN SALES PRICES

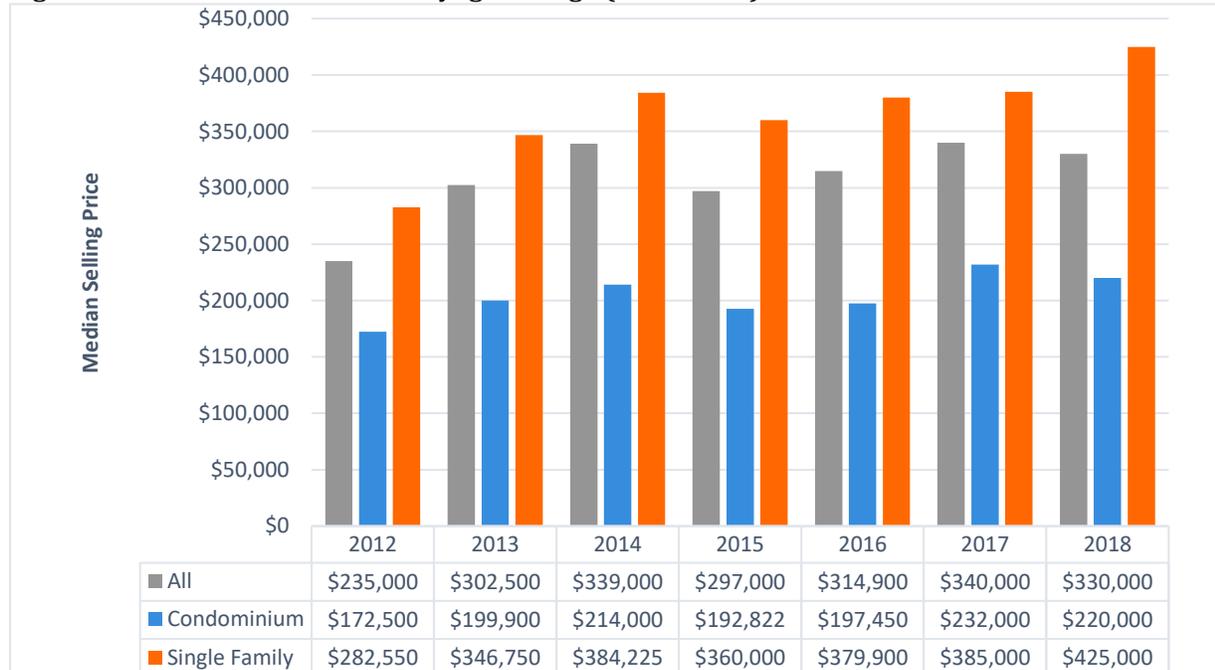
Table 5.14 and Figure 5.6 show the change in median sales prices in Tyngsborough for single-family, condominiums and all housing sales between 2012 and 2018 based upon data from the Warren Group. The median sales price for single-family homes in Tyngsborough increased from \$282,550 in 2012 to \$425,000 in 2018 or by 50.4%. Similarly, but at a lesser rate, condominium median sales prices increased from \$172,500 in 2012 to \$220,000 in 2018 or by 27.5%. Median sales for all residential units increased from \$235,000 in 2012 to \$330,000 in 2018 or by 40.4%. These median sales prices reflect the relative affordable nature of the Tyngsborough housing market.

**Table 5.14: Median Sales Prices in Tyngsborough (2012-2018)**

Year	Single-Family	Condominium	All
2012	\$282,550	\$172,500	\$235,000
2013	\$346,750	\$199,900	\$302,500
2014	\$384,225	\$214,000	\$339,000
2015	\$360,000	\$192,822	\$297,000
2016	\$379,900	\$197,450	\$314,900
2017	\$385,000	\$232,000	\$340,000
2018	\$425,000	\$220,000	\$330,000

Source: The Warren Group, 2019

**Figure 5.6: Median Sales Prices in Tyngsborough (2012-2018)**



Source: The Warren Group, 2019

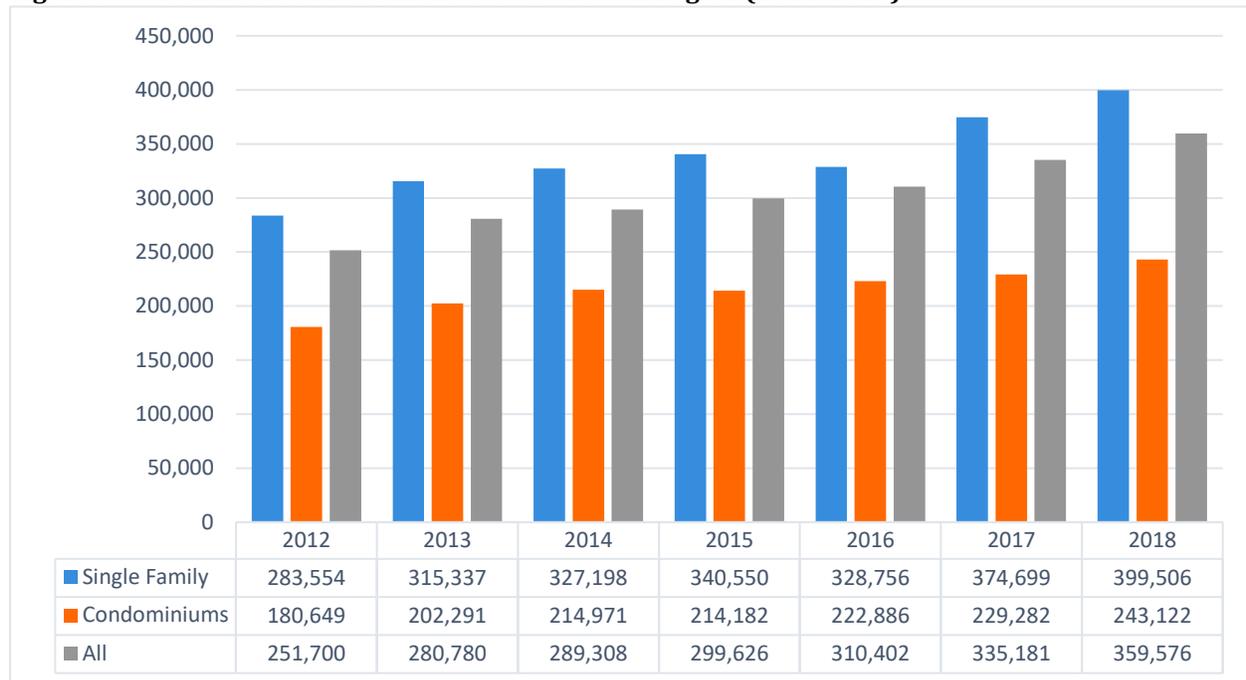
For comparison purposes, the median sales prices for the Greater Lowell region are shown in Table 5.15 and Figure 5.7. In addition to this information, the median sales prices for the Greater Lowell communities from 2015-2018 are provided in Table 5.16 on the following page. This data shows that Tyngsborough has slightly higher than the median selling prices for single-family homes and average median selling prices for condominiums as compared to the region.

**Table 5.15: Median Sales Prices in the Greater Lowell Region (2012-2018)**

Year	Single-Family	Condominium	All
2012	\$283,554	\$180,649	\$251,700
2013	\$315,337	\$202,291	\$280,780
2014	\$327,198	\$214,971	\$289,308
2015	\$340,550	\$214,182	\$299,626
2016	\$328,756	\$222,886	\$310,402
2017	\$374,699	\$229,282	\$335,181
2018	\$399,506	\$243,122	\$359,576

Source: The Warren Group, 2019

**Figure 5.7: Median Sales Prices in the Greater Lowell Region (2012-2018)**



Source: The Warren Group, 2019

**Table 5.16: Median Sales Prices in Tyngsborough and the Greater Lowell Region (2015-2018)**

Community	2015		2016		2017		2018	
	Single-Family	Condos	Single-Family	Condos	Single-Family	Condos	Single-Family	Condos
Billerica	\$358,000	\$259,000	\$385,000	\$270,000	\$418,000	\$220,950	\$429,000	\$237,450
Chelmsford	\$373,000	\$226,500	\$385,000	\$236,000	\$410,500	\$257,000	\$432,000	\$280,000
Dracut	\$286,500	\$172,000	\$301,000	\$169,550	\$324,950	\$185,000	\$352,000	\$210,000
Dunstable	\$474,000	\$0	\$449,900	\$0	\$439,950	\$0	\$525,000	\$0
Lowell	\$241,750	\$160,000	\$252,400	\$160,000	\$267,650	\$180,039	\$295,000	\$186,000
Pepperell	\$310,000	\$189,000	\$320,000	\$191,000	\$335,900	\$241,500	\$343,700	\$248,750
Tewksbury	\$365,000	\$270,000	\$382,000	\$290,000	\$404,900	\$307,750	\$429,900	\$327,000
<b>Tyngsborough</b>	<b>\$360,000</b>	<b>\$192,822</b>	<b>\$379,900</b>	<b>\$197,450</b>	<b>\$385,000</b>	<b>\$232,000</b>	<b>\$425,000</b>	<b>\$220,000</b>
Westford	\$482,500	\$295,000	\$489,000	\$363,250	\$532,000	\$361,500	\$575,000	\$385,000
<b>Greater Lowell Region</b>	<b>\$340,550</b>	<b>\$214,182</b>	<b>\$328,756</b>	<b>\$222,886</b>	<b>\$374,699</b>	<b>\$229,282</b>	<b>\$399,506</b>	<b>\$243,122</b>

Source: The Warren Group, 2019

## COMPREHENSIVE PERMITS

The Massachusetts Comprehensive Permit Law (Chapter 774 of the Acts of 1969 or Chapter 40B of the Massachusetts General Laws) enacted in 1969 is legislation 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 consistent with local and regional affordable housing needs”.

Affordability thresholds are calculated annually by the U.S. Department of Housing and Urban Development (HUD). These thresholds, which are based on a combination of household income and the total number of individuals living in a given household, are calculated on a regional basis. In the case of Tyngsborough, affordability thresholds are based on household incomes in the Lowell Metro Fair Market Rent (FMR) Area. Table 5. 17 shows the adjusted household income limits to determine eligibility for affordable housing in the Greater Lowell region effective October 1, 2018:

**Table 5.17: Adjusted Income Limits by Household Size, Lowell Metro FMR Area, FY 2018**

Income Limit Area	Area Median Income	FY 2018 Income Limit Category	Household Size							
			1- Person	2- Person	3- Person	4- Person	5- Person	6- Person	7- Person	8- Person
Lowell, MA HUD Metro FMR Area	\$105,400	30%- Extremely Low	\$22,150	\$25,300	\$28,450	\$31,600	\$34,150	\$36,700	\$39,200	\$41,750
		50% - Very Low	\$36,900	\$42,200	\$47,450	\$52,700	\$56,950	\$61,150	\$65,350	\$69,600
		80% - Low	\$50,350	\$57,550	\$64,750	\$71,900	\$77,700	\$83,450	\$89,200	\$94,950

*Source: U.S. Department of Housing and Urban Development*

The Commonwealth of Massachusetts established a 10% affordable housing goal for every community across the State. Table 5.18 shows the changes in the total number of affordable housing units for Tyngsborough and the other communities in the Greater Lowell region between January 2014 and September 2019. Tyngsborough had 436 affordable housing units as of September 5, 2019 and was at 10.5%. However, when the 2020 U.S. Census is released, there will be higher Year Round Housing Unit figures for every community, which will increase the affordable housing units needed to attain the 10% goal.

**Table 5.18: SHI Reports for the Greater Lowell Region: January 2014 and September 2019**

Community	Year - Round Housing Units 2010	Total Subsidized Housing Inventory (SHI) Units			Percent SHI Units	
		January 2014	September 2019	Percent Change	January 2014	September 2019
Billerica	14,442	857	1,519	77.2	5.9	10.5
Chelmsford	13,741	1,064	1,479	39.0	7.7	10.8
Dracut	11,318	719	590	-17.9	6.4	5.2
Dunstable	1,085	0	0	0	0	0
Lowell	41,308	5,215	5,154	-1.2	12.6	12.5
Pepperell	4,335	129	130	0.8	3.0	3.0
Tewksbury	10,803	1,030	1,053	2.2	9.5	9.7
<b>Tyngsborough</b>	<b>4,166</b>	<b>340</b>	<b>436</b>	<b>28.2</b>	<b>8.2</b>	<b>10.5</b>
Westford	7,671	351	1,057	201.1	4.6	13.8
<b>Greater Lowell Region</b>	<b>108,869</b>	<b>9,705</b>	<b>11,418</b>	<b>17.7</b>	<b>8.9</b>	<b>10.5</b>

Source: Massachusetts DHCD, Chapter 40B SHI, January 2014 and September 2019

The specific affordable housing properties in Tyngsborough as of September 5, 2019 are listed below in Table 5.19:

**Table 5.19: Tyngsborough Subsidized Housing Inventory (SHI) as of September 2019**

Project Name	Address	Type	Total SHI Units	Affordability Expires	Built with a Comp Permit?	Subsidizing Agency
Brinley Terrace	198 Middlesex Road	Rental	58	Perpetuity	No	DHCD
Red Pine Terrace	186 Frost Road	Rental	36	Perpetuity	No	DHCD
Live Oak Terrace	130 Coburn Road	Rental	8	Perpetuity	No	DHCD
Red Pine Terrace	186 Frost Road	Rental	18	Perpetuity	No	DHCD
Merrimac Landing	Middlesex Road	Mix	76	Perpetuity	Yes	MassHousing/ FHLBB
Maple Ridge	Off Old Tyng Road	Mix	127	Perpetuity	Yes	MassHousing/ FHLBB
DDS Group Homes	Confidential	Rental	21	N/A	No	DDS
Whispering Pines	Off Lakeview Avenue	Ownership	4	Perpetuity	Yes	MassHousing
Wyndbrook at Tyngsboro	Off Westford Road	Ownership	20	Perpetuity	Yes	FHLBB
Merrimac Commons	Off Middlesex Road	Rental	32	Perpetuity	Yes	MassHousing
Tyng Village	65 Tyng Road	Ownership	6	Perpetuity	Yes	MassHousing
Tyngsboro Crossing	111 & 115 Middlesex Rd	Ownership	30	Perpetuity	Yes	MassHousing
<b>Total</b>			<b>436</b>			

Source: Department of Housing and Community Development CH 40B Subsidized Housing Inventory (SHI) as of September 5, 2019

## INFRASTRUCTURE LIMITATIONS

This section provides information on the existing sewer and water and infrastructure and identifies the gaps in the infrastructure that present barriers to new residential development. This summary is updated from the information previously provided in the *2013-2017 Town of Tyngsborough Affordable Housing Production Plan*.

### SEWER INFRASTRUCTURE

The Town of Tyngsborough's public sewer system serves one-third of the town, while the remainder of the town is supported by on-site septic systems. The entire wastewater system consists of approximately 25 miles (132,100 linear feet) of sewer line, the majority of which is located around Lake Mascuppic on the east side of the Merrimack River, along Dunstable Road on the west side of Town, and in the Middlesex, Kendall and Westford Roads area. Wastewater treatment is provided through the Lowell Regional Wastewater Utility (LRWU) through Intermunicipal Agreements (IMA) established with the Towns of Dracut and Chelmsford and the City of Lowell. These agreements were renegotiated in order to reflect the additional capacity at the LRWU facility and the increased demand for wastewater services in the Town of Tyngsborough.

The Town received a mandate from the Commonwealth of Massachusetts that the Town complete a Comprehensive Wastewater Management Plan (CWMP) before applying for any municipal sewer extensions. The final design phases of the CWMP were completed in 2008, and the Final Environmental Report was approved by the Massachusetts Environmental Policy Act agency (MEPA) on January 30, 2009.

The final recommended CWMP plan anticipated a \$ 39.1 million sewer expansion to address the individual needs areas within the plan. After examining twenty-three (23) study areas in the report, the final plan prioritized six (6) areas of need, as identified below:

- Sewer Phase I East – East of the Merrimack River close to the Hudson, NH border (Sunset Park area);
- Sewer Phase 1 West – West of the Merrimack River in the center of Town;
- Sewer Phase 2 – West of the Merrimack River along Middlesex Road
- Sewer Phase 3 – East of the Merrimack River along Frost Road from Lake View Avenue to Sherburne Avenue;
- Sewer Phase 4 – East of the Merrimack River along Pawtucket Boulevard and Sherburne Avenue;
- Sewer Phase 5 – East of the Merrimack River along Althea Avenue and the Dracut town line and along Pawtucket Boulevard south of Phase 3 and north of Phase 4; and
- Sewer Phase 6 – West of the Merrimack River off of Middlesex and Farwell Roads.

The Sewer Commission has continued to move forward to implement the CWMP and its activities since 2012 were summarized in the Annual Town Reports as follows:

- In 2012 the Sewer Design and Construction Committee was formed to identify costs, set priorities and determine the best method to finance the construction of the new sewer capacity. Inflow and Infiltration (I/I) continued to be the most costly problem for ratepayers along the sewer network.
- In 2013 the Phase I West project was approved for funding under the State's Revolving Loan fund (SRF) program.
- In 2014 the Town of Tyngsborough received a grant from the Massachusetts Department of Energy Resources (DOER) under its Green Communities program for \$89,100 to replace the sewer pumps at the Mascuppic Pump Station. The Phase I West project was presented for approval at Town Meeting (denied) and the preliminary planning for Phase II of the CWMP began.
- In 2015 three new energy efficient pumps were installed at the Mascuppic Pump Station at a savings of \$2,000 per year in energy costs. The Phase I West project was approved at the June 2015 Town Meeting with the construction start date established for April 2016.
- In 2016 twenty-one (21) new residential sewer connections were added. Construction of the Phase I West Sewer Project began in the Spring of 2016 and has been completed. The work was funded by an SRF loan provided through the Massachusetts Clean Water Trust. Design for the Phase 2- Middlesex Road North Sewer Project began.
- In 2017 eleven (11) new residential sewer connections and three (3) new commercial sewer connections were added. Construction of the Phase I West Sewer Project continued. The design for the Phase 2-Middlesex Road Sewer Project proceeded and was included on the 2018 Massachusetts Clean Water Trust SRF Draft Intended Use Plan. The Sewer Department scheduled the implementation of a town-wide sewer system metering program in Spring 2018 to address the infiltration problems caused by leaking pipes. The Sewer Commission began the Flint Corner Wet Well Upgrade Project to increase the emergency storage capacity.
- In 2018 forty-seven (47) new residential sewer connections and three (3) new commercial sewer connections were added. The Phase 2-Middlesex Road Sewer Project was approved at the Annual Town Meeting in May 2018 and will service 64 parcels concentrated in the Town's largest commercial/industrial zoned area along Middlesex Road. Funded through an SRF loan through the Massachusetts Clean Water Trust, the Town also received a MassWorks grant to help offset a portion of the construction costs, for both the sewer and water line portions of the project.

The project was expected to be completed by September 2020. Construction of the Phase I West Sewer Project was completed in the Fall 2018. The Flint Corner Wet Well Upgrade Project was completed in 2018.

The completion of the Phase 2-Middlesex Road Sewer Project will add 5,400 linear feet to the sewer system, thus increasing the overall sewer system to 137,500 linear feet or 26.04 miles. This will reduce the reliance on Title V on-site septic systems and increase the Town's capacity to handle increased residential and commercial development.

The current status and financial cost of the six sewer phases recommended in the CWMP report are as follows:

- Phase 1 East had betterment costs of \$3,514,000 and wasn't complete due to the high cost;
- Phase 1 West was originally estimated at \$6,841,000 in 2009 and was completed at a cost of \$9,207,576 in the Fall of 2018;
- Phase 2 was originally estimated at \$10,053,000 in 2009 and its new estimated cost is \$14,738,039, which was reduced by a MassWorks grant (\$2,015,600) to \$12,722,439;
- Phase 3 had an original estimate in 2009 of \$7,006,697 and was increased by 40% to represent a current cost of \$9,809,375;
- Phase 4 had an original estimate in 2009 of \$5,311,231 and was increased by 40% to represent a current cost of \$5,311,231;
- Phase 5 had an original estimate in 2009 of \$4,646,771 and was increased by 40% to represent a current cost of \$6,505,479; and
- Phase 6 had an original estimate in 2009 of \$3,252,376 and was increased by 40% to represent a current cost of \$4,553,326.

## WATER SUPPLY

Approximately 70% of Tyngsborough's residents draw their drinking water from private on-site wells accessing aquifers. The remaining 30% of residents receive their drinking water from one of three (3) water districts – the Tyngsborough Water District (TWD), Dracut Water Supply District (DWSD) and North Chelmsford Water District (NCWD), which draw their water from local aquifers, the Merrimack River and Pennichuck Brook in NH. Together, these water districts operate a total of six (6) different municipal water systems or service zones. Management of the water supply infrastructure and the related contractual agreements is relatively complex. Ten households located near the Lowell line receive their water from the City of Lowell.

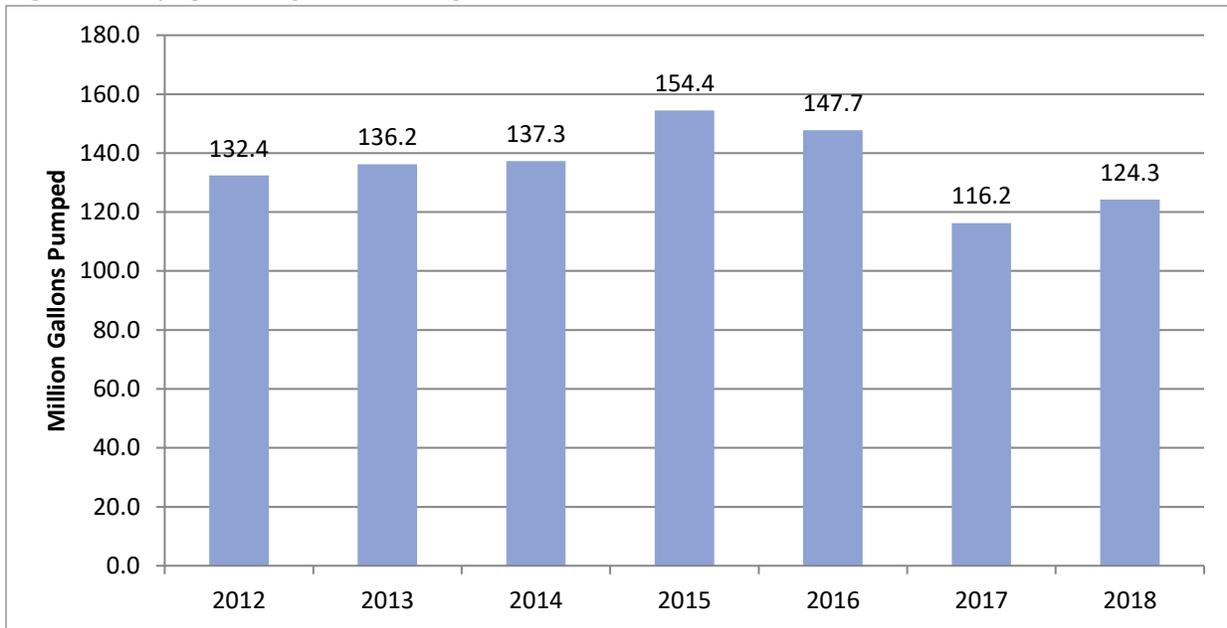
The **Tyngsborough Water District** was formed in 1983 by the Town of Tyngsborough when the Charles George landfill polluted the wells - a major source of drinking water for the town. The Charles George landfill is now an EPA Superfund site due to the toxic waste. The EPA ran an above ground water line from the Lowell water system to provide an alternative water supply. The TWD is the Town's largest water distribution network, and is comprised of three (3) separate water systems. In 2018, the TWD received approximately 110.6 million gallons from the Pennichuck Water Works Corporation of Nashua and approximately 13.6 million gallons from the City of Lowell's water treatment facility. The Pennichuck Water Works treats and filters water from the Merrimack River and Pennichuck Brook, while the Lowell water treatment facility treats and filters water from the Merrimack River. The TWD serves approximately 1,100 hookups in Tyngsborough.

The **Dracut Water Supply District** services approximately 900 households in Tyngsborough and provided approximately 57 million gallons of water in 2018. The DWSD is supplied by well fields in Dracut (one well field with two wells) and Tyngsborough (one well field with five wells, located off of Frost Road), as well as supplemental water from a connection to the Lowell Regional Water Facility.

The **North Chelmsford Water District** services approximately 80 households in Tyngsborough. The North Chelmsford Water District receives their water from six wells withdrawing water from the Merrimack River Basin and recharging from Cold Spring Brook and Stony Brook.

The District's distribution system contains more than twenty-eight (28 miles) of water mains ranging in size from 6-inch to 16-inch. Water usage has grown due to increased development and the ability to hook into the water district's infrastructure. Due to conservation initiatives, the water usage actually declined in 2017 and 2018. Figure 5.8 outlines the water usage over the past seven years.

**Figure 5.8: Tyngsborough Water Usage: 2012-2018**



Source: Tyngsborough Water District, 2019

## HOUSING NEEDS

This section provides an overview of the housing needs of Tyngsborough residents. The discussion includes a section on the age distribution of Tyngsborough residents in 2010 and 2013-2017 and the projected age distribution of Tyngsborough residents in 2020, 2030 and 2040. This information is important in determining the types of housing to build to address Tyngsborough’s housing needs over the next twenty years. In addition to the existing and projected age cohorts, there is a discussion on household types and characteristics, median household income and poverty level guidelines, the disabled population and population living in poverty, the housing burden in the ownership and rental markets in Tyngsborough.

## DEMOGRAPHIC PROFILE

The actual and projected population for Tyngsborough, as well as the population trends, are discussed in the Land Use and Zoning section of this document. However, in order to determine the types and characteristics of the housing stock needed in the future, it is important to analyze the age cohorts within Tyngsborough’s projected population. As an initial step, the age distribution of Tyngsborough residents in 2010 and 2013-2017 is outlined in Table 5.20.

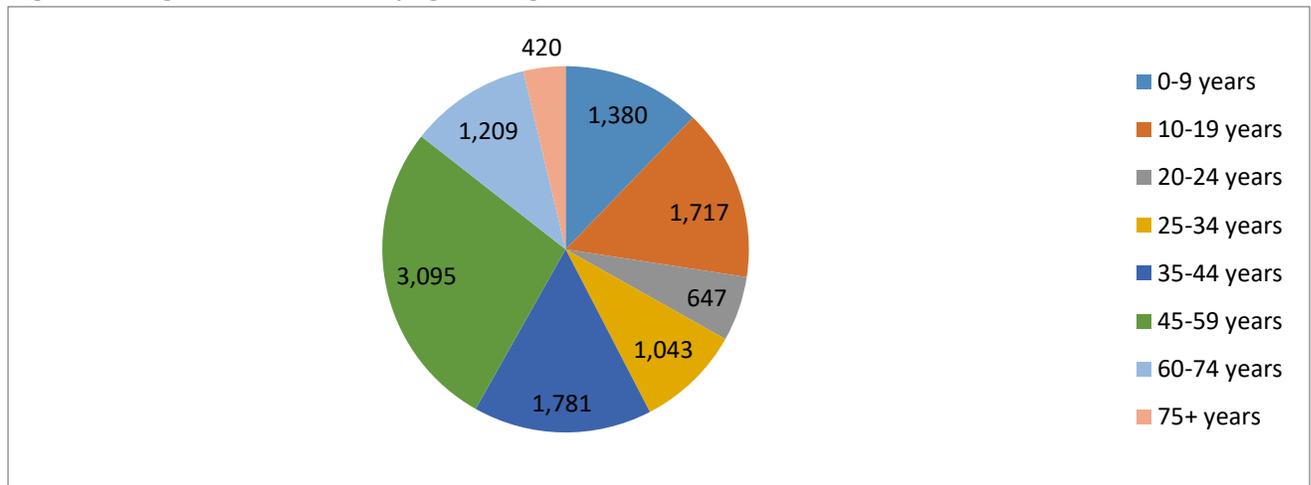
**Table 5.20: Age Distribution of Tyngsborough Residents, 2010 and 2013-2017**

Age	2010		2013-2017		Percent change 2010-2013/2017
	Number	Percent	Number	Percent	
0-9 years	1,380	12.2	1,158	9.5	-16.1
10-19 years	1,717	15.2	1,721	14.1	0.2
20-24 years	647	5.7	626	5.1	-3.2
25-34 years	1,043	9.2	1,460	11.9	40.0
35-44 years	1,781	15.8	1,717	14.0	-3.6
45-59 years	3,095	27.4	3,495	28.6	12.9
60-74 years	1,209	10.7	1,580	12.9	30.7
75+ years	420	3.7	475	3.9	13.1
<b>Total Population</b>	<b>11,292</b>	<b>99.9</b>	<b>12,232</b>	<b>100.0</b>	<b>8.3</b>

Source: 2010 U.S. Census and 2013-2017 American Community Survey

Between 2010 and 2013-2017, the overall population increased by 8.3%. However, the percentage change within each age cohort differed significantly. The greatest increase was in the 25-34 age cohort at 40%, followed by the 60-74 age cohort at 30.7%. The largest decrease was in the 0-9 age cohort at -16.1%. Given the 6.4% projected decline in the 0-24 age cohort, the demand for homes to serve younger families would seem to be limited. Yet, with the increase in the 25-34 age cohort, “starter homes” and condominiums would be a viable option for young families. Similarly, given the 26.2% increase in the 60-75+ age cohort, there will be a demand for more senior housing in the future. The age distribution of Tyngsborough residents in 2010 is shown in Figure 5.9.

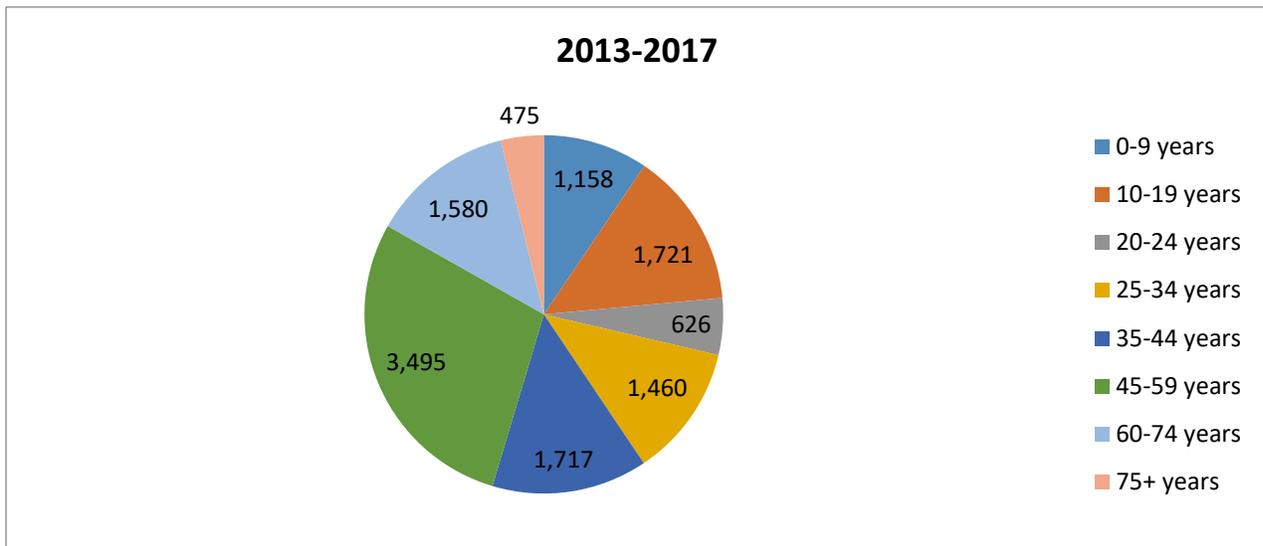
**Figure 5.9: Age Distribution of Tyngsborough Residents: 2010**



Source: 2010 U.S. Census

The age distribution for Tyngsborough residents in 2013-2017 is shown in Figure 5.10:

**Figure 5.10: Age Distribution of Tyngsborough Residents: 2013-2017**



Source: 2013-2017 American Community Survey

As outlined in the Land Use and Zoning section, the UMass Donahue Institute prepared population projections for 2020, 2030 and 2040 on behalf of MassDOT in 2018. According to these projections, Tyngsborough’s overall population is expected to increase by 10.6% between 2010 and 2040. Yet, every age cohort, except for the 60-74 and 75+ age cohorts, loses population during this time period. The population growth is therefore limited to these two age cohorts. Outlined in Table 5.21 are the specific age cohort projections for 2020-2040, as well as the percentage change between 2010 and 2040.

**Table 5.21: Projected Age Distribution of Tyngsborough Residents (2020-2040)**

Age Groups	2020		2030		2040		Percent Change 2010 - 2040
	Number	Percent	Number	Percent	Number	Percent	
0-9 years	1,047	8.3	1,044	8.2	865	6.9	-37.1
10-19 years	1,428	11.3	1,025	8.1	1,047	8.4	-39.0
20-24 years	718	5.7	451	3.5	393	3.1	-39.3
25-34 years	1,563	12.4	1,490	11.7	1,005	8.0	-3.6
35-44 years	1,340	10.6	1,726	13.6	1,692	13.6	-5.0
45-59 years	3,264	25.9	2,324	18.3	2,677	21.4	-13.5
60-74 years	2,532	20.1	3,232	25.4	2,516	20.1	108.1
75+ years	703	5.6	1,439	11.3	2,292	18.4	445.7
<b>Total Population</b>	<b>12,595</b>	<b>99.9</b>	<b>12,731</b>	<b>100.1</b>	<b>12,487</b>	<b>99.9</b>	<b>8.0</b>

Source: Projections developed by the UMass Donahue Institute for MassDOT in 2018

## RACIAL AND ETHNIC DIVERSITY

In assessing changes to the racial and ethnic composition of Tyngsborough's population, Table 5.22 breaks down the Town's population by race and Hispanic origin for 2000, 2010 and 2013-2017. While the overall population increased by 10.39% between 2000 and 2013-2017, there were slight changes to the community's racial and ethnic composition. Even though the share of the White population decreased from 95.6% in 2000 to 92.01% in 2010 and to 87.62% in 2013-2017, the White population actually increased by 1.14% between 2000 and 2013-2017. The major changes occurred with the Asian population increasing by 258.55% between 2000 and 2013-2017 and the Some Other Races and Two or More Races increasing by 264% during this time period. Residents identifying themselves as Black or African American only increased by 11 residents between 2000 and 2013, while the American Indian and Alaska Native population decreased by 52% during this time period. The Hispanic population increased from 123 residents in 2000 to 374 residents in 2013-2017, or by 204.07%.

**Table 5.22: Racial and Ethnic Diversity of Residents (2000, 2010 and 2013-2017)**

Racial/Ethnic Category	2000		2010		2013-2017		Percent Change 2000-2013/2017
	Population	Percent	Population	Percent	Population	Percent	
White	10,597	95.63	10,390	92.01	10,718	87.62	1.14
Black or African American	55	0.50	120	1.06	66	0.54	20.00
Native American and Alaska Native	25	0.23	14	0.12	12	0.10	-52.00
Asian	275	2.48	535	4.74	986	8.06	258.55
Native Hawaiian or Pacific Islander	4	0.04	0	0.00	0	0.00	NA
Other or Multiple Races	125	1.13	233	2.06	450	3.68	264.40
<b>Total Population</b>	<b>11,081</b>	<b>100.01</b>	<b>11,292</b>	<b>99.99</b>	<b>12,232</b>	<b>100.0</b>	<b>10.39</b>
Hispanic or Latino (All races)	123	1.11	265	2.35	374	3.06	204.07

Source: 2000 and 2010 U.S. Census and 2013-2017 American Community Survey

## RESIDENTS WITH DISABILITIES

Tyngsborough residents with disabilities can be analyzed through information provided in the 2013-2017 American Community Survey. Table 5.23 and Figure 5.11 provide information on the age and disability breakdown for the Tyngsborough disabled community. Approximately 3.6% (1,127 residents) of Tyngsborough's population in 2013-

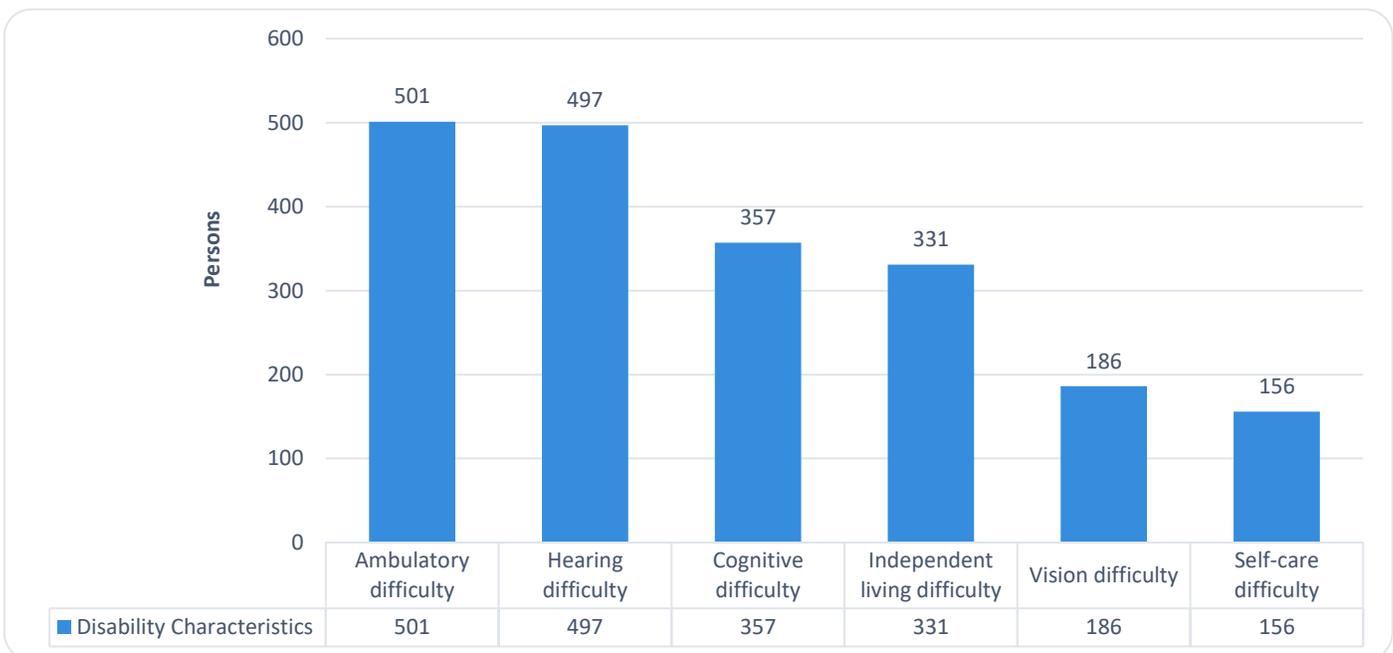
2017 were reported to have a disability. More than fifty-five percent (56.7%) of these residents were between the ages of 18 and 64, more than thirty-five percent (36.1%) were 65 years or older and 7.2% were between the ages of 5 and 17.

**Table 5.23: Characteristics of the Disabled Community in Tyngsborough: 2013-2017**

Age Group and Disability Status	Total Number	Percent of Residents with Disabilities
Under 5 years old	0	0.0
5-17 years old	81	7.2
18-64 years old	639	56.7
65+ years old	407	36.1
<b>Total Number of Disabled Residents</b>	<b>1,127</b>	<b>(3.6%) 100.0</b>
With an ambulatory difficulty (all ages)	501	44.5
With a hearing difficulty (all ages)	497	44.1
With a cognitive difficulty (all ages)	357	31.7
With an independent living difficulty (all ages)	331	29.4
With a vision difficulty (all ages)	186	16.5
With a self-care difficulty (all ages)	156	13.8

Source: 2013-2017 American Community Survey. Residents may report more than one disability.

**Figure 5.11: Disabilities Reported for Tyngsborough Residents (2013-2017)**



Source: 2013 - 2017 American Community Survey

Ambulatory difficulty was the most prevalent disability (44.5%), followed by hearing difficulty (44.1%), cognitive difficulty (31.7%), independent living difficulty (29.4%), vision difficulty (16.5%) and self-care difficulty (13.8%). Disabled residents often have unique housing needs in terms of the physical design and/or accessibility of their homes, access to services, and the cost relative to a fixed or limited income. For these reasons, 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.

Tyngsborough residents comprise 3.6% of the disabled community in the Greater Lowell region. As shown in Table 5.24, this is much less than Lowell, which comprises 40.6% of the region’s disabled community. Dunstable had the lowest percentage with 0.6%.

**Table 5.24: Characteristics of the Disabled Community in the Region**

Age	Billerica	Chelmsford	Dracut	Dunstable	Lowell	Pepperell	Tewksbury	Tyngsborough	Westford	Total
under 5	0	13	0	0	38	0	0	0	0	51
5 to 17	269	330	332	5	867	100	251	81	120	2,355
18 to 64	1,775	1,310	1,714	66	7,720	597	1,299	639	770	15,890
65 over	2,039	1,950	1,363	111	4,037	528	1,774	407	677	12,886
Total (%)										
Disabled Population	4,083 (13.1%)	3,603 (11.6%)	3,409 (10.9%)	182 (0.6%)	12,662 (40.6%)	1,225 (3.9%)	3,324 (10.7)	1,127 (3.6%)	1,567 (5.0%)	31,182 (100.0%)

Source: 2013-2017 American Community Survey

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, the Housing chapter of the Master 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.

## HOUSEHOLD AND HOUSEHOLD TYPES

Similar to their population projections, the UMass Donahue Institute developed household projections for MassDOT as part of the long-range transportation planning process. As outlined in Table 5.25, the number of households in Tyngsborough is projected to increase from 3,999 households in 2010 to 5,622 households in 2040, or by 40.6%. For the same time period, the Greater Lowell household growth rate is projected to be 18%, which is less than half Tyngsborough’s growth rate. The overall household growth rate has slowed considerably from the 1990-2000 period, yet the period from 2010-2020 shows the greatest projected household growth for Tyngsborough (25.5%) and the Greater Lowell

region (11.8%). Tyngsborough’s share of the region’s households is projected to increase slightly from 3.8% in 2010 to 4.6% in 2040.

**Table 5.25: Total Number of Households (2000-2040)**

Year	Tyngsborough	Growth Rate	Region	Growth Rate	Households as Percent of Region
2000	3,731	31.2%	99,342	10.2%	3.8
2010	3,999	7.2%	104,022	4.7%	3.8
2020	5,020	25.5%	116,271	11.8%	4.3
2030	5,505	9.7%	121,559	4.5%	4.5
2040	5,622	2.1%	122,740	1.0%	4.6

Source: 2000 and 2010 US Census; Projections developed the UMass Donahue Institute for MassDOT in 2018

Household types are divided into two categories: family and nonfamily. 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, 81.2% of the 3,745 households in Tyngsborough were family households, as outlined in Table 5.26. The percentage of family households decreased by nearly ten percentage points to 72.7% according to the 2013-2017 American Community Survey.

**Table 5.26: Household Types (2010 and 2013-2017)**

Household Type	2010		2013-2017	
	Number	Percentage	Number	Percentage
Family households	3,041	81.2	3,171	72.7
Nonfamily households	704	18.8	1,189	27.3
<b>Total</b>	<b>3,745</b>	<b>100.0</b>	<b>4,360</b>	<b>100.0</b>

Source: 2010 U.S. Census and 2013-2017 American Community Survey

## AGE DISTRIBUTION FOR HEAD OF HOUSEHOLD

The U.S. Census also provides information on the age of head of households, broken out into three age categories: 15-34, 35-64 and 65 years and older. According to the 2000 and 2010 U.S. Census, the majority of head of households in both family and nonfamily households in Tyngsborough were between 35 and 64 years of age. As outlined in Table 5.27, 73% of head of households in family households and 51% of head of households in nonfamily households were 35-64 years of age in 2000. In 2010 the percentage for head of households in family households aged 35-64 increased to 84%, while the percentage of those in the 35-64 category for nonfamily households decreased to 41.5%. The 2013-2017 American Community Survey showed that the heads of households in this age group decreased to 80.6% for family households and increased to 41.6% for nonfamily households.

**Table 5.27: Head of Household Age Distribution (2000, 2010 and 2013-2017)**

Age of Head of Household	2000		2010		2013-2017	
	Number	Percentage	Number	Percentage	Number	Percentage
<b>Family Households</b>						
15-34 Years	551	18.7	210	6.9	264	8.3
35-64 Years	2,153	73.0	2,553	84.0	2,556	80.6
65 Years and Older	245	8.3	278	9.1	351	11.1
<b>Total</b>	<b>2,949</b>	<b>100.0</b>	<b>3,041</b>	<b>100.0</b>	<b>3,171</b>	<b>100.0</b>
<b>Nonfamily households</b>						
15-34 Years	190	24.3	146	20.7	241	20.3
35-64 Years	399	51.0	292	41.5	495	41.6
65 Years and Older	193	24.7	266	37.8	453	38.1
<b>Total</b>	<b>782</b>	<b>100.0</b>	<b>704</b>	<b>100.0</b>	<b>1,189</b>	<b>100.0</b>

Source: 2000 and 2010 U.S. Census and 2013-2017 American Community Survey

## HOUSEHOLD SIZE

Household size is another important factor when assessing housing needs in a community. According to the 2010 U.S. Census, family households comprised 81.2% (3,041) of the total households, while non-family households comprised the remaining 18.8% (704). Two-person households comprised 31.5% of the total family households, while four-person family households accounted for an additional 30.6%. Single-person households comprised 79.3% of the nonfamily households. The average household size in Tyngsborough in 2010 was 2.82 persons, while the average family size was 3.24 persons. These figures were less than the 2000 average household (2.97) and family (3.37) sizes.

According to the 2013-2017 American Community Survey, the percentage of family households decreased to 72.7% in 2013-2017. Two-person households comprised the majority of family households at 30.9%, followed closely by three-person households (30.1%) and four-person households (27.9%). The percentage of single-family households within nonfamily households decreased to 73.7%. The average household size in Tyngsborough in 2013-2017 was 2.80 persons, while the average family size was 3.27 persons. These figures were less than the 2000 average household (2.97) and family (3.37) sizes.

Table 5.28 summarizes the information from the 2010 U.S. Census and the 2013-2017 American Community Survey.

**Table 5.28: Household Size – Family and Nonfamily: 2010 and 2013-2017**

Household Type	Household Size: 2010							Total
	1- Person	2- Person	3- Person	4- Person	5- Person	6- Person	7+ Person	
Family Households	0	959	683	930	353	47	69	3,041
Percentage	0.0	31.5	22.5	30.6	11.6	1.5	2.3	100.0 (81.2)
Nonfamily Households	558	138	10	0	0	0	0	704
Percentage	79.3	19.3	1.4	0.0	0.0	0.0	.0.0	100.0 (18.8)
<b>TOTAL</b>	<b>558</b>	<b>1,095</b>	<b>693</b>	<b>930</b>	<b>353</b>	<b>47</b>	<b>69</b>	<b>3,745</b>
Household Type	Household Size: 2013-2017							Total
	1- Person	2- Person	3- Person	4- Person	5- Person	6-Person	7+ Person	
Family Households	0	979	953	884	296	40	19	3,171
Percentage	0.0	30.9	30.1	27.9	9.3	1.3	0.6	100.1 (72.7)
Nonfamily Households	876	253	0	60	0	0	0	1,189
Percentage	73.7	21.3	0.0	5.0	0.0	0.0	0.0	100.0 (27.3)
<b>TOTAL</b>	<b>876</b>	<b>1,232</b>	<b>953</b>	<b>944</b>	<b>296</b>	<b>40</b>	<b>19</b>	<b>4,360</b>

Source: 2010 U.S. Census and 2013-2017 American Community Survey

## HOUSEHOLD CHARACTERISTICS

Household characteristics provide insight into the diversity of households in a community. Data from the 2010 U.S. Census and the 2013–2017 American Community Survey reflect the changes that have taken place in Tyngsborough over the last two decades.

Notwithstanding the prevalence of traditional married households with children, household types have become increasingly diverse over the past 20 years. The increase in nonfamily households, single-parent households and married couples without children has contributed to this diversity.

Table 5.29 shows the various household types in Tyngsborough in 2000, 2010 and 2013-2017. In 2010, the majority of households were family households (81.2%), which was greater than the percentage (79%) of family households in 2000. Within the family households, married couples comprised 81.7% of these households – 48.1% with related children under 18 and 51.9% with no related children. There has been an overall increase in married family households with no related children. More than one-fifth (21%) of the total households in 2010 were nonfamily households, with the majority living alone –

79.3% or 558 of 704 nonfamily households. Of the nonfamily households with a single occupant, 44.3% were residents 65 and older.

**Table 5.29: Household Characteristics: 2000, 2010 and 2013-2017**

Household Type	2000		2010		2013-2017	
	Number	Percent	Number	Percent	Number	Percent
<b>Family Households</b>	<b>2,949</b>	<b>79.0</b>	<b>3,041</b>	<b>81.2</b>	<b>3,171</b>	<b>72.7</b>
Married - couple	2,517	85.4	2,486	81.7	2,763	87.1
<i>With related children under 18 years</i>	1,455	57.8	1,195	48.1	1,263	45.7
<i>No related children under 18 years</i>	1,062	42.2	1,291	51.9	1,500	54.3
Male householder, no spouse	114	3.9	126	4.1	76	2.4
Female householder, no spouse	318	10.8	429	14.1	332	10.5
<b>Nonfamily households</b>	<b>782</b>	<b>21.0</b>	<b>704</b>	<b>18.8</b>	<b>1,189</b>	<b>27.3</b>
Householder living alone	602	77.0	558	79.3	876	73.7
<i>Householders 65 and older living alone</i>	183	30.4	247	44.3	404	46.1
Householder living with others	180	23.0	146	20.7	313	26.3
<b>Total Households</b>	<b>3,731</b>	<b>100.0</b>	<b>3,745</b>	<b>100.0</b>	<b>4,360</b>	<b>100.0</b>

*Source: 2000 and 2010 U.S. Census and 2013-2017 American Community Survey*

The data provided through the 2013-2017 American Community Survey shows a decrease in family households from 81.2% in 2010 to 72.7% in 2013-2017 and an increase in nonfamily households from 18.8% in 2010 to 27.3% in 2013-2017. Although it would appear that the housing is becoming more diverse, the difference in sampling techniques between the U.S. Census and American Community Survey may be partially attributed for the differences. In order to make a real comparison, the 2020 U.S. Census data should be compared to the 2010 U.S. Census data. There has been an overall increase in nontraditional households (empty nesters, nonfamily households and people over 65 living alone) that need to be factored in with any housing strategy. Thus, 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.

## INCOME

This section examines the median household income in Tyngsborough and compares it with the median household income for the Greater Lowell region, Massachusetts and the United States. These Tyngsborough households are then broken down by income category and compared between 1999 and 2013-2017. Finally, the characteristics of the Tyngsborough population living in poverty is summarized for 2013-2017. By reviewing

this data, we can understand the percentage of Tyngsborough residents who may be in poverty or living on a restricted income.

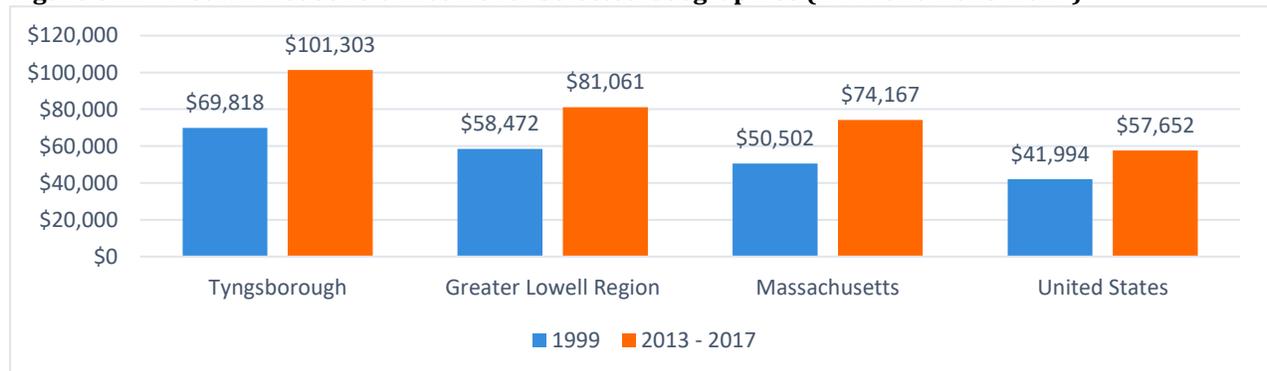
According to the U.S. Census Bureau, median household income is based on the income of the householder and all other individuals 15 years old and over in the household. Table 5.30 and Figure 5.12 show the change in median household income between 1999 and 2013-2017 for Tyngsborough, the Greater Lowell region, the Commonwealth of Massachusetts and the United States. Based upon the data provided, Tyngsborough’s median household income increased by 45.1% between 1999 and 2013-2017, which is much higher than the Greater Lowell region (38.6%) and the United States (37.4%), but lower than Massachusetts (46.9%). When one applies the inflation factor, whereby \$1 in 1999 equals \$1.44 in 2015, the median household income still increased by 1.1% in Tyngsborough and by 2% in Massachusetts. The median household income in the Greater Lowell region (-3.7%) and the United States (-4.7%) did not keep up with inflation.

**Table 5.30: Median Household Income for Selected Geographies (1999 and 2013-2017)**

Geographic Area	1999	2013-2017	Percentage Increase	% Inflation Adjusted
<b>Tyngsborough</b>	<b>\$69,818</b>	<b>\$101,303</b>	<b>45.1</b>	<b>1.1</b>
Greater Lowell Region	\$58,472	\$81,061	38.6	-3.7
Massachusetts	\$50,502	\$74,167	46.9	2.0
United States	\$41,994	\$57,652	37.4	-4.7

Source: 2000 U.S. Census and 2013-2017 American Community Survey

**Figure 5.12: Median Household Income for Selected Geographies (1999 and 2013-2017)**



Source: 2000 U.S. Census and 2013-2017 American Community Survey

## INCOME DISTRIBUTION

While comparing median household, median family, and per capita incomes are valuable indicators, they do not account for the distribution of household incomes within a community. Table 5.31 compares the household income distribution in Tyngsborough in 1999 and 2013-2017. In 1999, approximately 1,853 households (49.5%) earned less than the median household income of \$69,818, with 34.2% earning less than \$50,000 per year.

Of the households earning more than the median household income, 20% earned between \$100,000 and \$199,999, and 3.5% earned \$ 200,000 or more. Between 1999 and 2013-2017, the median household income increased by 45.1% to \$101,303. Those households earning \$100,000 or more increased by 152.2% between 1999 and 2013-2017 with those earning \$200,000 or more increasing by 363.1%.

**Table 5.31: Income Distribution for Tyngsborough Households in 1999 and 2013-2017**

Household Income	1999		2013-2017		Percent Change 1999 - 2013-2017
	Number	Percent	Number	Percent	
Less than \$10,000	120	3.2	97	2.2	-19.2
\$10,000 - \$14,999	187	5.0	43	1.0	-77.0
\$15,000 - \$24,999	189	5.1	343	7.9	81.5
\$25,000 - \$34,999	194	5.2	103	2.4	-46.9
\$35,000 - \$49,999	589	15.7	304	7.0	-48.4
\$50,000 - \$74,999	724	19.4	625	14.3	-13.7
\$75,000 - \$99,999	859	23.0	628	14.4	-26.9
\$100,000 - \$149,999	580	15.5	822	18.9	41.7
\$150,000 - \$199,999	169	4.5	793	18.2	369.2
\$200,000 or more	130	3.5	602	13.8	363.1
<b>Total</b>	<b>3,741</b>	<b>100.1</b>	<b>4,360</b>	<b>100.1</b>	<b>16.5</b>

Source: 2000 U.S. Census and 2013-2017 American Community Survey

## RESIDENTS LIVING IN POVERTY

Every year, the U.S. Department of Health and Human Resources and the Census Bureau establish Federal Poverty Guidelines. They use a set of income thresholds that vary by family size and composition to determine who is living in poverty. Table 5.32 shows the Federal Poverty Guidelines for 2019.

If a family's total income is less than the 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-U). The official poverty definition uses money income before taxes and does not include capital gains or noncash benefits (such as public housing, Medicaid, and food stamps).

**Table 5.32: Federal Poverty Level Guidelines for 2019**

Number of Persons in Family	Poverty Guideline
<b>1</b>	<b>\$12,490</b>
<b>2</b>	<b>\$16,910</b>
<b>3</b>	<b>\$21,330</b>
<b>4</b>	<b>\$25,750</b>
<b>5</b>	<b>\$30,170</b>
<b>6</b>	<b>\$34,590</b>
<b>7</b>	<b>\$39,010</b>
<b>8</b>	<b>\$43,430</b>
<b>For each additional person</b>	<b>\$4,420</b>

Source: Department of Health and Human Resources, Federal Register, Vol. 84, No. 22, February 1, 2019,

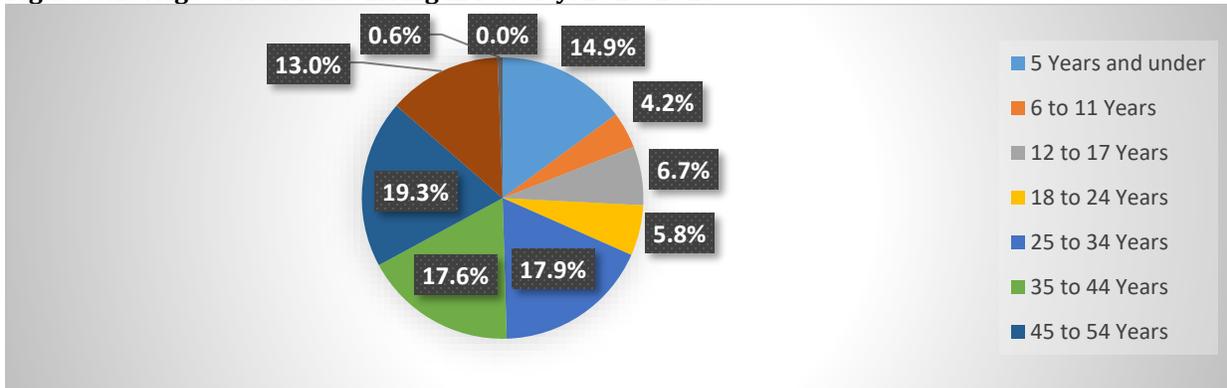
Based upon the 2013-2017 American Community Survey, 860 Tyngsborough residents, or 7% of the population were living in poverty according to the Federal Poverty Guidelines. As shown in Table 5.33 and Figure 5.13, there were 222 individuals under the age of 17 (27.6%) living in poverty. Those individuals between 25 and 64 years of age comprised 67.8% of the poverty population. There were only five individuals in the 65+ category in poverty. In terms of a gender break out, 65.8% of these residents living in poverty were female and 34.2% were male. It will be important to consider this population group when prioritizing housing types that will meet the diverse needs of an aging population.

**Table 5.33: Characteristics of the Population Living in Poverty (2013-2017)**

<b>Age</b>	<b>Number Below Poverty Level</b>	<b>Percent Living in Poverty</b>
5 Years and under	128	14.9
6 to 11 Years	36	4.2
12 to 17 Years	58	6.7
18 to 24 Years	50	5.8
25 to 34 Years	154	17.9
35 to 44 Years	151	17.6
45 to 54 Years	166	19.3
55 to 64 Years	112	13.0
65 to 74 Years	5	0.6
75 Years and Over	0	0.0
<b>Total Individuals Living in Poverty (7% of total population)</b>	<b>860</b>	<b>100.0</b>
<b>Gender</b>	<b>Number Below Poverty Level</b>	<b>Percent Living in Poverty</b>
Male	294	34.2
Female	566	65.8
<b>Total Individuals Living in Poverty</b>	<b>860</b>	<b>100.0</b>
<b>Population for Whom Poverty Status is Determined</b>	<b>12,232</b>	

Source: 2013-2017 American Community Survey

**Figure 5.13: Age of Residents Living in Poverty: 2013-2017**



Source: 2013-2017 American Community Survey

## HOUSING AFFORDABILITY

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 income on housing and related costs (including basic utilities and fuels) are described as “moderately burdened, while those spending more than half of their incomes are considered to be “severely burdened”. This section analyzes the housing costs for homeowners and renters in Tyngsborough in terms of their housing burden.

### HOUSING BURDEN FOR HOMEOWNERS

The housing burden for homeowners can be determined by analyzing monthly housing costs for homeowners as a percentage of household income. As shown in Table 5.34 below, homeowners with a mortgage (23.2%) and those without a mortgage (14.6%) were considered at least moderately burdened. In total, 784 households, or 21% of Tyngsborough households, were moderately burdened by their housing costs. Under the homeowners without a mortgage, eighteen (18) households, or 1.8%, had zero or negative income.

**Table 5.34: Monthly Housing Costs as a Percentage of Household Income for Homeowners (2013-2017)**

Characteristics	Tyngsborough Households	No Burden (< 20)%		Possibly Burdened (20%-29%)		Moderately Burdened (30% or more)	
		Number	Percent	Number	Percent	Number	Percent
Households with a mortgage	2,773	1,202	43.3	929	33.5	642	23.2
Households without a mortgage	975*	639	65.5	176	18.1	142	14.6

Source: 2013-2017 American Community Survey; data does not include households with zero or negative income.

\*18 households without a mortgage had zero or negative income

RENTAL MARKET

Renters are also burdened by monthly payments. According to data in the 2013-2017 American Community Survey, 224 rental households in Tyngsborough, or 36.6% of Tyngsborough rental properties, have housing costs that create a moderate burden because they represent 30% or more of their income. Table 5.35 summarizes the gross rent as a percentage of household income.

**Table 5.35: Gross Rent as a Percentage of Household Income (2013-2017)**

Rent as a Percent of Income	Number of Rental Households	Percent of Rental Households
Less than 15%	84	13.7
15% to 19%	39	6.4
20% to 29%	202	33.0
30% to 34%	64	10.5
35% or more	160	26.1
Not computed	63	10.3
<b>Total</b>	<b>612</b>	<b>100.0</b>

Source: U.S. Census Bureau, 2013-2017 American Community Survey

Fair Market Rents (FMRs) are primarily used to determine payment standard 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.<sup>9</sup> The U.S. Department of Housing and Urban Development (HUD) annually establishes FMRs for 530 metropolitan areas and 2,045 nonmetropolitan county FMR areas by October 1<sup>st</sup>. Tyngsborough falls within the Lowell MA HUD Metro FMR Area. The 2019 FMR for a single bedroom apartment in the Lowell MA HUD Metro FMR area was \$ 1,179 per month as shown in Table 5.36.

**Table 5.36: Fair Market Rent for Lowell, MA HUD Metro FMR Area (FY 2019)**

	Efficiency	1-Bedroom	2-Bedroom	3-Bedroom	4-Bedroom
Fair Market Rent	\$ 1,026	\$ 1,179	\$ 1,514	\$ 1,897	\$ 2,047

Source: FY 2019 Lowell, MA HUD Metro FMR Area, HUD Fair Market Rent Documentation System, effective October 1, 2018

According to the 2013-2016 American Community Survey, Tyngsborough had a median gross rent of \$1,266. As shown in Table 5.37, this median gross rent is higher than Lowell

<sup>9</sup> 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.

and Pepperell, but lower than Billerica, Chelmsford, Dracut, Dunstable, Tewksbury and Westford.

**Table 5.37: Median Gross Rent**

Community	Median Gross Rent
Billerica	\$ 1,340
Chelmsford	\$ 1,306
Dracut	\$ 1,281
Dunstable	\$ 1,682
Lowell	\$1,089
Pepperell	\$ 1,118
Tewksbury	\$ 1,647
Tyngsborough	\$ 1,266
Westford	\$ 1,841

Source: 2013-2017 American Community Survey

## AFFORDABLE HOUSING EFFORTS IN TYNGSBOROUGH

The Northern Middlesex Council of Governments (NMCOG) worked with the Town of Tyngsborough to develop the *Town of Tyngsborough Housing Production Plan (HPP) for 2020-2024*. The Planning Board adopted the draft HPP in November 2019, while the Board of Selectmen adopted the document for submission to the Massachusetts Department of Housing and Community Development (DHCD) in December 2019. The document was subsequently approved by DHCD on January 28, 2020.

When the 2020-2024 Tyngsborough Housing Production Plan (HPP) was submitted to DHCD in December 2019, the Town was credited with 436 affordable housing units. Within the HPP the Town identified an additional 43 affordable housing units in the “pipeline” that would increase the total SHI units to 479. The Town was able to add 24 units at Merrimac Landing to reach a total of 76 units, 4 units at Red Pine Terrace to reach a total of 18 units, 11 units at Wyndbrook at Tyngsborough to reach a total of 20 units and 20 units at Merrimac Landing Extension. In addition, the Town has developed projects at Merrimac Commons, Tyng Village, Tyngsboro Crossing and Flints Corner, which have added 57 affordable units to date and have the potential to add another 43 units in the next year. The Town has been quite active in meeting its obligations under Chapter 40B, as demonstrated by the increase in subsidized housing units between December 2012 and September 2019.

Based upon the year-round housing units in the 2010 U.S. Census, Tyngsborough has exceeded its 10% affordable housing goal of 417 units and currently has 436 subsidized housing units (10.5%). Within the *2020-2024 Housing Production Plan*, the Town has identified forty-three (43) additional affordable housing units in the “pipeline” that will

enable the Town to increase its SHI percentage to 11.5%. The Town also identified nineteen (19) privately-owned sites and five (5) publicly-owned sites as potential housing sites that could generate 220-245 affordable housing units over the five year period. In projecting the affordable housing production timeline over the next five years, there are three scenarios outlined in the HPP – average annual housing growth, 0.5% and 1.0%. Based on the average annual housing growth (0.93%) for the past ten years, an additional 205 housing units could potentially be added to the Town’s housing stock between 2020 and 2024 to reach 4,728 housing units. In order to continue to exceed the 10% affordable housing goal after the release of the 2020 U.S. Census, which is likely to increase the affordable housing goal from 417 units to 452 units, 20 of these 40.5 additional housing units would need to be affordable. Based upon these calculations, Tyngsborough could reach 12.4% by 2024. Based on the 0.5% scenario, which adds 22 affordable housing units per year, the Town would reach 12.8% by 2024. Under the 1.0% increase in units per year, which adds 45 affordable housing units per year, the Town would reach 14.6% by 2024. The Town would qualify for “safe harbor” status for one year if it produced 22 affordable units during the calendar year or for two years if it produced 45 affordable units during the calendar year.

Within the approved *2020-2024 Housing Production Plan*, the following Affordable Housing Goals and Strategies were outlined. These Goals and Strategies have been incorporated within this Housing chapter of the Master Plan to reflect community support for the development of affordable housing. The Affordable Housing Goals and Strategies were in no particular order of priority and were as follows:

## HOUSING GOALS

1. Continue to create diverse rental units for existing and future Tyngsborough residents. This includes diversifying the types of units (duplexes vs. multi-family) in addition to providing units with three or more bedrooms.
2. Continue to pursue the creation of workforce<sup>10</sup> housing units and broaden the range of potential home-buyers and tenants.
3. Develop rental and ownership options for senior citizens that allow them to age in place.
4. Provide a diversity of housing types affordable to people with a wide range of socio-economic background, especially those below 80% of the area median income.
5. Maintain existing housing stock in good condition.
6. Encourage new housing development to fit into the existing design and character of the community.

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<sup>10</sup> 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 - <http://www.housingpolicy.org/>

7. Update the zoning bylaws, development review processes and permitting policies so they are clear, and consistent.
8. Coordinate the work of Town boards and departments with permitting responsibilities and the Tyngsborough Housing Authority in order to achieve consistency in the interpretation and administration of local affordable housing requirements.
9. Ensure that affordable housing development in Tyngsborough adheres to the Commonwealth's Sustainable Development Principles (see *Figure 5.14*).
10. Monitor and chart the progress of affordable housing production to ensure that the Town is meeting annual production goals.
11. Ensure the DHCD-approved Housing Production is used as a tool for systematic growth and new housing opportunities.

## HOUSING STRATEGIES

### **Maintain Existing Housing and Expand Housing Opportunities**

1. Continue to be proactive in monitoring and maintaining existing affordable housing units. Cultivate relationships with private and non-profit affordable housing developers to expand housing opportunities in Tyngsborough.
2. Encourage the development of more affordable rental housing with choices for 1, 2, 3 and 4 bedroom units, with the goal of keeping the percentage of their income spent on housing below 30%.
3. Document the specific needs for veterans living in and around Tyngsborough and construct affordable veterans housing units that meet those needs. Organizations like the [Veterans Northeast Outreach Center](#) and the [Tyngsborough Office of Veterans Services](#) can be consulted for housing assistance. Consider the development of affordable veterans housing.
4. Incorporate the Housing Production Plan into the updated Master Plan.
5. Work with the State and other stakeholders to develop group homes to provide supported, supervised living arrangements for citizens with mental and physical disorders.
6. Activate the Tyngsborough Affordable Housing Trust (AHT) and appoint board members to the Trust to oversee the implementation of the Housing Production Plan, as well as to maintain and create new affordable housing units.
7. Utilize the Town Planner to help staff the AHT for a portion of his time.

**Figure 5.14: 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**

## **Policies, Programs and Services**

1. Evaluate and revise existing development regulations and guidelines for fairness and efficiency. A result of this evaluation could be the development of an Affordable Housing Permitting Guide to assist applicants in navigating the review process.
2. Actively review zoning changes that will provide for more affordable opportunities including special permits for multi-family and open space residential subdivision incentive, accessory apartments, assisted living facilities, retirement communities, etc. This will be done in conjunction with the Planning Board, Board of Selectmen, Zoning Board of Appeals and other town committees and boards. In particular, focus on R-3 multi-family zones and work to expand the zone, as appropriate.
3. Continue to use Community Preservation Funds to support development of affordable housing, with a focus on the following programs and services:
  - a. Community education regarding affordable housing programs;
  - b. First time home buyer's assistance program;
  - c. Rental assistance;
  - d. Renovation and sale of properties as affordable unit(s) from town tax lien properties acquired;
  - e. Purchase of property for use of affordable housing development;
  - f. To provide betterment to donated buildings and or land for use of affordable housing;
  - g. To partner with private developers and public agencies for affordable housing initiatives that is in the best interest for the community.
4. Support legislative and/or regulatory reforms at the state level that recognize the efforts of communities like Tyngsborough to proactively provide "workforce housing" to serve households at 80-120% of the area median income (AMI). This is in addition to continued efforts to support households earning below 80% of the AMI.

## **Education**

1. Provide training and educational opportunities on affordable housing for Town Board and Committee members and staff. This 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 to improve the quality of proposals and could result in a more expedited permitting process.
2. Upon the establishment of the AHT, provide training and educational opportunities for the Trustees to ensure that they are familiar with the resources available to address affordable housing issues in the community.
3. Increase public awareness of and support for affordable housing through increased outreach and public education. Provide an overview of the documented housing needs within the community and the strategies to address those housing needs.

## **Funding**

1. Pursue the purchase of units and provide a subsidized buy-down on the purchase price to qualified first-time homebuyers.

2. Research federal and state grant opportunities for the enhancement of affordable housing including: HUD's Housing for the Elderly (Section 202) Program, [Community Economic Development Assistance Corporation](#) (CEDAC) and [Neighborworks Capital](#) (NWC).
3. Investigate opportunities available under a Regional HOME Consortium to generate additional funding for housing.<sup>11</sup>

### **Regional Coordination**

1. Continue to work with programs like the [Common Ground Development Corporation](#), a subsidiary of Community Teamwork, Inc., and the Coalition for a Better Acre (CBA) to develop and manage affordable housing projects.
2. Research and promote First-Time Homebuyer Program opportunities in the region and State to make existing homes more affordable. While this is not something that Tyngsborough can invest in alone, the Town can connect households to resources like Community Teamwork, Inc. and Coalition for a Better Acre.
3. Research and communicate Foreclosure Assistance Programs in the region and State to help homeowners avoid foreclosure. While this is not something that Tyngsborough can invest in alone, they can connect households to resources like the State's Emergency Homeowners Loan Program (EHLA) and Community Teamwork, Inc.

## **PUBLIC INPUT**

The Master Plan Committee distributed a written and online survey to residents as a means of gathering public input and received 361 responses. The housing related input generated from the survey is summarized as follows:

- Each respondent was asked why he or she chooses to live in Tyngsborough, and one of the top six responses was:
  - Cost of housing (38.72%)
- When asked to rate the availability of housing in the community, the 320 responses were ranked as follows:
  - Diversity of housing types – Excellent – 14.4%; Good – 51.9%; Fair – 13.1%; Poor – 4.4%; and Unable to score – 16.2%
  - Housing affordability – Excellent – 6.9%; Good – 49.7%; Fair – 27.5%; Poor – 8.4%; and Unable to score – 7.5%
  - Available housing options for seniors – Excellent – 5%; Good – 20.6%; Fair – 11.9%; Poor – 6.2%; and Unable to score – 56.3%

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<sup>11</sup> Under the HOME program, local governments are able to join together to form a "consortium" in order to receive HOME funding for affordable housing. Forming a consortium enables local governments that would not otherwise qualify for HOME program funding under the formula criteria to join with other units of local government to receive a direct allocation of funds. This creates an opportunity for these jurisdictions to take a more regional, collaborative approach to meeting their affordable housing needs.

- Survey respondents were asked to identify the three most critical issues facing Tyngsborough over the next ten years. Too many condos/apartments and housing stock/affordability were the housing related responses identified by ten or more respondents.
- When asked whether the Town should establish housing related issues as priorities, the results were as follows:
  - Creating affordable housing – Favor – 32.3%; Oppose – 60.5%; No opinion – 7.2%
  - Creating housing for seniors – Favor – 55.5%; Oppose – 36.7%; No opinion – 7.8%
  - Creating design guidelines for new development – Favor – 75.9%; Oppose – 16.3%; No opinion – 7.8%

At the Tyngsborough Master Plan Visioning Session II meeting on March 13, 2018 at Old Town Hall, participants were asked to identify areas where multi-family housing at a density of four units per acre could be developed. There were three locations identified: (1) between Middlesex Road and the Dunstable town line, south of Route 113; (2) to the east of Route 3 just south of Exit 91 (formerly Exit 36); and (3) on Westford Road just to the east of the Route 3 interchange.

## ISSUES AND OPPORTUNITIES

The Town of Tyngsborough needs to diversify its housing stock so that it addresses the needs of the elderly, disabled, veterans and families. There has also been discussion about the need to develop “starter homes” for young families and assisted living and independent living facilities for seniors. The Town has shown the ability to produce housing – both market-rate and affordable -, as demonstrated by its designation as a Housing Choice community in 2017 and its 10.5% affordable housing status as of September 2019. Yet, there needs to be a more concerted effort to work with the Tyngsborough Housing Authority and non-profit and for-profit developers to establish the necessary housing stock that best meets the needs of its residents.

Local capacity is often an issue that can limit a community’s ability to its housing stock. Tyngsborough currently has a planner/economic development director on board who has been focusing on these issues. The Tyngsborough Housing Production Plan (HPP) will provide a “blueprint” for the development of affordable housing in the community. The establishment of the Affordable Housing Trust approved by Town Meeting in 2015 will improve local capacity by having an advisory body that can oversee the implementation of the HPP and leverage the funding sources necessary to make a project workable. The Affordable Housing Trust can also document the implementation activities related to the Housing Goals and Strategies in order to update the next HPP. Westford has successfully

utilized its Affordable Housing Trust in tandem with its Affordable Housing Committee to move affordable housing projects forward.

The planner/economic development director can access state resources that will allow the community to utilize funds other than its CPA or municipal budget funds. The Town should apply for Housing Choice designation in 2022 since the designation is only valid for two years. Designation as a Housing Choice community will enable the Town to apply for Capital Grant funds under the Housing Choice program to address local infrastructure issues that present a barrier to the development of market-rate and/or affordable housing. Although the criteria for next year's program is not available yet, local communities should have permitted either 5% (or 500 units) or 3% (300 units plus four of nine State Best Practices) between 2015 and 2019 to be eligible. The Town will need to update its list of residential permits to determine whether it will qualify.

The Chapter 40R program administered by DHCD offers opportunities to create mixed-use districts and to implement Starter Homes. Other communities, such as Reading, have used Chapter 40R designation to enhance mixed-use development projects adjacent to its commuter rail station to develop market-rate housing within walking distance of the train station. Billerica is examining whether Chapter 40R will help in marketing the North Billerica mill properties and make it financially feasible for developers. Dracut has identified 5-6 sites that could be good locations for Chapter 40R designation, such as the Navy Yard. Westford is also reviewing opportunities under Chapter 40R, particularly related to Starter Homes. A DHCD representative has made presentations on Chapter 40R to the Billerica and Westford Planning Boards, and will be making future presentations to the Dracut Planning Board and the Westford Zoning Board of Appeals.

The Town has been successful in accessing MassWorks funds to address infrastructure issues related to town sewer and roadways. The ability to access these funds provides support to non-profit and for profit developers attempting to make the numbers work for a residential development.

The HPP states that the Tyngsborough Planning Board should research various zoning issues that could increase the number of affordable housing units in the community as follows:

- Overlay Zoning Districts along portions of the B-2, B-3 and I-1 zones;
- Compact Neighborhood or Chapter 40R Districts near commercial areas;
- Amend 4.12.00 to remove Town Meeting approval for Multifamily Development;
- Create Senior Residential Housing Bylaw that encourages denser age-in-place development;

- Infill Development Zoning Bylaw that utilizes undersized and irregular lots to build smaller homes; and
- Amend the Temporary Independent Living Quarters bylaw to consider allowing non-family members, detached units on larger lots or different types of deed restrictions.

The Town should develop design guidelines for affordable housing that provides guidance to private developers as to what is acceptable. Tax title properties should be made available to non-profit developers, such as Common Ground Development Corporation, Coalition for a Better Acre and Habitat for Humanity. The Tyngsborough Housing Authority should have tax title properties adjacent to or near their properties made available to them.

The health of the town’s economy depends on access to a range of housing types and prices, opportunities to purchase or rent, and housing options that support different stages of life and lifestyles. Housing can enhance economic competitiveness. For growing companies, access to a diverse labor force with a mix of skills matters. In order to attract a diverse labor force, housing must be available and affordable. While housing can have a fiscal impact on the town (e.g. cost of services and schools), providing a range of housing types for a wide range of incomes can help strengthen the local labor force and make the town more attractive for economic development.

## RECOMMENDATIONS

- Diversify the housing stock to address the needs of the elderly, disabled, veterans and families.
- Develop “starter homes” for young families and assisted living and independent living facilities for seniors.
- Make a more concerted effort to work with the Tyngsborough Housing Authority and non-profit and for-profit developers to address the housing needs of residents.
- Build on local staff capacity to diversify the community’s housing stock.
- Implement the approved *Tyngsborough Housing Production Plan for 2020-2024* as approved by DHCD.
- Establish the Affordable Housing Trust approved by Town Meeting in 2015.
- Apply for Housing Choice designation in 2022 to be eligible for Capital Grant funds under the Housing Choice program.

- Examine the Chapter 40R program as a means to establish mixed-use districts and Starter Homes. Request that a DHCD representative make a presentation to the Tynngsborough Planning Board.
- Continue to utilize the MassWorks program to address infrastructure issues in town.
- Research various zoning issues that could increase the number of affordable housing units in the community.
- Develop design guidelines for affordable housing and utilize tax title properties to develop smaller affordable housing units.
- Provide a range of housing types for a wide range of incomes in order to strengthen the local labor force and make the town more attractive for economic development.

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## VI. OPEN SPACE AND RECREATION

Open space is essential to the quality of life within Tyngsborough and should be viewed as the “green infrastructure” that supports and links the built and natural environments. Open space consists of a network of waterways, wetlands, woodlands and forests, parks, conservation lands, and working farms. It provides ecological, social, economic, and health benefits that can be described as follows: <sup>12</sup>

- **Ecological benefits:** Open space provides natural water filtration, drinking water protection, flood and erosion control, wildlife habitat, migration stopovers, and biodiversity. Biodiversity includes genetics, species, ecosystems and ecological processes.
- **Social benefits:** Open space contributes to residents’ quality of life by providing opportunities for recreational, civic, social and educational interactions. It contributes to community identity and sense of place by connecting residents to their natural and cultural heritage, and by linking neighborhoods to the larger community.
- **Economic benefits:** Open space is important for attracting and maintaining businesses in a community and a region. Proximity to open space often increases land values, and recreation and leisure activities can make significant economic contributions. In addition, natural processes such as water filtration are much less expensive than engineered alternatives such as water treatment plants.
- **Health benefits:** Access to parks, greenways and trails improves mental health, creates recreational opportunities and encourages a physically active lifestyle. Open space helps to ensure clean and safe water supplies and food production resources. It also mitigates air, water and noise pollution, and the impacts of climate change.

### OPEN SPACE AND RECREATION GOALS

- Increase the quantity and quality of recreation space and facilities.
- Improve maintenance and management of existing recreation and conservation areas.
- Educate residents on the value of open space in the town and the region.
- Increase accessibility of all recreational resources, facilities and programs.
- Connect Tyngsborough’s open space and recreation lands through a network of trails.
- Establish regional greenways along local waterways.
- Acquire additional open space as properties become available and resources permit.

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<sup>12</sup> American Planning Association, “Seven Principles of Green Infrastructure”.

Tyngsborough's green infrastructure should be managed and enhanced on an ongoing basis, in order to support natural systems, protect groundwater, minimize flooding, build community, and increase the well-being of residents. This section of the Master Plan provides an overview of the Town's lands of conservation and recreation interest, and articulates the needs of the community based on input received during the public input and plan development processes.

## HISTORY OF OPEN SPACE AND RECREATION PLANNING IN TYNGSBOROUGH

Tyngsborough's first Open Space and Recreation Plan (OSRP) was completed in 1990. An updated plan based on State open space planning principles was prepared in 1996 by the Open Space and Recreation Plan Advisory Group, with assistance from the Northern Middlesex Council of Governments (NMCOG), Tyngsborough's regional planning agency. The 1996 Plan was later updated in 2002 and 2009. The most recent plan update was completed in early 2020. Since completion of the 1990 Tyngsborough Open Space and Recreation Plan (OSRP), Tyngsborough residents have become increasingly concerned about development pressures on the town's agricultural resources and the potential loss of the town's semi-rural character. As a result, residents voted to accept and implement the Community Preservation Act in 2001.

The development of the 2018 Open Space and Recreation Plan Update included a visioning session, public meetings on proposed open space and recreation projects, and other public outreach efforts, including a written survey distributed through the Tax Collector's office. Approximately 350 residents responded to the survey. An interactive public Visioning Session was conducted on March 19, 2018, to solicit input and assist in developing the Plan's goals and objectives. The visioning session emphasized brainstorming and open discussion in the areas of open space, recreation, nature, and wildlife. Informational items related to the Open Space and Recreation Plan Update were also posted on the Town's website. The Open Space and Recreation Plan was presented to the Board of Selectmen and Planning Board, and posted for public review and comment in May 2020. The final document was approved by the State's Division of Conservation Services in June 2020 and will be effective until June 2025.

The Plan follows the Massachusetts Division of Conservation Services (DCS) guidelines and format, and focuses upon the following goals:

- Increase the quantity and quality of recreation space and facilities;
- Improve maintenance and management of existing recreation and conservation areas;
- Revitalize the Town Center;

- Educate residents on the value of open space in the town and the region;
- Increase accessibility of all recreational resources, facilities and programs;
- Promote land use and permitting practices that foster sustainability and protect historic assets, open space, cultural assets and resource areas;
- Improve the overall quality of the Town’s surface water bodies and wetland resources;
- Establish regional greenways; and
- Implement Complete Streets policies and projects that foster and enhance bicycle and pedestrian accommodations.

The development of the 2018 OSRP was undertaken as a community project by volunteers, with technical assistance from NMCOG. Representatives from several town departments provided their expertise. The 2018 update stressed the importance of preserving open space, natural resources and increasing outdoor recreational opportunities. Toward this end, the Town continues its efforts to preserve the remaining natural areas. Protecting farmland has been the focus of many land protection projects within Tyngsborough, and should continue into the future.

## EXISTING CONDITIONS

For purposes of the Master Plan, open space is defined as land that, for the most part, is free of structures, whether publicly or privately owned. It is unclear exactly how much open space land has been preserved because a large number of parcels have not been included in the town’s protected land inventory. In addition, certain properties that were listed as protected in earlier Open Space and Recreation Plans were not in fact protected. Recently, town staff has made considerable progress in resolving many of the land inventory discrepancies and is continuing to work on rectifying inconsistencies and oversights from prior years.

“Open space” includes public cemeteries, some public parks, school properties, Chapter 61 properties, undeveloped tax title properties, and other undeveloped and partially developed, town-owned land. Table 6.1 shows a total of approximately 2,726 acres within Tyngsborough that are classified as open space, of which 1,382 acres are considered to be permanently protected. An additional 64.53 acres are in the process of being permanently protected, which will bring the total to 1,447 acres of permanently protected land, or 12.5 percent of all land in Tyngsborough. Permanently protected lands include state lands and municipal properties subject to Article 97, a conservation restriction, or other deed restriction, as well as private properties subject to a conservation restriction, agricultural preservation restriction, or a deed restriction. Unprotected lands of conservation and recreation interest include those that are held for open space, historic, or recreation

purposes, but which are not permanently protected. Publicly-owned cemeteries, parcels that are held by the Tyngsborough Water Supply District, and parcels under a Chapter 61, 61A or 61B agreement are considered to have limited protection.

**Table 6.1: 2019 Open Space Acreage by Ownership and Protection Status**

<b>Ownership</b>	<b>Acres</b>	<b>Protection Category</b>
Commonwealth of Massachusetts	528.17	Permanent protection
Town of Tyngsborough Conservation Land	546.09	Permanent protection
Town of Tyngsborough Protected Recreation Land	8.37	Permanent protection
Massachusetts Conservation Land Trust	68.70	Permanent protection
Agricultural Preservation Restrictions (Private)	151.80	Permanent protection
Private Conservation Restrictions	7.38	Permanent protection
Private Conservation Restrictions - Pending	64.53	Pending permanent protection
Dracut Water Supply District	71.70	Permanent protection
Town of Tyngsborough Cemeteries	28.15	Limited protection
Chapter 61 (Private)	437.39	Limited protection
Chapter 61A (Private)	196.86	Limited protection
Chapter 61B (Private)	50.74	Limited protection
Town of Tyngsborough Unprotected Recreation Land	50.47	No protection
Greater Lowell Regional Vocational School - Recreational Land	24.47	No protection
Other Town Open Space, including at Municipal Facilities	38.75	No protection
Private Recreational Land	451.96	No protection
Non-conservation State Land (Town Center Dam)	0.90	No protection
Tax Title	68.48	No protection
<b>Total</b>	<b>2,726.43</b>	

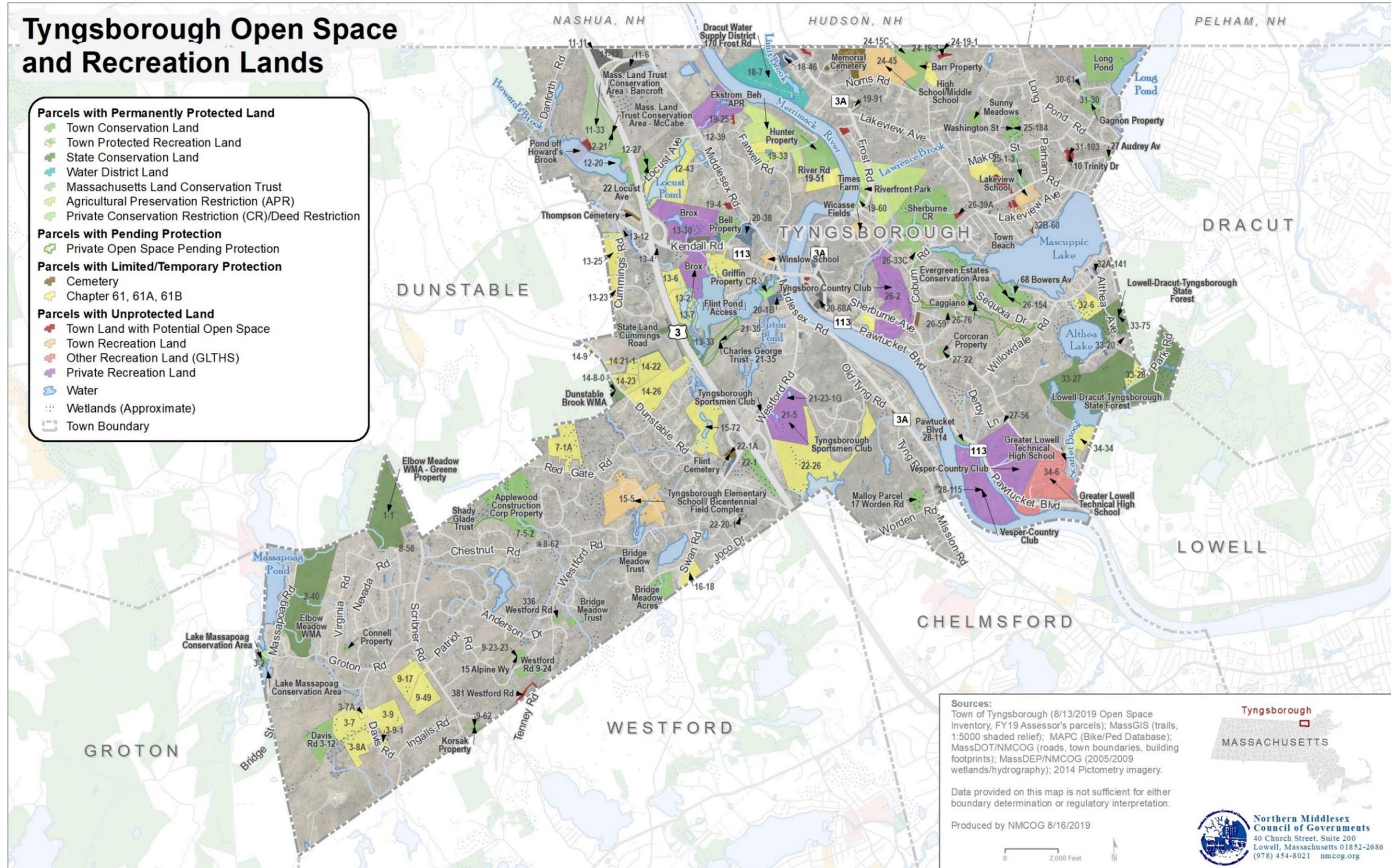
*Source: Tyngsborough Open Space and Recreation Inventory 8/12/19*

The Town’s inventory of lands of conservation and recreation interest was recently updated through an analysis of the Assessor’s database and with input from town staff and officials. The open space and recreation parcels are shown on Map 6.1 on the following page.

## PERMANENTLY PROTECTED OPEN SPACE

Protected open space provides a number of important benefits to the community, including water supply protection, flood prevention, reducing the impacts of climate change, preservation of natural resources and wildlife habitat, creation of recreational opportunities, and retention of rural character. As previously described, permanently protected lands include state lands and municipal properties subject to Article 97, a conservation restriction or other deed restriction, as well as private properties subject to a conservation restriction, agricultural preservation restriction or deed restriction. These parcels have been acquired through various means including by gift/donation, acquisition

Map 6.1: Tyngsborough Open Space and Recreation Lands



using Town budget appropriations, state grants, private funding, and by tax title. Properties held by the Conservation Commission are protected under Article 97 of the state constitution. Article 97 provides that land held for conservation and natural resource purposes may not be transferred, disposed of, or used for other municipal or private purposes without a majority vote of the Board of Selectmen, a two-thirds vote of Town Meeting, a two-thirds roll call vote of both Houses of the State Legislature, and the Governor’s signature.

## TOWN-OWNED LANDS

According to the most recent land inventory, the Town owns 554.46 acres of permanently protected conservation and recreational land in fifty-four (54) parcels. The largest protected areas in Tyngsborough include the Sherburne House and Nature Center property on Coburn Road, totaling 81.73 acres, and the Primrose Lane Conservation Area, totaling 63 acres. In addition, the Town has permanently protected 8.37 acres of land at Riverfront Park on Frost Road, and 50 acres on Alden Road along the New Hampshire border.

**Table 6.2: Town-Owned Land Managed by the Tyngsborough Conservation Commission**

Map-Block-Lot	Site Name	Location	Acreage
9-23-23	15 Alpine Way	15 Alpine Way	5.22
9-23-26	20 Alpine Way	20 Alpine Way	0.02
24-19-1	21 Descheneaux Ln	21 Descheneaux Ln	1.73
12-27	22 Locust Ave	22 Locust Av	11.74
24-13	25 Descheneaux Ln	25 Descheneaux Ln	1.65
31-32-14	27 Audrey Av	27 Audrey Av	1.25
8-41-1	336 Westford Rd	336 Westford Rd	1.77
12-39	375 Middlesex Rd	375 Middlesex Rd	0.48
9-23-18	43 Alpine Way	43 Alpine Way	0.80
26-52	68 Bowers Av	68 Bowers Av	8.60
7-5-2	Applewood Construction Corp Property	0 Chestnut Rd	8.51
7-6	Applewood Construction Corp Property	0 Primrose Ln	63.00
24-18	Barr Property	0 Norris Rd	20.97
24-15C	Barr Property	0 Norris Rd	7.90
20-21	Bell Property	4 Bryants Ln	15.12
16-19	Bridge Meadow Acres	12 Clover Hill Cr	26.32
16-35	Bridge Meadow Trust	0 Paddock Rd	11.15
3-15E	Connell Property	8 Connell Dr	2.34
12-20	Conservation Area	0 Locust Av	12.36
27-22	Corcoran Property	2 Corcoran Dr	2.04
3-12	Davis Rd 3-12	0 Davis Rd	23.00
25-1-3	Deangelis Property	21 Chard Rd	3.15

Map-Block-Lot	Site Name	Location	Acreage
25-1-8	Deangelis Property	0 Chard Rd	0.62
25-1-10	Deangelis Property	34 Chard Rd	1.72
31-1-13	Deangelis Property	0 Chard Rd	3.56
31-1-17	Deangelis Property	150 Coburn Rd	0.98
26-138	Evergreen Estates Conservation Area	43 Coburn Rd	26.77
26-154	Evergreen Estates Conservation Area	43 Sequoia Dr	20.62
20A-4	First Parish Meeting House (Rear)	216 Middlesex Rd	0.84
2-187	Former Connell Construction Corp Property	17 Connell Dr	1.66
30-61	Gagnon Property	35 Alden St	1.16
31-30	Gagnon Property	0 Alden St	10.01
19-35	Hunter Property	0 River Rd	7.40
19-50	Hunter Property	0 River Rd	14.70
9-62	Korsak Property	4 Fay Memorial Dr	4.38
3-2	Lake Massapoag Conservation Area	110 Massapoag Rd	5.00
12-18	Locust Ave 12-18	0 Locust Av	5.51
12-29	Locust Ave 12-29	0 Locust Av	0.71
30-12	Long Pond	0 Long Pond Rd	48.04
28-36	Malloy Parcel 17 Worden Rd	17 Worden Rd	7.98
26-59	Nottingham Road 26-59	14 Nottingham Rd	2.74
26-64	Nottingham Road 26-64	0 Nottingham Rd	2.88
26-66	Nottingham Road 26-66	0 Nottingham Rd	1.51
2-42H	Patierno Property	9 Montana Dr	0.99
28-114	Pawtucket Blvd 28-114	0 Pawtucket Blvd	1.60
22-1	Recreation Center & Office	120 Westford Rd	14.61
19-51	River Rd 19-51	0 River Rd	17.25
26-33A	Sherburne CR	0 Coburn Rd	79.02
26-33C	Sherburne House	46 Coburn Rd	2.71
25-58-6	Sleepy Hollow Ln 25-58-6	0 Sleepy Hollow Ln	3.00
25-29	Sunny Meadows	31 Robert Rd	5.24
25-184	Washington St	0 Washington St	13.76
9-24	Westford Rd 9-24	0 Westford Rd	10.00
<b>Grand Total</b>			<b>546.09</b>

Source: Tyngsborough Open Space and Recreation Inventory 8/12/19

In addition to land managed by the Conservation Commission, the Dracut Water Supply District manages 71.7 acres within Tyngsborough. Other unprotected lands that are unlikely to be developed include the Town-owned playing fields, school properties and cemeteries (28.15 acres). The Town also holds 68.48 acres of property taken in Tax Title lands that could be protected for open space.

## STATE LANDS

The State owns a total of seventeen parcels comprising 528.17 permanently protected acres in Tyngsborough, the majority, 223 acres, is located in the Lowell-Dracut-Tyngsborough State Forest. There are an additional 197.45 acres in the Elbow Meadow Wildlife Management Area located on Groton and Scribner Roads under the jurisdiction of the Massachusetts Division of Fisheries and Wildlife, as well as another 81.97 acres at Flint Pond on Kendall Road, 6.54 acres in the Dunstable Brook Wildlife Management Area, and 19.31 acres on Cummings Road, as shown in Table 6.3.

**Table 6.3: State-Owned Open Space in Tyngsborough**

Map-Block-Lot	Site Name	Location	Acreage
14-8-0	Dunstable Brook Wildlife Management Area (WMA)	484 Dunstable Rd	6.54
2-40	Elbow Meadow WMA	89 Groton Rd	120.00
1-1	Elbow Meadow WMA - Greene Property	202 Scribner Rd	77.45
13-33	Flint Pond Access	0 Kendall Rd	81.97
33-27	Lowell-Dracut-Tyngsborough State Forest	0 Trotting Park Rd	191.30
33-75	Lowell-Dracut-Tyngsborough State Forest	0 Althea Av	31.60
13-19-1	State Land - Cummings Road	0 Cummings Rd	19.31
<b>Total</b>			<b>528.17</b>

Source: Tyngsborough Open Space and Recreation Inventory 8/12/19

## CONSERVATION RESTRICTIONS (CR)

A Conservation Restriction is a voluntary and legally binding document recorded in the land records, through which a land owner agrees to limit the use of his or her property for the purpose of protecting the conservation value of the land. The land owner receives an immediate income tax deduction, and the grantee, usually a non-profit or municipal entity, receives assurance that the land will not be developed. Conservation Restrictions protect three areas within Tyngsborough that total 7.38 acres, as shown in Table 6.4. In addition, three privately owned-properties are currently making their way through the process of a permanent deed restriction to protect 64.53 acres.

**Table 6.4: Conservation Restrictions on Private Land in Tyngsborough**

Map-Block-Lot	Site Name	Location	Acreage
20A-3	Lambert Property CR	208 Middlesex Rd	4.83
3-2-1	Lake Massapoag Conservation Area	0 Groton Rd	0.11
3-2-2	Lake Massapoag Conservation Area	0 Massapoag Rd	2.44
Private CR/Deed Restrictions			<b>7.38</b>
26-76	Caggiano	40 Sequoia Dr	27.51
21-35	Charles George Trust - 21-35	0 Rt 3	15.00
7-5-1	Shady Glade Trust	0 Primrose Ln	22.02
Private Open Space Pending Protection			<b>64.53</b>
<b>Total</b>			<b>71.91</b>

Source: Tyngsborough Open Space and Recreation Inventory 8/12/19

## LAND TRUST PARCELS

As shown in Table 6.5, the Massachusetts Land Conservation Trust (MLCT) owns two (2) parcels in Tyngsborough totaling 68.7 acres. The larger of the two MLCT properties is the Bancroft property comprised of 56 acres. The second MLCT property is the McCabe property which totals 12.7 acres.

**Table 6.5: Tyngsborough Lands Held by Land Trusts**

Map-Block-Lot	Site Name	Location	Owner	Acreage
11-33	Mass. Land Trust Conservation Area – Bancroft	0 Rte. 3	Massachusetts Land Conservation Trust	56.0
12-21	Mass. Land Trust Conservation Area – McCabe	0 Rte. 3	Massachusetts Land Conservation Trust	12.7
<b>Grand Total</b>				<b>68.70</b>

Source: Tyngsborough Open Space and Recreation Inventory 8/12/19

## AGRICULTURAL PRESERVATION RESTRICTIONS

In Massachusetts, the Agricultural Preservation Restriction (APR) Program is voluntary and intended to protect productive agricultural lands by establishing permanent deed restrictions, thereby protecting the land from any use that might diminish its agricultural potential. The deed restrictions are purchased with state funds that can be matched by municipal and federal funding.

The APR Program offers a non-development alternative to farmers and other owners of "prime" and "state important" agricultural land who are faced with a decision regarding future use and disposition of their farms. Towards this end, the program offers to pay farmland owners the difference between the "fair market value" and the "agricultural value" of their farmland, in exchange for a permanent deed restriction that precludes any use of the property that will have a negative impact on its agricultural viability. As shown in

Table 6.6, 151.8 acres of land within Tyngsborough have been protected through the APR program.

**Table 6.6: Agricultural Preservation Restrictions in Tyngsborough**

Map-Block-Lot	Site Name	Location	Acreage
19-34A	Ekstrom John O APR	Rear Farwell Rd	12.0
19-30	Ekstrom_Beh APR	95 Farwell Rd	30.5
19-33	Ekstrom_Beh APR	65 Farwell Rd	20.0
25-9	Times Farm	91 and 93 Frost Rd	78.4
25-10	Times Farm	91 Frost Rd	10.9
Total			<b>151.8</b>

Source: Tyngsborough Open Space and Recreation Inventory 8/12/19

### UNPROTECTED LANDS, LANDS WITH LIMITED PROTECTION, AND LANDS WITH UNKNOWN PROTECTION

Unprotected and limited protection lands include public lands currently held as open space, cemeteries, schools, parks, or recreation land without legal permanent protection, as well as private parcels with limited or no restrictions on development. Limited protection open space includes land covered by revocable restrictions against development or a change in use. A farm that is under a Chapter 61A agreement is an example of temporarily protected open space. Similarly, school athletic fields, or other open space on school grounds, could be converted to another use and are included within this category. In addition, as noted above, there are multiple properties with unknown protection.

### WATER SUPPLY LANDS

Land in Tyngsborough managed by the Dracut Water Supply District is protected from development as long as the associated water supply is in use. It is important to note, however, that development of facilities related to water treatment, distribution and maintenance are allowed on these parcels, and should a drinking water source be decommissioned, the land could be sold and developed. There is one (1) water supply parcel, as shown in Table 6.8. This property is protected by the requirements of Article 97 for as long as the property is associated with a public drinking water supply.

**Table 6.7: Water Supply Lands in Tyngsborough**

Map-Block-Lot	Location	Acreage
18-7	170 Frost Rd	71.7
Total		<b>71.7</b>

Tyngsborough Open Space and Recreation Inventory 8/12/19

CEMETERIES

There are seven (7) cemeteries in Tyngsborough totaling 28.15 acre, as shown in Table 6.8. These burial grounds include the Tyng/Drake Cemetery (two parcels), Fletcher Cemetery, Flint Cemetery, Gould Cemetery, Memorial Cemetery, Sherburne Cemetery, and Thompson Cemetery. Burial grounds and cemeteries are important public spaces that link us with our past. Tyngsborough’s cemeteries contain gravestones, monuments, memorials and tombs that commemorate the lives of many generations of residents, including founding members of the community, soldiers from the Revolutionary War and Civil War, veterans from other wars and conflicts, settlers, farmers and immigrants who helped build the community and the nation. As open space becomes developed in the future, these places will remain as havens for quiet and reflection.

**Table 6.8: Tyngsborough Cemeteries**

Map-Block-Lot	Cemetery	Location	Acreage
27-5A	Tyng/Drake Cemetery	0 Middlesex Rd.	0.46
27-5B	Tyng/Drake Cemetery	0 Tyng Rd.	0.03
18-61	Fletcher Cemetery	0 Fletcher Dr.	0.63
22-1A	Flint Cemetery	0 Westford Rd.	2.52
24-22A	Gould Cemetery	0 Norris Rd.	0.23
18-58	Memorial Cemetery	31 Fletcher Dr.	22.28
27-72	Sherburne Cemetery	0 Coburn Rd.	1
12-26A	Thompson Cemetery	0 Old Kendall Rd.	1
<b>Total</b>			<b>28.15</b>

*Source: Tyngsborough Open Space and Recreation Inventory 8/12/19*

OTHER PUBLIC AND PRIVATE LANDS WITH UNPROTECTED OR UNKNOWN STATUS

As shown in Table 6.9, there are forty-eight (48) Town-owned and privately-owned parcels, as well as parcels owned by the Greater Lowell Vocational Technical High School, totaling 513.72 acres, that are either unprotected or for which the protection status is unknown at this time. Of this land, the Town owns 37.3 acres, Greater Lowell Regional Vocational Technical High School owns 24.47 acres, while an additional 451.96 acres are privately held.

**Table 6.9: Other Public and Private Lands with Unprotected or Unknown Status**

Map-Block-Lot	Address	Owner	Category	Open Space Acreage
34-6	250 Pawtucket Blvd	Greater Lowell Regional Vocational Technical High School	Recreation	20.33
34-2	0 Pawtucket Blvd	Greater Lowell Regional Vocational Technical High School	Recreation	1.61
34-44	0 Sherburne Av	Greater Lowell Regional Vocational Technical High School	Recreation	2.53
<b>Greater Lowell Regional</b>				<b>24.47</b>
19-82	14 Phalanx St	Town of Tyngsborough	Open Space	0.78
19-81	20 Phalanx St	Town of Tyngsborough	Open Space	0.67
31-103	10 Trinity Dr	Town of Tyngsborough	Open Space	2.65
24-19-3	15 Descheneaux Ln	Town of Tyngsborough	Open Space	1.57
32A-66	16 Oakridge Av	Town of Tyngsborough	Open Space	0.17
32B-46	0 Lakeview Av	Town of Tyngsborough	Open Space	0.08
16-11	273 Westford Rd	Town of Tyngsborough	Open Space	0.26
20-39	290 Middlesex Rd	Town of Tyngsborough	Open Space	0.05
19-2	310 Middlesex Rd	Town of Tyngsborough	Open Space	1.00
19-3	312 Middlesex Rd	Town of Tyngsborough	Open Space	0.50
19-4	316 Middlesex Rd	Town of Tyngsborough	Open Space	2.50
20-100-2	33 Patricia Dr	Town of Tyngsborough	Open Space	0.33
20-100-1	37 Patricia Dr	Town of Tyngsborough	Open Space	0.21
9-23-25	381 Westford Rd	Town of Tyngsborough	Open Space	2.87
18-54I	4 Wintergreen Dr	Town of Tyngsborough	Open Space	1.29
32B-60	50 Mascuppic Tl	Town of Tyngsborough	Open Space	0.27
20-61	8 Pawtucket Blvd	Town of Tyngsborough	Open Space	0.39
26A-176	0 Beech St	Town of Tyngsborough	Open Space	0.11
26-39A	0 Coburn Rd	Town of Tyngsborough	Open Space	1.70
25-44-1	130 Coburn Rd	Town of Tyngsborough	Open Space	7.92
19-25	0 Joyce Dr	Town of Tyngsborough	Open Space	0.71
13-5	0 Kendall Rd	Town of Tyngsborough	Open Space	0.29
32-55	0 King David Rd	Town of Tyngsborough	Open Space	0.11
31A-43A	0 Lakeview Av	Town of Tyngsborough	Open Space	0.10
32A-141	0 Longwood Rd	Town of Tyngsborough	Open Space	0.82
26A-97	0 Mascuppic Tl	Town of Tyngsborough	Recreation	0.15
28-84	0 Middlesex Rd	Town of Tyngsborough	Open Space	0.18
28-92	0 Middlesex Rd	Town of Tyngsborough	Open Space	0.28
32B-61A	0 Palmetto Av	Town of Tyngsborough	Open Space	0.09
20-100-8	0 Patricia Dr	Town of Tyngsborough	Open Space	0.23
20-61A	0 Pawtucket Blvd	Town of Tyngsborough	Open Space	0.35
32B-71B	0 Pointsetta Ave	Town of Tyngsborough	Open Space	0.09
12-7	0 Rt 3 (Pond off Howard's Brook)	Town of Tyngsborough	Open Space	8.20
28-120	0 Tyng Rd	Town of Tyngsborough	Open Space	0.09

Map-Block-Lot	Address	Owner	Category	Open Space Acreage
25-46	0 Walnut Av (Walnut Av by Lakeview School)	Town of Tyngsborough	Open Space	1.20
25-47	0 Walnut Av (Walnut Av by Lakeview School)	Town of Tyngsborough	Open Space	0.16
32A-144	0 Westland Rd	Town of Tyngsborough	Open Space	0.38
<b>Town-Owned</b>				<b>37.3</b>
13-30	93 Kendall Rd	Brox Industries Inc	Undeveloped industrial	61.71
13-2	98 Kendall Rd	Brox Industries Inc	Undeveloped industrial	36.16
12-38	383 Middlesex Rd	Twinco Realty LLC (Max's Country Golf)	Recreation	42.53
21-4	81B Westford Rd	Tyngsborough Sportsmen Club	Recreation	2.00
21-5	90 Westford Rd	Tyngsborough Sportsmen Club	Recreation	44.00
21-23-1G	0 Westford Rd	Tyngsborough Sportsmen Club	Recreation	12.17
28-115	185 Pawtucket Blvd	Vesper Country Club	Recreation	177.88
<b>Private</b>				<b>376.45</b>
<b>Total</b>				<b>438.21</b>

Source: Tyngsborough Open Space and Recreation Inventory 8/12/19; updated 6/21

## CHAPTER 61, 61A AND 61B PROPERTIES

Under Chapters 61, 61A and 61B of the Massachusetts General Laws (M.G.L.), a land owner who has ten (10) contiguous acres being actively used as forest (Chapter 61), or five (5) contiguous acres in active agriculture (Chapter 61A), or five (5) contiguous acres of open space/recreational land (Chapter 61B), is entitled to certain local tax abatements. These abatements are given in exchange for the property owner retaining the land in its current use as agriculture, forest, recreation or open space. The landowner needs to exclude their residence, other structures, and any land used in connection with those buildings. The structures and excluded land continue to be taxed at the full assessment. Should the current landowner decide to sell or develop property covered under these programs, the Town of Tyngsborough will have an opportunity to exercise its right-of-first-refusal, or may alternatively elect to assign this right to a non-profit conservation organization or the Commonwealth of Massachusetts. However, the Chapter 61A program does not provide permanent protection from future development.

High real estate values have increased pressure to develop what remains of agricultural lands in Tyngsborough and in neighboring communities. These lands are generally clear of forest and have topography well-suited to a variety of uses. Furthermore, while communities have a right of first refusal under existing Chapter 61 programs, they frequently lack the funds to purchase large tracts of valuable open space. Often the result is that farmlands are converted into residential subdivisions at the expense of open space,

local agricultural production and community character. Table 6.10 lists the parcels classified under Chapters 61, 61A and 61B at this time.

**Table 6.10: Chapter 61, 61A and 61B Parcels**

Map-Block-Lot	Site Name	Parcel location	Owner	Acreage
24-12B	Alexa	86 Norris Rd	Alexa Michael J	6.09
32-6	Ayers	95 Willowdale Rd	Ayers Daniel R & Katherine G	13.60
14-26	Charles George Trust	475 Dunstable Rd	Charles George 2007 Irrevoc Tr	41.80
13-6	Charles George Trust - Kendall Rd	0 Rt 3	Charles George 2007 Irevoc Tr	11.02
13-7	Charles George Trust - Kendall Rd	0 Kendall Rd	Charles George 2007 Irevoc Tr	38.65
14-22	Charles George Trust Dunstable Rd	0 Dunstable Rd	Charles George 2007 Irrvoc Tr	18.31
14-21-1	Dunstable Road Properties	0 Dunstable Rd	Dunstable Road Land Prop LLC	1.50
14-21	Dunstable Road Properties	0 Dunstable Rd	Dunstable Road Properties LLC	4.68
14-23	Dunstable Road Properties	501 Dunstable Rd	Dunstable Road Properties LLC	9.50
14-25	Dunstable Road Properties	0 Dunstable Rd	Dunstable Road Properties LLC	3.00
22-26	El Kareh - 24 Old Tyng Rd	24 Old Tyng Rd	El Kareh Joseph K & Mary M	118.09
14-9	El Kareh - Dunstable Rd	0 Dunstable Rd	El Kareh Joseph K & Mary B	2.50
20-16	El Kareh - Kendall Rd	84 Kendall Rd	El Kareh Joseph K + Mary M	26.96
25-159	Gabriel	20 Jasper Ln	Gabriel Jorge	14.80
3-7	Gagnon	19 Davis Rd	Gagnon Michael J	24.43
3-9-1	Gagnon	0 Davis Rd	Gagnon Michael J	3.00
3-9	Gagnon	14 Davis Rd	Gagnon Michael J	27.42
3-7A	Gagnon	17 Davis Rd	Gagnon Michael J	2.02
J13-25	H&G Realty	11 Cummings Rd	H & G Realty Trust	35.00
9-17	Hurley	74 Scribner Rd	Hurley Francis L	20.79
15-72	Karp	137 Westford Rd	Karp Richard C	35.10
33-28	Kaufman	21 Trotting Park Rd	Kaufman, Whitley R. P. &	5.50
9-49	Locicero	70 Scribner Rd	Vincent R Locicero Revoc Trs	16.32
12-43	Locust Pond Lot	0 Locust Av	Janet Hicks 2007 Revoc Trust	62.18
16-18	Merrill	22 Swan Rd	Merrill George L	12.54
19-31	Parlee	89 Farwell Rd	Parlee Mark C	8.00
19-52	Parlee	0 River Rd	Parlee Mark C &	19.2

Map-Block-Lot	Site Name	Parcel location	Owner	Acreage
3-8A	Stepinski	21 Davis Rd	Stepinski Joseph	24.00
34-34	Tatseos	226 Sherburne Av	Tatseos George A	21.24
13-23	Tyson	33 Cummings Rd	Tyson Charlotte	12.00
7-1A	Wright	89 A Red Gate Rd	Wright Eric M	33.70
<b>Total</b>				<b>678.94</b>

Source: Tyngsborough Open Space and Recreation Inventory 8/12/19

Tyngsborough currently has 678.94 acres of private land enrolled in the Chapter 61, 61A and 61B tax abatement programs.

A landowner who has his property classified under Chapter 61, 61A or 61B, must notify the Chief Elected Official (Board of Selectmen Chairman), the Board of Assessors, the Planning Board, the Conservation Commission, and the State Forester, when all or a portion of the land is being sold or converted to a disqualifying use. Unfortunately, small towns in high growth areas have found that when a strong housing market drives up the value of land, farm and forest landowners have little incentive to make permanent fixed investments that might increase the productivity of traditional rural land uses but add no market value for potential future development. For this reason, Chapter 61 and Chapter 61A land is particularly vulnerable to development. DCR has a very informative publication on the Chapter 61 programs that can be accessed online at:

<http://masswoods.org/sites/masswoods.net/files/Ch-61-Web.pdf>

## RECREATION LANDS AND PLAYING FIELDS

There are seventeen (17) parcels, totaling 50.47 acres of school property and playing fields in Tyngsborough that are not permanently protected and contain recreation facilities, as shown in Table 6.11. The largest parcels are the Tyngsborough Elementary School/Bicentennial Field Complex property with 70.07 acres, of which 17.39 are considered “open space”.

**Table 6.11: Recreation Lands and Playing Fields in Tyngsborough**

Map-Block-Lot	Site Name	Location	Acreege
25-48	Community Center Fields	0 Walnut Av	0.52
26A-15	Community Center Fields	46 Walnut Av	0.69
26A-16	Community Center Fields	0 Walnut Av	0.18
26A-17	Community Center Fields	0 Lakeview Av	0.07
26A-18	Community Center Fields	0 Lakeview Av	0.11
26A-18A	Community Center Fields	180 Lakeview Av	1.01
26A-19A	Community Center Fields	0 Poplar Av	0.05
31A-1A	Community Center Fields	1 Mt Rock Av	0.11
32B-1	Community Center Fields	186 Lakeview Av	2.30
24-45	High School/Middle School	50 Norris Rd	10.72
31-42A	Lakeview School	135 Coburn Rd	1.56
20A-8	Old Town Hall Park	4 Kendall Rd	0.25
26A-94A	Town Beach	44 Maplewood Av	1.05
15-5	Tyngsborough Elementary School / Bicentennial Field Complex	205 Westford Rd	17.39
20A-57	Veterans Memorial Park	0 Middlesex Rd	0.23
20A-58	Veterans Memorial Park	0 Middlesex Rd	0.23
20-104A	Wicasse Fields	17 Wicasse Rd	8.80
<b>Total</b>			<b>50.47</b>

Source: Tyngsborough Open Space and Recreation Inventory 8/12/19

## RECREATION PROGRAMS

Recreation programs in Tyngsborough focus primarily on the town’s youth, however adult programs and activities are also offered. The youth programs are well-utilized, with an annual registration of 2,000 participants, and with demand that continues to increase as the town’s population grows. Youth programs offered by the Recreation Department include sports, arts, cultural and educational activities. The majority of the programs are held at the town’s new Recreation Center, although some programs take place at various schools as they require gymnasium usage.

The lack of athletic field space remains a concern in town. The demand for field use has increased substantially over the last five years, with six youth sports organizations vying for field space. In addition, nine high school and two middle school teams also use the Recreation Department fields. All fields are maintained and scheduled by the Recreation Department, in coordination with the Highway Department Parks Manager. The Recreation Director is a member of the Field Use Committee and charged with scheduling, developing and constructing fields for the town. Some field maintenance is performed by the youth

sport groups; while the assistance is helpful and appreciated by the town it does not provide adequate time for field rest or rotation of fields.

A number of community events are held at minimal or no charge to the residents, including the Grandparents Breakfast, the Shamrock Ball, Free Movie Nights, the Pig and Apple Fest, Jack-o-Lantern Display, Summer Block Party, the Annual Tree Lighting and Festival of Trees. The Tyngsborough Council on Aging offers recreational programs designed for the town's older residents. Instructional programs in art, knitting, and drawing are offered, along with quilting, bingo, card games, yoga and Tai Chi. The Council on Aging also sponsors day trips and bus trips, and organizes walking groups.

## BOATING AND FISHING

There are seven large lakes or ponds located within the Town of Tyngsborough. Lake Mascuppic is 209 acres and is the largest lake in town. It is surrounded by former summer cottages that have been converted to year-round residences, and is bordered by Town-owned and privately-owned conservation land off Sequoia Drive. A Town Beach is located off Mascuppic Trail.

Long Pond has a total area of 163 acres, of which approximately 40 acres are located in Tyngsborough. The pond has a developed shoreline that is used extensively for recreation - particularly swimming, fishing, and boating. Massapoag Pond (153 acres total, with approximately 64 acres in located Tyngsborough) is used for boating and fishing. A boat ramp operated by the Sportsmen's Club is located on Groton Road/Island Pond Road.

Flint Pond (74 acres managed by the state Department of Fish, Wildlife and Environmental Law Enforcement - DFWELE), and Althea Lake (38 acres) are primarily passive recreation areas that support fishing and canoeing, and also serve as wildlife habitat. Althea Lake is accessible from the State Forest off Althea Avenue and is primarily used for passive recreation. Locust Pond (13 acres) and Upton Pond (5 acres) have limited public access and serve mainly as wildlife habitat and conservation areas.

While residents use the Merrimack River for boating and fishing, the Massachusetts Division of Fisheries and Wildlife advises humans not to eat fish from the Merrimack River due to elevated mercury levels.

## PATHS AND TRAILS

Tyngsborough has access to an extensive network of trails for hikers and mountain bikers in the Lowell-Dracut-Tyngsborough State Forest. In addition, there are several smaller conservation properties with well-maintained trails. The Conservation Department

maintains a list of hiking trails on its website, which includes information on the Sherburne Nature Center, Long Pond Shores, Shady Glade, the Hunter Trail, and Bell Trail (<http://www.tyngsboroughma.gov/residents/open-space-and-recreation/>). A shortage of off-road bicycle and hiking paths and trails, along with the lack of sidewalks, has been identified as an issue in the survey results gathered as part of the public input process for the Open Space and Recreation Plan Update and the Master Plan. Tyngsborough is working to address this issue, in part through its involvement in the Complete Streets program and the Safe Routes to School program. More information on this topic can be found in the Transportation and Circulation chapter.

## HUNTING AND TRAPPING

Hunting is allowed in portions of the Lowell-Dracut-Tyngsborough State Forest. Some Town lands are open for hunting, The Tyngsborough Sportsmen Club is the only fishing and hunting organization located within the town.

## YOUTH SPORTS PROGRAMS

There are a number of youth sports programs available for Tyngsborough residents, including youth baseball, softball, soccer, football and cheerleading, wrestling, hockey, lacrosse and basketball.

## LOCAL CAPACITY

Tyngsborough has several organizations working to preserve open space and enhance recreation within the community. The various Town departments, boards and organizations work together to ensure that these resources are protected for future generations. Joint leadership is important in that each of the parties listed below has a role to play and represents different interests.

- The Tyngsborough Conservation Commission is the steward for Town-owned conservation land and local administrator of Massachusetts' Wetlands Protection Act and the Town's local wetlands bylaw. Working with land owners, the Commission ensures that Tyngsborough's natural resources are protected and that construction and environmental alterations are accomplished in compliance with state and local laws and regulations. The Commission also works with and advises other Town bodies, including the Planning Board, Board of Health, and the Building Inspector's Office on natural resources issues and potential land conservation. The Commission has one staff person who administers the permitting process and oversees day-to-day activities.
- The Planning Board is responsible for implementing the Town's Zoning Bylaw and working with developers to ensure that important conservation land and natural

resources are protected during the development process. The Board has one staff person who administers the permitting process and oversees day-to-day activities.

- The Recreation and Parks Committee oversees the town’s recreation programs and facilities, including the maintenance of the athletic fields, scheduling field use by youth and adult sports organizations, and the operation of the town beach, in partnership with the Lake Mascuppic Association. The Committee also plans town-wide events such as the Summer Block Party, Festival of Trees and the tree lighting ceremony.
- The Community Preservation Committee (CPC) reviews and approves CPA funding applications for projects that preserve open space, address recreation needs, preserve historical assets, and address affordable housing issues. The CPC presents its recommendations to Town Meeting for approval. Additional information on the CPC can be found in the Natural and Cultural Resources chapter.
- The Tyngsborough Cultural Council promotes excellence, access, education and diversity in the arts, humanities, and interpretive sciences in order to improve the quality of life for residents and contribute to the economic vitality of the community. This is accomplished by re-granting of funds awarded to the Council by the Massachusetts Cultural Council (MCC), which receives funding from the Massachusetts Legislature and the National Endowment for the Arts. Distributions are based on a local aid formula developed by the state. The town’s grant award for 2019 was \$5,300, which was distributed to worthy applicants to fund performances at the Tyngsborough Public Library and entertainment for the Council on Aging.

## PUBLIC INPUT

A Visioning Session for the Open Space and Recreation Plan was held on March 19, 2018 at Tyngsborough Town Hall. The visioning session emphasized brainstorming and open discussion. Participants who attended the session were asked to address the following questions:

**What are the Town’s strengths and assets in terms of its Open space and Recreation facilities and programs? The following top strengths were identified:**

1. Tyngsborough’s lakes provide significant recreational opportunities
  - a. Mascuppic Lake has been cleaned up and Flint Pond is also improved
  - b. Much work is being done on Massapoag Pond

2. Tyngsborough has a plenitude of open space
  - a. Many open space areas have been purchased for recreation
  - b. The Tyngsborough Golf course is one example of quality open space
3. Parks are in good shape
  - a. Riverfront Park (former campground) gets a lot of use
  - b. Tyngsborough Town Beach is well used and very clean
4. Tyngsborough offers a variety of recreational trails
5. The caliber of recreational programs in Tyngsborough is great
6. The Recreational Building itself is a strength
7. Tyngsborough has quality sports fields
8. The Sherburne Nature Center
9. The Merrimack River is a top feature for recreation

**What are the community's weaknesses and liabilities in this regard? The following top weaknesses and liabilities were identified:**

1. Open space acquisitions and development restrictions are often incorrectly recorded or not recorded at all
2. Tyngsborough needs more recreational trails and longer recreational trails
3. Conservation opportunities not spread out evenly throughout the town
4. More trail maintenance is needed
5. Trails need more signage
6. Funding continues to be an issue
7. Weed overgrowth/invasive plants in Tyngsborough's lakes

**What opportunities does the Town have to improve upon or expand its existing open space and recreation facilities and programs? The following top opportunities were identified:**

1. Tyngsborough's trails continue to offer recreational opportunities
2. Creating a local land trust might provide a less expensive option for managing conserved land and easements
3. Develop trails, a beach and other resources at the former Girl Scout camp.
4. The ample water access offers recreational opportunities
5. Tyngsborough has an opportunity to develop its waterfront park
6. Develop a dog park
7. Build a modern restroom facility at the waterfront park
8. Develop an off-road ATV park or trail system
9. Develop or designate trails where mountain bikes are allowed
10. Better mapping of open space and recreational assets, including trails, would be useful
11. Install trail cameras

**What challenges lie ahead? What concerns need to be addressed in order to move forward to meet the Town's open space and recreation needs? The following top challenges and concerns were outlined:**

1. A lack of funding limits the town's ability to implement many potential improvements
2. Dam in the center of town is in poor condition and poses a potentially significant safety issue
3. Dam at Massapoag Pond is also in poor condition
4. The aquatic weeds in Tyngsborough's water bodies can harm aquatic wildlife
5. There are threats to upland habitats and there are few conserved upland habitat areas

In addition, a breakout session was included as part of the Visioning exercise where attendees mapped the town's scenic resources, located the open spaces and recreation areas that they visited most frequently on a map, and identified additional locations that the Town should acquire or protect in the future. Each breakout group presented its findings to the session attendees which are summarized below.

### **Break-Out Group 1:**

1. Concentrate on properties already owned by the Town and State (e.g. Long Pond, Lowell-Dracut-Tyngsborough State Forest, etc.).
2. Create a trail connecting the string of existing open space properties running roughly north-south to the east of Route 3
3. Create/improve access to Groton's trail network (some trail advocates in Groton hope to create a regional trail network).
4. Tyngsborough already owns a parking area and access along a paper street to Massapoag Pond and at or near Cow Pond. This could be used for accessing Groton's trail network.
5. The area near the intersection of Scribner Road and Groton Road, may already be owned by the Town.

### **Break-Out Team 2:**

1. There is some Town-owned land around Davis Road abutting MIT's Haystack Observatory lands. It would be a good location for additional trails.
2. Put in a well to water the elementary school's fields.<sup>13</sup>
3. More trail maintenance is needed on or near the Shady Glade and Applewood property trails.
4. Preserve the country club riverfront.
5. Improve signage at the Town Beach.
6. Acquire a deed restriction on the Vesper Country Club.

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<sup>13</sup> This location is within the contamination area of the Charles George landfill.

7. Develop or improve parking, trails and beach at the former Girl Scout camp.

An Open Space and Recreation Visioning Session was held as part of the Master Plan Process on February 12, 2020 at Old Town Hall. A presentation was provided on the draft Open Space and Recreation Plan and the following feedback was provided by attendees:

- Add Flint Pond to the list of Scenic Resources
- Create community gardens
- Keep mountain bike trails separate from hiking trails
- Map all trails as needed
- Utilize Tyngsborough Golf Course as a location for a large multipurpose playground and water park
- The town needs more bike trails and paths
- More off-street parking is needed at town land on Long Pond-Conservation Director noted that a grant has been obtained for this purpose
- Need signs to identify town conservation land.

Visioning Session attendees then participated in breakout groups. The following input was provided through this exercise.

#### **Break-Out Team 1**

- Add a marker to denote the corner of three towns (Tyngsborough, Dunstable, Groton) at Massapoag Pond.
- Create a “good size” park for kids on the Tyngsborough Country Club Golf Course

#### **Break-Out Team 2**

- Riverfront Park needs a better access drive and better signage. Driveway is too steep.
- What are the trails off Sherburne Avenue that connect conservation land to Lowell-Dracut-Tyngsborough State Park and Vesper Country Club? Are they public?
- Monitor and treat invasive aquatic species in lakes and ponds
- Monitor and treat invasive plant species on Town land
- ATV trails: where can they go in town?
- Improve access to the Merrimack River (trails, boat ramp, parks)
- Need more playgrounds
- Need a place for outdoor ice skating
- Need areas/parcels for mountain biking
- Build an outdoor pavilion on Town land for performances
- Improve boat access at lakes (boat ramps, parking needed)
- Need a Community Garden

### **Break-Out Team 3**

- Riverfront Park improvements needed. The driveway is currently too steep, too narrow, and “scary”. Signage is needed to alert residents they are welcome. Parking is inadequate. Better access to the River is needed.
- Community Garden needed. The ideal spot is the Sherburne Estate (has water for irrigation, a bathroom, parking, and visibility already available). The 2<sup>nd</sup> choice is the Hunter Property; 3<sup>rd</sup> choice is the field next to the TES driveway. However, neither of those two currently have access to water for irrigation. A well would be needed, or permission to withdraw water from the River.
- Trails need clear signage to let residents know they can use the properties. More parking is needed for town conservation lands.
- What happened to the planned dog park? A dog park is needed.
- Residents need year-round access to a compost site
- Monitor and treat non-native invasive plants at Town lands, especially the Sherburne House

### **Break-Out Team 4**

- Show large playground / waterpark in Dracut on the map.

A written survey was conducted as part of the Master Plan update process. The survey was widely distributed and 362 responses were received. Access to Route 3, the town’s low crime rate, access to retail and services, community character, and proximity to employment were the five top factors considered by respondents in their decision to live in Tyngsborough.

In terms of other survey results relative to open space and recreation, approximately 48% of the respondents indicated that the number of recreation facilities and programs in Tyngsborough is excellent or good, while 34% rated it as fair, and only 6% indicated that it is poor. Nearly 44% of the respondents indicated that the mix and type of recreational facilities and programs is excellent or good, 31% indicated that it is fair, while 7% stated that it is poor. Over 50% of the respondents felt that the amount of open space protected by the Town is excellent or good, 24% rated it as fair, while 16% indicated that it is poor.

In listing the three most critical issues facing Tyngsborough over the next ten years, respondents ranked overdevelopment/ growth, open space preservation and maintenance, and the creation of a true town center as among their top ten concerns. In general, town residents appear to strongly favor land and agricultural preservation, as 73% of respondents indicated that additional open space should be acquired, and 85% stated that the town should protect additional agricultural land.

## ISSUES AND OPPORTUNITIES

The Tyngsborough Open Space and Recreation Plan was recently updated and will help guide policy and decision-making over the next five years. The Town has utilized CPA funds and town meeting appropriations to acquire and protect properties throughout town. During the public input process for the Master Plan, residents expressed a desire to protect the town's remaining rural and agricultural landscapes, environmental resources, historic resources, wildlife, forests and other habitat areas. Continued development pressures have increased public awareness as to the importance of preserving these areas in the future. Given the fiscal challenges that communities are facing, the Town will not have the financial capacity to purchase every parcel that its residents will want to save in the upcoming years. To address this issue, the Town should develop a Comprehensive Resource Protection Strategy to ensure that limited resources are utilized to meet the most critical open space needs.

To protect the Town's investment and use its resources as efficiently as possible, a maintenance and management plan should be developed for the conservation lands and recreation facilities. The plan should address allowed uses and activities, trail maintenance, equipment needs and maintenance, and stewardship. A number of improvement and maintenance issues were identified through the public processes for the Master Plan and the Open Space and Recreation Plan, including the following:

- The need for restrooms at the Waterfront Park;
- Installation of irrigation for the town's playing fields;
- Signage improvements at the Town Beach and Waterfront Park;
- Improvements to the Waterfront Park access road and expansion of the parking area;
- Improvements at the Long Pond Shores property, including trails, parking and a beach;
- Additional parking for town conservation areas;
- More signage for town trails (including information on rules for using the trails);
- Additional playgrounds for children; and
- The establishment of a dog park and a community garden.

While Tyngsborough has a dedicated group of volunteers that currently monitor and maintain trails, additional volunteers would be helpful. The Trail Stewards have cleared and marked trails, and built and repaired foot bridges. More volunteers will likely be necessary in the future, as the Town acquires additional conservation properties and adds new trails and facilities. Given that today's youth will become the stewards of tomorrow, it is important to engage young people in this process. In many cases, they are the primary users of the town's recreation facilities.

The need to create an integrated trail system was clearly articulated by residents during the public involvement process. Among the suggestions received for expanding and improving the network were the following:

- Connect the open space properties east of Route 3 through a trail system;
- Establish a connection to the Town of Groton trail network by creating a new trail near Cow Pond on an existing paper street;
- Create trails off Davis Road on town-owned land that connect to the trails on the MIT/Haystack Observatory land;
- Identify opportunities to connect to the Dunstable Trail network, perhaps by expanding Shady Glen Trail; and
- Designate some trails for ATV use and for mountain bikes.

The Town should formulate a Trail Plan that further examines these suggestions and looks at other opportunities for creating an integrated trail network. As development occurs, some opportunities for future trail linkages may be lost. The Conservation Commission, Planning Board, and the Recreation Commission should use the Trail Plan in working with proponents of future development projects, as a means of potentially preserving the easements/rights-of-way needed for future connections.

Many of the Town's open space areas and recreation facilities are not accessible to those with disabilities. The Tyngsborough Disability Commission has received a \$30,000 grant from the Commonwealth to develop a transition plan to ensure that Town-owned properties and facilities are brought into compliance in the future. In receiving its Housing Choice designation from the Department of Housing and Community Development (DHCD), the Town made a commitment to complete the transition plan. Following completion of the Transition Plan, the Town will need to identify funding sources for implementing the needed improvements. CPA funds may be used for this purpose.

The greatest threat to Tyngsborough's remaining agricultural and undeveloped areas is the potential for future residential and commercial development. Unfortunately, a strong real estate market drives up the value of land, with Chapter 61A parcels being particularly vulnerable to development. As shown in the Master Plan survey, residents feel strongly that agricultural land and open and rural landscapes should be protected. As noted in the Natural and Cultural Resources chapter, the Town needs to be prepared to act quickly when a parcel of Chapter 61A land becomes available. To the extent possible, the Town should also encourage the use of Agricultural Preservation Restrictions (APRs) and Conservation Restrictions (CRs) to protect agricultural land and undeveloped land in perpetuity. During the public involvement process, it was suggested that the Town work with the Vesper Country Club on a potential conservation restriction.

Tyngsborough has acquired open space through various means, including by donation, town budget appropriations, state grants, private funding, and by tax title. In most communities, conservation land is placed under the care and custody of the Conservation Commission, which means it is protected under Article 97 of the State Constitution. Article 97 provides that land held for conservation and natural resource purposes may not be transferred, disposed of, or used for other municipal or private purposes without all of the following occurring: a majority vote of the Board of Selectmen, a two-thirds vote of Town Meeting, a two-thirds roll call vote of both houses of the state legislature, and the governor's signature.

In the past, open space acquisitions and development restrictions were not always correctly recorded or recorded at all. The Town staff is now working to resolve these issues with assistance from town counsel. Going forward, the Town needs to ensure that proper procedures are followed, that all legal protocols are adhered to, and that the correct legal documents and instruments are processed and recorded. On a longer term basis, the Town should establish criteria for determining which town board or commission is given care and custody of lands that are acquired in fee, through donation, or by tax title foreclosure.

The Town is currently planning a number of improvements at its recreation facilities, including the reconfiguring and upgrading of playing fields, expansion of field space at the Bicentennial Field Complex, as well as adding a structure for concessions and restrooms, and a stage for outdoor events. The Recreation Director has commented that the cost of future maintenance hinders the Town's ability to further expand its recreation assets. Tyngsborough should consider undertaking a recreation study to gauge current and future demand for playing fields, courts, and other recreational facilities, similar to the study recently completed by the Town of Pepperell. The study should include cost estimates and projections for addressing current and future maintenance expenses, and should outline a potential financing plan that considers local funding sources, potential private business sponsorships, as well as state grants through the LAND and PARC programs.

## RECOMMENDATIONS

- Continue to acquire key open space parcels for the protection of natural resources, wildlife, agricultural lands, water supply, and historic resources, and to meet recreation needs.
- Actively pursue Agricultural Preservation Restrictions (APR) and Conservation Restrictions (CR) to protect farmland, forested land, riparian corridors, and water supply areas.

- Develop a Comprehensive Resource Protection Strategy to ensure that limited resources are utilized to meet the most critical open space needs.
- Develop a maintenance and management plan for the town's conservation lands and recreation facilities.
- Promote stewardship of the town conservation areas and trails, and recruit additional volunteers to assist with maintenance activities.
- Formulate a Trail Plan to examine opportunities for creating an integrated trail network, including linkage with neighboring communities.
- Study and evaluate parking issues at town-owned conservation and recreation areas, to determine the most cost effective solution for each individual location and address the issues over time, as resources become available. Work with the Department of Conservation and Recreation to resolve the parking issues at the State Forest.
- Implement accessibility improvements for conservation and recreation facilities as identified in the Town's Transition Plan currently under development.
- Ensure that proper legal procedures and protocols are followed for recording open space land transactions, and establish criteria for determining which town board or commission is given care and custody of lands that are acquired in fee, through donation, or by tax title foreclosure.
- Undertake a recreation study to gauge current and future demand for playing fields, courts, and other recreational facilities.

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## VII. NATURAL AND CULTURAL RESOURCES

### INTRODUCTION

Tyngsborough residents highly value the town’s rural character, agricultural landscapes, open spaces, natural resources and historic buildings. Many of Tyngsborough’s natural resources are permanently protected, while others are not protected at all. This is also true of its cultural resources. Finding the means to protect these resources remains a challenge for the Town given its current fiscal limitations.

As outlined in this chapter, natural resources include land, surface water, streams, wetlands, aquifers, wildlife habitat, open space and riparian corridors, and other ecologically sensitive areas. Cultural resources include historic buildings and their settings, outbuildings, such as sheds and barns, archaeological remnants and features, and archaeologically sensitive areas. Features, such as stonewalls and foundations, burial grounds and cemeteries, agricultural landscapes and structures, trails and historic trees, are also an important part of the town’s history, and are key public assets. Tyngsborough’s character is deeply rooted in its historic past.

### NATURAL RESOURCES

#### WATER RESOURCES

The quality of surface waters is influenced by the hydrology and geomorphology of the land and by the land use patterns that are the result of human activities within the watershed. The benefits of clean water cannot be overstated, as it is vital to the survival of fish and other aquatic life, as well as to humans and wildlife.

Tyngsborough has an extensive hydrological system that includes groundwater, lakes, ponds, rivers, brooks, aquifers, and wetlands. All of Tyngsborough is within the watershed of the Merrimack River and its tributaries, Beaver Brook, Salmon Brook and Stony Brook. Much of Tyngsborough drains directly to the Merrimack River. A small part of the

### NATURAL AND CULTURAL RESOURCE GOALS

- Protect, promote and improve appropriate access to natural resources with special emphasis on the Merrimack River.
- Institute policies and practices that protect and enhance wildlife habitat.
- Preserve the town’s historic artifacts, records, documents, structures and landmarks.
- Improve the maintenance, management and accessibility of existing conservation areas.
- Increase public awareness and appreciation for the town’s natural and cultural resources.

northeast section of town drains into the Beaver Brook sub-watershed, while small areas in the western part of town drain into the Salmon Brook and Stony Brook sub-watersheds. Map 7.1 shows the watershed sub-basins in Tyngsborough.

## RIVERS AND STREAMS

The Merrimack River, the second largest river in the state after the Connecticut River, winds southerly through the Town and divides it nearly in half. The River runs through town for over five (5) miles and serves as the water supply for much of Tyngsborough. Although there are currently no formal boat launches or fishing piers along the Merrimack in Tyngsborough, there is an informal walk-in boat launch at Riverfront Park.

The section of the Merrimack River within Tyngsborough is designated as a Class B river suitable as habitat for fish, other aquatic life and wildlife, and for swimming and boating



*The Merrimack River provides Tyngsborough with drinking water, recreational opportunities and wildlife habitat. Riverfront Park (pictured) offers picnic tables, charcoal grills, a playground and a public walk-in boat launch.*

(primary and secondary contact recreation), as established by the Massachusetts Department of Environmental Protection (DEP). The River meets the Class B requirements under low flow conditions, but occasionally does not meet the requirements under wet weather and storm conditions due to nonpoint source pollution and upstream Combined Sewer Overflows (CSOs). CSOs occur when combined wastewater and stormwater sewer systems are overwhelmed during heavy rains and untreated flow is discharged directly into rivers. Portions of the wastewater systems in Nashua, NH<sup>14</sup> and Manchester, NH are combined sewers and release untreated sewage into the Merrimack River or its tributaries during heavy rain events. Manchester is estimated to release approximately

220 million gallons of combined sewage into the Merrimack annually<sup>15</sup>. Fitchburg's combined sewer releases into the North Branch of the Nashua River<sup>16</sup>, a Merrimack tributary upstream from Tyngsborough.

In addition to CSO sources, nonpoint source pollution remains a threats to the Merrimack River's water quality. Rain water and melting snow carry pollutants, such as nitrogen, phosphorus, bacteria, heavy metals, oil, grease and sediment into nearby waterways.

<sup>14</sup> <https://www.nashuanh.gov/842/Combined-Sewer-Overflows>, accessed April 19, 2019.

<sup>15</sup> <http://www.manchesternh.gov/departments/environmental-protection/cso>, accessed April 19, 2019.

<sup>16</sup> <https://www.merrimack.org/sewage-overflows-csos->, accessed April 22, 2019.

These pollutants originate in lawns and agricultural fields, roadways, parking lots, roofs, and from uncollected pet waste, and erosion from construction projects.

The Federal Water Pollution Control Act of 1972 and its amendments require that states classify waterbodies according to the degree of threat or impairment for designated uses. Waterbodies are assigned to one of the following five categories depending on their ability to support their designated uses, such as recreation, shellfish, fish consumption and aesthetics.

**Table 7.1: Designation Categories for the MA DEP Integrated List of Waters**

Category	Designation Description
1	Unimpaired and not threatened for all designated uses
2	Unimpaired for some uses and not assessed for others
3	Insufficient information to make assessments for any uses
4	Impaired or threatened for one or more uses, but not requiring the calculation of a Total Maximum Daily Load (TMDL) 4a-TMDL is complete 4b-Impairment controlled by alternative pollution control requirements 4c-Impairment not caused by a pollutant; TMDL not required
5	Impaired or threatened for one or more uses and requiring a TMDL

In 2016, the Massachusetts Department of Environmental Protection (DEP) produced the *Massachusetts Integrated List of Waters* (Integrated List), listing the condition of waters under Sections 305(b), 303(d), and 314 of the Clean Water Act. The list identifies two rivers or streams in Tyngsborough as Category 5, the Merrimack River and the Deep Brook. Category 5 designation means that the water body is impaired for one or more uses, requiring the establishment of a Total Maximum Daily Load (TMDL) to set the maximum allowable pollution from point, non-point and natural sources. The list also identifies several lakes and ponds as Category 5, as discussed in the Lakes and Ponds section. The Integrated List designations for rivers and streams in Tyngsborough include:

- The four (4) mile **Bridge Meadow Brook** received a Category 2 (attaining some uses; other uses not assessed) designation<sup>17</sup>. Bridge Meadow Brook originates on Scribner Hill and flows into Flint Pond.
- The approximately three (3) mile **Deep Brook** received a Category 5 designation due to habitat assessments, aquatic macroinvertebrate bioassessments, *Escherichia coli*, fish bioassessments, and sedimentation/siltation<sup>18</sup>. Only a small section of Deep Brook is located in Tyngsborough, flowing from the vicinity of Flints Corner southeast into Westford and Chelmsford, before reaching the Merrimack River.

<sup>17</sup> *Massachusetts Year 2016 Integrated List of Waters*, Department of Environmental Protection, p. 271.

<sup>18</sup> *Massachusetts Year 2016 Integrated List of Waters*, Department of Environmental Protection, p. 186.

- The two (2) mile **Lawrence Brook** received a Category 2 designation<sup>19</sup>. Lawrence Brook flows from Norris Corner, along Lawndale Road, and into the Merrimack River just upstream from the former Tyngsborough Country Club.
- The nine (9) mile segment of the **Merrimack River** from the NH state line to Pawtucket Dam in Lowell is considered impaired based on the assessment of Escherichia coli (E. coli), fecal coliform and mercury in fish tissue, and received a Category 5 designation<sup>20</sup>.

Howard Brook and Blodgett Brook are not assessed in the *Massachusetts Year 2016 Integrated List of Waters*, and are therefore considered Category 3 (no uses assessed) by default. Howard Brook extends from the Dunstable town line to Locust Pond, while Blodgett Brook flows from the Dunstable town line to Flint Pond.

The **Limit Brook**, **Locust Brook** and **Scarlet Brook** support fishing and other light uses, but are not included in the *Massachusetts Year 2016 Integrated List of Waters* and are therefore considered Category 3 (no uses assessed) by default.

- Limit Brook flows out of Hudson, New Hampshire and enters the Merrimack River near Frost Road.
- Locust Brook flows from Locust Pond, along Locust Avenue, and enters the Merrimack River near Farwell Road.
- Scarlett Brook flows out of wetlands located between Althea Lake and the State Forest, and enters the Merrimack River near the Greater Lowell Vocational Technical High School.

Natural buffers around water bodies form effective barriers against pollution that might otherwise enter the water from surface runoff or through groundwater discharge. Vegetated buffers absorb nitrogen and phosphorus, neutralize organic and hydrocarbon chemicals, and detain sediment, including heavy metals that often adhere to sediment.

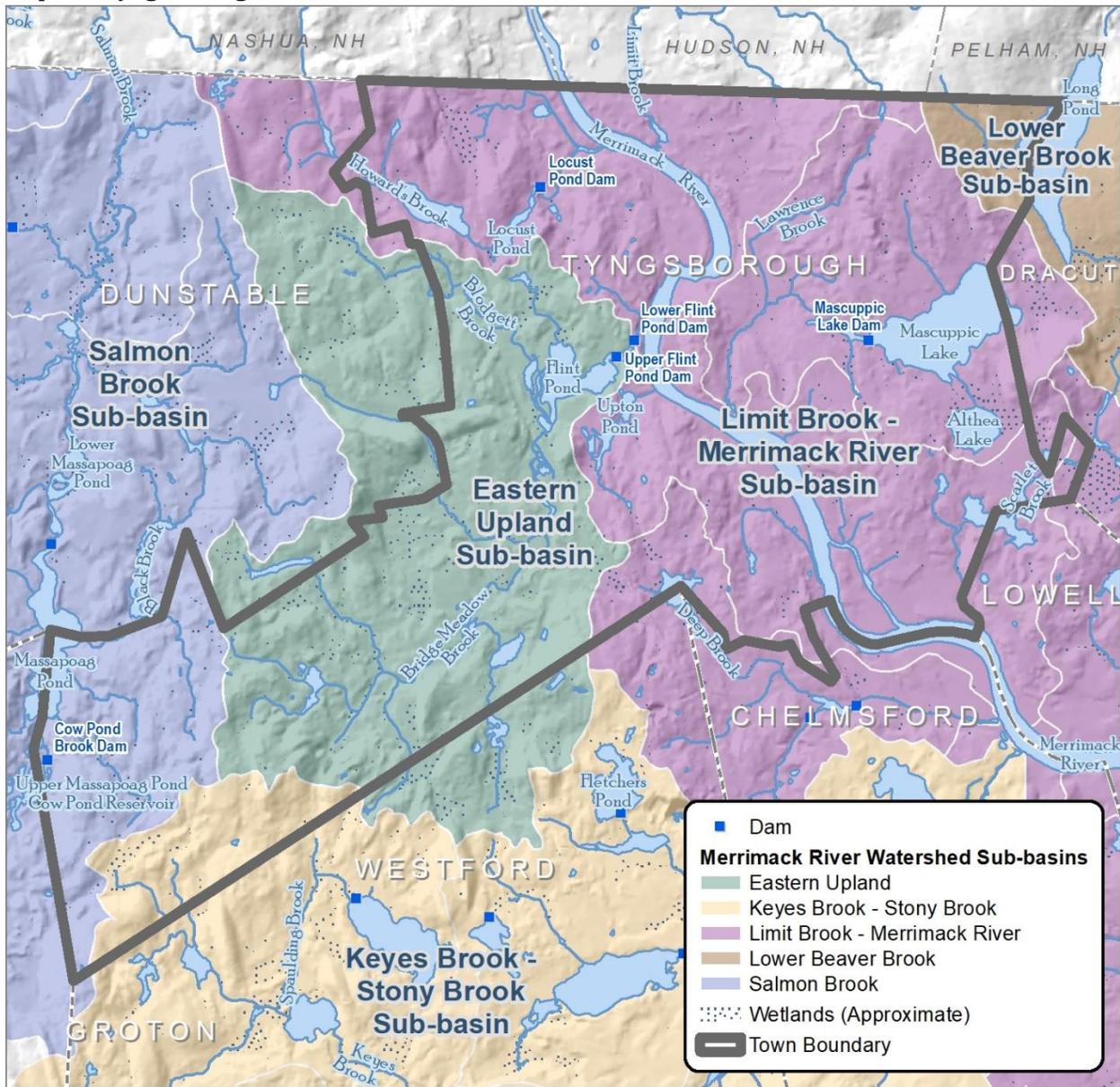
The Massachusetts Rivers Protection Act (administered via the Wetlands Protection Act regulations at 310 CMR 10.58) is a tool that restricts development within 200 feet of any perennial river or stream, and the Conservation Commission should utilize this tool to the greatest extent possible to ensure that the town waterways are protected.

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<sup>19</sup> *Massachusetts Year 2016 Integrated List of Waters*, Department of Environmental Protection, p. 272.

<sup>20</sup> *Massachusetts Year 2016 Integrated List of Waters*, Department of Environmental Protection, p. 187.

**Map 7.1: Tyngsborough Watershed Sub-Basins**



**Sources:**  
 Office of Dam Safety (dams); MassDEP/NMCOG (2005/2009 hydrography, wetlands); MassGIS/USGS (USGS NHD Flowline basin names); MassDOT/NMCOG (2012 dams, town boundaries, shaded relief); NH GRANIT (roads, political boundaries)

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

Produced by NMCOG: 6/28/2021



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Map 7.2 illustrates the approximate location of areas regulated under the Rivers Protection Act. For ponds and intermittent streams that are not protected by the Rivers Protection Act, the Town should consider reviewing its development policies and practices relative to natural land buffers. This is particularly important for seasonal drainage channels that fill with water during major storm events when pollutant and sediment loads are high. The protection of land around intermittent streams could be identified as a performance standard for residential and non-residential development.

## LAKES AND PONDS

Tyngsborough's largest water body is the 209-acre Lake Mascuppic, which is shared with Dracut. Lake Mascuppic is surrounded by former summer cottages that have been converted to year-round residences. Impacts from stormwater runoff, yard fertilizers, fecal matter from water fowl, and motor boats and jet skis, have taken their toll on the lake's water quality. When the seasonal vacation communities around Lake Mascuppic and Long Pond became permanent residential areas, owners winterized their cottages and failing septic systems became a significant source of pollution. Town sewer was made available in the lake and pond areas in the late 1980s, the most severe pollution threats were averted, but the relatively intense use of these waters continues to make them susceptible to pollution. Lake Mascuppic is bordered by Town-owned and privately-owned conservation land off Sequoia Drive and a Town Beach off Mascuppic Trail.

As previously discussed, the *Massachusetts Year 2016 Integrated List of Waters* lists the condition of waters under Sections 305(b), 303(d), and 314 of the Clean Water Act. The list identifies three (3) lakes or ponds in Tyngsborough as Category 5: Flint Pond, Long Pond and Massapoag Pond. The Integrated List designations for lakes and ponds in Tyngsborough include:

- The 74-acre **Flint Pond**<sup>8</sup> received a Category 5 designation due to non-native aquatic plants, aquatic plants (macrophytes), and mercury in fish tissue<sup>21</sup>. The only public boat launch in Tyngsborough is located on Flint Pond off of Flint Pond Road. Flint Pond is managed by the state Department of Fish, Wildlife and Environmental Law Enforcement.
- The 18-acre **Locust Pond**<sup>8</sup> is a Category 4A water (TMDL is completed) for mercury in fish tissue<sup>22</sup>. Locust Pond has limited public access and serves mainly as wildlife habitat and conservation area.

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<sup>21</sup> *Massachusetts Year 2016 Integrated List of Waters*, Department of Environmental Protection, p. 186.

<sup>22</sup> *Massachusetts Year 2016 Integrated List of Waters*, Department of Environmental Protection, p. 122.

- The 187-acre **Long Pond** has a Category 5 designation due to non-native aquatic plants, harmful algal blooms<sup>23</sup>, and mercury in fish tissue<sup>24</sup>. The pond has a developed shoreline that is used extensively for recreation - particularly swimming, fishing, and boating. Approximately 50 acres of Long Pond are located in New Hampshire<sup>25</sup> and 137 acres are located in Massachusetts, of which 40 acres are within Tyngsborough<sup>8</sup>.
- The 209-acre **Lake Mascuppic**, received a Category 4C designation (impairment not caused by a pollutant) for impairment by non-native aquatic plants<sup>26</sup>. 209 acres of Lake Mascuppic are within Tyngsborough.
- The 119-acre **Massapoag Pond**, also known as Lake Massapoag, has a Category 5 designation due to non-native aquatic plants, aquatic plants (macrophytes), mercury in fish tissue, and dissolved oxygen<sup>27</sup>. 45 acres of Massapoag Pond are within Tyngsborough.
- **Lake Althea, Uptons Pond, and Cow Pond Brook Reservoir** (also called Upper Massapoag Pond) are not assessed in the *Massachusetts Year 2016 Integrated List of Waters*, and are therefore considered Category 3 (no uses assessed) by default.
  - Lake Althea is 43 acres<sup>28</sup> and is accessible from the State Forest off Althea Avenue.
  - The seven-acre Uptons Pond<sup>8</sup> has limited public access and serves mainly as wildlife habitat and as a conservation area.
  - Four (4) acres of the 23-acre<sup>8</sup> Cow Pond Brook Reservoir, including the Cow Pond Brook Dam, are located within Tyngsborough.

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<sup>23</sup> A rapid growth of microscopic algae or cyanobacteria in water, often resulting in a colored scum on the surface.

<sup>24</sup> *Massachusetts Year 2016 Integrated List of Waters*, Department of Environmental Protection, p. 187.

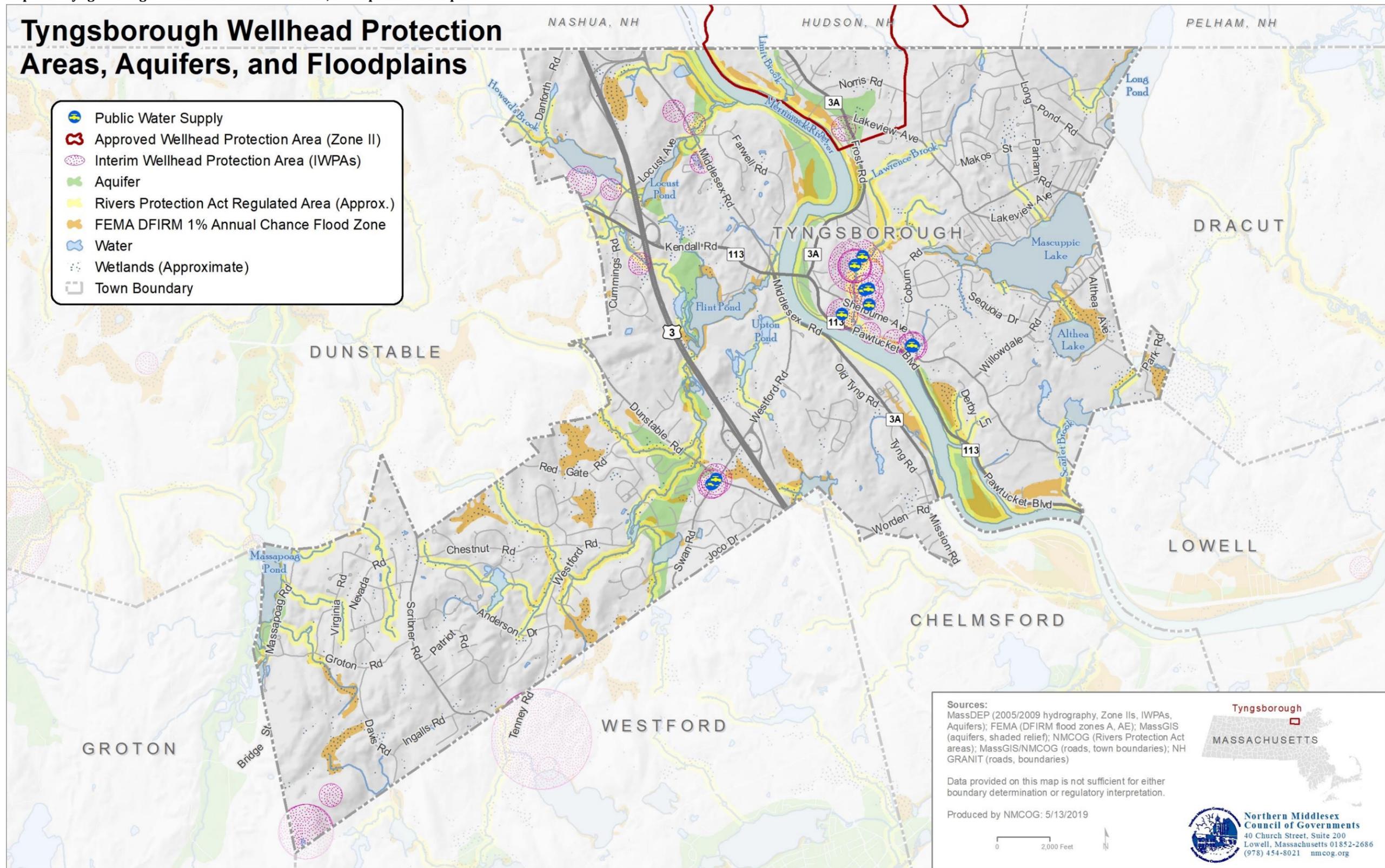
<sup>25</sup> *NHDES Consolidated List of Waterbodies Subject to RSA 483-B, the Shoreland Water Quality Protection Act (SWQPA)*, p. 38

<sup>26</sup> *Massachusetts Year 2016 Integrated List of Waters*, Department of Environmental Protection, p. 136.

<sup>27</sup> *Massachusetts Year 2016 Integrated List of Waters*, Department of Environmental Protection, p. 187.

<sup>28</sup> MassDEP hydrography (2005/2009) with NMCOG GIS updates.

Map 7.2: Tyngsborough Wellhead Protection Areas, Floodplains and Aquifers



## WETLANDS

The 886 acres of mapped wetlands in Tyngsborough represent approximately 8.2% of the Town's total land area. More than half of all wetlands (approximately 555 acres) are forested. Tyngsborough's wetlands vary in size, from less than one acre to approximately 54 acres, and are generally associated with major waterways and water bodies including Bridge Meadow Brook, Lawrence Brook, Scarlet Brook, Lake Mascuppic, Althea Lake, and Flint Pond.

Under the Massachusetts Wetland Protection Act (G.L. Ch. 131 s.40) and Regulations (310 CMR 10.00), wetlands are determined by three factors: water at or near the surface, a predominance of wetland indicator plants, and hydric soils within the top 12" of the surface. Wetland areas are often characterized by open marsh and seasonal flooding, but can also take the form of shrub/scrub or forested wetlands, particularly in floodplain areas. Wetlands are generally associated with waterbodies such as rivers, streams, lakes or ponds. Wetlands can also be perched; maintained by water trapped above an impermeable soil strata such as clay or glacial till, or bedrock. Perched wetlands, which are found in Tyngsborough, are generally small, discontinuous and wooded.

Wetlands provide many essential ecological functions: including serving as natural drainage ways to minimize flood damage; recharging groundwater; serving as siltation basins that purify the water of pollutants; providing essential wildlife habitat and function, and as a natural open space network.

The importance of wetlands to public health and the natural environment is well-known and protected by state and federal law. The Massachusetts Wetlands Protection Act is a state law administered at the local level by the Conservation Commissions, who have the authority to regulate activities affecting wetlands for the following specific purposes:

- protection of public and private water supply; protection of groundwater supply; flood control;
- prevention of storm damage and pollution;
- protection of land containing shellfish;
- protection of fisheries;
- protection of wildlife habitat; and
- stormwater management.

The Commonwealth's Department of Environmental Protection provides municipalities with technical assistance, and engages in enforcement activities, including against municipalities that fail to effectively administer the state's regulations.

The Town of Tyngsborough has enacted a local Wetlands Protection Bylaw with the stated purpose: “to protect the wetlands, water resources, and adjoining land areas in the Town of Tyngsborough by controlling activities deemed by the Conservation Commission likely to have a significant or cumulative effect upon resource area values. These resource area values include but are not limited to the following: public or private water supply, groundwater, flood control, erosion and sedimentation control, storm damage prevention, water quality, water pollution control, fisheries, shellfish, wildlife habitat, rare species habitat including rare plant species, agriculture, aquaculture, and recreation values deemed important to the community . The bylaw is intended to utilize the Home Rule authority of the municipality to protect additional resource areas, for additional values, with additional standards and procedures stricter than those of the Wetlands Protection Act and associated regulations, subject however to the rights and benefits accorded to agricultural uses and structures of all kinds under the laws of the Commonwealth.”

Under the Bylaw, the Commission can require the applicant to maintain a strip of “continuous, undisturbed vegetative cover and a strip of continuous area where no permanent structures or impervious surfaces exist” in the 200-foot Riverfront Area or 100-foot Buffer Zone area.” Regulations adopted by the Tyngsborough Conservation Commission pursuant to the Town’s Wetland Protection Bylaw include a wetland buffer zone with the following restrictions:

- 30’ No Disturbance Zone: No disturbance of the ground or vegetation is allowed within 30 feet of a wetland resource area. However, “minor pruning or cutting of limbs, hand dug tree planting, and hand dug fencing” are allowed with pre-approval of the Conservation Director.
- 50’ No Build Zone: No structures are allowed within 50 feet of a wetland resource area, including new structures, retaining walls, or other impervious surfaces.

## AQUIFER RECHARGE AREAS

Groundwater recharge is part of the hydrologic cycle in which aquifers are recharged by precipitation, surface water infiltration, or hydrologic exchange with other aquifers. The recharge areas for aquifers are the wetlands and surface water bodies that form the surface of the underground aquifer, as well as the glacial deposits nearby. Since the recharge of aquifers generally occurs through inflow from the surrounding drainage basin and nearby surface water bodies, the quality of surface water is critical to the quality of ground water, and therefore, to drinking water. The pervious soils found in these places are also suitable

for leaching fields and construction, so these recharge areas are often attractive to development.

Approximately 70% of Tyngsborough's residents draw their drinking water from private on-site wells accessing aquifers. The remaining 30% of residents receive their drinking water from one of three (3) water districts – the Tyngsborough Water District (TWD), Dracut Water Supply District (DWSD) and North Chelmsford Water District (NCWD), which draw from local aquifers, the Merrimack River and Pennichuck Brook in NH. Together, these water districts operate a total of six (6) different municipal water systems or service zones: three systems for TWD, two systems for DWSD, and one system for NCWD. Management of the water supply infrastructure and the related contractual agreements is relatively complex.

Several important aquifers or groundwater recharge areas are found within the Town boundaries. A high yield aquifer (more than 300 gallons per minute) lies under the Dracut well fields, and downstream between the river and Middlesex Road. Lower yield aquifers (100 to 300 gallons per minute) are located along Bridge Meadow Brook, near the intersection of Westford Road and Dunstable Road, near Flint Pond, along the Merrimack River and at Tyng Island. The Town's wells are located near these lower yield aquifers or along Lawrence Brook. An additional DWSD well has been proposed for River Road in Tyngsborough.

The **Tyngsborough Water District** was formed in 1983 by the Board of Selectmen when the Charles George landfill polluted the wells - a major source of drinking water for the town. The Charles George landfill is now a remediated EPA Superfund site. The EPA ran an above ground water line from Lowell's water system to provide an alternative water supply. The TWD is the Town's largest water distribution network, and is comprised of three (3) separate water systems. In 2018, the TWD received approximately 110.6 million gallons from the Pennichuck Water Works Corporation of Nashua and approximately 13.6 million gallons from the City of Lowell's water treatment facility. The Pennichuck Water Works treats and filters water from the Merrimack River and Pennichuck Brook, while the Lowell water treatment facility treats and filters water from the Merrimack River only. The TWD serves approximately 1,100 hookups in Tyngsborough. In September 2019, TWD **submitted** environmental documents to the state to install a 1,000,000 gpd public water supply well on town-owned land located on River Road.

The **Dracut Water Supply District** has one water system serving the area north of Mascuppic Lake. A smaller distribution system operated and maintained by the Tyngsborough Water District is located within this same area and is connected to the larger DWSD System. Together these systems service approximately 900 households in

Tyngsborough. The DWSD is supplied by well fields in Dracut (one well field with two wells) and Tyngsborough (one well field with five wells, located off of Frost Road), as well as supplemental water from a connection to the Lowell Regional Water Facility. The water supplies for these two systems are via a connection in Dracut to a distribution line in Lowell, and a wellfield site in Dracut, and during peak demands, a wellfield operated by the DWSD that is located off Larsen Avenue on the northwest bank of the Merrimack River in Tyngsborough. The current inter-municipal agreement between the TWD and DWSD, for water furnished to the TWD-operated system, provides an initial maximum allowance of 100,000 gpd, with increases for each new unit of residential housing and commercial service.

The **North Chelmsford Water District** services approximately 80 households along the western bank of the Merrimack River near Tyng's Island in Tyngsborough. The North Chelmsford Water District receives their water from six wells withdrawing water from the Merrimack River Basin and recharging from Cold Spring Brook and Stony Brook.

#### WELLHEAD PROTECTION AREAS

The Department of Environmental Protection (DEP) categorizes primary recharge areas as either *Zone II Approved Wellhead Protection Areas* or *Interim Wellhead Protection Areas*. A Zone II is a wellhead protection area that has been determined by hydro-geologic modeling and approved by the DEP Drinking Water Program (DWP). In cases where hydrogeologic modeling studies have not been performed and there is no approved Zone II, an Interim Wellhead Protection Area (IWPA) is established based on DEP DWP well pumping rates or default values. Certain land uses may be either prohibited or restricted in both Zone II and IWPA.

As illustrated on Map 7.2, Tyngsborough has one (1) DEP-approved Zone II wellhead protection area. Map 7.2 also identifies Tyngsboro's 29 IWPA's. IWPA's are intended to protect public water systems drawing from wells or wellfields that lack a DEP-approved Zone II wellhead protection area. The radius of the IWPA from the well or well field depends on the flow capacity of the aquifer. Of the 29 IWPA, 17 are designated as Community Groundwater Sources and serve condominiums and apartments. Community Water Systems are Public Water Systems which serve at least 15 service connections used by year-round residents or regularly serve at least 25 year-round residents. The other 12 IWPA are Non-Community Groundwater Systems, which have at least 15 service connections or regularly serve 25 persons in a non-residential capacity, such as a workplace serving employees or a restaurant or community center.

## FLOOD HAZARD AREAS

Areas subject to 100-year floods include the banks of the Merrimack River; the shorelines of Lake Mascuppic and Althea Lake, including connecting wetlands and out flowing tributaries; the shorelines of Long Pond; the shorelines of Flint Pond and Massapoag Pond, including tributaries and associated wetlands; Lawrence Brook; and Bridge Meadow Brook and its many tributaries. Most of these shorelines are already developed, except for portions of Lake Mascuppic, Althea Lake and Flint Pond.

When the Merrimack River is at flood stage it overtops its bank and floods a section of Route 113 near the Vesper Country Club and in the vicinity of Bridgeview Circle. In addition, Bridge Meadow Brook floods the access road to the Tyngsborough Elementary School, which has the greatest impact on the community. Repetitive flooding also occurs on Riverbend Road, River Road, and Red Gate Road and Larson Avenue.

In 2017, the Federal Emergency Management Agency (FEMA) released updated flood information for the Town of Tyngsborough. Little was changed with respect to the 100-year floodplain from the 2010 and 1979 Flood Insurance Rate Maps (FIRM) maps. It is important to note that the term "100-year flood" is somewhat misleading. It is not a flood that will occur only once every 100 years. Rather, it is a flood that has a one percent chance of being equaled or exceeded each year. Thus, the 100-year flood could occur more than once in a relatively short period of time. The 100-year flood, which is the standard used by most federal and state agencies, is used by the National Flood Insurance Program (NFIP) as the standard for floodplain management and to determine the need for flood insurance.

There are five dams in Tyngsborough, including one non-jurisdictional dam. The Upper Flint Pond Dam, classified as a significant hazard dam, is in poor condition and in need of replacement. MassWildlife initiated a project to reconstruct the dam in 2021.

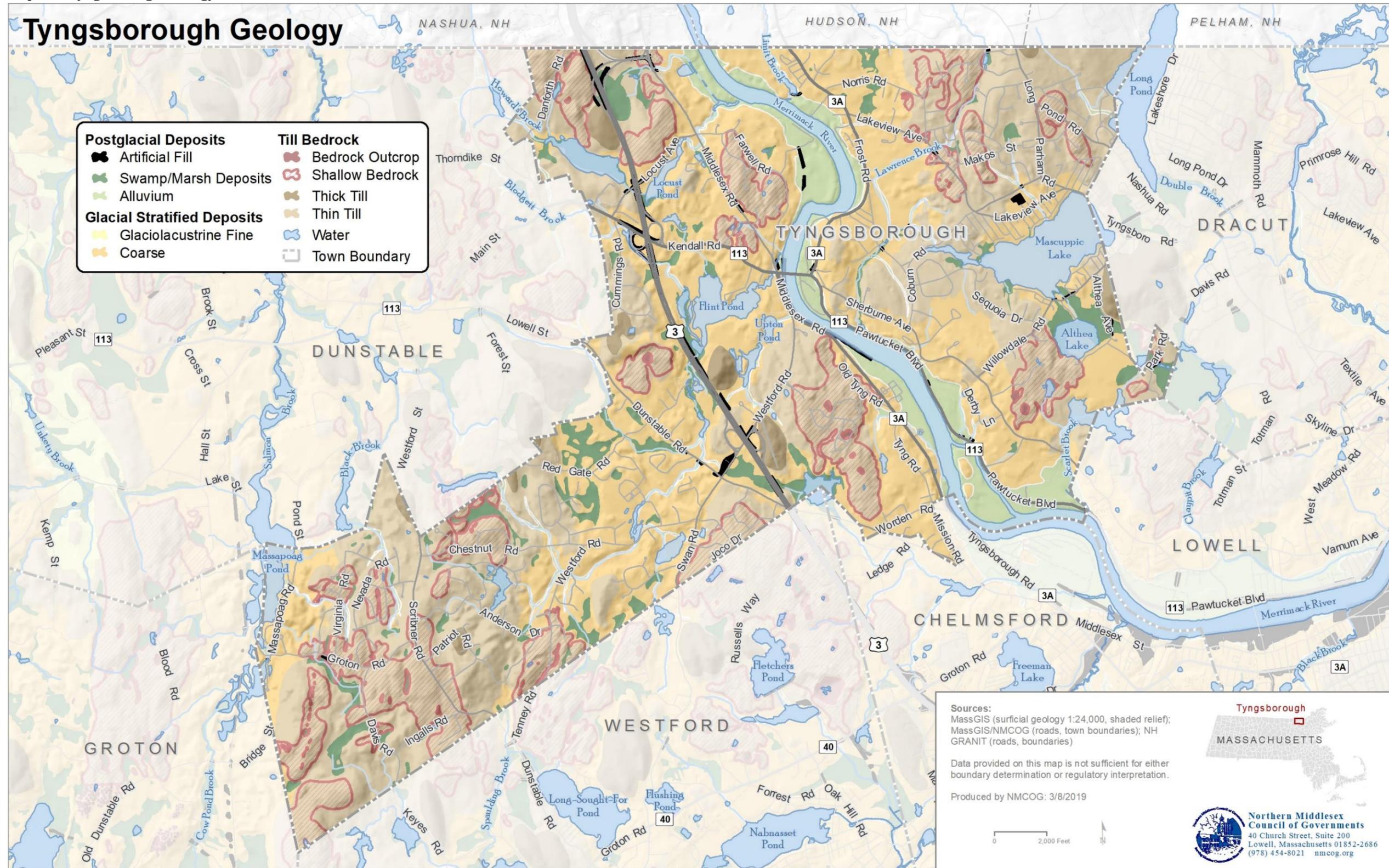
## GEOLOGY AND LANDSCAPE

The Merrimack River divides Tyngsborough into two topographic regions. The eastern part of Town is characterized by gently rolling hills, while the western part of Town has higher elevations and steeper slopes. The highest elevations in Tyngsborough are found west of the river atop Scribner Hill (400 feet), at the MIT observatory (400 feet), and atop Bear Hill (373 feet). The lowest point in town is at about 98 feet in elevation, where the Merrimack River flows across the town line into Lowell.

The topography of Tyngsborough was formed by glaciation during the Cenozoic era (beginning 65 million years ago and including the present) in the Pleistocene age - the most recent dramatic geological event. The sharply accented hills and valleys of the pre-glacial landscape were modified by glacial abrasion and outwash deposits (alluvium) caused by the huge ice formations. Glacial till, alluvium made up of clay, sand, silt, and gravel deposited by glaciation, covers the bedrock formations of the Paleozoic era (beginning 600 million years ago and ending 230 million years ago) in the pre-Cambrian age, as shown on Map 7.3.

Surface bedrock, or "ledge", is very evident in the western hills of Tyngsborough. Drumloid hills, a rounded yet asymmetrical landform relic of the glaciers composed of highly compressed clay and till, are obvious near Flint Pond. The western edge of Flint Pond shows evidence of eskers, caused by the buildup of sand and gravel left by the streams that flowed under glaciers. Many water bodies in Tyngsborough are the legacy of glaciers that carved out huge depressions in the ground as they came to rest, slowly melting over a period of years and leaving their melt water in the remaining cavities. Flint Pond was created in the 1850s with the damming of Bridge Meadow Brook. Alluvial sand and gravel deposits left by running water are found along the shores of the Merrimack River.

Map 7.3: Tyngsborough Geology



## SOILS

The glacial deposits provided the parent material from which soils formed. Soil is an important resource that affects hydrology, supports plant life and is critical to agriculture. Soils are vulnerable to erosion, which can influence streams and water quality. Soils are classified according to their origin, formation and identifiable properties. Table 7.2 and Map 7.4 show the most common soils in Tyngsborough, with soils accounting for less than 5% of the acreage grouped together as “Other”. In addition, Table 7.2 shows the suitability for development of the predominant soils, assuming a slope of 3% to 8% and a lack of excessive stones and boulders.

The suitability of each soil type for building construction, road construction and septic tanks is dependent on the slope or grade of the potential development site, as well as the presence of stones and boulders. Some soils that may be suitable for building construction on flat land may be limited even where land has a comparatively slight slope. Similarly, the suitability of a site for various types of development may be limited by the presence of stones or boulders. The Natural Resources Conservation Service (NRCS) includes both the slope and extent of stones or boulders in their classifications. For simplification, Map 7.4 shows the soil classes without regard to slope or the presence of stones and boulders. Similarly, Table 7.2 shows the percentage of Tyngsborough’s land area for predominant soils without regard to slope or the presence of stones and boulder. As Table 7.2 shows, all of the predominant soils in Tyngsborough are considered very limited for septic tank absorption fields due to seepage, filtering capacity, and/or depth to saturate zone.

The most common soil by acreage is Canton, which accounts for 18.8% of all soils in Tyngsborough. Canton consists of very deep, well drained soils on uplands<sup>29</sup>. As shown in Table 7.2, Canton soils with slopes of 3% to 8% without excessive stones or boulders do not pose limitations for dwellings with basements, but are somewhat limited for small commercial buildings and local roads. They are very limited for septic tank absorption fields due to seepage and slow water movement.

Hinckley soils, which account for 9% of all soils in the Town, consist of deep, excessively drained soils on glacial stream terraces, outwash plains, kames and eskers<sup>30</sup>. Hinckley soils with slopes of 3% to 8% do not pose limitations for dwellings with basements or local roads, but are somewhat limited for small commercial buildings. They are very limited for septic tank absorption fields due to seepage and filtering capacity.

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<sup>29</sup> *Soil Survey of Middlesex County*, Natural Resources Conservation Service, 2009, p. 203.

<sup>30</sup> *Soil Survey of Middlesex County*, Natural Resources Conservation Service, 2009, p. 208.

Charlton-Hollis-Rock outcrop soils, which account for 9.4% of all soils in Tyngsborough, consist of both deep and shallow soils on uplands where the relief is affected by the underlying bedrock. The well drained Charlton soils are on toe slopes and in low pockets. The somewhat excessively drained Hollis soils are on hilltops and ridges<sup>31</sup>. Charlton-Hollis-Rock outcrop soils with slopes of 3% to 8% do not pose limitations for dwellings with basements, but are somewhat limited for small commercial buildings and very limited for local road construction. They are very limited for septic tank absorption fields due to seepage.

**Table 7.2: Predominant Soils in Tyngsborough**

Soil Type	Percent of Land Area	Suitability for Dwellings with Basements*	Suitability for Small Commercial Buildings*	Suitability for Local Roads*	Suitability for Septic Tank Absorption Fields*
Canton	18.8%	Not Limited	Somewhat Limited	Somewhat Limited	Very limited due to seepage, slow water movement
Charlton-Hollis-Rock outcrop	9.4%	Not Limited	Somewhat Limited	Very Limited	Very limited due to seepage
Hinckley	9.0%	Not Limited	Somewhat Limited	Not Limited	Very limited due to seepage, filtering capacity
Windsor	8.1%	Not Limited	Not Limited	Not Limited	Very limited due to seepage, filtering capacity
Montauk	7.9%	Somewhat Limited	Somewhat Limited	Somewhat Limited	Very limited due to depth to saturate zone, slow water movement
Scituate	7.5%	Very Limited	Somewhat Limited	Very Limited	Very limited due to depth to saturate zone, slow water movement
Udorthents	5.9%	Not Rated	Not Rated	Not Rated	Not Rated
Other Soils	33.5%	-	-	-	-
Total	100.0%				

\*Assuming a slope of 3% to 8% without excessive stones or boulders.

Source: Natural Resources Conservation Service 2016 SSURGO data and <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>, accessed 5/28/19.

Very deep, excessively drained Windsor soils are located on outwash plains, terraces and deltas<sup>32</sup>. Windsor soils account for 8.1% of all soils in the Town, and do not pose limitations for dwellings with basements, small commercial buildings or local roads when slopes are 3% to 8%. However, they are very limited for septic tank absorption fields due to seepage and filtering capacity.

<sup>31</sup> Soil Survey of Middlesex County, Natural Resources Conservation Service, 2009, p. 39.

<sup>32</sup> Soil Survey of Middlesex County, Natural Resources Conservation Service, 2009, p. 233.

Montauk soils, which account for 7.9% of all soils in the Town, consist of very deep, well drained soils on smooth sloping ground moraine and irregularly shaped drumlins<sup>33</sup>. Montauk soils with slopes of 3% to 8% are somewhat limited for dwellings with basements, small commercial buildings or local roads. They are very limited for septic tank absorption fields due to depth to saturate zone and slow water movement.

Scituate soils consist of very deep moderately well drained soils in wide drainage swales, depressions and gently sloping areas of ground moraine and drumlins<sup>34</sup>. Scituate soils account for 7.5% of all soils in the Town and are somewhat limited for small commercial buildings and very limited for dwellings with basements and local roads when slopes are 3% to 8%. They are also very limited for septic tank absorption fields due to depth to saturate zone and slow water movement.

Udorthents consist of areas from which soil has been excavated and areas where soil material has been deposited for development projects. Udorthents are near or adjacent to Canton, Merrimac, and Paxton soils and to urban land<sup>35</sup>. Udorthents soils, which account for 5.9% of all soils in the town, have not been rated for suitability for dwellings with basements, small commercial building, local roads, or septic tank absorption fields.

## PRIME FARMLAND

Prime farmland, as defined by the U.S. Department of Agriculture, is land that “has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses.”<sup>36</sup> It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed to produce sustained high yields of crops economically, when proper management, including water management, and acceptable farming methods, are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and either is not frequently flooded during the growing season or is protected from flooding. Slopes range mainly from 0 to 6 percent.

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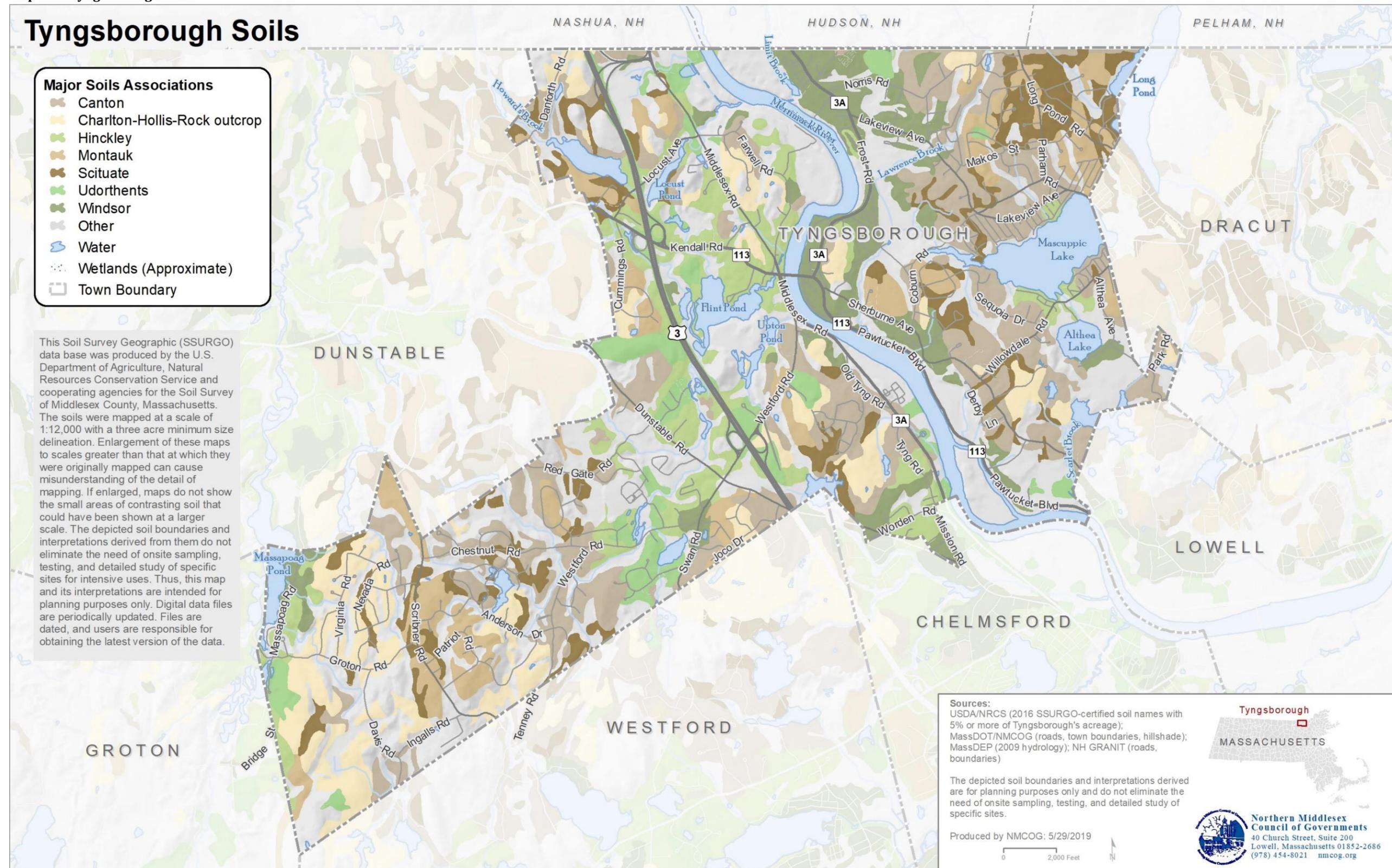
<sup>33</sup> *Soil Survey of Middlesex County*, Natural Resources Conservation Service, 2009, p. 212.

<sup>34</sup> *Soil Survey of Middlesex County*, Natural Resources Conservation Service, 2009, p. 226.

<sup>35</sup> *Soil Survey of Middlesex County*, Natural Resources Conservation Service, 2009, p. 231.

<sup>36</sup> *Soil Survey of Middlesex County*, Natural Resources Conservation Service, 2009, p. 171.

Map 7.4: Tyngsborough Soils



As shown on Map 7.5, Tyngsborough is fortunate to have lands that are considered by USDA and Natural Resources Conservation Service (NRCS) to be categorized as Prime Farmland, Farmland of Statewide Importance, or Farmland of Unique Importance. Land classified within these categories comprises 4,128 acres, with 1,675 acres considered to be prime farmland, 1,780 acres classified as Farmland of Statewide Importance, and 673 acres classified as Farmland of Unique Importance, as shown in Table 7.3. Map 7.6 shows the prime agricultural soils within Tyngsborough.

**Table 7.3: Prime Farmland in Tyngsborough**

Category	Acres
All areas are prime farmland	1,675
Farmland of statewide importance	1,780
Farmland of unique importance	673
<b>Total</b>	<b>4,128</b>

*Source: USDA and NRCS, 2012*

Cropland and pasture are still important resources for the diversity of wildlife in Tyngsborough. Most of the agricultural land is located along the Merrimack River. There are also small farm parcels scattered in other parts of town. Grassland birds, like eastern meadowlarks and bobolinks, may still use some hayfields, meadows, and pastures for breeding in Tyngsborough. Many other bird species nest near these fields and use them for hunting and feeding on seeds, insects, and small mammals. Migrant songbirds, those that move between northern and southern latitudes with the seasons, can still be found feeding in farm fields in Tyngsborough during migration. Hawks and owls, such as American kestrels and northern harriers, rely on grasslands for hunting small mammals, while others, such as red-tailed hawks and great horned owls, hunt in these fields as well as the town’s forested areas. In addition to birds, voles, white-tailed deer, woodchucks, coyotes, snakes and eastern cottontail rabbits benefit from the presence of agricultural areas.

Agricultural lands are particularly vulnerable to development because they tend to be comprised of cleared, flat land. In 2018, Tyngsborough had seven (7) parcels totaling 106.6 acres of land classified as agricultural by the Assessor. Together, this land accounts for 1.1% of the total acreage in Tyngsborough. All seven (7) of these parcels are taxed under the Chapter 61A program. However, the Chapter 61A program does not provide permanent protection from future development. As discuss in the Land Use chapter, the MacConnell land use data shows a 55.4% decline in agricultural land between 1971 and 2018. Table 7.4 contains a list of active farms in Tyngsborough.

**Table 7.4: Active Farms in Tyngsborough**

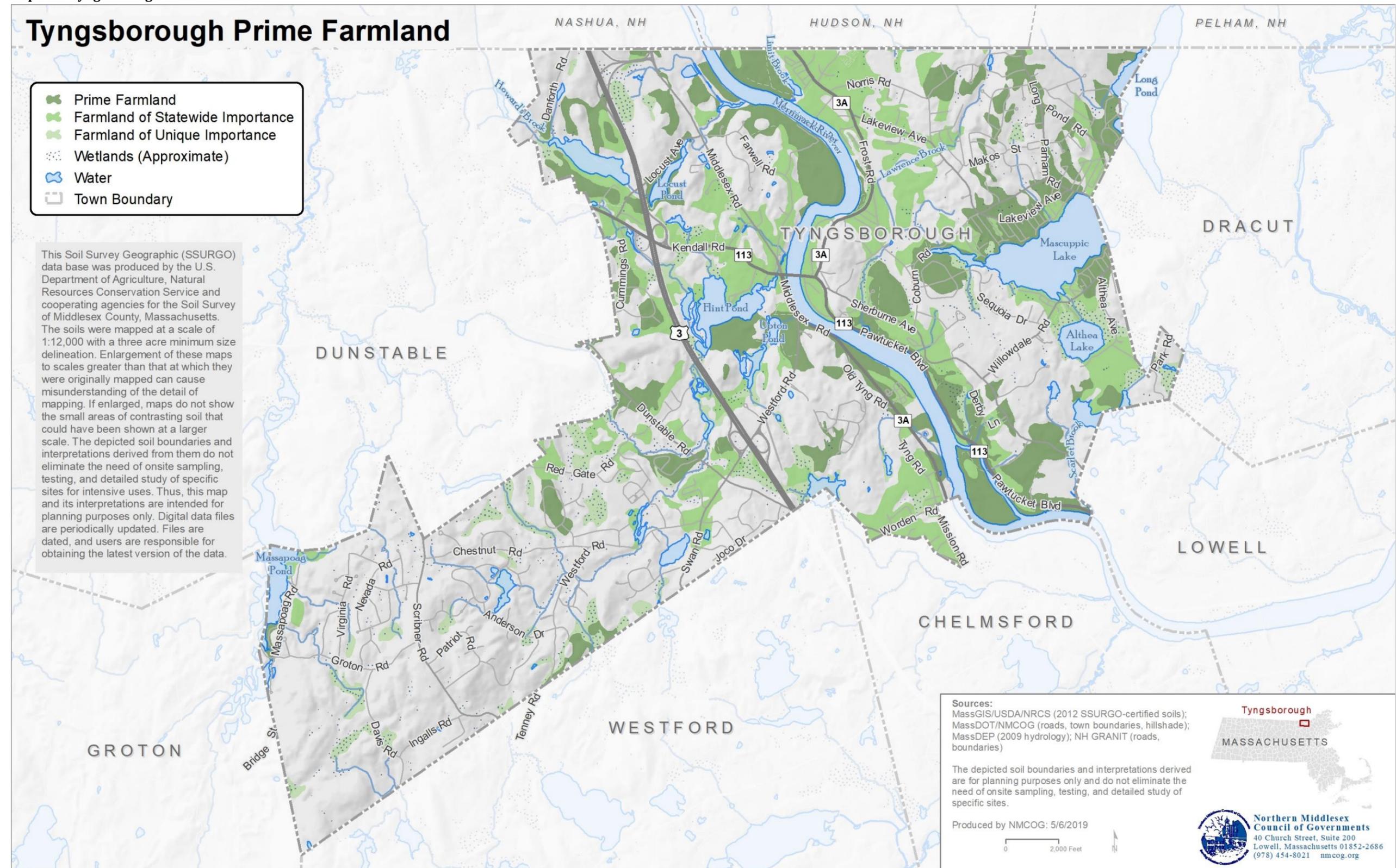
<b>Farm Name</b>	<b>Address</b>	<b>Acreage</b>
Parlee Farms	95 Farwell Road	93.0
Lawndale Farm	91 Frost Road	55.0
Bear Hill Farm	14 Davis Road	60.0
Willowdale Farms	26 Willowdale Road	12.6
Fox Farms	447 Dunstable Road	1.5
Lucitania Farms	20 Jasper Lane	16.7
Karp Horse Farm	137 Westford Road	46.2
Komeeka Farm	89A Red Gate Road	35.7
Scribner Hill Farm	70 Scribner Road	23.8
Ayers Farm	95 Willowdale Road	14.6
Cummings Road Farm	11 Cummings Road	38.0
New England Bee Keeping	7 Locust Avenue	3.8
33 Cummings	33 Cummings Road	12.0

Source: Tyngsborough Conservation Department and Agricultural Commission

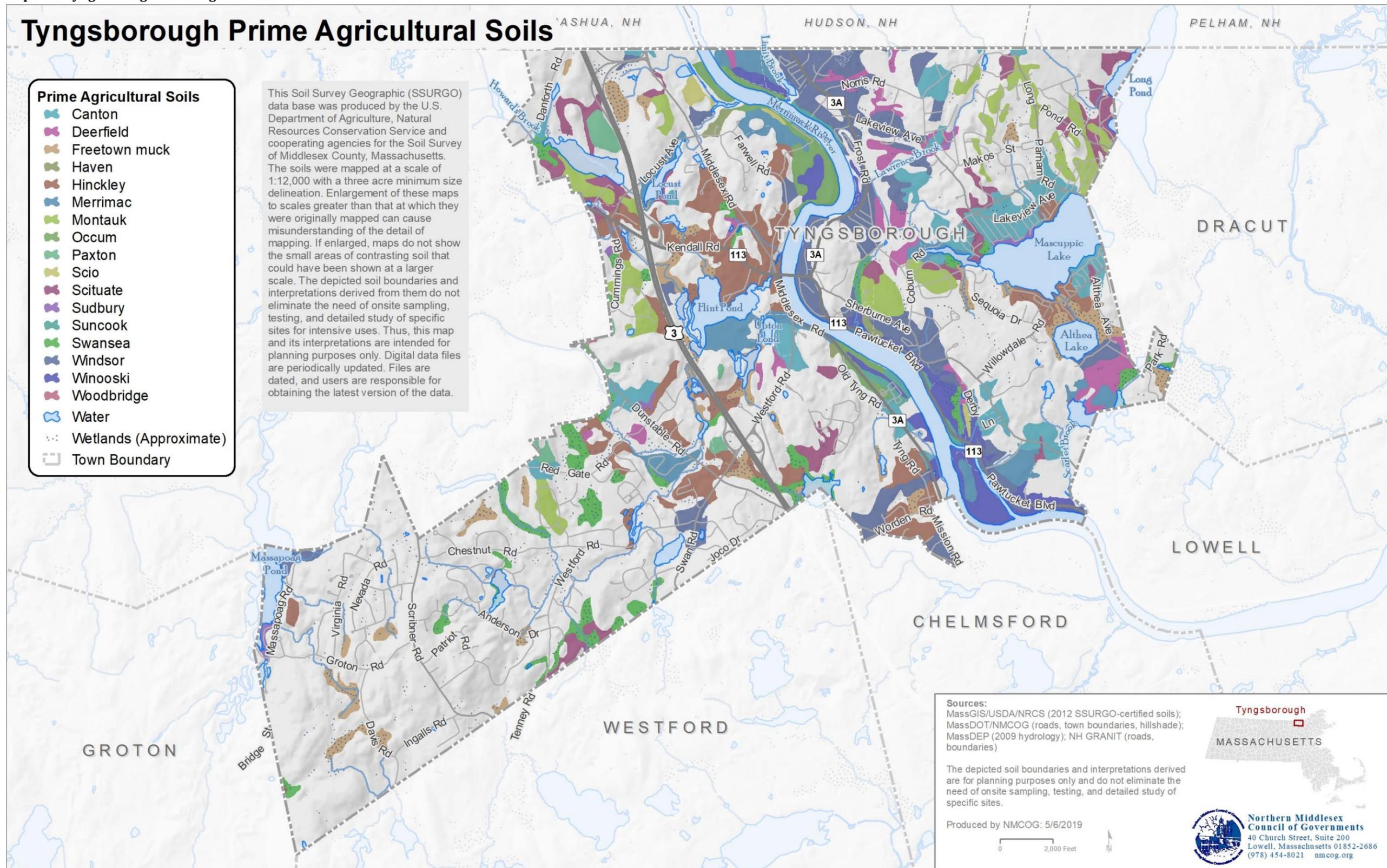
## RIGHT TO FARM BYLAW

Tyngsborough adopted a Right to Farm Bylaw in 2012. The bylaw was created to protect farmers from nuisance complaints and thereby preserve the open space that made the community attractive in the first place. The bylaw encourages the pursuit of agriculture and promotes agriculture-based economic opportunities and farmlands by allowing agricultural uses and related activities to function in minimal conflict with abutters and town government. Massachusetts passed the first right to farm law in 1979.

Map 7.5: Tyngsborough Prime Farmland



Map 7.6: Tyngsborough Prime Agricultural Soils



## VEGETATION

Tyngsborough's character is largely defined by its mix of forests and suburban landscape. Forest cover is a critical component of watershed management and a defining feature of the Town's landscape. Since 1980, significant development has reduced the size of large areas of contiguous woodland, particularly in the western section of town where the construction of new subdivisions has fragmented the woodlands, including in areas with hills and ledge.

The white pine and hemlock forest association is dominant in the region, and several stands of white pine can be found in Town. Hardwood species found in Tyngsborough include red and sugar maple; several species of oak; white, black, and grey birch; white ash; and beech and American elm. Wetlands in Tyngsborough support a variety of typical plant life including ferns, dogwoods, viburnums, cattails, and many types of coniferous and deciduous trees.

Invasive exotic species such as multiflora rose, European buckthorn, Oriental bittersweet and purple loosestrife are common in the hedgerows, roadsides, overgrown pastures, and, in the case of loosestrife, the wetland areas of town. These invasives crowd out native species. The diversity of plant communities within the town provides food and habitat for wildlife. Table 7.5 contains a partial list of plants believed to be present within the Town.

## SHADE TREES

Tyngsborough does not have a shade tree by-law. The Highway Department and the Tree Warden inspect the street trees and park trees for decay, damage, disease or death. Healthy trees are not removed unless they are a hindrance to public safety. The Highway Department works with all tree trimming companies hired by utilities for line trimming of any trees in the public right of way. In addition, the Planning Board rules and regulations addresses tree planting in new subdivisions. In 2019, NMCOG drafted a Tree Preservation Bylaw for consideration of the Town. Although the draft bylaw was reviewed by the Conservation Commission, no action has been taken to date.

**Table 7.5: Common Plant Species Found Within Tyngsborough**

<ul style="list-style-type: none"> <li>• Black Oak (<i>Quercus veluntina</i>)</li> <li>• Scarlet Oak (<i>Quercus coccinea</i>)</li> <li>• Red Oak (<i>Quercus rubrum</i>)</li> <li>• Chestnut Oak (<i>Quercus prinus</i>)</li> <li>• White Oak (<i>Quercus alba</i>)</li> <li>• Pin Oak (<i>Quercus palustris</i>)</li> <li>• Swamp white oak (<i>Quercus bicolor</i>)</li> <li>• Red Maple (<i>Acer rubrum</i>)</li> <li>• Sugar Maple (<i>Acer saccharum</i>)</li> <li>• Silver maple (<i>Acer saccharinum</i>)</li> <li>• Grey Birch (<i>Betula populifolia</i>)</li> <li>• White Birch (<i>Betula papyrifera</i>)</li> <li>• Black Birch (<i>Betula lenta</i>)</li> <li>• River Birch (<i>Betula nigra</i>)</li> <li>• Black Cherry (<i>Prunus serotina</i>)</li> <li>• Black gum (<i>Nyssa sylvatica</i>)</li> <li>• White Pine (<i>Pinus strobus</i>)</li> <li>• Sassafras (<i>Sassafras albidum</i>)</li> <li>• Flowering Dogwood (<i>Cornus florida</i>)</li> <li>• Silky dogwood (<i>Cornus amomum</i>)</li> <li>• European buckthorn (<i>Rhamnus frangula</i>)</li> <li>• Shadbush (<i>Amelanchier arborea</i>)</li> <li>• White Ash (<i>Fraxinus Americana</i>)</li> <li>• Green Ash (<i>Fraxinus pennsylvanica</i>)</li> <li>• Aspen (<i>Populus tremuloides</i>)</li> <li>• Big-toothed Aspen (<i>Populus grandidentata</i>)</li> <li>• Chestnut (<i>Castanea dentate</i>)</li> <li>• Hemlock (<i>Tsuga canadensis</i>)</li> <li>• Beech (<i>Fagus grandifolia</i>)</li> <li>• Hickory (<i>Carya ovata</i>, <i>C. tomentosa</i>, <i>C. glabra</i>, and <i>C. ovalis</i>)</li> <li>• Mountain laurel (<i>Kalmia latifolia</i>)</li> <li>• Buttonbush (<i>Cephalanthus occidentalis</i>)</li> <li>• Sweet pepper bush (<i>Clethra alnifolia</i>)</li> <li>• Spicebush (<i>Lindera benzoin</i>)</li> <li>• Swamp azalea (<i>Rhododendron viscosum</i>)</li> <li>• Swamp candles (<i>Lysimachia terrestris</i>)</li> <li>• Arrow wood (<i>Viburnum dentatum</i> var. <i>lucidum</i>)</li> <li>• Black willow (<i>Salix nigra</i>)</li> <li>• Cottonwood (<i>Populus deltoids</i>)</li> <li>• Witch hazel (<i>Hamamelis virginiana</i>)</li> <li>• Shagbark and other hickories (<i>Carya ovata</i>, <i>C. labra</i> and <i>C. ovalis</i>)</li> <li>• Royal fern (<i>Osmunda regalis</i>)</li> <li>• Pink lady slipper (<i>Cypripedium acaule</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Lowbush blueberries (<i>Vaccinium angustifolium</i> and <i>V. pallidum</i>)</li> <li>• Highbush blueberries (<i>Vaccinium corymbosum</i>)</li> <li>• Speckled alder (<i>Alnus incana</i> spp. <i>rugosa</i>)</li> <li>• Smooth alder (<i>Alnus serrulata</i>)</li> <li>• Winterberry (<i>Ilex verticillata</i>)</li> <li>• Nannyberry (<i>Viburnum lentago</i>)</li> <li>• Huckleberry (<i>Gaylussacia baccata</i>)</li> <li>• Elderberry (<i>Sambucus Canadensis</i>)</li> <li>• Partridgeberry (<i>Mitchella repens</i>)</li> <li>• Scrub Oak (<i>Quercus ilicifolia</i>)</li> <li>• Maple-leaved Viburnum (<i>Viburnum acerifolium</i>)</li> <li>• American Hazlenut (<i>Corylus Americana</i>)</li> <li>• Bracken fern (<i>Pteridium acquilinum</i>)</li> <li>• Cinnamon fern (<i>Osmunda cinnamomea</i>)</li> <li>• Ostrich fern (<i>Matteuccia struthiopteris</i>)</li> <li>• Christmas fern (<i>Polystichum acrostichoides</i>)</li> <li>• Sensitive fern (<i>Onoclea sensibilis</i>)</li> <li>• Club mosses (<i>Lycopodium</i> spp)</li> <li>• False nettle (<i>Boehmeria cylindrical</i>)</li> <li>• Canada mayflower (<i>Maianthemum canadense</i>)</li> <li>• White wood aster (<i>Aster divaricatus</i>)</li> <li>• Indian cucumber (<i>Medeola virginiana</i>)</li> <li>• Water parsnip (<i>Sium suave</i>)</li> <li>• Wintergreen (<i>Gaultheria procumbens</i>)</li> <li>• Wild sarsaparilla (<i>Aralia nudicaulis</i>)</li> <li>• Poison Ivy (<i>Toxicodendron radicans</i>)</li> <li>• Poison sumac (<i>Toxicodendron vernix</i>)</li> <li>• Skunk cabbage (<i>Symplocarpus foetidus</i>)</li> <li>• Marsh marigold (<i>Caltha palustris</i>)</li> <li>• Meadowsweet (<i>Spiraea alba</i> var. <i>latifolia</i>)</li> <li>• Maleberry (<i>Lyonia ligustrina</i>)</li> <li>• Star flower (<i>Trientalis borealis</i>)</li> <li>• Perfoliate bellwort (<i>Uvularia perfoliata</i>)</li> <li>• False Solomon's Seal (<i>Maianthemum racemosa</i>)</li> <li>• Early meadow rue (<i>Thalictrum dioicum</i>)</li> <li>• False foxgloves (<i>Aureolaria flava</i>, <i>A. pedicularia</i>, and <i>A. virginica</i>)</li> <li>• Little blue stem grass (<i>Schizachyrium scoparium</i>)</li> <li>• Pennsylvania sedge (<i>Carex pensylvanica</i>)</li> <li>• Awned sedge (<i>Carex crinita</i>)</li> <li>• Bugleweeds (<i>Lycopus</i> spp.)</li> <li>• Poverty grass (<i>Danthonia spicata</i>)</li> <li>• Goldenrods (<i>Solidago</i> and <i>Euthamia</i> spp.)</li> <li>• Milk weeds (<i>Asclepias</i> spp. and <i>A. tuberosa</i>)</li> </ul>
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## DEFORESTATION

Based on University of Massachusetts, MacConnell Land Use Data information, Tyngsborough lost 2,424 acres of forest between 1971 and 2018, or an average of 52 acres per year. Forests still cover approximately 44% of the land area, and contain a mix of hardwoods and softwoods, with understory species including cherry, honey locust, and sumac, among others. Forest areas are important in that they protect large tracts of second growth vegetation. In addition, in those areas of the town that have been more densely developed, an “urban forest” setting has begun to emerge. The “urban forest” in Tyngsborough is composed of the small forest patches and individual trees in backyards, behind and between subdivision developments, along roads, in parking lots and in town parks. As larger woodland patches of forest become less common, management of the urban forest will become more important.

## CLIMATE CHANGE

Climate change can affect the growth and productivity of forests through changes in temperature, rainfall, severe weather, and other factors. Elevated levels of carbon dioxide can also have an effect on plant growth. These changes influence complex forest ecosystems in many ways. For example, warming temperatures generally increase the length of the growing season. Such temperature changes can also shift the geographic ranges of some tree species. Habitats of some types of trees are likely to move north or to higher altitudes, while other species will be at risk if conditions in their current geographic range are no longer suitable. Climate change could also contribute to an increase in the severity of future insect outbreaks. Rising temperatures may alter some insect species seasonal life cycles and expand their ranges northward. In the future, municipalities will need to consider climate in planning for maintenance and replanting of street trees and landscaping on municipal property and rights-of-way.

## FISHERIES AND WILDLIFE

Wildlife typical of suburban and semi-rural Massachusetts can be found in Tyngsborough including a diverse population of birds, mammals, amphibians, reptiles, fish, and other wildlife. In addition to common species, there have been sightings of less common species including the Bald Eagle and the Blanding’s Turtle.

In recent acquisitions of open space, Tyngsborough has made an effort to create large areas of contiguous open space that provide the interior forest environments needed by some species that cannot survive in fragmented open space common in suburban environments. Because access to clean water is a critical survival need for all animal species, streams,

ponds, and wetlands are important wildlife habitat. Surface waters (rivers and streams, and lakes and ponds), and fisheries were discussed previously in this chapter.

## HABITAT CORRIDORS

The primary migratory corridors in Tyngsborough are along waterways. Waterways and wetland networks play a crucial role in permitting animal movement between the remaining areas of undeveloped land. Although large patches of undeveloped woodlands remain in Tyngsborough, arterial roads function as barriers to wildlife movement in many cases, while water courses and their shores provide corridors for wildlife to move among different habitat areas. The Merrimack River, Bridge Meadow Brook and Lawrence Brook provide the framework for habitat networks in Tyngsborough, particularly because they allow wildlife to navigate through increasingly developed areas to reach wetland and forested areas. Power line corridors and unused open land, such as agricultural fields that are no longer being cultivated, are also areas used by many species of wildlife.

## VERNAL POOLS

There are 16 certified vernal pools in Tyngsborough and 153 potential vernal pools that have been identified but not yet certified<sup>37</sup>, as well as three, state-listed Vernal Pool Core Habitat areas (see the link below to “BioMap Core Habitats and Critical Natural Landscapes” in footnote 37). Vernal Pool Core Habitat areas “represent the top 5 percent most interconnected clusters of Potential Vernal Pools in the state”<sup>38</sup>. Because many species that use vernal pools for breeding live in adjacent upland areas the rest of the year, it is also important to protect areas near vernal pools.

Small, seasonal wetlands that are flooded during only part of the year, vernal pools provide important wildlife habitat, including as breeding areas for some species of amphibians and invertebrate animals. Vernal pools must be certified by Massachusetts’s Natural Heritage and Endangered Species Program in order to receive protection under the state wetlands act. However, the Tyngsborough Conservation Commission has established a policy to consider vernal pools a resource area, whether or not they are certified by the state. Because vernal pools are intermittent phenomena, unless they are identified during the spring they could be disturbed inadvertently. In a number of communities, identification and certification of vernal pools has become part of the school curriculum. Vernal pool information and certification forms are available at the State Division of Fisheries and Wildlife website.

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<sup>37</sup> Tyngsborough Open Space and Recreation Plan, 2020 (draft as of 3/2/20).

<sup>38</sup> <https://www.mass.gov/files/documents/2016/08/uw/vp-core.pdf>

## RARE, THREATENED, AND ENDANGERED SPECIES

As of March 2020, the Massachusetts Natural Heritage and Endangered Species Program (NHESP) lists twelve species in Tyngsborough as threatened, special concern or endangered, as shown in Table 7.6. Other rare or endangered plant species may exist but have not been documented. Because the NHESP office depends to a significant degree on volunteer documentation of sightings of rare and endangered species, local efforts to survey plants and wildlife in town could result in additional listings.

**Table 7.6: Species Classified as Threatened or of Special Concern in Tyngsborough**

Taxonomic Group	Scientific Name	Common Name	MESA Status	Most Recent Observations
Amphibian	<i>Ambystoma laterale</i>	Blue-spotted Salamander (complex)	Special Concern	2010
Beetle	<i>Cicindela duodecimguttata</i>	Twelve-spotted Tiger Beetle	Special Concern	2014
Beetle	<i>Cicindela purpurea</i>	Cow Path Tiger Beetle	Special Concern	1921
Bird	<i>Antrostomus vociferous</i>	Eastern Whip-poor-will	Special Concern	2012
Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	Special Concern	2017
Reptile	<i>Terrapene Carolina</i>	Eastern Box Turtle	Special Concern	2012
Vascular Plant	<i>Liatris scariosa var. novae-angliae</i>	New England Blazing Star	Special Concern	1915
Bird	<i>Haliaeetus leucocephalus</i>	Bald Eagle	Threatened	2018
Reptile	<i>Emydoidea blandingii</i>	Blanding's Turtle	Threatened	2017
Butterfly/Moth	<i>Apodrepanulatrix liberaria</i>	New Jersey Tea Inchworm	Endangered	1918
Dragonfly/Damselfly	<i>Stylurus amnicola</i>	Riverine Clubtail	Endangered	2004

Source: <https://www.mass.gov/service-details/rare-species-by-town-viewer>, accessed 3/2/20

Increasing temperatures, changing precipitation patterns, and other climate-related phenomena are altering the biophysical characteristics of habitats, the composition and range of species, and the timing of critical biological events such as spring bud burst. Such alterations can impair ecological integrity, resource productivity, and the delivery of critical ecosystem services. These impacts will become more pronounced as the climate continues to warm.

## BIOMAP CORE HABITATS AND CRITICAL NATURAL LANDSCAPES

In order to guide biodiversity conservation and habitat protection, NHESP collaborated with The Nature Conservancy on BioMap2, a project to identify Core Habitat and Critical Natural Landscapes throughout the state.<sup>39</sup> Core Habitats are “key areas that are critical for the long-term persistence of rare species and other Species of Conservation Concern, as well as a wide diversity of natural communities and intact ecosystems across the Commonwealth.” Core Habitats include rare species habitats, other species of conservation concern habitats, priority natural communities, vernal pools, forest cores, wetland cores, and aquatic cores. Critical Natural Landscapes “provide habitat for wide-ranging native species, support intact ecological processes, maintain connectivity among habitats, and enhance ecological resilience to natural and anthropogenic disturbances in a rapidly changing world.” Critical Natural Landscapes include landscape blocks, upland buffers of wetland and aquatic cores, and upland habitat to support coastal adaptation. Core Habitats and Critical Natural Landscapes may overlap.

As of 2012, Tyngsborough was fortunate to have 2,500 acres of identified Core Habitat, of which 381 acres were protected, and 1,595 acres of identified Critical Natural Landscape, of which 253 acres were protected.<sup>40</sup>

## PETAPAWAG AREA OF CRITICAL ENVIRONMENTAL CONCERN

An Area of Critical Environmental Concern (ACEC) is a place in Massachusetts that receives special recognition because of the quality, uniqueness, and significance of its natural and cultural resources. Such an area is identified and nominated at the community level and is reviewed and designated by the state’s Secretary of Energy and Environmental Affairs. The Department of Conservation and Recreation (DCR) administers the ACEC Program on behalf of the Secretary. Designation of an ACEC increases environmental oversight by increasing state permitting standards through elevated performance standards and lowering thresholds for review.

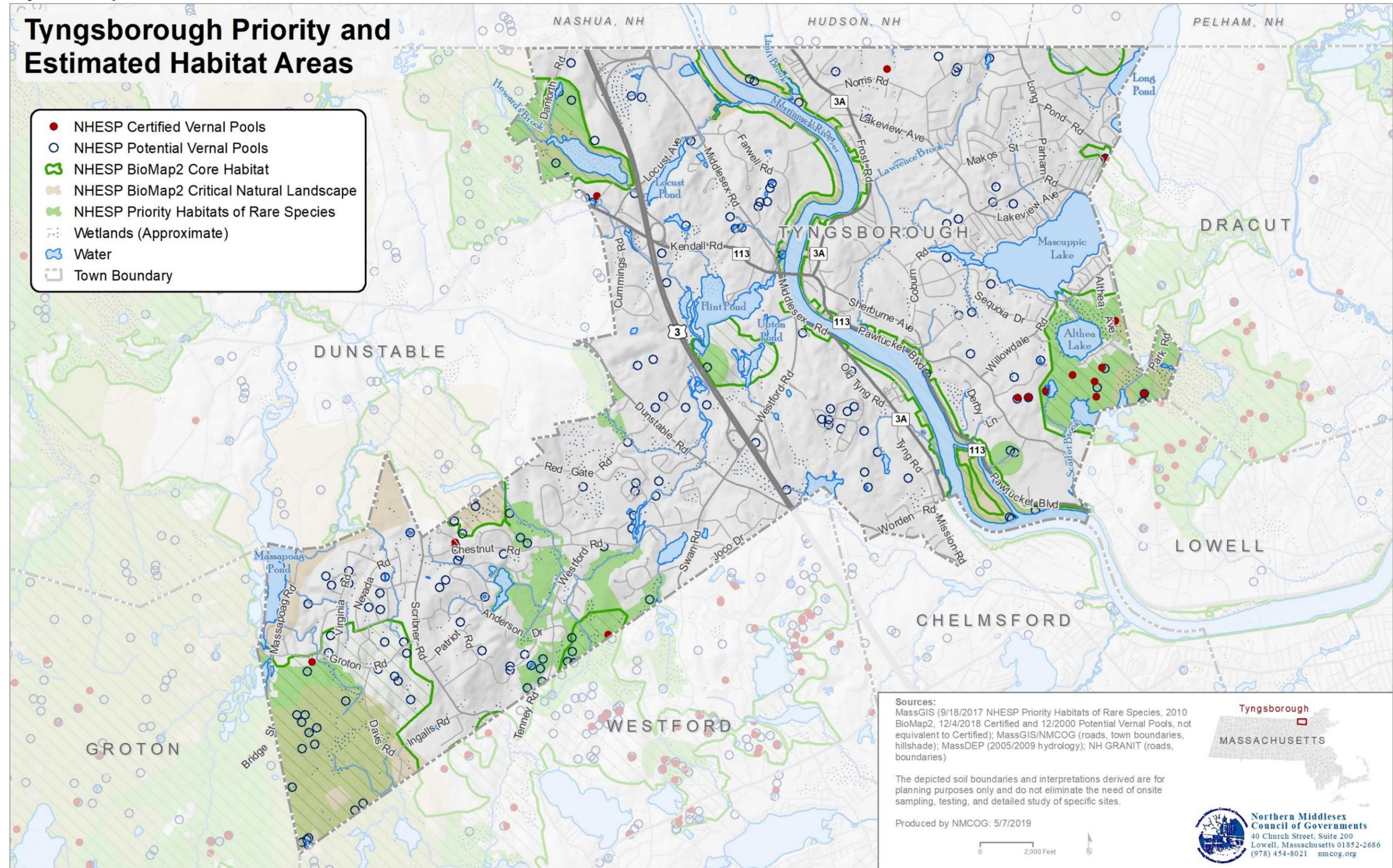
There is currently one ACEC in Tyngsborough: the Petapawag ACEC. Approximately 70 acres of this 25,630 acre area are located within Tyngsborough as part of the Salmon Brook watershed. The Petapawag ACEC was designated by the Massachusetts Executive Office of Energy and Environmental Affairs in 2009. The Tyngsborough portion of this ACEC includes a 100-foot border of Massapoag Pond. According to DCR, “The Petapawag ACEC is located along and to the east of the Nashua River, from the Town of Ayer north to New

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<sup>39</sup> *BioMap2: Conserving the Biodiversity of Massachusetts in a Changing World, Tyngsborough, Massachusetts Natural Heritage & Endangered Species Program, 2012.*

<sup>40</sup> *BioMap2: Conserving the Biodiversity of Massachusetts in a Changing World, Tyngsborough, Massachusetts Natural Heritage & Endangered Species Program, 2012.*

Map 7.7: Priority and Estimated Habitat Areas



Hampshire. Petapawag is adjacent to the 37,450-acre Squannassit ACEC, which is located along and to the west of the Nashua River. The Petapawag and Squannassit ACECs share the Nashua River corridor and its associated physical, biological and cultural resources and history<sup>41</sup>.”

## ENVIRONMENTAL ISSUES

### HAZARDOUS WASTE SITES

There is one Superfund site located in Tyngsborough, the Charles George Reclamation Trust Landfill. Situated on the Tyngsborough-Dunstable border, the landfill started as a small municipal dump beginning in the 1950s. From 1967 to 1976 it accepted both household and industrial wastes, and from 1973 to 1976 it was licensed to accept hazardous waste. The hazardous waste included toxic metal sludge, bulk chemicals and volatile organic compounds (VOCs). Records show that the site received over 1,000 pounds of mercury and approximately 2,500 cubic yards of chemical wastes. The State ordered closure of the site in 1983. Samples from wells serving nearby Cannongate Condominiums and private homes revealed VOCs and heavy metals in the groundwater. Remediation activities included an extension of public water supply to residences with contaminated drinking water wells; capping the site; controlling the migration of contaminants including collection and treatment of landfill gas; and collection and off-site discharge of leachate and contaminated groundwater to a publicly owned water treatment facility.<sup>42</sup>

In 1992, the Charles George Natural Resources Trustee Council (Trustees) settled Massachusetts Natural Resource Damages Program claims with the responsible parties for \$1,353,440.<sup>43</sup> The Trustees filed a Draft Restoration Plan/Environmental Assessment in 2001. According to this document, the goal was “to compensate for impacts to groundwater, wetlands, migratory birds that use wetland habitat, and migratory fish in the Merrimack River.” The alternatives considered included on-site wetland restoration, off-site wetland restoration, acquisition of equivalent resources, on-site migratory fish restoration, and off-site migratory fish restoration. These alternatives were evaluated based on a number of criteria. The acquisition alternatives included several parcels in Tyngsborough. The Trustees provided \$1.2 million to purchase a 130-acre property west of the site. None of these funds were utilized for the restoration of Flint Pond.

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<sup>41</sup> <https://www.mass.gov/service-details/petapawag-acec>

<sup>42</sup> *Tyngsborough Master Plan*, 2004.

<sup>43</sup> <https://www.mass.gov/service-details/natural-resource-damages-program-landfill-settlements-massdep>, accessed 4/26/19.

In 2015, the Town reached an agreement with Citizens Energy Corporation for a multi-million-dollar solar project at the site. Town officials recognized the project's value in generating tax revenue from otherwise unproductive land. The company agreed to pay some of the back taxes owed on the project's five parcels. Citizens Energy Corporation completed the project in December 2016. Today, the solar facility produces electricity for about 300 homes.

## OTHER HAZARDOUS WASTE SITES

The Massachusetts Department of Environmental Protection's Bureau of Waste Site Cleanup currently lists no other hazardous waste sites in Tyngsborough of nearly the same magnitude as the Charles George Reclamation Trust Landfill. However, there have been a number of smaller "reportable releases" of environmental contaminants reported to the DEP. Since 1985, there have been 70 reported incidents involving hazardous waste releases, most of which involved petroleum and have been addressed.<sup>44</sup>

## LANDFILLS

There are no operating landfills in Tyngsborough at present. As discussed above, the former Charles George Landfill has been capped as part of the Superfund site.

## EROSION AND SEDIMENTATION

The banks of the Merrimack River are periodically subject to erosion due to the operation of the Pawtucket Dam located approximately 6 miles to the south in the City of Lowell and as result of natural processes. Otherwise, there are no areas of special concern in terms of erosion and sedimentation.

## CHRONIC FLOODING

According to a report by FEMA, as of July 2019 there are eight repetitive flood loss properties within the Town of Tyngsborough<sup>45</sup>. All but two of the repetitive flood loss structures are residential, and most are located adjacent to the Merrimack River. Only four repetitive loss structures are insured through the NFIP. As of July 10, 2019, the NFIP paid out \$2,129,486 for sixteen repetitive loss claims. It is important to note that 38% of these losses occurred outside of the Special Flood Hazard Areas (the "100-year floodplain"). Climate experts expect that this number will increase in response to increased frequency

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<sup>44</sup> <https://eeaonline.eea.state.ma.us/portal#!/search/wastesite>, accessed 3/3/20.

<sup>45</sup> *Tyngsborough Open Space and Recreation Plan, 2020* (as drafted 3/2/20).

and/or intensity of storms due to climate change. A report by FEMA finds that climate change could increase areas at risk of flood by 45 percent by 2100<sup>46</sup>.

## NON-POINT POLLUTION/STORMWATER MANAGEMENT

Although water quality in the Merrimack River has improved significantly over the last generation, Tyngsborough's stretch of river is still threatened by point and nonpoint pollution impacts from upstream sources in New Hampshire and from the nonpoint sources in Tyngsborough itself, as discussed in the Rivers and Streams section.

Non-point source pollution impacts the environment through stormwater runoff entering surface water bodies and groundwater. Such sources of pollution include the following:

- Fertilizers, herbicides, and insecticides from lawns and farmland;
- Oil, grease and toxic chemicals from transportation sources, roadways, fueling stations and parking lot runoff;
- Sediment from improperly managed construction sites; and
- Pathogens and nutrients from livestock, pet waste, and failing septic systems.

These sources of pollution are more difficult to control than point source pollution, and are best addressed through proper land management and agricultural practices, effective maintenance of motor vehicles, land use controls, and homeowner education.

In 2016, EPA and DEP issued a new MS4 Stormwater permit for Massachusetts that went into effect on July 1, 2018. This permit requires the operators of a regulated small municipal separate storm sewer system (MS4), including Tyngsborough, to obtain National Pollutant Discharge Elimination System (NPDES) permit coverage. MS4s are considered point sources because they discharge storm water into discrete conveyances, including roads with drainage systems and municipal streets. Under the permit, Tyngsborough will be required to develop and implement a storm water management program that includes six (6) minimum control measures, and there are water quality testing, monitoring, mapping, maintenance and reporting requirements contained within the permit as well.

The six minimum control measures include the following:

- Public Education and Outreach;
- Public Involvement/Participation;
- Illicit Discharge Detection and Elimination;
- Construction Site Runoff Control;

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<sup>46</sup> AECOM, Michael Baker, Jr. Inc., and Deloitte Consulting, LLP. "The Impact Of Climate Change and Population Growth on the National Flood Insurance Program through 2100" prepared for Federal Insurance and Mitigation Administration Federal Emergency Management Agency (June 2013).

- Post-Construction Storm Water Management in New Development and Redevelopment;
- Pollution Prevention/Good Housekeeping for Municipal Operations.

As the operator of a regulated small MS4, Tyngsborough must select best management practices (BMPs) and measurable goals for each minimum control measure, and design and implement a comprehensive program to reduce pollutants to the maximum extent practical (MEP). Tyngsborough submitted its Notice of Intent (NOI) to EPA and MassDEP on October 1, 2018 outlining the BMPs that the Town planned to include in their stormwater management program in order to comply with the terms of the General Permit.

To assist in meeting the previous EPA permit requirements, the Town updated its Stormwater Management Regulations in September 2019. The Regulations apply to new development and redevelopment that is not exempt under the By-Law. Non-residential projects that disturb more than 5,000 square feet, or residential projects that disturb more than 1 acre of land must obtain a permit from the Conservation Commission. These regulations also apply to other activities that would increase the amount of stormwater runoff or pollutants from a parcel of land, or any activity that will alter the drainage characteristics of a parcel of land, unless exempt under the Stormwater Management Bylaw. In addition, Tyngsborough's subdivision bylaws require that new stormwater drainage systems installed for subdivisions conform to the DEP's current Stormwater Management Policy Standards and Best Management Practices. Tyngsborough's Conservation Commission worked to update the Stormwater Management Bylaw and associated regulations in 2020.

Tyngsborough is a member of the Northern Middlesex Stormwater Collaborative (NMSC), an organization of 12 communities that work collaboratively to address the requirements of the new MS4 permit. NMCOG staff serves as the administrative and technical staff for NMSC.

## DEVELOPMENT IMPACT

Development pressures in Tyngsborough have been substantial during the last two decades. Residential development has fragmented much of the remaining open space. In some cases, houses have been built on steep slopes with retaining walls. The increase in impervious surfaces in the hilly western part of town has increased stormwater runoff and erosion. Future development may require more detailed and sophisticated regulatory tools to ensure protection of natural resources in these areas.

A significant proportion of the remaining forested land in Tyngsborough is located between Route 3 and the Route 3A corridor. Most of this land is in private hands and zoned for

industrial or commercial use, and will likely be used for economic development in the future.

## CULTURAL AND HISTORIC RESOURCES

Cultural resources are the places, structures and institutions that contribute to a community's unique identity and sense of place. Tyngsborough's character is largely influenced by its rich history, as reflected in its historic buildings, cemeteries, and landscapes. Tyngsborough is fortunate to still have remnants of its past worthy of preservation for future generations. Therefore, it is critical that the Town continue to inventory, document and preserve what remains.

A **M**aster **P**lan is not meant to serve as a comprehensive preservation plan for the community. Instead, it is a planning tool to document the town's preservation efforts and define the importance of such efforts in the future of the town. The visioning sessions and the survey undertaken for the Master Plan highlighted the fact that residents and town officials value the town's historic assets.

### A BRIEF HISTORY OF TYNGSBOROUGH

Before the coming of the European settlers, generations of Native Americans frequented the Merrimack River. They foraged, hunted, and lived in what is now Tyngsborough. Passaconaway was a great chief of the Pawtuckets and the Pennacooks, who lived much of his time at Wiscasee (now Tyngs Island), a favorite planting ground and encampment. By 1644, Passaconaway signed an agreement placing his tribes under the authority of the colonial government.

First settled by Europeans in the 1660s, Tyngsborough was part of the Town of Dunstable until its separate incorporation in 1809. Land grants originally acquired by the Tyng family were settled in the late 1660s, and the Pawtucket and Pennacook Indians, who lived and fished along the Merrimack River, were eventually driven out of the area as the pioneers moved to the area and established scattered farmsteads.

The period from the mid-1600s to the late-1700s was characterized by fur trading, land clearing, farming, mill building, road construction, and occasional hostilities between colonists and local tribes. In 1760, the county ordered two new roads, one on each side of the river, to be constructed and connected by a ferry. Many of Tyngsborough's men participated in the Revolutionary War. By 1790, the town had 382 inhabitants.

Sarah Winslow, a daughter of Eleazer Tyng, set up a trust with Harvard College in 1789 to benefit the Town. The trust helped fund the Winslow School and still provides annual

income to the Town. A condition of her bequest was that the district be known as Tyngsborough in honor of her father and his family. By 1800, Tyngsborough was a flourishing farm town with a few stores, craftsmen, and small mills to serve the local community's needs. In 1809, the Town of Tyngsborough was established when it separated from Dunstable.

The opening of the Middlesex Canal in 1809 and the Middlesex Turnpike (Middlesex Road) in 1811 connected the Town to the Lowell and Boston markets. Tyngsborough took advantage of its proximity to Nashua and Lowell and provided their manufacturers with boxes and barrels for shipping. Starting in 1819, steamboats on the Merrimack River gave Tyngsborough a direct river connection to Lowell and Concord, NH. As Tyngsborough grew during the early nineteenth century, it became known for its ferries, quarries, and box companies. In 1835 the Boston and Lowell Railroad began operations, linking Tyngsborough to its neighbors and markets and effectively making the Middlesex Canal obsolete. By 1849 a box factory was located near the outflow of Flint Pond at the center of town, and in 1875 the pond was dammed to provide additional waterpower for the factory.

The proximity of the industrial centers of Lowell and Nashua, made even more accessible through transportation improvements, provided jobs to Tyngsborough throughout the late nineteenth century. The completion of the Iron Bridge across the Merrimack River in 1871, and the installment of an electric railway system between Tyngsborough and Lowell in the 1890s, allowed Tyngsborough residents access to work in Lowell.

By the turn of the century, Tyngsborough had become a popular recreation area. River steamers, trains, trolleys, and autos brought visitors to Harmony Grove on the River, Willowdale on Lake Mascuppic, Mount Rock on the western shore of Lake Mascuppic, and a variety of other resorts. Many of these resorts catered to vacationers from Boston and New York. Until the late 1960s, the Town continued to be a vacation community with a large seasonal population.

After the automobile became the preferred mode of transportation, roadway improvements dispersed Tyngsborough's working population. By the late 1960s, Route 3 had been constructed, connecting Tyngsborough and southern New Hampshire with Route 128 and later I-495 and I-93. This catalyzed the development of Tyngsborough as a bedroom community for commuting to employment centers, such as Nashua, NH, Lowell, the Route 128 technology belt, and Boston.

## HISTORIC ARCHITECTURE

Tyngsborough has an impressive inventory of historic buildings, spanning three centuries with the oldest structure dating back to the 18<sup>th</sup> century. These historic structures include residences, religious and institutional structures, barns and outbuildings. Most of the Town's historic buildings are privately owned, but there are some that are owned by the Town and non-profit entities. Many post-war homes are not perceived as historic in contemporary opinion, yet they provide a sense of Tyngsborough's development pattern throughout the 20<sup>th</sup> century.

The town's architecture includes many styles that were popular in the 18th, 19th, and 20th centuries. Architectural styles include Federal, Colonial Revival, Georgian, Greek Revival, Victorian Eclectic, Craftsman, and bungalow. Most of these buildings are well-preserved and maintained, and contribute to the visual character of the town. Several of the Town's oldest homes reflect the characteristics of early farmsteads with barns and outbuildings.



*The 1892 Winslow School was closed in 2002 and is currently vacant.*

The Town has restored the Old Town Hall, originally built as a Baptist Church by the Tyngsborough Baptist Society in 1834. When the new Town Hall building and Library were built on Bryants Lane in 1998, the old Town Hall was abandoned. The Historical Commission worked to list the building on the National Register of Historic Places and began the process of planning for preservation. In Spring 2010, Town Meeting approved funding for the restoration of the Old Town Hall. In Spring 2011, Town Meeting approved additional construction funding for the project, bringing the total cost of the project to \$2.5 million. Renovation work began in February 2012 and was completed in December 2013.

The Town is currently restoring the First Parish Meeting House which was purchased in 2013. The church originally opened in 1755, but was later destroyed by fire in 1834 and then rebuilt 1836. The church steeple holds a bell cast by Paul Revere's son.

The structure is a post and beam, gable-fronted, Greek Revival style building with two iconic columns at the entry and a prominent cupola building. Almost all of the building systems were in need of repair or replacement due to age and neglect. The roofing system, comprised of both asphalt shingles and standing seam metal panels, had deteriorated materials, and a truss-framed structure with rotted members. The exterior wall wood

cladding had cracked or rotted elements. The paint on the structure, which contained high levels of lead, had deteriorated.

The entire building roof, including lower and upper cupola roof, has been replaced with architectural grade asphalt shingles. The deteriorated mortar joints at the brick chimney were repointed. Exterior wood clapboards, trim and decorative elements, such as the front columns were repaired. Lead containing paint was removed and the entire structure repainted. Interior renovations are underway.

### NATIONAL REGISTER OF HISTORIC PLACES DESIGNATIONS

Authorized by the National Historic Preservation Act of 1966, the National Park Service's National Register of Historic Places (the National Register) is part of a national program to coordinate and support public and private efforts to identify, evaluate and protect America's historic and archaeological resources. The National Register of Historic Places is the official list of the nation's historic places worthy of preservation.

There are currently three buildings and one burial ground listed on the National Register - the Winslow School, the Littlefield Library, the Old Town Hall, and the Tyng Family Cemetery. The Winslow School and the adjacent Littlefield Library on Middlesex Road were listed together on the National Register in 1990. The Winslow School building was constructed in the 1890s with funding provided by Sarah Tyng Winslow and was used until 2002. The Littlefield Library was constructed in 1905 with funding from Lucy Swan Littlefield and the Town of Tyngsborough.

The town library has since moved into the new Town Hall, and the Littlefield Library building is used by the Historical Society to store and exhibit historical items and records.

The Old Town Hall was built in 1834 for use as a Baptist Church and was purchased in 1864 by the Town for use as a Town Hall and school room.



*The 1905 Littlefield Library is now used by the Historical Society.*

The 1675 Tyng Mansion on Tyng Road, also known as the Colonel Jonathan Tyng House, was added to the National Register in 1977, but was destroyed by fire that same year. The granite slabs of the foundation are all that remain. While many early settlers of the area fled to Boston throughout King Philip's War, several men from Captain Moseley's Command were garrisoned at Colonel Tyng's house until the settlers returned to their homes in 1677. During later years, slaves were reportedly housed in the attic of the mansion.<sup>47</sup>



*The 1834 Old Town Hall*

Located adjacent to the Tyng Mansion site, the Tyng Family Cemetery was also added to the National Register in 1977. The roughly half-acre burial grounds has approximately 150 gravestones, with the earliest dating to 1681. It is also referred to as the Drake Cemetery. The cemetery is referred to as *GR2 Drake (Tyng) Cemetery* in the "Vital Records of Tyngsborough Massachusetts to the end of the year 1849" and *GR6 Drake (Tyng) Cemetery* in the "Vital Records of Dunstable Massachusetts to the end of the year 1849". The earliest gravestone is that of Edwerd Tyng (1610-1681).



*The Tyng Family Cemetery (Drake Cemetery) dates back to 1681.*

The previous Master Plan recommended pursuing the establishment of two National Register Historic Districts in Tyngsborough, one in the Town Center and one at the James Butterfield House and Mill Area (the current location of Sherburne Lumber).

## TYNGSBOROUGH CENTER

As mentioned above, the current Master Plan recommends pursuing the establishment of a National Register Historic District in the Town Center. Located around the intersection of Middlesex, Westford and Kendall Roads, the Center was historically the civic, religious, transportation and commercial focal point of Tyngsborough. Elements of the historic uses remain, including houses, the Old Town Hall, the Littlefield Library, First Parish Meeting House, the Winslow School, churches, houses, dams, the Tyngsborough Bridge, and commercial buildings. Table 7.7 lists the historic resources within the Town Center.

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<sup>47</sup> Christa M. Beranek, "The Social and Material Lives of the Agricultural Elite: The 18th-Century Tyngs," *Northeast Historical Archaeology*/Vol. 33, 2004, p.7.

**Table 7.7: Tyngsborough Center Historic Resources**

Historic Name	Address	Date Built	Use
Tyngsborough Bridge		1930	Bridge
Farwell House	9 Kendall Road	c. 1727	
Baptist Church/Town Hall	10 Kendall Road	1834	Civic
Parsonage	12 Kendall Road	c. 1832	Residential
Rev. Lawrence House	16 Kendall Road	c. 1800	Residential
Gordon-Barry House	20 Kendall Road	c. 1800	Residential
Evangelical Congregational Church	21 Kendall Road	1868	Religious
Evangelical Congregational Parsonage	21 Kendall Road	1932	Residential
Charles Worcester House	27 Kendall Road	c. 1860	Commercial
Jeremiah Kendall House	45 Kendall Road	1814	Residential
John Kendall House	51 Kendall Road	1808	Residential
Swallow Farm	54 Kendall Road	c. 1890	Residential
	62 Kendall Road	c. 1900	Residential
John Farwell House	63 Kendall Road	c. 1797	Residential
Moses Kendall House	69 Kendall Road	c. 1818	Residential
	70 Kendall Road	c. 1875	Residential
	75 Kendall Road	c. 1850	Residential
	76 Kendall Road	c. 1900	Residential
Fifield Box Shop	77 Kendall Road	c. 1880	Residential
War Memorial	Middlesex Road	1955	
Capt. John Farwell House	204 Middlesex Rd.	1803	Residential
Farwell-Richardson House	208 Middlesex Rd.	1824	Residential
First Parish Meeting House	214 Middlesex Rd.	1836	Religious
Winslow School	250 Middlesex Rd.	1890	Civic
Littlefield Library	250 Middlesex Rd.	1905	Civic
	259 Middlesex Rd.	c. 1895	Residential
Bennett & Perham Double House	260 Middlesex Rd	c. 1870	Day Care Center
Bither Insurance	261 Middlesex Rd.	c. 1890	Offices
	265 Middlesex Rd.	c. 1890	Residential
	266 Middlesex Rd.	c. 1888	Residential
	269 Middlesex Rd.	c. 1889	Offices
Flint Pond Dam	Middlesex Road at Flint Pond	c. 1850, 1930	Bridge, Dam & Culvert

Source: <http://mhc-macris.net>, *Tyngsborough Center*, inventory number TYN.A, accessed 4/30/29.

## JAMES BUTTERFIELD HOUSE AND MILL AREA

The previous Master Plan also recommended pursuing the establishment of a National Register Historic District in the James Butterfield House and Mill area. This historically important complex includes the 1838 Butterfield House and mill buildings located at or near 54 Coburn Road, currently known as Sherburne Lumber. Jonah Parham operated a saw mill at this site in 1775. By 1821 James Butterfield was the owner and the mill included both a gristmill and a saw mill. Around 1830 the gristmill was replaced with a

cider mill. The site is unusual because it retains the sluiceways that powered the mill, pond, and collection of outbuildings. The house is a locally rare example of granite construction. In addition to the house, pond, and sluiceway, the complex includes a barn, c. 1900; the former mill building, c.1923, is now the lumber sales office; a c. 1900 lumber shed; a c. 1923 sawdust shed; and a low stone wall.

**Table 7.8: James Butterfield House and Mill Area Historic Resources**

Historic Name	Address	Built Date
James Butterfield House	54 Coburn Road	1838
James Butterfield Barn	54 Coburn Road	c. 1900
James Butterfield Lumber Shed	54 Coburn Road	c. 1900
James Butterfield Sluice	54 Coburn Road	c. 1923
James Butterfield Saw Dust Shed	54 Coburn Road	c. 1923
James Butterfield Stone Wall	54 Coburn Road	c. 1923
James Butterfield Mill	54 Coburn Road	c. 1923

Source: <http://mhc-macris.net>, *James Butterfield House and Mill*, inventory number TYN.C, accessed 4/30/29.

## MASSACHUSETTS CULTURAL RESOURCES INFORMATION SYSTEM

Massachusetts Cultural Resources Information System (MACRIS) data are compiled from a variety of records and files maintained by the Massachusetts Historical Commission (MHC), including but not limited to, the Inventory of Historic Assets of the Commonwealth, National Register of Historic Places nominations, State Register of Historic Places listings, and local historic district study reports. The historic resources are organized into the following categories: buildings, areas, structures, objects and burial grounds.

### HISTORIC BUILDINGS

There are 126 buildings listed in the MACRIS database for Tynngsborough, however, 13 of these buildings have been demolished. Table 7.9 identifies the name, address, and year of construction for each building. Remarkably, 17 of the remaining buildings were constructed in the 18<sup>th</sup> century, and 11 were constructed prior to the American Revolution. The oldest remaining building is the Deacon Cornelius Waldo House at 80 Farwell Road.



The 1932 Maxwell Sherburne House contains nature exhibits at the Sherburne Nature Center.

**Table 7.9: Historic Buildings in Tyngsborough**

Historic Building Name	Address	Built Date	Demolished
Tyng, Col. Jonathan House	80 Tyng Rd	1675	Y
Waldo, Deacon Cornelius House	80 Farwell Rd	c 1683	
Gillson, W. House	20 Locust Ave	c 1700	
Farwell, Oliver House	60 Farwell Rd	c 1715	
Farwell, Henry Jr. House	9 Kendall Rd	c 1727	
Thompson, Simon House	177 Kendall Rd	1728	
Frost - Snow, Fred House	66 Frost Rd	1733	
Butterfield, Capt. Joseph House and Store	102 Parham Rd	c 1738	
Danforth, Joseph House	21 Danforth Rd	c 1745	
Thompson, Asa House	7-9 Locust Ave	c 1758	
Blood, John House	58 Sherburne Ave	1768	
Littlehale, William House	218 Sherburne Ave	c 1769	Y
Pitts, Hon. John - Brinley, John House	198 Middlesex Rd	1775	Y
Hathorn, John - Danforth, James House	15 Farwell Rd	c 1775	
Parham, Alfred House	235 Westford Rd	1783	
Scribner, Rev. Matthew House	11 Ingalls Rd	c 1790	
Tyng, Judge John - Frederick, George House	109 Chestnut Rd	c 1794	
Lawrence, Rev. Nathaniel House	28 Farwell Rd	c 1795	
Swan, Eben - Glynes, Isaac House	167 Westford Rd	c 1795	Y
Pike, Isaac House	66 Kendall Rd	1797	
Farwell, Dea. John House	63 Kendall Rd	c 1797	
Holden, Capt. Nathaniel House	127 Farwell Rd	c 1799	
Lawrence, Rev. Fred House	16 Kendall Rd	c 1800	
Gordon, James - Barry, David and William House	20 Kendall Rd	c 1800	
Farwell, Capt. John House	204 Middlesex Rd	1803	
Kendall, Jeremiah Carriage House	Kendall Rd	c 1803	
Parham, Joseph House	91 Sherburne Ave	c 1803	
Kendall, John House	51 Kendall Rd	1808	
Kendall, Jeremiah House	45 Kendall Rd	1814	
Kendall, Moses House	69 Kendall Rd	c 1818	
	371 Middlesex Rd	c 1820	Y
Adams, William - Elliot, Dea. Samuel House	22 Farwell Rd	c 1823	
Richardson, Daniel House	208 Middlesex Rd	1824	
Butterfield, Joseph A. House	21 Willowdale Rd	1827	
Holden, Silas House	95 Farwell Rd	c 1830	Y
Gilson, George M. House	42 Sherburne Ave	c 1830	
Parham, William House	149 Coburn Rd	1831	
Tyngsborough Baptist Church Parsonage	12 Kendall Rd	1834	
Old Town Hall	10 Kendall Rd	c 1834	
Brinley, Robert House	5 Westford Rd	c 1835	
First Parish Church of Tyngsborough	214 Middlesex Rd	1836	
Butterfield, James House	54 Coburn Rd	1838	
Bancroft, Timothy House	441 Middlesex Rd	1838	Y
Coburn, Oliver House	105 Farwell Rd	c 1840	
Davis, Thaddeus U. House	14 Davis Rd	c 1850	

Historic Building Name	Address	Built Date	Demolished
Coburn - Matthews House	75 Kendall Rd	c 1850	
Chandler, John M. Barn	11 Ingalls Rd	c 1850	
Tyngsborough District #4 School House	10 Old Kendall Rd	c 1850	Y
Coburn, Daniel P. Barn	91 Sherburne Ave	c 1850	
Bowers, Jonathan House	34 Willowdale Ave	c 1857	
Parham, Daniel House	126 Coburn Rd	c 1860	
Fletcher, Joseph and Elijah Barn	91 Frost Rd	c 1860	
Worcester, Charles H. House	27 Kendall Rd	c 1860	
Bancroft, Jonathan Franklin Dairy Barn	377 Middlesex Rd	c 1860	Y
Magoon, Reuben House	38 Old Tyng Rd	c 1865	
Tyngsborough Evangelical Congregational Church	21 Kendall Rd	1868	
Bennett, Joseph S. - Perham, George Double House	260 Middlesex Rd	c 1870	
Coburn, Daniel P. House	70 Sherburne Ave	c 1873	
Gilson, M. - Woodward, Fred A. House	70 Kendall Rd	c 1875	
Gould, Cummings House	99 Long Pond Rd	c 1875	
Harris, James House	85 Middlesex Rd	c 1875	
	44 Farwell Rd	c 1880	
	51 Farwell Rd	c 1880	
Fifield, Edward O. Box Shop	77 Kendall Rd	c 1880	
Fifield, Edward O. Box Factory Work Shop	77 Kendall Rd	c 1880	
Brinley - Richardson House	1 Westford Rd	c 1880	
Bowers, Jonathan House	101 Willowdale Rd	c 1885	
Proctor, Dexter Arthur House	27 Farwell Rd	c 1886	
Proctor, Dexter Arthur Carriage Barn	27 Farwell Rd	c 1886	
Lawrence, Daniel House	266 Middlesex Rd	c 1888	
Parham, Daniel Bank Barn	126 Coburn Rd	c 1889	
Bancroft, Horace House	269 Middlesex Rd	c 1889	
Swallow, Edward S. L. House and Poultry Farm	54 Kendall Rd	c 1890	
	261 Middlesex Rd	c 1890	
	261 Middlesex Rd	c 1890	
	265 Middlesex Rd	c 1890	
Ekstrom, Adolph Workshop - Chicken Coop	65 Farwell Rd	c 1890	Y
Winslow, Sarah Tyng School	250 Middlesex Rd	1892	
Butterfield, Abbie - Stone, Henry G. House	259 Middlesex Rd	c 1895	
	33 Farwell Rd	c 1898	
Bower Brothers House	25 Bowers Ave	c 1900	
Butterfield, James Barn	54 Coburn Rd	c 1900	
Butterfield, James Lumber Shed	54 Coburn Rd	c 1900	
	62 Kendall Rd	c 1900	
	76 Kendall Rd	c 1900	
	425 Middlesex Rd	c 1900	Y
	26 Pawtucket Blvd	c 1900	
	176 Sherburne Ave	c 1900	
Littlefield Library	250 Middlesex Rd	1904	
Littlehale, Harry D.- Holt, Charles Double House	23 Farwell Rd	1905	
Littlehale, Harry - Holt, Charles Carriage House	23 Farwell Rd	c 1905	

Historic Building Name	Address	Built Date	Demolished
	176 Sherburne Ave	c 1907	
	176 Sherburne Ave	c 1907	
Connell, Daniel A. House	33 Groton Rd	c 1910	
	52 Mission Rd	c 1910	
Ekstrom, Adolph House	65 Farwell Rd	1913	
Flint, Perry House	3 Farwell Rd	c 1913	
	30 Pawtucket Blvd	c 1915	
Stone, Abraham Shed	14 Farwell Rd	c 1920	
Stone, Abraham House	14 Farwell Rd	c 1921	
Queen, Maude A. Garage	28 Farwell Rd	c 1921	Y
Butterfield, James Lumber Mill	54 Coburn Rd	1923	
Butterfield, James Saw Dust Shed	54 Coburn Rd	1923	
Saint Joseph's Marist Novitiate Seminary	72 Tyng Rd	1924	
Vesper Country Clubhouse	Tyng's Island	1924	
Notre Dame Academy Main Building	180 Middlesex Rd	1926	
Godbout, Lorenzo House	59 Mascuppic Trail	c 1927	
Evangelical Congregational Church Parsonage	21 Kendall Rd	1932	
Notre Dame Academy Garage	180 Middlesex Rd	1932	
Notre Dame Academy Boiler House	180 Middlesex Rd	1932	
Sherburne, Maxwell House	46 Coburn Rd	c 1932	
Times House	91 Frost Rd	c 1934	
Saint Joseph's Marist Novitiate Quonset Hut	72 Tyng Rd	c 1934	
	41 Farwell Rd	c 1940	
	41 Farwell Rd	c 1940	
	170 Massapoag Rd	c 1940	
	61 Parham Rd	c 1940	
	52 Mission Rd	c 1950	
	61 Parham Rd	c 1950	
New England Telephone and Telegraph Company	48 Kendall Rd	1958	
	33 Ingalls Rd	c 1958	
Tyngsborough Fire Station #1	26 Kendall Rd	1959	
	51 Farwell Rd	Unknown	
Farwell, Henry Jr. Barn	9 Kendall Rd	Unknown	
Kendall, John Shed	51 Kendall Rd	Unknown	
Swan Shed	167 Westford Rd	Unknown	Y

Source: <http://mhc-macris.net>, accessed 5/2/2019.

## HISTORIC AREAS

According to the Massachusetts Historical Commission (MHC), Tyngsborough has four historically significant areas:

- Tyngsborough Center
- Colonel Jonathan Tyng House (destroyed by fire) and Tyng Family Cemetery
- James Butterfield House and Mill

- Winslow School and Littlefield Library

## HISTORIC STRUCTURES

There are 24 structures listed in the MACRIS database for Tyngsborough, however, four (4) of these structures have been demolished. Table 7.10 identifies the name, address, and year of construction for each structure.

**Table 7.10: Historic Structures in Tyngsborough**

Historic Name	Address	Built Date
Scribner, Rev. Matthew Stone Walls	11 Ingalls Rd	c 1790
Tyngsborough Town Ferry Landing	Merrimack River	c 1808
Thomas, Dr. Calvin Granite Retaining Wall	9 Kendall Rd	c 1813
Lowell and Nashua Railroad Cattle Tunnel	Farwell Rd	c 1838
Biscuit Brook Railroad Bridge	Biscuit Brook	c 1850
Davis, Thaddeus U. Stone Walls	14 Davis Rd	c 1850
Butterfield Granite Stone Walls	176 Sherburne Ave	c 1856
Flint Pond Dam		C1850
	176 Sherburne Ave	c 1907
Butterfield, James Sluice	54 Coburn Rd	c 1923
Butterfield, James Stone Wall	54 Coburn Rd	c 1923
Island Road Bridge over Merrimack River	Island Rd	c 1925
Ferry Road Railroad Bridge	Ferry Rd	1926
Mill Brook Railroad Bridge	Mill Brook	1928
Kendall Road Bridge over B & M Railroad	Kendall Rd	1930
Kendall Road Bridge over Flint Pond Brook	Kendall Rd	1930
Kendall Road Dam	Kendall Rd	1930
Tyngsborough Bridge	Middlesex Rd	1930
Middlesex Road Culvert Bridge	Middlesex Rd	1930
Route 3 Bridge over Dunstable Road	Rt 3	1959
Route 3 Bridge over Bridge Meadow Brook	Rt 3	1959

Source: <http://mhc-macris.net>, accessed 3/22/2020.

## HISTORIC OBJECTS

There are three (3) objects listed in MACRIS: the Wannalancet Map Rock, World War I - World War II - Korean War Monument, and the Tyngsborough Vietnam Memorial, as shown in Table 7.11.

**Table 7.11: Historic Objects in Tyngsborough**

Historic Name	Address	Built Date
Wannalancet Rock and Map Rock	Old Tyng Rd	c. 1638
World War I - World War II - Korean War Monument	Middlesex Rd	1955
Tyngsborough Vietnam Memorial	204 Middlesex Rd	1982

Source: <http://mhc-macris.net>, accessed 3/3/2020.

The Wannalancit Rock, located on Old Tyng Road honors the sachem of the Penacook tribe, and son of the sachem, Passaconoway. Wannalancit helped to protect present day Tyngsborough throughout King Philips War, and even stayed with Colonel Tyng in the Tyng Mansion throughout the last few years of his life.

Map Rock is a large natural rock formation carved with an illustration believed to be of the Merrimack River, discovered around 1900. The map is thought to be carved by Native Americans, pre-historic visitors, or early fur traders.

The World War I – World War II – Korean War Monument located on Middlesex Road is a three panel granite marker with a seven foot tall central portion with two flanking four foot tall panels. The three panels combine to create a 10 foot long stone surface. The central panel is inscribed with the names of nine men who gave their lives and, on the reverse, the more than 100 who served during the three wars. The granite and bronze Vietnam War Memorial is located adjacent to the road at the Captain John Farwell House at 204 Middlesex Road, and will be relocated across from the Old Town Hall.

The Potash Kiln site consists of a well-preserved chimney built of uncut dry-laid stone built against a massive, glacial, erratic boulder. The site was utilized by workers in the early 1800s to create “potash,” a key ingredient in glass-making. The site is believed to be eligible for inclusion in the National Register of Historic Places.

## BURIAL GROUNDS AND CEMETERIES

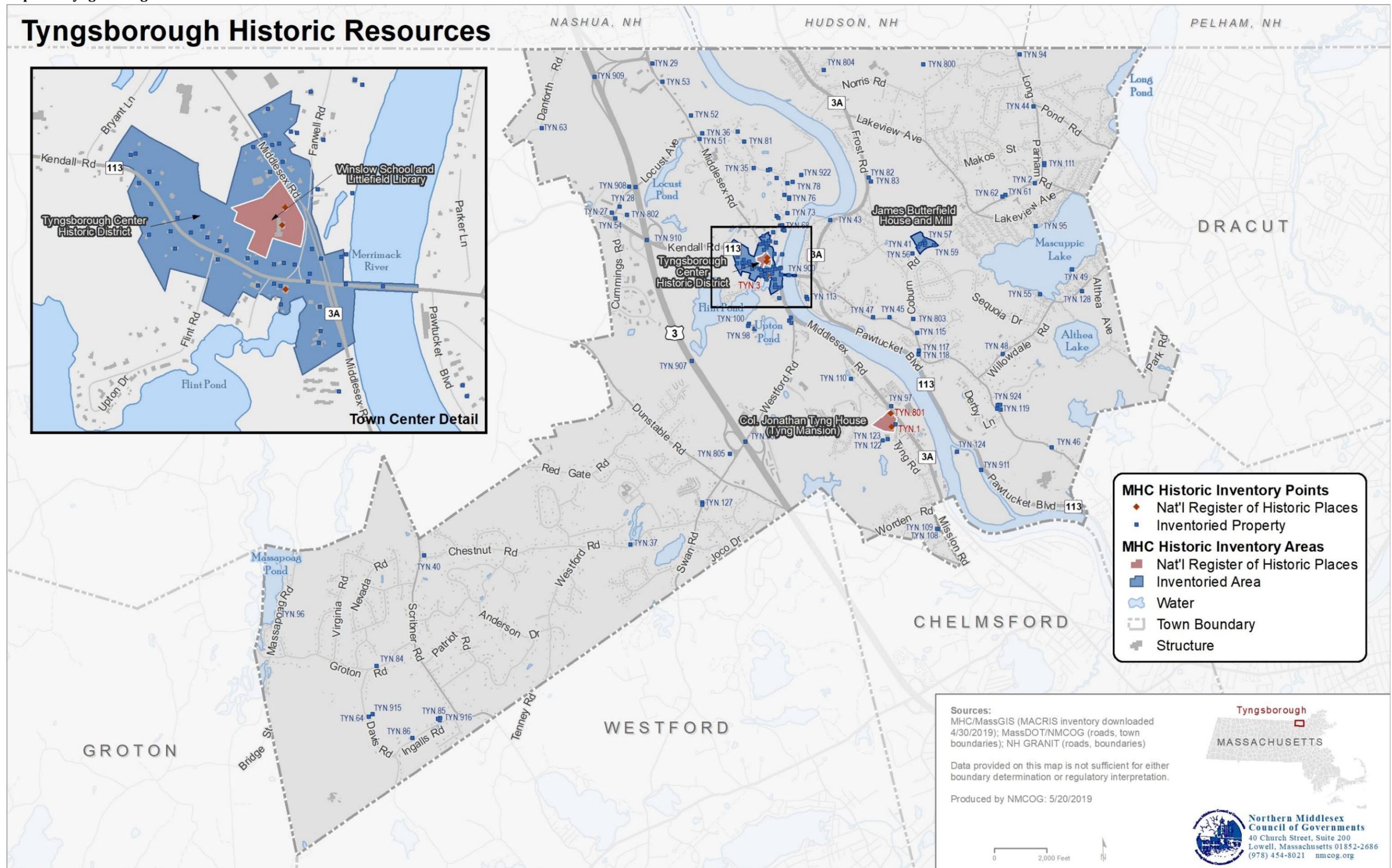
The town has six historic burial grounds listed in MACRIS, as shown in Table 7.12. Five of these cemeteries were established during the pre-Revolutionary period. The Tyng Family Cemetery, the town’s oldest, was established in the 17<sup>th</sup> Century and is located adjacent to the Tyng Mansion site, which was destroyed by fire.

**Table 7.12: Burial Grounds and Cemeteries in Tyngsborough**

Historic Name	Address	Established
Tyng Family Cemetery	80 Tyng Road	1681
Sherburne Cemetery	Coburn Road	1731
Fletcher Burial Ground	Fletcher Road	c 1741
Gould Burial Grounds	Norris Road	1750
Thompson Cemetery	Old Kendall Road	1757
Flint Cemetery	Westford Road	1805

Source: <http://mhc-macris.net>, accessed 3/3/2020.

Map 7.8: Tyngsborough Historic Resources



## PRESERVATION PLANNING IN TYNGSBOROUGH

Tyngsborough is fortunate to have a number of municipal and private non-profit organizations dedicated to preserving historic resources. Town boards, such as the Conservation Commission, Planning Board, Historical Commission, Agricultural Commission, and Cemetery Commission work collaboratively to ensure that the character and resources of the community are protected. Non-profit entities such as the Tyngsborough-Dunstable Historical Society also contribute resources and add support to these initiatives.

**The Tyngsborough Historical Commission** is the official town body charged with the identification of historic properties and sites in town, and is the principal advisor on matters related to historic preservation. Such issues include zoning changes, the re-use of municipally-owned historic buildings, and the planning and preservation of historic areas and landscapes. The six-member board is appointed by the Board of Selectmen. In Massachusetts, local historic commissions are responsible for the update and expansion of historic property surveys, nominating properties to the National Register of Historic Places, educating the public about historic resources, advocating for significant historic resources, and administering local bylaws that protect historic resources.

**The Tyngsborough Dunstable Historical Society** is a non-profit membership organization that is open to everyone who is interested in learning more about local history and sharing that history with others. The Society has its roots in a group of Tyngsborough residents who gathered in 1939 to study their local history. They were joined in 1945 by Dunstable residents with similar interests. They became known as the Tyngsborough Dunstable Historical Society in 1951 and formally incorporated in 1967.

The mission of the Tyngsborough Dunstable Historical Society is:

- To stimulate wider interest in the history of Tyngsborough and Dunstable
- To collect and preserve books, manuscripts and objects of antiquarian and local interest
- To encourage research into the same
- To disseminate historical information

**The Agricultural Commission** consists of five members appointed by the Board of Selectmen for staggered three-year terms. The Commission encourages the pursuit of agriculture in the Town of Tyngsborough, promotes agricultural-based economic opportunities, facilitates the preservation of agricultural land, and acts as facilitators, advocates, educators and negotiators on agricultural-related issues.

**The Community Preservation Committee** was established following the requirements of the Community Preservation Act (CPA), which was adopted by Tyngsborough in May 2001. The Committee consists of nine members serving for staggered terms of three (3) years, including the following:

- One member of the Conservation Commission;
- One member of the Planning Board;
- One member of the Historical Commission;
- One member of the Tyngsborough Housing Authority;
- One member of the Recreation Committee;
- One member of the Finance Committee; and
- Three members at large.

The relevant boards, commissions and the Housing Authority each recommend members to the Board of Selectmen for appointment to the Committee. The remaining three (3) at large members are citizens appointed by the Board of Selectmen.

The Committee reviews projects that are seeking CPA dollars and determines how the money will be spent. In addition the Committee presents a report to the Town Meeting at least once a year to explain what projects are being considered, what criteria were used to pick the funded projects, and which projects will ultimately be funded.

CPA monies are raised by a community-wide real estate property surcharge of 3%. The state provides



*Rehabilitation of the First Parish Church was partially funded with CPA monies*

The money must be divided among projects having to do with open space, affordable housing and historic preservation. At least 10% of the money must be spent on each of those types of projects, and the balance is spent by the determination of Town Meeting.

CPA monies are raised by a community-wide real estate property surcharge of 3%. The state provides matching funds to an extent based on what has been collected through the state Registry of Deeds. The funds have allowed the Town to complete the following projects shown in Table 7.13<sup>48</sup>:

**Table 7.13: Use of CPA Monies**

Year	Project
2003	Norton Property Purchase
2003	Long Pond Shores Property Purchase
2003	Hand-Draw Map Restoration
2003	Old Town Hall Restoration
2003	Community Housing Programs
2004	Massapoag Pond Property Purchase
2004	Historic Town Document Preservation Software
2005	Old Town Hall and Littlefield Library Restoration Projects
2005	Lake Mascuppic invasive species removal
2005	Sherburne House Restoration
2006	Design Plans for Multi-Use Recreational Facilities
2006	New Pierce Fields and the New Elementary Ball Fields
2006	Lake Mascuppic Invasive Species Removal
2006	Tocci Campground Cleanup
2006	Sherburne House Window Replacement
2006	Community Housing Study
2006	Tocci Campground Property Purchase
2007	Open Space & Recreation Plan Update
2007	Massapoag Pond Weed Control
2007	Community Housing Programs
2007	Shur Fine Property Purchase
2007	Town Center Development/Preservation Plan
2008	85 Frost Road Purchase
2009	Riverfront Recreation Area on Frost Road
2010	Town Center RFP Plan
2010	Town Center Signage
2010	Fencing for Town Center
2011	Sherburne House Open Space Boardwalk

Year	Project
2011	Installation of Blue Bird Houses at Open Space Sites
2011	Restoration of Old Town Hall
2011	Completion of Frost Road Park (former Tocci Campground)
2011	Preservation of Historic Town Documents
2011	Open Space & Recreation Plan Update
2012	Adams Barn Restoration and Refurbishment
2013	Purchase and Restoration of the First Parish Meeting House
2013	Red Pines Terrace Affordable Housing
2013	Playground and Fields Improvement
2013	Adams Barn Restoration
2014	68 Bowers Avenue Land Purchase
2016	Flint Pond Restoration
2016	Winslow School Stabilization
2016	Tyngsborough Housing Authority Study
2017	Update Tyngsborough Weed Control Program
2017	Update Open Space and Recreational Plan
2017	Repair Colonel Tyng Crypt
2017	Paint/Restore Winslow School Flagpole
2017	Register First Parish Meeting House on National Register
2017	First Parish Meeting House Renovations
2018	Turf Field Replacement- Pierce Field
2018	Lake Mascuppic Weed Control
2018	Lake Massapoag Weed Control
2019	Park Fitness Court Grant
2019	Camp Kiwanis Improvements
2019	Littlefield Library Restoration

Source:

<https://www.communitypreservation.org/databank/projectsdatabase>

<sup>48</sup> <https://www.communitypreservation.org/databank/projectsdatabase/access>, accessed 3/3/2020.

## DEMOLITION DELAY BYLAW

At the May 21, 2002 Town Meeting, Tyngsborough adopted a demolition bylaw that allows the Tyngsborough Historical Commission to stay for six (6) months the demolition of structures determined to be historically significant. The demolition bylaw applies only to buildings and structures:

- 1) Listed on the National Register of Historic Places, the State Register of Historic Place, or the subject of a pending application for listing on either of these Registers;
- 2) Located within 200 feet of the boundary line of any federal, state or local historic district;
- 3) Included in the Inventory of the Historic and Prehistoric Assets of the Commonwealth, or designated by the Commission for inclusion in that inventory; or
- 4) Included in the Town of Tyngsborough Comprehensive Inventory of Historic Places.

In addition to meeting one of the above criteria, the Historical Commission must also determine that the structure is historically significant. Historically significant structures are defined as either:

- a) Importantly associated with one or more historic persons or events, or with the architectural, cultural, political, economic or social history of the Town, the Commonwealth of Massachusetts or the United States of America; or
- b) Historically or architecturally important by reason of period, style, method of building construction, or association with a particular architect or builder, whether by itself or in the context of a group of buildings or structures.

The demolition delay provides time for an owner to explore and develop alternatives to demolition, such as seeking out a person or entity willing to purchase, preserve or restore the building or structure rather than demolish it. A demolition delay bylaw does not guarantee that historic buildings will be saved, as buildings may be demolished after the delay period has expired if the property owners fail to identify a feasible alternative to demolition.

## PUBLIC INPUT

The Master Plan's extensive public input process included a survey available online and hardcopy, and multiple meetings and conversations with natural and cultural resource users and stakeholders.

A community survey was completed by 364 residents in late 2018 through early 2019. Tyngsborough residents clearly value the Town's character, with 42% of those responding

to the written survey indicating that they chose to live in Tyngsborough because of the community character. Overall, survey respondents indicated that the Town is doing an excellent or good job at protecting its natural and cultural resources in the areas of wetland and water resource protection (61%), protection of wildlife habitat (54%), historic preservation (58%), agricultural preservation (46%), and forestry (50%). 57% of respondents rated the Town's cultural and community events as excellent or good.

Question 6 of the written survey included a list of options and asked respondents if the Town should establish any of them as priorities. A total of 86% favored "Protecting additional agricultural lands", 73% favored "Acquiring additional open space", and 71% favored "Creating an historic district in the Town Center and in other appropriate locations" as Town priorities.

On January 9, 2019, forty-five (45) residents participated in the first public visioning session, which included a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis. The following priorities related to natural and cultural resources were identified through the exercise (ranked in order of priority):

- Strengths
  - Historic town center
  - Open land
  - Farms/food security
  - Small town feel
  - Wildlife
  - Four bodies of water in town
  - Active public library
  - Opportunity to create town center
  - River
  - Nature
  - Community events
  - High air quality
  - Historic dwellings, 1/2 mile town center
  - Trail access to state forest
  - Historic Tyngsborough Bridge
  - Historic First Parish Meetinghouse
  - Town beach

- Weaknesses
  - No bike trail
  - Limited social/cultural facilities
  - Lack of parking spaces by Old Town Hall
  - Lack of arts & crafts/cultural activities for youth
  - Lack of playgrounds
  - No way to get town info to residents
  - Lack of access to the river
  - No local newspaper
  
- Opportunities
  - Combine development and "small town" feel
  - Make new buildings environmentally friendly/solar panels
  - Preserve open space
  - Open space for recreation or agriculture
  - Improve access to waterways
  - Better utilization of town center/properties around it
  - Use river for commercial activities
  - Level Winslow School/open up five acres at town center
  - Boat launch/rentals/picnic on river
  - Town center alive with arts and culture
  - Winslow School property use/development potential
  - Follow through on recommendations from last Master Plan
  - Make Tyngsborough a destination by highlighting rural areas and historic center
  - Opportunity to preserve historic center/buildings
  - Opportunity to develop Tyngsborough Country Club
  - Preserve food security/farms
  
- Threats
  - Overdevelopment/commercialization
  - Overdevelopment threatens wildlife
  - Loss of quality of life
  - Farming community/farmland being developed
  - Notre Dame Academy cutting down trees. Noise pollution
  - Loss of open space
  - Deforestation along roadways. Keep old trees along roadway
  - Water pollution

On March 19, 2018, residents participated in a public visioning session for the Open Space and Recreation Plan Update, and significant input applied to Tyngsborough's natural and

cultural resources. The March 19 visioning session also included a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis.

The input received at the visioning session indicated that the Town's greatest strengths related to natural and cultural resources include:

- Tyngsborough's lakes provide significant recreational opportunities
- Mascuppic Lake has been cleaned up and Flint Pond is also very decent
- Much work is being done on Massapoag Pond (called Massapoag Lake by locals)
- Tyngsborough has significant amount of open space
- The Sherburne Nature Center
- The Merrimack River is a top feature for recreation

Weaknesses related to natural and cultural resources include:

- Open space acquisitions and development restrictions are often incorrectly recorded or not recorded at all
- Conservation opportunities not spread out evenly throughout the town
- Funding continues to be an issue
- Weed overgrowth/invasives in Tyngsborough's lakes

Opportunities for Tyngsborough's related to natural and cultural resources include:

- Creating a local land trust might provide a less expensive option for managing conserved land and easements
- Develop trails, a beach and other resources at the former Girl Scout camp
- Tyngsborough has an opportunity to improve its waterfront park

Threats related to natural and cultural resources include:

- A lack of funding limits the town's ability to implement many potential improvements
- Dam in the center of town is in poor condition and poses a potentially significant safety issue
- Dam on Massapoag Pond is also in poor condition
- The aquatic weeds in Tyngsborough's water bodies can harm aquatic wildlife
- There are threats to upland habitats and there are few conserved upland habitat areas

## ISSUES AND OPPORTUNITIES

The Master Plan Committee has considered possible threats to the town's historic resources from future development and neglect. In Massachusetts, local Historical Commissions and Historic District Commissions are responsible for most historic preservation efforts. Historical Commissions are charged with updating and expanding the historic property survey, submitting nominations to the National Register for eligible properties, educating the public about historic resources, advocating for significant historic resources, and establishing and/or administering local bylaws that protect historic resources. Local District Study Committees investigate the establishment of local historic districts.

Many years ago, the Town unsuccessfully pursued the creation of a Town Center Historic District. The Master Plan Committee recommends that the feasibility of establishing a National Register district and/or local historic district in the Town Center be reinvestigated. Although the same area may be designated as both a local historic district and a National Register District, there are substantial differences between the two designations. The National Register of Historic Places is a listing of buildings, structures, sites, objects, and districts significant in our nation's history, culture, architecture or archaeology and that are worthy of preservation.

Listing in the National Register provides formal recognition of the property's significance, potential tax incentives for owners of income-producing property, and limited protection from state or federally funded, licensed, or assisted projects. National Register listing in no way limits the owner's use of the property, and places absolutely no restrictions or conditions on changes made by a private property owner unless there is state or federal involvement in a project. Nominations to the National Register are usually initiated by a property owner or by the local historical commission, and do not require any local government approval. Property owners have the right to object to listing on the National Register; a district will not be listed if the majority of owners formally object.

The strongest form of protection is a local historic district created through a local bylaw approved by Town Meeting. In a local historic district, before any architectural feature visible from a public way is altered, a local district commission must first approve the alteration. Local historic districts have three major purposes, as outlined in Chapter 40C of Massachusetts General Law:

- To preserve and protect the distinctive characteristics of buildings and places significant in the history of the Commonwealth and its cities and towns;
- To maintain and improve the settings of those buildings and places; and
- To encourage new designs compatible with existing buildings in the district.

The formal historic district process generally begins with a request from the Historical Commission to the Board of Selectmen for the appointment of a Historic District Study Committee. The Historic District Study Committee is responsible for studying the desirability of establishing a local historic district, developing a report on its findings and recommendations, and conducting a public hearing on the proposal, prior to consideration by Town Meeting.

Local historic districts do not prevent all change from occurring, nor do they prevent all demolition, new construction or development. The intent is to make changes and additions that are harmonious, and to prevent the intrusion of incongruous elements that detract from the aesthetic or historic value for the district. Historic District Commissions are only allowed to review changes to exterior architectural features, and the bylaw creating the district may exclude certain categories from review, such as paint color, storm windows and doors, and window air conditioning units.

The Community Preservation Act specifically calls for perpetual Preservation Restrictions, established under Chapter 184 of Mass General Laws, whenever CPA funds are used to purchase a real property interest. Therefore, when purchasing or buying an interest in an historic property, a Preservation Restriction is required. The Act is not specific as to whether a Preservation Restriction is required when CPA money is expended on an historic preservation project. Many towns have chosen to require a Preservation Restriction when any amount of CPA funds are awarded for rehabilitation or restoration of an historic property. This protects the Town's investment should the property change hands or become subject to additional development pressures. A Preservation Restriction is required whenever CPA funds are used to rehabilitate or restore historic properties, regardless of the property ownership.

A Preservation Restriction may be held by any governmental body or charitable corporation or trust capable of acquiring interests in land and whose purposes include historic preservation. Local Historical Commissions are empowered to hold preservation restrictions under the state's Historic District Act (M.G.L. Chapter 40C), but they cannot hold a preservation restriction on a town-owned property. Non-profit historical organizations, such as a Historical Society, the Trustees of Reservations, and Historic New England, may also hold preservation restrictions.

The Master Plan Committee feels that the expenditure of CPA funds should be allowed for historic preservation and restoration projects on both public and private property, based on established qualifying criteria. Structures that are owned by a non-profit and eligible for listing on the State Register are also eligible for Massachusetts Preservation Project funds for stabilization and restoration projects.

The Town should promote its historical and cultural resources to foster a greater sense of appreciation and stewardship among town residents. To elevate awareness of the Town's rich historic fabric, plaques could be provided for display on historic properties. In addition, a "self-guided walking tour" of historic areas, such as the Town Center, could also be developed. The Historical Commission should work with the schools to include a module on town history within the curriculum.

Compliance with EPA's 2016 MS4 stormwater management permit represents a sizable effort and expense for the community. Tyngsborough should continue to work collaboratively with neighboring communities on implementation through the Northern Middlesex Stormwater Collaborative, thereby reducing some compliance costs. In addition, the Town should develop a long-term financing plan to fund stormwater activities over the next several years.

As of August of 2019, there were sixteen certified vernal pools in Tyngsborough, There were also 153 potential vernal pools, as well as three Vernal Pool Core Habitat areas. Vernal Pool Core Habitat areas "represent the top 5 percent most interconnected clusters of Potential Vernal Pools in the state". As many species use vernal pools for breeding and live in adjacent upland areas the rest of the year, it is important to also protect areas near vernal pools. As resources allow, conservation staff should continue to certify the identified pools that remain undocumented and confirm that the pools serve as breeding habitat for obligate vernal species.

Tyngsborough has significant forested areas, however residents have expressed concerns regarding timber harvesting and clear cutting that has occurred on various parcels over the past few years. The Town should continue to review and consider the adoption of a tree retention bylaw for future commercial development projects. In addition, the Town could develop forestry management plans for the town-owned forested properties. A forest management plan is a working guide that allows the landowner (in this case the Town) to maximize a mix of forest benefits, including wildlife, timber, recreation, aesthetic value and other benefits. The basic components of a forest management plan include the following:

- Goals and Objectives;
- Maps ;
- A timber inventory complete with fill volume, stocking and species information; an inventory of critical areas and/or endangered species; biological inventory; descriptions of geological features, cultural features, ecological communities and soil data; and

- Detailed actions steps to meet the goals and objectives, including a chronology of activities that will be done each year over the next 10-year period.

Tyngsborough currently does not have a Scenic Road Bylaw or a Shade Tree Bylaw. The Town should also adopt a Shade Tree Bylaw and a Scenic Road Bylaw or reference the state's Shade Tree statute within the Scenic Road Bylaw. The purpose of a Scenic Road Bylaw is to ensure that work on trees and stone walls in the public right-of-way is performed in a way that helps preserve the scenic, historic and aesthetic characteristics of the public right-of-way. Upon recommendation of the Planning Board, Conservation Commission or Historical Commission, the Town may designate any road, other than a numbered route or state highway, as a scenic road. After a road has been designated, any repair, maintenance, reconstruction or paving work must not involve or include the cutting or removal of trees, or the tearing down or destruction of stone walls without the prior written consent of the planning board, after a public hearing. The Scenic Road Bylaw establishes the process and criteria for designating roads as scenic roads, outlines what work on trees and stone walls will require a hearing, describes the process for conducting hearings, outlines the criteria for approving proposed work, and details how the bylaw will be enforced.

The Shade Tree Act defines a public shade tree as any tree within the boundaries of a public right-of-way. Removal of a shade tree requires a public hearing and issuance of a permit by the Tree Warden. The law also provides that if anyone objects to cutting down or removing a shade tree, the Tree Warden is prohibited from issuing a permit unless the Board of Selectmen approves the tree removal. Some types of activities are exempt, such as removing trees with a diameter of less than 1.5 inches one-foot from the ground, and the removal of brush/shrubs. The law clearly exempts the removal of trees that endanger the traveling public. When a shade tree falls under the jurisdiction of the Planning Board via the Scenic Roads Act, the Planning Board and the Tree Warden conduct a joint public hearing.

Invasive species are one of the greatest threats to the integrity of natural communities, and are also a direct threat to the survival of many indigenous species. The Massachusetts Department of Agricultural Resources recognizes 69 invasive species that are of particular concern in the Commonwealth. As the impacts of climate change continue to expand, it is anticipated the prevalence of invasive species will increase. Tyngsborough should establish a "Detection and Response" plan to address invasive plants through the newly-formed Sustainability Committee. For most species, eradication is possible only in the earliest stages of invasion. Therefore, it is important to educate homeowners and the agricultural community on the importance of using only native plantings, and on how to detect and report the presence of invasives.

Occurrences of listed invasive species and candidates for listing can be reported to the Natural Heritage and Endangered Species Program or the Invasive Plant Atlas of New England (IPANE) project. Invasive plant field forms are available from the web sites of both organizations. Such records are very important in mapping the presence, abundance and geographic spread of invasive species. The IPANE program has a well-organized volunteer network and it organizes group management outings. A staff person at the Native Plant Trust (formerly the New England Wild Flower Society) coordinates these activities.

Wetland areas in Tyngsborough are impacted by two common non-native invasive plants: common reed (*Phragmites australis*) and purple loosestrife (*Lythrum salicaria*). No efforts are underway at this time to control these invasive plants. The Town has initiated a program to address aquatic non-native invasive plants in Lake Massapoag (Tyngsborough, Dunstable and Groton). In addition, Community Preservation Act (CPA) funds are provided annually to help control non-native invasive plants at Lake Mascuppic and should be expanded to include Flint Pond. These management activities should continue in upcoming years.

The Town should do more to promote local agriculture by encouraging: the continued preservation of agricultural lands through APRs and Conservation Restrictions; farm-to-table restaurants; a “buy local” campaign; and community supported agriculture (CSA) The Agricultural Commission should work with local farm owners and the Department of Agricultural Resources to identify a funding source for undertaking a local agricultural plan that addresses agricultural preservation, and the growth of the local agricultural economy. Tyngsborough could collaborate with other nearby communities on this effort, in order to better understand the regional agricultural economy and identify opportunities that extend beyond town boundaries. Supporting the economic viability of agricultural enterprises will be key to their future sustainability.

Understanding the local and regional food systems is important, as farms are moving beyond wholesale growing, and increasing their need for storage, processing, transportation and marketing of products. The Town should consider the adoption of a Farmland Protection Bylaw that would allow agriculturally related accessory uses on active farms over a certain size (e.g. 5 acres), Such accessory uses could include food processing, sale of livestock feed, and event facilities.

A plan is needed to prioritize lands classified under Chapters 61, 61A and 61B for possible future acquisition, so that the Town is prepared to react quickly when these parcels become available for possible acquisition. In addition, the Town should continue to address

those parcels that do not comply with the requirements set forth in Chapters 61, 61A and 61B on an ongoing basis.

## RECOMMENDATIONS

- Adopt a Scenic Road Bylaw and Shade Tree Bylaw, or reference the state’s Shade Tree statute within the Scenic Roads Bylaw.
- Adopt a tree retention bylaw for commercial development projects.
- Develop a forestry management plan for the town-owned properties.
- Study the feasibility of establishing National Register and/or Local Historic District in the Town Center.
- Encouraged historic preservation and restoration projects on both public and private property, and allow CPA funds to be expended on such projects, based on established qualifying criteria. Require a Preservation Restriction when CPA funds are awarded for rehabilitation or restoration of an historic property, in order to protect the Town's investment.
- Promote and market the Town’s historical and cultural resources to foster a greater sense of appreciation and stewardship by: providing plaques for display on historic properties; developing a “self-guided walking tour” of the Town Center; and working with the school department to include a module on town history within the curriculum.
- Continue to work collaboratively with neighboring communities on compliance with the EPA MS4 Stormwater Permit, and develop a long-term financing plan to assist with funding stormwater activities.
- Work with DEP and communities along the Merrimack River to resolve CSO issues that lead to untreated sewage releases during heavy rain events.
- As resources allow, continue to certify the identified pools that remain undocumented, and confirm that the pools serve as breeding habitat for obligate vernal species.
- Establish a “Detection and Response” plan to address invasive plant species. Educate homeowners and the agricultural community on the importance of using native plantings, and on how to detect and report the presence of invasives. Continue to manage aquatic invasives impacting the town’s waterbodies.
- Promote the town’s agricultural enterprises by encouraging: the preservation of agricultural lands through APRs and Conservation Restrictions; farm-to-table restaurants; a “buy local” campaign; and community supported agriculture (CSA).
- Consider the adoption of a Farmland Protection Bylaw that would allow agriculturally related accessory uses on active farms over a certain size (e.g. 5

acres), Such accessory uses could include food processing, sale of livestock feed, and event facilities.

- Work with local farm owners and the Massachusetts Department of Agricultural Resources to identify funding for a local agricultural plan that addresses agricultural preservation and promotes the local agricultural economy.
- Develop a prioritization plan for lands classified under Chapters 61, 61A and 61B, so that the Town is prepared when parcels become available for possible acquisition. In addition, the Town should continue to address parcels that do not comply with the requirements set forth in Chapters 61, 61A and 61B.

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## VIII. FACILITIES AND SERVICES

In Massachusetts, municipalities are responsible for administering and delivering nearly all services. Municipal facilities and services are structured to respond to a community's priorities and desires, in terms of providing a suitable quality of life for its residents. Collectively, public buildings and facilities, land, infrastructure, personnel and financial resources make it possible for the town's employees, boards, committees, and commissions to provide services for residents and businesses, and to conduct the day-to-day business of the Town.

The Facilities and Services chapter of the Master Plan focuses on the capacity of local government to finance and deliver services. A public facility is any Town property that is utilized for a public purpose, such as Town Hall, the library or fire station. It also includes utilities, such as the public sewer infrastructure, parks, playgrounds, and cemeteries. Providing adequate facilities and services depends on the amount of revenue that is available to support local government operations. Tyngsborough's FY 2019 general fund expenditures were about \$41,308,021, which included public safety, education, public works, debt service, and personnel costs, such as health insurance and pensions, as shown in Table 8.1. Capital projects and enterprise fund related items are not included in these figures. The Town's FY 2019 revenues totaled \$41,825,934, as shown in Table 8.2. Over half of the Town's FY 2019 budget was dedicated to education expenses.

As costs continue to grow, state and federal mandates are put in place and inflation takes its toll, the Town will likely find it increasingly challenging to provide expected services and maintain the municipal infrastructure. While Tyngsborough has many dedicated volunteers engaged in several aspects of the town, there are nonetheless unmet needs, including personnel, equipment, infrastructure and property management, that will need to be addressed in the years ahead.

### Facilities and Services Goals

- Develop a comprehensive facilities plan;
- Provide municipal services that meet the needs of all residents;
- Maintain town facilities in a manner that is consistent with best practices; and
- Continue to reduce municipal energy use through innovative programs, renewable energy, and energy efficiency improvements.

**Table 8.1: FY 2019 General Fund Expenditures for the Town of Tyngsborough**

Budget Category	FY 2019 Expenditures
General Government	\$2,148,315
Police	3,480,850
Fire	865,435
Other Public Safety	235,709
Education	21,890,689
Public Works	2,303,389
Human Resources	521,084
Culture and Recreation	494,059
Fixed Costs	6,631,445
Intergovernmental Assessments	1,543,069
Debt Service	1,193,977
<b>Total</b>	<b>\$41,308,021</b>

Source: Massachusetts Division of Local Services, Municipal Databank, 2019

**Table 8.2: FY 2019 Revenue by Source**

Revenues	Total Revenues
Taxes	\$30,648,712
Service Charges	213,177
Licenses and Permits	645,651
Federal Revenue	70,356
State Revenue	8,804,211
Fines and Forfeitures	20,464
Miscellaneous	847,670
Other Financing Sources	40,409
Transfers	535,284
<b>Total</b>	<b>\$41,825,934</b>

Source: Massachusetts Division of Local Services

Tyngsborough received \$8.8 million in State Aid in FY 2019, but still must rely heavily on local property taxes to meet its needs. As Table 8.3 shows, residential properties provide the overwhelming majority of the tax levy needed to operate the Town, with only a small portion of the tax levy provided through commercial and industrial property tax assessments.

**Table 8.3: FY 2020 Tax Classification, Assessed Values and Tax Levy**

Tax Classification	Assessed Values	Tax Levy	Tax Rate
Residential	\$1,556,984,594	\$25,301,000	\$16.25
Open Space	0	0	0
Commercial	\$121,053,428	\$1,967,118	\$16.25
Industrial	\$58,800,400	\$955,507	\$16.25
Personal Property	\$41,326,178	\$671,500	\$16.25
<b>Total</b>	<b>\$1,778,164,600</b>	<b>\$28,895,125</b>	

Source: Division of Local Services, At a Glance Report, 2020

Tyngsborough continues to focus on economic development as a means of increasing its non-residential tax base, and has maintained a unified tax rate. The Town's Standard and Poor's bond rating was AA+ as of July 2020.

## GOVERNMENTAL STRUCTURE

Tyngsborough does not have a charter but like many small towns operates under the general laws of the Commonwealth, special acts of the legislature, and local bylaws. Tyngsborough's legislative power is vested in open town meeting, while executive authority falls to its five-member Board of Selectmen. The selectmen are responsible for setting town goals, establishing policy, managing the affairs of the town, appointing local officials, and ensuring that town government is responsive to community needs. The Board is also the licensing authority for the town and appoints the Town Administrator to oversee the town's daily operations, advise and administer the policies and procedures of the Board, and to enforce Town by-laws and actions passed at Town Meeting.

The Town Hall administrative staff is responsible for managing town personnel, benefits and risk management. These activities include the formulation and implementation of personnel policies, collective bargaining, wage and salary administration, recruitment, and the purchasing of town goods and services. Tyngsborough has many elected and appointed committees and individual office holders, as discussed throughout this chapter.

In 2018, a proposed town charter was voted down by Special Town Meeting. The charter was brought to Town Meeting by the Board of Selectmen and would have replaced the town administrator position with a town manager, established a Department of Public Works, converted the Town Clerk position from elected to appointed, and moved several elected boards and all paid positions to appointed positions.

## PUBLIC BUILDINGS

Tyngsborough owns and manages several buildings and some accessory structures in various locations throughout town. The Town is finalizing an ADA Transition Plan that will address any accessibility issues for the major facilities that are discussed in the following narrative.

### TOWN HALL AND LIBRARY

The existing Town Hall and Library are located in a one-story building at 25 Bryant Avenue which was completed in 1998. The Town Hall area is located on the south side of the building and includes the assessor's office, building department, inspectional department, town clerk's office, selectmen's office, conservation office, tax collector's office, engineering office, health office, media department, parks and recreation department, planning

department, sewer department, treasurer's office, information technology office and two meeting rooms. The Library is on the north side of the building and has a children's area, teen area and a special collections room. Parking is provided in a large parking lot on the west and south side of the building. Accessible parking spaces are located by the main entrance and electric vehicle charging stations are provided on the west side of the lot.

The Town Hall and Library building is now over twenty years old and of sound construction but there are some issues that need to be addressed, such as poor attic insulation and high relative humidity in floor slabs, according to a report prepared by Drummey Rosane and Anderson, Inc. (DRA). The FY 2021 capital request submitted to the Capital Asset Management Committee outlined the need for improvements to many of the building's mechanical systems, including the sprinkler system which has experienced multiple leaks over the past few years. Immediate temporary roof repairs are also needed to address leaks, while total replacement of the roof will be needed over the next five years.

An assessment of the structure conducted by Lavallee Brensinger found that the building exterior is in good condition although all joint sealants have reached the end of their service life. It is recommended that all perimeter and window sealants be removed and replaced to improve water and air tightness. The gutters that were installed to address water drainage issues at rear doors are causing ice damming and subsequent damage to wood trim and roofing. Removal of gutters and installing small roof canopies at these areas to shed water away from exterior doors was recommended.

There is significant demand for additional space at this facility. DRA recommended two additions to the building to meet these space needs at a cost of approximately \$1.5 million. Alternatively, the report stated that relocation of Town Offices to the Winslow School would meet current needs and provide capacity for future expansion at a cost of \$5.3 million. If this option were chosen, the Library could expand and the Recreation Department could relocate to this facility, freeing up the current Recreation Center building for sale to a private entity or for another town use.

Another option considered by Drummey Rosane and Anderson, was to move both the Town Offices and the Library to another location and expand and reuse the existing Town Hall/Library building for a public safety complex.

#### COUNCIL ON AGING/SENIOR CENTER

Constructed in 2014, the Council on Aging/Senior Center building is a one-story facility located at 169 Westford Road. The facility includes a 48-capacity exercise room, an activity room, men's and women's multi-user rest rooms, offices and a dining room.

## LITTLEFIELD LIBRARY

Littlefield Library is located at 252 Middlesex Road just north of the Winslow School. The former town library building was added to the National Register of Historic Places in 1990. In 2019, Town Meeting voted to place a preservation restriction on the building which is held by the Massachusetts Historical Commission.

The library is a single-story building with a basement. All public programming takes place on the first floor as no public access is permitted to the basement level. The first floor includes a single-user restroom, an office, tables, chairs, and books. The main entrance is located on the east side of the building. It is connected to a set of stairs and therefore is not accessible. A ramp on the south side of the building connects to an accessible entrance and egress door on the first floor. Parking is provided in a parking lot on the west side of the Library.

In September 2020, Building Conservation Associates provided the Town with restoration specifications that includes masonry work, roofing, wood preservation and other repairs and restoration activities. Funding for these improvements has been obtained through a grant and the appropriation of Community Preservation funds. Work is scheduled to commence in Spring 2021.

## OLD TOWN HALL

Old Town Hall is located at 10 Kendall Road. The building was originally constructed in 1834 and renovated in 2014. The structure has a ground floor, a first floor and a balcony, and was listed on the National Register of Historic Places in 2005. Old Town Hall is rented out to members of the public and used for municipal events.

The front or north side of Old Town Hall is built into a hill. As a result, the main entrance and egress on the north side is connected to a ramp and provides access to the first floor, while an inaccessible entry and egress door on the building's northeast side provides access to the ground floor. There are also two ground floor egress doors on the building's south side that are accessible. Two accessible parking spaces are available just north of the Old Town Hall on Winslow Road. A crosswalk is provided on Kendall Road, providing an accessible route between the accessible street parking and the accessible front entrance. Parking is also available at the Winslow School and at the First Parish Meeting House. The ground floor of Old Town Hall includes a kitchen, a community room, a single-user restroom, a vault, a mechanical room and a storeroom. The ground level has capacity for 102 people with auditorium seating and for 144 people if standing. The ground floor also has staircases on the northeast, northwest and southeast sides. The first floor includes women's and men's restrooms, a dressing and storage room with a sink, a stage and a

lobby. The first floor has capacity for 120 people with table seating, 150 people with auditorium seating, and 154 people if standing. The stage has capacity for 24 people if seated and for 33 people if standing.

A Limited Use Limited Application (LULA) elevator on the northeast side of the building provides an accessible route to both floors (ground and first floor) and to the balcony. A lift provides an accessible route to the first-floor stage.

#### FIRST PARISH MEETING HOUSE

The First Parish Meeting House, located at 216 Middlesex Road, was built in 1836 and renovated by the Town in 2018. The former church building contains 5,395 square feet of space, and is situated on 0.235 acres of land. The structure is comprised of a basement, first floor and mezzanine area. It is used for public events and can be rented by the public. The steeple houses a Paul Revere Company bell made by Paul Revere's son. The facility has one accessible main entrance on the north side and a stepped entrance on the south side. The sanctuary on the first floor seats 140 people in historic box pews, and the mezzanine overlooking the sanctuary accommodates 20 additional guests. Space for wheelchair accessible seats is provided in the front and back of the sanctuary. The basement contains a bride's dressing room/meeting room, an open area, and multi-user men's and women's restrooms. A Limited Use Limited Access (LULA) elevator and a stair provide access between the basement, first floor and mezzanine. A platform lift provides access to the altar on the first floor.

#### WINSLOW SCHOOL

The former Winslow School property is located at 250 Middlesex Road and consists of 17,570 square feet of space over two floors. The structure was built in 1860 and sits on 5.2 acres. As it lies at the top of a small hill accessed via a long driveway, it is some distance from Middlesex Road.

The former school was the subject of a request for interest put out by the town for potential rehabilitation, conversion, use/or redevelopment. Tyngsboro received four responses which include possible uses as office space or housing; a joint development of a cultural center with family residential housing; renovation of existing property into market rate condominiums; and the conversion of the tennis court into additional public town parking. A Hazardous Materials Report was also prepared for the building, and \$120,000 was dedicated for the removal of hazardous materials at the former school.

The Winslow School is listed on the National Register of Historic Places. Given the historic nature of the property, it has been estimated that restoration and reuse of the building will likely cost \$7.5 to \$8 million dollars.

#### MULTI-USE CENTER/FORMER COUNCIL ON AGING FACILITY

The Multi-Use Center/Council of Aging Facility is located at 180 Lakeview Avenue, Built in 1940, the 4,653 square foot residential-style structure was once home to the Council of Aging offices. The building is situated on a one-acre site directly in front of a softball field. The building has been leased to a private entity that is making needed improvements to the structure.

#### RECREATION CENTER

Located at 120 Westford Road, the Town's Recreation Center is a small commercial/residential style building with two levels and a total interior area of 4,992 square feet. Built in 1985, the building is situated on a long, thin rectangular property of 14.61 acres, most of which is heavily vegetated and inaccessible. The majority of the property area consists of wetlands and/or lies within a floodplain district. Access to the Recreation Center is by way of a low visibility entrance and then along a narrow bituminous driveway approximately 400 feet in length. Surface parking is provided in front of the building for approximately 25 vehicles.

The Recreation and Parks Department operates a number of sports and recreation programs, both at the 120 Westford Road building and at other facilities around the town. The Westford Road building is being leased to a daycare provider.

#### POLICE STATION

The Tyngsborough Police Station is located at 20 Westford Road. The current building no longer meets the needs of the Police Department and the Town has begun to explore the possibility of constructing a new public safety complex. Drummey, Rosane, and Anderson's report offered several stopgap improvements for the existing police station including the following:

- Construct a training room over the current sally port.
- Add an elevator serving all floors.
- Replace the remaining original windows and add security screens to the lower level windows.
- Add central air conditioning.

These measures will not solve the existing space needs for the department. DRA's report also explored the option of relocating the Police Department to the Winslow School but noted concern in addressing the need for a sally port and direct access to a cell block.

## FIRE STATIONS

The Tyngsborough Fire Department serves the Town from three fire stations. Station 1 was built in 1960 and is located at 26 Kendall Road and serves as the department's headquarters and is the only manned station. The structure contains approximately 5,431 square feet of floor area in two levels. It has undergone several additions in the late 1990s, as well as renovations by the Firefighter's Association with donated work and materials. The structure is on a relatively small lot of 0.523 acres. The main building consists of an office area and two vehicle bays that house Engine 1 and Ladder 1. The additions include an office/bunk area at the rear of the building with a small garage under, a garage on the north side for smaller vehicles, and a second restroom. Parking for the building is primarily located at a parking lot to the rear of the building.

The Fire Department submitted FY 2021-2025 capital requests to the Capital Asset Management Committee totaling \$126,000 to improve the functionality of the Kendall Road Fire Station and to address multiple maintenance needs (roof, windows, painting, flooring, furniture, HVAC, appliances, generator, etc.). The requested items also include an Airvac exhaust system to address the ventilation of diesel engine exhaust to minimize the exposure of firefighters to diesel exhaust fumes. In addition, a mobile office trailer was proposed to accommodate firefighter sleeping and resting needs, serving as the living quarters and replacing the existing temporary bunks now set up an administrative space located adjacent to apparatus bay that has the inadequate diesel exhaust system.

The Fire Department has also identified the need for a new, centrally-located Headquarters station, or Public Safety Complex along with the Police Department. The DRA report explored the option of expanding Station 1 but found that the site is inadequate.

Station 2 is located at 144 Lakeview on the east side of the Merrimack River, in a densely populated residential area. Construction by the volunteer firefighters and was completed in 1950. This 2-story building has two apparatus bays on the ground floor and a large room and bathroom on the second floor. The bays are too small for modern fire apparatus and they must be custom ordered to be short enough to fit. The height of the bay doors was raised once in 1996. The Fire Department Strategic Plan includes renovating this station to lengthen the first floor bays and other upgrades for potential twenty-four hour staffing in the future.

The facility is only open to the public once a year. The only entrance is on the south side and is kept locked most of the time. The entrance is also inaccessible due to a 5.5” step. The first floor contains an area for the fire engines. The second floor has a meeting room and an inaccessible single-user restroom. There is no accessible route between the two levels. The current building has physical issues that need to be addressed including exterior wall cracks.

Station 3 is located at 27 Chestnut Road in the southwest, more rural part of the town. This unmanned station was completed in 1978 with a federal Bicentennial grant. It has two large apparatus bays, and a meeting room with kitchenette and single bathroom. An engine and a Tank Truck with 3,000 gallons of water are housed here in an area with no fire hydrants. The building is in good repair. A new metal roof was put on in 2005. The plan is for this to remain an unmanned “Call” station for the foreseeable future.

The one-story building has one entrance at the front of the building on the south side. A door on the east side of the building is not used and is kept locked at all times. Amenities include a parking lot, two equipment bays, a meeting room with a conference table and sink, and a restroom with a single shower. According to the DRA report, the Fire Department tanker is located at this station but should be located at Station 1.

## PUBLIC SAFETY BUILDING OPTIONS

In March 2019, Tecton Architects Inc. conducted a site feasibility study and space needs assessment for the Police and Fire Departments. The space needs assessment analyzed the programmatic requirements for a fire station, police station, and a combined joint public safety facility. Three sites were considered based on usable square footage, topography, existing buildings on the sites and potential for expansion/renovation, future planning options under development. The three site options included:

- 180 Middlesex Road which is owned by Academy of Notre Dame;
- 250 Middlesex Road, the location of the Littlefield Library and Winslow School; and
- 25 Bryant Lane, the location of Town Hall and the Library.

The feasibility study found that the 180 Middlesex Road site is large and flat and could accommodate the town’s programmatic and site needs comfortably, while also allowing for future growth. The negative aspects of the site are the lack of town ownership and site control. The site would have to be subdivided and the Town would need to purchase the area needed for a new public safety facility.

The 250 Middlesex Road site is centrally located and may not be large enough to support either the police or fire needs. Other drawbacks to this option included the steep grades along the Middlesex Road side of the property, and the costs of extensive renovations for bringing the existing buildings up to code and meeting minimum standards for emergency services structures would be cost-prohibitive. A new public safety facility would have to be located behind the existing buildings in a configuration that would not allow for drive-through apparatus bays and the separation of the public entry and prisoner entry.

The 25 Bryant Lane property, while centrally located, has a number of challenges: the building is likely not adequate for meeting emergency service building standards; the site has some steep contours and contains bedrock, making construction costly; and there are wetlands on the west end of the site.

The study offered an opinion of probable costs for the construction of a new police facility of approximately \$16.7 million, while the cost of constructing a new fire station was estimated at \$13.6 million. The cost of constructing a combined public safety facility was calculated at approximately \$22.8 million.

A town committee has been formed to explore options for addressing the need for a public safety complex, and to assess options for addressing the maintenance needs of all town buildings. The Committee's work will continue over the next 12 to 18 months.

## HIGHWAY DEPARTMENT BUILDING

The Highway Department building is located at 89 Kendall Road. The size of current building is adequate but it needs some basic improvements to allow for facilities for both men and women. The DRA report recommends separation of restrooms from the lunchroom, women's restroom and shower, additional workshop storage, an enclosed vehicle wash bay and expansion of the pole barn. Site improvements to provide added parking, stone base for container storage and a new roof over the fuel island storage were also considered.

## SCHOOLS

In 2016, the Town of Tyngsborough engaged Lavallee Brensinger Architects to develop a Comprehensive Facilities Assessment and Capital Spending Plan for the Town's three public schools, the Lakeview School, and the Modular Building located on the Middle-High School campus. The scope was two-fold: (1) perform a physical assessment of the facilities to identify the deficiencies; and (2) develop a comprehensive ten-year Capital Plan for each facility to address needed repairs and improvements.

In general, the assessment found that there is a significant need for ongoing investment in the current facilities. This included additional oversight of recurring maintenance issues, resolution of prioritized projects that have been documented and itemized but not addressed in previous years, additional funding of capital improvements in all facilities, and the repair and/or replacement of building systems that have exceeded their useful life span.

Below is a summary of the recommendations that were put forth for the Middle/High School complex overall:

- **Athletic Field Orientation:** In 2012, a study was conducted by Watermark Environmental to reorient the Varsity Baseball Field and Softball Field to conform with standard design and orientation criteria. The study also recommended an additional lane on the running track, modifications to the existing service drive, underground drainage, and modifications to existing grades. The 2016 assessment found that these recommendations are valid.
- **Service Drive Modifications:** Currently the turns in the service drive that wraps around the back of both schools prohibits access by tractor trailer-sized vehicles making deliveries to the High School loading dock and concession stand. The assessment recommends widening the turns to conform with standard design criteria.
- The assessment also recommended removal of the modular building to open up opportunities to improve access to the athletic fields from the parking lots, improve the visual aesthetics of the area, improve sight lines between the fields, parking and both schools, and provide additional space to enlarge one of the turns in the service road noted in the item above.

Tyngsborough High School is located at 36 Norris Road and houses grades 9-12. The 134,962 square foot building was constructed in 1992. High School specific recommendations within the assessment report include the following:

- Over the long term, sealing and restriping of the parking lot and repairs to concrete sidewalks will be required.
- In general, the building exterior is in good condition although all joint sealants have reached the end of their service life. All perimeter and window sealants should be removed and replaced to improve water and air tightness.
- Concrete repairs were recommended at exterior stairs and the loading dock. In addition, a canopy over the stair access to the basement locker rooms was recommended to mitigate water and drainage issues.
- Replacement of corroding exterior hollow metal frames and doors with aluminum frames and doors was recommended.

- The building interior is in good condition, although most finishes are approaching their expected service life of 25 years. Replacement of ceilings, flooring, and repainting was recommended, along with further investigation of the flooring failure in the Cafeteria.
- Replacement of delaminating plastic laminate counter tops in the restrooms with new solid surface counter tops was recommended.
- Chalkboards throughout the school should be replaced with new marker boards.
- HVAC equipment is approaching the end of its expected service life so replacement of equipment within the ten-year plan was recommended.
- Upgrade antiquated analog phone system to a voice over internet protocol (VOIP) phone system is needed.
- Updating of data wiring to CAT6A cabling was recommended.
- The fire alarm system is no longer compliant with current codes. Upgrading to a fully compliant system in the next 5 years was recommended. A number of updated security measures were also recommended.

Tyngsborough Middle School, located at 50 Norris Road, is a two story-brick veneer building built in 1968. The 80,667 square foot facility is comprised of two separate buildings connected by a one-story walkway at the second floor level. One building houses the gym and Tyngsborough Public School District Offices, while the other houses the Middle School program, including classrooms, auditorium, offices, and the cafeteria. While the building is well maintained, its design and systems do meet the needs or standards of a modern facility. Code changes over the past 50 years have resulted in systems and design aspects, such as accessibility, that do not meet today's codes or standards. The 2016 assessment outlined the following recommendations specific to the Middle School:

- Over the long term, sealing and restriping of the parking lot and repairs to concrete sidewalks will be required.
- Provide an accessible ramp at the entry to the District Offices.
- It was recommended that all perimeter and window sealants be removed and replaced to improve water and air tightness.
- Replace all windows with an insulated energy efficient glazing system.
- Replacement of the roof will be necessary during the 10-year plan period.
- Repair cracking in brick veneer, cement soffits, and steel lintels.
- Interior finishes and doors have exceeded their expected service life of 25 years. Replacement of doors, ceilings, flooring, and repainting was recommended.
- Renovation of all restrooms to meet ADA standards was recommended.
- Renovation and reorganization of the Kitchen and Serving areas was identified as a need.
- Install an automatic sprinkler system.

- Replace water distribution systems and provide all new plumbing fixtures throughout the building.
- With the exception of the relatively new boiler plant, the majority of the HVAC systems have exceeded their expected service life and should be replaced.
- The existing electrical systems have exceeded their expected service life and do not meet current codes. It was recommended that electrical systems throughout the building be upgraded or replaced entirely.
- Upgrade antiquated analog phone system to a voice over internet protocol (VOIP) phone system.
- A number of security recommendations were also outlined.

The Tyngsborough Board of Selectmen and School Committee, Tyngsborough Public Schools submitted a Statement of Interest (SOI) to the Massachusetts School Building Authority (MSBA) detailing the need for a new/renovated middle school building. In December 2018, the town was formally invited into the Eligibility Period for the development of a Core Project at Tyngsborough Middle School. This is the beginning of the MSBA’s grant approval process. A feasibility study is a required by the Massachusetts School Building Authority (MSBA) in order to qualify for state-funded reimbursement for any future building project. It is the first step in determining a long-term solution for schools not currently meeting the state’s educational facility standards.

During the Feasibility Study, the district and its team collaborate with the MSBA to generate an initial space summary based on the district’s educational program, document existing conditions, establish design parameters, develop and evaluate preliminary and final alternatives, and recommend the most cost-effective and educationally appropriate solution to the MSBA Board of Directors. In order to ascertain MSBA input and approval throughout the Feasibility Study process, the district is required to secure MSBA approval of each of the following study reports.

The Tyngsborough School Building Committee was formed as an independent committee to act on behalf of the Tyngsborough School District to initiate, manage, and oversee the Tyngsborough Middle School Feasibility Study in collaboration with the Massachusetts School Building Authority (“MSBA”), the Tyngsborough School District, and the community as a whole. The committee is made up of school committee members, members of the school district administration, Tyngsborough Select Board members, a member of the Tyngsborough Finance Committee, and other community members. The Committee’s goal is to determine the most appropriate solution for the Tyngsborough Middle School. The timeline established by the School Building Committee and its consultants is as follows:

- MSBA kick-off meeting – December 7, 2020
- Submit Preliminary Design Plans to the MSBA – March 29, 2021
- Submit Preferred Schematic Report to the MSBA – July 6, 2021

- Attend Facilities Assessment Subcommittee meetings [as requested] scheduled for July 21, 2021, and August 4, 2021
- MSBA BOD meeting to approve PSR – August 25, 2021
- Submit Schematic Design to the MSBA – February 23, 2022, or similar based on the 2022 MSBA BOD schedule.
- MSBA BOD meeting to approve Schematic Design – April 14, 2022, or similar based on the 2022 MSBA BOD schedule.
- Town Meeting – May 17, 2022
- Town Debt Override – June XX, 2022. TBD

The Tyngsborough Elementary School, located at 205 Westford Road, is a split-face masonry veneer building completed in 2002. The site contains the school building, athletic fields, and multiple playgrounds. The 148,463 square foot facility has multiple levels and two distinct areas. At the north end of the site is a large two-story, sloped roof structure that houses classrooms, the library, and a one story main entrance. There is a rectangular courtyard at the center of the northern half of the building. The southern half of the structure is a one-story area with varying height flat roofs that house the gym, cafeteria, and storage areas. The 2016 assessment provided the following recommendations for the Elementary School:

- In general, the building exterior is in good condition although all joint sealants have reached the end of their service life. It was recommended that all perimeter and window sealants be removed and replaced to improve water and air tightness.
- Replace corroding exterior hollow metal frames and doors with new aluminum frames and doors.
- Replacement of the HVAC systems (boilers, fuel oil systems, chiller, cooling tower, pumps, and air handling equipment) was recommended towards the end of the ten-year plan.
- Upgrade antiquated analog phone system to a voice over internet protocol (VOIP) phone system.
- A number of security recommendations were also outlined.

The Lakeview Elementary School, located at 135 Coburn Road, was constructed in 1954. A classroom wing was added on the west side of the original building in 1961. The site contains the school building, athletic fields, and a playground. The 28,805 square foot facility is a one-story “T” shaped structure. The building is currently leased to Valley Collaborative which uses the facility as an elementary school serving students with a range of cognitive, language and learning disabilities, mental health issues and behavioral challenges. The program has an extended school year and operates through most of the summer months. The Lakeview Avenue School was examined as part of the 2016 assessment and the following recommendations were put forth:

- Provide fully accessible ramps and stairs at building entrances.
- Provide removable bollards at the east and west sides of the building to prohibit vehicular access to play areas.
- Replacement of the roof will be necessary during the 10-year plan period.
- Repair cracking in brick veneer, cement soffits, and steel lintels.
- Interior finishes and doors have exceeded their expected service life so replacement of doors, ceilings, flooring, and repainting was recommended
- Renovate all restroom facilities to be ADA accessible.
- With the exception of the relatively new boiler plant, the majority of the HVAC systems have exceeded their expected service life and should be replaced.
- The existing electrical systems have exceeded their expected service life and do not meet current codes. It was recommended that electrical systems throughout the building be upgraded or replaced entirely.
- Upgrade antiquated analog phone system to a voice over internet protocol (VOIP) phone system.
- A number of security improvements were also recommended.

## OTHER PUBLIC FACILITIES

The Town of Tyngsborough owns other facilities that serve the public. These facilities include many parcels of open space and recreation areas, which are described in more detail in the Open Space and Recreation section of the Master Plan. The Town also owns public cemeteries, which are discussed in the Cultural and Natural Resources section.

## COMMUNITY SERVICES

While buildings and facilities provide physical space for delivering local governmental services, actual service delivery depends on town staff and volunteers. Such people include town employees, firefighters, police officers and election workers. In addition, many committees, boards and commissions rely on a dedicated group of elected and volunteer residents.

## ADMINISTRATION AND FINANCE

The Town Administrator oversees the Town's day-to-day operations with the assistance of the town accountant, tax collector/treasurer, and assessor. Their work is supported and guided by several elected and appointed boards, including the Board of Selectmen, the Finance Committee, the Capital Asset Management Committee, and Board of Assessors. Each of these entities has a specialized or statutory role in financial and administrative policy.

The Town Accountant is responsible for all accounting records relative to town offices and departments, and for preparing and submitting warrants for the payment of bills by the Town Treasurer. He or she is also responsible for the audit of all accounts and records. The Accounting Department is also responsible for record keeping of all financial transactions, payroll and ledgers. The Accounting Department ensures that the Town is in compliance with generally accepted accounting principles, Federal and State Laws, and Town Meeting authorizations.

The Treasurer is the cash manager for the town and is responsible for the deposit, investment and disbursement of town funds. He or she is authorized by Town Meeting to issue debt on behalf of the Town with the approval of the Board of Selectmen. When the Town issues long-term bonds, the Treasurer works with the town's financial advisor, bond counsel and other experts to prepare for the sale.

The Tax Collector is responsible for the collection of all taxes, liens and fees associated with real and personal property, as well as other funds owed to the town, such as fees for permits, licenses, utilities and services.

The Tyngsborough Finance Committee consists of five elected members. The Finance Committee reviews and analyzes the overall budget, and forecasts the Town's financial position for the future fiscal year based on prior trends. They also review funding sources for proposed capital items and make recommendations on Town Meeting warrant articles. All Town Meeting articles that call for the expenditure of funds must be referred to the Finance Committee for its consideration. The Finance Committee must provide a written report of their findings to the community at least seven days prior to Town Meeting. The Finance Committee is actively involved in the budget process and has statutory authority over the Reserve Account. Additionally, the Finance Committee, along with the Board of Selectmen and Town Administrator, vote to occur liability and make expenditures in excess of appropriation for emergency winter-related expenditures and, along with the Board of Selectmen, votes on fiscal year expenditures from revolving funds.

The Capital Asset Management Committee was established under Article XL of the Town Bylaws and is composed of five voting members, consisting of two members of the Board of Selectmen, one member of the Finance Committee, and two members of the School Committee. The members representing the Board of Selectmen, the Finance Committee, and the School Committee are selected by their respective Board or Committee. The Capital Asset Management Committee creates and maintains a capital improvement program, and develops criteria for establishing the priority and scheduling of costly projects, improvements, or equipment purchases. The Town Treasurer and the Town Accountant participate in this process in a non-voting advisory capacity. The Committee

consults with the Finance Committee and develops an annual report containing a recommended capital improvement budget for the following fiscal year, and a capital improvement program for the next five fiscal years. The report is submitted to the Board of Selectmen for consideration.

The Board of Assessors is responsible for the valuation of real and personal property. The Assessor is responsible for maintaining assessments at full and fair cash value and for complying with the Commissioner of Revenue's property revaluation requirements.

Plans and special projects carried out by town committees and boards have an impact on operating and spending decisions, such as projects proposed by the Community Preservation Commission (CPC). The CPC is comprised of representatives from the Planning Board, Conservation Commission, Finance Committee, Historical Commission, Housing Authority, and Recreation Commission, plus three at-large members appointed by the Board of Selectmen. The CPC develops recommendations for the expenditure of Community Preservation Act funds generated from a 3% surcharge on property tax assessments which are matched with state funds. The funds may be utilized for open space and recreation, affordable housing, and historic preservation initiatives. Town Meeting must vote to approve the recommendations put forth by the CPC in order to allocate the funds to the proposed projects.

Since Tyngsborough adopted the Community Preservation Act in May 2001, the Town has generated \$8,005,592 in local surcharges, which were matched with state trust funds of \$4,810,880, for total CPA revenues of \$12,816,472, as shown in Table 8.4.

**Table 8.4: Community Preservation Act Funds Generated (FY 2002- FY 2021)**

Fiscal Year	Local Surcharge	Trust Fund Distribution	Percentage	Total Revenue (Local Surcharge plus Distribution)
2002	\$225,019	-----	-----	\$225,019
2003	\$260,994	\$225,019	100%	\$486,013
2004	\$310,487	\$260,994	100%	\$571,481
2005	\$328,691	\$310,487	100%	\$639,178
2006	\$357,681	\$328,691	100%	\$686,372
2007	\$375,208	\$357,681	100%	\$732,889
2008	\$382,484	\$375,208	100%	\$757,692
2009	\$391,637	\$357,231	93.4%	\$748,868
2010	\$389,922	\$223,756	57.13%	\$613,678
2011	\$391,934	\$174,457	44.74%	\$566,391
2012	\$418,871	\$173,450	44.25%	\$592,321
2013	\$435,091	\$182,982	43.65%	\$618,073
2014	\$447,014	\$360,475	82.85%	\$807,489
2015	\$470,329	\$223,585	50%	\$693,914
2016	\$505,973	\$227,343	48.5%	\$733,316
2017	\$534,279	\$168,913	33.38%	\$703,192
2018	\$563,640	\$148,291	27.81%	\$711,931
2019	\$586,854	\$186,825	33.15%	\$773,679
2020	\$629,483	\$230,881	39.34%	\$860,364
2021	\$0	\$294,611	46.8%	\$294,611
<b>Total</b>	<b>\$8,005,592</b>	<b>\$4,810,880</b>		<b>\$12,816,472</b>

Source: MA Department of Revenue, Division of Local Services - Community Preservation Surcharge Reports

The matching funds from the State have decreased from 100% in 2002 to 46.8% in 2021, due to the increased number of participating communities and the state budget amounts. The recording fees at the Registries of Deeds provide revenue to the statewide CPA Trust Fund and this fee was recently increased from \$20 to \$50, and the fee for municipal lien certificates increased from \$10 to \$25. In recent years, the recording fees have brought in approximately \$24 million annually and it is estimated that total will rise to \$60 million as a result of the new fees. The first distribution to CPA communities that includes the revenue from the new fee structure will be issued on October 31, 2021.

Under state law, the Tyngsborough Town Clerk serves as the official keeper of records, and maintains the roster of registered voters, the jury list, and the annual census. The Town Clerk also records Town Meeting and election votes, organizes and oversees the election process, issues a variety of licenses and certificates, maintains and catalogues records of all town property, serves as the repository of meeting and public hearing minutes of boards and committees, and maintains the official record of decisions by the Planning Board, Zoning Board of Appeals, and others. The Town Clerk submits, bylaw changes to the

Attorney General's office, maintains the Town Bulletin Board, and maintains and updates the list of streets.

## PUBLIC SAFETY

### FIRE DEPARTMENT

The Town of Tyngsborough is protected by a Combination Fire Department comprised of a small on-duty staff with coverage 24 hours a day/7 days a week, and on-call firefighters who respond when there is a need for additional staffing. While some of the firefighters have been hired for full-time hours and others work part-time, all firefighters are considered to be "Call Firefighters" and respond to call backs even when off duty.

The mission of the Tyngsborough Fire Department is "to protect the lives, and preserve the property of the residents, visitors, students, and businesses in the community; and partner with other agencies and businesses contributing to the advancement of the quality of life in the Town of Tyngsborough". This mission is accomplished through a number of programs including the following:

- Emergency response to fires, accidents, and other emergencies;
- Emergency Medical Services;
- Investigation of the origin and cause of fire and explosions;
- Fire prevention preplanning, buildings plan reviews and inspections; and
- Public fire and life safety education.

Given that the greatest number of calls for service are for emergency medical incidents, most municipal fire departments have shifted from being fire service agencies that provide EMS to EMS agencies that provide fire protection services. In addition to responding to fire and emergency medical calls, the fire department is also tasked with responding to other emergencies, such as motor vehicle crashes, building collapse, water and ice rescue, mass casualty incidents, weather related emergencies, and natural disasters.

The Fire Department responded to 1,678 calls for service in 2019, as detailed in Table 8.5.

**Table 8.5: 2019 Fire Department Responses**

<b>Response Type</b>	<b>No. of incidents</b>
Ambulance Responses	1,107
Building Fires	5
Motor Vehicle Fires	8
Outside Fires	6
Other Fires	4
Carbon Monoxide Alarms	24
Other Hazardous Conditions	19
Motor Vehicle Accidents	181
False Alarms	246
Mutual Aid	20
Other	58
<b>Total</b>	<b>1,678</b>

*Source: Tyngsborough 2019 Annual Town Report*

The Tyngsborough Fire Department participates in an active mutual aid response system for fire, hazardous materials, and EMS operations. The Department is a member of Massachusetts Mutual Aid Fire District 6, as well as Border Area Mutual Aid (BAMA), a group of 30 Massachusetts and New Hampshire Fire Departments. Fire District 6 coordinates the mutual aid response of Massachusetts fire departments in the Greater Lowell area. The following services are available through these organizations:

- Centralized communications control center for mutual aid activities;
- Operation of multi-channel radio system for dispatch and coordination of firefighting apparatus and emergency medical units;
- Mobile command and communications vehicle for complex operations;
- Ten alarm running card system for coordination and deployment of apparatus, personnel and other resources;
- Regional hazardous materials response team (funded by the Massachusetts Department of Fire Services);
- Mobile air supply unit for refilling self-contained breathing apparatus at incidents;
- Evacuation and rehabilitation buses;
- Fire safety house trailer for fire prevention and training purposes; and
- Critical incident debriefing team.

## POLICE DEPARTMENT

The mission of the Tyngsborough Police Department is to “enforce the laws of society, maintain order within the community, protect life and property, and to assist the public at large in a manner consistent with the rights and dignity of all persons as provided for by the law under the Constitution of the United States and the State of Massachusetts”. The Police Department is administered by the Chief of Police and one Deputy Chief. It

employees 22 sworn officers, two reserve officers, and 11 special police officers. The Department also employs 9 full-time and part-time dispatchers.

During 2019, the Police Department dispatchers answered 26,298 calls. Table 8.6 details the activities of the Department over that time period.

**Table 8.6: 2019 Police Department Activities**

Activity Type	Calls/Incidents/Activities
Logged calls by dispatch	26,298
Arrests/criminal charges	260
Incident reports generated	1,135
Traffic citations issued	1,497
Motor vehicle accidents investigated	329
Emergency 911 calls	1,369
Business line calls	3,344
Alarms responses	472

*Source: 2019 Annual Town Report*

The Tyngsborough Police Department is a member of the North Eastern Massachusetts Law Enforcement Council (NEMLEC), a non-profit corporation and law enforcement council composed of a consortium of 60+ police and sheriff departments in Middlesex and Essex Counties. Member agencies operate pursuant to an interagency mutual aid and assistance agreement. NEMLEC is a professional organization focused on member needs and priorities, and governed by an elected Board. Member police chiefs actively participate in its operation serving in leadership roles on operational units and committees. NEMLEC manages all aspects of the organization through member meetings, open processes and a comprehensive intranet system.

NEMLEC units are composed of highly trained and skilled officers from member agencies under the command of a police chief. They are a primary source of assistance and support and are available to member police chiefs who activate them in accordance with written protocol. The available units include the following:

- Computer Crime Unit (CCU)
- Motorcycle Unit (MCU)
- Incident Management Assistance Team (IMAT)
- Regional Communications (RC)
- Regional Response Team (RRT)
- School Threat Assessment/Response System (STARS)
- Special Weapons and Tactics (SWAT).

## ANIMAL CONTROL

The Animal Control Officer is appointed by the Board of Selectmen which act as the hearing officers in all matters related to the Town Bylaws. The primary function of the Animal Control Officer is to enforce the Tyngsborough bylaws and the Massachusetts General Laws as they relate to animal issues. Other duties of Animal Control include:

- Barking complaints;
- Barn and kennel inspections;
- Bite investigations;
- Cruelty investigations;
- Licensing and vaccination enforcement;
- Picking up stray dogs;
- Nuisance complaints, and
- Quarantines.

State law requires all animal control officers to receive formal training. They are often the first responders to dangerous and difficult animal incidents, including dog bites, wildlife conflicts, reports of suspected animal cruelty and the handling of exotic pet escapees. Training enables the officers to be more effective at protecting themselves, animals and the public.

## BUILDING DEPARTMENT

People often view inspection officials as development permitting personnel, but inspectional services are primarily a public safety function. Building Department responsibilities include the enforcement of State and local laws, by-laws and regulations. The Department issues permits for all types of construction, including all public and private buildings. They also issue permits for additions and alterations of buildings, for installations of pools, sheds, garages and other improvements to properties. The Building Commissioner is required to perform periodic inspections for businesses and buildings that must obtain a Certificate of Inspection. The Plumbing and Wiring Inspectors also work out of this department. During 2019, 888 building permits were issued which generated approximately \$388,000 in revenue. The Plumbing and Gas Inspector issued 517 and the Wiring Inspector issued 374 permits. In total, the Building Department generated nearly \$453,000 in revenues in 2019.

# PUBLIC INFRASTRUCTURE AND UTILITIES

## SEWER INFRASTRUCTURE

Tyngsborough's wastewater management system was first developed in the 1970s and has continued to expand through subsequent decades. Public sewer currently services 25% of the town. The three-member elected Sewer Commission oversees the implementation of the Town's sewer program. Wastewater treatment is provided at the Greater Lowell Wastewater Utility via connections with Chelmsford, Dracut and Lowell.

The Town received EEA approval of its Comprehensive Wastewater Management Plan (CWMP) in January 2009. The CWMP is a 20-year plan that identifies environmentally sustainable treatment and disposal alternatives that respond to the community's needs while meeting water quality and public health standards. After examining twenty-three (23) study areas in the report, the final plan prioritized six (6) areas of need, as identified below:

- Sewer Phase I East – East of the Merrimack River close to the Hudson, NH border (Sunset Park area);
- Sewer Phase 1 West – West of the Merrimack River in the center of town;
- Sewer Phase 2 – West of the Merrimack River along Middlesex Road
- Sewer Phase 3 – East of the Merrimack River along Frost Road from Lake View Avenue to Sherburne Avenue;
- Sewer Phase 4 – East of the Merrimack River along Pawtucket Boulevard and Sherburne Avenue;
- Sewer Phase 5 – East of the Merrimack River along Althea Avenue and the Dracut line and along Pawtucket Boulevard south of Phase 3 and north of Phase 4; and
- Sewer Phase 6 – West of the Merrimack River off of Middlesex and Farwell Roads.

Until entire sewer program is implemented, the majority of town residences will continue to rely upon Title V on-site septic systems.

Currently, the most extensive sewage collection area in the town surrounds Mascuppic Lake. Sewers were originally constructed in this area in the late 1970s, in response to failing septic systems that were found to be degrading water quality. In 1999 and 2000, a major expansion was constructed to provide sewers to the Norris Road School Complex.

A second sewage collection area is situated along the eastern shore of the Merrimack River adjacent to Tyng's Island. This area is relatively small, accounting for only about twenty connections. West of the Merrimack River, the primary impetus for constructing sewers was to provide the EPA Superfund site at the Charles George Landfill with a means for

discharge of industrial wastewater generated onsite. The majority of sewers in this area lie on Dunstable Road.

Two developers, Maple Ridge Estates Development and Merrimack Landing Trust, extended sewer to their planned affordable housing developments located on Middlesex Road and Old Tyng Road, and more recently additional sewer infrastructure was constructed along Middlesex Road in the Town Center area.

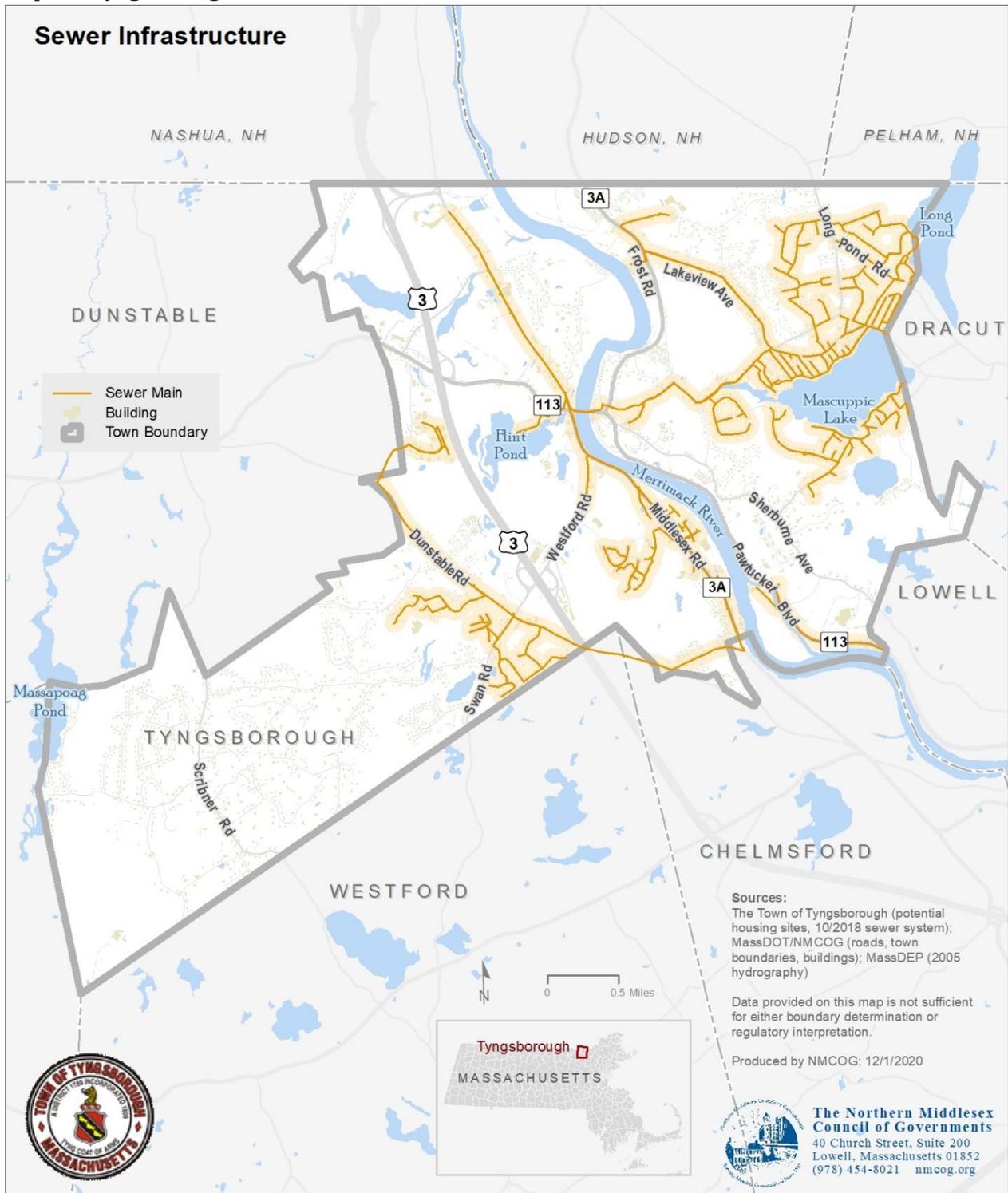
In May 2018, Town Meeting approved the Phase 2 Sewer Project and construction on the project began in the summer of 2019. The project services 57 parcels located in the commercial/industrial area of Middlesex Road and also involves the construction of two pump stations. The project was funded through a revolving loan program by the Massachusetts Clean Water Trust. A MassWorks grant was also secured through the Massachusetts Executive Office of Housing and Economic Development to help fund the project.

Inflow and Infiltration (I&I) continues to be the most costly problem with the sewer system. Infiltration is caused by leaks that allow groundwater or surface stormwater to enter the system. The Sewer Department identified those areas and performed manhole inspections, flow isolations, smoke testing, and camera inspections. Inflow involves the direct dumping of water into the system from sump pumps or other sources.

The Town has three Intermunicipal Agreements with Chelmsford, Dracut and Lowell. The capacity for each is as follows:

- Chelmsford: Tyngsborough is currently granted 350,000 gallons per day (approximately 127,750,000 gallons per year) and with latest data is using approximately 33,614,083 gallons per year, or approximately 26% of the capacity allowed through Chelmsford. With full build out of Phase I West, the town is using a majority of its allowed capacity. The Sewer Commission is currently trying to work with the town of Chelmsford to increase the amount of capacity Tyngsborough is allowed.
- Dracut: Tyngsborough is currently granted 1,000,000 gallons per day (approximately 365,000,000 gallons per year) through Dracut, and with latest data it is using approximately 109,103,248 gallons per year, or approximately 30% of the current capacity available through Dracut.
- Lowell: Tyngsborough is currently granted 80,000 gallons/day (approximately 29,200,000 gallons per year) and with the latest data it is using approximately 7,850,000 gallons per year, or approximately 27% of the current capacity available through Lowell.

Map 8.1: Tyngsborough Sewer Infrastructure

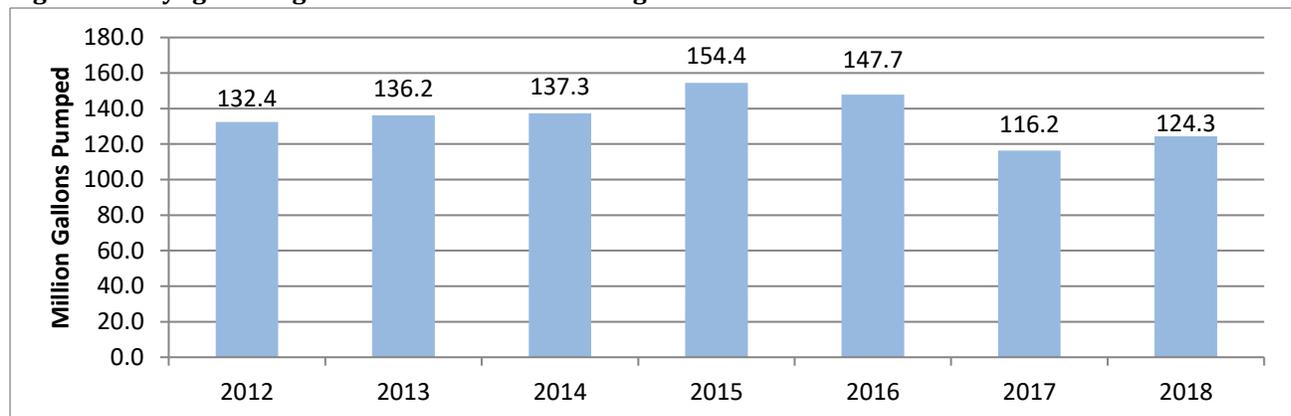


## WATER INFRASTRUCTURE

Approximately 70% of Tyngsborough residents draw their drinking water from private on-site wells. The remaining 30% receive their drinking water from one of three (3) water districts – the Tyngsborough Water District (TWD), Dracut Water Supply District (DWSD) and North Chelmsford Water District (NCWD), which source their water from local aquifers, the Merrimack River and Pennichuck Brook in New Hampshire. Together, these water districts operate a total of six (6) different municipal water systems or service zones. Management of the water supply infrastructure and the related contractual agreements is relatively complex.

The **Tyngsborough Water District** was formed in 1983 when the Charles George landfill contaminated wells that were a major source of drinking water for the neighborhood. The Charles George landfill is now an EPA Superfund site. The EPA constructed a water line from the Lowell municipal water system to provide an alternative water supply. The TWD is the Town's largest water distribution network, and is comprised of three (3) separate water systems. In 2018, the TWD received approximately 110.6 million gallons from the Pennichuck Water Works Corporation of Nashua and approximately 13.6 million gallons from the City of Lowell's water treatment facility. The Pennichuck Water Works treats and filters water from the Merrimack River and Pennichuck Brook, while the Lowell water treatment facility treats and filters water from the Merrimack River. The TWD serves approximately 1,150 connections in Tyngsborough using 22 miles of water mains. The TWD infrastructure also includes the South Mall Road Booster Pumping Station (300 gpm), the Pawtucket Boulevard Booster Pumping Station (600 gpm), and the Flint Corner Water Storage Tank (1 million gallons). The South Mall Road Pumping Station processes 75% of the district's water supply. Figure 8.1 shows the water usage within the Tyngsborough Water District from 2012 to 2018.

**Figure 8.1: Tyngsborough Water District Water Usage: 2012-2018**



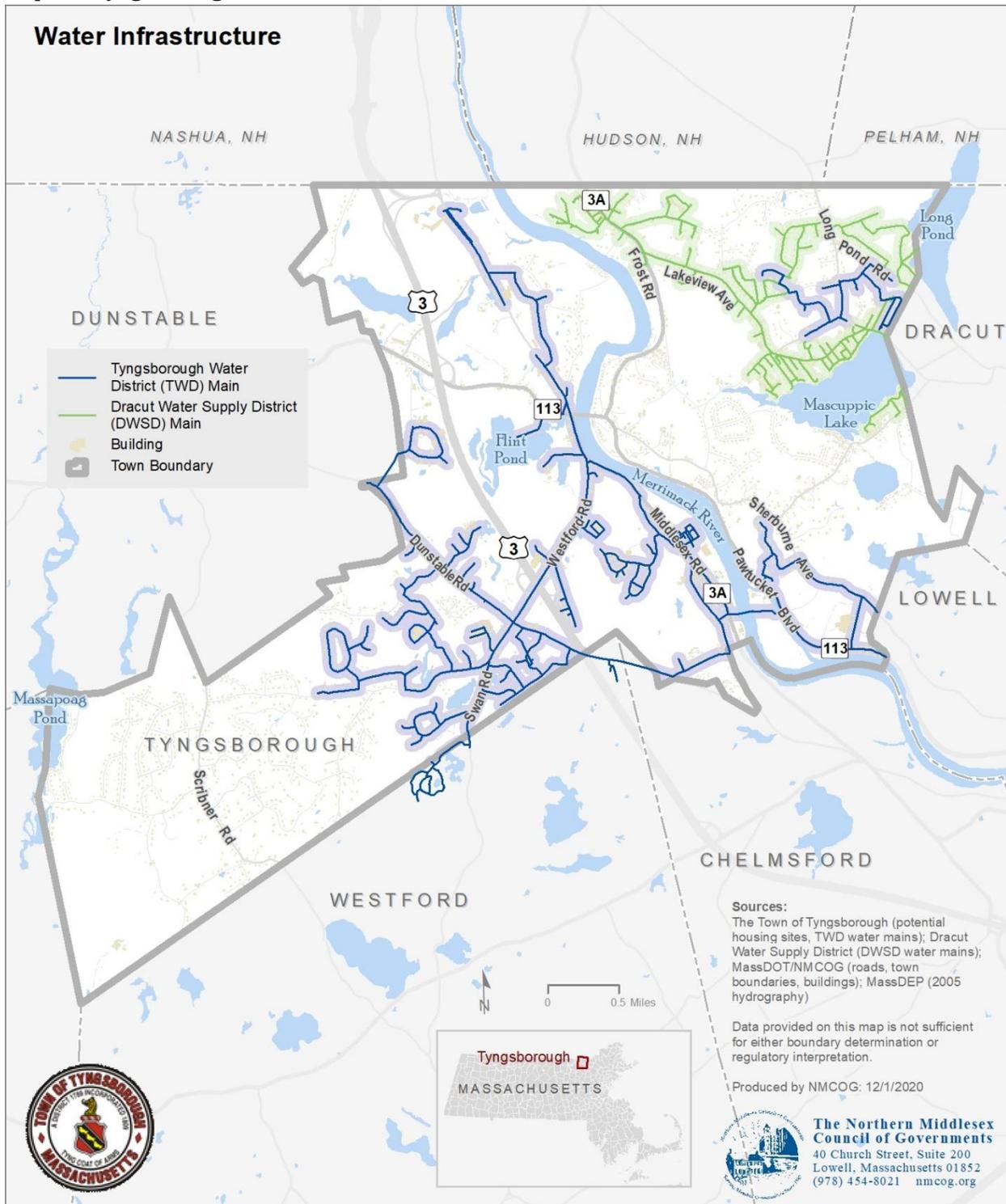
Source: Tyngsborough Water District

TWD submitted an Environmental Notification Form (ENF) for the proposed installation of a one million gallon per day public drinking supply well off River Road. This proposed project would include the construction of a new 15' wide access road to a new 20' by 30' pumping station, as well as the installation of new three-phase power lines to the pumping station building and 1.25 miles of water main to connect the pumping station building to the existing water supply infrastructure. The \$5 million project would allow the district to keep pace with increased demand generated by recent development projects and reduce the volume of water that would need to be purchased from Pennichuck Corporation and Lowell.

The **Dracut Water Supply District** services approximately 900 households in Tyngsborough and provided approximately 57 million gallons of water in 2018. The DWSD is supplied by well fields in Dracut (one well field with two wells) and Tyngsborough (one well field with five wells, located off of Frost Road), as well as supplemental water from a connection to the Lowell Regional Water Facility. The Dracut Water Supply District is in the process of designing a water treatment plant to remove manganese from water originating from the Tyngsborough wellfield.

The **North Chelmsford Water District** services approximately 80 households in Tyngsborough. The North Chelmsford Water District receives its water from six wells located in the Bomil Well Field. The District's distribution system contains more than twenty-eight (28 miles) of water mains ranging in size from 6-inch to 16-inch.

Map 8.2: Tyngsborough Water Infrastructure



## STORMWATER INFRASTRUCTURE

Although most residents are unaware of the Town's stormwater system, the catch basins, outfalls, swales and pipes that handle falling rain and melting snow are part of the Town's infrastructure. Tyngsborough's stormwater system includes an extensive network of pipes and culverts, 2,561 catch basins, many detention ponds, 148 outfalls and 94.5 miles of public streets, as shown on Map 8.3.

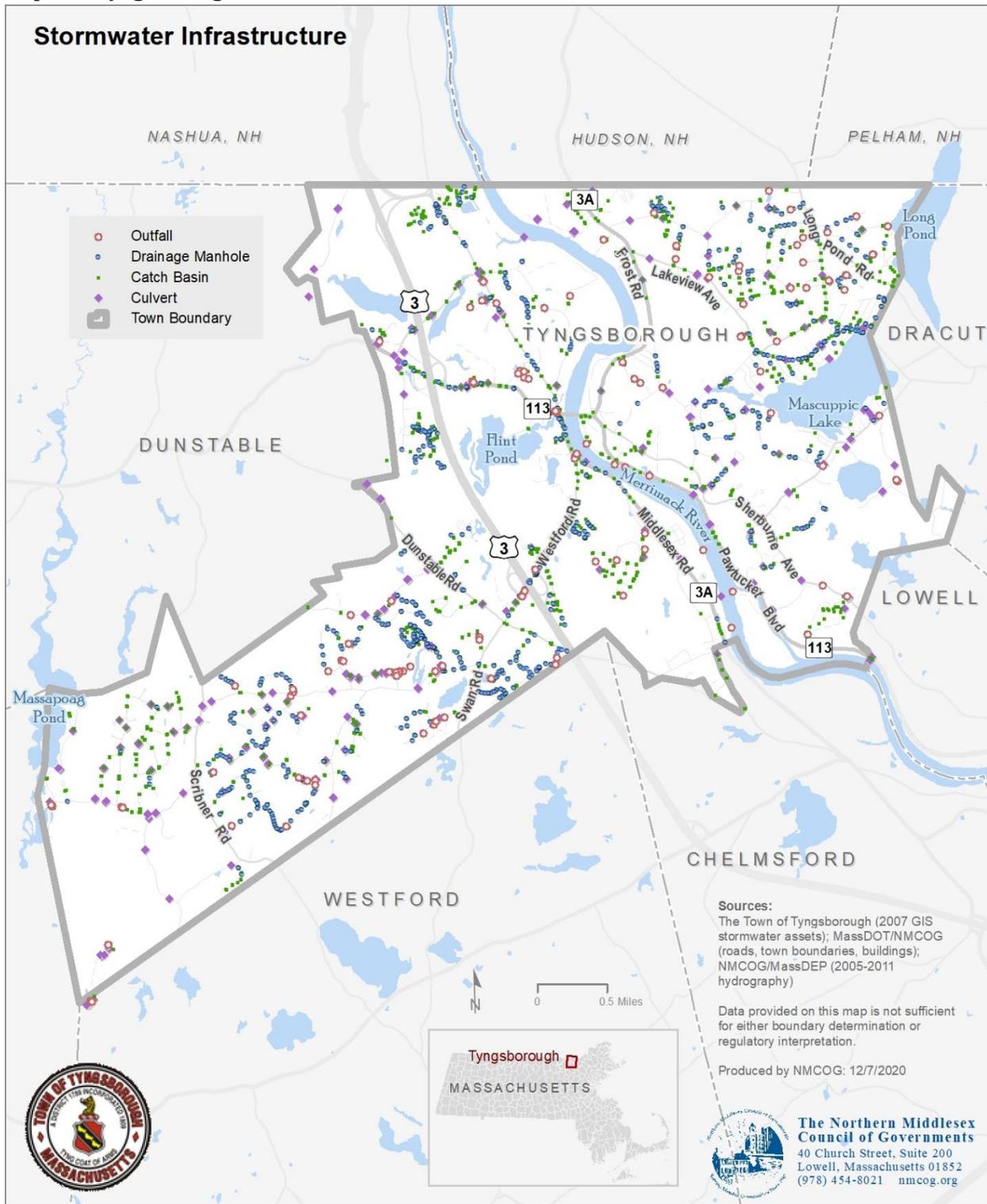
Like most communities in eastern Massachusetts, Tyngsborough is subject to the requirements of United States Environmental Protection Agency's (USEPA's) 2016 National Pollutant Discharge Elimination System (NPDES) Small Municipal Separate Storm Sewer System (MS4) Permit for Massachusetts, also known as the 2016 Massachusetts Small MS4 General Permit. Regulation under the MS4 Permit is required when the residential population in an area (including adjacent densely settled surrounding communities) exceeds 50,000 and is designated as an urbanized area, and if the urbanized area within a municipality has an overall population density that exceeds 1,000 people per square mile. Under the MS4 permit, municipalities must develop, implement and enforce a stormwater management program that controls pollutants to the maximum extent practicable, protects water quality, and satisfies appropriate requirements of the federal Clean Water Act. The MS4 permit requires implementation of six minimum control measures, as described below:

1. Pollution Prevention/Good Housekeeping for Municipal Operations - This measure addresses runoff from municipal operations such as DPW yards, salt storage areas, vehicle maintenance yards, road construction, and includes what practices towns should undertake to operate the stormwater system effectively. Towns must:
  - Develop an operations and maintenance plan for their stormwater system.
  - Train employees on how to incorporate pollution prevention and good housekeeping practices into their activities (e.g., vehicle and building maintenance, salt piles, and catch basin cleaning).
2. Must have an Illicit Discharge Detection and Elimination (IDDE) Program - Illicit discharges are non-stormwater discharges to the storm drain system. Because illicit discharges typically contain bacteria and other pollutants, the MS4 Permit requires towns to develop and implement an IDDE program that includes:
  - A legally enforceable mechanism prohibiting illicit discharges.
  - A storm sewer map identifying the location of all storm drain outfalls.
  - A plan to detect and eliminate illicit discharges.

3. Construction Site Runoff Control - The federal Construction General Permit already requires owner/operators to file a Notice of Intent for construction activity disturbing more than one acre of land. Towns may wish to adopt stricter local rules. Minimum requirements include adoption of:
  - Legally enforceable mechanism to control erosion during construction.
  - Procedures for municipal site plan review of construction projects.
4. Post Construction Runoff Control - This measure requires ongoing stormwater management after construction is completed. Requirements include:
  - Adopt a legally enforceable mechanism to control stormwater after construction.
  - Establish procedures for long-term operation and maintenance of best management practices (BMPs).
5. Public Education and Outreach - Towns are encouraged to form partnerships to distribute educational materials to diverse local audiences within the community as part of a formal public education program. Specific target audiences are outlined within the MS4 permit.
6. Public Participation and Involvement - EPA suggests that communities give the public the opportunity to play an active role in developing and implementing the MS4 program. Towns must comply with applicable public notice requirements and determine the program's implementation goals and strategies.

Compliance with the permit is expected to increase the Town's stormwater costs substantially. Non-compliance is not an option, as it brings the potential for federal regulatory action and fines. The most expensive items include investment in capital equipment, such street sweepers and a vacuum truck and associated staffing; additional stormwater sampling and testing; a robust catch basin cleaning program; additional street sweeping; and stringent monitoring for illegal discharges. The Town is a member of the Northern Middlesex Stormwater Collaborative, which works to assist communities with compliance activities, such as public education, municipal staff training, mapping activities, and procurement.

Map 8.3: Tyngsborough Stormwater Infrastructure



## TRANSPORTATION INFRASTRUCTURE

The Tyngsborough Highway Department maintains more than 94 miles of roadway. The Department's other duties include the following:

- street sweeping;
- sidewalk maintenance;
- line painting;
- erection and maintenance of street signs and traffic signs;
- street opening permits;
- snow removal and roadway treatment;
- catch basin maintenance, drainage pipe maintenance, culvert repair and maintenance;
- management of fuel storage and fuel pump dispensers used by all Town departments;
- Town Beach maintenance;
- lawn maintenance at town buildings, the Town Center, Frost Road Park, and at several intersections and select town fields.

While the Department is staffed by ten employees, including three foremen, it is not headed by a Highway Superintendent nor does the Town have a Department of Public Works.

In 2019, Town Meeting voted to establish a special purpose stabilization fund under MGL Chapter 40, Section 5B to fund roadway maintenance, repair and improvements. The vote also dedicated at least 75% of adult use marijuana excise revenues collected under MGL Chapter 64N, Section 3, to the stabilization fund.

## ENERGY SERVICES AND INITIATIVES

Tyngsborough is a designated Green Community. The state-funded Green Community Designation and Grant Program provides a road map, along with financial and technical support, to municipalities that pledge to cut municipal energy use by 20 percent over 5 years and that meet four other criteria established in the Green Communities Act:

- Allow for the as-of-right siting of renewable or alternative energy generating facilities, research and development facilities, or manufacturing facilities;
- Adopt an expedited application and permitting process of less than one year, for renewable energy facilities interested in locating in a designated renewable zone;
- Purchase fuel-efficient vehicles for municipal use, whenever such vehicles are commercially available and practicable; and
- Minimize the life-cycle cost of all newly constructed homes and buildings by adopting Massachusetts' Board of Building Regulations and Standards (BBRS) Stretch Code (780 CMR 115.AA).

The benefits that Tyngsborough receives through this designation include the following:

- Cut municipal energy costs and strengthen the local economy;
- Access to grants for clean affordable and resilient energy projects;
- Reduced greenhouse gas emissions;
- Promote energy-efficient building construction that drives the market for better built and lower cost homes;
- Foster renewable energy and clean energy technologies; and
- Become a clean energy leader and a better place to live, and work.

The Tyngsborough Community Choice Power Supply Program is a municipal aggregation program. According to Massachusetts law (M.G.L. c. 164, § 134), municipal aggregation enables local government to combine the purchasing power of its residents and businesses to procure an alternative electricity supply. The Town can set its own energy-related goals for the program, including the mix of fossil fuel generated power vs. power generated using renewables. The aggregation program only affects the supply portion of each monthly electric bill and does not affect the delivery portion. National Grid continues to distribute the electricity but First Point Power, through a competitive bid process, was selected as the supplier for the Program. National Grid account holders have the option of opting out of the program. Table 8.7 compares the supply side rates for the aggregation program with those charged by National Grid. These rates are valid through November 2021.

**Table 8.7: Supply Rate Comparison for Aggregation Program and National Grid**

	<b>Tyngsborough Aggregation Program (Supply Services Only)</b>	<b>National Grid Basic Service (Supply Services Only)</b>
Residential	\$0.10692 per kWh	\$0.13957 per kWh
Commercial/Streetlight	\$0.10692 per kWh	\$0.12160 per kWh
Industrial	\$0.10692 per kWh	\$0.11850 per kWh

Tyngsborough has received a gold-level designation through the SolSmart program, a national solar designation and technical assistance program for local governments. SolSmart is designed to distinguish local government leadership in solar processes, programs, and procedures, sending a market signal that designated communities are “open for solar business.” The program is intended to expand local solar markets through technical assistance from national solar experts based on best practices. SolSmart strives to cut red tape, drive greater solar deployment, and make it possible for homes and businesses to access affordable, renewable solar energy to meet their electricity needs.

Tyngsborough has acquired all of the streetlights in town from National Grid, through a grant program administered by the Metropolitan Area Planning Council (MAPC). The streetlights were then converted to high efficiency LEDs. LEDs reduce energy use by 50-

70% as compared to High Pressure Sodium (HPS) lights. Routine maintenance costs are also decreased by 50% or more. LEDs provide more even lighting than HPS lights resulting in fewer over-and under-lit areas. LEDs have a flat, full-cut-off lens that reflects less light into the atmosphere than the curved lenses of HPS lights, and many are certified by the International Dark-Sky Association.

Natural gas service for Tyngsborough residents and businesses is provided by National Grid.

## TELECOMMUNICATIONS

Telecommunication services for Tyngsborough residents and businesses are available through XFINITY (Comcast) and Verizon. According to the website [www.decisiondata.org](http://www.decisiondata.org), 92.7% of residents have access to Verizon fiber. The fastest internet is offered by Verizon is 940 Mbps, which is the fastest available speed for Tyngsborough residential internet providers. Approximately, 7.4% of local customers can get the fastest download speed offered by Verizon.<sup>49</sup>

Table 8.8 shows the percentage of customers who can get the speed listed in the left column. For example, 92.6% of Verizon's customers can purchase download speeds somewhere in the 101 to 250 Mbps range, while 93% of customers can expect the fastest upload speed to be in the same range.

**Table 8.8: Verizon Internet Speeds**

Speed Range	Download Speed	Upload Speed
101 to 250 Mbps	92.6%	92.6%
501 to 999 Mbps	7.4%	7.4%

Approximately 97.5% of residents in Tyngsborough has access to XFINITY (Comcast) cable. The fastest internet service this ISP offers to Tyngsborough residents is 400 Mbps. All local customers can get the fastest download speed offered by XFINITY (Comcast).

The Tyngsborough Media Department has worked with Verizon and XFINITY to activate the town's PEG channels which involved updating the equipment provided by both providers. Pursuant to Section 611 of the Communications Act, local franchising authorities may require cable operators to set aside channels for public, educational, or governmental ("PEG") use. Public access channels are available for use by the general public. Educational access channels are used by educational institutions for educational programming. Time on these channels is typically allocated among local schools. Governmental access channels are used for programming by local governments. The Media

<sup>49</sup> <https://decisiondata.org/tv-internet-by-city/tyngsboro-ma-internet/>

Department is also working to increase the use of social media and various digital over-the-top (OTT) content providers, such as Roku and YouTube.

## SOLID WASTE AND RECYCLING

The Town of Tyngsborough provides curbside trash collection and single stream recycling for its residents through a contract with Republic Service to collect residential trash once a week on Monday. In 2019, Tyngsborough residents generated 3,741.72 tons of solid waste, and 1,078 tons of recyclables were collected.<sup>50</sup> Trash is picked up weekly and limited to a 64-gallon tote.

Recycling is collected every other week on Monday and is limited to a 96-gallon tote. Like other communities, Tyngsborough is working to address the contamination of single stream recycling bins with items such as plastic bags, clothing, and scrap metal. The inclusion of these items lowers the value of the recyclables, adding cost to the program. The Town's solid waste and recycling program is structured to comply with the waste ban imposed by the Massachusetts Department of Environmental Protection. (MADEP). The following items are currently banned from the solid waste stream:

- Asphalt pavement, brick and concrete;
- Cathode ray tubes;
- Clean gypsum wallboard;
- Ferrous and non-ferrous metals;
- Glass and metal containers;
- Lead acid batteries;
- Leaves and yard waste;
- Recyclable paper, cardboard and paperboard;
- Single-resin narrow-necked plastic containers;
- Whole tires;
- White goods (large appliances); and
- Commercial food waste.

Tyngsborough has adopted a bylaw banning single-use plastic bags. The bylaw can be enforced by any police officer, the Board of Health or Licensing Department. Violations carry a fine ranging from \$50 for a first violation to \$200 for a third or subsequent violation.

The Town participated in the Recycling Dividends Program (RDP) which provides payments to municipalities that have implemented specific programs and policies proven to maximize reuse, recycling and waste reduction. The program and policy criteria define

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<sup>50</sup> <https://www.mass.gov/lists/recycling-solid-waste-data-for-massachusetts-cities-towns#municipal-solid-waste-&-recycling-data->

the characteristics of a model municipal recycling program, essentially functioning as a “best practices” framework. Each RDP criterion has a value ranging from 1 to 4 points. Municipalities that earn at least 8 points (out of 26 available) are eligible for RDP payments. Through this program, the Town is able to offer compost bins to residents at a reduced cost.

The Town holds an annual Household Hazardous Waste Collection Day. Residents must pay a fee for this service based on the volume of hazardous waste collected. Typical items disposed of through this service include oil-based paints, fertilizers, insecticides, fuels, and pool chemicals. The Board of Health runs a no-charge mercury collection program throughout the year for items such as thermometers, thermostats, button batteries, and fluorescent bulbs.

The Board of Selectmen established a seven-member Sustainability Committee in June 2019. The Sustainability Committee is tasked with (a) supporting efforts to reduce contamination in the current recycling program and reduce future costs through the consideration of new programs and public outreach, (b) working with town departments to support recycling initiatives at public events and buildings, (c) assisting the Conservation Commission with public engagement and awareness regarding storm water management, and (d) serving as a resource for both town residents and businesses in the areas of improving and implementing waste reduction and energy saving initiatives. The Sustainability Committee has set a goal of reducing household trash generation by 30%.

## PLANNING AND DEVELOPMENT

The Planning Board, Zoning Board of Appeals, Conservation Commission, Board of Health and Historical Commission carry out community planning and development review in Tyngsborough with the assistance and support of town staff.

The Planning Board is responsible for reviewing proposed subdivisions and site plans, and issuing some special permits. The Planning Board consists of five elected members and one associate member appointed by the Board of Selectmen. The duties and powers of the Planning Board are outlined in Chapters 40A and 40 of the Massachusetts General Laws. The Planning Board has the power to regulate the subdivision of land within the town by the adoption subdivision rules and regulations. All Zoning Bylaw revisions must be reviewed and brought forward by the Planning Board, and the Board is responsible for ensuring that development proposals meet the requirements of the Town’s development regulations. The Planning is also charged developing and adopting the Town’s Master Plan in accordance with state statute. In 2019, the Planning Board acted on 11 Special Permit applications and on 3 Approval Not Required (ANR) Plans.

The Zoning Board of Appeals (ZBA) consists of five appointed members and two alternates, The ZBA serves as the special permit granting authority for some special permits and exercises statutory jurisdiction over variances and comprehensive permits. The Zoning Board of Appeals is authorized under Chapters 40A and 40B of the General Laws of the Commonwealth of Massachusetts. In addition to special permits, the Board is empowered to hear appeals on decisions of the Building Commissioner under MGL Chapter 40A, Section 13. During 2019, the ZBA processed 5 variances, 2 special permits, and 2 variance extensions.

The Conservation Commission consists of seven members appointed by the Board of Selectmen for three-year terms. The Board of Selectmen may also appoint **two** voting associate members. The Commission administers the Massachusetts Wetlands Protection Act, MGL c.131 § 40, and the Tyngsborough Wetlands Bylaw, and has responsibility for protecting natural resources. During 2019, the Commission issued following permits and orders:

- 14 Orders of Conditions
- 5 permit extensions for existing Orders of Conditions
- 5 stormwater permits
- 12 Negative Determinations
- 1 extension to a Request for Determination
- 8 Certificates of Compliance
- 1 Partial Certificate of Compliance
- 1 Emergency Certification
- 16 Director's Determinations
- 1 Order of Resource Area Delineation
- 2 Enforcement Orders.

The Conservation Department is responsible for overseeing compliance with the EPA's MS4 permit for stormwater. The Conservation Department also oversees open space properties throughout town, and recently worked with NMCOG to update the Town's Open Space and Recreation Plan.

The Engineering Department provides technical and engineering services on matters related to municipal operations and land use, including assistance to town departments, boards and committees. The Department also hosts and maintains the town's GIS program.

The Cemetery Commission is comprised of three members elected to serve a three-year term. The Commission maintains five cemeteries: Drake Cemetery, Flint Cemetery, Memorial Cemetery, Sherburne Cemetery, and Thompson Cemetery. The Commission

chairman coordinates burials with the Town Clerk and funeral directors. Currently, the Commission is investigating the possible expansion of the Memorial Cemetery.

The Tyngsborough Board Health is comprised of five members elected by popular vote for three-year terms. The mission Board of Health is to protect public health through the enforcement of health codes and regulations, while promoting a healthy community. The Board adopts and modifies regulations to address various public health issues, such as the sale of tobacco products. The Board oversees food and retail establishments, body art facilities, tanning salons, safe and sanitary housing, public beaches, public and semi-public swimming pools, recreational camps, and spas. The Board handles nuisance complaint investigations, manages the town's solid waste and recycling programs, the permitting of drinking water wells, Title V inspections and permitting, and the tracking and prevention of communicable diseases.

The Tyngsborough Board of Health is part of the Upper Merrimack Valley Health Coalition which also consists of Billerica, Chelmsford, Dracut, Lowell, Tewksbury and Westford. The role of the Coalition is to set up an Emergency Dispensing Site (EDS) in the event of a man-made emergency or natural disaster. The Town also belongs to the Merrimack Valley Medical Reserve corps which is comprised of volunteers who may be called upon to assist in the event of an emergency situation.

The Tyngsborough Historical Commission is comprised of seven appointed members that focus on historic preservation, protection and public education relative to the historical or archeological assets of the Town. Under MGL Chapter 40, Section 8D, historical commissions research places of historic or archeological value, cooperate with the state archeologist in conducting research, and may advertise, prepare, print and distribute books, maps, charts, plans and pamphlets which it deems necessary for its work. For the purpose of protecting and preserving historic resources, it may make recommendations to the selectmen and to the Massachusetts Historical Commission, that locations be certified as historical or archaeological landmarks. The Commission is required to report to the state archaeologist the existence of any archaeological, paleontological or historical site or object discovered. The Tyngsborough Historical Commission maintains an inventory of historic structures and pursues projects that promote awareness and appreciation of the town's history and historic resources. The Commission has played an active role in the restoration of Old Town Hall and the First Parish Meeting House, and continues to focus on improving the condition of the Littlefield Library and on scanning and preserving historic records, photos and documents.

The Tyngsborough Affordable Housing Trust was recently established to address affordable housing opportunities. The Board of Trustees consists of 5 to 7 members

appointed by the Board of Selectmen who serve for two-year terms. With approval of the Board of Selectmen, the Trustees may acquire property, sell, lease or transfer, manage and improve property, and make loans or grants that further the creation or preservation of affordable housing. They may also incur debt with approval of the Board of Selectmen and Town Meeting.

## CULTURE AND RECREATION

The Tyngsborough Public Library meets the intellectual, cultural and social needs of the community. The Library is overseen by a six-member elected Board of Trustees that oversees the management and finances, and sets policy for the Library.

In addition to its collection of books, E-books and other reading materials, the Library offers programs for adults, teens and children, and features art exhibits, discount museum passes, technology training, internet access and a café. The Library has a collection of more than 105,000 circulating items and serves nearly 9,000 registered borrowers. Over 5,000 people visit the Library on a monthly basis.

The appointed five-member Tyngsborough Cultural Council administers grants from the Massachusetts Cultural Arts Council, which receives funding through the legislature and the National Endowment for the Arts. Funding distribution is based on a local aid formula devised by the State. Each year, the Council plans programs in the arts, sciences and humanities for the benefit of town residents. In 2019, the Tyngsborough Cultural Council distributed a total of \$5,300 in grant monies to the Library and the Council on Aging for performance and entertainment activities.

The Recreation Committee is an eleven-member appointed body that works with the Recreation Department and volunteers to provide recreational activities and programming for residents. Among the programming are youth sporting events, the Shamrock Ball, the Father-Daughter Dance, a beekeeping class, the Annual Tree Lighting ceremony, the Festival of Trees, and the Party by the Bridge Block Party. The Committee also works on upgrades to the Town Beach, decorates the Town Center, and runs the concession stand at Wicasse Ball Park.

The Recreation Department maintains the town's three athletic fields: Community Center, Bridge Meadow and Wicasse Park, with the assistance of the Highway Department. The Department is also responsible for permitting and schedule the use of all athletic fields. The Recreation Director is a member of the Field Use Committee and oversees the Bicentennial Fields facilities at the elementary school.

Additional information on recreation can be found in the Open Space and Recreation chapter of the Master Plan.

## HUMAN SERVICES

Human services refers to public health and social services provided to residents due to age, income, veteran's status, disability or other special needs. Municipal human service delivery generally focuses on programs for the elderly, public health services, veterans' assistance and tax relief for populations protected by state law.

The Tyngsborough Council on Aging (COA) consists of eleven members appointed by the Board of Selectmen. The COA works to help people aged 60 and over meet the challenges of aging through supportive services, programs, events and education. The Council also strives to assess the health, economic, social and cultural needs of seniors.

During 2019, the COA provided the following services and programs for the town's older residents:

- Transportation for sixty-one senior and disabled residents, totaling 2,661 rides;
- 7,614 meals for 215 clients at the Senior Center;
- Delivered 8,628 meals to 57 clients through Meals on Wheels;
- Attracted an average of 71 people to various recreation and social activities;
- Wellness and fitness programs served 10,735 participants;
- Provided 276 bags of food through the Food Bank for 23 seniors/residents; and
- Over 6,000 hours of service were provided through 76 volunteers.

The COA staff relies on volunteers who work with paid staff. Among other services provided through the COA and its partners and affiliates are information and referrals relative to housing, home care and adult day care, guidance on Social Security, insurance counseling, lending of medical equipment, grief support, home visits, and wellness checks.

The Town offers senior property tax relief and an abatement program that allows interested taxpayers age 60 and older to contribute public service hours in exchange for a tax credit of up to \$1,000. The State also requires that cities and towns provide certain types of financial assistance to veterans, the blind, surviving spouses and the elderly. The types and amounts of assistance vary by program and are fully reimbursed by the State.

Each community must appoint a Veterans Agent to help veterans and their dependents with financial, medical or burial benefits. The State reimburses 75% of eligible expenditures through the cherry sheet. Tyngsborough has a full-time Veterans Agent who

has regular office hours at Town Hall. The Department of Veterans' Services oversees a state assistance program based on need, which provides financial, medical, and service benefits to veterans and their dependents. The Veterans Agent administers its main financial and medical assistance programs. The office also offers assistance and referrals in the areas of federal compensation and pensions, fuel, state and federal educational benefits, tax exemptions, annuities, housing, home loans, counseling and job training.

In 2019, the Board of Selectmen appointed the Town's first Commission on Disability. The Commission is tasked with the following:

- Researching local problems of people with disabilities;
- Advising and assisting municipal officials and employees in ensuring compliance with state and federal laws;
- Coordinating and carrying out programs designed to meet the problems of people with disabilities in coordination with programs of the Massachusetts Office on Disability;
- Reviewing and making recommendations about policies, procedures, services, activities, and facilities of departments, boards and agencies of the Town as they affect people with disabilities;
- Providing information, referrals, guidance and technical assistance to individuals, public agencies, businesses and organizations in all matters pertaining to disability; and
- Coordinating activities of other local groups organized for similar purposes.

The Commission on Disability has also established a partnership with the Council on Aging to raise awareness and remove the stigma associated with Alzheimer's Disease and related dementias. Toward this end, the Town is pursuing a Dementia Friendly designation through the Massachusetts Dementia Friendly Initiative.

The Tyngsborough Housing Authority (THA) consists of a five-member members serving staggered five year terms. Four of the members are elected by the town's voters and one member is appointed by the Governor. The Housing Authority is responsible for all public housing programs in Tyngsborough. Currently the THA manages 88 senior units, 4 congregate units, 18 family units and 8 units for Department of Developmental Services clients.

## EDUCATION

The Tyngsborough School Committee consists of seven members who are elected to overlapping three-year terms. The Educational Reform Act in 1993 vested the School Committee with the following powers:

- Establish educational goals and policies for the schools in the district consistent with the requirements of law and statewide goals and standards established by the Board of Education;
- Review and approve budgets for the Tyngsborough Public School System; and
- Select, evaluate, and, if necessary, terminate the Superintendent.

The School Committee evaluates the effectiveness of policies and implementation, and serves as the employer for the district for collective bargaining purposes. The Superintendent is charged with the day-to-day administration and oversight of the town’s public schools.

Tyngsborough offers three options for educating its student population: Tyngsborough Public Schools (grades K-12), Greater Lowell Technical High School (specialized vocational education for grades 9-12), or local charter schools. A total of 1,561 students are enrolled in the Tyngsborough School District.

**Table 8.9: Tyngsborough Public School Enrollment (2020-2021)**

School	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	Total
Tyngsborough Elementary	22	98	110	124	113	146	110	0	0	0	0	0	0	0	<b>723</b>
Tyngsborough High School	0	0	0	0	0	0	0	0	0	0	96	108	126	115	<b>445</b>
Tyngsborough Middle School	0	0	0	0	0	0	0	119	149	125	0	0	0	0	<b>393</b>
<b>District</b>	<b>22</b>	<b>98</b>	<b>110</b>	<b>124</b>	<b>113</b>	<b>146</b>	<b>110</b>	<b>119</b>	<b>149</b>	<b>125</b>	<b>96</b>	<b>108</b>	<b>126</b>	<b>115</b>	<b>1,561</b>

Source: <https://profiles.doe.mass.edu/statereport/enrollmentbygrade.aspx>

Student enrollment in the district has declined 17% since 2007. With the greatest declines in grades pre-K to 5. The Town of Tyngsborough has exceeded its net school spending requirement in 2017 and 2018. The District’s per pupil spending in 2018 was \$ \$14,929.51 according to the Massachusetts Department of Education.

## PUBLIC INPUT

Question 4 of the written Master Plan survey asked respondents to rate the quality of municipal services as being either excellent, good, fair, or poor. The results are summarized as follows:

- The majority of respondents (68%) indicated that the Town Hall services are either excellent (16%) or good (52%), while 18% indicated that they are fair and only 1.86% felt that they are poor.
- In rating the schools, 21% of respondents indicated that schools are excellent, 38% stated that they are good, 10% felt that they are fair, while 3% indicated that they are poor.
- Over half of the survey respondents (64%) were unfamiliar with elder services and unable to rate this item. Of those who were familiar, 19% rated elder services as excellent, 61% rated the services as good, while 16% indicated that they are fair, and only 4% felt they are poor.
- Tyngsborough residents think highly of the library, with 29% rating it as excellent, 49% indicated it is good, while 6% rated it as fair and only one person indicated that it is poor.
- Overall, respondents are pleased with the public safety services in Tyngsborough, with 47% indicating that the services are excellent and 43% indicating that they are good, while 4% stated that are fair, and only one person felt they are poor.
- Over half of the respondents (57%), were unable to rate code enforcement. Of those who provided a score (199 respondents), 18% rated code enforcement services as excellent, 63% rated the services as good, while 15% indicated that they are fair and 4% felt they are is poor.
- The majority of respondents were unfamiliar with Veterans Services (75%). Of those who were familiar, 17% rated the services as excellent, 67% stated that they are good, while 12% indicated they are fair and 4% felt that they are poor.
- In rating the town's website, 14% of the respondents indicated that it is excellent, 49% indicated that it is good, while 23% stated it is fair and 7% felt it is poor.
- Only 3% of the respondents felt that road maintenance is excellent, 15% indicated that it is good, while 34% indicated that it fair and 46% rated it as poor.
- In rating trash collection and recycling services, 29% indicated that it is excellent, 49% stated that it is good, while 14% stated it is fair and 5% felt it is poor.
- Just over half (52%) of respondents were unable to rate animal control services. Of those who were familiar with the services (152 respondents), 23% indicated that the services are excellent, 52% indicated that they are good, while 16% stated they are fair, and 9% felt they are poor.
- Half of survey respondent were unable to rate sewer service given the limited service area in Tyngsborough. Of those who were able to respond (153

respondents), 17% indicated that sewer service is excellent, 52% stated that it is good, while 17% indicated it is fair and 12% felt it is poor.

In responding to Questions 6 and 7, respondents favored the Town prioritizing the following items related to facilities and services:

- Improving and repaving roadways;
- Adopting energy efficiency and renewable energy initiatives;
- Adding sidewalks and trails;
- Increasing bicycle and pedestrian accommodations; and
- Improving/expanding sewer infrastructure.

The first Master Plan Visioning Session was held at Old Town Hall on January 9, 2019. During the session, public input was generated through the use of a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis exercise. Participants identified the following as the Strengths, Weaknesses, Opportunities and Threats related to Facilities and Services.

Strengths:

- Excellent school system; many options for schooling;
- Excellent police department/low crime rate;
- Sewer coverage/infrastructure;
- Use/reuse of historic properties (Old Town Hall, First Parish Meeting House);
- Active public library;
- Excellent fire protection; and
- Active town boards.

Weaknesses:

- Roadway conditions;
- Tax rate;
- Lack of town water and sewer;
- Lack of sidewalks;
- Lack pedestrian facilities;
- No organized DPW;
- Lack of arts/cultural activities for youth;
- Limited social/cultural facilities;
- Need for new public safety building;
- Lack of public transportation;
- Town Center is not walkable; and
- Lack of parking in Town Center;

Opportunities:

- A Town Center that is alive with arts and culture;
- Reuse/redevelopment of the Winslow School;
- Reuse, revitalization and recreation of the Town Center;

- Connecting Town Center properties;
- Preservation of historic Town Center buildings;
- Additional tax revenues;
- Make Tyngsborough a destination;
- Develop a town facilities plan by assessing the condition of all town properties and addressing the need for maintenance and repairs;
- Implement environmentally friendly energy programs (solar) in new buildings

#### Threats:

- Overdevelopment/traffic from new development;
- Power interruptions;
- Poor roadway conditions;
- Lack of opportunities for young people;
- Tax increases due to strain on infrastructure;
- Resident apathy; and
- Loss of quality of life.

## ISSUES AND OPPORTUNITIES

In every community, the demand for public services is driven by changes in household types, demographic and age shifts, household income, and the expectations of residents. Furthermore, state and federal mandates related to education, public safety, public health and environmental protection often impact decision-making, in terms of where financial resources must be or should be invested. When growth in demand and changes in need create cost increases without a corresponding increase in revenue, communities find it extremely challenging to finance improvements and maintain the quality of services that residents have come to expect. Like most communities in Massachusetts, Tyngsborough relies on property tax revenues to meet its budget needs, and has focused on economic development in order to increase its non-residential tax base.

Tyngsborough does not have a charter and operates under the general laws of the Commonwealth, special acts of the legislature, and local bylaws. A charter is a written instrument adopted under the provisions of chapter 43B which establishes and defines the structure of town government and which may create local offices, distribute powers, duties and responsibilities among local offices, and establish and define certain procedures to be followed by town government. The Home Rule Amendment to the state's constitution provides several routes for preparing or revising a charter. The most common are electing a home rule charter commission, or petitioning the state legislature for special legislation (also known as a home rule petition).

Under the first option, Chapter 43B of the Massachusetts General Laws provides a specific framework, timeline, and set of responsibilities for the charter commission's work. The

commission has a maximum of 16 months to produce a preliminary report, and a maximum of 18 months to produce a final report. Under the second option, the "home rule petition" route leads to what is often referred to as a "special act charter." Section 8 of the Home Rule Amendment provides that towns may use a "home rule petition" to achieve change in structure. Whenever a town seeks to adopt a charter pursuant to the Home Rule Procedures Act (General Laws, Chapter 43B), the proposed charter must be submitted to the Attorney General for her opinion as to the consistency between the charter and state law. The Attorney General has 28 days in which to make this determination.

In 2018, a proposed town charter was voted down at Special Town Meeting and had proposed a number of changes to the structure of town government, replacing the town administrator position with a town manager, establishing a DPW, and converting a number of positions from elected to appointed. Going forward, the Town should reexamine the need for a charter. Based on the previous work of the Charter Review Committee. The following issues should be considered:

- The need for a Town Manager to oversee the day-to-day operations of the Town;
- The establishment of a Department of Public Works managed by a DPW Superintendent;
- Reexamination of the appropriate roles and missions of town committees and boards, with consideration given to statutory requirements, preventing potential conflicts of interest, and avoiding duplication of effort;
- Establishment of a plan that ensures the sustainability and adequate management of the town's cemeteries now and in the future;
- The need to clearly outline and document personnel management and reporting responsibilities for town employees in all departments, in an efficient and equitable manner; and
- The need to create or update job descriptions and detailed personnel regulations for all town employees.

Even if there are no agreed upon structural changes to town government, there is nonetheless value in documenting the structure, powers, and responsibilities of the town's governmental entities as they function today within a town charter. With the exception of Dunstable, Tyngsborough is the only community within the Northern Middlesex region not operating under a charter.

It is clear that there is a significant demand for additional space within Town Hall and the Library. Studies have put forth a number of options for moving Town Hall to another location and for dealing with the space demands of some departments by renovation and reuse of various town properties, such as the Winslow School. As the town continues to

grow and the demand for services increases, the need to address this issue will become more urgent. In addition, there are several capital improvements also needed at various municipal buildings, as discussed earlier in this chapter.

The Town does not have a structure in place to coordinate or centralize facilities management and maintenance. Currently, maintenance is handled by town employees who are not necessarily facilities experts. Facilities maintenance should encompass all town-owned buildings, including the schools, in order to maximize efficiencies and cost savings. A plan should be developed to establish a facilities maintenance position that is responsible for all municipal properties and buildings. A full-time facilities manager is employed by the School Department, but an individual is needed for overseeing the centralized maintenance of other town-owned properties. The Town and the School Department should collaborate and explore options that would address the facilities maintenance needs of both entities as efficiently and cost effectively as possible. The Town should continue to address maintenance needs and improvements outlined for the town's schools in the 2016 assessment and ten-year capital plan. In addition, the School Department should continue to work with the MSBA on the middle school project.

A number of studies of Tyngsborough's public safety facilities have been undertaken over the past few years. The current police station no longer meets the needs of the police department, and there are extensive improvements needed for the Fire Department Headquarters located on Kendall Road, as discussed earlier in this chapter. The Town should continue its examination of options for establishing a public safety complex to serve the future needs of the community.

The Town recently completed a Transition Plan to address ADA accessibility issues on town-owned property and at town facilities, as discussed earlier in this chapter. The Town should pursue grant opportunities to move forward with the recommendations outlined in the Plan. Community Preservation Act funds can also be utilized from implementing ADA-related improvements at recreation and open space facilities, and as part of an historic preservation project. The Town is pursuing a grant to implement improvements in the town center near the falls, and is creating an ADA compliant trail as part of the Long Pond trail system.

Tyngsborough's sewer infrastructure program continues to benefit the town from both an economic development and environmental perspective. The Sewer Commission should continue to work with the Board of Selectmen to advance future phases of the program by pursuing grants for design and construction initiatives. The Sewer Commission should also continue to address Inflow and Infiltration issues within the system.

Tyngsborough has taken significant steps toward compliance with the new EPA MS4 permit requirements. Over the next few years, the cost of permit compliance will continue to increase. In order to have the needed resources to continue compliance, the town will need to develop a financing plan for the stormwater program.

Tyngsborough is currently working to address contamination of its recycled materials in order to lower the cost of its recycling program. Public education on new recycling requirements that reflect the evolving market for recyclables will be needed on an ongoing basis in order to effectively manage the program costs. Tyngsborough would also benefit from a composting program that would remove organic items from the solid waste stream, thereby reducing trash collection costs and tipping fees. A food composting program should be studied for use by the schools and the Senior Center.

Like most surrounding Massachusetts communities, Tyngsborough receives its electrical service and natural gas service through National Grid. The Town has experienced difficulties with the service provided to the community during power outages created by severe storms. In addition, the time required for National Grid to relocate utilities for roadway construction and development projects is not acceptable, nor is the time that it takes to connect new businesses to the electric grid or natural gas infrastructure. Tyngsborough officials should work with surrounding communities and National Grid officials to resolve these issues.

The Town should continue to address the condition of its roadways, as discussed in greater detail in the **T**ransportation **C**hapter. In addition, future improvements should include sidewalks and bicycle accommodations, where possible. The public input gathered for the Master Plan shows extremely strong public support for these initiatives. Tyngsborough's Highway Department handles many duties that typically lie outside of the roadway network and are more typical of a Department of Public Works. As the town continues to grow, it is expected that these duties will increase. The Town should consider creating a DPW, or at a minimum, a Highway Superintendent position should be established.

As a Green Community, Tyngsborough has implemented a number of energy initiatives over the past several years. The Town should continue to pursue energy efficiency and renewable energy improvements in town buildings as resources permit.

## RECOMMENDATIONS

### **Develop a Comprehensive Facilities Plan**

- Address the maintenance needs and recommendations identified for town-owned buildings, schools and facilities.
- Establish a centralized facilities maintenance department that is responsible for all town-owned properties.
- Implement the recommendations detailed in the ADA Transition Plan.
- Address the public safety building needs through the development of a public safety complex.
- Continue to work with the School Department and the MSBA on the middle school project.
- Address the space needs for the Town Hall and Library.

### **Develop a Comprehensive Infrastructure Plan**

- Implement future phases of the Town's sewer program as resources become available.
- Develop a financing plan to fund compliance with EPA's MS4 stormwater permit.
- As a means of reducing the town's solid waste collection and disposal costs, provide ongoing public education regarding the recycling program, implement a composting program, and consider implementing a food composting program for the schools and the Senior Center.
- Continue to improve the condition of the town's roadways, and construct additional sidewalks and bicycle accommodations where feasible, as funding allows.
- Implement an updated Government Structure
  - Bring forward to Town Meeting recommendations from the Government Study Commission to update the government structure.
  - Consider the need for a town charter in the future
- Work with neighboring communities and National Grid officials to improve the response time for power outages, and reduce the timeframe required for utility relocations and connections.
- Pursue energy efficiency and renewable energy initiatives for town-owned buildings, facilities and schools.

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# IX. CLIMATE CHANGE RESILIENCY

## INTRODUCTION

The Climate Change Resiliency chapter of *Tyngsborough's Master Plan* provides a discussion of the anticipated effects of global climate change on Tyngsborough as well as recommended preparation and response at the municipal level. This chapter also discusses weather-related threats (e.g., intensity of storms and droughts) as well as local vulnerabilities (e.g., at-risk populations and infrastructure). Tyngsborough, through the Municipal Vulnerability Preparedness (MVP) program, received grant funding to begin the process of planning for climate-change resiliency that was used, in part, to fund the development of this chapter of the Town's master plan.<sup>51</sup>

Climate change has already altered average annual temperatures, seasonality, and the intensity of storms, wind, and rainfall. These trends are predicted to continue in the future. The rate of change will depend largely upon the global community's ability to curb greenhouse gas emissions; however, with the increasing awareness and knowledge that climate change will alter and affect so many facets in the community, Tyngsborough has decided to dedicate a chapter of the 2021 Master Plan to climate resiliency. To effectively prepare, the Town will need to act decisively with a cohesive strategy to make inroads. Resilience ensures that the critical systems, residents, the economy, and natural resources are

## CLIMATE CHANGE RESILIENCY GOALS

- Develop programs and mitigation measures in the high-risk areas;
- Protect critical infrastructure and essential services from disruption;
- Incorporate climate adaptation strategies into all Town departments and boards;
- Incorporate climate adaptation and hazard mitigation measures into policy;
- Stay up to date on emerging risks associated with climate change;
- Plan for all phases of the emergency management cycle;
- Increase awareness and provide resources related to climate change and adaptation;
- Identify funding opportunities specific to hazard mitigation and climate adaptation projects;
- Increase the Town's capacity for responding to a natural or climate hazard event through coordination with other private sector, nonprofit, and government entities.

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<sup>51</sup> In 2019, the Town of Tyngsborough was awarded a Municipal Vulnerability Preparedness planning grant by the Commonwealth of Massachusetts. This grant is allowing the Town to develop local plans to address climate change and natural hazards of which, addition of a climate change chapter to the master plan is one element. By participating in this planning process, the Town also becomes eligible for action grants to implement the recommendations of its planning.

better positioned to recover after facing adversity. Climate resiliency has implications for each chapter of the Master Plan; however, we have condensed them into a single chapter to make Tyngsborough's plans for climate change cohesive.

## WHAT IS CLIMATE CHANGE?

According to the *Massachusetts State Hazard Mitigation and Climate Adaptation Plan* (2018), climate change is defined as “statistical changes of [climate] properties that persist for an extended period” (p. 3). The climate of the Earth changes constantly, although typically over many centuries and millennia. Geologic records from approximately the last one million years indicate a general pattern of 5°C (approximately 9°F) temperature variation over each 100,000-year period:

Over the past million years, Earth's globally averaged surface temperature has risen and fallen by about 5°C in ice-age cycles, roughly every 100,000 years or so.

(Australian Academy of Science, 2019,  
<https://www.science.org.au/learning/general-audience/science-climate-change/2-how-has-climate-changed>)

Fossil records show that changing temperature patterns correlate with significant changes in regional weather while plants and animals slowly evolve to new conditions. Thus, there is relative stability from year to year and decade to decade. In the last century, however, climate scientists have measured global temperature change that appears to be occurring many times more rapidly than the average.

Climate and sea level were relatively stable over thousands of years of recorded human history up to the 19th century, although with some variations. However, globally averaged near-surface air temperature rose by around 0.8°C between 1850 and 2012 [*about 1.44°F in 162 years*]. The rate of warming increased in the mid-1970s, and each of the most recent three decades has been warmer than all preceding decades since 1850. The last decade has been the warmest of these.

(Australian Academy of Science, 2019,  
<https://www.science.org.au/learning/general-audience/science-climate-change/2-how-has-climate-changed>)

Climatologists have observed that change in global temperature—in the last century and over the past 1,000,000 years—correlates closely with the concentration of carbon dioxide in the atmosphere. In the last 100 or so years, concentrations of carbon dioxide have risen very suddenly as a result of industrialization.

**According to the National Aeronautics and Space Administration (NASA)**

Most of the current warming trend is extremely likely (greater than 95 percent probability) the result of human activity since the 1950s and is proceeding at an unprecedented rate over decades to millennia. (NASA, 2019, <https://climate.nasa.gov/resources/global-warming-vs-climate->

Based on current and predicted concentrations of carbon dioxide, climate models predict even more rapid rise in average global temperature through 2100 than occurred last century. For example, the Intergovernmental Panel on Climate Change (IPCC) predicts average global temperature to increase by about 1.5°C (about 2.7°F in 80 years) by the end of the century (IPCC, 2018, <https://www.ipcc.ch/sr15/>), which assumes leveling of human-generated carbon dioxide inputs by midcentury. Tyngsborough can anticipate impactful effects (e.g., natural hazards, extreme weather, etc.).

**“If you don’t like the Weather in New England, Wait a few Minutes,” Mark Twain**

**According to NASA**

**Weather** refers to atmospheric conditions that occur locally over short periods of time—from minutes to hours or days. Familiar examples include rain, snow, clouds, winds, floods, or thunderstorms.

**Climate**, on the other hand, refers to the long-term regional or even global average of temperature, humidity and rainfall patterns over seasons, years, or decades.

*A general rise in the local risk associated with bad storms and weather may result from global changes in climatic conditions.*

## PURPOSE AND NEED

In part, climate change is predicted to alter average annual temperatures, seasonality, intensity of storms—especially wet weather—and general weather patterns. Climate change is also likely to increase the size and intensity of natural disasters such as severe windstorms, cyclonic depressions (e.g., hurricanes), and nor’easters. The makeup of the Town’s flora and fauna will probably change along with the climate, which will probably include an influx of invasive plant, insects and other animals that tend to displace native species and may begin to dominate the ecology. Although the types and intensity of change remain uncertain, some climate models predict potent changes as soon as the next decade. If the Town is to prepare effectively, it will need to act decisively with a cohesive strategy to make inroads on managing climate change.

The Master Plan for Tyngsborough, Massachusetts was adopted in 2004 without a chapter related to climate change. With increasing awareness around climate change, Tyngsborough is now adding this climate change chapter to its Master Plan. This chapter has been written to tie in closely with the Town’s development of a combined local Hazard Mitigation Plan (HMP) and Municipal Vulnerability Preparedness (MVP) report both of which address response to climate change. The intent is a cohesive local approach to the predicted effects of climate change. Table 9.1 shows how these three elements of local planning are intended to work together in Tyngsborough.

**Table 9.1 Climate Change and Three Essential Elements of Local Planning**

Type of Plan	Purpose
Hazard Mitigation Plan (HMP) <sup>a</sup>	An HMP provides recommendations for addressing natural hazards. Intensity of weather-related natural hazards may be driven by climate change and are often addressed in HMPs. HMPs are reviewed and approved by FEMA and make their jurisdiction eligible for grants and subsidized flood insurance.
Municipal Vulnerability Preparedness (MVP) Report <sup>a</sup>	MVP reports specifically address preparedness for climate change. The Massachusetts Executive Office of Energy and Environmental Affairs (EEA) reviews and approves MVP reports. Towns with approved MVP reports are eligible for specific MVP grants that are offered by the Commonwealth.
Town Master Plan <sup>a</sup>	A Master Plan is intended to provide a municipality the opportunity to comprehensively plan its infrastructure, institutional programming, and policy for the term of the plan (e.g., five years). Adding a climate change chapter helps to ensure that municipal initiatives account for anticipated changes in climate.

**Notes:**

- a. Tyngsborough is combining their HMP and MVP report, which are closely related documents, to create an HMP-MVP. The Town’s Master Plan covers a wide range of planning topics and will, therefore, remain as a standalone.

## EFFECTS OF CLIMATE CHANGE AND IMPLICATIONS FOR TYNGSBOROUGH

Climate change is known for a wide range effects, many of which are already observable locally and around the globe. Glaciers have shrunk, ice on rivers and lakes is breaking up earlier in the year, plant and animal ranges have shifted and trees are flowering sooner, sea level rise has accelerated, and longer, more intense heat waves occur more routinely (NASA, 2019).

The *Massachusetts State Hazard Mitigation and Climate Adaptation Plan (2018)* identifies approximate statewide climate change projections and some anticipated impacts through 2100. Table 9.2 provides specific predictions along with their relationships to climate change and natural hazards.

**Table 9.2 Changes in Climatic Conditions Predicted by 2100 and Related Natural Hazards**

Type of Weather	Related Natural Hazards	Climatic Changes Predicted
<p><b>Precipitation</b></p> 	<ul style="list-style-type: none"> <li>• Inland flooding</li> <li>• Drought</li> </ul>	<ul style="list-style-type: none"> <li>• Annual precipitation: Increase of 16% (+7.3 inches)</li> <li>• Days with rainfall accumulation one inch or more: Increase of 57% (+4 days)</li> <li>• Consecutive dry days: Increase of 18% (+3 days)</li> <li>• Summer precipitation: General decrease</li> </ul>
<p><b>Temperature</b></p> 	<ul style="list-style-type: none"> <li>• Average and extreme temperatures</li> <li>• Brushfires</li> <li>• Invasive species</li> </ul>	<ul style="list-style-type: none"> <li>• Average annual temperature: Increase of 23% (+10.8 degrees Fahrenheit)</li> <li>• Days/year with minimum temperatures below freezing: Decrease of 42%</li> <li>• Days per year with maximum temperatures over 90 degrees Fahrenheit: Increase of 1,280% (+64 days)</li> <li>• Growing degree days:<sup>a</sup> Increase of 23%</li> </ul>
 <p><b>Extreme Weather</b></p>	<ul style="list-style-type: none"> <li>• Hurricanes and tropical storms</li> <li>• Severe winter storms and nor'easters</li> <li>• Thunderstorms and extreme wind events (e.g., tornadoes)</li> </ul>	<ul style="list-style-type: none"> <li>• Frequency and magnitude: General increase</li> </ul>

Notes:

- a. Growing degree days is a weather-based indicator for assessing crop development. It is a calculation used by crop producers that is a measure of heat accumulation and is used to predict plant and pest development rates (e.g., crop maturity). Source: <https://farmwest.com/node/936>.

## RECENT LOCAL RESILIENCE PLANNING

In 2019, the Town received grant funding from the Massachusetts Executive Office of Energy and Environmental Affairs to conduct comprehensive planning to address municipal vulnerability related to climate change and natural hazard mitigation. The process resulted in development of a joint Hazard Mitigation Plan and Municipal Vulnerability Preparedness report (HMP-MVP). The HMP-MVP includes an assessment of the history of natural hazards in and around Tyngsborough, predicted events, anticipated implications of climate change, local strengths and vulnerabilities, and how the Town intends to address these issues with preparation and mitigation actions. The HMP-MVP planning process included assembly of a local blue-ribbon committee, which is referred to as the Tyngsborough Core Team (hereinafter, the “Core Team”) and a public engagement

process that included a Community Resilience Building (CRB) Workshop, a public meeting, and an opportunity for public comment. Given the timeliness and comprehensive nature of this planning process, the Town will rely on the HMP-MVP to information the climate resilience chapter of its Master Plan.

The discussion below provides summaries of climate change and potential weather-related hazards faced by the Town, along with the Town's strengths and vulnerabilities related to climate change and weather-related hazards. It also discusses recommendations for reducing vulnerability preparedness and improving hazard mitigation.

## WEATHER-RELATED HAZARDS, CLIMATE CHANGE, AND LOCAL VULNERABILITY

This section discusses various weather-related hazards such as rain, wind, snow, heat, fire and drought. Included are discusses of historical records of natural hazards, predicted results of climate change, and local features and demographics that present vulnerabilities.

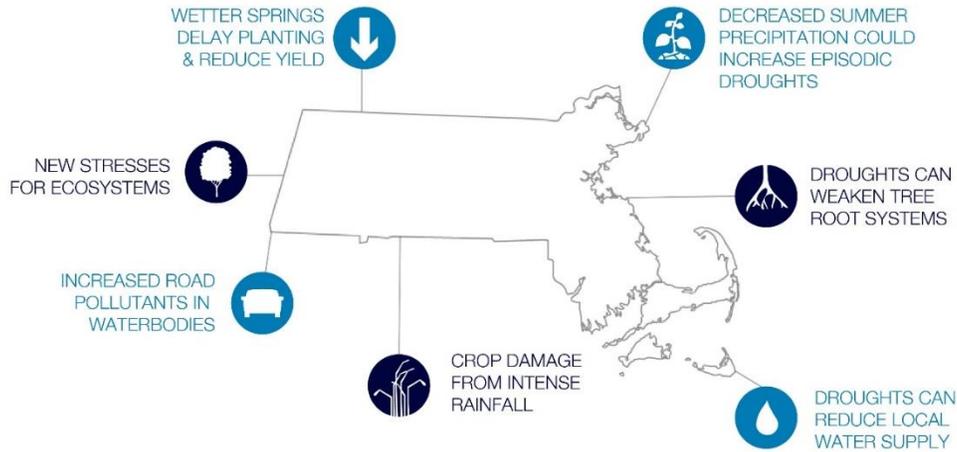
### FLOOD-RELATED HAZARDS

Flooding can be caused by various weather events including hurricanes, extreme precipitation, thunderstorms, nor'easters, and winter storms. Beaver dams also contribute to flood concerns in Tyngsborough. Flooding events in Tyngsborough have been classified as a high frequency event with a predicted recurrence of once every three years.<sup>52</sup> Climate change will likely lead to more frequent and severe storms with risk of more significant consequences, which could include property damage, injury, and death. Dam failure may result from or cause flooding. Flooding can be both riverine (topping the banks of streams, rivers, ponds) and from excessive precipitation and runoff.

Flood hazards are also directly linked to erosion, which can compromise the stability of building foundations. This puts current and future structures and populations located near steep embankments, or along the Merrimack River, at risk. Erosion can also undercut streambeds and pose a risk to those walking along the banks. Structures or critical facilities located near the streams and lakes in Tyngsborough may be considered at risk from fluvial erosion.

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<sup>52</sup> As defined by the *Massachusetts State Hazard Mitigation and Climate Adaptation Plan* (EEA and EOPSS, 2018), "high frequency" events are predicted to recur at least once every 5 years (greater than 20% per year).



**Figure 9.1: an infographic visualizing potential impacts of increasing precipitation (Weston & Sampson based on EEA, 2018)**

The following discussion provides more information on historic flooding events, potential flood hazards, a vulnerability assessment, locally identified as areas of flooding, and information on the risk of dam failures.

### RIVERINE FLOODING

The Merrimack River runs roughly north-south approximately through the center of Tyngsborough. Areas adjacent are typically more prone to flooding than other areas of Town. When the River is at flood stage it overtops its banks and floods a section of Route 113 near the Vesper Country Club. Flooding from the river also tends to occur in the vicinity of Bridgeview Circle. Bridge Meadow Brook can also flood the access road to the Tyngsborough Elementary School, which has a large impact on the community; however, there is secondary gated access point to the school via Diamond Road. Flooding is common on Riverbend Road, River Road, and Red Gate Road, Kendall Road Bridge, and Larson Avenue.

For example, in 2006, a significant flood event occurred that flooded several roads including Pawtucket Boulevard. The entrance to Elementary School crossing also washed out along with Bridge Meadow Brook. Several houses along the Merrimack River experienced significant flooding and an apartment complex was evacuated. In the last five years there have been minor roadway floods in low areas and stream crossings, but no infrastructure has been damaged.

There are several other waterbodies in Tyngsborough that also overtop on occasion. These include:

- Bridge Meadow Brook
- Lawrence Brook
- Limit Brook
- Scarlett Brook
- Locust Brook
- Cow Pond Brook
- Flint Pond
- Locust Pond
- Mascuppic Lake

### STORMWATER FLOODING

Stormwater flooding occurs during storm events when the flow of runoff exceeds drainage system capacity. This may be due to system blockage, damage (e.g., crushed pipes) or lack of built capacity. Overwhelmed drainage systems ultimately back up leaving the surcharge of water to pool on roadways and nearby land. Many stormwater systems in Massachusetts have aged beyond their design lives and may also be undersized to manage flow generated by the modern intensity of rainfall and levels of urbanization. Figure 9.2 shows the increasing intensity rainstorms from 1961 to 2015, especially for the larger 24-hour, 100-year event.

**Climate change projections suggest that precipitation events will become increasingly frequent and severe. Looking at Tyngsborough's most severe hazard events can inform preparation for events intensified by climate change.**

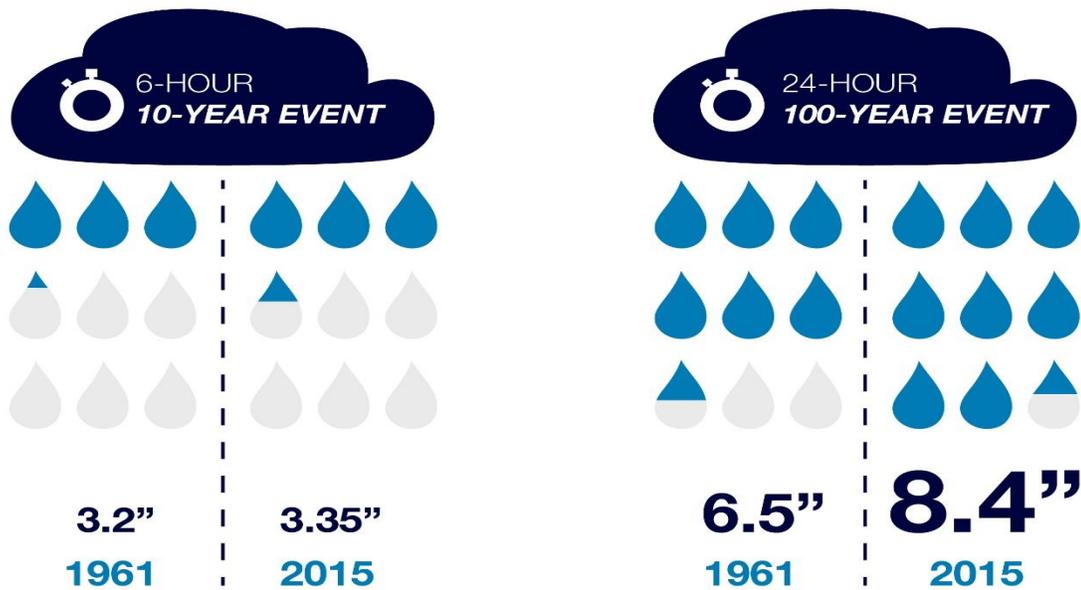


Figure 9.2: an infographic of anticipated increases in precipitation due to climate change. Engineers will need to design and size culverts with future precipitation data in mind (NOAA TP-40, 1961) and NOAA Atlas Volume 10 (2015)

## VULNERABILITY TO FLOODING

This section discusses Tyngsborough’s vulnerability to flooding, addressing topics including repetitive loss sites, critical facilities in proximity to flood zones, dams and dam failure, development patterns, historic flood events, and climate change impacts related to flooding.

### REPETITIVE LOSS SITES

As defined by FEMA and the NFIP, a repetitive loss property is any insured property, which the NFIP has paid two or more flood claims of \$1,000 or more in any given 10-year period since 1978 (FEMA and NFIP, 2018). Tyngsborough has eight repetitive loss structures, many of which are located in floodplains. The table below summarizes repetitive loss data in Tyngsborough. As of January 28, the Town of Tyngsborough has paid out 28 losses totaling \$2,167,314 for flood insurance. Land acquisitions or design features that allow properties to better withstand flood events are possible solutions to decrease costs in the long-term.

**Over \$2 million have been spent to repair or replace property damaged by floods in Tyngsborough but may represent only a fraction**

**Table 9.3 Summary of Repetitive Loss Properties**

Flood Insurance Data		Repetitive Loss (RL) Data	
Flood Insurance Policies in Force	50	RL Buildings	8
Premium	\$112,571	RL Losses	16
Insurance in Force	\$19,853,200	RL Payments (total)	\$2,129,486
Number of Closed Paid Losses	28	RL Payments (building)	\$1,901,995
Dollar Amount of Closed Paid Losses	\$2,167,314	RL Payments (contents)	\$227,491

(MA DCR, 2020)

### CRITICAL FACILITIES

Of the 97 critical facilities identified in Tyngsborough are listed in Table 9.4 and nine of them are located within a FEMA flood zone. These facilities are essential to the ongoing operations of the Town and it is important that they are protected so that they can continue to function even during times of a crisis. Some of these facilities house vulnerable populations.

<b>Table 9.4 Critical Facilities Located within the FEMA Flood Zone</b>			
<b>Facility Name</b>	<b>Location</b>	<b>100-Year FEMA Flood Zone, Only</b>	<b>500-Year FEMA Flood Zone</b>
Affordable Housing Unit	Merrimac Landing		X
Critical Intersection	Pawtucket Blvd & Frost Road		X
Gas Station	54 Pawtucket Blvd		X
Privately Owned Pump Station	Merrimack Landing		X
Privately Owned Pump Station	Stonehedge Hotel		X
Privately Owned Pump Station	Vesper Country Club		X
Greater Lowell Vocational High School (Emergency Shelter)	250 Pawtucket Blvd	X	
Underground Storage Tank	385 Dunstable Road	X	
Underground Storage Tank	54 Pawtucket Blvd		X

**DAMS AND DAM FAILURE**

Dam failure is defined as a collapse of an impounding structure resulting in an uncontrolled release of impounded water from a dam (DCR, 2017a). There have been no recorded dam failures. In Tyngsborough, dam failure is classified as a very low frequency event. According to Town officials and the Massachusetts Department of Conservation and Recreation’s (DCR) Office of Dam Safety, there are five dams in Tyngsborough.

**DEVELOPMENT PATTERNS**

The Town’s existing tax parcel and property value data, obtained from MassGIS, were used to estimate the number of parcels (developed and undeveloped) and buildings located in identified hazard areas along with their respective assessed values.

Approximately 49% of the developed parcels in Tyngsborough are located within a flood zone. Residential properties have the greatest building value located in both the 100-year flood zone. However, the percentage of commercial, institutional, and state-owned land in the 100-year flood zone is around 70%. These properties are the economic center of Tyngsborough. If the infrastructure on these properties were to become compromised during a flood, it could lead to an economic hardship in the Town. The tables below show the exposure of developed parcels in the Town of Tyngsborough.

**Table 9.5 Developed Parcels in 100-Year FEMA Flood Zone**

Land Use Type	Total # of Parcels	Area of Parcels (acres)	# of Parcels in the Flood Zone	Area in the Flood Zone (acres)	% of Area in the Flood Zone	Property Value in the Flood Zone
Residential	3,331	5,022	464.0	1,280.6	25.5	\$80,960,400
Commercial	85	561	25.0	386.8	68.9	\$25,556,500
Industrial	34	148	9.0	72.6	49.2	\$6,412,600
State-Owned Land & Other	38	765	11.0	547.5	71.6	\$55,695,100
Agricultural	1	4	1.0	46.6	100.0	\$256,600
Recreation & Open Space	1	107.1	N/A	N/A	N/A	N/A
<b>Total</b>	<b>3,490</b>	<b>6,650.0</b>	<b>510.0</b>	<b>2,334.2</b>	<b>35.1</b>	<b>\$168,881,200</b>

### HISTORIC FLOOD EVENTS

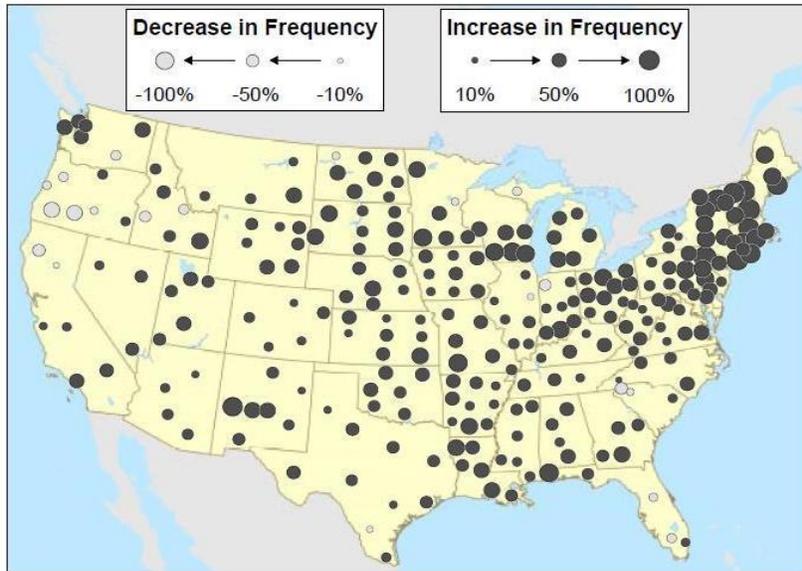
Since the 1960s, several significant floods have impacted the Town of Tyngsborough. Significant floods events appear to be occurring more frequently. In the last 20 years NOAA has recorded over a dozen significant flooding events in Tyngsborough.

- March 1968
- January 1979
- April 1987
- October 1996
- June 1998
- March 2001
- April 2004
- October 2005
- May 2006
- April 2007
- April 2007
- March 2010
- December 2010
- September 2011
- August 2012
- February 2013
- January 2015
- October 2016
- October 2017

(NOAA, 2019)

### CLIMATE CHANGE IMPACTS: FLOODING

Boston’s average annual precipitation is 53.32 inches (NOAA, 2019b). Extreme rain and snow events are becoming increasingly common and severe particularly in the Northeast region of the country (Figure 9.3). Regional increases in heavy precipitation events exceed the rest of the US by a 74% increase in the heaviest 1% of all precipitation events since 1958. The eastern region of Massachusetts has shown an increase in heavy precipitation of two inches or more since 1970. Annual maximum daily precipitation in the area has also increased by up to 2 inches since 1970 (UMass, 2019).

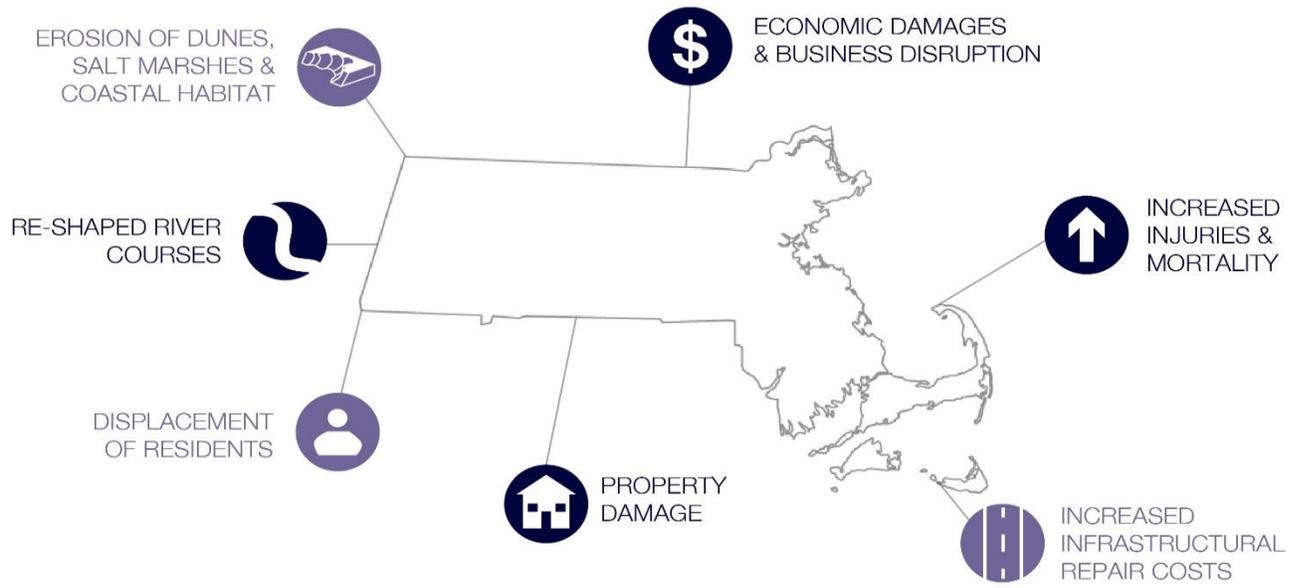


**Figure 9.3. Changes in Frequency of Extreme Downpours (Madsen and Willcox, 2012, page 19)**

#### WIND-RELATED HAZARD

High winds typically occur during hurricanes, tropical storms, tornadoes, nor'easters, and thunderstorms. All of Tyngsborough is vulnerable to high wind. Wind may down trees and power lines. High wind and storm events cause property damage and hazardous driving conditions. While Tyngsborough's current 100-year wind speed is 110 mph, climate change will likely increase recurrence and intensity of severe wind events.

Extreme winds can take down trees and branches that cause service disruptions. An identified issue during storms in Tyngsborough is the damage to power and phone wires from overhanging trees that have not been trimmed by National Grid or the phone or cable companies. High winds and heavy snow loads caused significant power line damage in Tyngsborough during a nor'easter in 2018. Falling trees and branches can also block traffic and emergency routes. This is a regional issue that affects cities and towns beyond Tyngsborough.



**Figure 9.4: an infographic visualizing potential impacts of extreme storms, including high wind events (Weston & Sampson based on EEA, 2018)**

### HURRICANES AND TROPICAL STORMS

Tyngsborough and the surrounding region have been impacted by hurricanes throughout its history, starting with the Great Colonial Hurricane of 1635. Between 1851 and 2012, Massachusetts experienced 13 hurricanes and two named tropical storms. The most recent FEMA disaster declaration in Massachusetts due to a hurricane was Hurricane Sandy in 2012 (FEMA, 2018b). Hurricanes that have occurred in the region since 1938 are listed in Table 9.6. Four were Category 3 events.

**Table 9.6 Hurricane Records for Eastern Massachusetts, 1938 to 2019**

Hurricane Event	Date
Great New England Hurricane	September 21, 1938
Great Atlantic Hurricane	September 14-15, 1944
Hurricane Doug	September 11-12, 1950
Hurricane Carol	August 31, 1954
Hurricane Edna	September 11, 1954
Hurricane Diane	August 17-19, 1955
Hurricane Donna	September 12, 1960
Hurricane Gloria	September 27, 1985
Hurricane Bob	August 19, 1991
Hurricane Katrina	September 13, 2005
Hurricane Earl	September 4, 2010
Tropical Storm Irene	August 28, 2011
Hurricane Sandy	October 29-30, 2012
Hurricane Florence	September 18, 2018
Tropical Storm Dorian	September 7, 2019

(NOAA, 2020)

During the development of Tyngsborough’s Hazard Mitigation Plan, hurricane damage was estimated using a hurricane modeling software. In Massachusetts, the statistical return period for a category 2 hurricane is approximately once in 100 years and for a category 4 hurricane is once in 500 years. The tables below show the estimated damage from both a category 2 and a category 4 hurricane in the municipality.

**Table 9.7: Category 2 Hurricane Damage Potential**

Land Use Type	Total # of Buildings	Total # of Buildings Damaged <sup>1</sup>	% of Buildings Damaged <sup>a</sup>	Total Value of Building Damage <sup>b</sup>
Residential	3,631	39	1%	\$5,348,400
Commercial	272	3	1%	\$79,100
Industrial	102	1	1%	\$16,360
Others	48	1	2%	\$16,600
<b>TOTAL</b>	<b>4,053</b>	<b>44</b>	<b>1%</b>	<b>\$5,460,460</b>

Notes:

- a. Numbers include Slight, Moderate, Extensive, and Total Damage
- b. Includes Building, Content, and Inventory

**Table 9.8: Category 4 Hurricane Damage Potential**

Land Use Type	Total # of Buildings	Total # of Buildings Damaged <sup>1</sup>	% of Buildings Damaged <sup>a</sup>	Total Value of Building Damage <sup>b</sup>
Residential	3,631	416	12%	\$21,160,920
Commercial	272	24	9%	\$758,300
Industrial	102	8	8%	\$218,610
Others	48	4	8%	\$160,340
<b>TOTAL</b>	<b>4,053</b>	<b>452</b>	<b>11%</b>	<b>\$22,298,170</b>

Notes:

- a. Numbers include Slight, Moderate, Extensive, and Total Damage
- b. Includes Building, Content, and Inventory

## TORNADOES

Massachusetts averages 1.7 tornadoes per year. Tornadoes can be spawned by tropical cyclones or the remnants thereof, and weak tornadoes can even form from little more than a rain shower if air is converging and spinning upward. The most tornado-prone areas of the state are the central counties. Tornadoes are comparatively rare in eastern Massachusetts, although Middlesex County is considered an at-risk location (EEA and EOPSS, 2018); however, they do occur from time to time. There have been 18 recorded tornadoes in Middlesex County since 1955. For example, on July 21, 1972 a tornado went through Tyngsborough along the Merrimack River and into North Chelmsford and over Robin Hill into South Chelmsford (NMCOG, 2015).

## THUNDERSTORMS AND RELATED WIND EVENTS

Thunderstorms can include lightning, strong winds, heavy rain, hail, tornadoes and downbursts (e.g., microbursts and macrobursts). Thunderstorms typically last for about 30 minutes and can generate winds of up to 60 mph. Thunderstorms are considered high frequency events in Tyngsborough. Massachusetts experiences 20-30 thunderstorm days per year. Thunderstorms with little or no rainfall are rare in New England but do occur (EEA and EOPSS, 2018).

NOAA's National Centers for Environmental Information offers thunderstorm data for Middlesex County, which includes Tyngsborough. Between 2008 and 2018, 278 thunderstorm events caused \$3,208,000 in property damages. Three injuries and no deaths were reported. The severe thunderstorm on May 22, 2006 toppled trees in Tyngsborough, Chelmsford, and Lowell and left 5,000 residents without power. Wind gusts reached 45 mph.

## NOR'EASTERS

A nor'easter is characterized by large counterclockwise wind circulation around a low-pressure center that often results in heavy snow, high winds, waves, and rain along the East Coast of North America. The term nor'easter refers to their strong northeasterly winds blowing in from the ocean. These weather events are among the season's most ferocious storms, often causing beach erosion, flooding, and structural damage (EEA and EOPSS, 2018).

Nor'easters generally occur in Tyngsborough on at least an annual basis, typically in late fall and early winter. Some years bring four or more nor'easter events. The storm radius is often as much as 100 miles and sustained wind speeds of 20 to 40 mph are common, with short-term gusts of up to 50 to 60 mph.

### Not Every Nor'easter is a Blizzard

The National Weather Service defines a blizzard as blowing snow or a snowstorm with winds over 35 miles per hour and visibility less than a ¼ mile over three hours. A nor'easter is a low-pressure system that moves up the east coast producing rain, snow or sleet, and strong northeasterly winds.

(Source:

<http://kb1ijv.tripod.com/weatherwithaspin/id16.html>)

**Table 9.9: Nor'easter Events for Massachusetts, 1978 to 2019**

Nor'easter Event	Date
Blizzard of 1978	February 1978
Severe Coastal Storm ("Perfect Storm")	October 1991
Great Nor'easter of 1992	December 1992
Blizzard, Nor'easter	January 2005
Coastal Storm, Nor'easter	October 2005
Severe Storms, Inland and Coastal Flooding	April 2007

Nor'easter Event	Date
Winter Storm and Nor'easter	January 2011
Severe Storm and Snowstorm	October 2011
Severe Winter Storm, Snowstorm, and Flooding	April 2013
Severe Winter Storm, Snowstorm, and Flooding	April 2015
Severe Winter Storm and Flooding	March 2018

Some of the historic events described in the “Flood-Related Hazards” section of this report were preceded by nor’easters, including the 1991 “Perfect Storm.” The Blizzard of ’78 was a notable storm. More recently, winter storms in 2015 and 2018 caused significant snowfall amounts.

### CLIMATE CHANGE IMPACTS: WIND-RELATED HAZARDS

Tyngsborough’s current 100-year wind speed is 110 mph. Climate change will likely increase the number of extreme wind events and their severity. Additionally, rising sea temperature could lengthen the hurricane season and fuel stronger hurricane events. Hurricanes have increased in intensity, frequency, and duration since the early 1980s (Walsh and Wuebbles, 2014). This would result in greater losses due to increased flooding, associated building damages and business interruption impacts (Walsh and Wuebbles, 2014). The anticipated increase in frequency and intensity of severe thunderstorms may also increase the risk of tornadoes (EEA and EOPSS, 2018).

### WINTER STORMS

Winter storms events can include wind, heavy snow, blizzards, and ice storms. Blizzards and ice storms in Massachusetts can range from an inconvenience, to extreme events that cause significant impacts and require a large-scale, coordinated response. Winter storms have resulted in seven federal and state disaster declarations since 1996 in Middlesex County.

Heavy snow loads may cause roofs and trees to collapse leading to structural damage. Deaths and injury are also possible impacts. Additional impacts can include road closures, power outages, business interruption, business losses (i.e., due to road closures), hazardous driving conditions, frozen pipes, fires due to improper heating, and second-hand health impacts caused by shoveling (such as a heart attack). Public safety issues are also a concern, as streets and sidewalks can become difficult to pass. This issue may be especially difficult for vulnerable populations such as elderly people who may have



*Photo: Crash on Chestnut Road during December 2017 Snowstorm. Photo by Tyngsborough Police Department, Twitter, 2017.*

trouble crossing at intersections due to large accumulations of snow. Impassable streets can also complicate emergency response efforts during an extreme event.

The “Blizzard of 1978” is a well-known winter storm that deposited more than three feet of snow and led to multiday closures of roads, businesses, and schools. Table 9.10 provides additional information on significant snow events.

<b>Type of Event</b>	<b>Date</b>
Blizzard	February 1978
Blizzard	March 1993
Blizzard	January 1996
Severe Snowstorm	March 2001
Severe Snowstorm	December 2003
Severe Snowstorm	January 2004
Severe Snowstorm	January 2005
Severe Snowstorm	April 2007
Severe Snowstorm	December 2010
Severe Snowstorm	January 2011
Blizzard	February 2013
Blizzard	January 2015
Severe Snowstorm	March 2018

(NOAA, 2019a)

NOAA’s National Centers for Environmental Information Storm Events Database provide information for blizzards, winter weather, heavy snow, and winter storms. There were 250 winter events between 2000 and 2019 in Middlesex County totaling \$2,059,000 dollars of damage. The greatest damage was during this time frame was a storm in 2011 causing \$926,000 of damage. Most of the electric customers (99%) were out of electricity during a snowstorm in October 2011 (NMCOG, 2015). In March 2018, Tyngsborough experienced 21 inches of snowfall in a single storm (NOAA, 2020).

#### CLIMATE CHANGE IMPACTS: WINTER STORMS

There is evidence suggesting that nor’easters along the Atlantic coast are increasing in frequency and intensity. Future nor’easters may become more concentrated during the coldest winter months when atmospheric temperatures are still low enough to result in snowfall rather than rain (EEA and EOPSS, 2018).

Climate projections indicate that climate change will result in more precipitation during the winter in the Northeast (EEA, 2018a). This trend may result in more frequent and/or more severe winter storms.

## EXTREME TEMPERATURES

Extreme temperatures can include both temperatures over and under seasonal averages. These extreme temperature events can range from brief to lengthy.



Figure 9.5: an infographic visualizing anticipated temperature changes (Weston & Sampson based on EEA, 2018)

## EXTREME COLD

Extremely cold temperatures can create dangerous conditions for homeless populations, stranded travelers, and residents without sufficient insulation or heat. The homeless, the elderly, and people with disabilities are often most vulnerable. In Tyngsborough, 11.2% of the population are over 65 years old and 7.2% percent of the population has a disability (US Census, 2018). Cold weather events can also have significant health impacts such as frostbite and hypothermia. Furthermore, power outages during cold weather may result in inappropriate use of combustion heaters, cooking appliances, and generators in poorly ventilated areas which can lead to increased risk of carbon monoxide poisoning.

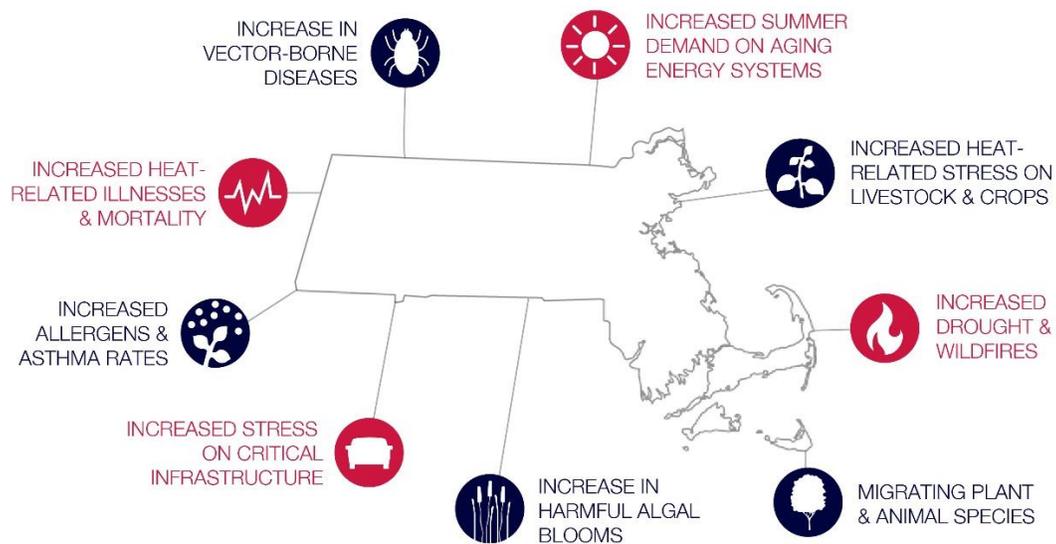
NOAA’s National Centers for Environmental Information Storm Events Database provides data for extreme cold events. Between 2000 and 2018, Middlesex County experienced three extreme cold and will chill events, which caused no deaths, injuries, or property damage.

## EXTREME HEAT

Increased temperatures will impact all locations within Tyngsborough. Projected heat days and heat waves can have an increased impact in densely settled urban areas. These can become “heat islands” as dark-colored asphalt and roofs store the heat from the sun. According to the Centers for Disease Control and Prevention, the populations most vulnerable to extreme heat impacts include the following:

- People over the age of 65 (e.g., with limited mobility),
- Children under the age of five,
- Individuals with pre-existing medical conditions that impair heat tolerance,
- Low-income individuals who cannot afford proper cooling,
- Individuals with respiratory conditions,
- The general public who may overexert themselves during extreme heat events.

Homeless people are increasingly vulnerable to extreme heat. The capacity of homeless shelters is typically limited. Impacts from heat stress can exacerbate pre-existing respiratory and cardiovascular conditions.



**Figure 9.6: an infographic visualizing potential impacts from increasing temperatures (Weston & Sampson based on EEA, 2018)**

In Boston, over 50 people die each year due to heat-related illnesses. From 1979-2016, excessive heat exposure caused in excess of 9,000 deaths in the United States (EEA and EOPSS, 2018). During this period, more people in this country died from extreme heat than from hurricanes, lightning, tornadoes, floods, and earthquakes combined.

Because most heat-related deaths occur during the summer, people should be aware of who is at greatest risk and what actions can be taken to prevent a heat-related illness or death. The populations at greater risk are the elderly, children, and people with certain medical conditions, such as heart disease. However, even young and healthy individuals can succumb to heat if they participate in strenuous physical activities during hot weather. Some behaviors also put people at greater risk drinking alcohol, taking part in strenuous outdoor physical activities in hot weather, and taking medications that impair the body's ability to regulate its temperature or that inhibit perspiration (EEA and EOPSS, 2018).

Increased temperatures can lead to a longer growing season, which in turn leads to a longer pollen season. Warmer weather can also support the migration of invasive species and lead to an increase in vector-borne diseases. Increasing temperatures can also worsen air pollution, which can lead to negative health impacts such as respiratory problems.

Extreme temperatures are classified as medium frequency events. According to the *2018 Massachusetts State Hazard Mitigation and Climate Adaptation Plan* (EEA and EOPSS, 2018), between four and five heat waves (3 or more consecutive days of 90°F+ temperatures) occur annually in Massachusetts.

### CLIMATE CHANGE IMPACTS: EXTREME TEMPERATURES

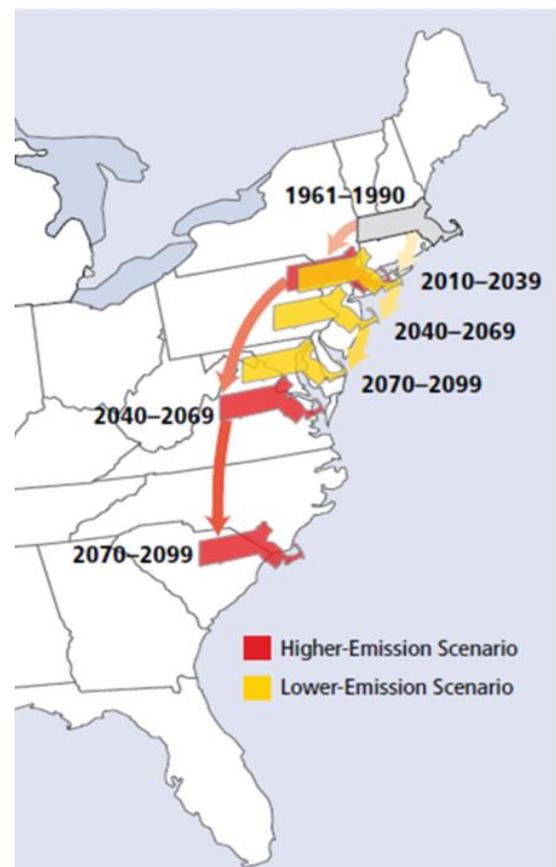
Between 1961 and 1990, Boston experienced an average of one day per year in excess of 100°F. That could increase to six days per year by 2070, and 24 days per year by 2099. Under these conditions by the end of the century, Massachusetts's climate would more closely resemble that of Maryland or the Carolinas (Figure 9.7). These changes in temperature would also have a detrimental impact on air quality and public health concerns including asthma and other respiratory conditions (Frumhoff et al., 2007).

### DROUGHT

Drought is an extended period of deficient precipitation. Drought conditions occur in virtually all climatic zones, yet its characteristics vary significantly from one region to another since it is relative to the normal precipitation in that region.

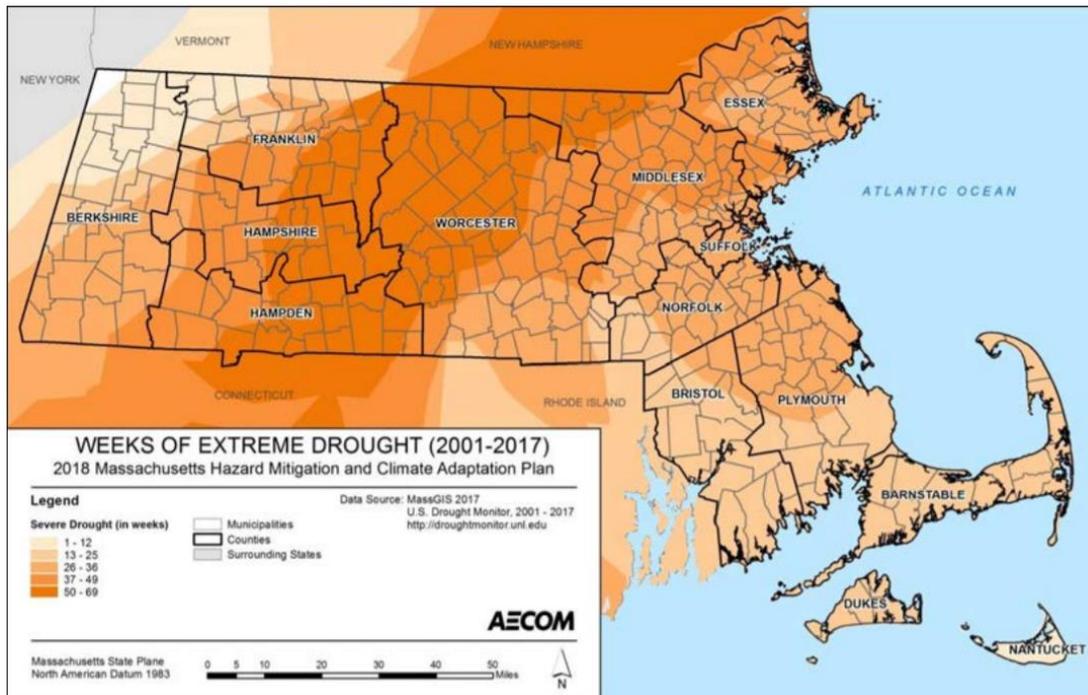
Agriculture, the water supply, aquatic ecosystems, wildlife, and the economy are vulnerable to the impacts of drought (EEA and EOPSS, 2018).

Five levels of drought have been developed to characterize drought severity: Normal, Advisory, Watch, Warning, and Emergency; these correspond to Level 0 – Normal, Level 1 - Mild Drought, Level 2 - Significant Drought, Level 3 - Critical Drought (previously



**Figure 9.7. Massachusetts Extreme Heat Scenarios. (Frumhoff et al., 2007)**

“Warning”), and Level 4 - Emergency Drought (previously “Emergency”), respectively, of the draft Drought Management Plan update. The drought levels are based on the severity of drought conditions and their impacts on natural resources and public water supplies. Figure 9.8 illustrates weeks of extreme drought between 2001 and 2017.



**Figure 9.8: Weeks of Severe Drought (2001 - 2017)**

As noted previously, temperature is projected to increase and may lead to exacerbated drought conditions especially in summer and fall months. Droughts can also increase fire risk: fires can be caused by lightning, and a 2014 study found that the frequency of lightning strikes could increase by more than 10% for every degree Celsius of warming (EEA and EOPSS, 2018). A long-term drought could lead to impacts to Tyngsborough’s wetlands and streams, and to the Merrimack River. In a drought emergency affecting the water supply of the Massachusetts Water Resources Authority, water-use restrictions would be implemented in Tyngsborough, which could result in loss of landscaped areas and business revenues depending on the length of the water use restriction.

Droughts are classified as a low-frequency, natural-hazard event. As defined by the *2013 Massachusetts State Hazard Mitigation Plan*, these events can occur between once in 50 years to once in 100 years (a 1% to 2% chance of occurring per year).

#### CLIMATE CHANGE IMPACTS: DROUGHT

Under climate change, drought conditions will be exacerbated with projected increasing air temperatures and changes in precipitation. Between 1970 and 2000, the median number of

consecutive dry fall days in Massachusetts was 11.4 days. This is in comparison to a projected median of 13.5 consecutive days by the end of the century (EEA, 2018a).

## RECOMMENDATIONS

The recommendations listed in Table 9.11 were developed through the Town’s HMP-MVP process, which is described above. The Town is also adopting them for its Master Plan.

**Table 9.11. High Priority Action Items**

Priority & Hazard <sup>a</sup>	Mitigation Action	Implementation Responsibility <sup>b</sup>	Timeframe	Cost
High 	Install backup power in additional critical facilities (including Greater Lowell Vocational High School, Senior Center, and other municipal buildings) and invest in renewable energy systems for redundancy	<b>Buildings;</b> Emergency/Fire, School	1-3 years	\$\$ per facility
High 	Right size and replace culverts; focus preliminary efforts on Westford Road, the road to the elementary school, Sherburne Ave, and Dunstable Road	<b>Highway and</b> Engineering	1-3 years per culvert	\$\$\$ per culvert
High 	Work with National Grid to increase proactive tree management above and beyond current tree trimming program for above-ground utility lines	<b>Highway and</b> Utility Companies	1-3 years	\$
High 	Ensure that administrators of schools, businesses, medical facilities, day-care facilities, and municipal buildings have a shelter plan in the event of a tornado warning.	<b>Schools,</b> Emergency/Fire	Less than 1 year	\$
Medium 	Assess and inventory stream crossings, such as culverts and bridges; prioritize/rank these assets based on vulnerability	<b>Conservation and</b> Engineering	1-3 years	\$\$
Medium		<b>Highway,</b> Buildings	1-3 years	\$

**Table 9.11. High Priority Action Items**

Priority & Hazard <sup>a</sup>	Mitigation Action	Implementation Responsibility <sup>b</sup>	Timeframe	Cost
	Increase capacity for snow removal and identify locations for snow storage,			
Medium	Continue to identify problem areas with poor drainage, icing issues, and gaps in the stormwater system. Identify potential strategies to address these issues including stormwater management funding.	<b>Engineering,</b> Highway, Emergency/Fire	1-3 years	\$\$
				
Medium	Increase/improve education and outreach to inform the public regarding climate event safety protocol.	<b>Conservation,</b> <b>Emergency/Fire,</b> State Agencies	Less than 1 year, Ongoing	\$ up to \$\$
				
Low	Work with DCR Office of Dam Safety and dam owners to ensure dam inspections are current and develop regional collaborations to assess dams and design strategies. Complete dam repair if needed.	<b>Conservation,</b> Engineering, and State Agencies	1-3 years	\$\$\$\$
				
Low	Encourage increased energy resilience in development and redevelopment	<b>Conservation and</b> Engineering	1-3 years	\$
				
Low	Encourage Onsite Renewable Energy Generation and Storage	<b>Planning and</b> Engineering	1-3 years	\$
				
Low	Allow or Encourage Alternative/Renewable Energy	<b>Planning and</b> Engineering	1-3 years	\$
				
Low	Promote Renewable Energy Use Through Public-Private Partnership	<b>Planning and</b> Buildings	1-3 years	\$

**Table 9.11. High Priority Action Items**

Priority & Hazard <sup>a</sup>	Mitigation Action	Implementation Responsibility <sup>b</sup>	Timeframe	Cost
				
Low	Collaborate with the State to conduct a stormwater assessment on State-owned roads, assess undersized culverts, and complete retrofits for the stormwater system. Work with MassDOT to mitigate flooding.	<b>Highway, Engineering, State Agencies</b>	1-3 years	\$\$
				
Low	Conserve, create, or rehabilitate parks and open space to provide climate resilient benefits; such as cooling, flood storage, and stormwater management	<b>Planning and Conservation</b>	1-3 years	\$\$\$
				
Low	Conduct a stormwater infrastructure assessment to identify opportunities to utilize best management practices on municipal property	<b>Engineering</b>	1-3 years	\$\$
				
Low	Promote Use of Green Infrastructure to Remove Wet Weather Flows	<b>Engineering</b>	3-5 years	\$\$
				
Low	Implement a Municipal Tree Program	<b>Planning and Conservation</b>	1-3 years	\$\$
				
Low	Enhanced Land Conservation Efforts	<b>Planning and Conservation</b>	1-3 years	\$\$
				
Low	Invasive Species Management	<b>Planning and Conservation</b>	3-5 years	\$\$

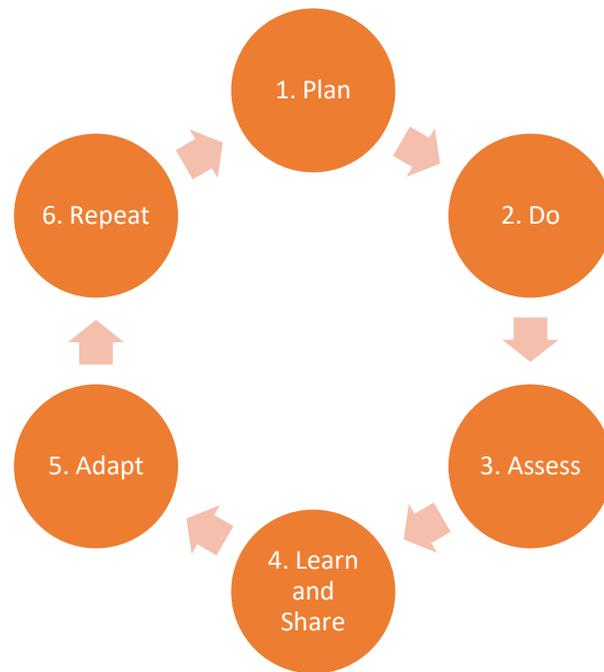
**Table 9.11. High Priority Action Items**

Priority & Hazard <sup>a</sup>	Mitigation Action	Implementation Responsibility <sup>b</sup>	Timeframe	Cost
				
Low	Improve municipal building infrastructure such as insulation, energy efficiency, ability to withstand snow loads. and cool roofs	<b>Buildings and Engineering</b>	3-5 years	\$\$\$ per building
				
<p><u>Notes:</u></p> <p>a. Priority – Designation of high, medium, or low priority was based on overall potential benefits and feasibility. A high priority action is very likely to have political and public support. A medium priority action may have some political and public support. A low priority action may not have political and public support for implementation.</p> <p>b. Implementation Responsibility – Most mitigation measures will require a multi-department approach where several Town departments share responsibility. The lead department for each action item is bolded.</p> <p>c. Estimated Cost –Costs are represented as follows:</p> <ul style="list-style-type: none"> <li>•\$ = less than \$10,000</li> <li>•\$\$ =\$10,000 to \$100,000</li> <li>•\$\$\$ =\$100,000-\$500,000</li> <li>•\$\$\$\$ = more than \$500,000</li> </ul> <p>d. Hazard Icon Legend:</p> <p>Heavy precipitation and flooding </p> <p>Severe snow, ice, extreme cold </p> <p>Severe thunderstorms, wind, nor'easters, tornado </p> <p>Extreme heat, drought, brushfire </p> <p>All hazards </p>				

## ADAPTIVE MANAGEMENT

The adaptive management is a systematic process to test approaches and apply the information learned to improve management decisions. It is central to successful program implementation particularly when addressing uncertain issues with untested or somewhat strategies. The intensity, implications, and effects of climate change are unknown. They can be predicted but our understanding of the historic data and the reliability of predictive models are less than perfect.

The adaptive management approach is specifically intended to account for uncertainty. Figure 9.9 presents the basic process:



**Figure 9.9. The Adaptive Management Approach.**

**Planning**—The first step in the adaptive management process is to create a plan. The plan should include goals, strategies, and a plan for assessing progress (i.e., indicators of success). The Climate Change Resilience Chapter provides the plan for the purposes of this discussion.

**Doing**—This step involves developing and implementing the specific work plans for climate change resilience. Specifically, this involves implementation of recommendations in the Climate Change Resilience Chapter.

**Assessing**—Adaptive management requires determining how investments and actions lead to desired goals, at many steps and scales throughout the process. Doing this requires developing an approach to tracking results.

**Learning and Sharing**—Sharing lessons and formal products with key internal and external audiences helps other practitioners benefit from successes, challenges, problems found in similar initiatives.

**Adapting**—This involves making changes to account for lessons learned.

**Repeating**—Steps one through five should be repeated continually through the term of the plan.

The Climate Change Resilience Chapter of this Master Plan proposes annual evaluation of the status of the implementation of actions in the Recommendation section.

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## X. IMPLEMENTATION PLAN

This final section of the Master Plan contains a multiple-page table outlining the specific recommendations contained in each chapter of the document. These recommendations are intended to advance the goals, policies and actions articulated throughout the document. For each specific recommendation, the primary responsibility for implementation is identified. Most often the primary responsibility rests with the Board of Selectmen, Town Administrator, Planning Board, Conservation Commission, Zoning Board of Appeals, Community Preservation Committee, Recreation Commission, or the Historical Commission. It is important to note that many town departments, boards, committees and commissions will play a supportive role in implementing and advancing the recommendations. The Master Plan Committee recommends that the Town reestablish the Economic Development Commission to oversee the implementation of the recommendations that are related to growing the town's economy in a way that is appropriate for the community.

The following implementation table provides a suggested timeframe for the implementation of the various recommendations over the next decade. Four timeframes have been considered, based on the priority and urgency of the recommendation, the resources available, and the time required to advance the recommendation. The implementation of some recommendations may be ongoing, while others may be implemented on a short-term (1-3 years), intermediate (4-6 years) or long-term basis (7 years or more).

To promote timely implementation of the recommendations, the Town should appoint a Master Plan Implementation Committee. It is suggested that the Committee membership include a representative of the following entities:

- Planning Board
- Board of Selectmen
- Conservation Commission
- Council on Aging
- Affordable Housing Trust/Tyngsborough Housing Authority
- Community Preservation Committee
- Historical Commission
- Economic Development Commission (to be reestablished)
- A citizen-at-large

The role of the Master Plan Implementation Committee is to serve as a facilitator and coordinator of the implementation process, to advocate for the implementation of the

plan's recommendations, and to report annually to Town Meeting regarding the Town's progress in implementing the recommendations. In addition, the Committee will assist the Planning Board with any amendments that may be needed to either the Master Plan document or to the Implementation Table over time, as conditions change and unforeseen circumstances arise.

**Table 10.1: Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
Implement improvements in the Town Center, paying greater attention to walkability and pedestrian connectivity, through better pedestrian facilities (e.g. sidewalks, walkways, and crosswalks), and the inclusion of pedestrian scale lighting, benches and street trees.	Land Use and Zoning	Ongoing	Board of Selectmen, Town Engineer, Historical Commission
Collaborate with neighboring communities to better understand the regional needs of the agricultural community, and identify opportunities to support agriculture that extend beyond the boundaries of the town.	Land Use and Zoning	Ongoing	Agricultural Commission
Secure additional federal and state resources to complement the private and local funds being utilized to implement economic development initiatives.	Economic Development	Ongoing	Town Planner/Director of Economic Development, Economic Development Commission
Promote Tyngsborough’s historic assets as a component of its economic development strategy.	Economic Development	Ongoing	Town Planner/Director of Economic Development, Historical Commission, Park and Recreation Commission
Utilize the Town’s web site to provide information on potential development sites in order to attract private investment from out of town.	Economic Development	Ongoing	Town Planner/Director of Economic Development
Additional pedestrian linkages should be pursued through the establishment of sidewalks, pathways and trail connections, emphasizing safety and accommodating users of all abilities.	Transportation and Circulation	Ongoing	Board of Selectmen, Town Engineer, Conservation Commission

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
Work with developers and businesses to provide streetscape amenities, such as benches, street trees, and pedestrian scale lighting in certain areas of town, such as the Town Center, through the project approval process.	Transportation and Circulation	Ongoing	Planning Board
Work with landowners to secure the easements or rights-of-way needed for future trail and sidewalk connections in order to create a town-wide network.	Transportation and Circulation	Ongoing	Board of Selectmen, Town Engineer, Town Counsel
Diversify the housing stock to address the needs of the elderly, disabled, veterans and families.	Housing	Ongoing	Tyngsborough Housing Authority, Affordable Housing Trust, Council on Aging, Commission on Disability
Implement the approved <i>Tyngsborough Housing Production Plan for 2020-2024</i> as approved by DHCD.	Housing	Ongoing	Town Planner/Director of Economic Development, Affordable Housing Trust, Tyngsborough Housing Authority
Continue to apply for Housing Choice designation to be eligible for Capital Grant funds under the Housing Choice program.	Housing	Ongoing	Town Planner/Director of Economic Development, Board of Selectmen
Continue to utilize the MassWorks program to address infrastructure issues in town.	Housing	Ongoing	Board of Selectmen, Town Engineer, Town Planner/Director of Economic Development
Provide a range of housing types for a wide range of incomes in order to strengthen the local labor force and make the town more attractive for economic development.	Housing	Ongoing	Affordable Housing Trust, Tyngsborough Housing Authority, Town Planner/Director of Economic Development

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

<b>Recommendation</b>	<b>Applicable Master Plan Element</b>	<b>Timeframe</b>	<b>Primary Responsibility</b>
Continue to acquire key open space parcels for the protection of natural resources, wildlife, agricultural lands, water supply, and historic resources, and to meet recreation needs.	Open Space and Recreation	Ongoing	Conservation Commission, Recreation Commission, Community Preservation Committee, Water Districts
Actively pursue Agricultural Preservation Restrictions (APR) and Conservation Restrictions (CR) to protect farmland, forested land, riparian corridors, and water supply areas.	Open Space and Recreation	Ongoing	Conservation Commission, Agricultural Commission, Community Preservation Committee
Implement the recommendations in the town's ADA Transition Plan, including accessibility improvements for town-owned buildings, and conservation and recreation facilities.	Open Space and Recreation, Facilities and Services	Ongoing	Commission on Disability, Conservation Commission, Recreation Commission
Continue to work collaboratively with neighboring communities on compliance with the EPA MS4 Stormwater Permit, and develop a long-term financing plan to assist with funding stormwater activities.	Natural and Cultural Resources, Facilities and Services	Ongoing	Board of Selectmen, Conservation Commission, Town Engineer
Address the maintenance needs and recommendations identified for town-owned buildings, schools and facilities.	Facilities and Services	Ongoing	Board of Selectmen, School Department
Continue to work with the School Department and the MSBA on the middle school project.	Facilities and Services	Ongoing	School Department, Board of Selectmen

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
As a means of reducing the town's solid waste collection and disposal costs, provide ongoing public education regarding the recycling program, implement a composting program, and consider implementing a food composting program for the schools and the Senior Center.	Facilities and Services	Ongoing	Sustainability Committee
Continue to improve the condition of the town's roadways, and construct additional sidewalks and bicycle accommodations where feasible, as funding allows.	Facilities and Services	Ongoing	Board of Selectmen, Highway Department, Town Engineer
Pursue energy efficiency and renewable energy initiatives for town-owned buildings, facilities and schools.	Facilities and Services	Ongoing	Board of Selectmen, School Department
Increase/improve education and outreach to inform the public regarding climate event safety protocol.	Climate Change Resiliency	Ongoing	Conservation Commission, Emergency Manager
Update and revise the Town's Zoning Bylaw to provide clarity and consistency, update uses, and add appropriate design standards, guidelines and performance standards, including updated standards for landscaping, lighting and signage. Conduct a comprehensive review of the town's Zoning Bylaw and development regulations every five years. In the future, review the Zoning Bylaw every five years to identify needed updates and revisions.	Land Use and Zoning	Short-term	Planning Board

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
<p>Revise and modernize the OSRD bylaw to encourage the set aside of additional open space, and reduce minimum lot size requirements for the residential component of an OSRD project, thereby creating larger areas of contiguous open space. In addition, consider making OSRD mandatory for subdivisions over a certain size threshold, and eliminate the requirement for Town Meeting approval of OSRD projects. The Master Plan Committee recommends that either a recognized non-profit entity or the Town hold the open space set aside within an OSRD project, in order to ensure that a responsible party protects, manages and maintains the land.</p>	<p>Land Use and Zoning</p>	<p>Short-term</p>	<p>Planning Board</p>
<p>Consider eliminating the requirement for Town Meeting approval of multi-family development in the R-3 district. The permitting process for such projects would then lie with the Planning Board and other appropriate boards and commissions.</p>	<p>Land Use and Zoning</p>	<p>Short-term</p>	<p>Planning Board</p>

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
<p>Revise the Temporary Independent Living Quarters (TILQ) allowing accessory dwelling units by-right and consider providing additional flexibility within the bylaw (for example, not requiring that the accessory unit be occupied by the homeowner’s relative), in order to increase housing options for older adults and young, entry-level workers.</p>	<p>Land Use and Zoning</p>	<p>Short-term</p>	<p>Planning Board</p>
<p>The zoning around each of the Route 3 interchanges should be reexamined with an eye toward encouraging additional commercial development and support services for companies and residents located in these areas. A commercial overlay district should be considered along Kendall Road from the Highway Department garage to Route 3.</p>	<p>Land Use and Zoning</p>	<p>Short-term</p>	<p>Planning Board</p>
<p>Modify the Zoning Bylaw to better articulate the Town’s support of agricultural enterprises by including uses such as food processing and packaging, shared commercial kitchen facilities, and farmer’s co-ops.</p>	<p>Land Use and Zoning</p>	<p>Short-term</p>	<p>Planning Board, Agricultural Commission</p>
<p>Consider adopting a Low Impact Development (LID) bylaw for managing stormwater on site and to assist the Town in meeting the requirements of the new EPA MS4 permit.</p>	<p>Land Use and Zoning</p>	<p>Short-term</p>	<p>Town Engineer, Conservation Commission, Planning Board</p>

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
Modify the Zoning Bylaw to further encourage renewable energy initiatives with the assistance of NMCOG.	Land Use and Zoning	Short-term	Planning Board
The COVID-19 pandemic has had a negative impact upon the health and economy of the nation, state, regional and Town of Tyngsborough. NMCOG recently received a \$150,000 technical assistance grant under the CARES Act from the Economic Development Administration (EDA) to develop an Economic Recovery and Resiliency Plan and to improve the capacity of the Greater Lowell communities in accessing additional federal and state grants. NMCOG will be working closely with its CEDS Committee and local communities to address the negative impacts of the pandemic.	Economic Development	Short-term	NMCOG, Town Planner/Director of Economic Development
Create a pedestrian and bicycle safety education program for school-age children through collaboration with public safety officials and the School Department.	Transportation and Circulation	Short-term	Police Department, School Department

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
<p>Tyngsborough needs to recognize the prevalence of new industries and ways of doing business as a result of COVID-19. The Town may have to modify its Zoning Bylaw to permit e-commerce activities, such as distribution and fulfillment centers, ghost kitchens and dark stores. These changes may have a short-term impact depending upon how long the pandemic persists, however, they represent what is currently going on in the marketplace.</p>	<p>Economic Development</p>	<p>Short-term</p>	<p>Planning Board, Economic Development Commission</p>
<p>Work with the Massachusetts Biotechnology Council and the UMass Innovation Hub to attract biotech, high tech, alternative energy and “green” industries to Tyngsborough.</p>	<p>Economic Development</p>	<p>Short-term</p>	<p>Town Planner/Director of Economic Development, Economic Development Commission</p>
<p>Develop a permitting handbook to be available on the web site to educate potential permit applicants on the ways to have local permits approved for specific industries.</p>	<p>Economic Development</p>	<p>Short-term</p>	<p>Town Planner/Director of Economic Development, Inspectional Services</p>
<p>Access the training resources at the MassHire Greater Lowell Workforce Board, UMass Lowell and Middlesex Community College to assist small businesses to expand and underemployed and unemployed workers to qualify for new jobs.</p>	<p>Economic Development</p>	<p>Short-term</p>	<p>Town Planner/Director of Economic Development, Economic Development Commission</p>
<p>Tie together the agricultural sector with the Town’s economic development strategy by promoting local products and services, and agri-tourism.</p>	<p>Economic Development</p>	<p>Short-term</p>	<p>Town Planner/Director of Economic Development, Agricultural Commission</p>

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
Address the future water and sewer capacity issues in the community by working with neighboring communities and NMCOG.	Economic Development	Short-term	Board of Selectmen, Town Planner/Director of Economic Development, Sewer Commission, NMCOG
Implement the economic development opportunities along Middlesex Road, Kendall Road and Westford Road, as well as the Town Center Plan.	Economic Development	Short-term	Board of Selectmen, Town Planner/Director of Economic Development
Apply for Complete Streets and Safe Routes to Schools funding to implement the projects identified in the <i>Complete Streets Prioritization Plan</i> .	Transportation and Circulation	Short-term	Board of Selectmen, School Department, Town Engineer
Undertake a parking demand study for the Town Center to identify opportunities for expanded parking.	Transportation and Circulation	Short-term	Town Engineer
Revise and update the zoning and subdivision regulations so that they are in keeping with the planning and design goals of the community, including the desire to preserve rural character on low-volume residential streets, while protecting public safety and accommodating the needs of all roadway users.	Transportation and Circulation	Short-term	Planning Board, Police Department, Highway Department

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
<p>Revise and update the parking requirements outlined in the Town's development regulations to reflect more current standards for various types of land uses. The parking design standards for commercial and industrial projects should require that parking areas be located to the side and rear of the buildings, in order to create more welcoming and pedestrian-friendly streetscapes. Re-examine the parking requirements for condominium projects to determine whether the current standard of 1.5 spaces per unit adequately meets the needs of residents and their visitors. The current dimensional requirements for parking spaces should also be reviewed and evaluated given that they exceed current industry standards. Consider adding requirements for bicycle parking for commercial and industrial projects.</p>	<p>Transportation and Circulation</p>	<p>Short-term</p>	<p>Planning Board, Town Planner/Director of Economic Development</p>
<p>Modify the development regulations to include better design guidance for drive-throughs. Consider evolving retail business and restaurant operating models that focus on contactless purchases and curbside pick-up when updating and revising design requirements for access, egress and parking lot design.</p>	<p>Transportation and Circulation</p>	<p>Short-term</p>	<p>Planning Board, Town Engineer, Town Planner/Director of Economic Development</p>

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
Develop a roadway maintenance financing plan to address existing and projected future maintenance needs.	Transportation and Circulation	Short-term	Board of Selectmen, Highway Department, Town Engineer
Work with MassDOT and NMCOG to address high crash locations, including the intersections of Kendall Road and Middlesex Road, and Middlesex Road, Farwell Road, and Locust Avenue, and further study the pedestrian-involved crashes that have occurred along Route 3A south of Westford Road.	Transportation and Circulation	Short-term	Town Engineer, Police Department, Highway Department, NMCOG, MassDOT
Continue to work with NMCOG and MassDOT on the expansion of the Tyngsborough Park and Ride facility, and replacement of the temporary trailer utilized for Boston Express ticket sales with a permanent structure.	Transportation and Circulation	Short-term	Board of Selectmen, MassDOT, NMCOG
Make a more concerted effort to work with the Tyngsborough Housing Authority and non-profit and for-profit developers to address the housing needs of residents.	Housing	Short-term	Board of Selectmen, Tyngsborough Housing Authority, Town Planner/Director of Economic Development
Build on local staff capacity to diversify the community's housing stock.	Housing	Short-term	Board of Selectmen
Examine the Chapter 40R program as a means to establish mixed-use districts and Starter Homes. Request that a DHCD representative make a presentation to the Tyngsborough Planning Board.	Housing	Short-term	Planning Board, Town Planner/Director of Economic Development

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
Research various zoning issues that could increase the number of affordable housing units in the community.	Housing	Short-term	Planning Board, Town Planner/Director of Economic Development
Develop design guidelines for affordable housing and utilize tax title properties to develop smaller affordable housing units.	Housing	Short-term	Zoning Board of Appeals, Board of Selectmen, Tax Assessor
Develop a Comprehensive Resource Protection Strategy to ensure that limited resources are utilized to meet the most critical open space needs.	Open Space and Recreation	Short-term	Conservation Commission, Community Preservation Committee
Develop a maintenance and management plan for the town's water bodies, conservation lands and recreation facilities.	Open Space and Recreation	Short-term	Conservation Commission, Recreation Commission, Community Preservation Committee
Promote stewardship of the town conservation areas and trails, and recruit additional volunteers to assist with maintenance activities.	Open Space and Recreation	Short-term	Conservation Commission
Ensure that proper legal procedures and protocols are followed for recording open space land transactions, and establish criteria for determining which town board or commission is given care and custody of lands that are acquired in fee, through donation, or by tax title foreclosure.	Open Space and Recreation	Short-term	Board of Selectmen, Conservation Commission
Adopt a Scenic Road Bylaw and Shade Tree Bylaw, or reference the state's Shade Tree statute within the Scenic Roads Bylaw.	Natural and Cultural Resources	Short-term	Planning Board, Tree Warden, Highway Department, Historical Commission

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
Adopt a tree retention bylaw for commercial development projects.	Natural and Cultural Resources	Short-term	Planning Board
Study the feasibility of establishing National Register and/or Local Historic District in the Town Center.	Natural and Cultural Resources	Short-term	Historical Commission, Board of Selectmen
Encourage historic preservation and restoration projects on both public and private property, and allow CPA funds to be expended on such projects, based on established qualifying criteria. Require a Preservation Restriction when CPA funds are awarded for rehabilitation or restoration of an historic property, in order to protect the Town's investment.	Natural and Cultural Resources	Short-term	Community Preservation Committee, Historical Commission
Promote and market the Town's historical and cultural resources to foster a greater sense of appreciation and stewardship by: providing plaques for display on historic properties; developing a "self-guided walking tour" of the Town Center; and working with the school department to include a module on town history within the curriculum.	Natural and Cultural Resources	Short-term	Historical Commission, School Department, Community Preservation Committee
Work with DEP and communities along the Merrimack River to resolve CSO issues that lead to untreated sewage releases during heavy rain events.	Natural and Cultural Resources	Short-term	Board of Selectmen, Conservation Commission, Board of Health, Sewer Commission, DEP

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
As resources allow, continue to certify the identified vernal pools that remain undocumented, and confirm that the pools serve as breeding habitat for obligate vernal species.	Natural and Cultural Resources	Short-term	Conservation Commission
Establish a “Detection and Response” plan to address invasive plant species. Educate homeowners and the agricultural community on the importance of using native plantings, and on how to detect and report the presence of invasives. Continue to manage aquatic invasives impacting the town’s waterbodies.	Natural and Cultural Resources	Short-term	Conservation Commission
Promote the town’s agricultural enterprises by encouraging: the preservation of agricultural lands through APRs and Conservation Restrictions; farm-to-table restaurants; a “buy local” campaign; and community supported agriculture (CSA).	Natural and Cultural Resources	Short-term	Agricultural Commission, Town Planner/Director of Economic Development
Work with local farm owners and the Massachusetts Department of Agricultural Resources (MDAR) to identify funding for a local agricultural plan that addresses agricultural preservation and promotes the local agricultural economy.	Natural and Cultural Resources	Short-term	Agricultural Commission, Town Planner/Director of Economic Development, MDAR

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
Develop a prioritization plan for lands classified under Chapters 61, 61A and 61B, so that the Town is prepared when parcels become available for possible acquisition. In addition, the Town should continue to address parcels that do not comply with the requirements set forth in Chapters 61, 61A and 61B.	Natural and Cultural Resources	Short-term	Board of Selectmen, Tax Assessor
Establish a centralized facilities maintenance department that is responsible for all town-owned properties.	Facilities and Services	Short-term	Board of Selectmen
Address the public safety building needs through the development of a public safety complex.	Facilities and Services	Short-term	Board of Selectmen, Police Department, Fire Department, Building Committee (newly formed)
Work with neighboring communities and National Grid officials to improve the response time for power outages, and reduce the timeframe required for utility relocations and connections.	Facilities and Services	Short-term	Board of Selectmen
Install backup power in additional critical facilities, including Greater Lowell Vocational High School, Senior Center, and other municipal buildings, and invest in renewable energy systems for redundancy	Climate Change Resiliency	Short-term	Board of Selectmen, Greater Lowell Vocational High School, Council on Aging
Right size and replace culverts; focus preliminary efforts on Westford Road, the road to the elementary school, Sherburne Avenue, and Dunstable Road.	Climate Change Resiliency	Short-term	Board of Selectmen, Town Engineer, Highway Department

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
Work with National Grid to increase proactive tree management above and beyond current tree trimming program for above-ground utility lines.	Climate Change Resiliency	Short-term	Board of Selectmen, Tree Warden, Highway Department, National Grid
Ensure that administrators of schools, businesses, medical facilities, and municipal buildings have a shelter plan in the event of a tornado warning.	Climate Change Resiliency	Short-term	Emergency Manager, schools
Assess and inventory stream crossings, such as culverts and bridges; prioritize/rank these assets based on vulnerability.	Climate Change Resiliency	Short-term	Conservation Commission, Town Engineer, Highway Department
Increase capacity for snow removal and identify locations for snow storage.	Climate Change Resiliency	Short-term	Highway Department
Continue to identify problem areas with poor drainage, icing issues, and gaps in the stormwater system. Identify potential strategies to address these issues including stormwater management funding.	Climate Change Resiliency	Short-term	Town Engineer, Highway Department
Work with DCR Office of Dam Safety and dam owners to ensure dam inspections are current and develop regional collaborations to assess dams and design strategies. Complete dam repair if needed.	Climate Change Resiliency	Short-term	Conservation Commission, Town Engineer, DCR
Encourage increased energy resiliency in development and redevelopment.	Climate Change Resiliency	Short-term	Conservation Commission and Town Engineer
Encourage onsite renewable energy generation and storage.	Climate Change Resiliency	Short-term	Planning Board, Town Engineer
Allow or encourage alternative/renewable energy	Climate Change Resiliency	Short-term	Planning Board, Town Engineer

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
Promote renewable energy use through public-private partnership.	Climate Change Resiliency	Short-term	Planning Board, Town Planner/Director of Economic Development
Collaborate with the State to conduct a stormwater assessment on State-owned roads, assess undersized culverts, and complete retrofits for the stormwater system. Work with MassDOT to mitigate flooding.	Climate Change Resiliency	Short-term	Highway Department, Town Engineer, MassDOT
Conserve, create, or rehabilitate parks and open space to provide climate resilient benefits; such as cooling, flood storage, and stormwater management.	Climate Change Resiliency	Short-term	Conservation Commission
Conduct a stormwater infrastructure assessment to identify opportunities to utilize best management practices on municipal property	Climate Change Resiliency	Short-term	Town Engineer
Implement a municipal tree program.	Climate Change Resiliency	Short-term	Planning Board, Conservation Commission
Enhance land conservation efforts.	Climate Change Resiliency	Short-term	Planning Board, Conservation Commission
Resolve the split-zoned parcels, particularly those located within the town's business districts.	Land Use and Zoning	Intermediate	Planning Board
Create a more unified appearance and a "brand" that sets the Town Center area apart from other sections of town through the creation of a Town Center Overlay District and Bylaw, with specific design guidelines that complement the town's intent to attract small-scale businesses, shops, cultural venues and events.	Land Use and Zoning	Intermediate	Board of Selectmen, Planning Board, Historical Commission

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
Consider modifying the zoning bylaw to accommodate the creation of a neighborhood commercial/service node on the east side of the Merrimack River in the vicinity of Pawtucket Boulevard, Frost Road and Charles Chronopoulos Way through the establishment of a mixed use overlay zoning district.	Land Use and Zoning	Intermediate	Planning Board
Create design guidelines directed at improving the visual quality of commercial and industrial development. The guidelines will provide direction and recommendations for the development community relative to landscaping, signage, lighting, access and parking lot design, and façade treatments. Particular attending should be paid to the Middlesex Road and Westford Road corridors.	Land Use and Zoning	Intermediate	Planning Board, Zoning Board of Appeals
The re-establishment of the Economic Development Commission is a critical component to addressing the current and future economic development needs of the community. While it may be desirable to delay this action until the Zoning Bylaw is revised, the benefits of this action would be extensive.	Economic Development	Intermediate	Board of Selectmen
Work with MassDOT on possible traffic calming measures in the Town Center, along the northern end of Middlesex Road, and on Pawtucket Boulevard.	Transportation and Circulation	Intermediate	Board of Selectmen, Town Engineer, MassDOT

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
Develop “starter homes” for young families and assisted living and independent living facilities for seniors.	Housing	Intermediate	Tyngsborough Housing Authority, Council on Aging, Affordable Housing Trust, Town Planner/Director of Economic Development
Formulate a Trail Plan to examine opportunities for creating an integrated trail network, including linkage with neighboring communities.	Open Space and Recreation	Intermediate	Conservation staff, Recreation Commission, Town Engineer
Study and evaluate parking issues at town-owned conservation and recreation areas, to determine the most cost effective solution for each individual location and address the issues over time, as resources become available. Work with the Department of Conservation and Recreation to resolve the parking issues at the State Forest.	Open Space and Recreation	Intermediate	Conservation Commission staff, Recreation Commission, DCR
Undertake a recreation study to gauge current and future demand for playing fields, courts, and other recreational facilities.	Open Space and Recreation	Intermediate	Recreation Commission
Develop a forestry management plan for the town-owned properties.	Natural and Cultural Resources	Intermediate	Conservation Commission

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
Consider the adoption of a Farmland Protection Bylaw that would allow agriculturally related accessory uses on active farms over a certain size (e.g. 5 acres). Such accessory uses could include food processing, sale of livestock feed, and event facilities.	Natural and Cultural Resources	Intermediate	Planning Board, Agricultural Commission, Town Planner/Director of Economic Development
Address the space needs for the Town Hall and Library.	Facilities and Services	Intermediate	Board of Selectmen, Building Committee
Implement future phases of the Town’s sewer program as resources become available.	Facilities and Services	Intermediate	Board of Selectmen, Sewer Commission
Implement an updated Government Structure <ul style="list-style-type: none"> <li>○ Bring forward to Town Meeting recommendations from the Government Study Commission to update the government structure.</li> <li>○ Consider the need for a charter in the future</li> </ul>	Facilities and Services	Intermediate	Board of Selectmen
Promote use of green infrastructure to remove wet weather flows.	Climate Change Resiliency	Intermediate	Town Engineer
Invasive species management.	Climate Change Resiliency	Intermediate	Planning Board and Conservation Commission
Improve municipal building infrastructure such as insulation, energy efficiency, ability to withstand snow loads, and cool roofs,	Climate Change Resiliency	Intermediate	Building Committee, Town Engineer

**Table 10.1 (cont'd): Implementation Responsibilities and Timeframes**

Recommendation	Applicable Master Plan Element	Timeframe	Primary Responsibility
Support the Route 3, Exit 91/formerly Exit 36 Southbound Ramp project to create additional small business opportunities and participate in the Route 3 Highway Interchange Market Study with MassDOT to identify future economic opportunities along Route 3.	Economic Development	Long-term	Board of Selectmen, Town Planner/Director of Economic Development
Study the concept of creating a boulevard along Westford Road to determine whether it is a viable means of calming traffic and reducing travel speeds, while also improving the aesthetics along the corridor.	Transportation and Circulation	Long-term	Board of Selectmen, Town Engineer, Police Department
Continue to partner with the City of Nashua, NHDOT and MassDOT in the future design and permitting of the Exit 36 off ramp project.	Transportation and Circulation	Long-term	Board of Selectmen, Conservation Commission, Town Engineer, NMCOG, MassDOT
As a long-term project, work with MassDOT and NMCOG in initiating an updated feasibility study for a second river crossing in Tyngsborough.	Transportation and Circulation	Long-term	Board of Selectmen, Town Engineer, Town Planner/Director of Economic Development, Public safety departments, NMCOG, MassDOT

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## **APPENDIX A: MATERIALS AND INPUT SUMMARIES FROM THE PUBLIC INPUT SESSIONS**

# Tyngsborough Master Plan Visioning Session



## The Tyngsborough Master Plan Committee invites you to its first Public Input Session

Please attend this important event and help determine Tyngsborough's future. The Master Plan will address land use, infrastructure, environmental protection, open space, transportation, housing, and economic development policies. Strong community participation is the most important aspect in creating a document that best meets the needs of the Town over the next ten years or more. Make sure your voice is heard!

**When:** Wednesday, January 9<sup>th</sup>  
7:00 p.m. – 9:00 p.m.

**Where:** Old Town Hall  
10 Kendall Road  
Tyngsborough, MA

# TYNGSBOROUGH MASTER PLAN VISIONING SESSION

January 9, 2019  
Old Town Hall

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## Program

- I. Welcome and Introductions
- II. Overview of the Master Plan Process - Beverly Woods,  
Executive Director, Northern Middlesex Council of  
Governments
- III. The Visioning Process and Strengths, Weaknesses,  
Opportunities and Threats (SWOT) Analysis -Jay Donovan,  
Assistant Director, Northern Middlesex Council of  
Governments

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**15-minute break for prioritizing input using color  
coding dots**  
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- IV. Future Opportunities for Public Input

## Tyngsborough Master Plan Update SWOT Session Results: 1-9-19

Strengths	Participant Priorities				Totals	
	1st	2nd	3rd	4th	Dots	Points
Location	2	2	0	0	4	14
River	2	3	1	0	6	19
Historic town center	9	1	2	0	12	43
Open land	7	1	2	0	10	35
Nature	4	0	0	0	4	16
Community events	4	0	0	0	4	16
Historic dwellings, 1/2 mile town center	0	2	1	0	3	8
Farms/food security	4	6	0	0	10	34
Reasonable housing costs	0	1	0	4	5	7
Small town feel	6	1	1	0	8	29
Affordable housing/Ch 40B not an issue	0	0	0	1	1	1
Excellent school system	2	3	1	1	7	20
Many options for schooling	0	1	0	0	1	3
Excellent police department	3	0	0	0	3	12
Active public library	5	1	0	1	7	24
Excellent fire protection	2	1	0	1	4	12
Sewer coverage/infrastructure (some)	0	0	0	1	1	1
Low crime rate	5	0	1	3	9	25
Proximity to Rte 3/highway	0	2	2	4	8	14
Trail access to state forest	0	1	2	1	4	8
Town beach	0	0	1	4	5	6
Proximity to mall	0	0	4	1	5	9
Opportunity to create town center	3	2	1	0	6	20
Four bodies of water in town	5	1	1	1	8	25
High air quality	1	1	0	2	4	9
Active town boards	0	1	0	1	2	4
Two golf courses	3	2	1	7	13	18
Wildlife	3	4	1	1	9	28
Bus to airport	3	0	1	2	6	32
Two airports	0	1	1	2	4	9
Historic Tyngsborough Bridge	0	2	1	0	3	8
Historic First Parish Meetinghouse	0	0	3	2	5	8

Weaknesses	Participant Priorities				Totals	
	1st	2nd	3rd	4th	Dots	Points
Road conditions	6	2	5	2	15	42
Tax rate	4	0	0	0	4	16
Town water and sewer	3	1	1	1	6	17
Lack of sidewalks	3	7	2	0	12	37
Not pedestrian friendly	0	2	3	0	5	12
Lack of access to the river	0	1	0	0	1	3
No organized DPW	5	3	0	1	9	32
Proximity to tax free New Hampshire	4	0	1	1	6	19
Lack of space for commercial/small business	1	0	0	1	2	5
Lack of shopping in town center	1	4	2	9	16	12
Abandoned buildings	1	1	2	1	5	12
Lack of arts & crafts/cultural activities for youth	0	3	0	1	4	10
Limited social/cultural facilities	1	2	2	1	6	15
Lack of PEG center?	0	0	0	0	0	0
Need for new public safety building	3	1	0	1	5	16
Lack of public transit/transportation	0	0	0	2	2	2
Need second bridge	3	2	2	1	8	23
Proximity to grocery store	5	1	2	1	9	28
No pedestrian friendly center of town	1	0	1	1	3	7
Town center is not walkable/does not feel safe	2	2	1	1	6	27
No bike trail	4	8	3	1	16	51
Lack of playgrounds	1	0	2	2	5	9
Lack of parking spaces by old town hall	1	2	2	1	6	15
No way to get town info to residents	0	0	1	4	5	6
No local newspaper	0	0	1	1	2	3

Opportunities	Participant Priorities				Totals	
	1st	2nd	3rd	4th	Dots	Points
Town center alive with arts and culture	1	4	1	1	7	19
Preserve open space	5	1	5	0	11	33
Preserve food security/farms	0	0	1	1	2	3
Winslow School property use/development potential	2	1	1	1	5	14
Developable land along Rte 3 corridor/Westford Road	4	2	2	2	10	28
Town center/properties around it	2	3	2	2	9	23
Improving access to waterways	0	5	4	2	11	25
Town could be a model for revitalization of town center	2	2	2	3	9	19
Level Winslow School/open up five acres at town center	2	2	2	2	8	20
Connect town center properties	0	3	3	2	8	17
Opportunity to preserve historic center/buildings	0	2	1	1	4	9
Opportunity to develop Tyngsborough Country Club	0	1	1	1	3	6
Tax revenue	2	3	7	0	12	31
Pot shops opening/brings tourism	0	2	2	3	7	13
Follow through on recommendations from last Master Plan. Make Tyngsborough a destination by showing rural areas and historic center	1	0	1	6	8	12
Open space for rec or agriculture	4	4	2	1	11	33
Develop a town facilities plan. Assess all buildings and needs/repairs	3	1	0	2	6	17
Use river for commercial use	0	5	1	6	12	23
Boat launch/rentals/picnic on river	3	0	3	2	8	20
Summer destination	2	5	1	6	14	31
Combine development and small town feel	13	8	0	0	21	76
Make new buildings environmentally friendly/solar panels	10	3	6	6	25	67

Threats	Participant Priorities				Totals	
	1st	2nd	3rd	4th	Dots	Points
Inclusionary zoning not being met	4	0	2	0	6	20
Overgrowth threatens wildlife	4	3	3	1	11	32
Overdevelopment/commercialization	10	2	1	0	13	48
Farming community/farmland being developed	3	0	2	0	5	16
Loss of open space	2	2	0	1	5	15
Traffic from development	1	2	3	0	6	16
Water pollution	0	1	2	2	5	9
Funding opportunities while being fiscally responsible	1	0	1	0	2	6
Power interruptions	0	3	1	2	6	13
Roads with potholes	5	4	1	2	12	36
Lack of opportunities for young people	0	3	1	2	6	13
Resident apathy	1	1	2	2	6	13
Deforestation along roadways. Keep old trees along roadway	0	2	3	0	5	12
Fear of development/change	4	3	4	1	12	38
Notre Dame Academy cutting down trees. Noise pollution	2	0	4	0	6	16
Overpopulation	5	6	2	0	13	42
Increase taxes due to strain on infrastructure	4	4	0	0	8	28
Looking like Nashua	3	3	1	2	9	25
Loss of quality of life	2	2	2	0	6	18
More crime	0	0	0	0	0	0

# TYNGBOROUGH MASTER PLAN VISIONING SESSION II

March 13, 2019  
7:00 p.m. - 9:00 p.m.

## Program

- V. Welcome and Introductions
- VI. Overview - Beverly Woods, Executive Director,  
Northern Middlesex Council of Governments
- III. General Discussion on Land Use and Zoning,  
Economic and Housing-Jay Donovan, Assistant  
Director
- IV. Group Exercise
- V. Wrap up

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## **TYNGSBOROUGH MASTER PLAN VISIONING SESSION II**

### **DISCUSSION QUESTIONS**

1. What changes are needed to refine and modernize Tyngsborough's land use policies and regulations?
2. Are there locations in Town with obvious land use conflicts (for example, areas where residential uses and industrial uses abut and are in conflict)?
3. What steps can the Town take to improve the Town Center area?
4. What additional types of businesses are needed to meet the needs of the community?
5. What more can the Town do to attract economic development that will meet the future needs of the community?
6. Are there opportunities to redevelop existing underutilized and vacant properties?
7. What steps can the Town take to support its agricultural economy?
8. What actions can the Town take to promote and support its creative and cultural economy (e.g. artists and artisans)?
9. What types of housing will Tyngsborough need in the future to meet the needs of its residents, including those with low- and moderate incomes, seniors, the disabled, and young families?
10. What types of infrastructure improvements will be needed to meet the Town's economic development and housing needs in the future?

## Group Exercise

1. Using the map provided, please identify the areas that you believe are suitable for the following housing types/densities:

- Single-family large lot housing located on at least 1.5 acres **(use red marker)**
- Single-family housing located on one-half acre lots **(use blue marker)**
- Multi-family housing at a density of at least 5 units per acre **(use green marker).**

2. On the same map, use **red color coding dots** to identify areas in town that you feel are suitable for future business development.

---In the right margin of the map, please list the types of businesses that you feel are suitable at these locations.

---In the left margin of the map, please list the types of businesses that you feel should be excluded from these locations.

5. Using the flip chart sheet, please answer the following two questions:

- a. If a relative or friend were planning to visit Tyngsborough for only one day and you wanted to show them the places, sites, or attractions that you feel best represent the community, where would you bring them and what would you do?
- b. If you could physically improve three locations in town, where would they be and what improvements would you make?

6. Identify a group spokesperson to provide a two-minute summary of the group's findings during the wrap-up.

**Tyngsborough Master Plan Visioning Session II Results**  
**March 13, 2019**

**Question 1: What changes are need to refine and modernize Tyngsborough’s land use and regulations?**

Responses:

9. Re-zone some properties and update the zoning regulations. Need to rezone commercial and industrial areas to reflect today’s standards.
10. It has been 15 years since zoning was addressed – time to revisit it.
11. Tyngsborough did not take advantage of zoning: there’s no sewer or water along Route 3 where the industrial zoned parcels are located.
12. Route 3 traffic should be working in Tyngsborough. Need to improve zoning to attract businesses and people to town.
13. Changes in zoning should not result in more residential development.
14. Write design guidelines that reflect the community character of Tyngsborough in order to attract businesses that are desired.
15. Zone for the types of businesses that you want to attract. Look at particular areas in town and determine the type of businesses that would best fit. Attract companies that will hire Tyngsborough residents.
16. Review what the surrounding towns are doing to attract businesses.

**Question 2: Are there locations in town with obvious land use conflicts (for example, areas where residential uses and industrial uses abut and are in conflict)?**

Responses:

7. Cummings Road has conflicts among farmland, residences and light industrial uses.
8. Middlesex Road went from residential to commercial, which created a conflict. Need to decide what the town wants the Middlesex Road corridor to be instead of strip malls and convenience businesses. “Impulse buy stores” on Middlesex are not working, need a new scheme.
9. Farwell Road has mixed residential and commercial uses, which should be addressed. Split zoned parcels need to be addressed throughout the town.
10. Too many zoning variances have been issued by the Town, which devalues the zoning guidelines.
11. Need infrastructure, village type development and a comprehensive approach when developments are proposed. Once people move into these developments, how are they going to get around/ shop/ walk?

### **Question 3: What steps can the Town take to improve the Town Center area?**

Responses:

16. Now that the bridge has been rebuilt, the Town could buy property east of the bridge towards Lowell and landscape the area to make it more attractive.
17. The Route 113/ Middlesex Road intersection was identified as the Town Center area. Make Tyngsborough a destination location – need amenities, traffic calming and more street lights.
18. Improve access to the Merrimack River. Utilize old house on the north side of the bridge to access the river and encourage kayaking and canoeing. Identify entrepreneur to finance this type of project, as well as restaurant establishment.
19. Promote pond access at Flint’s Pond. Make it a destination spot for local residents and visitors.
20. Need to establish and enforce 25 mph speed in the Town Center.
21. Make better use of the waterfall property by advertising it for different events.
22. Reutilize Winslow School property.
23. Build water fountain with lights in the Town Center.
24. Develop wayfinding signs and branding for the Town Center.
25. Establish boundaries for the Town Center.
26. Open up river access and vistas. Encourage restaurants along the river.
27. Utilize banners in the Town Center announcing upcoming community events.
28. Establish active tree program to line the streets with trees and/or shrubs.
29. Bury utility lines in the Town Center.
30. Beautify area around railroad tracks adjacent to the river.

### **Question 4: What additional types of businesses are needed to meet the needs of the community?**

Responses:

8. Establish Amazon satellite office.
9. Encourage technology repair businesses – computers, cameras, etc.
10. Attract grocery store.
11. Establish Indoor farmer’s market to be operate year round.
12. Encourage kayak and canoe rental businesses along the river.
13. If the golf course is purchased by the Town, it could be established as an employment resource center.
14. Establish service company for delivery from south Nashua.

**Question 5: What more can the Town do to attract economic development that will meet the future needs of the community?**

Responses:

8. Implement the Exit 36, Route 3 South Bound ramp project. Note: project depends upon funding from New Hampshire.
9. Provide sewer and water to undeveloped industrial and commercial lots in order to attract businesses. Develop a concept plan for this project.
10. Identify developable land and how the Town can support private investors. Promote the community as business friendly.
11. Re-establish the Economic Development Committee.
12. Encourage small village style shops in the Town Center to maintain “small town” feel.
13. Encourage the Town Planner/Director, Economic Development to market Tyngsborough to companies around the state.
14. Update the Town website to promote Tyngsborough and developable sites in the community. Utilize flyers to promote community activities.

**Question 6: Are there opportunities to redevelop existing underutilized and vacant properties?**

Responses:

4. Redevelop the Winslow School and former library. Develop site across the river at the bridge.
5. Reuse former marina property for boating and/or a restaurant.
6. Homes north of bridge by the Merrimack River could be turned into fine dining establishments with an excellent view of the river.

**Question 7: What steps can the Town take to support its agricultural economy?**

Responses:

7. Support local farms through farm-to-table restaurant(s).
8. Improve farmer’s market through indoor facility making it a year-round activity.
9. Support agricultural areas in Tyngsborough more fully by preserving as much agricultural land as possible.
10. Parlee Farm is an example of successful agricultural entertainment. Does Tyngsborough want more examples of this activity?
11. Establish year-round Community Supported Agriculture (CSA) facility to support local farms. Lawndale Farm is good, but is not year-round. Note: Bear Hill farm has a CSA.

12. Encourage the Town to sponsor a Grange, which would revive the social aspects related to farming.

Note: Due to the lack of time to complete the questions, these additional questions were left.

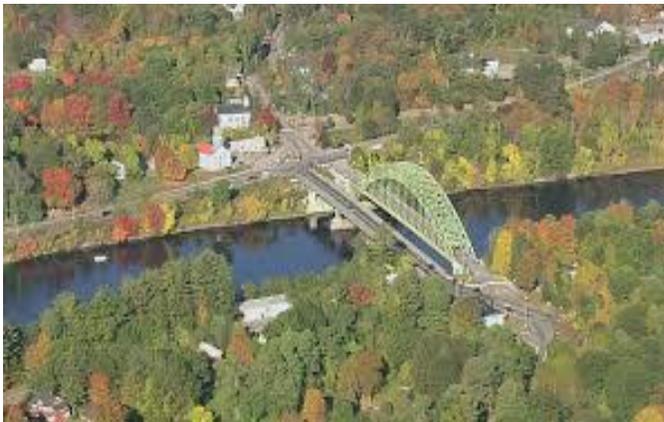
**Question 8: What actions can the Town take to promote and support its creative and cultural economy (e.g. artists and artisans)?**

**Question 9: What types of housing will Tyngsborough need in the future to meet the needs of its residents, including those with low- and moderate-incomes, seniors, the disabled, and young families?**

**Question 10: What types of infrastructure improvements will be needed to meet the Town's economic development and housing need in the future?**

## **Tyngsborough Master Plan Public Input Session**

The Tyngsborough Master Plan Committee invites you to its next public input session. Please attend this important Visioning Session and help to determine the Town's future. The session will focus on open space, recreation, and natural and cultural resources. Make sure your voice is heard!



**When: February 12, 2020  
6:30 p.m. – 8:30 p.m.**

**Where: Old Town Hall  
Lower Meeting Room  
10 Kendall Road  
Tyngsborough, MA**

## Discussion Questions

A visioning session emphasizes brainstorming and open discussion. The results will be used to help develop the goals and recommendations for the Master Plan document. During this evening's visioning session, participants will be asked to address the following as part of a general discussion:

- What are the Town's strengths and assets in terms of Open Space and Recreation?
- What are the community's weaknesses and vulnerabilities in terms of its Open Space and Recreation Assets? What improvements are needed?
- How will changing demographics (e.g. an aging population) affect the need for parks and recreation facilities and services?
- Which natural resources are most threatened by development, uncontrolled sources of pollution, or climate change? Are there specific natural resource areas that are threatened? What can the Town do to address these issues?
- What can Tyngsborough do to better protect its historic buildings and landmarks? How can Tyngsborough make historic preservation more relevant for its residents?

A breakout session will follow, as described on the attached sheet.

***Thank you for participating!!***



## **Tyngsborough Open Space and Recreation Visioning Session February 12, 2020**

### General Meeting Notes

- Add Flint Pond to list of Scenic Resources in the Open Space and Recreation Plan update.
- Create Community Gardens.
- Create a dog park.
- Keep mountain bike trails separate from hiking trails.
- Map of all public trails needed.
- Use (Tyngsborough Country Club?) golf course as location for a large multipurpose playground and water park.
- Need more bike trails/paths.
- Need off-street parking at Town land on Long Pond (GS Park?). Conservation Director noted a grant has been acquired for this purpose.
- Need signs to identify Town Conservation land.

### Break-Out Group Notes

#### **Break-Out Team 1**

- Add a marker to denote the corner of three towns (Tyngsborough, Dunstable, Groton) at Massapoag Pond.
- Create a “good size” park for kids on the Tyngsborough Country Club Golf Course.

#### **Break-Out Team 2**

- Riverfront Park needs a better access drive and better signage. Driveway is too steep.
- What are the trails off Sherburne Avenue that connect conservation land to Lowell-Dracut-Tyngsborough State Park and Vesper Country Club? Are they public?
- Monitor and treat invasive aquatic species in lakes and ponds.
- Monitor and treat invasive plant species on Town land.
- ATV trails: where can they go in town?
- Improve access to the Merrimack River (trails, boat ramp, parks).
- Need more playgrounds.
- Need a place for outdoor ice skating.
- Need areas / parcels for mountain biking.
- Build an outdoor pavilion on Town land for performances.
- Improve boat access at lakes (boat ramps, parking needed).
- Need a Community Garden.

#### **Break-Out Team 3**

- Riverfront Park improvements needed. The driveway is currently too steep, too narrow, and “scary”. Signage is needed to alert residents they are welcome. Parking is inadequate. Better access to the River is needed.

- Community Garden needed. The ideal spot is the Sherburne Estate (has water for irrigation, a bathroom, parking, and visibility already available). The 2<sup>nd</sup> choice is the Hunter Property; 3<sup>rd</sup> choice is the field next to the TES driveway. However, neither of those two currently have access to water for irrigation. A well would be needed, or permission to withdraw water from the River.
- Trails need clear signage to let residents know they can use the properties. More parking is needed for Town conservation lands.
- What happened to the planned dog park? A dog park is needed.
- Residents need year-round access to a compost site.
- Monitor and treat non-native invasive plants at Town lands, especially the Sherburne House.

#### **Break-Out Team 4**

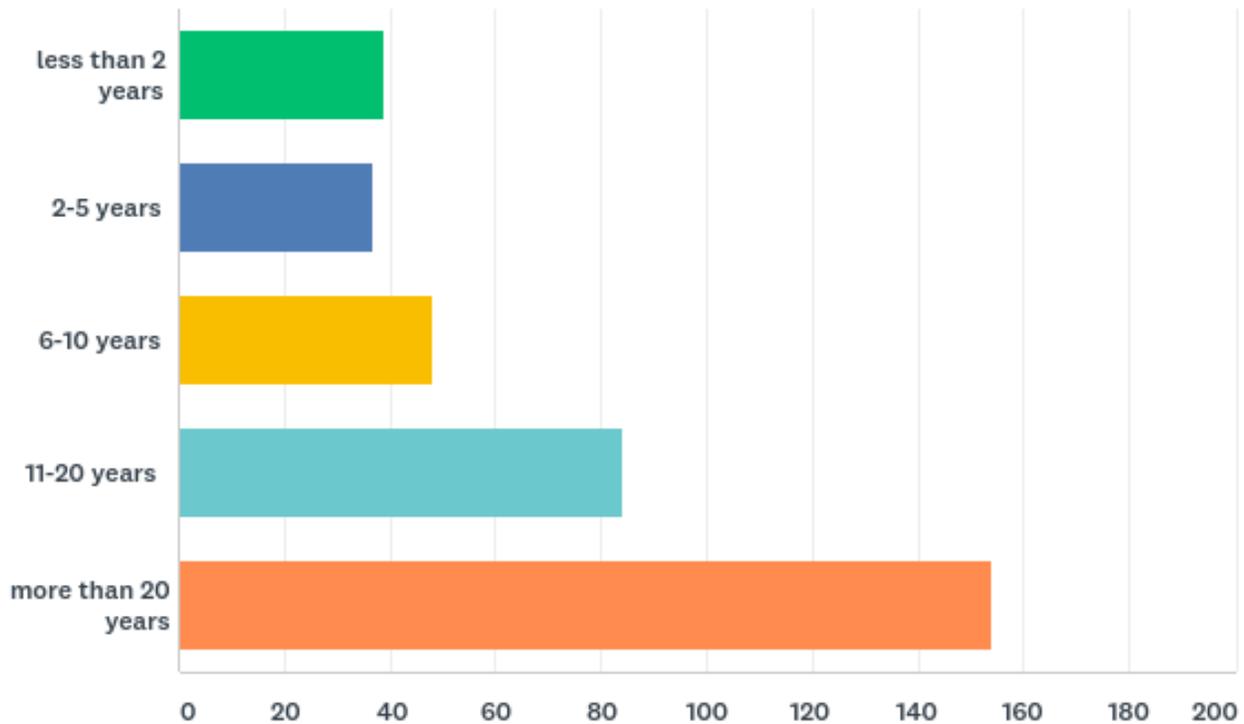
- Show large playground / waterpark in Dracut on the map.

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## **APPENDIX B: SUMMARY OF SURVEY RESULTS**

# 1. How long have you lived in Tyngsborough?

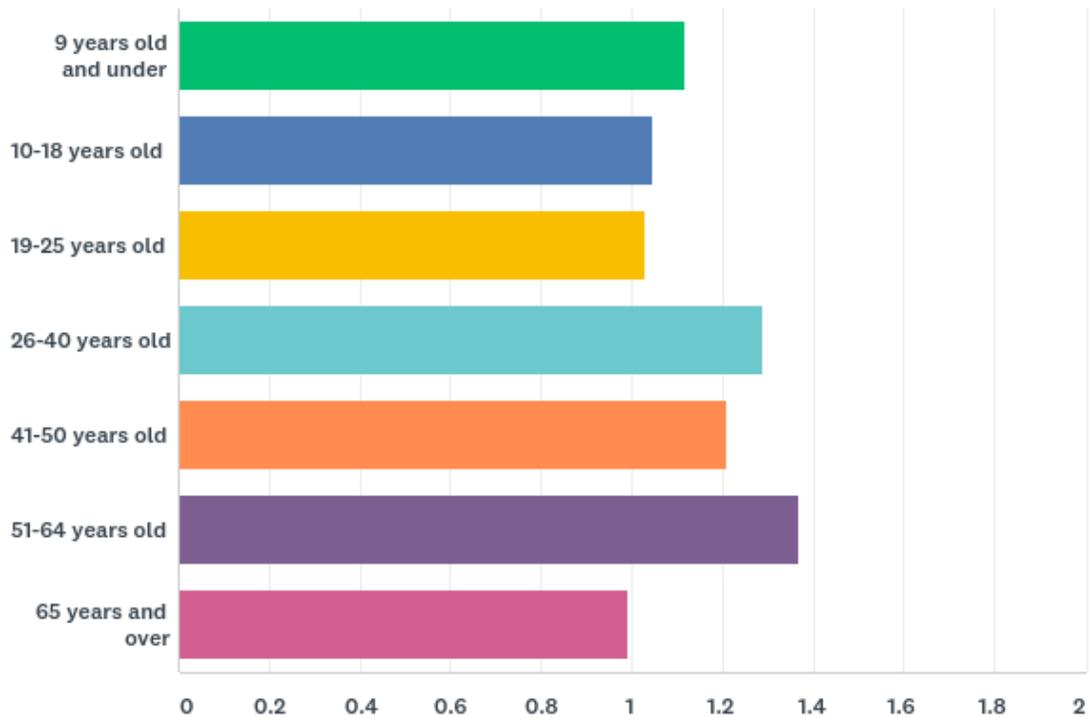
Answered: 362 Skipped: 2



ANSWER CHOICES	RESPONSES	
less than 2 years	10.77%	39
2-5 years	10.22%	37
6-10 years	13.26%	48
11-20 years	23.20%	84
more than 20 years	42.54%	154
<b>TOTAL</b>		<b>362</b>

## 2. Please indicate how many individuals in each age category live in your household.

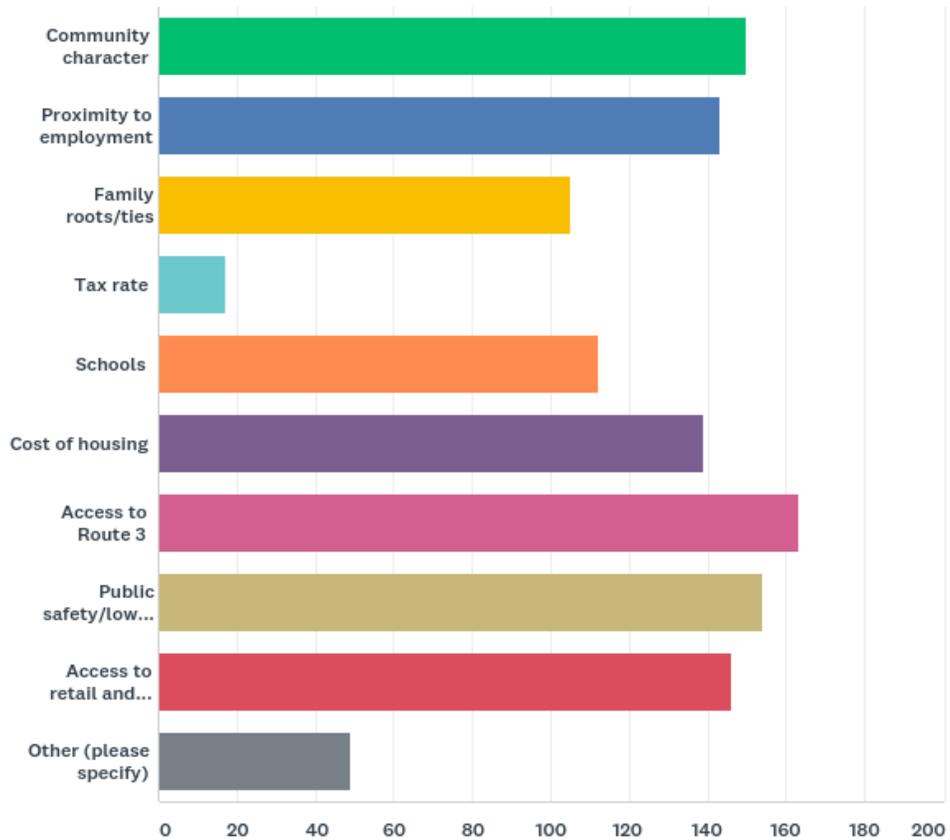
Answered: 357 Skipped: 7



ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
9 years old and under <a href="#">Responses</a>	1	173	155
10-18 years old <a href="#">Responses</a>	1	157	150
19-25 years old <a href="#">Responses</a>	1	137	133
26-40 years old <a href="#">Responses</a>	1	191	148
41-50 years old <a href="#">Responses</a>	1	184	152
51-64 years old <a href="#">Responses</a>	1	242	177
65 years and over <a href="#">Responses</a>	1	109	110
<b>Total Respondents: 357</b>			

### 3. Why do you choose to live in Tyngsborough? Check all that apply.

Answered: 359 Skipped: 5

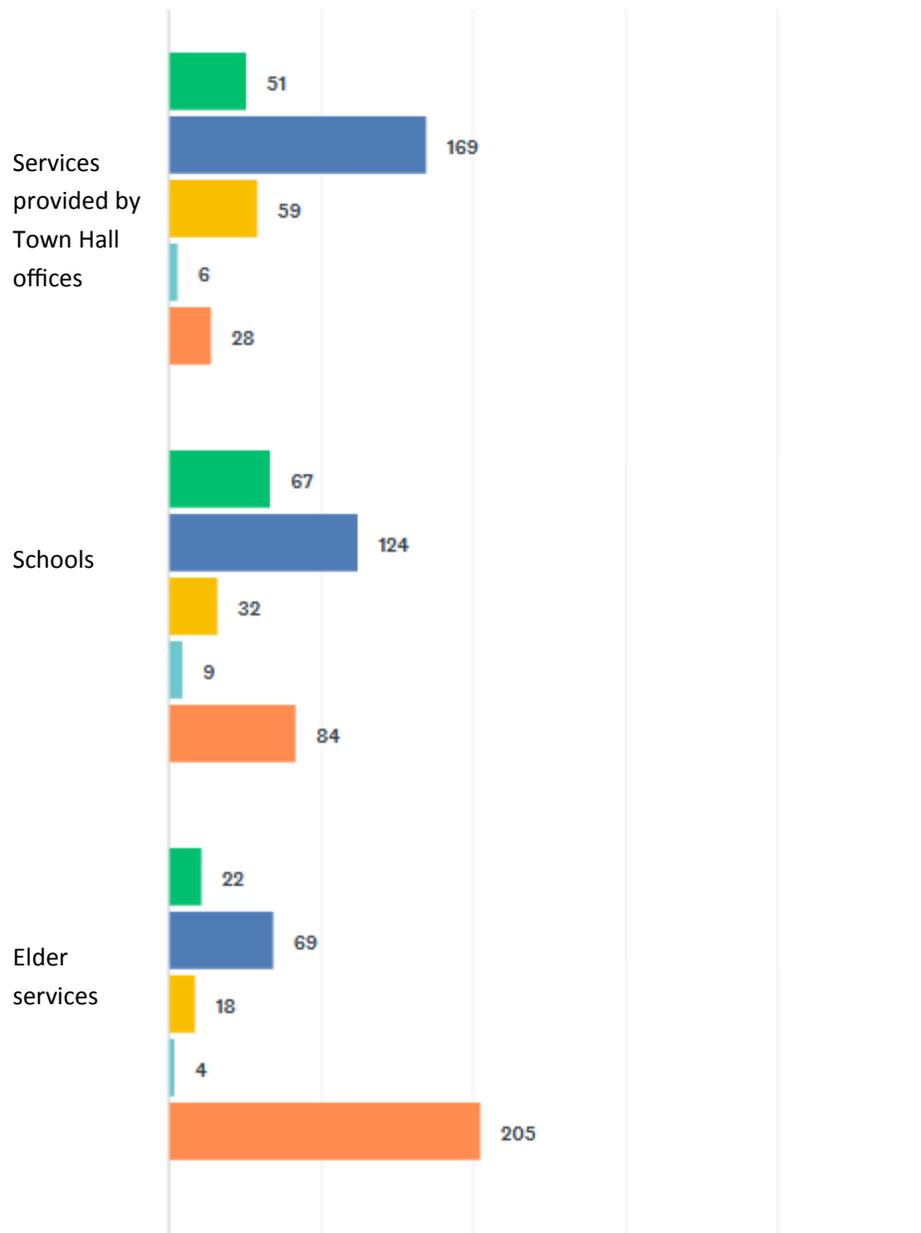


ANSWER CHOICES	RESPONSES	
Community character	41.78%	150
Proximity to employment	39.83%	143
Family roots/ties	29.25%	105
Tax rate	4.74%	17
Schools	31.20%	112
Cost of housing	38.72%	139
Access to Route 3	45.40%	163
Public safety/low crime rate	42.90%	154
Access to retail and other services	40.67%	146
Other (please specify)	13.65%	49
Total Respondents: 359		

## 4. Please indicate whether you would rate the following services, facilities, and characteristics, as they relate to Tyngsborough, as excellent, good, fair or poor.

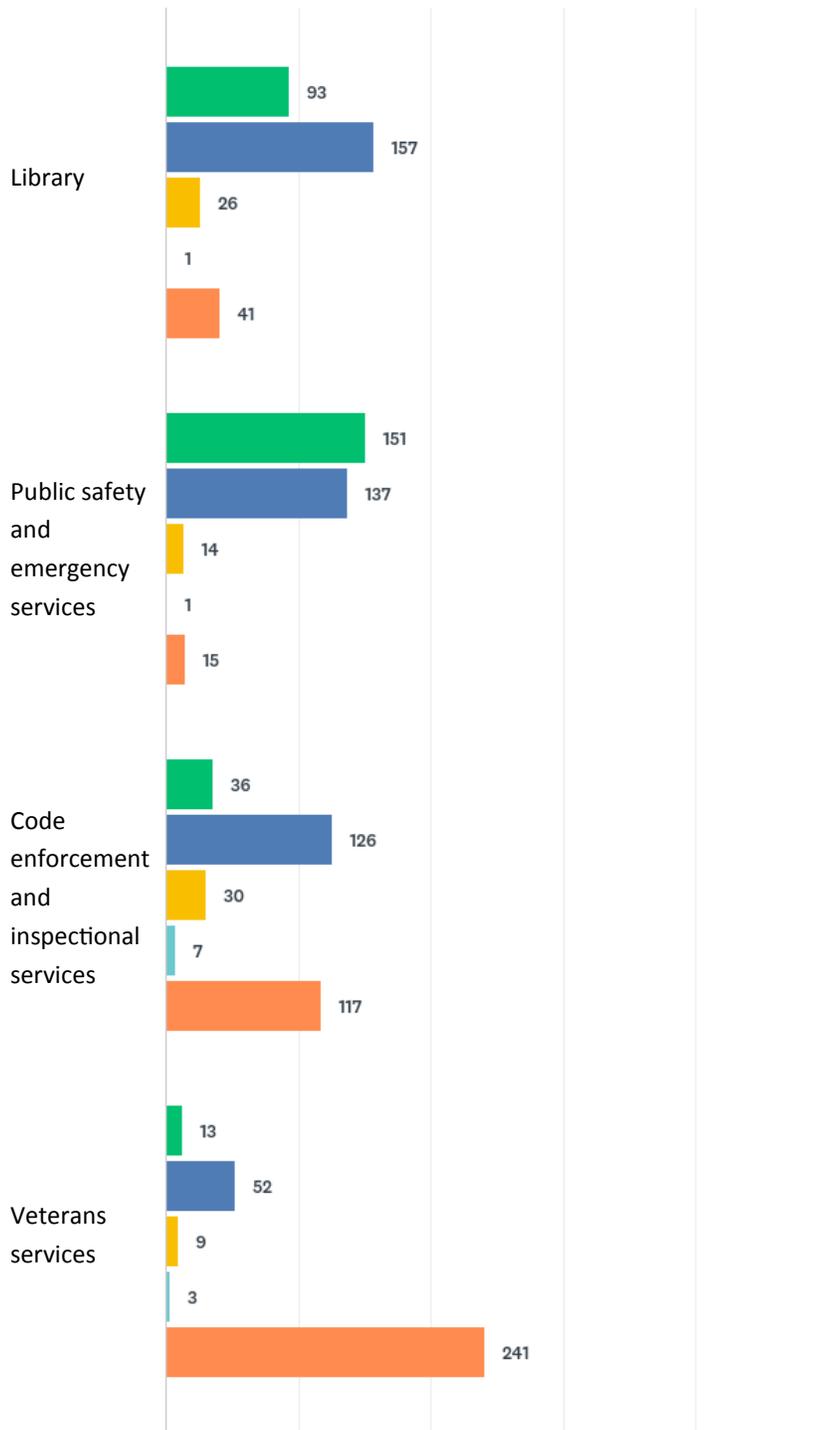
### 4a. Municipal Services

Answered: 321 Skipped: 43



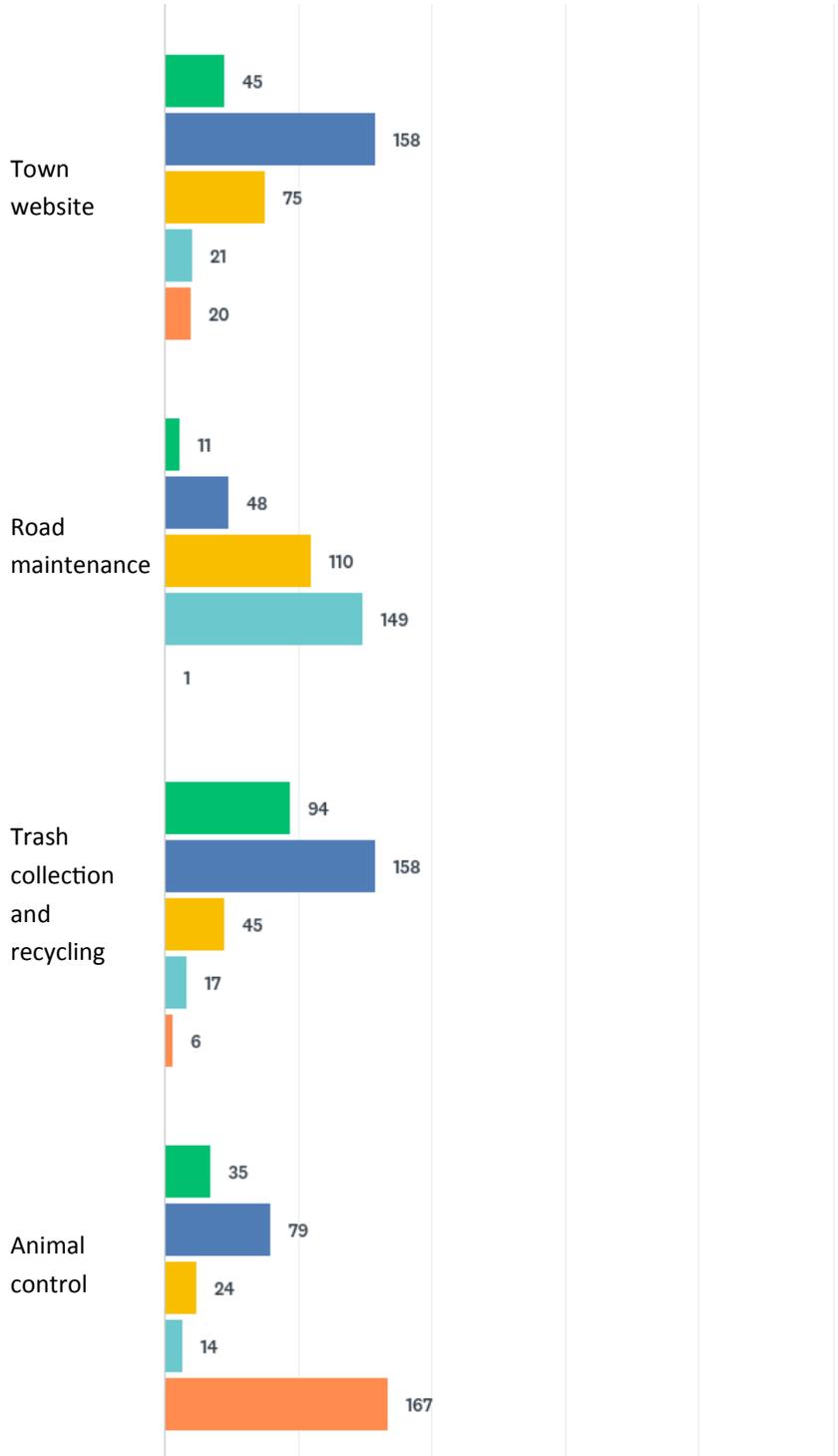
# TYNGSBOROUGH MASTER PLAN SURVEY 2018

## 4a. Municipal Services (Continued)



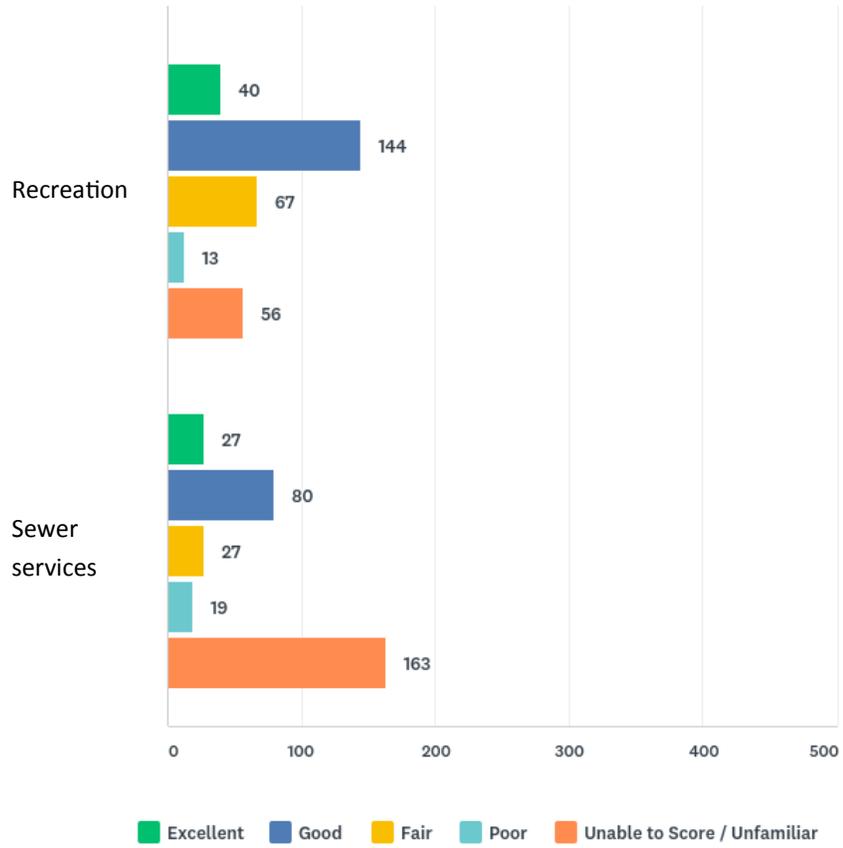
# TYNGSBOROUGH MASTER PLAN SURVEY 2018

## 4a. Municipal Services (Continued)



# TYNGSBOROUGH MASTER PLAN SURVEY 2018

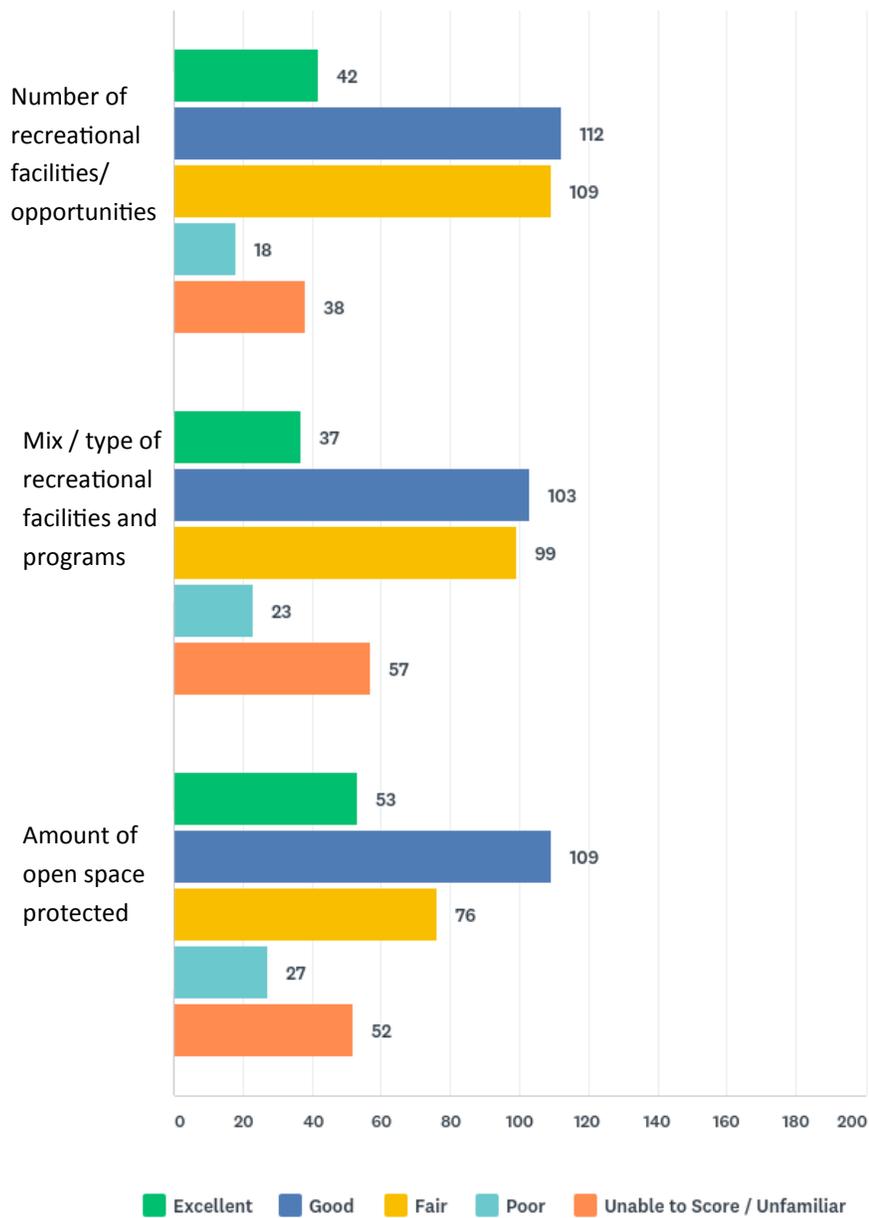
## 4a. Municipal Services (Continued)



# TYNGSBOROUGH MASTER PLAN SURVEY 2018

## 4b. Open Space and Recreation

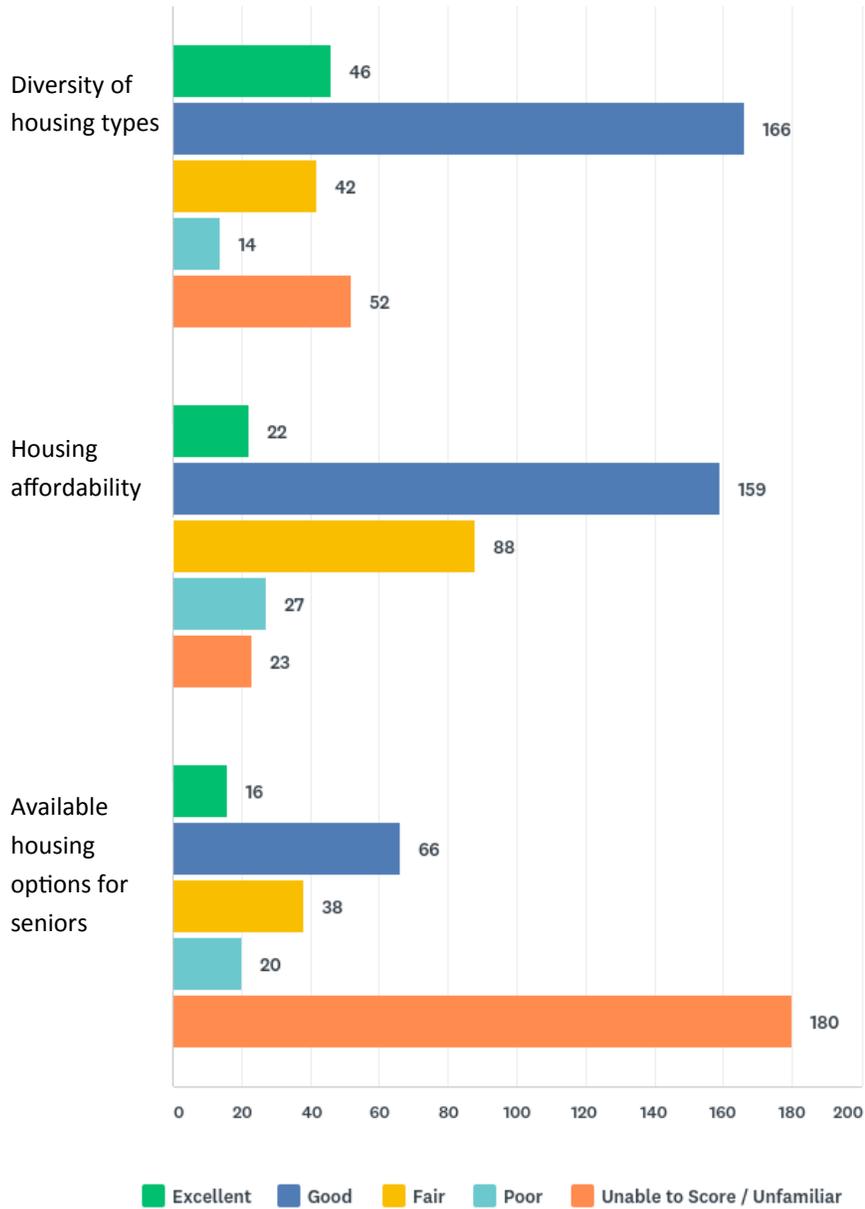
Answered: 320 Skipped: 44



# TYNGSBOROUGH MASTER PLAN SURVEY 2018

## 4c. Housing

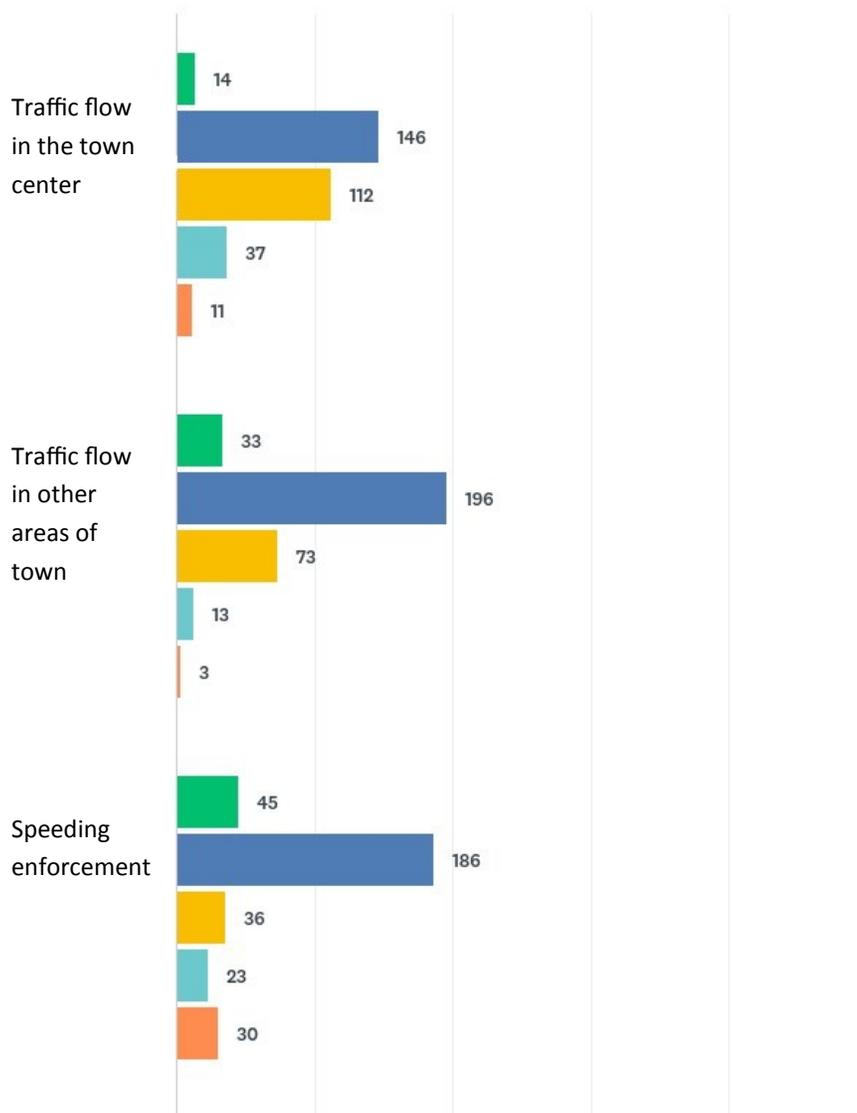
Answered: 320 Skipped: 44



# TYNGSBOROUGH MASTER PLAN SURVEY 2018

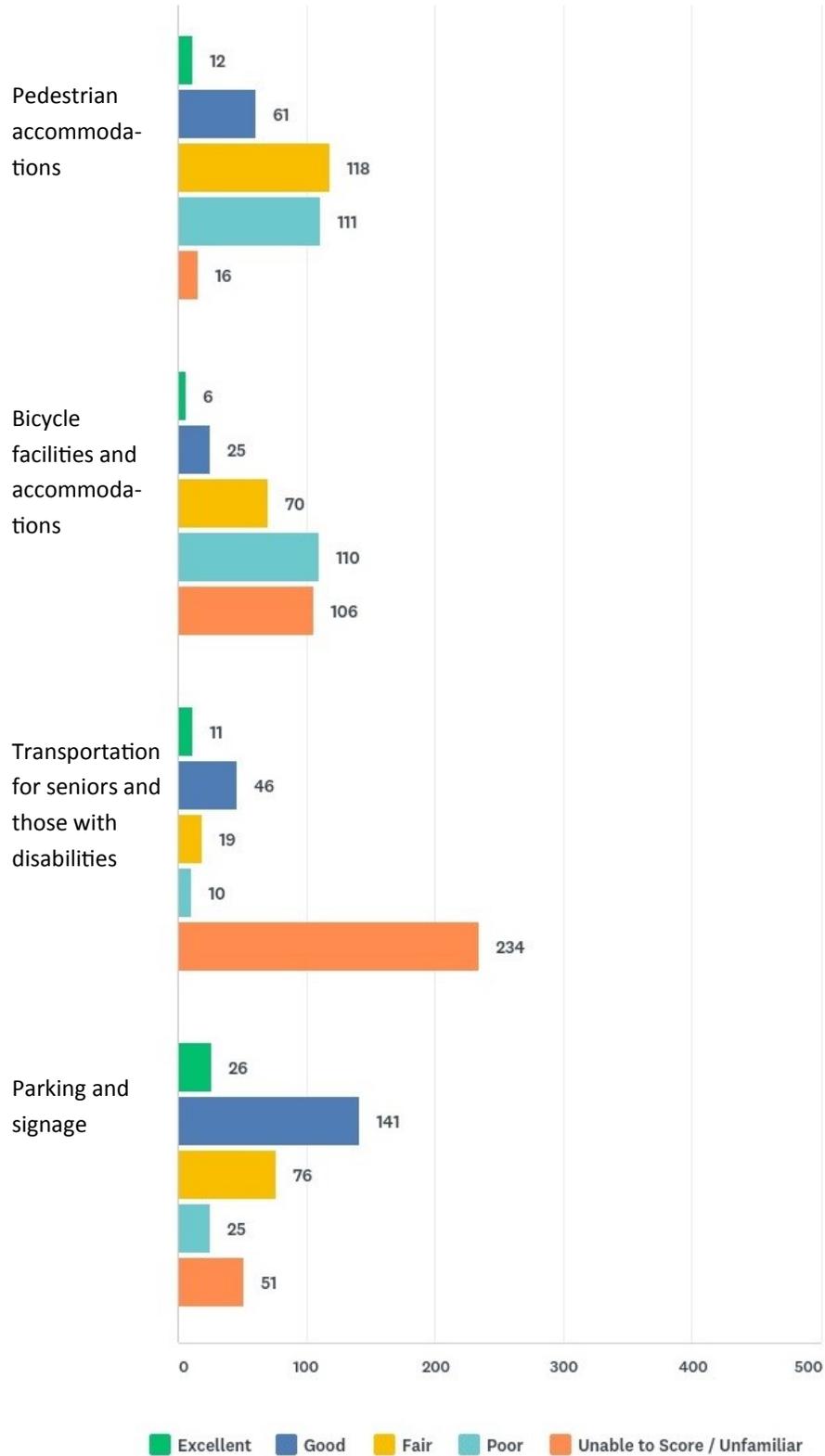
## 4d. Transportation

Answered: 320 Skipped: 44



# TYNGSBOROUGH MASTER PLAN SURVEY 2018

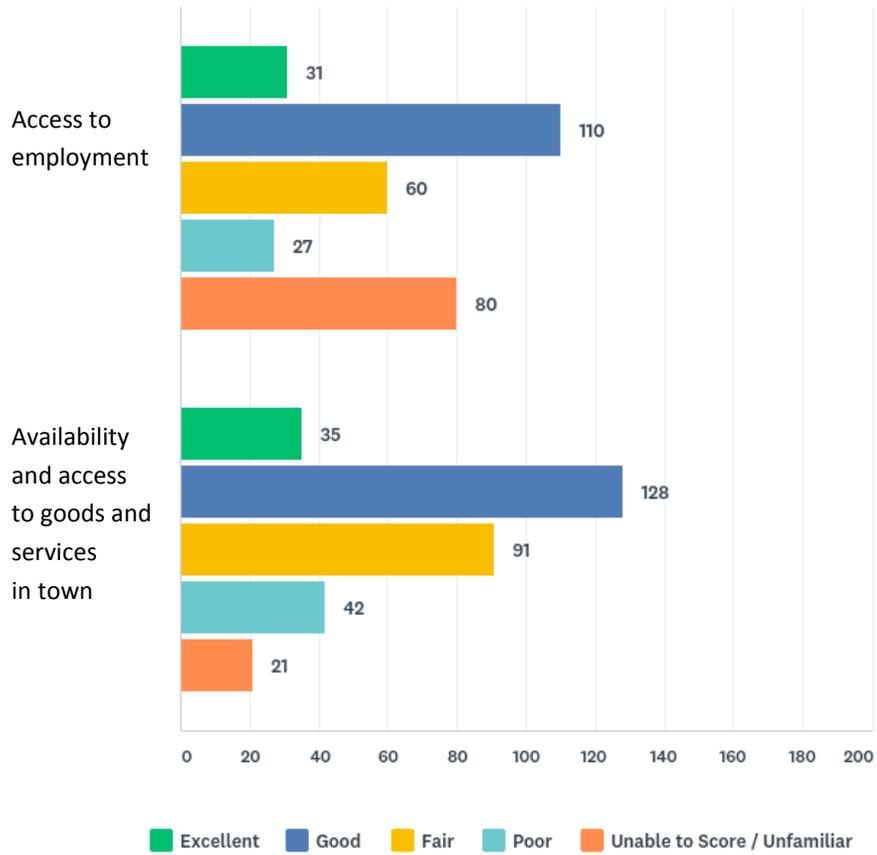
## 4d. Transportation (Continued)



# TYNGSBOROUGH MASTER PLAN SURVEY 2018

## 4e. Economic Development

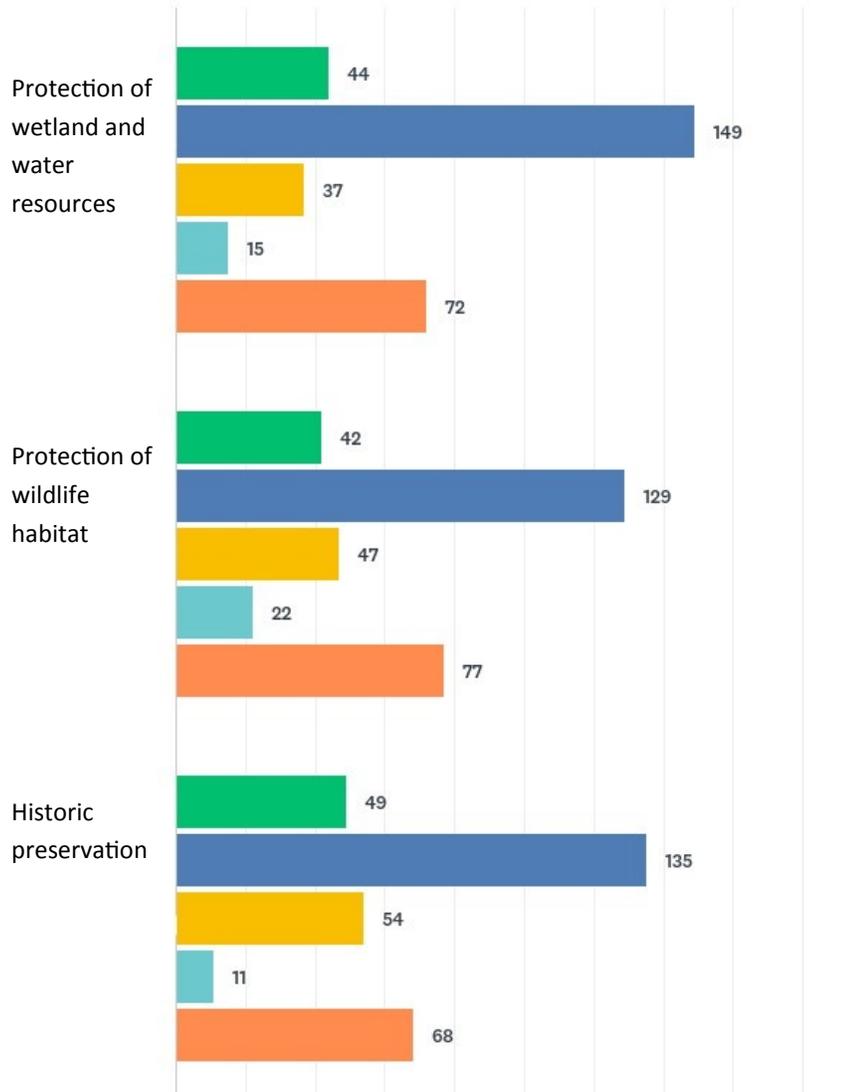
Answered: 317 Skipped: 47



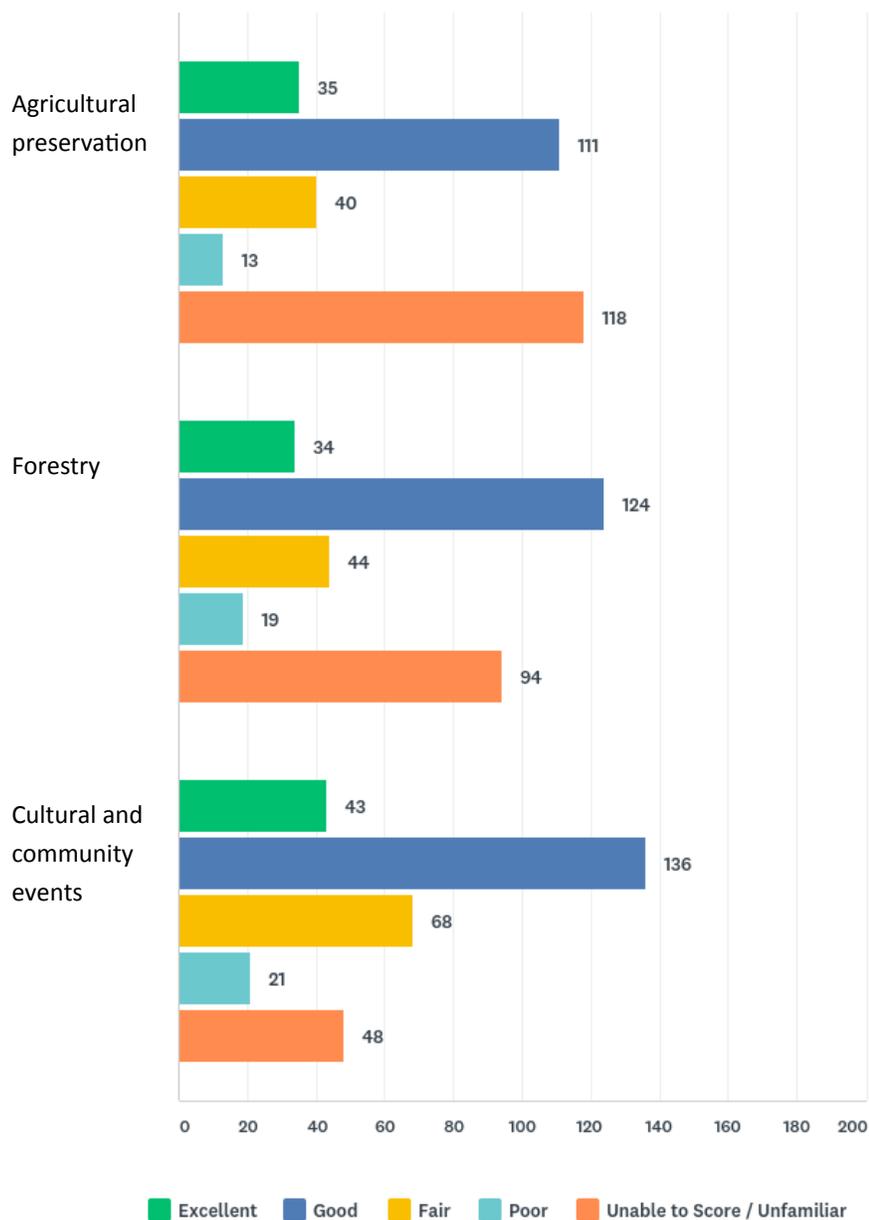
# TYNGSBOROUGH MASTER PLAN SURVEY 2018

## 4f. Natural and Cultural Resources

Answered: 317 Skipped: 47



4f. Natural and Cultural Resources (Continued)



## TYNGSBOROUGH MASTER PLAN SURVEY 2018

**5. In your opinion, list three of the most critical issues facing Tyngsborough over the next ten years:**

Answered: 269 Skipped: 94

ANSWER CHOICES	RESPONSES	
1.	100.00%	270
2	95.56%	258
3.	85.93%	232

#	1.
1	money
2	Tax rate
3	Keeping pace with area schools like Westford
4	Sewer
5	Pave the roads
6	Actively promote the town to young families moving out of Boston area.
7	Tax rate will become to high if we buy a golf course and try and run it ourselves. It will require general fund money to run it.
8	Wild life is losing more and more ground
9	rising taxes
10	Overbuilding .. loosing small town charm we all love
11	Property Taxes
12	Improve the schools
13	School Quality
14	Extremely high tax rate
15	road conditions
16	Long-term vision for use of buildings purchased by the town in recent years.
17	Housing Stock
18	Water & sewer
19	Condition of roads
20	road work
21	Roads
22	Tax base
23	Roads maintenance and overall planning to regrade deteriorated roads
24	Not wasting exorbitant money on dead ends like renovating the Winslow School
25	Open space
26	Inadequate high school size
27	Housing
28	Town growth- needing to build more schools
29	Roads

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

30	Public Safety Buildings
31	Road Conditions
32	Property tax increase
33	Road Maintenance Infrastructure
34	open space
35	Tax base increase
36	Access to public transportation
37	Traffic
38	public transportation
39	Affordable housing
40	Road maintenance
41	Insane amount of pot holes need to be fixed
42	Growth of town
43	Roads (potholes)
44	Sidewalks on Norris Rd
45	TAX RATE
46	ROADS
47	Housing development
48	Attracting more retail business for the town. Quite a few empty store fronts.
49	Infrastructure
50	Saving Winslow School
51	School space, full day kindergarten
52	Schools
53	Stopping housing sprawl
54	Schools need to better be quality
55	Schools
56	Road maintenance
57	School maintenance
58	We are losing our cultural identity by allowing TOO MANY HOUSING DEVELOPMENTS
59	Taxes
60	Road conditions
61	Roads
62	Purchase the Golf course
63	Growth
64	Too many condo/apartments, too fast population growth
65	Degradation of infrastructure
66	Overpopulation too much Housing Development, STOP, we are losing the small Community that brought most of us here.
67	Schools
68	Schools

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

69	Too many condos/housing and not enough businesses in town.
70	Town needs sidewalks
71	Overbuilding/overpopulation/school crowding
72	Education
73	Taxes
74	Open Space preservation
75	Scholls for ALL these houses being built
76	Developments going in, both condo and residential
77	Infrastructure
78	Make town center a actual town center
79	Lack of business development
80	Housing for new families
81	We keep adding elderly housing when we don't need it we need more business when you add elderly housing they just go spend all their money in Nashua
82	Traffic
83	Housing too much
84	Town water supply
85	Rebuilding the middle school
86	roads
87	Roads
88	Traffic
89	New middle school
90	Roads
91	Over population
92	Over development of housing
93	More apartments =more kids
94	Fire Dept. Staffing/Facility
95	Road repairs
96	Need a higher tax rate for commercial use to increase the tax base
97	Schools
98	ROADS
99	Fire Department Daily Shift Staffing
100	improving road conditions
101	Property tax rate is too high
102	Senior Housing
103	Mixed Use Development
104	BAD ROADS
105	development of true town center
106	Property Taxes too High/Need Improvement on Fiscal Mgmt/Responsibility/Accountability
107	Rising tax rates
108	Over development! Stop the unnecessary building!

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

109	Housing cost
110	refurbishing rundown buildings and roads
111	The effect on schools with increases of condos
112	create a cute New England town center with shops and food near bridge
113	Traffic at the bridge
114	Shutting down shurfine and tearing down the historic barn
115	age of HS and MS buildings
116	Roadways are in bad conditions
117	traffic
118	Bike lanes/road improvements to accommodate
119	high property taxes
120	Lack of pedestrian sidewalks
121	residential growth
122	Pedestrian travel. Roads, bikes, sidewalks, etc.
123	Need to maintain/lower property tax rate
124	Overcrowding of schools
125	high taxes
126	Stop raising property taxes
127	Roads
128	Roads
129	You need to stop the increase of property taxes, allow more businesses
130	over development
131	Safe walkways on residential and main streets, especially around the schools.
132	schools
133	Lack of businesse causing high taxes
134	open space
135	open space protection
136	a supermarket; Nashua too crowded
137	Balancing small town atmosphere with responsible growth
138	Expand school budget (full day K)
139	New Middle school
140	Recreation facilities in west side of town
141	Preservation of land
142	economic and business development
143	Maintaining a low tax rate
144	We are becoming STORAGE TOWN USA
145	The roads are terrible: Middlesex Rd, 113, Jacques St. On Chestnut we had to sign a petition to have the road fixed.
146	Roads
147	road maintenance
148	Preserving/creating Open Space for recreation

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

149	Schools (Middle and High School)
150	State or Federal Housing for Seniors
151	Acceptance & Maintenance of Roads
152	too much growth
153	Economic/business development
154	too much housing growth
155	Deterioation and poor road upkeep
156	Get the bad roads paved
157	We need to foster a better business friendly town.
158	Maintaining Open Space
159	Deteriorating Infrastructure (roads)
160	paving of roads
161	taxes
162	high taxes
163	Aging middle school
164	Overdevelopment
165	Too many apartments being built
166	Road repair
167	high school / middle school buildings
168	Economic Development along Rte 3 & Middlesex Rd
169	Increased housing prices
170	School system
171	Over-development
172	residential tax rate too high
173	High Tax Rate
174	Taxes rising due to continually building new schools.
175	Road conditions
176	Replacing the aging/decrepit middle school
177	Neighborhood road re-surfacing
178	excess growth of housing, pressure on schools
179	Tyngs Country Club - Save the open green space!
180	Road maintenance
181	Too many condos.
182	Keep the tax rate down
183	Tax Rate
184	Road Maintenance
185	Protection of natural resources/wildlife habitat
186	Road maintenance
187	Sewer Tie in (Please)
188	Need to preserve wildlife habitat, wetland and water resources
189	Overpopulation of schools

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

190	Roads/Infrastructure
191	excessive housing/apartment complex development
192	need more revenue either than citizens
193	roads are bad, frost road and westford roads, main roads lots of potholes
194	Overdeveloped housing
195	Road on Frost Road
196	Increased Tax rate-2.5% annually now even seems too much!
197	Finances - tax payer protection, increasing RE taxes
198	Stop raising taxes
199	let's not become a Chelmsford or Westford
200	We need a new middle school first before spending on a safety building
201	What to do about the Tyngsboro Golf Course
202	Building business base once phase 2 of sewer is completed
203	Overcrowding. There are so many things being built in this small town. Keep it small.
204	road maintenance & repairs
205	fix the road
206	Condition of roads
207	access to public sewage and water
208	Population growth
209	middle school
210	Stay as small town
211	Balancing any growth with existing town character
212	Maintain more open space in town.
213	TRAFFIC
214	improved town center
215	growth of dense housing and the effects on town services
216	Blocking over "55 communities" - Tyngsboro isn't just for retirees
217	Aging population moving out and younger moving in. Tyngsboro must develop plans for a younger demographic
218	Too much development
219	Traffic
220	creating access to public transportation
221	Improving the school system
222	Education
223	Over development
224	Too much urbanization
225	Higher end/modern Commerce, Lack of true town center
226	attracting new businesses
227	Revenue/Fiscal
228	Keeping real estate taxes down
229	high real estate taxes

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

230	Too much new growth. Builders and developers are taking advantage.
231	Road maintenance
232	Too much new housing
233	Road repairs
234	Rising taxes. Citizens paying for a new middle school, new fire station, new police station, golf course. We need to start prioritizing.
235	Middle school needs to be built
236	Facilities replacement
237	Emergency services
238	Taxes
239	Strategic planning for our school buildings/system
240	Rising home prices
241	Protecting the open space/country club
242	Roads
243	Open space
244	Overpopulation without an increase in business and services for those people (and a broader tax base)
245	Stopping high density housing developments
246	Full day kindergarten
247	Limited commercial tax base
248	Overdevelopment
249	Roads and traffic
250	Road Repair
251	Comprehensive Capital Plan including all major items and buildings including a responsible financial model.
252	Schools
253	Saving the golf course
254	Roads
255	quality of school system
256	Bad roads
257	Taxes
258	New center fire station
259	Roads
260	Over-development (residential)
261	Road conditions
262	Fixing our residential roads
263	housing
264	Infrastructure
265	Lack of parks
266	keeping tax rate low, not increasing taxes
267	Protection of wetland and water resources
268	Open space( Recreation)

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

269	More parks with playground equipment for children (Tot Lot), including in the states streets area. Many new families with children under 5 live here and we'd love to see a place for the neighborhood kids to play together.
270	Commercial Growth on Rt 3A
#	2.
1	money
2	Too much low income housing
3	Increasing the business tax base to fund town infrastructure
4	Reduce Property Tax
5	Make an alternative town center
6	Create a vibrant mixed use facility with shopping/dining..saying that Nashua is next door isn't acceptable
7	Need for a new police and fire public saftey building,
8	With additional retail space 3A traffic will become a problem
9	businesses leaving
10	Controllable /affordable tax rate
11	Traffic Flow
12	Create a well defined town center
13	School Quality
14	Low larger business development
15	Space/facilities for community youth activities
16	Future use of Tyngsboro Country Club property
17	Economic Development to diversify tax base
18	improve business development
19	Too many housing developments
20	school buildings
21	Golf course/overdeveloped
22	Traffic/maintenance of roads
23	Too many apartments will increase traffic and people in town
24	Increasing tax revenue through encouraging businesses to be a part of our community.
25	Open space
26	Poor roads-both main and side roads
27	Traffic
28	Schools handling the town growth
29	Roads
30	Fire Department staffing brought to where it should be
31	School Facilities
32	Poor high school conditions
33	Sewage for the entire town like Chelmsford
34	road conditions
35	Road repair
36	Access to gas and sewer

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

37	Road conditions
38	side walks
39	Public transportation
40	New construction ( to many townhouses)
41	parking for town center
42	Only newer expensive developments
43	Better focus on town spend
44	LACK OF INDUSTRY
45	Building to much
46	Conserving open space
47	Too many housing developments taking up open space thus making the town lose some of it's charm.
48	Lack of businesses
49	No more low income housing
50	Road repair
51	Roads
52	Poor roadways and line markings
53	We are not known for anything. No major businesses
54	Town center improvement
55	Update/new middle school and HS
56	Road infrastructure
57	We are losing forests and fields and beautiful land again just for condos? It's heartbreaking!!
58	Sewer
59	Minimize new developments
60	Taxes
61	Too high town taxes making town less affordable to live in
62	Over-development of open space
63	Increased Traffic due to OVER development
64	Road conditions
65	Seniors
66	Aging school buildings.
67	Town water & sewer throughout
68	Road repair
69	Public Safety Complex
70	Public safety
71	Traffic/road conditions
72	Traffic
73	Stagnant population growth
74	Public parks and outdoor rec
75	Bringing in business
76	Overcrowding at school

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

77	Wildlife preservation
78	Roads
79	Fixing Roads
80	public safty buildings
81	Town services
82	To much people
83	Sewer infrastructure
84	Middle school
85	Tax rate too high
86	Loss of open space
87	Roads
88	Affordable Housing
89	Fixing town center
90	Need to allow more commercial use of properties
91	Economic growth
92	SEWER
93	A NEW Fire Station
94	lowering property taxes
95	Not a lot of big tech employers in town
96	Affordable Health Insurance
97	Commercial/Economic Development
98	Teacher turnover at the school
99	creating more local retail options
100	Too many Debt Exclusions
101	POOR road repair
102	Traffic! As Tyngsboro is used as a pass through to avoid rt 3/495
103	Roads
104	usable, community based town center
105	Too many stores, town will lose charm and turn into a Pelham or worse, Salem, NH :-)
106	fixing the roads so people can come in to enjoy the new town center
107	Invest in schools and improve schools
108	Lack of funding for school and sports
109	cost of maintaining aging roads
110	residential housing
111	Improved roads and sidewalks
112	lack of commercial development
113	Lack of recreational space accessible to residential neighborhoods
114	schools can't handle growth increase
115	Sewer development to allow for business development
116	Commuting issues from Tyngsborough to Burlington and Boston
117	Not enough industry for tax revenue

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

118	overcrowding
119	Get businesses in town center
120	Building Maintenance
121	Rehab/re-build of Middle (or High?) School
122	You need sto stop the increase of property taxes, allow more businesses
123	outdated infrastructure
124	Road conditions contributing to vehicle wear and we'll lit streets/lack of street lights)
125	taxes
126	Cronyism - we have too many people being taken care of
127	adding to the tax base
128	traffic mitigation
129	town trash and recycling pick up for condos
130	Funding for infrastructure improvements (roads, buildings, etc.)
131	Improve roads and sidewalks
132	More commercial (stores, restaurants) development is necessary to keep people in town
133	Grocery store west side
134	Need for increased police/fire
135	making the town accessible (road improvement/sidewalks/etc.)
136	Rise in new housing increasing demands on town services
137	We are becoming BILL BOARD TOWN USA
138	Pot shop...a big mistake
139	Sidewalks
140	keeping schools competitive
141	Road improvement
142	Roads/Infrastructure
143	Make sure roads are always repaired / lines repainted
144	Controlling Growth
145	Sewer commision out of control
146	Town center development
147	declining school rating
148	Overdevelopment of housing with little infastructure development.
149	Too much tax liability on Residents
150	Increase signage opportunities to businesses.
151	Maintaining a top school system
152	Schools needing updates (Mid/High School)
153	need of a supermarket
154	taxes
155	roads repaved
156	Neighborhood roads in disrepair
157	Traffic flow
158	Too many low income housing

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

159	Bring business into town
160	town center build up of businesses in a responsible ethical way
161	Schools are rated 5 out of 10 on many real estate sites
162	Quality of schools
163	Overdevelopment of homes
164	Increasing tax rate
165	more industry needed
166	Possible 2 1/2 override. TOTALLY AGAINST IT.
167	Over crowding due to too many building permits being issued.
168	Encourage Starting biotech industry
169	Reducing the amount of 55+ housing being built in the town
170	Better/Identifiable center of town
171	road maintenance
172	Developments - too many going in now, stop more!
173	Open space
174	Roads are horrible.
175	Improve traffic flow over the bridge and through the town center
176	Affordable housing
177	Renewable energy
178	Water Tie in (Fire hydrants)
179	Not allowing recreational pot facilities in town
180	Losing businesses to tax-free NH
181	Renewable Energy Initiatives
182	retail development
183	more fun things to do for adults
184	taxes are always increasing, need to bring in more business
185	Lines on roads, hard to see at night, side white lines
186	Salaries of town workers seem to be 10-15% to high
187	Road Conditions
188	Repair roads
189	Tax seniors out of town
190	We need to increase our tax base by attracting new businesses and increasing new single family development and 55 and older housing to keep residential real estate taxes as low as possible
191	Slowing down the amount of homes, condos, apt complexes
192	Road repairs
193	Taxes are way too high.
194	road repair & maintenance
195	Overpopulation in public school
196	growth and the need for more schools
197	crowding of the current school system
198	norris road sidewalks

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

199	Small downtown with promotion of small businesses
200	Preserving natural resources
201	Stop allowing so many housing developments.
202	TRAFFIC
203	more sidewalks
204	growth vs town services vs tax rate
205	Fixing the middle school
206	Aging infrastructure
207	Poor roads
208	Town services
209	cannabis control - limiting legal pot shops south of nh border
210	Controlling property taxes
211	Services for the elderly
212	Too much industry
213	Changing the character of the town
214	High tax rates
215	too much low income housing
216	Overdevelopment
217	Keeping roads maintained
218	high real estate taxes
219	Town and school employee costs will increase dramatically. Wage Inflation!!!
220	Open space preservation
221	Needs newer schools
222	New middle school
223	Selectman putting their own agendas before what the citizens need. Citizens are tired of adding "just \$50 more on your yearly tax bill" to pay for things. My annual tax bill has gone from \$2000 per year in 1993 to \$8000 per year. I wish my annual raises at work reflected that kind of increase!!
224	Curb condo/apartments and focus on building homes with yards for families.
225	Infrastructure
226	Road maintenance
227	Cost of housing
228	Road improvements
229	No free full day kindergarten
230	Roads
231	Taxes
232	Maintenance of roads
233	An aging population that make biased decisions, and a younger population (those with children, etc) who have no voice because the system is set up against them
234	Increased use of marijuana by underage residents
235	Housing complexes unnecessary
236	55+ housing
237	Infrastructure maintenance

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

238	Too many ugly condo developments (either built or proposed) - the monstrosity in front of the innovation academy
239	Increase in services/ DPW creation?
240	Failure to properly fund infrastructure including streets and lack of proper DPW to manage infrastructure
241	Roads
242	Over population
243	Roads
244	quality of infrastructure (roads, sewerage)
245	Update schools
246	Move Rec Center to old senior center on Lakeview Ave
247	Water/sewer/gas to all
248	Middle School is old
249	Economic development
250	The purchase of TCC
251	economic development
252	Do not let population increase too much
253	Middle school location to acquired golf course land
254	speeding up and streamlining business/commercial approvals
255	Protection of wildlife habitat
256	Sustainability
257	Attract a grocery store tenant to Westford Rd.
258	Repaving roads
<b>#</b>	<b>3.</b>
1	MONEY
2	Business development
3	Improvement and maintenance of town infrastructure
4	Provide more business
5	Stop inviting low-rent business such as more storage
6	Increase school funding to remain above area average
7	Winslow shool building needs to be torn down or turned over to private development.
8	It would be nice to have a real downtown area representing Tyngsboro
9	maintain current roads and buildings
10	Town center /Bridge flow of traffic /backup
11	Road Infrastructure
12	Balance commercial use
13	School Quality
14	over population
15	Walkable downtown
16	Possible creation of a true town center
17	Sewer

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

18	Pedestrian access
19	Uncontrollable costs (healthcare, pensions, special education)
20	Plowing
21	Overloaded school system
22	Opportunity for children to participate in community activities
23	Improving the town with modernization of the structure by implementing an efficient town manager.
24	Open space
25	Keep small town feel
26	Lack of Infrastructure
27	Taxes- paying a ton, and not much is changing
28	Roads
29	Sewer up Middlesex rd towards Nashua
30	Businesses in town
31	Flints corner building project
32	Allow 55+ housing for 55 and older to be built for sale detached Condos one floor
33	housing
34	Less apartments or condos
35	Leveraging legal marijuana sales and services for town revenue
36	Too many condos
37	jobs
38	Maintaining roads
39	New middle school
40	Lake Mascuppic need more money to be cleaned more often
41	Town activities
42	Streets around middle/high schools need to be re-paved
43	ROAD MAINTENANCE
44	traffic
45	upgrading our roadways
46	Going to need more safety services with an ever expanding population.
47	Restaurants
48	Fix roads
49	Reducing taxes
50	Too many apartments
51	Attracting business (i.e. grocery store)
52	Taxes are too expensive.
53	Open space/ parks
54	Electrical grid
55	We need to PRESERVE the historic character of our town and promote our past not destroy it. Preserve town buildings, preserve who we are, support our current community not replace us with a new population.
56	Water

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

57	Keep our community small
58	Land preservation
59	School system needs more focus on academics (AP classes)
60	Under-supported public services
61	Poor High school and Middle school, outdated
62	Apartments going in horrible locations
63	Places to use for recreation
64	No sidewalks / town center.
65	Public Transportation
66	Attracting new businesses
67	Affordable Housing
68	Schools
69	Excessive amount of senior living/condos
70	Town water
71	Lack of services vs tax dollars collected
72	Road maintenance
73	Taxes going up
74	Hugh taxes
75	Shops
76	Increase taxes
77	roads
78	Schools
79	Criminality
80	Road conditions
81	No more housing units
82	Too many trees are being cut down for more buildings
83	Infrastructure (roads, town buildings)
84	Road Condition
85	Tree maintenance
86	Welcoming in businesses to lower residential taxes
87	Wildlife Habitat
88	Fire Apparatus replacements
89	free full kindergarten
90	Poor zoning decisions - why a funeral home at the bridge
91	Public Transportation
92	Population Growth and Schools
93	need for new police and fire stations
94	creating more local employment opportunities
95	Unable to Live with the Property Tax Means (Tyngs is poor if the town cannot live within its allotted budget)
96	frequency of recycling

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

97	Tree removal. We are starting to lose the beautiful country feel especially along Middlesex Rd and Westford Rd
98	Education
99	parks, open space, modern town playground
100	Havin enough police/fire/ambulance servicesfor the population
101	add water and sewer services to all residences to increase value of current properties and draw new residents
102	Don't overbuild these ugly condos/townhouses everywhere
103	The Tyngsboro Countey club- dont turn it into elderly living. Keep this town treasure alive
104	lack of business income taxes
105	economic growth
106	Better access to natural gas in rural areas
107	Lack of bike paths/soccer fields
108	Conditions of plaza near Cinema
109	Town center development without hanging on to historic buildings of no value. Build a proper and modern town center
110	New commercial business development
111	Poor condition of roadways
112	bridge traffic
113	Improve roads
114	Commercial Development
115	Invigoration of Town Center - including parking
116	You need sto stop the increase of property taxes, allow more businesses
117	continual tax increases
118	Availability of recreational areas (bike paths, basketball/tennis courts, playgrounds, etc)
119	roads
120	no center = no town character and community
121	second bridge addition
122	unfair practices (55+ housing same taxes no trash or roads)
123	more businesses--food such as Starbucks
124	Implementing the "town center" plan
125	Preservation of historic (Winslow) and state buildings
126	Expanding the piblic sewer lines
127	Sewerage on west side of town
128	Keeping Town family friendly\
129	improving sewer infrastructure to gain business development
130	Getting sewer around town's smaller water ponds/lakes
131	Like to keep Tyngsboro natural and undeveloped
132	Open space
133	Commercial development
134	Economic Development
135	Continuing the Senior Work Off Program

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

136	Minimizing Tax Increases
137	Roads!
138	need town manager
139	Another way to cross Murrumbidgee river.
140	Get some businesses into town to ease that tax liability
141	Elder Services
142	too many condos being built
143	updating schools
144	taxes
145	Common area in CENTER of town (community)
146	Loss of community/small town feel
147	Too much retail being built
148	growth while maintaining the "town" life style
149	Infrastructure is weak (limited gas, water, sewer and sidewalks)
150	Tax increases
151	Traffic
152	Aging middle and high schools
153	Better developed town center is needed
154	Middle school rehab. No new schools needed
155	Lack of Treasury Dept. oversight. Proper background checks MUST be done for potential employees!
156	Expanding library
157	Continuing to add sidewalks & address safety issues
158	increasing taxes
159	Pot Shops - open them up and get that tax money!!
160	Too many houses
161	Improve oversight of the highway department
162	Attracting business/industry
163	Road/Sidewalk (water from street pours in yard)
164	Preventing more Level 3 sex offenders from moving into town
165	Additional Open Space
166	improve bullying at middle and high schools
167	schools were rated better when we moved than now
168	speeders on Frost Road, terrible, need police to catch them
169	controlling new growth while preserving the towns rural character
170	Unnecessary, expensive projects - sewer, golf course
171	Stop building low income housing
172	protect woodlands
173	Work with MA and NH DOT (Nashua interested) to bring the train from Lowell through Tyngsboro to Nashua
174	Attracting more commercial tax paying businesses

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

175	Sell the Winslow school and let business develop it
176	Preserve the woodlands that we have
177	fixing/repairing the roads in a proper manner
178	Environmental sustainability
179	Limit condo development
180	Traffic
181	fixing the roads
182	Invest in schools
183	Maintaining high quality and high functioning schools
184	Take better care of town roads.
185	TRAFFIC
186	better school systems
187	more walking trails
188	Improving variety of businesses in town
189	Half done sewerage system
190	Education
191	renovating the high school
192	Attracting and supporting desirable business
193	Continued good care of our roads y
194	Favoring industry over homeowners
195	Losing land to commercial enterprises. Who needs another strip mall? NO ONE!
196	Preservation
197	roads
198	Public School infrastructure
199	Managing traffic caused from too much housing development
200	high real estate taxes
201	Young adults will not stay in Tyngsboro or Massachusetts.
202	Bring in more businesses
203	Development or preservation of free space
204	That rural town, small town feeling...fading. Condos everywhere. Apartments. Traffic. Cut thru town issues.
205	Building business base up
206	Education
207	Cemetery staff
208	Roads
209	Improving the town center
210	Lack of retail development/No town center/No municipal water and sewer for development
211	Infrastructure such as electric service
212	Crippling and aging infrastructure and facilities with no plan for maintenance or repair.
213	Lack of performance/accountability of town government/administration
214	Overtaxing seniors in their existing homes

## TYNGSBOROUGH MASTER PLAN SURVEY 2018

215	Residents having to go to other towns to buy basic necessities. We don't have a grocery store
216	New schools
217	Growth and zoning has severely constrained the tax base resulting in the town making decisions on marijuana based on revenue and not on fact based medical data regarding the impacts nor on the impact to traffic and the town image.
218	Create a town offices, library and public safety complex similar to Pelham.
219	Roads
220	need for more commercial properties to offset residential property taxes
221	Maintaining fields for youth sports
222	Control school building. Remodel or update not replace.
223	Sewer service
224	Another bridge
225	road maintenance
226	Proper maintenance of what we have
227	Road maintenance in scribner states area
228	not buying more conservation land, caring for existing conservation land
229	Amount of open space protected
230	Education
231	Improve the function of library/town hall. The town hall needs more space and we have unused historic buildings in the town center. I would love to see the library moved into the Winslow School or the Littlefield Library to create a community hub at the town center.
232	Keeping taxes low

**Tabulated responses to Question 5: In your opinion, list three of the most critical issues facing Tyngsborough over the next ten years.**

<b>Response</b>	<b>First</b>	<b>Second</b>	<b>Third</b>	<b>Total</b>
Condition of Roads	58	48	23	129
Schools (quality, maintenance and space needs)	40	32	22	94
Tax Rate/taxes	39	22	14	75
Attracting business/economic development	13	29	27	69
Overbuilding/growth/sprawl	32	20	2	54
Traffic	8	16	6	30
Too many condos/apartments	10	9	9	28
Sewer	5	11	10	26
Open space preservation/maintenance	12	4	10	26
Creating a true town center	5	12	7	24
Housing stock/affordability	10	4	2	16
Public safety-buildings, staffing, services	5	7	4	16
Infrastructure	4	5	5	14
Lack of sidewalks	4	7	3	14
Golf course issue	6	4	2	12
Protect wildlife/natural resources	4	4	4	12
Balancing small town feel with responsible/appropriate development	3	4	5	12
Water infrastructure	3	2	4	9
Reuse of town owned buildings such as the Winslow School	4	3	2	9
Lack of parks/recreation	2	2	4	8
Access to public transportation	3	1	3	7
Need a supermarket	1	3	2	6
Too much low income housing	0	4	1	5
Aging population	1	2	2	5
Marijuana shop is a mistake	0	3	1	4
Senior housing	2	2	0	4
Town services	0	2	2	4

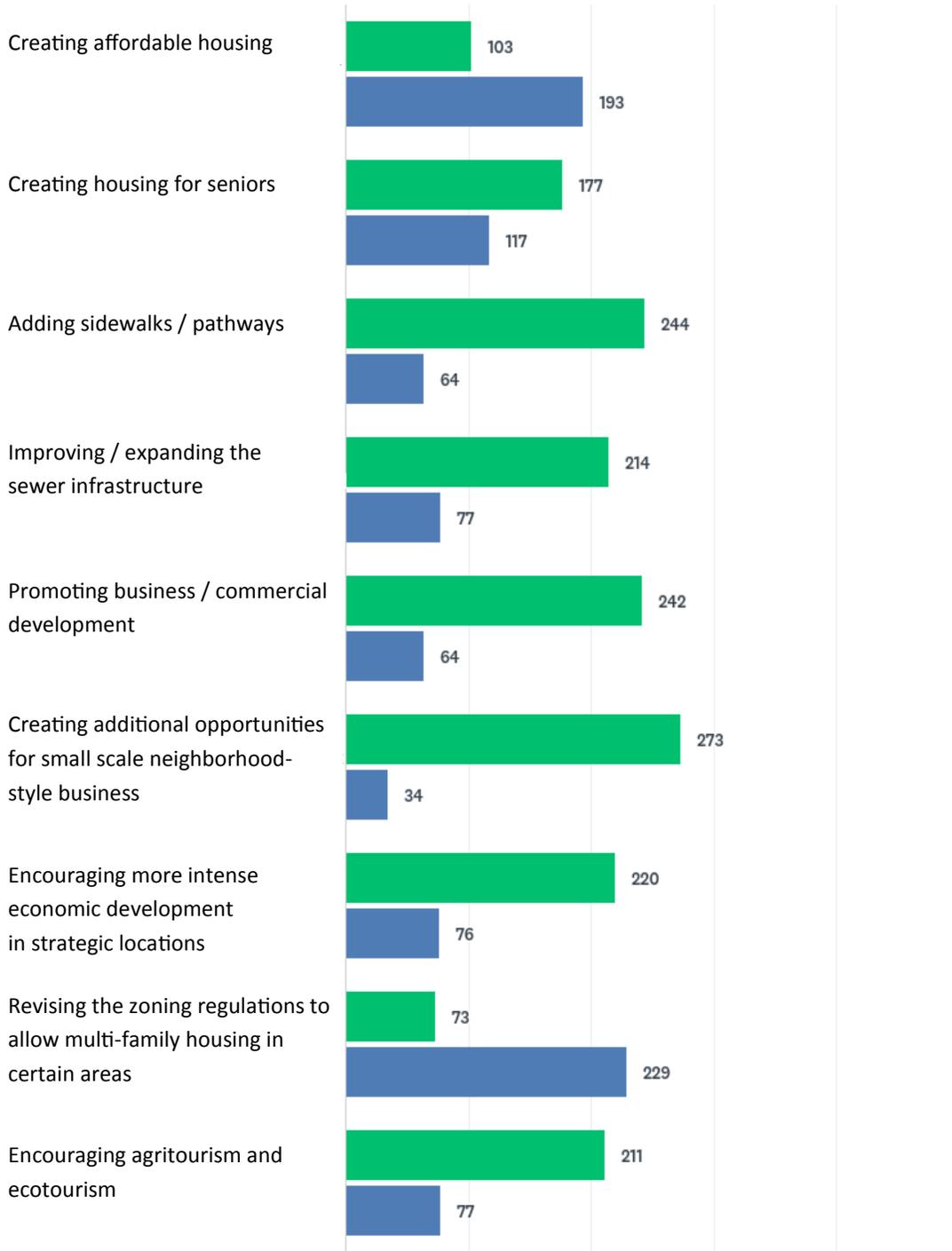
<b>Response</b>	<b>First</b>	<b>Second</b>	<b>Third</b>	<b>Total</b>
Block/reduce over-55 housing	1	1	2	4
Bike lanes	2	0	1	3
Build a second bridge	0	0	3	3
Access to natural gas	0	2	1	3
Create a DPW	0	2	1	3
Not allowing recreational marijuana	0	1	2	3
Create a DPW	0	2	1	3
Tree removal/retention	0	0	3	3
Elder services	0	1	1	2
Mixed use development	1	1	0	2
Historic preservation	1	0	1	2
Town/school employee salaries are too high	0	2	0	2
Sustainability	0	1	1	2
Renewable energy initiatives	0	2	0	2
Trash/recycling pick up for condos	0	1	1	2
Need a town manager	0	0	2	2
Electrical grid	0	0	2	2
Space for youth activities	0	1	1	2
Move Rec Center to the former Senior Center	0	1	0	1
Lack of population growth	0	1	0	1
Parking in the town center	0	1	0	1
Promoting the town to families moving from Boston	1	0	0	1
Streamline the business permitting process	0	1	0	1
Fire hydrants	0	1	0	1
Recreation on the west side of town	1	0	0	1
Do not become Westford or Chelmsford	1	0	0	1
Facilities replacement	1	0	0	1
Losing business to NH	0	1	0	1
Need a Capital Plan	1	0	0	1
Give businesses more signage opportunities	0	1	0	1
Too many billboards	0	1	0	1
Affordable health insurance	0	1		
Cronyism	0	1	0	1

<b>Response</b>	<b>First</b>	<b>Second</b>	<b>Third</b>	<b>Total</b>
Build more house	0	1	0	1
More fun activities for adults	0	1	0	1
Keep town family friendly	0	0	1	1
Continue senior work off program	0	0	1	1
Field maintenance for youth sports	0	0	1	1
Uncontrollable costs (Special education, pensions, etc.)	0	0	1	1
Expand library	0	0	1	1
Plowing	0	0	1	1
Lack of oversight for the treasurer	0	0	1	1
Flints Corner building project	0	0	1	1
More walking trails	0	0	1	1
Cleaning Lake Mascuppic more often	0	0	1	1
Prevent Level 3 sex offenders from moving to town	0	0	1	1
Restaurants	0	0	1	1
Addressing bullying at the middle school and high school	0	0	1	1
Young adults won't stay in Tyngsborough or Mass.	0	0	1	1
Criminality	0	0	1	1
Improve speed enforcement at Frost Road	0	0	1	1
Poor zoning decisions	0	0	1	1
Lack of accountability of town government	0	0	1	1
Frequency of recycling	0	0	1	1
Cemetery staff	0	0	1	1
Condition of TJMaxx Plaza	0	0	1	1
Create town facility complex like in Pelham NH	0	0	1	1
Maintain what we already have	0	0	1	1
Town Hall needs more space-move the library to the Winslow School or the Littlefield Library	0	0	1	1

# TYNGSBOROUGH MASTER PLAN SURVEY 2018

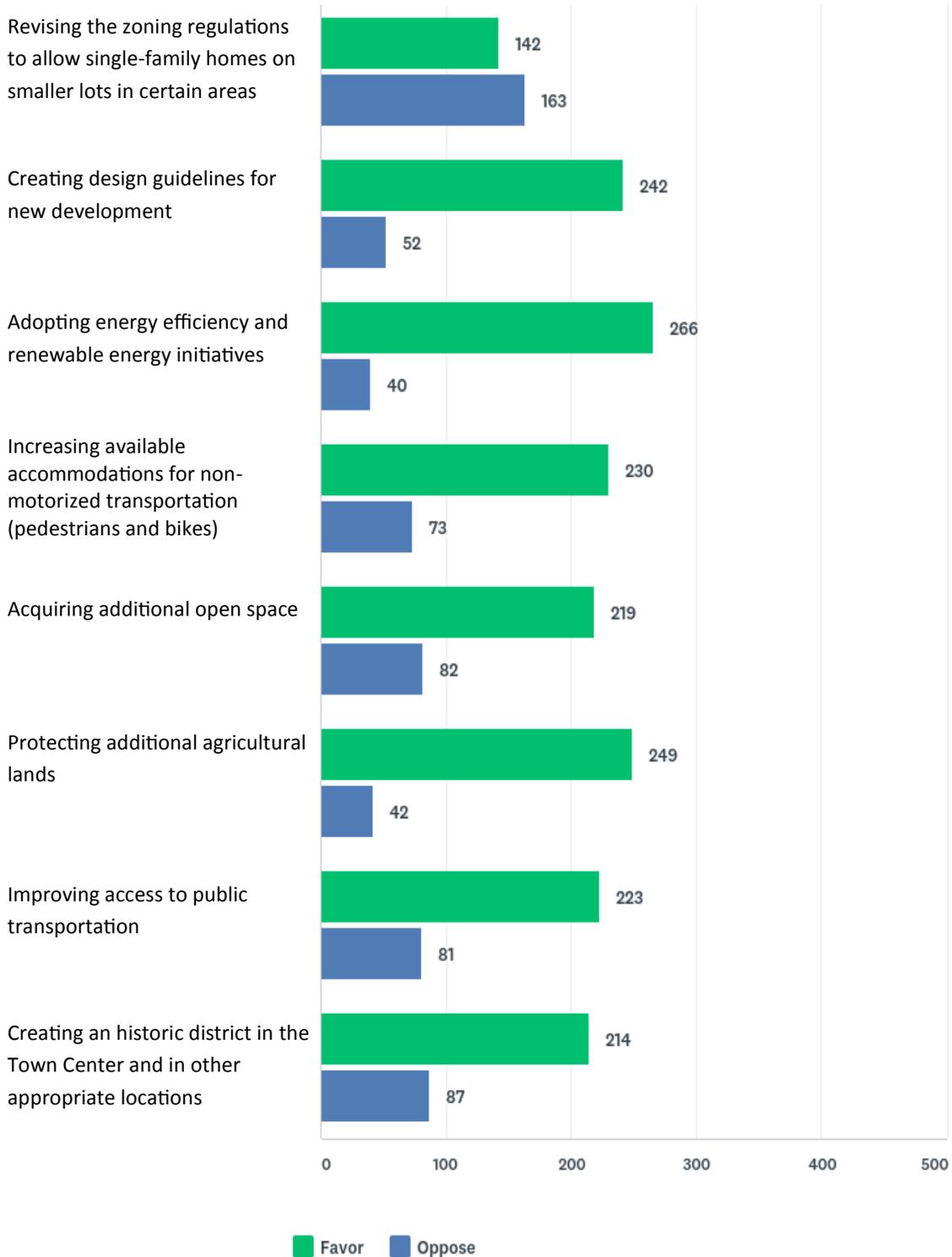
## 6. In the future, should the Town establish any of the following as priorities?

Answered: 319 Skipped: 45



# TYNGSBOROUGH MASTER PLAN SURVEY 2018

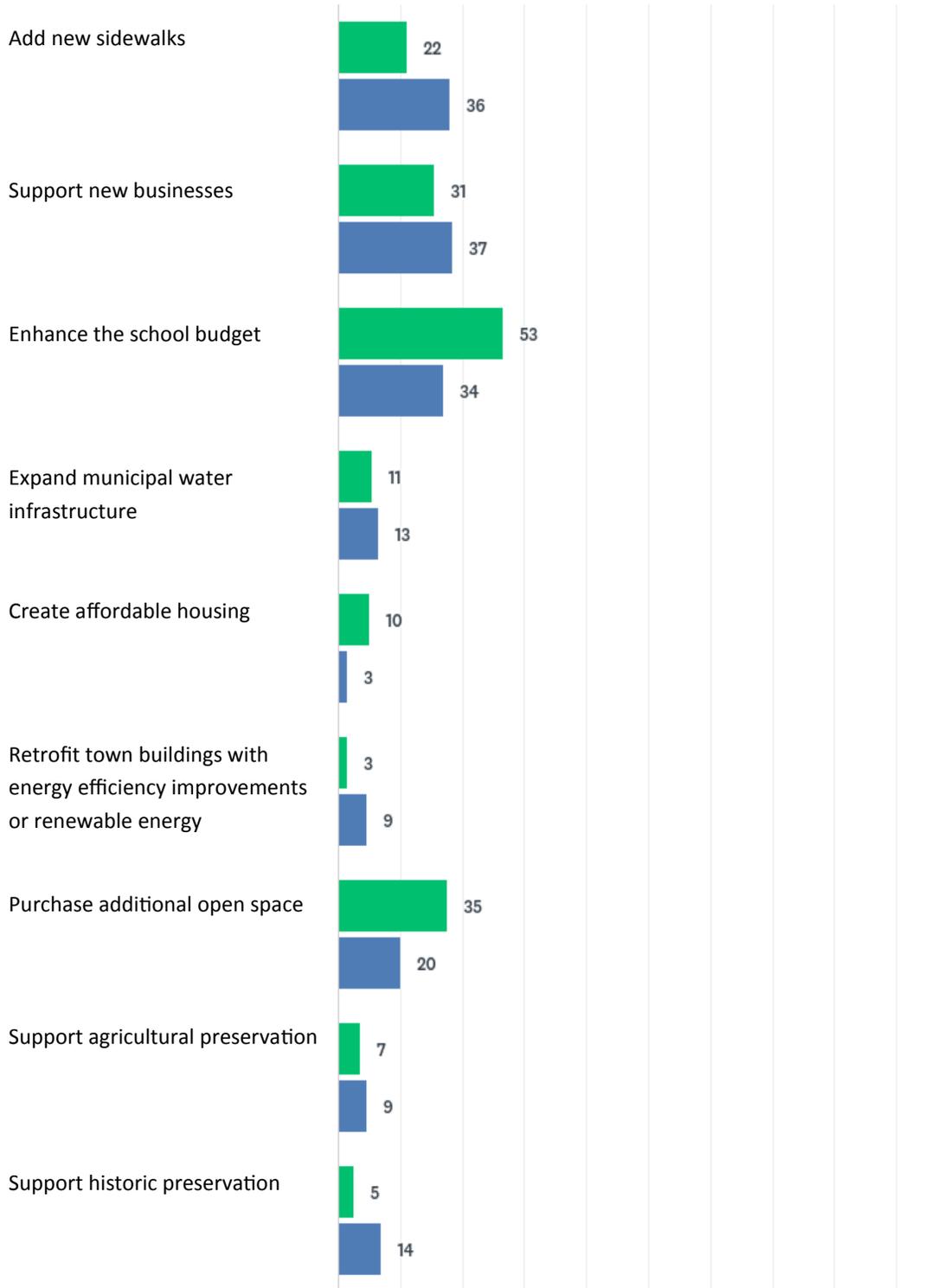
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# TYNGSBOROUGH MASTER PLAN SURVEY 2018

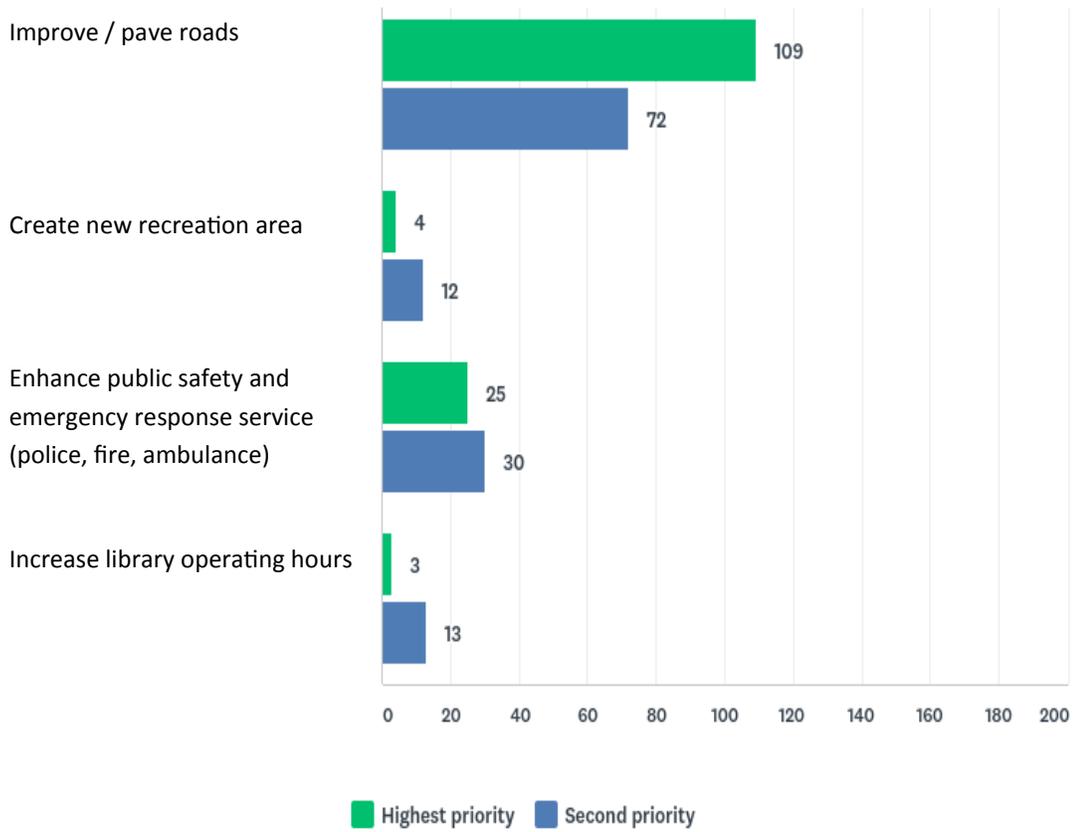
7. If every Tyngsborough resident were given \$100 in town funds, which two projects or initiatives would you fund with your share? Please indicate your highest priority and your second-highest priority below.

Answered: 318 Skipped: 46



# TYNGSBOROUGH MASTER PLAN SURVEY 2018

(Continued)



## TYNGSBOROUGH MASTER PLAN SURVEY 2018

### 8. Please provide any additional comments or thoughts that you may have about the

Answered: 93   Skipped: 270

#	RESPONSES
1	No golf course. Favor over 55 housing.
2	How about taking the land between new Town Hall and that stupid new storage business and put in a few streets and make a new town center to attract businesses and make it a new 'main street' area - enough with the low-rent bridge and church area and get a real town center!!
3	Good luck representing all the ideas you get! Thanks for doing this.
4	Create a functional and attractive town center including burying the waterway between Kendall and Middlesex Rd.. Or at the very least, beautifying that overgrown area.
5	I would like to see a walkable town center with a small grocery store, and pavement markings to indicate that bicycles may use the full lane (MA state law)
6	I moved here because it is a small town. The over development is a major concern and will cause many to leave when we lose the small town character we all cherish so much.
7	Focus on the centre of town, we have made progress, but it is still sub par.
8	More community events, add some character to the town by fixing up the area of the town near flints to make it look nicer! :-)
9	Definite emphasis should be placed on the public safety buildings that are currently insufficient and have needed to be addressed for some time. Less focus on historical projects and open space, more on economic growth of the town.
10	Detached condos at Tyngsboro Country club for 55 and older 1 story homes.
11	#7 would have indicated Public Transportation as priority if it were an option.
12	Putting a side walk down Middlesex road
13	We need sidewalks on Norris Rd, it is very unsafe for children walking to school. Norris Rd needs to be repaved.
14	Need a grocery store and cvs on west side instead of more apartments... new restaurants other than Mexican. Find ways to retain students (esp student athletes) in the schools to enhance learning opportunities and retain sports opportunities. (Too many athletes leaving for private schools so there will not be enough for teams in the future). Good schools and good athletic programs make our town more attractive which will add to property values.
15	Tyngsboro needs to have some familiarity in Massachusetts. We're not know for anything ( Businesses, School Quality, or safety). Need to attract more business to decrease taxes. Give incentive to new up and coming businesses like a craft brewery etc. Nothing worse about living in town and paying taxes close to what Westford pays and not having the notarie they have with the schools. What is Tyngsboro's identity.
16	Would love a park other than the schools to take my kids to in Tyngsborough.
17	We have a unique New England character, a colonial history, a cultural identity and that must be preserved at all costs.
18	Keep Tyngsboro, Tyngsboro! We don't want to be the next Chelmsford or Billerica.
19	N/A
20	We moved to Tyngsboro for the rural, small town feel. Please reconsider all the developments being pushed for into the town. We don't need to be another Chelmsford with wall to wall houses.
21	Let's not become Nashua, or even worse, Lowell.
22	Fire Department need a new building and additional man power

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23	I think we need to do something with the downtown area. Look at Nashua, now he is developing Ayer. We could have some small shopping, restaurants caes etc.
24	Most, if not every, emergency service provider in town needs at least one new station.
25	What caused the property tax rate to jump so much around 2015. Did the town lose a major business? Average property value Tyngsborough in 2017 - \$345k Average property tax Tyngsborough in 2017 - \$5900 Average property value Yarmouth in 2017 - \$337k Average property tax Yarmouth in 2017 - \$3376 Average property value Billerica in 2017 - \$340k Average property tax Billerica in 2017 - \$4800 Average property value Salisbury in 2017 - \$342k Average property tax Salisbury in 2017 - \$4100 67% of budget on education in 2018 (\$24 million) and the public school rating on Zillow is 5 out of 10 - that's very bad. Mismanagement. One way to save - get rid of school busses; Everybody drives their kid to the bus stop - they might as well drop them at school. There is too much protected open space and wildlife habitat - stop acquiring more. This is a suburb of Boston, not a national park. If I want wilderness, I'll go to Acadia. We need these places to become fun to visit community areas: shops, museums, outdoor ice skating, music venues, public restrooms, etc. Need places that more people want to visit and spend money at.
26	Current minimum acreage for lot size is 1.5 acres not 2. I would like to see the lot size decrease to .75 or lower to allow more single family homes to keep the look and feel of the town being residential homes as opposed to residential buildings.
27	Can someone PLEASE repair the roads in my neighborhood?? Specifically the corner area of Colorado and Nevada roads. There are huge holes that keep getting filled poorly. This is putting lipstick on a pig. Fix this right and I will be happy.
28	Revisit initial plans to make public building more tax generating instead of just sitting there.
29	Making schools and roads better and availing water and sewer services will draw in new families. However, families will pay a premium to live here if there is a cute downtown and income from those shops will help support your other goals.
30	We want Tyngsborough to be more like Westford, not Dracut.
31	Thank you for requesting our input!
32	better access to towns waterways for recreation
33	Please, better advertising of the next 3 Public Meetings! Longer lead time so citizens can PLAN to attend.
34	My first choice would actually be to include full day Kindergarden. We are very much behind the times on this.
35	I'm encouraged by the thoughtfulness being put into the master plan and the willingness of the town to allow the citizens to be a part of the process. It's a huge undertaking. Many thanks to all that have invested their time. I moved to Tyngsboro because of the hometown atmosphere. I fear we've in danger of losing it. I hope the new plan retains that distinction.
36	There are many wonderful things about Tyngsboro, however, it's very apparent that the town lacks walkability and safe spaces for families to ride bikes and participate in outdoor activities away from their home. Improvements like adding sidewalks and bikepaths would greatly increase the town's popularity and desirability amongst those looking to live here, and would also make it a better contender with surrounding town's that have these features, like Chelmsford and Westford. Street lights would help improve driving safety and also add an additional feeling of security.
37	I think we need to add new businesses, but I don't want this be a fundraiser for "townies". I've seen too many examples of business contracts and jobs going to friends of friends. More fairness and more transparency is needed.
38	I find it unfair that Wyndbrook residents pay the same taxes as other residents without the same services (we pay for our own road maintenance and trash pickup).
39	Get a supermarket in town. I have to go through 3 6-way likes to get to a decrepit Market Basket that has poor parking. Northern Westford would benefit as well. Also, condos should NOT have to pay for town trash and recycling. The town gains, builders gain, residents lose.
40	Other bad area traffic flow is Flints Corner. Hoping the construction is allowing for 3 different lanes (turn left, straight, and turning left) heading towards rte 3.
41	With paved roads, we should make sure sidewalks are included for the project.

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42	The improvement to the area of the old Town Hall needs to continue to make the surrounding space a walk about area. I know there's not many businesses there but more of a town center feel would be great.
43	Stop with the storage buildings and bill boards
44	I like the bus transport into Boston. We have a great library! Oppose affordable housing - Tyngsboro is such a safe community.
45	TY
46	Continue to develop town center, create picnic area at Flint Pond dam, more events in town center
47	Please build and develop a business-centric town center. Make Tyngsboro a destination for businesses and visitors/residents. We need sidewalks and reasons to walk around town/shop. A one-way street in the middle of town center, along with old buildings with no purpose are not destination points.
48	- The town needs to attract new businesses in order to reduce the tax liability on its residents. Property taxes are way too high for what we're getting in return. - The town needs to pave really bad roads (mine included - Jacques). For what we're paying in property taxes over here, there should at least be annual pothole patching until a proper job can be done. - With all that marijuana tax revenue coming into the state, the town should be pushing the state to increase our paving funding.
49	Get the pot shops opened and we'd have money to help all.
50	The next level of town development (schools & infrastructure) requires business activity to fund it
51	I would like to see a welcoming, bustling, town center
52	Allow the sale of the tyngsboro golf course to a private contractor. This will bring added revenue to the town. This will help alleviate the high tax burden for our current residents.
53	The number of building permits must be better regulated and departments need to communicate intentions to ensure it does not create an unfair burden on schools. We cannot continue to build new schools because of lack of future planning!
54	No affordable housing projects and no recreational marijuana
55	As a parent in the town, I have very real concerns about allowing additional 55+ communities in town. Because seniors have some of the highest voting rates and because they have limited income, they tend to vote against measures that would increase their taxes and unfortunately in town elections those taxes often pay for better schools, better infrastructure, better parks/rec spaces - all things that benefit the younger generation of the town who do not yet have the ability to vote. I strongly feel that these exclusive communities do not offer any benefits to a town and rather detract from it. I am very much against having any more of these developed and would rather see allowances for more businesses, parks, and recreation spaces.
56	Thank you for the opportunity to provide input - Excellent idea! The road in our neighborhood is crumbling away. There needs to be a way to appropriate/raise funds to fix.
57	Tyngsboro's Master Plan should include making our town attractive to neighboring town residents such as renting available buildings, (e.g., the First Parish Church.) Attracting businesses filling empty retail buildings at the AMC Plaza instead of building more retail spaces. Also, Tyngsboro is in danger of overcrowding our schools if it continues to build more homes. Building more homes crowds out our wildlife which is why they are seen almost daily in one's backyard, (bears and bobcats.) Our roads are in horrible shape. Somehow we need to remedy this situation. Thank you for reading my comments.
58	Stop all new 40b developments, and no more townhouses/condos.
59	Would love to see municipal water in the Scribner Hill section of town
60	My family and I have enjoyed the new & improved uses of the town center, namely the block party & the expansion of the Festival of Trees. We'd like to see the center continue to offer family events, and grow/develop with new small businesses in the historic locations where feasible.
61	Really hoping for a water and sewerage tie in in the future. More sidewalks would be nice too. Sherburne Resident

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62	There has been more than enough business development and accompanying destruction of forests and habitat for wildlife. We do not need more strip malls or affordable housing. What we need is more attention to sustainable living and implementation of sidewalks and bike paths to encourage people to exercise and knit the town together by making it more pedestrian/cyclist accessible.
63	when will we have sewerage the end of Frost Road?
64	Unfortunately cost cutting measures and new growth dont seem to be making it to the bottom line. Tax rates continue to go up by 2.5% regardless. We keep hearing that this and that will bring new tax dollars to the town or that we can save money and the money just goes to other increases I guess. We have a hodge podge of buildings in our center area thate need to have better access and planning to really have what I would call a town center. Right now we seem to have just a bunch of buildings
65	Looking forward to citizen information sessions.
66	Expand water/sewer service to the area near Hudson NH that were originally on the list to have this many years ago and were cut out.
67	People moved to Tyngsboro for the small town atmosphere. The amount of construction going on in this town is ridiculous. As well as the high tax rate. Taxes should go down if they keep building all these commercial places. Also, Dracut spent a lot of money building sidewalks, and I am forever seeing people jogging in the streets. What a waste of money.
68	The state of disrepair of the town's roads - especially in residential sections, is abhorrent. It is bad enough to reduce owners' property values and cause damage to residents' vehicles. EVERYTHING ELSE should be stopped until our roads are safe, sound and properly repaired (instead of just throwing in patches that we all know won't make it through the winter season).
69	PEASE, TAKE A LOOK INTIRE OF ROAD SEQUOIA DR. THE ROAD SO BUMP. SO, WHEN YOU GOING TO FIX IT?
70	Expanding water and sewage through the town is a major benefit for all residents.
71	let's stop cramming apartment buildings everywhere - how come some towns can preserve their town look and feel without crying we need the revenue - if we didn't have so many people we wouldn't need all the revenue to support them. Bring the pot shops in NOW for some revenue for crying out loud. Apartments and condos bring families - plain and simple we keep hearing "there won't be any kids in these condos or apartments" they're too small--- seriously? watch the school buses pull up - and while on the subject of the schools - exactly how far down has the enrollment gone with no downward motion of the their budget???? Funny we don't hear about enrollment numbers until they go up.....
72	involve community during planning process
73	Since I've moved in, we have seen "over 55" developments become some sort of priority - this is an enormous mistake - it's tax revenue, but it's also a bunch of voters that never miss a town meeting and vote no on schools and other important town priorities - because they don't need or value those services. American seniors are the most over-housed population on the planet. They can buy houses like everyone else - stop catering to this demographic.
74	The town doesn't need a golf course but it does need businesses and activities for families
75	I think access to public transportation should be a part of the Master Plan. Having a LRTA bus route from Park and Ride, to a Tyngsboro Downtown, Sullivan Farms, down 3A, to UMass Lowell South Campus would be pretty awesome. Either that or a commuter rail line extension to Tyngsboro (from Lowell line)
76	I hope our town will hold general meetings for input however perhaps 1 in the day & 1 at night to accommodate all residents
77	Limit expansion and maintain a rural atmosphere
78	The library hours are more in keeping with a small rural town, not a thriving town of Tyngsborough's size.
79	Thanks to all volunteers. The visioning sessions are a great idea.
80	Purchase the golf course and use that for the new middle school and other public buildings and new fields/open space

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81	We can't as a town acquire a golf course and then cry poor when it comes to supporting a new middle school. While they are separate projects they will both be expenses taxpayers are asked to pay for. I am in support of both, but worry if the golf course goes through the town will cry poor when it comes to investing in the children of the town. All taxpayers benefit from strong schools both the students and the resident through the increased value of their home. Every young family values the reputation of a town's school system when deciding where to buy not whether or not the town has a public golf course or walking trails. We need to balance our priorities by investing in our schools and building our tax base through single family homes and support for business not selling ourselves out to developers of condos and apartments.
82	We love living here and look forward to our future in Tyngsboro
83	Hilter had a master plan,
84	I think sidewalks make neighborhoods look nice and I would like them in my neighborhood but Tyngsborough isn't really walkable so cost wouldn't be justified. I like the idea of historical preservation, I think the new downtown plan looks good, would like consideration to replacing traffic light posts with black ones when replacement is necessary, it gives the town a classy look. Developing the empty lots on Westford road might be good, we really need a grocery store. A decent playground would be nice. I think perhaps remodeling the Winslow school to a library would be a nice option, you could modernize and enhance the library and bring a draw to that area. Republic Services has been dropping the ball on picking up my recycling, they have missed a bunch of pickups, it's a little frustrating having to call them and leave my bins out for half the week, please consider that when the contact is up. My road is pretty beat up but I drive a jeep so it's ok we can wait till it's due in the road replacement plan. That's my wish list, thanks for taking the time to read it. Keep up the good work!
85	Congrats for taking this on. Take care to not focus too much on special interest groups - you will note that they drove the last Master Plan.
86	Town should work to get a commuter rail station established in town. This will increase property values and tax base.
87	Economic development to create a distinct and unique town center.
88	We have a great town, do not lose the rural environment.
89	Paving roads is detrimental to town infrastructure. Creating family parks is necessary to strengthen community relationships. Invest in school upkeep to stay competitive with surrounding districts
90	We need a park on the west side of the river. There is no need for a park, golf course, or other recreational facilities on the east side of the river.
91	The world plastic crisis is one of the greatest threats to our local waterways along the Merrimack river and surrounding areas. How will the town monitor the reduction of this product in our community for the years to come?
92	Tyngsborough has a lot of land that borders Merrimack River. How will the town protect the Merrimack and its natural resources in the next 10 years? Does the town have any plans for additional open space for our children to learn and play outdoors?

Questions 5: My list is actually much longer than just top 3 items. This is my wishlist in order of importance 1) More parks with playground equipment for children (Tot Lot), specifically in the states streets area. Many new families with children under 5 live here and we'd love to see a place for the neighborhood kids to play together. 2) Attract a grocery store tenant to Westford Rd. We badly need tax revenue that would be generated from new business in town. I'm sick of driving all the way to Nashua or Chelmsford for grocery shopping. Please, please PLEASE work to attract a local grocery business (like Lucci's or Donnelan's) to the Westford Rd area. 3) Improve the function of library/town hall. The town hall needs more space and we have unused historic buildings in the town center. I would love to see the library moved into the Winslow School or the Littlefield Library to create a community hub at the town center. Our library is vastly in need or updating. The look and feel of the library is not inviting at all. It feels too small and cluttered to make you want to spend much time there. Let's bring the community together in a true town center by moving the library and renovating one of our historic places for citizens to enjoy. 4) Expand our kindergarten program to a universal full day program for all students. The academic requirements for our 1st graders are too rigorous to allow half of our K students to miss out. Let's make full day K a priority for all kids. 5) Curbside Composting of Food Scraps and Pay-as-you-throw trash. We should be encouraging people in town to use less and reuse and recycle more. 6) Increase housing options for everyone. (Question #6 with only "in favor" or "opposed" answers doesn't do it justice) We need to provide a variety of options for all people in town, not just affordable and not just seniors. We should not be afraid of new residential growth! 7) Improve our existing green space. We have so many trails in town that are not properly maintained. I can't possibly support something like the purchase of the Golf Course knowing full well that the trails we already possess are completely under utilized (although the maps are great, please keep those!). When you drive through towns like Chelmsford, Concord and Acton and see how they make their walking trails a priority with paved areas and clear signage and plenty of access, it makes our trail system look sad. Let's use the areas we already protect and make them more accessible to the people in town. 8) ROADS. This is last on my list of importance only because I know many others will also mention it. Let's fix the roads. Our roads are completely unacceptable. Thank you for the work you are doing to compile all these suggestions.

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## **APPENDIX C: CLIMATE CHANGE REFERENCES**

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