

CARLISLE HOUSING PRODUCTION PLAN (HPP)

Prepared by
The Metropolitan Area
Planning Council (MAPC)



CARLISLE
HOUSING PRODUCTION PLAN

Acknowledgements

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- Adelaide Grady, *Carlisle Planning Board*
- Barney Arnold, *Carlisle Select Board*
- Gina Fox, *Carlisle Affordable Housing Trust*
- Maureen Cosgrove-Deery, *Carlisle Affordable Housing Trust*
- Joan Ingersoll, *Carlisle Council on Aging*
- Christine Lear, *Carlisle Member at Large*
- Amanda Comperchio, *Carlisle School Committee*
- Rachel Gore Freed, *Equity and Inclusion Advisory Council*
- Jeffrey Brem, *Habitat for Humanity*

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INTRODUCTION

Introduction

The 2022 Carlisle Housing Production Plan (HPP) outlines a new set of strategic recommendations for the Town and the Carlisle Affordable Housing Trust (CAHT) to meet local housing need and expand housing choice. The HPP provides the Town with a roadmap to address its housing challenges while also working towards its other goals for Carlisle’s character, fiscal sustainability, connectivity, environmental stewardship, and community well-being, as described in the Carlisle Master Plan, which was completed in April 2022. The HPP is rooted in data and public engagement, giving the Town a well-thought plan of action that is supported by the Carlisle Select Board, Planning Board, and Housing Trust.

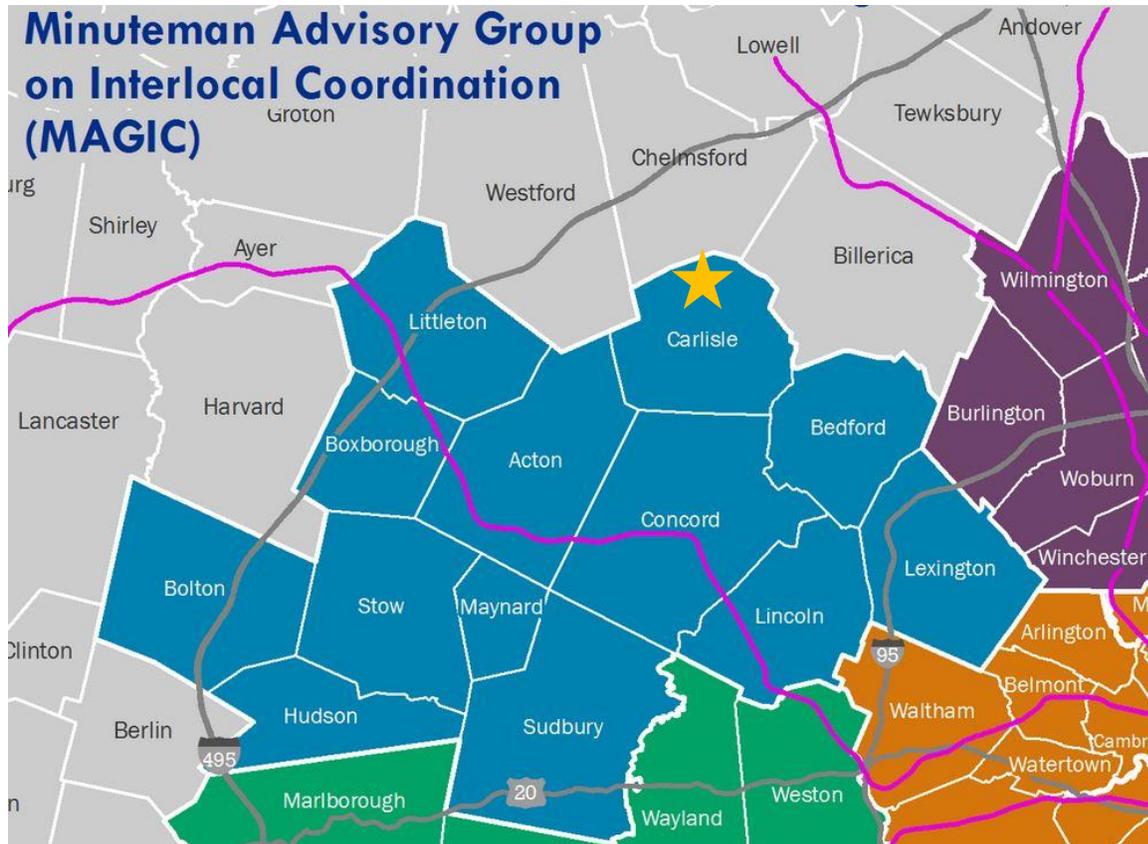
Carlisle is a green community surrounded by woodlands, wetlands, and other open space. Many residents told us they value Carlisle’s small-town feel, the recreational opportunities, and that the Town has purposefully not developed much of its land. While the Town’s green spaces are an asset, they also make it difficult to expand housing options by constraining development. As documented in the Master Plan, approximately 35% of the Town is protected open space and development is also encumbered by wetlands and other environmentally sensitive areas. Development in Carlisle is also challenging due to an absence of water and wastewater infrastructure. This HPP includes a preliminary but detailed spatial analysis of development constraints and carefully considers these constraints along with other factors in its recommendations.

Figure 1 Aerial Photo of the Carlisle Cranberry Bog



Carlisle is classified as a Country Suburb and is a part of MAPC’s Minuteman Advisory Group on Interlocal Coordination (MAGIC) subregion as shown in Figure 2. Home prices in Carlisle and the MAGIC subregion are rising rapidly, as they are in Greater Boston as a whole. However, the increase in the cost of housing is particularly troublesome for Carlisle because the Town’s housing stock is mostly large single-family homes which are already unaffordable to many.

Figure 2: Map of Carlisle and the MAGIC Subregion



The Town of Carlisle created a HPP in 2015, but, most of the HPP recommendations weren’t implemented. However, this HPP takes a strategic approach by identifying strategies that leverage existing resources and expand the Town’s housing toolkit to pursue clearly defined roles for the CAHT and other Town committees that can impact efforts to meet housing need. These recommendations were developed with the support and local expertise of the HPP Advisory Committee.

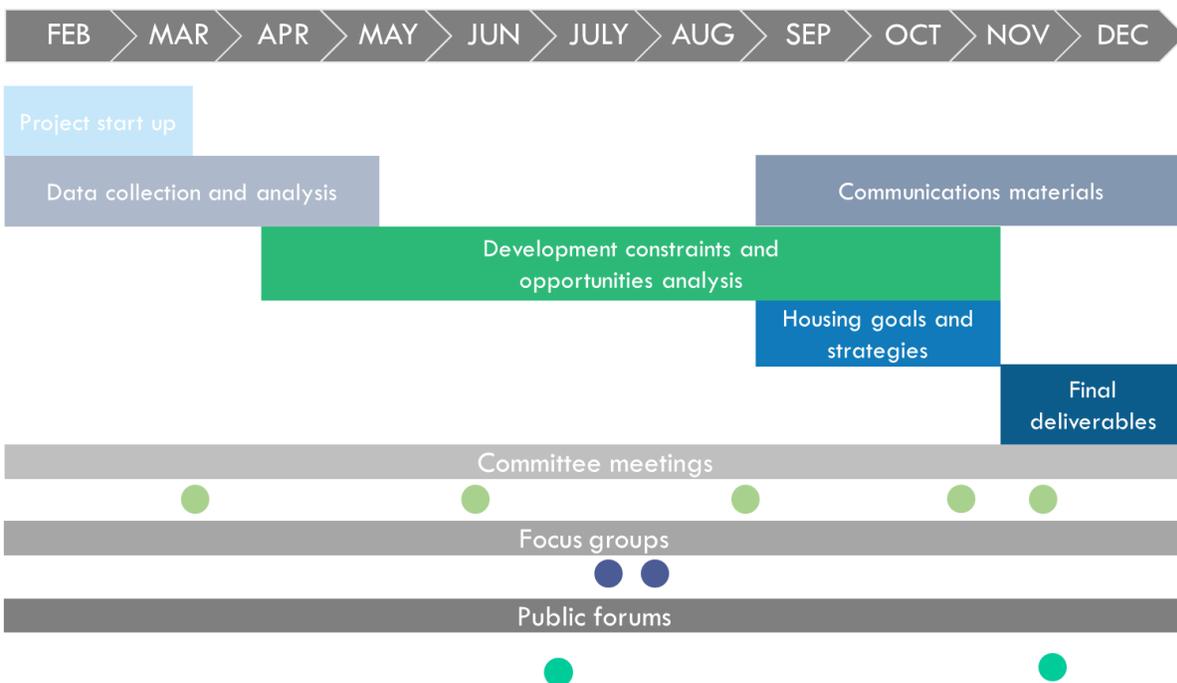
Figure 3: List of HPP Advisory Committee Members

- HPP Advisory Committee Members:**
- Adelaide Grady, *Carlisle Planning Board*
 - Barney Arnold, *Carlisle Select Board*
 - Gina Fox, *Carlisle Affordable Housing Trust*
 - Maureen Cosgrove-Deery, *Carlisle Affordable Housing Trust*
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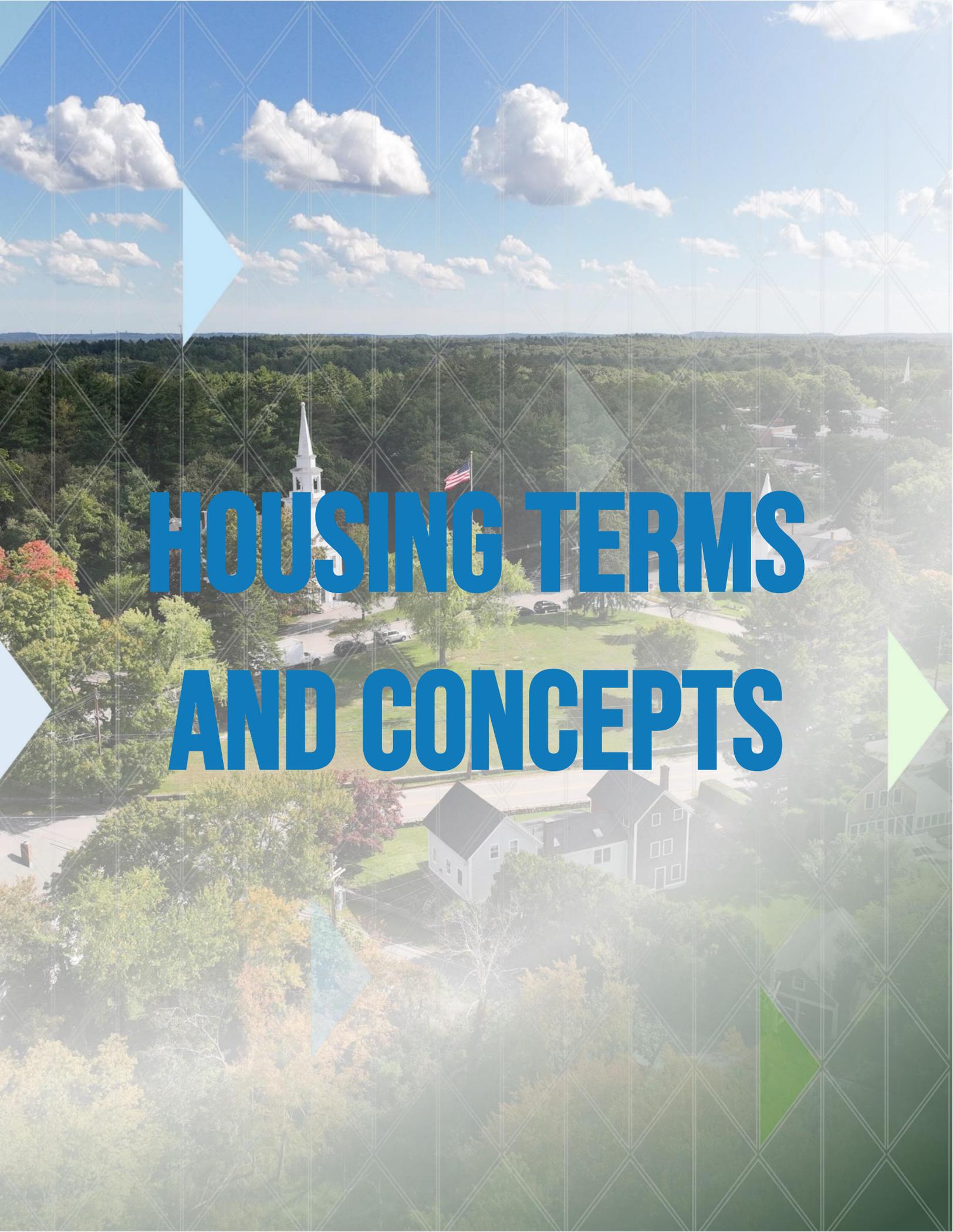
MAPC began assisting the Town with the HPP update starting in February 2022.¹ The following plan was informed by five Advisory Committee meetings, focus group meetings, and two public forum events—all hosted online via Zoom due to public health safety conditions and the preference of the Town.

Figure 4 HPP Project Timeline, 2022

Project Timeline



¹ Data collection for this HPP began in September 2021. 2019 American Community Survey (ACS) data was the most current ACS data available at this time.



HOUSING TERMS AND CONCEPTS

Housing Terms and Concepts

This glossary briefly defines housing terms and concepts that are used in this plan to describe Carlisle’s housing need.

Cost Burden

A household is considered cost burdened when it spends more than 30% of its gross income on housing. When a household spends more than 50% of its gross income on housing, it’s considered extremely cost burdened.



“Lower-case a” affordable housing

Housing that tends to be affordable (30% of household income) or less expensive due to size, age, or other characteristics. “Lower-case” a affordable housing is not protected by deed restrictions or other mechanisms, so these homes may become unaffordable at any time, depending on investment, the market, and other factors.

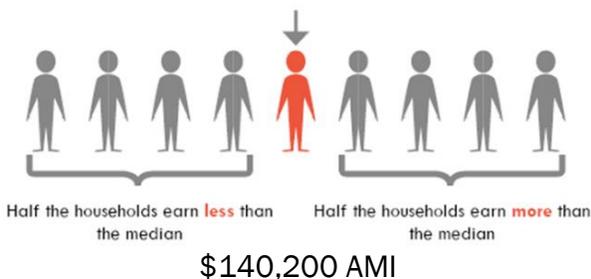


“Upper-case A” Affordable Housing

Housing that is deed-restricted to cost no more than 30% of a household’s income and be made available to income-eligible households only. The U.S. Department of Housing and Urban Development (HUD) defines income-eligible households as households earning 80% of the Area Median Income or less.

Area Median Income (AMI)

The 2022 AMI for Carlisle and the Boston Cambridge-Quincy, MA-NH HUD Metro FMR Area is \$140,200, as determined by the U.S. Department of Housing and Urban Development. Eligibility for Affordable Housing is based on AMI and varies by household size. For example, 80% AMI, the typical threshold for most Affordable Housing, is \$78,300 for a single-person household in metropolitan Boston, and \$111,850 for a four-person household.²³



² As stated above, AMI eligibility varies by household size. To see eligibility for all household sizes, see the HUD income limits [here](#).

Context Communities

In order to situate Carlisle's housing needs and challenges within a relevant context, the HPP Advisory Committee conducted a complex, thoughtful analysis that resulted in the selection of a handful of 'context communities' based on a number of different metrics, including demographics, income, housing stock, and water and wastewater infrastructure. This analysis is in Appendix E. Context communities provide a frame of reference to compare data, showing the significance of housing trends observed in Carlisle. The following communities with characteristics similar to Carlisle were used as context communities: Bolton, Harvard, Holliston, Lynnfield, Norfolk, Norwell, Sherborn, and Southborough. MAPC's MAGIC subregion, Essex County, and the State of Massachusetts were also used to contextualize data findings and trends in Carlisle. Context communities were approved by the Carlisle HPP update working group.

M.G.L. Chapter 40B

By state statute M.G.L. Chapter 40B, cities and towns are encouraged to provide 10% of their total year-round housing units as deed-restricted Affordable Housing. If a municipality is not at the 10% threshold, a developer can use a special Comprehensive Permit Process to build developments with Affordable Housing, as an alternative to local zoning regulations. Municipalities seeking to encourage more Affordable Housing development can also choose to use 40B regulations to facilitate development through the Local Initiative Program, which offers state technical assistance for this development.

M.G.L. Chapter 40R

M.G.L. Chapter 40R, § 1-14, provides for smart growth overlay districts with increased densities for residential development and multi-family housing by right (subject to site plan review). At least 25% of the units in a Chapter 40R district must be affordable to low- or moderate-income people. Municipalities that adopt a 40R Smart Growth Overlay District (SGOD) can receive \$10,000 to \$600,000 in state funding, as well as \$3,000 for every new housing unit created in the district. Communities can also receive state assistance to write 40R zoning and adopt design standards.

M.G.L. Chapter 40R and 760 CMR 59.00 also contain provisions for starter home zoning overlay districts, which include similar financial incentives, and allow for projects of lower density (4 units per acre, which can include accessory dwelling units), and with 20% of units income-restricted to eligible households earning at or below 100% of Area Median Income.

Subsidized Housing Inventory (SHI)

In Massachusetts, the SHI is maintained by the Mass. Department of Housing and Community Development (DHCD) and used to measure each municipality's supply of Affordable Housing for the purposes of Chapter 40B. The SHI includes all housing developed under Chapter 40B, including both Affordable Housing and market-rate units in rental developments, and other deed-restricted Affordable Housing, such as public housing, project-based vouchers, federal Low-Income Housing Tax Credit (LIHTC) projects, and many others.

The state requires each community to have 10% of its housing stock as subsidized housing to have safe harbor from Chapter 40B. As of 2021, Carlisle's SHI is 3.39% and has 59 subsidized housing units. The Town indicates none of these SHI units are family-sized and many are restricted to either the elderly or disabled. Carlisle's SHI is further documented in the Housing Needs Assessment Chapter on Page 17.



CARLISLE TODAY

Carlisle Today

Carlisle, Mass., is 15.5 square miles and located 19 miles northwest of Boston and approximately eight miles southwest of Lowell. The town is part of MAPC's MAGIC sub-region that also includes Acton, Bedford, Bolton, Boxborough, Concord, Hudson, Lexington, Lincoln, Littleton, Maynard, Stow, and Sudbury. State Routes 225 and 4 pass through Carlisle. Carlisle doesn't have a commuter rail station or local bus service.

Figure 5 Aerial Photo of the Carlisle Town Center



The large majority of housing in Carlisle is single-family. Ninety-two percent of all units in town are detached single-family homes and 95% of the housing stock is owner-occupied (ACS, 2019).⁴ The median price of a single-family home was \$1,327,000 in 2022. (The Warren Group, 2022). MAPC's rental database that pulls online rental listings only identified four rental listings in 2022, showing how difficult it is to find a renting option in town.⁵

⁴ Note the most current U.S. Census Bureau American Community Survey (ACS) data available when data was pulled for this plan in September 2021, was the 2019 ACS dataset. 2020 ACS data was not released until February 2022. The dates of other datasets vary by availability. Later in the planning process, the Town requested that residential sales and school enrollment data be updated to 2022 figures.

⁵ With such a small sample size, it's not possible to get an accurate estimate of median rent.

Approximately 20% of households in Carlisle are considered low-income, earning less than 80% of the area median income (AMI) and eligible for Affordable Housing. Almost one quarter (22%) of Carlisle households of various incomes are cost burdened, spending more than 30% of annual income on housing (CHAS, 2014-2018).⁶ Based on 2021 DCHD records, there are 59 subsidized housing units on the Town's Subsidized Housing Inventory for approximately 360 income-eligible local households. Of these units, 26 at Benfield Farms and 18 at Village Court are age-restricted; 9 at TILL and 4 at Brook Street are for developmentally disabled persons; and only 2 at Rocky Point are suitable for families.

The following 2022 data from the Carlisle Council on Aging and Human Services (COAHS) serves to illustrate a range of local need beyond just problems with the high cost of housing: there are approximately 10 people who receive rental assistance; there are approximately 15 people who receive food from the food pantry; another 15 people receive weekly frozen meals; and a handful of seniors receive assistance with technology, transportation, and mental health services.

This information is described in greater detail along with other key data takeaways in the Housing Needs Assessment Chapter on Page 17.

⁶ This percentage is the total households at 80% AMI or lower divided by total households of all incomes. This information comes directly from the Comprehensive Housing Affordability Data Set (CHAS). CHAS is a special dataset compiled by HUD from past ACS data samples to determine affordable housing eligibility for low-income (80% AMI) very low-income (50% AMI) and extremely low-income (30% AMI) households among other affordability metrics. Since this figure comes from HUD it's already adjusted for household size. HUD spends time compiling this dataset and so it dates one year behind the most recent ACS data. Since the most recent ACS data used in this plan is 2019 ACS data, the CHAS dataset compiles from the 2018 ACS.



COMMUNITY ENGAGEMENT

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Community Engagement

Public input was collected throughout the planning process to complement housing data and inform the HPP recommendations through several community engagement activities. The project team presented data and recommendations for HPP goals, strategies and development opportunities at two public forums, a housing need focus group, and interviews. Public forums were promoted on the Town’s website, social media pages, and by HPP Advisory Committee members. Each forum was also publicized in the Carlisle Mosquito, the free weekly newspaper, reaching a wider audience. Qualitative information gathered from a housing need focus group helped ground truth data and showed how housing needs affect the Carlisle community. Quotes from focus groups are included throughout the report to show this impact. Public input strengthened the plan’s analysis and informed recommendations. Information gathered from the public is summarized in Table 1 below and referenced throughout the report where applicable. In general, the public input gathered during this planning process supports the plan recommendations and the Town’s efforts to expand housing choice in Carlisle.

Table 1: HPP Update Public Engagement Events

Event	Date	Number of Participants	Engagement activities
Public Forum I	April 7, 2022	31	Collected input on housing needs assessment data and live polls measured support for proposed HPP goals
Key person interviews	March 3, 2022	3	Collected information on Carlisle’s development constraints and the Benfield Farms development
Housing Need Focus Group	May 2, 2022	7	Group discussion and sharing of personal housing challenges and goals
Public Forum II	September 8, 2022	36	Main room and breakout room discussions of draft HPP priority strategies and development opportunities. Live polls ranked the importance of proposed HPP priority strategies and housing opportunities/recommended housing types
Five working group meetings	January 2022 – November 2022	9	Discussion of data, public input, and plan recommendations.
TOTAL: Nine meetings	Seven months	86 participants	



HOUSING NEEDS ASSESSMENT

Housing Needs Assessment

The housing needs assessment is a comprehensive collection of data in Carlisle documenting the town’s demographics, housing stock, and housing affordability. Data was collected for the housing needs assessment in September 2021. The assessment uses various sources of data that are cited throughout. One of the primary sources of data is the United States Census Bureau American Community Survey (ACS). ACS data is the most expansive of available datasets and provides the greatest detail.⁷ When available, this HPP uses Decennial Census data and other sources that can provide total data counts.

Throughout the assessment, context communities have been used to establish a reference point, allowing us to see the significance of data and how trends in Carlisle compare with other communities. Context communities were established using a methodology that finds other municipalities with similar characteristics to Carlisle.

Key Findings and Trends

The following bullets briefly summarize the key findings and trends for each area of the housing needs assessment and the overall key findings for the assessment. These summaries are fully detailed in the assessment that follows.

- **Demographics**
Carlisle’s population is defined by falling household sizes, aging households, increased racial diversity, and rising household incomes.⁸
- **Housing Stock**
Most of the housing stock in Carlisle is owner-occupied, detached single-family homes with three or more bedrooms.
- **Housing Affordability**
Market-rate homes in Carlisle are increasingly unaffordable for many residents, municipal employees and renter households, and do not meet lower case “a” or upper case “A” affordability criteria.

⁷ This data is collected by the United State Census Bureau and is based on sample size, so it is considered an estimate and includes a margin of error indicating how confident we can be with the ACS estimate. As datasets become more specific, such as showing income by household type, the sample size is smaller, and the margin of error is higher. Since Carlisle has a small population size, to begin with, most ACS datasets are near a 30% margin of error. Datasets with aggregated regional data have been used in internal analysis to increase confidence by confirming trends and patterns. For more information about ACS data and margin of error, see the Census Bureau’s website [here](#). This HPP uses the best information available from the census and other sources. As stated previously, the most recent ACS dataset available when data was collected for this plan in September 2021 was 2019 ACS data. The most recent CHAS data was 2018.

⁸ Carlisle has gone from 89% white to 79% white in ten years.

Overall Key Findings

1. There is a mismatch between the size of households in Carlisle (2.78), lowest of all context communities, and the size of homes in Carlisle, with 94% of homes in town being three or more bedrooms.
2. The existing typical housing stock makes it difficult for singles, seniors, people living with disabilities, and others to find smaller homes in Carlisle that meet their needs.

3. With 92% of homes in town being detached single-family houses, there is very little housing choice. A lack of diversity in housing types makes it difficult for existing Carlisle residents to find new homes in town when their needs change; for instance, when seniors look to downsize for financial or health reasons.

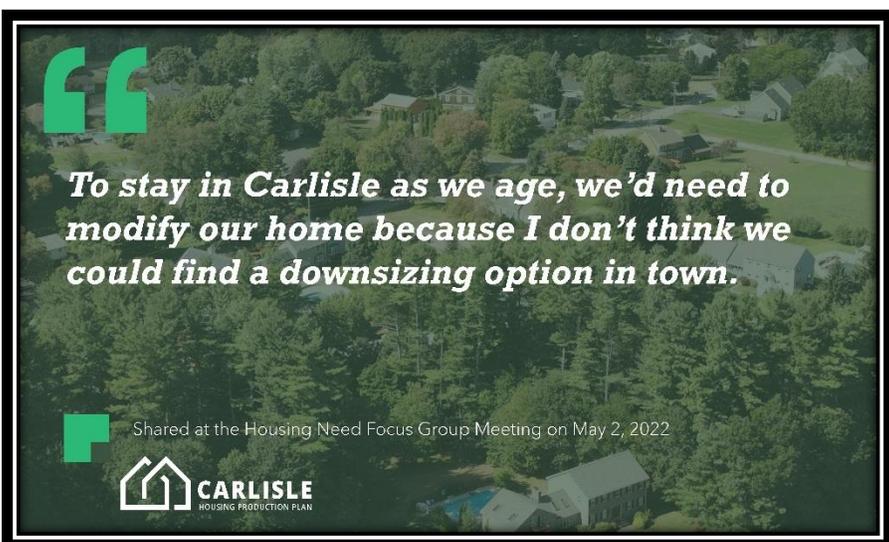
4. Limited housing options and the high cost of housing for sale in Carlisle is a challenge to entry for many who would like to live in town. The 2022 median price of a single-family home in Carlisle was \$1,327,000. Because the majority of the housing stock is single-family homes, it's difficult for anyone who does not make the median income to live in town. It is also difficult for existing Carlisle residents to find alternative housing options, and many individuals who grew up in Carlisle have difficulty purchasing a home in town. The high cost of housing and limited housing options also contribute to Carlisle's lack of economic diversity, and the town continues to be a majority white community (79% of residents are white).

5. Carlisle needs more deed-restricted Affordable Housing. There are approximately 59 Affordable Housing units on the SHI for 360 income-eligible households. So, for every five eligible households, there is one Affordable Housing unit in town. As noted

Figure 6 Focus Group Quote I



Figure 7 Focus Group Quote II



throughout this report, the availability of SHI units is restricted to the elderly, disabled, and small households. Except for two units at Rocky Point, Carlisle's SHI is restricted to the elderly or disabled.

Figure 8 Focus Group Quote III

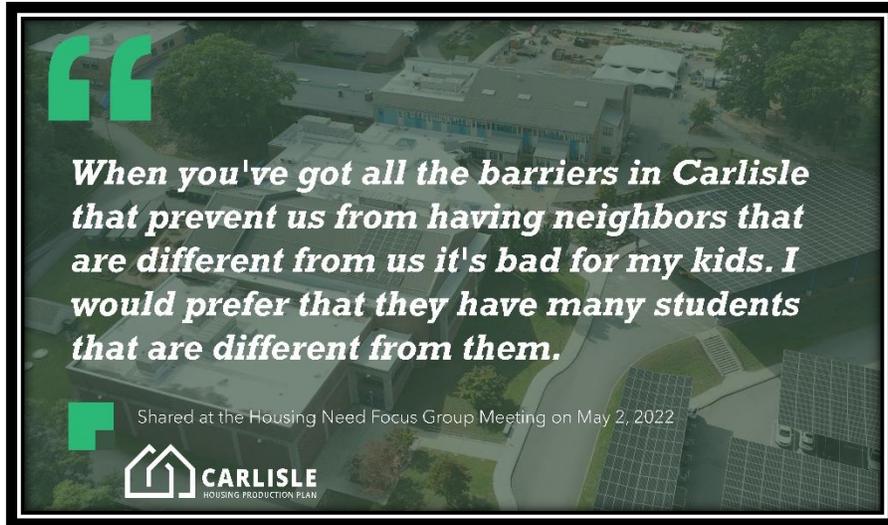
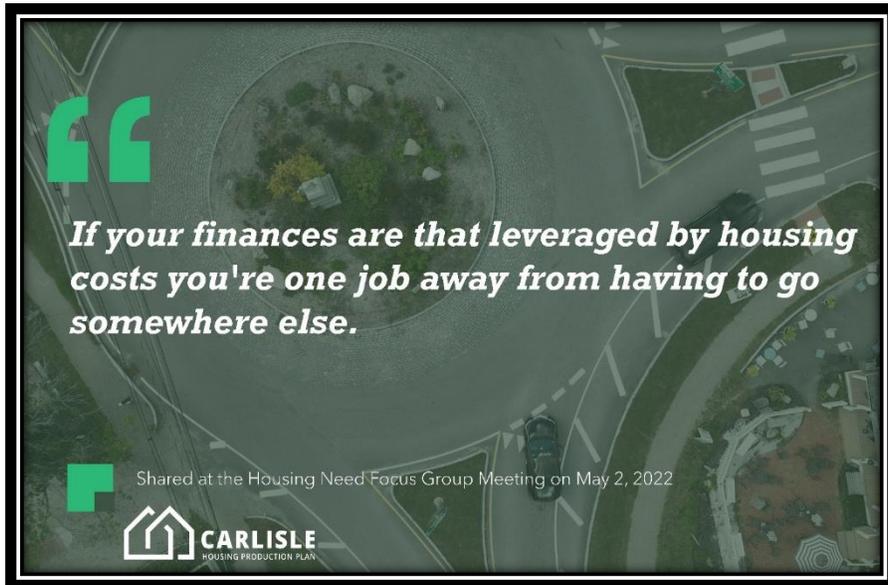


Figure 9 Focus Group Quote IV

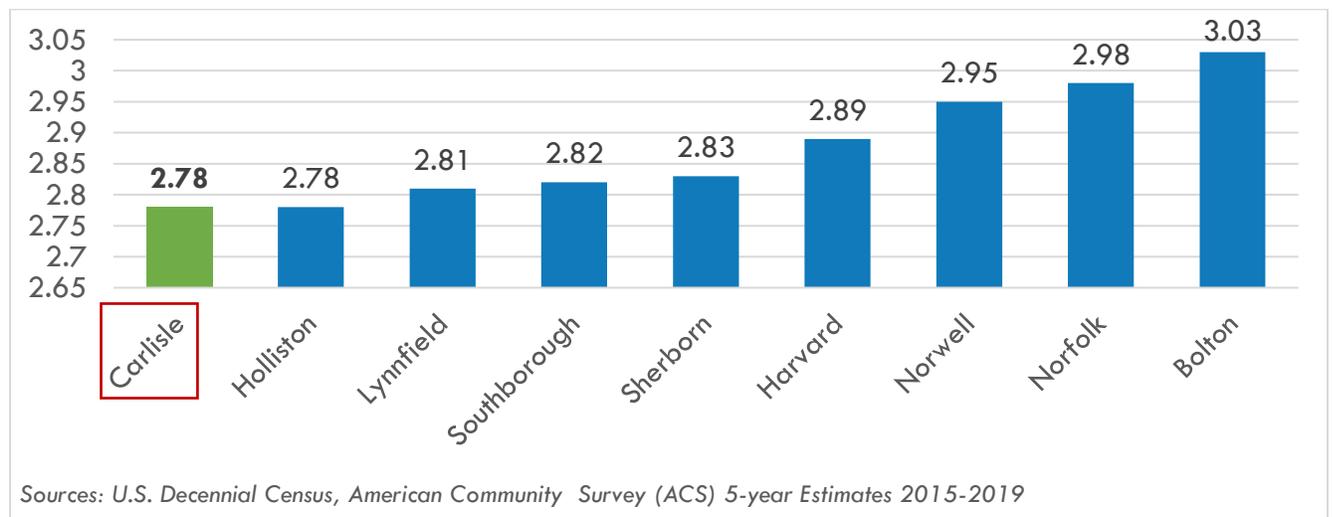


Demographics

The first element of the housing needs assessment is documentation of Carlisle’s demographics. Demographic data helps us understand what the community’s needs are and how they align with the housing stock. First, we looked at household and population growth and household size.

Household growth in Carlisle was more than twice the population growth over the last ten years. From 2010 - 2019, the total population increased 7.9%, while the number of households increased 16.4%.⁹ Household growth exceeding population growth signals an increasing number of small households. Indeed, the average household size in Carlisle fell 7% from 2010 to 2019 (2.78, compared to 2.99) and is now tied for the lowest among all context communities.

Figure 10 Average Household Size, Carlisle and Context Communities (2019)

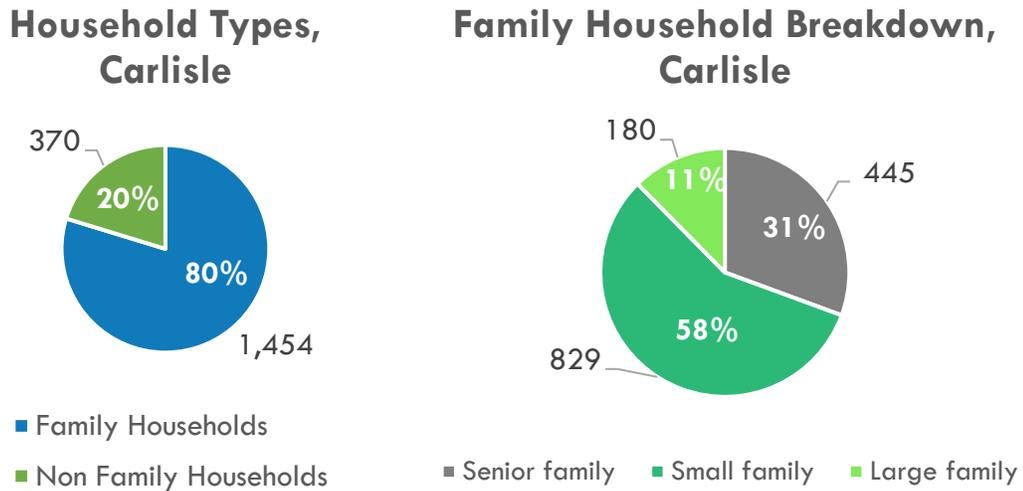


We follow household sizes by taking a look at the types of households in Carlisle. **There are many family households in Carlisle, but a considerable number of them are small families.** Eighty percent of households in Carlisle are families, and more than half of these family households are considered small families that consist of 2 to 4 people (829, or 58%). Additionally, 31% of family households are senior family households.¹⁰

⁹ 2010 Census; 2020 Redistricting data; ACS 2006 – 2010 and 2015 -2019

¹⁰ Source: CHAS 2014-2018. The U.S. Census Bureau definitions for elderly and family households are listed below. Non-family households: Individual households OR 2 non-related persons, neither person 62 years or over OR 3+ non-related persons. Small Family Households: 2 related persons, neither person 62 years or over OR 3 or 4 persons. Large Family Households: 5 or more persons. Elderly/ senior family household: 2 related persons, with either or both age 62 or over Elderly/ senior non-family households: 2 non-related persons, with either or both age 62 or over.

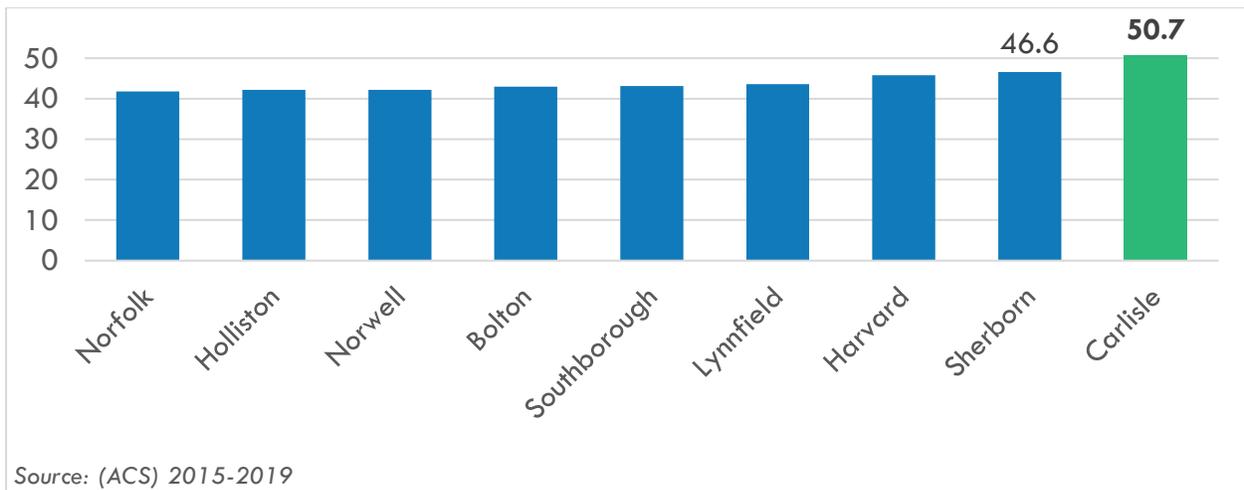
Figure 11 Carlisle Household Types and Family Households



Source: HUD Comprehensive Affordability Strategy (CHAS) Dataset, 2014-2018

We also know that Carlisle’s population is aging, and this trend stands out compared with the context communities. The median age in Carlisle (50.7 years) is about 4 years older than the next closest context community. As households age, their needs change. For example, seniors and people living with disabilities may be looking for smaller homes that are easier to maneuver in and maintain.

Figure 12 Median Household Age, Carlisle



Source: (ACS) 2015-2019

While the share of seniors in Carlisle is increasing, the share of children is decreasing. One-third of households in Carlisle include children, but as the data below shows, this demographic is trending down. Enrollment in Carlisle’s public schools dropped 10.6% from 2010 to 2022, signaling a decline in the number of young children. The percent of households with kids (33%) is the lowest of all context communities, while the percent of household with seniors (37%) is the second highest among context communities.

Figure 13 Change in School Enrollment, Carlisle and Context Communities, 2010 – 2022

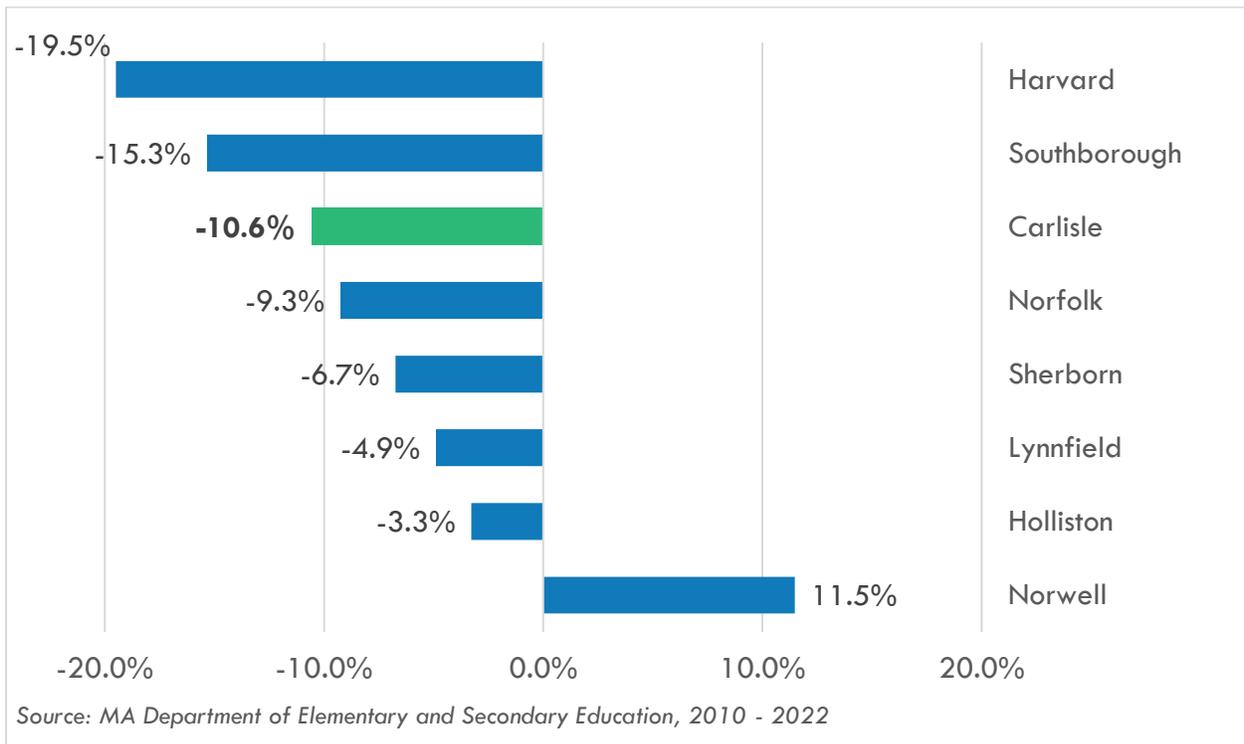
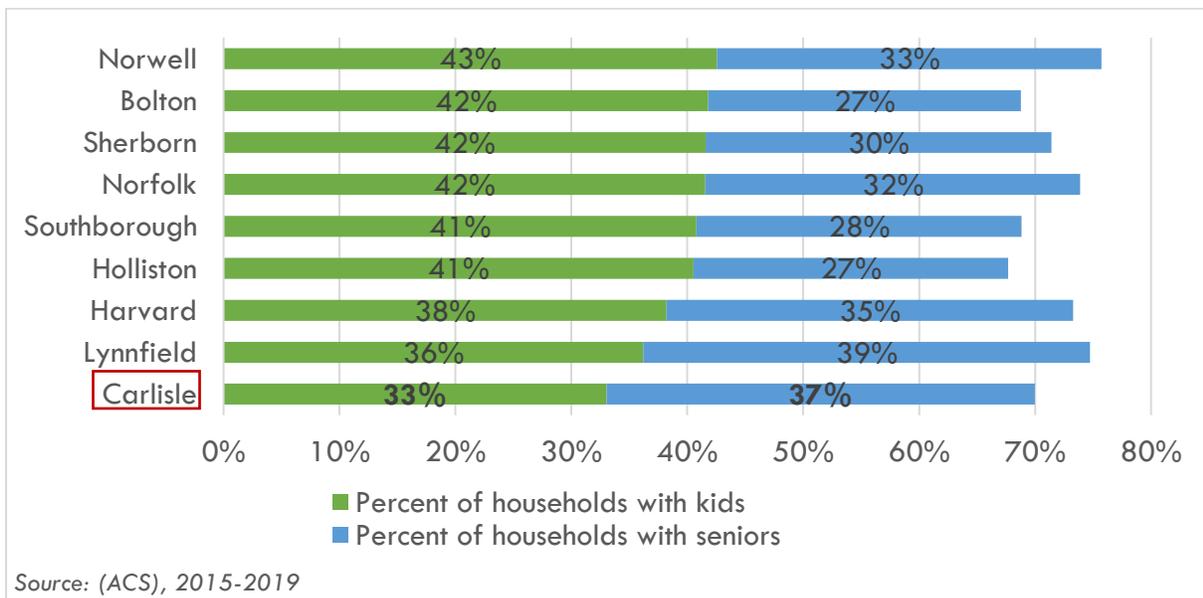


Figure 14 Population Share of Seniors and Children, Carlisle and Context Communities (2019)



The largest increases in population since the last HPP have been among young adults aged 18 -34 and seniors aged 65 and older. Although the number of school-age children has decreased, children aged 5-17 and adults aged 55-64 are the largest absolute age brackets in Carlisle today. As these two demographic brackets age, it is likely that young adults' and seniors' share of the total population will continue to grow.

Figure 15 Age Distribution Change, Carlisle

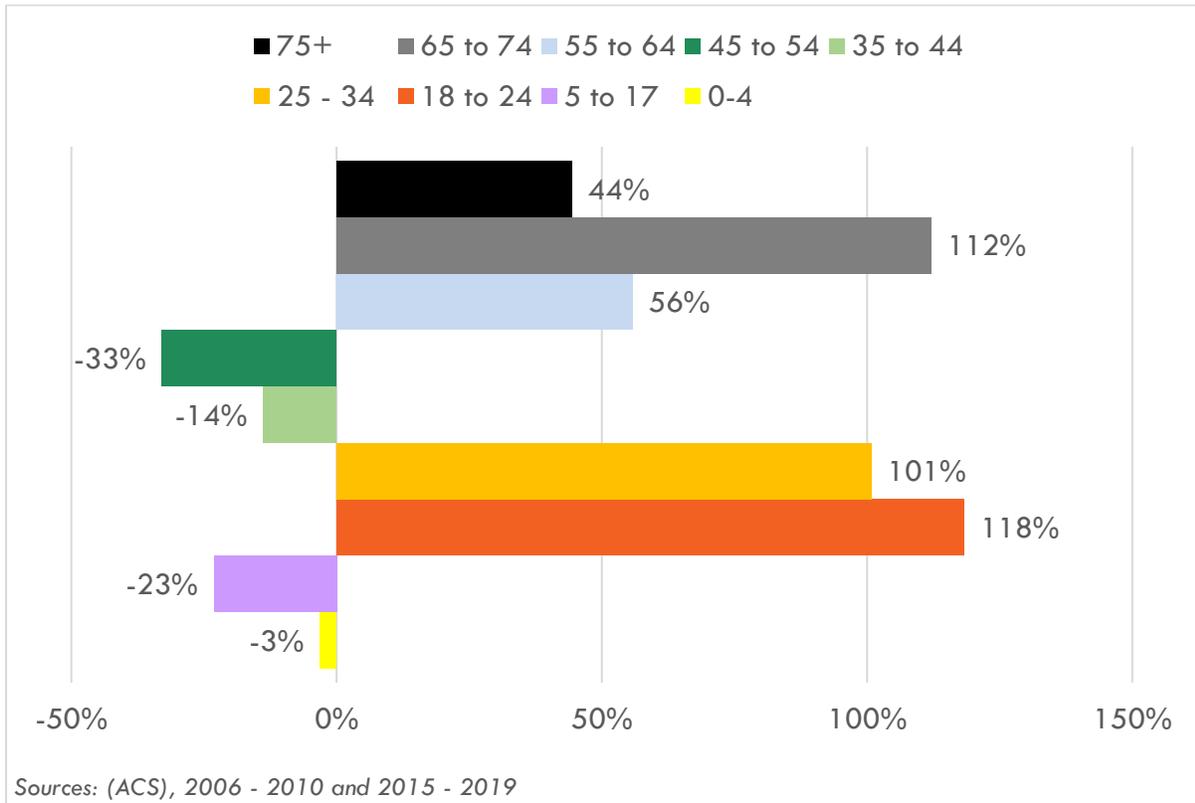
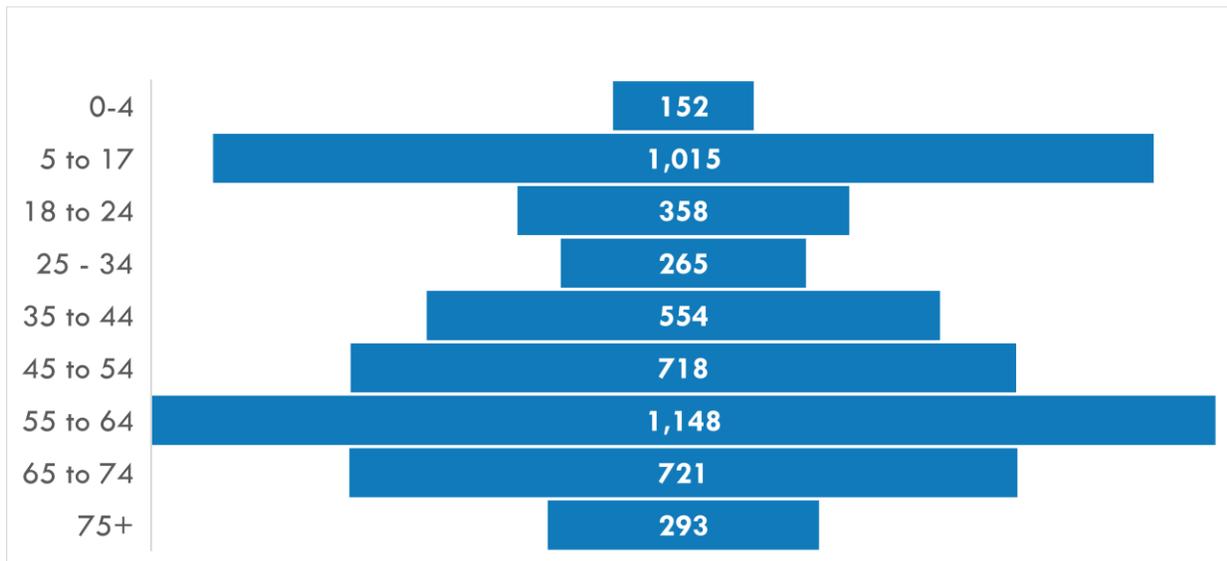


Figure 16 Age Distribution, Carlisle 2019

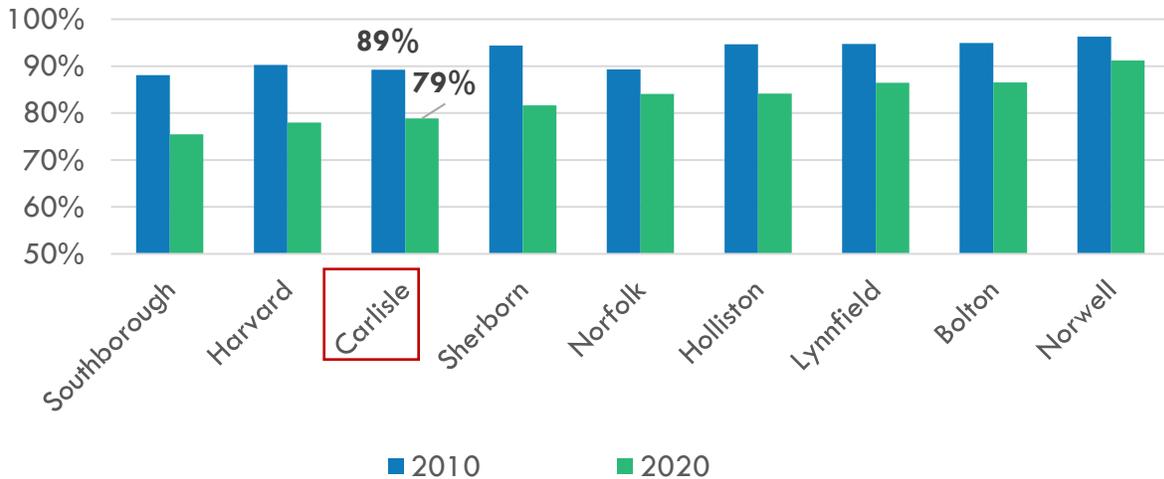


Source: (ACS) 2015-2019

Next we looked at racial demographics and income. Diversity of race, as well as socio-economic background, is correlated to housing choice. **Carlisle remains a majority-White community.**

From 2010 to 2020, the share of residents who identify as white dropped from 89% to 79%; the next largest racial/ethnic group is Asian, at 11%. This chart shows that Carlisle is more racially diverse than two-thirds of the context communities.

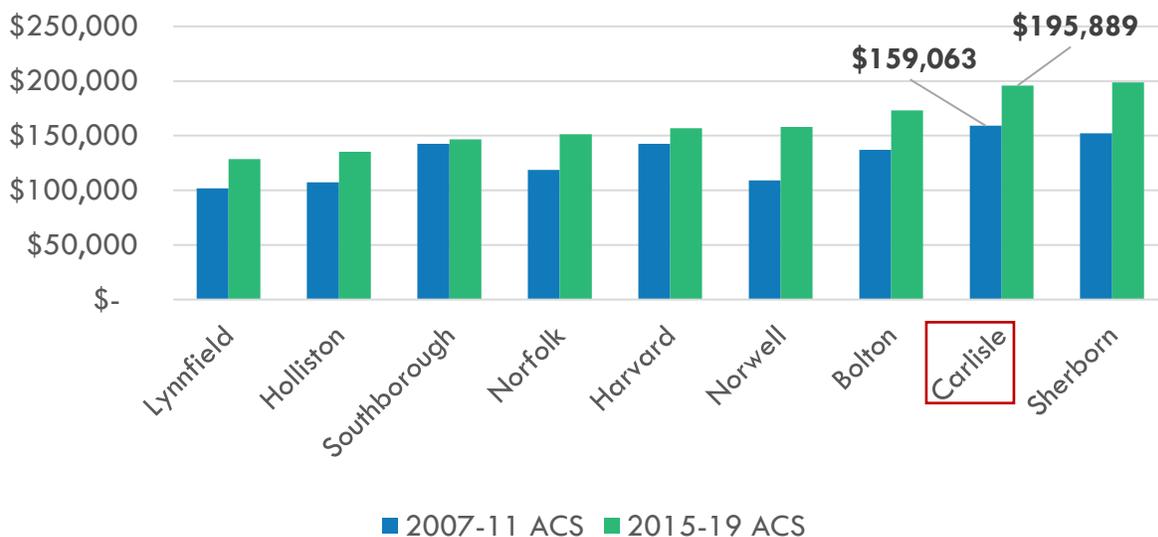
Figure 17 Percent of Population Non-Hispanic White, Carlisle and Context Communities



Source: U.S. Decennial Census 2010; Census Redistricting Data 2020

The median household income in Carlisle is nearly \$200,000 (\$195,889). This is second highest among context communities and represents a 23% increase since the last HPP.

Figure 18 Median Household Income, Carlisle and Context Communities

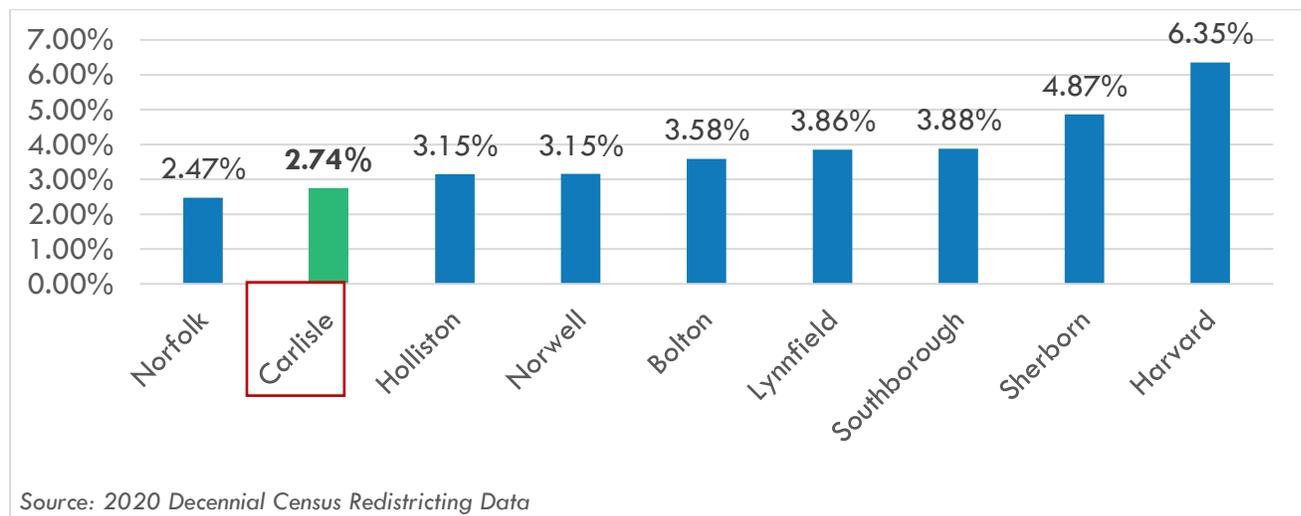


Among other factors, high incomes in Carlisle can be attributed to a limited housing stock that mostly consists of expensive single-family homes that are only accessible to those with high incomes. An overview of homes currently available in Carlisle is provided in the next section.

Housing Stock

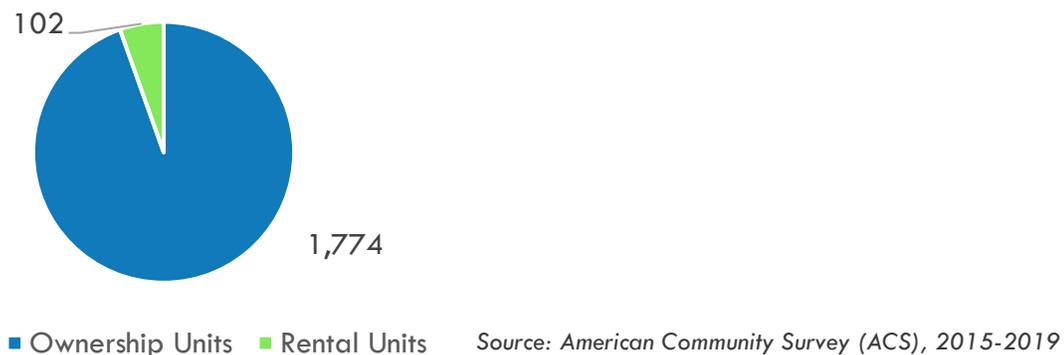
Most of the housing stock in Carlisle is owner-occupied, detached single-family homes with three or more bedrooms. **There is limited availability of rental housing in Carlisle, where nearly all homes are owner-occupied.** Carlisle’s vacancy rate is the second lowest among context communities, indicating an extremely tight housing market.¹¹

Figure 19 Vacancy Rates, Carlisle and Context Communities



12

Figure 20 Occupied Housing Units by Tenure, Carlisle

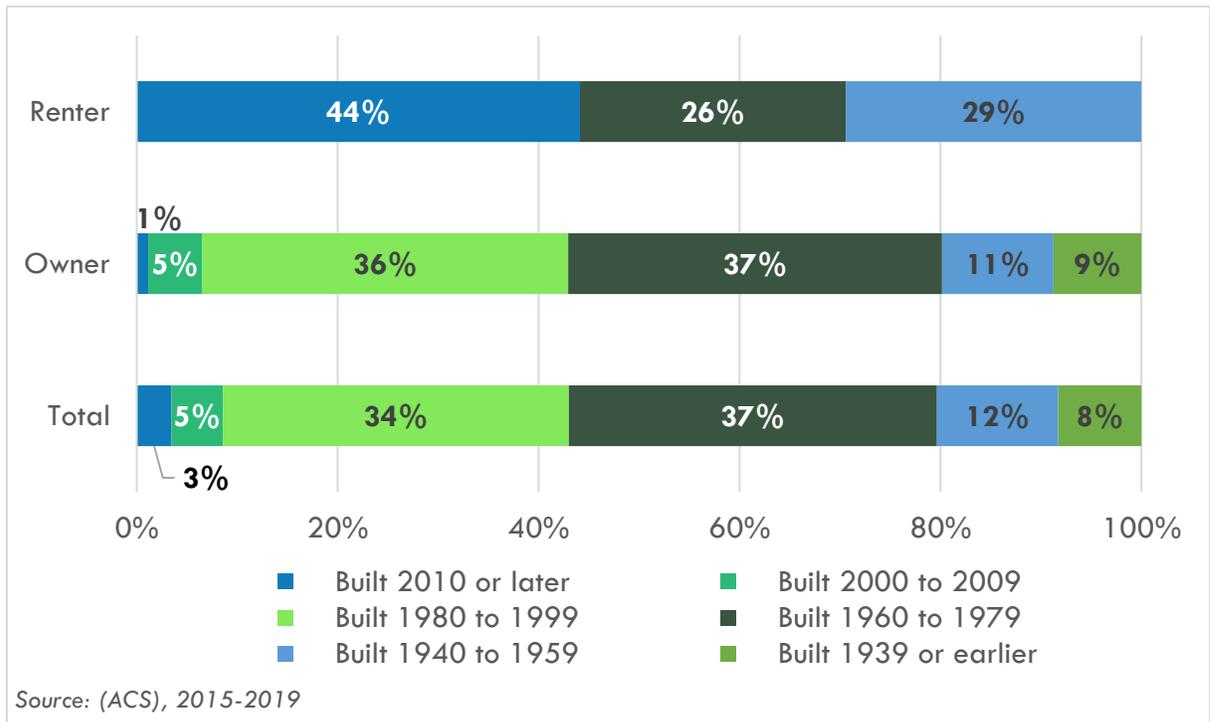


¹¹ Due to the large margins of error that result from this very small sample size, we do not present renter-specific data in this summary.

¹² NOTE: the 2020 Decennial Census Redistricting Data available at the time of this report does not include vacant units used for seasonal, occasional, or recreational use.

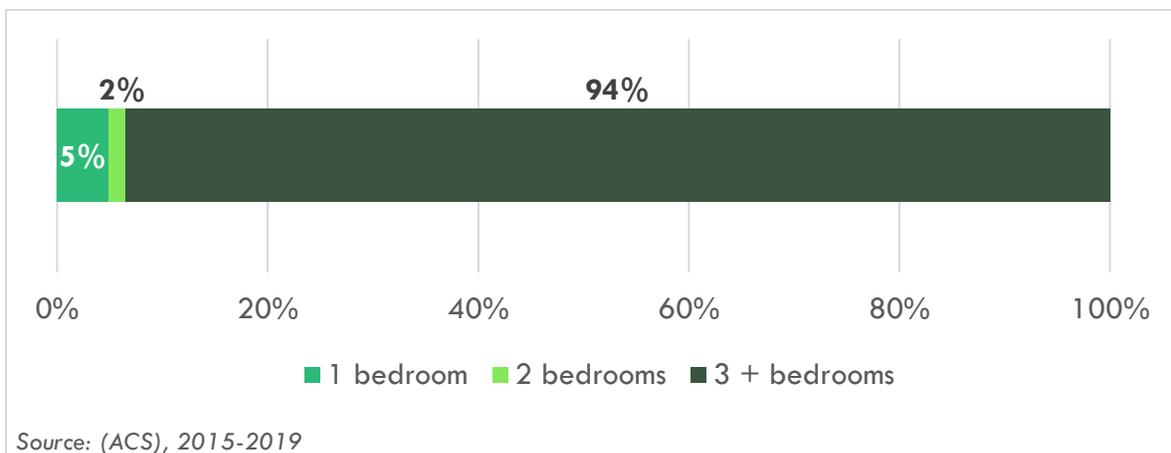
The overall housing stock has maintained a moderate age, but the distribution of tenancy across the housing stock varies. Seventy-one percent of the housing stock was built between 1960 and 2000. While only 8% of the housing stock was built after 2000, 44% of renters live in housing built after 2010.

Figure 21 Housing Units by Age and Tenure, Carlisle



Detached-single family homes with three or more bedrooms dominate Carlisle’s housing stock. Detached single family homes make up 92% of the housing stock, down from 96% in 2011, and 94% of homes have three or more bedrooms.

Figure 22 Housing Stock by Bedroom Size, Carlisle



The median home sale price in Carlisle increased 89% since the last HPP and 116% since 2010. To purchase the median priced home in Carlisle, a household would need savings for a 20% downpayment of \$280,000 to avoid paying monthly private (PMI) mortgage costs. Assuming the household could afford monthly PMI, a 10% down payment still requires savings of \$140,000.

Figure 23 Change in Overall Median Home Sale Price, Carlisle 2010-2022

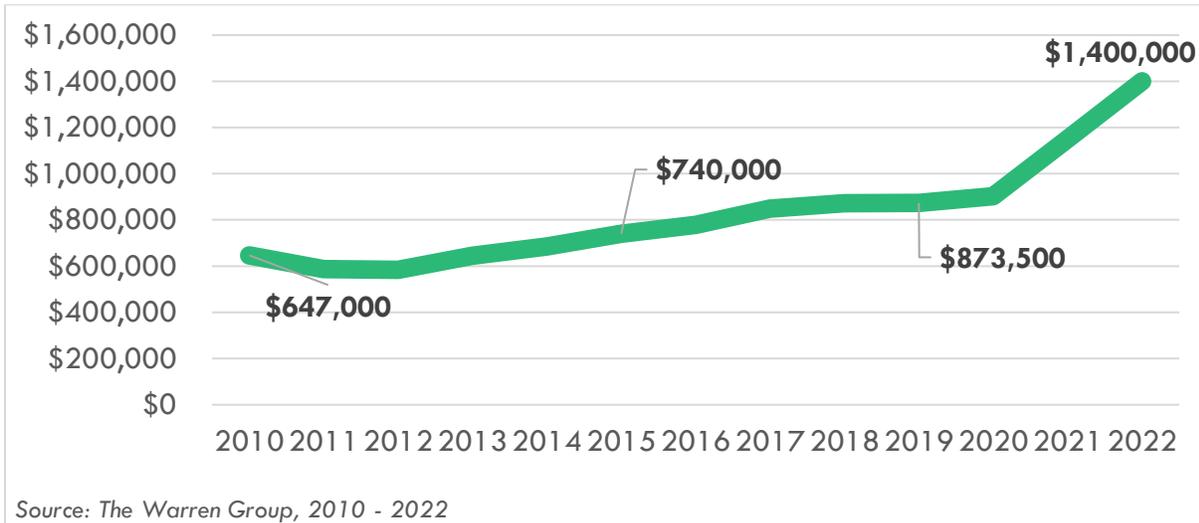
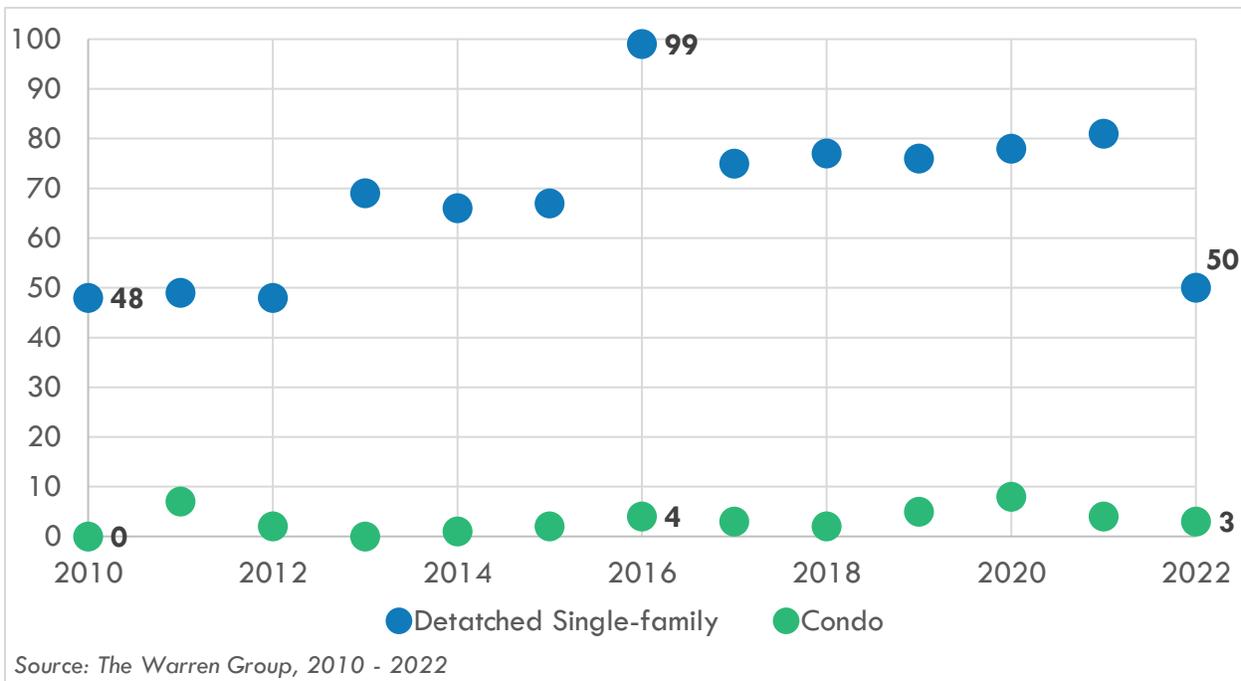


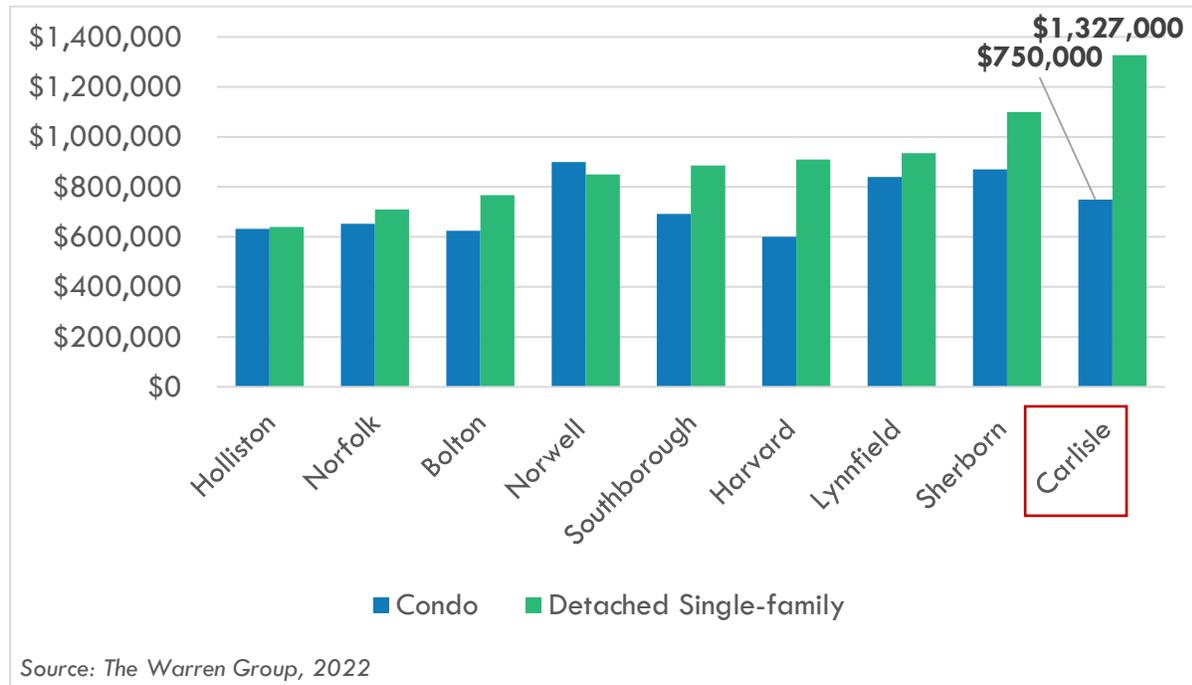
Figure 24 Frequency of Detached Single-family and Condominium Sales, Carlisle, 2010 - 2022



Condominiums in general are more affordable than detached single-family houses because they're smaller and this is the case in Carlisle: the median priced condominium in Carlisle is

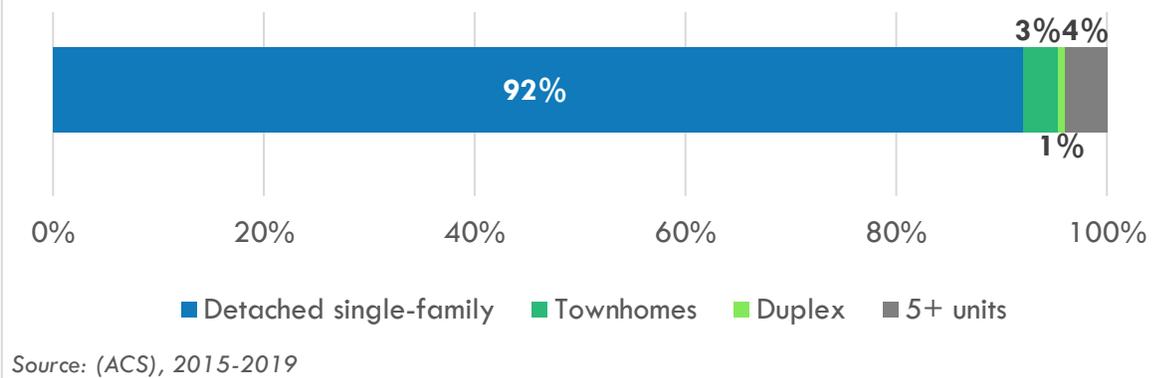
\$750,000 compared to \$1,327,000 for the median priced single-family house. However, there are few condominiums in Carlisle as only three were sold in 2022 and no more than 10 have been sold in a year since 2010 (see Figure 24 above).

Figure 25 Median Home Sale Prices, Carlisle and Context Communities (2022)



Housing stock data also shows 92% of the housing stock is detached single-family houses, suggesting further that the supply of condos in Carlisle is limited. Because of the prevalence of single-family houses and their high cost, finding a home in town is limited to those who can afford large down payments.

Figure 26 Housing Units by Type, Carlisle, 2019



Housing Affordability

Market-rate homes in Carlisle are increasingly unaffordable for many residents, including municipal employees and renter households. As noted previously, most households in town have very high incomes, indicating most homes in town require high incomes. Three-quarters of Carlisle households (76%) earn more than \$100,000 a year, with almost half (48%) earning \$200,000 or more a year. Three-quarters of households earn more than 100% of Area Median Income (AMI) while one-fifth are considered low-income because they earn 80% of AMI or less.

Figure 27 Income Distribution, Carlisle, 2019

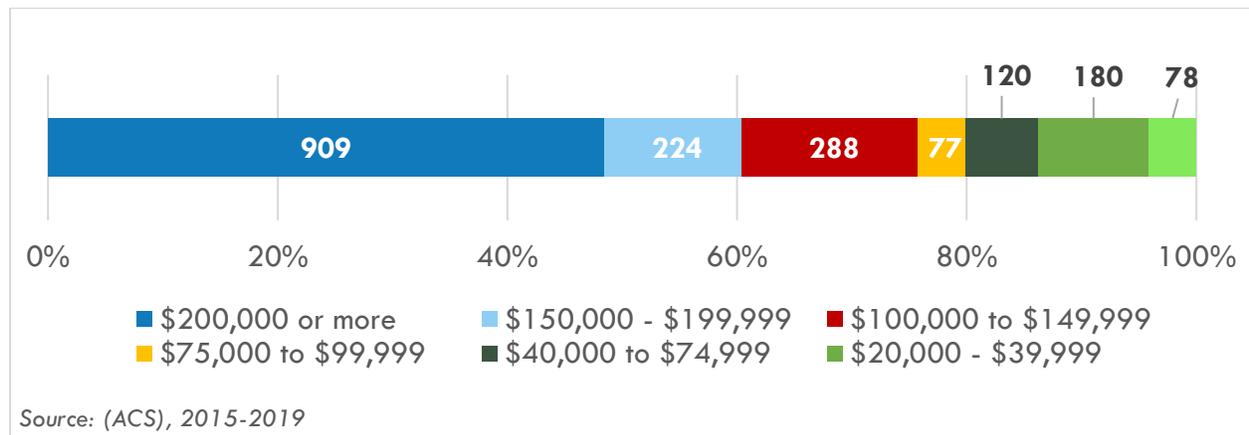
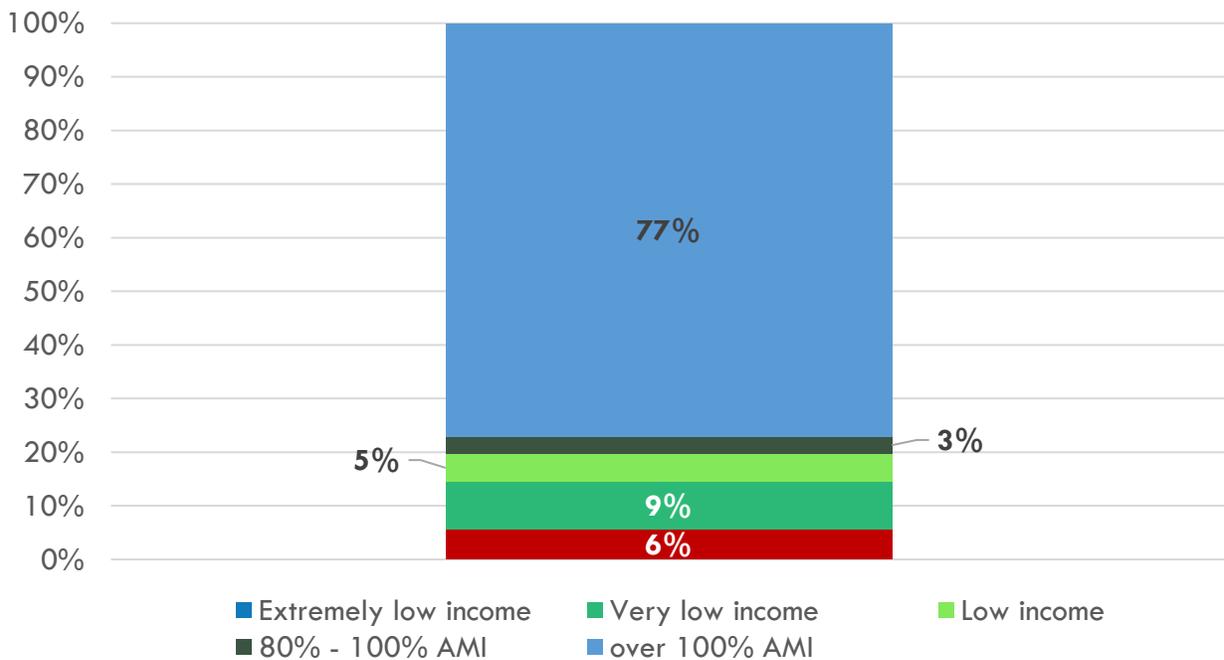
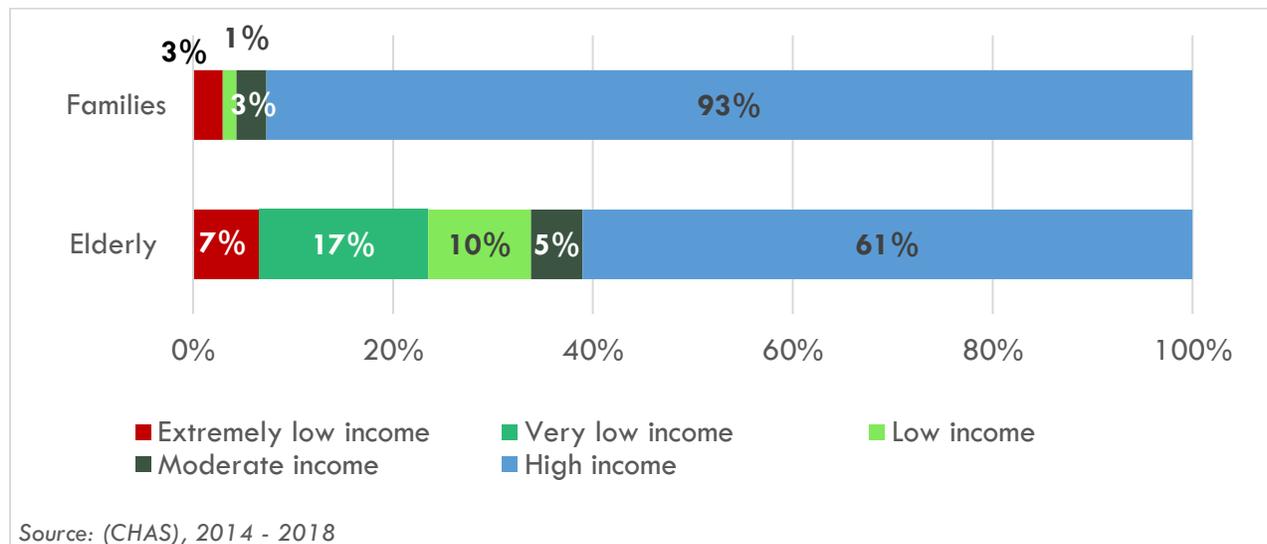


Figure 28 Income Status Distribution, Carlisle, 2018



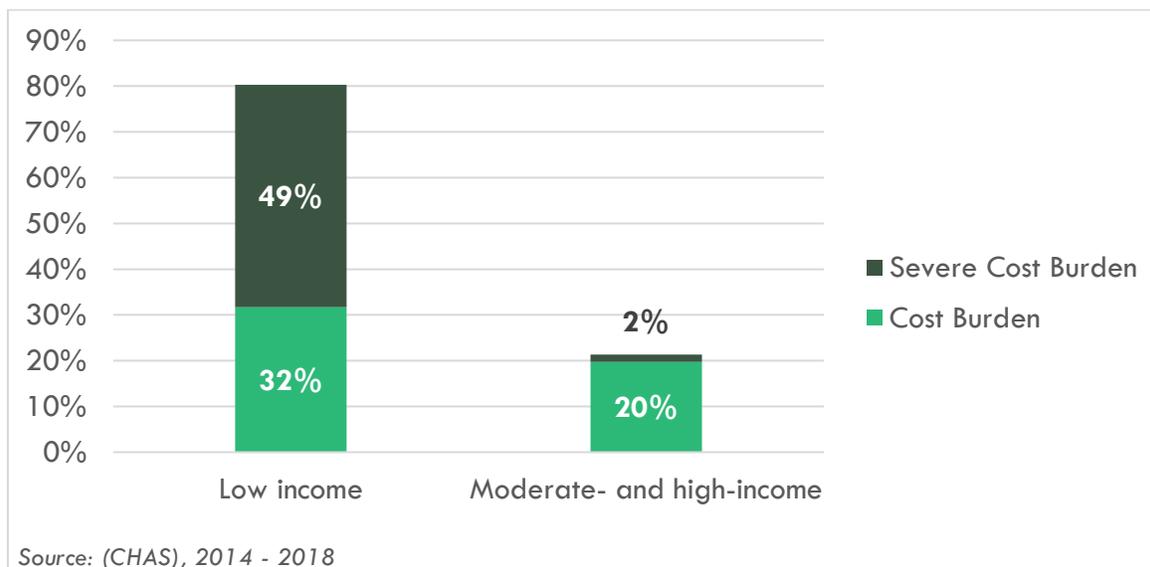
Elderly households are more likely than families to be low income. One third (34%) of elderly households (both family and non-family) are low-income, compared to only 4% of family households.

Figure 29 Family and Elderly Households by Income Type, Carlisle, 2018



Almost one quarter (22%) of all Carlisle households are cost burdened, paying 30% or more of their monthly income on housing. The rate of cost burden among low-income households is four times that of moderate- and high-income households (80%, compared to 21%).¹³

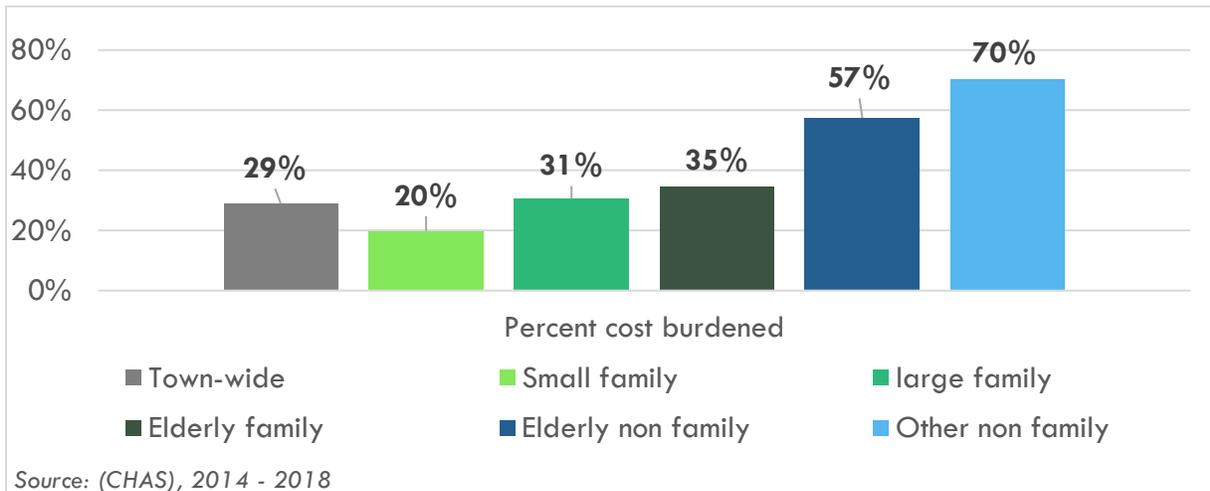
Figure 30 Cost Burden by Income Level, Carlisle 2018



¹³ Percentages are cumulative for cost burden and severe cost burden.

Non-family households experience cost burden at twice the rate of family households. More than half of seniors that live alone are cost burdened (57%) and nearly three quarters of other single-person households are cost burdened (70%). This compares with lower rates of cost burden for elderly families (35%), large families (31%), and small families (20%).

Figure 31 Cost Burden by Household Type, Carlisle, 2018



There are high rates of cost burden in Carlisle compared to communities with similar characteristics, particularly for renter-occupied households. Nearly 30% of owner-occupied households in Carlisle are cost burdened, the highest of all the context communities along with Sherborn. Most notably, close to 90% of renters in Carlisle are cost burdened, clearly the highest rate of cost burden between all context communities.

Figure 32 Cost Burdened Owner-occupied Households, Carlisle and Context Communities, 2018

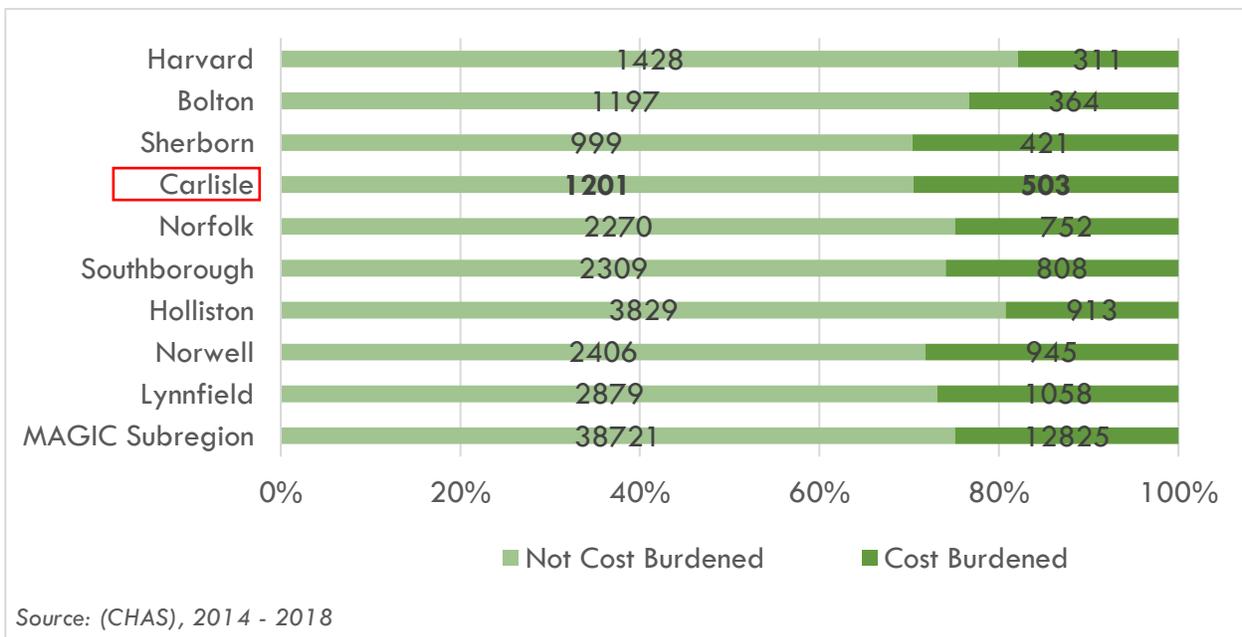
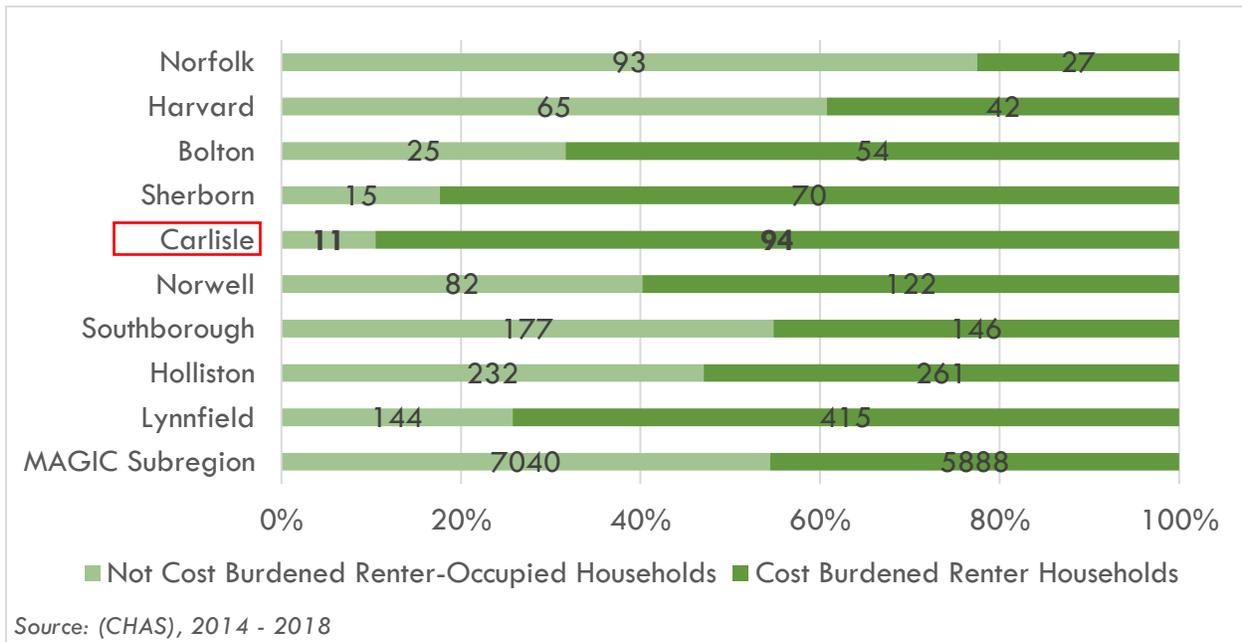


Figure 33 Cost Burdened Renter-occupied Households, Carlisle and Context Communities, 2018



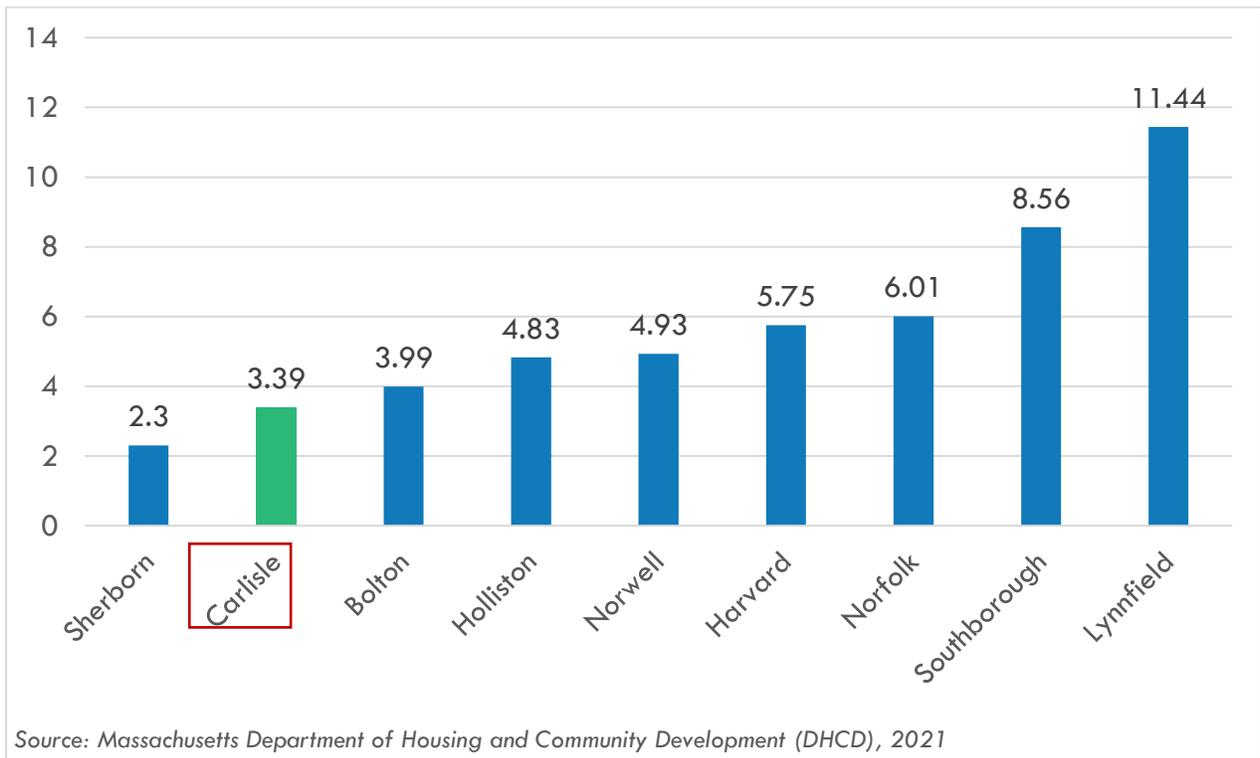
Although incomes in Carlisle are high, there are many households with moderate to low-incomes that are cost-burdened, spending 30% or more of their income on housing. All the extremely low-income households in Carlisle are severely cost-burdened, spending more than half their income on housing. Additionally, more than three-quarters of very low-income households and more than half of low-income households are either cost burdened or severely cost burdened. Wealthy households can also be cost burdened and have their finances leveraged by housing costs. For instance, you can be well off but still spend 30% or 50% of your income on housing. About 20% of higher-income households in Carlisle are cost burdened. But as data shows, it's a much greater issue for households that have less income to begin with.

Despite some progress since the last HPP, there is only one Affordable Housing unit in Carlisle for every five low-income resident households.¹⁴ There are 59 housing units on Carlisle's Subsidized Housing Inventory, and there are approximately 360 income-eligible households in Carlisle (earning 80% AMI or less).

Carlisle's subsidized housing inventory (SHI) is 3.39%, well below the state goal of 10%. Carlisle has the second lowest SHI of all context communities. Additionally, the town notes that none of the SHI units have enough bedrooms to accommodate families, and most SHI units are restricted to developmentally disabled and seniors.

¹⁴ SHI December 2020; ACS 2019 for number of low-income households.

Figure 34 Subsidized Housing Inventory Percentage, Carlisle and Context Communities



An aerial photograph of a scenic landscape. In the upper portion, a large body of water (a lake or reservoir) is visible, surrounded by dense green forest. A stream flows from the right side of the frame towards the center. Below the stream, a large, multi-story building with a white roof and many windows is situated on a grassy hillside. The background shows more trees and a clear sky. The overall scene is bright and clear.

DEVELOPMENT CONSTRAINTS

Development Constraints

There are several constraints on housing development in Carlisle. In this section, we look at the Town's current housing toolkit and capacity to meet local housing needs, as well as infrastructure, zoning, and environmental conditions that limit housing development in town. This section also includes insights from the Carlisle Board of Health on development constraints and case studies from other communities with similar development constraints to Carlisle that have been successful in producing "lower-case a" and "upper-case A" Affordable Housing. Current constraints to development in Carlisle are considered when analyzing opportunities to expand and diversify the housing stock in the next chapter.

Current Housing Toolkit

The Town and the Carlisle Affordable Housing Trust (CAHT) have some tools to help advance housing initiatives in town, and more – though still limited – capacity than in prior years. The Carlisle Planning office has one administrative staff person who has been with the Town for many years, as well as a recently hired Town Planner who started toward the end of this process. The new Town Planner is hoping to be instrumental in helping the Town implement the goals and strategies outlined in this Plan.

The Carlisle Affordable Housing Trust (CAHT)

As noted above, Carlisle does have some tools to meet housing needs. Carlisle's Affordable Housing Trust (CAHT) was established in 2006. The CAHT took over the responsibilities of the Carlisle Housing Authority in 2019. The members of the CAHT were formally recognized, and its financial and legal powers were reaffirmed after a favorable vote at the 2021 Town Meeting. The CAHT is administered by seven trustees, and at least one of them is a member of the Select Board. The remaining six members are Carlisle residents appointed by the Select Board. The Declaration of Trust authorizes the trustees "to acquire by gift, purchase or otherwise, in accordance with procedures set forth in the Declaration, real estate and personal property, both tangible and intangible, of every sort and description..." in furtherance of the CHAT's purpose.

The CAHT was instrumental in the development of the Benfield Farms senior apartment complex, which is owned and operated by Neighborhood of Affordable Housing (NOAH) and the Bedford Road group home, which is owned and operated by Toward Independent Living and Learning, Inc. (TILL, Inc.). Both developments operate under long-term ground leases with the Trust. Community Preservation Act funds were employed to help defray infrastructure costs for these developments.

In 2021, the CAHT applied for a grant of \$100,000 to be used as a Community Development Housing Fund provided that the funds are not used for existing community housing properties. Nearly half of the grant was earmarked for undertaking a new Housing Production Plan to be researched and written. In 2022, the CAHT applied for a grant of \$60,000 to bring its balance back into the \$100,000 range. An additional \$25,000 in funding from a Community Preservation Committee (CPC) grant was applied for to cover a

new rental assistance program to be jointly administered with the Council on Aging & Humans Services (COA), which was being funded with American Rescue Plan Act (ARPA) funds. The CPC and the rental assistance program are discussed further in the sections below.

The Community Preservation Committee (CPC)

Carlisle was able to pass the Community Preservation Act (CPA) and establish the Community Preservation Committee (CPC) in May 2001. Passage of the CPA allows Carlisle to raise local funds and receive funding matches from the State of Massachusetts. Many communities have attempted to pass CPA without success. This funding is an asset to the Town that can be used to advance housing initiatives, along with other goals for open space and historic preservation.

The CPC consists of seven members: one member each from the Select Board, the Planning Board, the CAHT, the Conservation Commission, the Recreation Commission, and the Historical Commission, plus one member from the community, all appointed by the Selectmen. The CPC is tasked with reviewing applications for CPA funds and making recommendations to Town Meeting for funding of projects. The CPC develops an annual Community Preservation Plan outlining the procedure by which the CPA is administered, the criteria the CPC references when considering applications, and an accounting of CPA revenues and expenditures to date, including funds currently available for allocation and appropriation.

Housing Consultation

In August 2022, Carlisle began receiving consultation from Elizabeth Rust, director of the Regional Housing Service Office (RHSO) Initiative, a collaboration of municipalities in the MetroWest region. The RHSO provides administrative housing services to these towns and assists them with proactive monitoring, project technical support, and Affordable Housing expertise. Carlisle isn't a formal member of the RHSO but receives guidance on addressing housing challenges from Elizabeth Rust.

Carlisle sought consultation from Ms. Rust for administrative assistance with spending newly awarded funds from the American Rescue Plan Act (ARPA). These funds were used for a rental assistance program initiated by the CAHT with the assistance of the Carlisle Council on Aging & Human Services. The CAHT will be seeking further guidance in the near future.

Zoning

In addition to capacity constraints detailed above and infrastructure and environmental constraints documented in the next section, development in Carlisle is also limited by zoning regulations. The following is a brief summary of the Town's zoning bylaws that pertain to housing development¹⁵. Carlisle's zoning favors large lot, single-family zoning and makes it

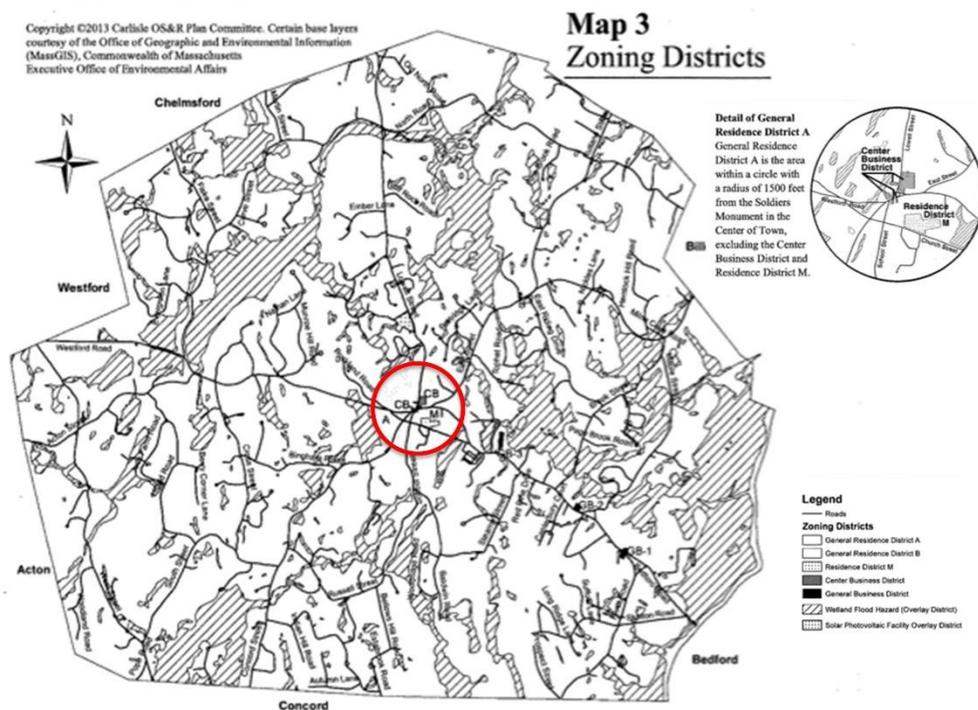
¹⁵ As zoning regulations were documented in the 2015 HPP, the 2022 HPP includes a brief summary of the regulations. For more information see the 2015 HPP and the Town's zoning bylaws. Please note this summary is based on the zoning regulations as written and conversations with Town officials. The regulations may be interpreted and administered differently by local officials.

difficult to develop different housing types that would be more likely to be affordable in the marketplace under the local bylaws.

It is important to note that Carlisle does not have town water or sewer and the minimum lot size requirements are historically based on ensuring that all town residents have safe wells and fully functional septic systems. Carlisle has a complex geology and safe water and sewage management needs to be considered for any development no matter how small or large.

Residential development in Carlisle is permitted in the General Residence District A, General Residence District B, and Residence District M – Multi-family Housing for the Elderly. Carlisle’s Zoning Bylaws currently require a minimum lot size of 2 acres and minimum of 250’ of frontage in the Residence District B, which encompasses all areas of Town outside Carlisle Center. Two-acre zoning was adopted in 1956. While the Zoning Bylaws allow for conventional subdivisions for housing development, there are also supplementary regulations which allow for cluster housing development via a special permitting process by the Planning Board. These are: Conservation Clusters (ZBL Sec. 5.5), Senior Residential Open Space Communities (ZBL Sec. 5.7), and Residential Open Space Communities (Sec. 5.12). Carlisle also has a special permitting process to allow internal and detached accessory apartments (ZBL Sec. 5.6). These districts and bylaws are summarized in the sections below.

Figure 35 Carlisle Zoning Map



As the map above shows, the large majority of Carlisle is zoned General Residence A and General Residence B.

General Residence District A and B

General Residence District A and B regulations (Section 3.2.1) permit single-family dwellings by-right. A single-family dwelling may be converted to a two-family dwelling if built prior to May 11, 1962, and if on a lot that conforms to zoning bylaw requirements. The minimum lot size required for development in Residence A is one acre, and in Residence B is two acres. Minimum frontage in Residence A is 150 feet, and in Residence B is 250 feet. For a “Pork Chop Lot” or “Flag Lot,” in Residence A, the minimum lot area requirement is 3 acres and in Residence B is 4 acres; the minimum frontage requirement in both districts is 40 feet.

The use limitations and dimensional requirements restrict development in Residence A and B, and make it a challenge to develop different, smaller housing types that would likely be more affordable in the marketplace.

Accessory Apartment / Accessory Dwelling Unit (ADU) Regulations

Internal (attached) and detached ADUs are allowed in the General Residence District A and B zoning districts. ADUs are currently allowed through a special permitting process. Section 5.6.5.1 limits the number of special permits that can be issued for accessory apartments to 75; 25 of these may be detached from the principal single-family structure. Carlisle has reached about 40% of the currently allowed maximum of ADUs, with increased interest in and permitting of these units since the amendment to allow ADUs in detached structures was approved at 2017 Annual Town Meeting.

The Accessory Apartment bylaw limits the floor area of an ADU to 1,200 square feet. It also requires ADUs to be subordinate to the principal single-family structure and limits them to two bedrooms. The bylaw could be revisited to explore whether it is restrictive and should be reevaluated to create new opportunities for housing choice. As a best practice, local zoning bylaws shouldn't restrict the number of bedrooms because such a restriction conflicts with federal fair housing laws that protect families; as an alternative, the Town could rely on Title 5 septic limitations and local Board of Health regulations on the number of bedrooms per acre.

Residence District M - Multi-family Housing for the Elderly

The Residence District M is permitted through Carlisle's supplementary regulations in Section 5 of the Town's zoning bylaws. The location of the district is described in Section 5.1.2 and identified on the zoning map in Figure 35 on page 37. The district allows multi-dwelling homes through a special permitting process with the Carlisle Planning Board. The district requires a preliminary development plan for the Planning Board to review 60 days before making a special permit application, as well as a final development plan that includes a survey of the development site, a site plan, architectural plans, a summary of building statistics, and other details about the proposed development.

The purpose of District M is to “provide for the demonstrated needs of the Town for housing the elderly by making provision for appropriately located, specially designed and appropriately priced housing for occupancy by elderly persons who otherwise would not have housing opportunities within the Town.” The Planning Board may deny a special permit for development in District M if it finds the development isn't consistent with this purpose. The

District can therefore be considered age-restricted, although it doesn't specify what age residents of the development should be.

A site must be at least four (4) acres and in the designated location to utilize the Residence M District special permitting regulations. Section 4.3.2 requires side and rear setbacks of at least 40 feet unless other conditions specified in this section are met. Section 5.1.4.3.4 limits density to no more than five dwelling units per net acre. This section also limits dwelling units to no more than two bedrooms, which conflicts with federal fair housing laws that protect families among the other protected classes; as an alternative, the Town could rely on Title 5 and local Board of Health regulations regarding septic limitations on the number of bedrooms per acre.

Senior Residential Open Space Community – Permitting Process

Properties located in Residence District B may be developed or redeveloped under the Senior Residential Open Space Community (SROSC) special permit regulations in Section 5.7 of Carlisle's zoning bylaws. The purpose of these regulations is to encourage residential development that meets the needs of senior citizens while preserving open space and to encourage energy efficient, cost-effective residential development.

The Planning Board is the special permit granting authority for the SROSC. Development utilizing the SROSC regulations must be on a tract of land that is at least 10 acres. The total number of dwelling units cannot be greater than 1.5 times the number of lots that would normally be approved through the Planning Board's subdivision regulations, as determined by the Planning Board, after incorporating wetland considerations. Total dwelling units developed through the SROSC are also prohibited from exceeding 3% of the total dwelling units in town. Development must also be separated from adjacent property with open space, and open space must constitute 1.2 acres for every dwelling unit, among other open space and dimensional requirements specified in Section 5.7.4.

Residential Open Space Community – Permitting Process

Properties located in Residence District B may also be developed or redeveloped under the Residential Open Space Community (ROPSC) special permit regulations in Section 5.12 of Carlisle's zoning bylaws, which were adopted at Town Meeting in October 2017. The special permit granting authority is the Planning Board. The purpose of this type of development is to meet the intergenerational and social needs of the Carlisle community, including senior citizens, while preserving open space and promoting energy efficient, cost-effective development. An ROSC development requires a lot size of at least 15 acres, with an open space requirement of 1.8 acres for every dwelling unit.

Conclusion

Carlisle's zoning bylaws were historically written to ensure safe water and proper septic siting, which has facilitated large lot, single-family housing development and prioritized the preservation of open space. While the bylaws offer some tools to develop different and more "lower-case a" affordable housing, several dimensional, open space, well separation, setbacks, and other permitting requirements act as challenges to alternative forms of development. Updating these bylaws is within the Town's power, although it requires wide public support, including buy-in from the Board of Health, to make zoning changes at Town

Meeting. In the next sub-section, infrastructure and environmental constraints that are mostly out of the Town of Carlisle's control are reviewed.

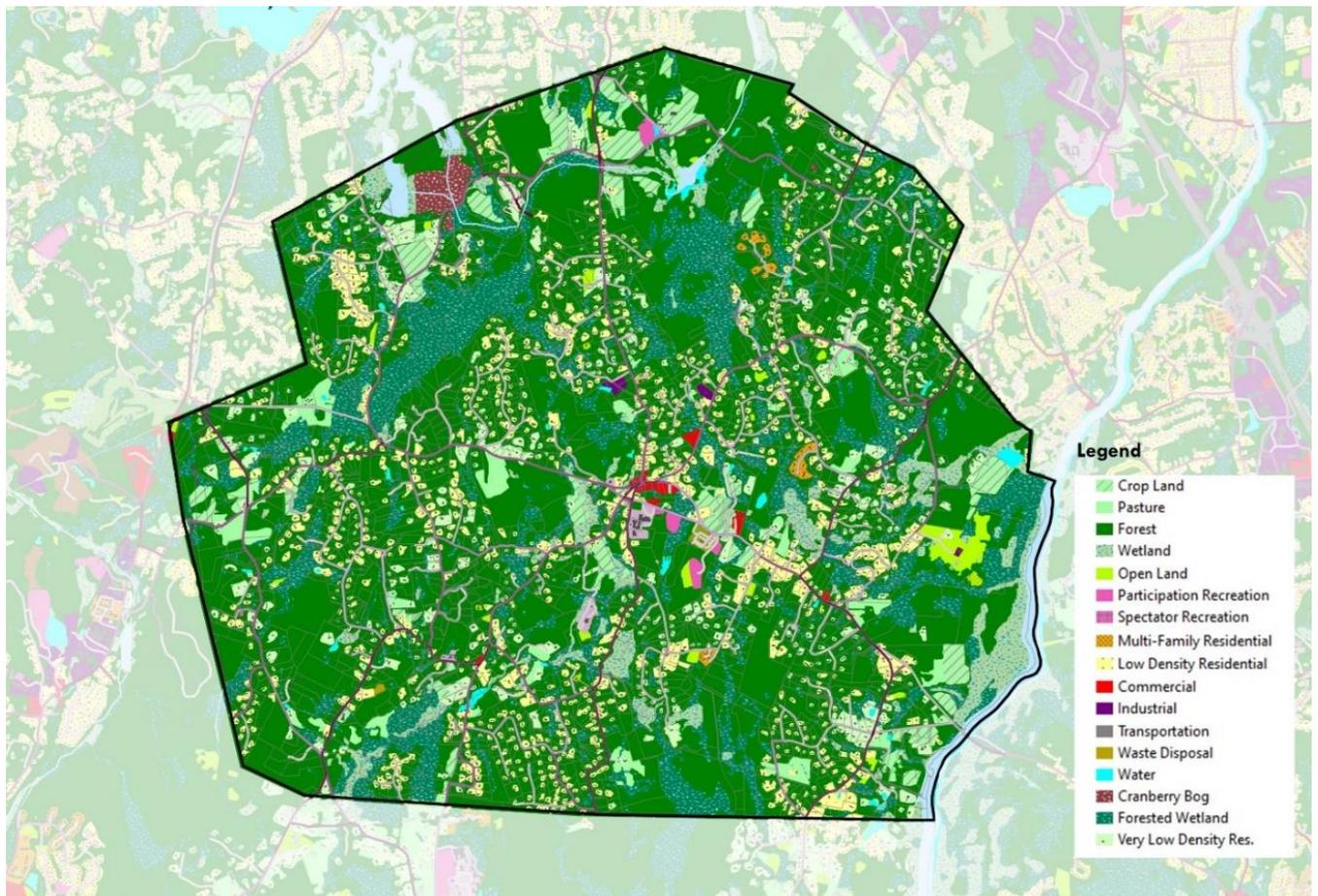
Constraints Analysis

Residential development, and development in general, is constrained in Carlisle by a complete lack of water, wastewater, stormwater, and fire protection infrastructure. These constraints and others are analyzed and presented spatially in the sections and maps to follow. The constraints analysis is a town-wide evaluation of the characteristics that may impede development of housing in the Town of Carlisle. The constraints analysis includes several items that are not necessarily constraints, but that offer helpful context for the analysis, including land use, historic inventory, pedestrian and bicycle circulation, and environmental justice populations. Areas and properties that are relatively unencumbered by constraints may present opportunities for the Town and should be explored further.

Land Use Context

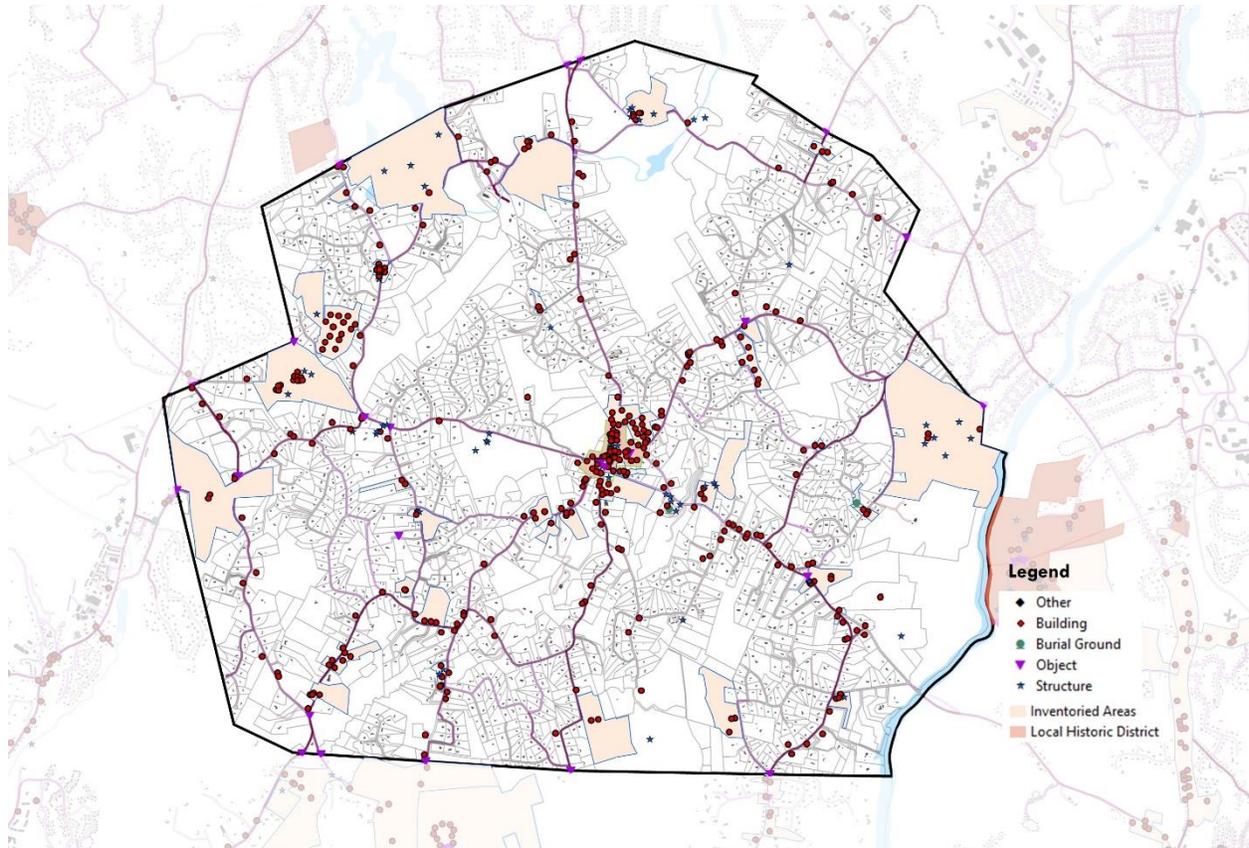
The land use context is not a constraint but does provide important information about the development patterns in Carlisle. The land use context shows a largely forested and forested wetland context that is interwoven with pockets of low-density residential uses. At the center of the town is a small concentration of commercial and nonresidential uses. Other major land uses include crop land, open land, and cranberry bog.

Figure 36 Land Use Context



While in some cases the historic inventory may be viewed as a constraint on development, it does provide important information and context about the historic resources and patterns in Carlisle. The most substantial concentration of inventoried entities is near the Town Center and includes mostly historic buildings as well as the Central Burying Ground. Additional historic buildings are located along the major roadways of the Town. The historic inventory also includes certain parks and landscapes, structures, and boundary markers. Figure 37 below shows shaded inventoried areas distributed throughout the Town in correlation with concentrations of inventoried buildings and a local historic district at the Town Center.

Figure 37 Massachusetts Historic Inventory Context

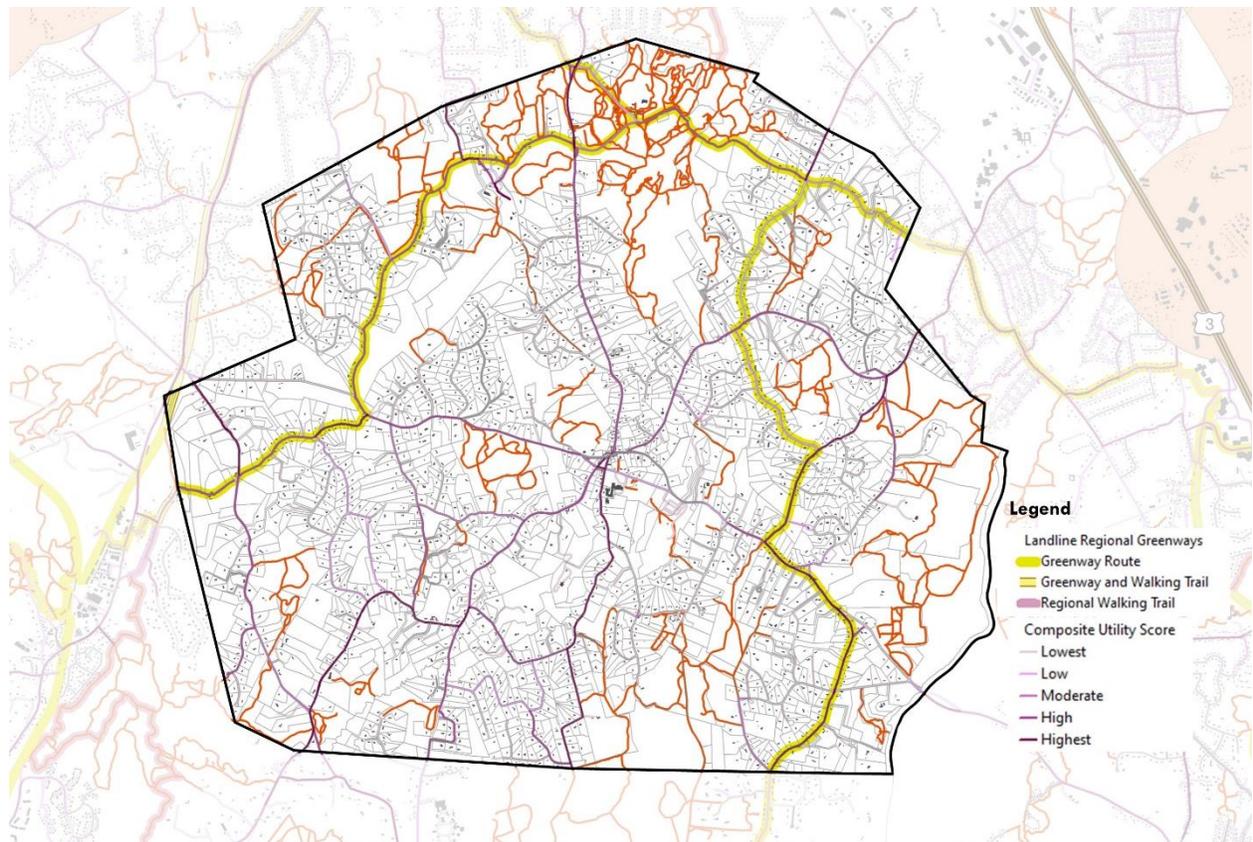


Pedestrian, Bicycle, and Transit Circulation Context

The pedestrian, bicycle, and transit circulation context are not a constraint but do provide important information about roadway infrastructure and circulation patterns in Carlisle. This map highlights two useful resources to better understand the transportation network in Carlisle, particularly as it relates to local access and pedestrian and bicycle circulation. The first observation is that no significant alternative modes of non-vehicular or mass transit exist in the Town. The second observation is that two important greenway routes are highlighted in yellow as part of MAPC's Landline Regional Greenway network. The highlighted routes are locations where regional bicycle access would be enhanced by bicycle infrastructure on these roadways, though prior attempts by the Town to participate in bike path initiatives have proven it is very challenging in Carlisle. Existing walking trails in the town are also highlighted in red. They are independent of the roadway network and do make

connections to these highlighted greenway routes. The third observation is based on MAPC's Local Access research and composite utility score. The color gradient of the roadways shows a quantitative estimate of current or potential roadway utility for walkers and bikers. The active transportation network utility score for each segment of roadway indicates how useful that street segment is for connecting residents with schools, shops, restaurants, parks, and transit stations. The darker the color of the roadway segment, the higher the utility for strengthening connections.

Figure 38 Pedestrian, Bicycle, and Transit Circulation Context



Environmental Justice Population Context

The environmental justice population context is not a constraint but does provide important information about a nearby environmental justice population in the Town of Acton. Though the Town of Carlisle has no environmental justice population areas within its boundaries, the Town should be mindful and inclusive of neighboring EJ populations when considering development in proximity to them.

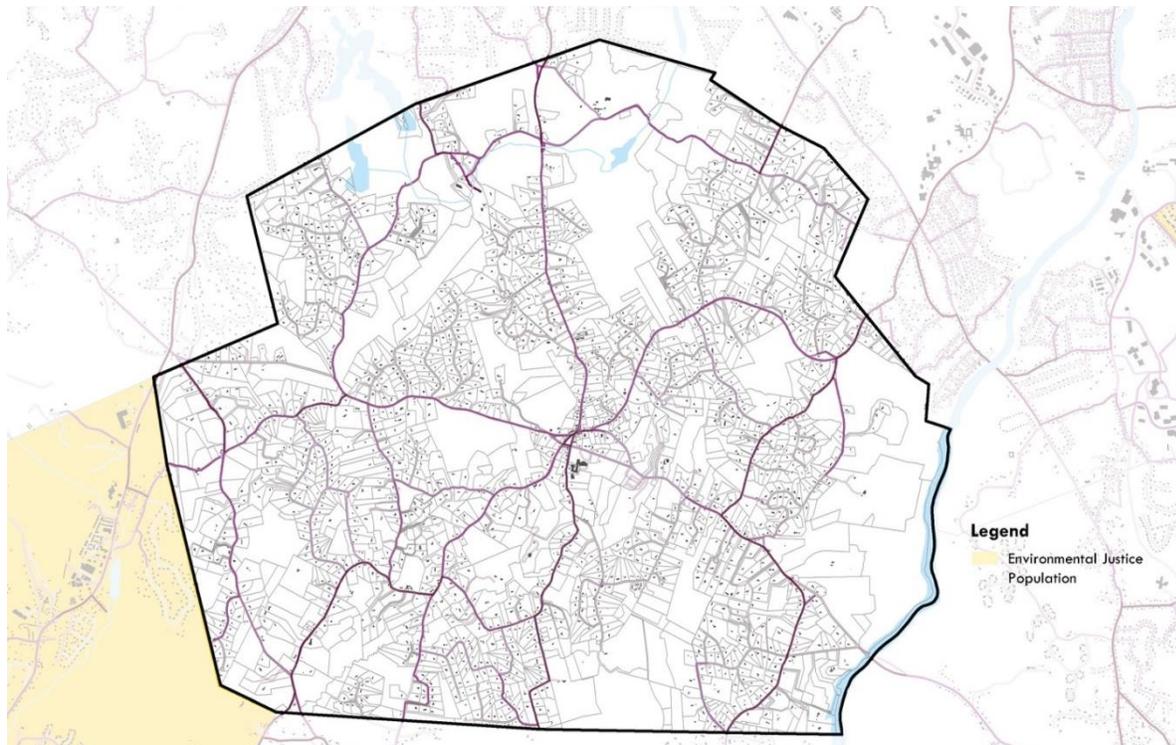
In Massachusetts, a neighborhood is defined as an Environmental Justice Population if one or more of the following four criteria are true:

1. The annual median household income is not more than 65 percent of the statewide annual median household income.
2. Minorities comprise 40 percent or more of the population.
3. 25 percent or more of households lack English language proficiency.

- Minorities comprise 25 percent or more of the population and the annual median household income of the municipality in which the neighborhood is located does not exceed 150 percent of the statewide annual median household income.

Along the southwest town boundary of Carlisle is an environmental justice area in the Town of Acton. This area meets the minority population criteria described above.

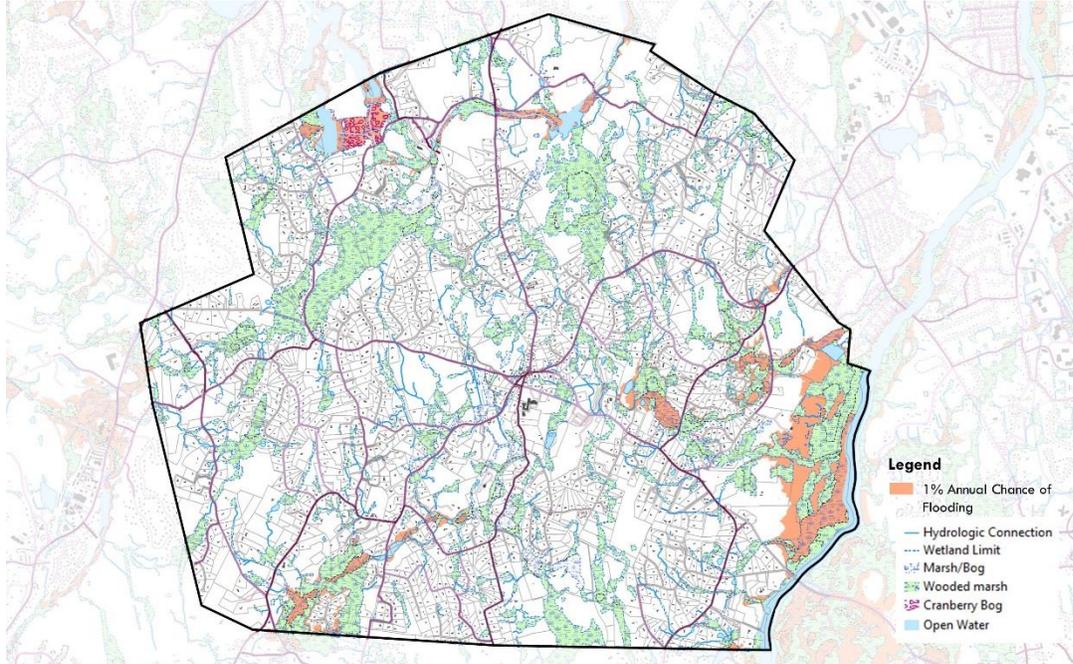
Figure 39 Environmental Justice Population Context



Wetlands and Floodplain Constraints

Wetland and floodplain constraints are the most restrictive of the environmental constraints within Town. The mapping shows wooded marsh wetlands as mapped by the Massachusetts Department of Environmental Protection. These are distributed throughout the town with the largest impacts showing up in an arc from east of the Town Center across the north of Town Center to the west of Town Center. These areas are regulated by the Wetlands Protection Act, administered locally by the Conservation Commission and present a restriction on development in part due to requirements for wetlands buffers. The mapping also shows the 100-year floodplain boundaries that often but not always overlap with wetland areas. The cranberry bog is also depicted among these constraints.

Figure 40 Wetland and Floodplain Constraints



Natural Heritage and Endangered Species Program (NHESP) Critical Areas Constraints

Priority and Estimated Habitat maps are used for determining whether a proposed project must be reviewed by the NHESP for Massachusetts Endangered Species Act (MESA) and Wetlands Protection Act (WPA) compliance. Priority Habitat is based on the known geographical extent of habitat for all state-listed rare species, both plants and animals, and is codified under the Massachusetts Endangered Species Act (MESA). Habitat alteration within Priority Habitats may negatively impact endangered species and is therefore subject to regulatory review by the Natural Heritage & Endangered Species Program. The areas shaded in yellow fall within the purview of this type of review. Certified vernal pools marked with the blue asterisks are also regulated by the Wetlands Protection Act. Vernal pools are small, shallow ponds characterized by lack of fish and by periods of dryness. Vernal pool habitat is extremely important to a variety of wildlife species including some amphibians that breed exclusively in vernal pools, and other organisms such as fairy shrimp, which spend their entire life cycles confined to vernal pool habitat.

Figure 41 Natural and Endangered Species Program (NHESP) Critical Areas Constraints

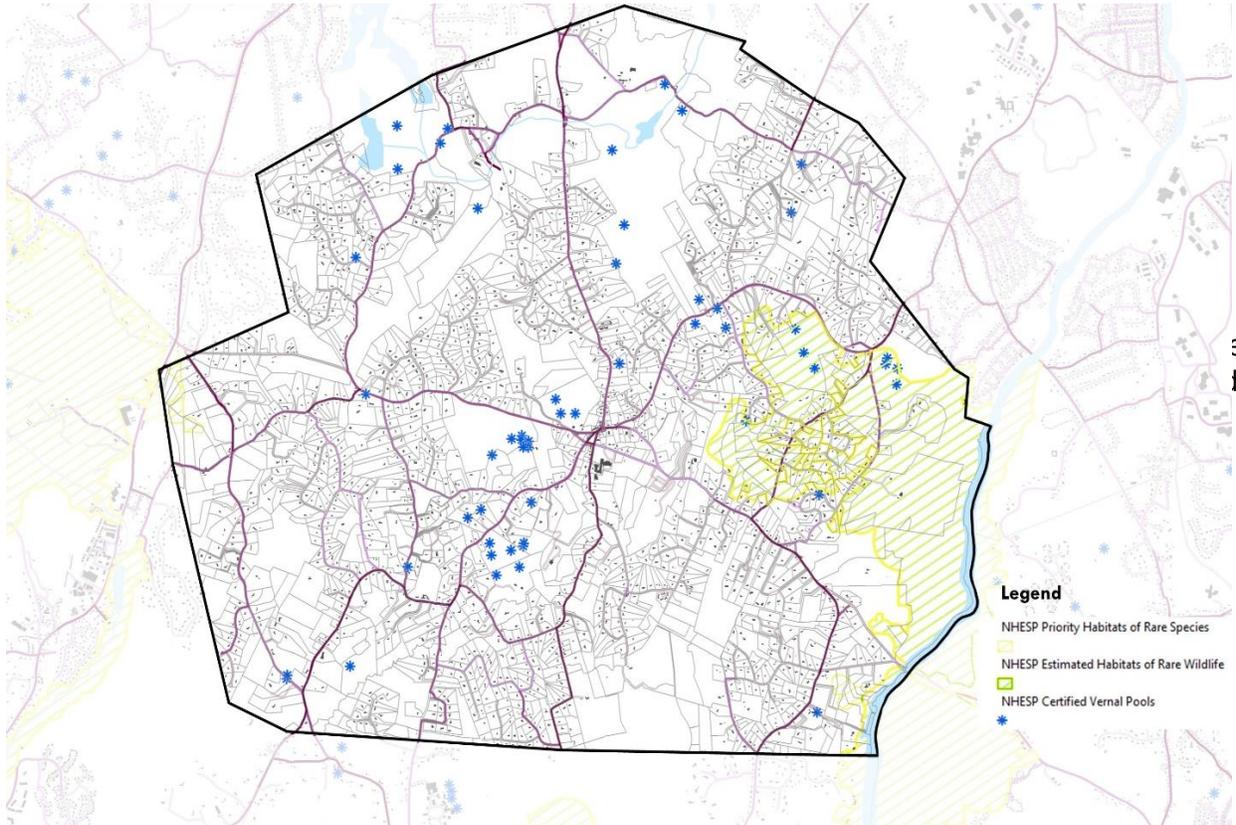
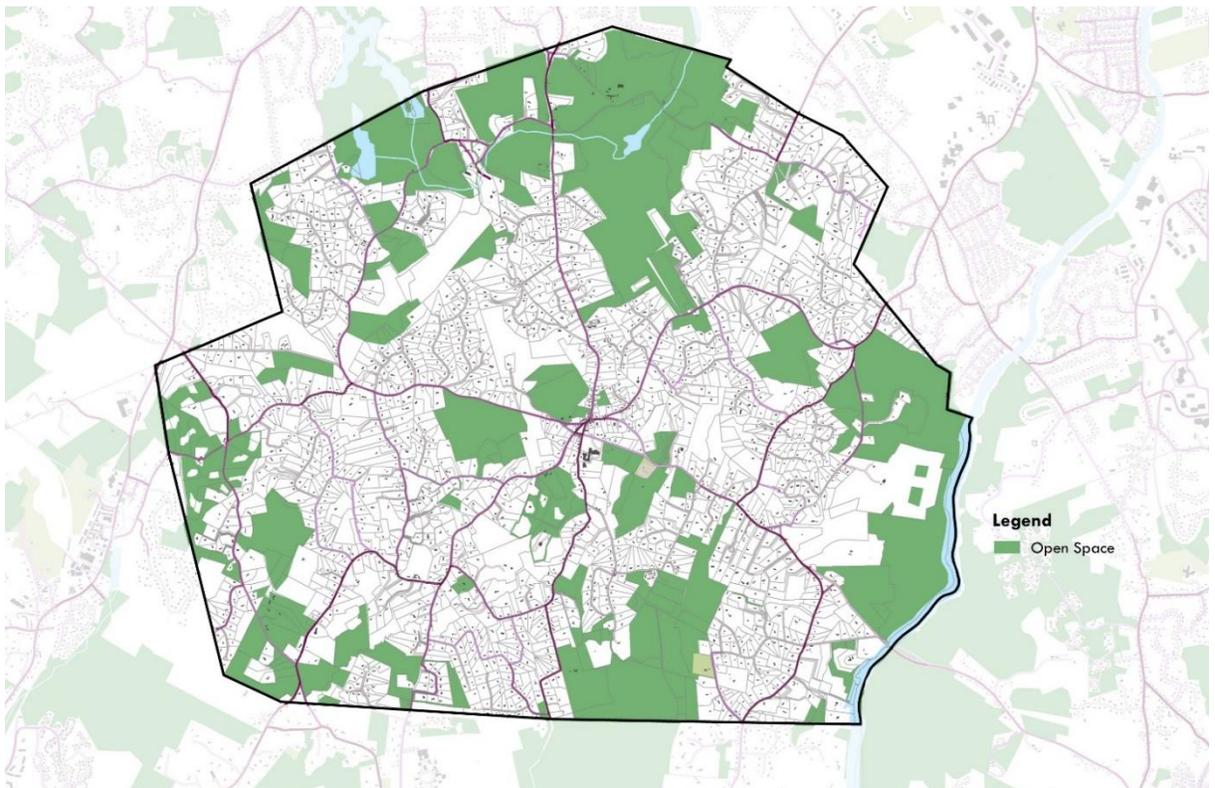


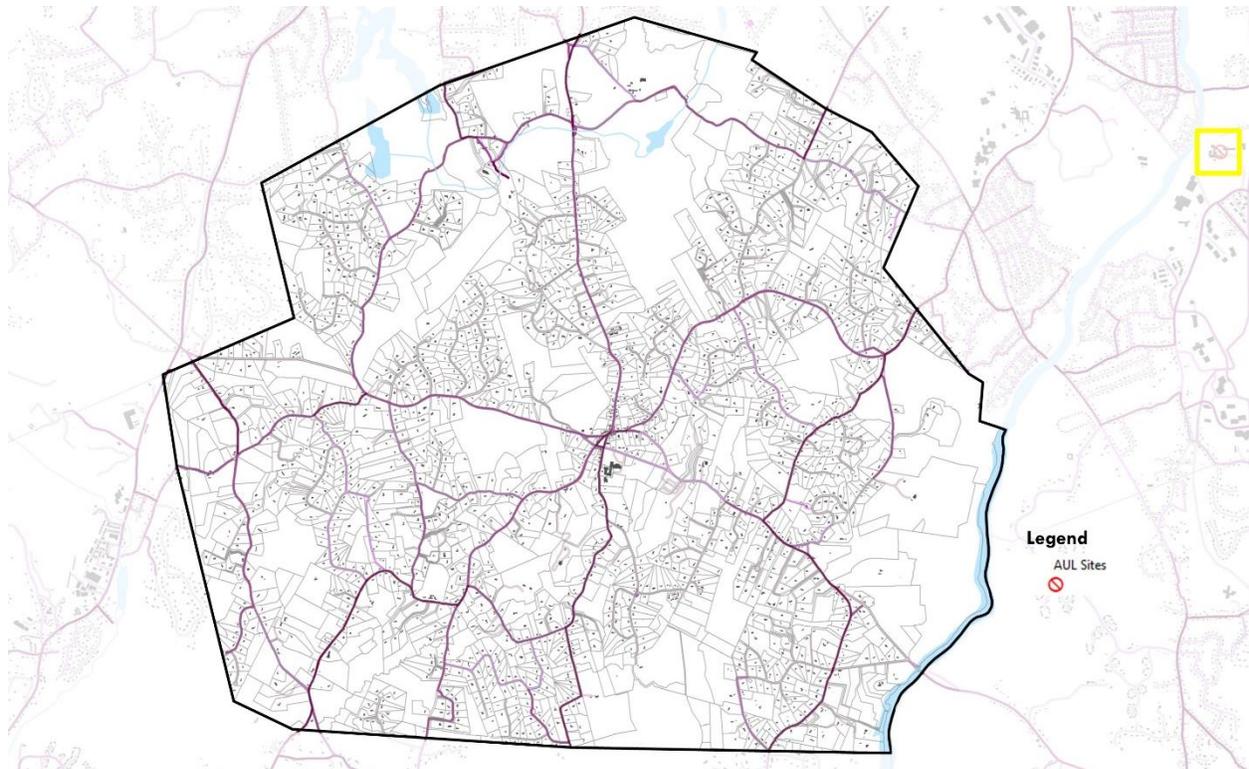
Figure 42 Open Space Constraints



Environmental Contamination Constraints

This mapping shows an absence of environmental contamination constraints in Carlisle. The map shows a statewide point dataset containing the approximate location of oil or hazardous material release or disposal sites where an Activity and Use Limitation (AUL) has been filed. There is one 21E site in Carlisle, but according to the Board of Health, the site is being monitored by the DEP subject to a 5-year Temporary Solution Statement and no AUL has been filed at this time.

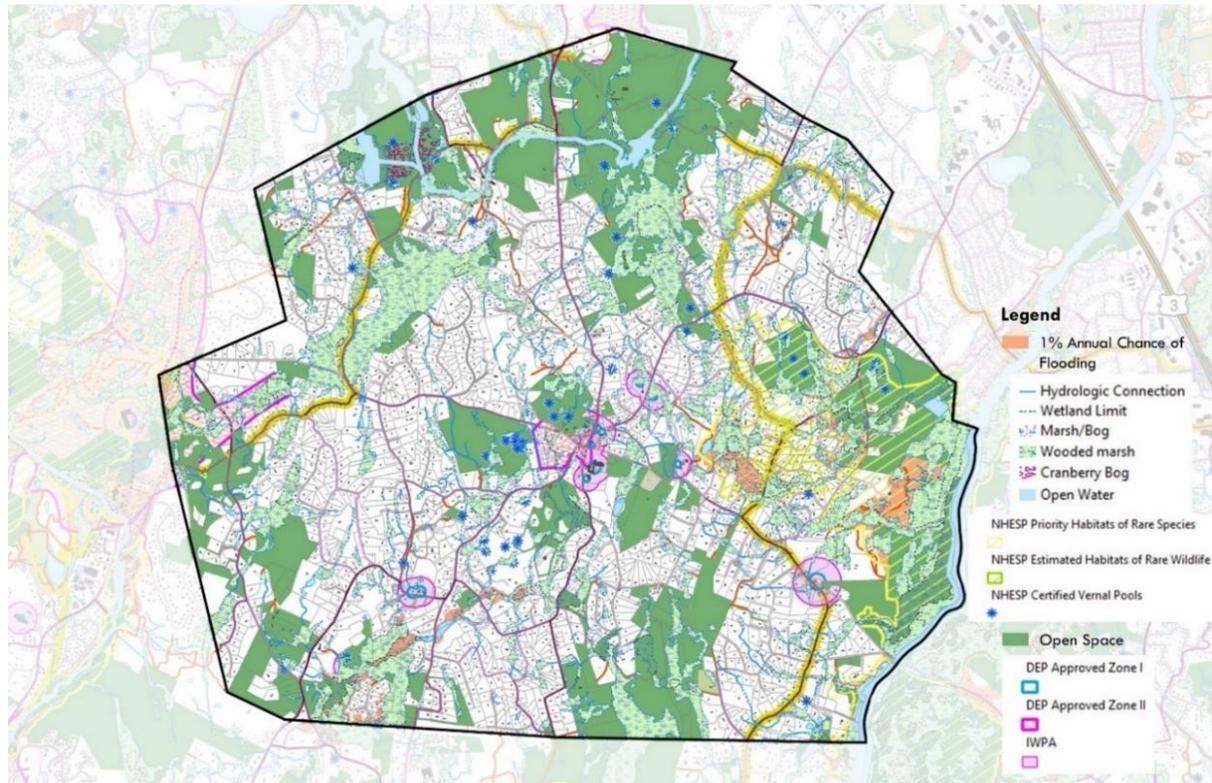
Figure 43 Environmental Contamination Constraints



Composite of Constraints

The composite of constraints shows all of the constraints outlined above combined into a single map. The map includes the addition of Wellhead Protection Areas. This includes Massachusetts Department of Environmental Protection (MassDEP) Zone I, Zone II, and Interim Wellhead Protection Areas (IWPA). Zone I is the protective radius required around a public water supply or wellfield. MassDEP Zone II is a wellhead protection area that has been determined by hydro-geologic modelling. An Interim Wellhead Protection Area is established based on the MassDEP Drinking Water Program (DWP) well pumping rates or default rates.

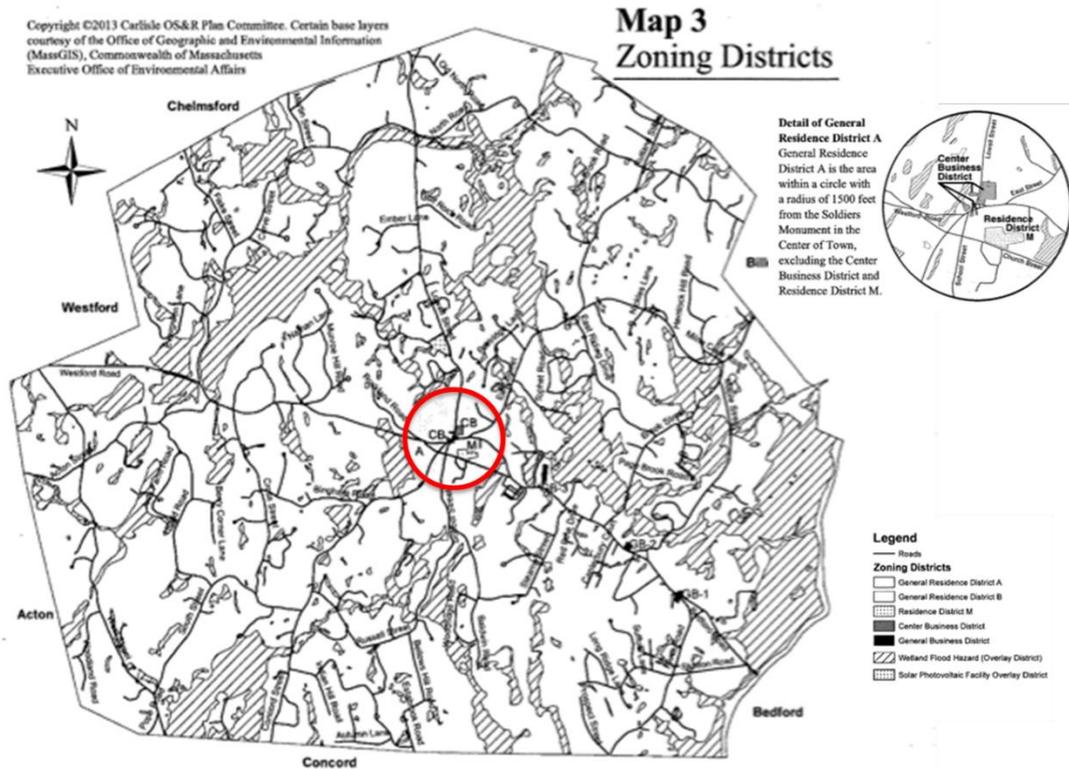
Figure 44 Composite of Constraints



Zoning District Context

The Zoning District context closely reflects the Composite of Constraints mapping with the Wetland Flood Hazard (Overlay District) closely matching the mapped wetland constraints. The majority of the town falls within the General Residence District B.

Figure 45 Zoning District Context



Development Constraints Case Studies and Interviews

The analysis of development constraints shows development in Carlisle is challenging, but there are opportunities to expand and diversify the housing stock in Carlisle to better meet the town's needs. Despite a large portion of the Town being limited by protected open space and environmentally sensitive areas, several opportunity types and sites for new housing have been identified in the next section: Development Opportunities. These opportunities will be challenging to implement because Carlisle doesn't have Town-wide water or sewer infrastructure.

The project team interviewed Carlisle Board of Health staff to gather information about how the Town has worked through these constraints in the past. Conversations with developers during public forums also provide insight into working through these constraints. Finally, we have documented three development case studies in communities with similar constraints to provide some key takeaways for Carlisle to consider as it works to expand its housing stock.

Case Study: Cottages in the Woods, Westford, MA

Project Overview

Cottages in the Woods was developed around 2011 by Boston Road Homes, an LLC led by local real estate professionals Howard Hall and David Guthrie. The project consists of 20 detached condominium homes along Joe’s Way, Adeline Lane, and Porter Rd. The 11 two-bedroom homes range from just over 700 square feet to 970 square feet, while the 9 three-bedroom homes range from 980 to 1,250 square feet. The project was built through a comprehensive permit process, and all 20 homes are Affordable to households earning up to 80% AMI for the Lowell metro area. MetroWest Collaborative Development currently manages the lottery for home sales at this property.

Type	Count	Size	Sale Price
Two bedroom / 1 bath	10	716 – 970 sq ft	Original: \$151,000 Most recent: \$192,618 (2021) ¹⁶
Two bedroom / 2 bath	1	1,280 sf	\$168,500 (2014)
Three bedroom / 1 bath	4	980 – 1240 sf	Original: \$168,500 Most recent: \$183,787 (2015)
Three bedroom / 2 bath	5	1,250 – 1,280 sq ft	Original: \$168,500 Most recent: \$200,945 (2019)
TOTAL	20		

See Appendix A for list of properties included in Cottages in the Woods.

¹⁶ Data from Westford Assessor database for most recent sales of (top to bottom) 8 Joe’s Way, 12 Porter Rd, 6 Joe’s Way, and 2 Porter Rd, respectively.

Description of Zoning¹⁷

Cottages in the Woods is located on a 5.53-acre parcel in the Residence A (RA) zoning district. In this district, single family residential is allowed by right; open space and “flexible” development are allowed by special permit from the Planning Board. Multi-family residential is not identified anywhere in the use regulations. The minimum lot size is 40,000 square feet and no maximum lot size is specified. However, a minimum 75% of the required lot size must be dry land, not wetlands or located in a Floodplain Overlay.



Photo credit: realtor Karen Morand, via MetroWest Collaborative Development

Cottages in the Woods was developed through a comprehensive permit, so the base zoning regulations did not apply. However, the project did require approval from both the Zoning Board of Appeals, for a variance from the allowed use for a single residential home, and the Planning Board, for site approval. As a 40B project, it also required approval from DHCD prior to final completion.

Site and Building Design

The Town of Westford owned the Cottages in the Woods site prior to development. The Town issued an RFP for development interest that included a preliminary site design concept and a requirement for 100% Affordable housing. The site concept addressed the existing constraints, including easements for overhead electric wires and a small wetland/marsh area and certified vernal pool at the southwest corner of the site.¹⁸ Most of the homes at Cottages in the Woods are organized with vehicular access at the back of the homes and front doors facing a central green space. This green space provides space for recreation and socialization and serves as the septic tank leach field for most homes. The small size and high level of energy efficiency of each home helps keep costs affordable. There are no garages or community buildings on the site, and all of the homes are built with high-quality materials throughout. The scale of homes at Cottages in the Woods was somewhat modelled after the seasonal Summer Village cottage community around Long Sought-for Pond in Westford, which was built by the same developers. Modelling this project after an existing project with a known developer guided the site and building design and increased the public’s confidence in the quality of the project.

¹⁷ <https://westfordma.gov/DocumentCenter/View/10678/2021-Zoning-Bylaw-Amended-through-ATM-2021>

¹⁸ See MassWildlife’s Natural Heritage & Endangered Species Program website for more information on vernal pools: [Vernal pool certification | Mass.gov](#)

Project Barriers

Sewer and water

infrastructure. There is no town-wide sewer in Westford. The municipal buildings in the town center operate on a public sewer system, while all other buildings operate on private septic or package treatment plant systems. Water service in Westford is split between public water and private wells. Not all properties in Westford have access to public water service. Cottages in the Woods did have access to public water provided in Boston Road.



Photo credit: Chris Kluchman

Marketing and sales. Homes in this project came on the market at the same time as another 40B project in Westford that included larger homes with garages. The small scale of homes at Cottages in the Woods looked less appealing in contrast to this other project. In addition, Cottages in the Woods provides a market niche. The homes are great for working couples looking to downsize or senior households wanting to stay in Westford. But the small size of homes, combined with asset limits for Affordable housing homeownership, meant that many households either needed more space or had too many assets to be eligible to live at the property. Finding eligible buyers was a challenge, especially given competition from the larger 40B homes elsewhere in Westford.

Easements and utility coordination. A National Grid easement runs through the center of the site. Certain electric poles were originally located outside of the easement, out of compliance with the easement agreement. Though National Grid eventually moved these poles to regain compliance with easement, the negotiations and coordination required to move the poles lasted almost a year. This delay impacted the construction timeline and added to the developers' carrying costs.

Key Takeaways

Design solutions. The project relies on public water provided from Boston Road. It is located in water resource district 3 and there are three fire hydrants on the property. Sewer operates on private septic tanks, with small tanks throughout the property flowing to a central tank and leach field under the property's central green space. Massachusetts Department of Environmental Protection (DEP) sets the thresholds for treating wastewater on-site with septic tanks at 10,000 gallons per day.¹⁹ With 49 total bedrooms and an estimated demand of 110 gallons per day per bedroom, the total daily wastewater demand at Cottages in the

¹⁹ Septic design and regulations are codified in State environmental code section 310 CMR 15.000, better known as Title 5. Link to Title 5 regulations from DEP website here: [310 CMR 15.000: Septic Systems \("Title 5"\) | Mass.gov](https://www.mass.gov/info-details/310-cmr-15-000-septic-systems-title-5)

Woods is well below 10,000 gallons. Collectively, the availability of public water and the small scale of the project meant that the water and septic design for the project was known from the beginning and did not change during the course of permitting.

Implications on the project and site design

- Physical site constraints like easements and wetlands informed the site design from the beginning. Before issuing a request for proposal (RFP) for the site, the Town prepared a site vision that included small cottages around a central green. This vision is modelled after rural smart growth principles as advocated for by Randall Arendt and others. Driveways through the site accommodate the required easements and building small homes that are clustered together provides sufficient buffer from wetland areas.
- In addition to being part of smart growth principles, the central green space at Cottages in the Woods accommodates the required area for septic leaching. The developers knew that septic tanks would be required and could plan for them from the start.
- Having public water available was a major benefit to the project. If water were not available, the team would have had to locate and provide the required radii around enough private wells to service 20 homes. Given other constraints already present on the site, private wells could have made the project physically infeasible.

Relationships and interaction between developer and Town. The close and collaborative partnership between the Town of Westford and the developer facilitated a highly successful project. Specific supports provided by the Town included:

- The Town owned the site and crafted an RFP for a friendly 40B development with specific guidance on site design and project type. The clear guidance on what was expected on the site helped streamline the RFP process and
- Before issuing an RFP for the site, the Town hired Randall Arendt, a locally famous designer who promotes smart growth in rural settings, to put forward a design concept for the site. This concept provided a vision for development that accommodated existing site constraints and promoted rural smart growth principles.
- The land was sold for well below market value in recognition of the financial feasibility of building 100% Affordable homes, which was a requirement of the RFP.
- The Town also provided \$300,000 of CPA funds to help offset some of the additional carrying costs borne by the developers during the longer marketing / sale period (described above).
 - Despite this financial assistance, the developer still lost a significant amount of money when developing this project. The financial loss resulted from the high carrying costs incurred from construction delays (due to easement negotiations) and slow sales.
- Both local permit approving agencies (ZBA and Planning Board) were supportive and prompt in their review of this project

Case Study: Abbey Road, Sherborn MA

Project Overview

Civico Development and Fenix Partners worked together to develop Abbey Road, which was completed in 2015. The project consists of 18 two-bedroom townhomes in seven buildings, each 1900 – 2300 square feet. It provides housing for independent older adults ages 55 and over, most of whom are looking to remain in Sherborn but downsize their living arrangement. It is thoughtfully designed as a “pocket neighborhood,” or a “neighborhood within a neighborhood” and is very popular with residents of Sherborn.

This project was a redevelopment of the historic Abbey Guest House property, including the adaptive reuse of two historic buildings, the library, and the parsonage. The total site is six acres. The site is designed around a shared central courtyard that acts as water filtration for the site, as well as provides shared community space for gathering and recreation. All parking is located behind the buildings on a lower level, which allows the courtyard to remain car-free. With parking on a lower level all of the townhomes are three stories. To accommodate the needs of senior residents, each home was designed with the option to add an elevator, either at initial sale or at a later date.



Unit Size	Count	Size	Cost
Two bedrooms / two bath	18	1,900 to 2,300 sf	Range from \$689,000 to \$829,000 (both in 2017) ²⁰
TOTAL	18		

²⁰ Norfolk MA assessor database. Sale prices for homes at 1 and 12 Abbey Road.

Description of Zoning²¹

Abbey Road is located in a Residence District, Elderly and Affordable (EA) zoning district. The project team completed a zoning district change as part of the permitting process in order to exceed the density limit (minimum one acre per unit) of the previous RA zone. This zoning change required a Town Meeting vote. Civico and Fenix Partners worked closely with the Town to plan ahead and build trust with the community, to facilitate a successful two-thirds majority vote. From the beginning, the project team committed to meeting high-priority needs in Sherborn: providing housing for seniors; especially those looking to downsize; preserving historic buildings; and preserving / improving the existing Peace Garden. All of these aspects of the project helped engender public trust and support of the zoning change and the project overall. The zoning change approval process itself also helped facilitate public approval. Sherborn bylaws require that a Preliminary Development Plan be approved by Town Meeting in conjunction with a zoning change to EA. This meant that the public largely knew what to expect when voting on the zoning change, which helped increase acceptance. While special permit approval was still required after the Town Meeting vote, no substantive changes were made to the project during that process.



Photos and site plans all courtesy of Civico

In the EA district, multi-family housing is allowed by special permit from the Planning Board. At the time of permitting for Abbey Road, special permit approval required that either 25% of homes must be Affordable or age restricted. Abbey Road pursued the age-restricted compliance path, with no affordability. The project met all the dimensional requirements of the EA zone, including minimum lot size of six acres, minimum frontage of 50 feet, front setback of 100' and rear/side setbacks 60' and maximum height of 2.5 stories of 35 feet. All parcels in EA zones must reserve a minimum of 25% of the site,



excluding setback area, as open space by transfer to the Town, Conservation Commission, a designated non-profit entity, or a homeowner's association. The open space requirement was the trickiest, and the team worked with the Town to accommodate greater open space,

²¹ Town zoning code: [SECTION 1 \(sherbornma.org\)](https://www.sherbornma.org/section-1)

including setback areas. Other regulations for multi-family housing in the EA district include a minimum of 1.5 parking spaces per unit and placing all utility and service lines underground. Development is limited to four units per acre and eight units per building, with not more than three bedrooms allowed in each dwelling unit. If unit capacity were the only limiting factor, Abbey Road could have built 24 units (four units x six acres); however, infrastructure space requirements also impacted the amount of land available for development (see below).

In 2020 Sherborn adopted an Affordable Housing bylaw that requires 15% of units in projects over six units to be Affordable. The ordinance applies to new multi-family permits and Subdivisions, Planned Unit Developments, and multi-family EA projects approved through special permit.²² The ordinance took effect after the completion of Abbey Road, so it did not apply; however, it would apply to such a project now.

Project Barriers

Sewer and water infrastructure. There is no town-wide public sewer or water service in Sherborn. All homes rely on private septic systems. Some municipal and large-scale buildings (like the senior living facility) have their own community water systems, while all other buildings rely on private wells. Massachusetts Department of Environmental Protection (DEP) establishes the thresholds and regulations regarding septic tanks and wells. The demand threshold for private wells is capped at 25 people, and the DEP calculates demand capacity assuming two people per bedroom.²³ Therefore, 12 bedrooms is the maximum size allowed on a single private well.

The threshold for treating wastewater on-site with septic tanks is 10,000 gallons per day. Any wastewater system over 10,000-gallon capacity is defined and regulated as a package treatment plant. Abbey Road wastewater demand is well below 10,000 gallons, so the project built a septic field instead of a package treatment plant. Septic design and regulations are codified in State environmental code section 310 CMR 15.000, better known as Title 5.²⁴ However, the Sherborn Board of Health regulations for septic tank design and location exceed those in Title 5. While DEP regulations require 50 feet minimum distance between a private well and septic tank and four- or five-foot vertical separation²⁵ between a septic system and groundwater, the Town requires 150' and five feet separation, respectively. In addition, no mounding is allowed for new septic tank construction. This means that any area with groundwater within four feet of surface will remain undevelopable. Collectively, these requirements mean that more space is required for wells and septic tanks on site, reducing the space available to build homes.

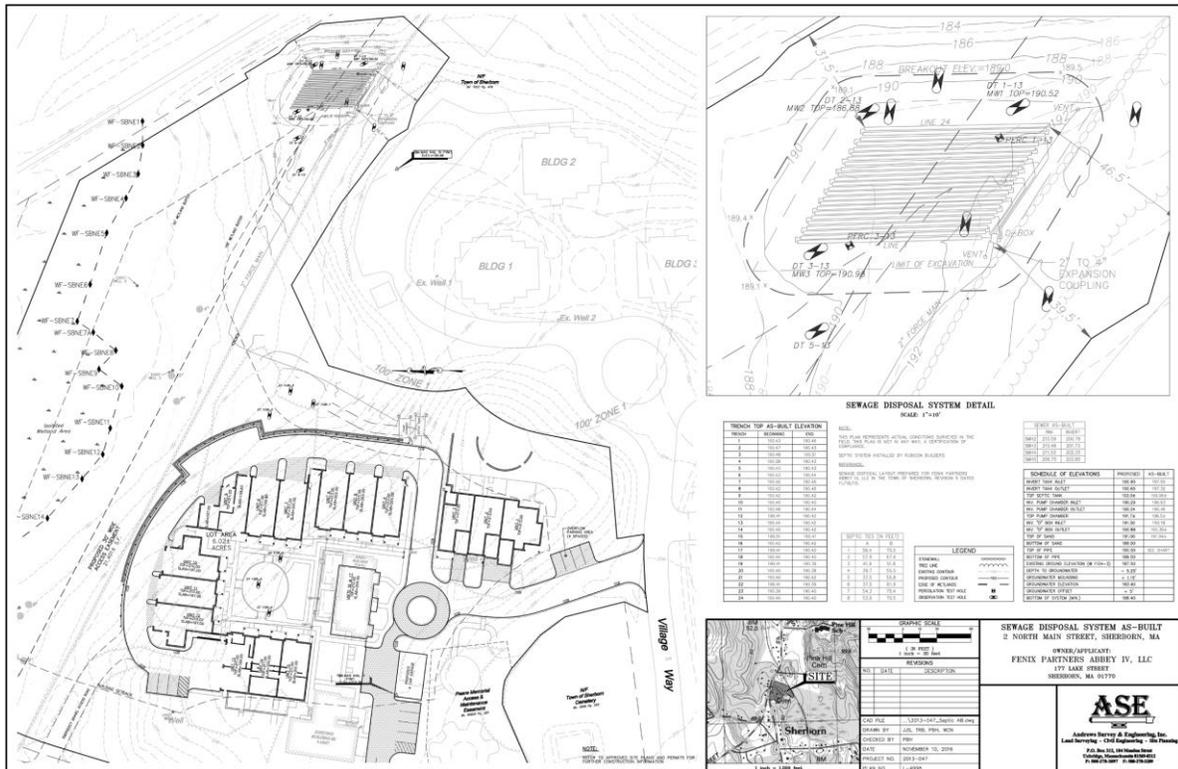
²² Projects between 2 and 5 units must pay a fee-in-lieu. The full ordinance is here: [2020 art 21 as adopted - affordable housing.pdf \(sherbornma.org\)](#)

²³ Mass DEP Private Well Guidelines: [COMMONWEALTH OF MASSACHUSETTS](#)

²⁴ Link to Title 5 regulations from DEP website here: [310 CMR 15.000: Septic Systems \("Title 5"\) | Mass.gov](#)

²⁵ Required depth depends on soil percolation rates [section 15.212]

Site plan:



Other physical or environmental constraints. After finding less than satisfactory water supply in at least one well after drilling, the team had to perform additional drilling (to increase its depth to 1200 feet) and construct an additional well to ensure adequate flow to the project. The additional drilling added significant costs to the project. This site was large enough and had sufficient groundwater depth to accommodate Sherborn’s prohibition on mounding and five feet of vertical separation between wells and septic tanks. Not all sites would be able to meet these physical space requirements.

Key Takeaways

Design solution. Private septic tanks and wells. Two acres of the site were developed for housing, with the balance used for private wells and septic.

- A septic field is located to the northeast of the housing (see site plan above). The septic system is sized to meet demand of 2,700 gallons/day. This is based on the DEP design flow criteria of 150 gallons per day per 2-BR home for senior residents. Importantly, if the project were not solely senior housing, the septic system would have been required to meet the higher DEP guideline of 110 gallons per day per bedroom. [Title 5 section 15.203(2)]
- There are five private wells located along the north property line.
 - To navigate water supply demands and remain below the private well size threshold, the team created sub condominiums of water use / rights within

the project. Each set of six homes owns its own well, which keeps the demand per well below the 25-person limit for a private system.

- As noted above, one well did not yield sufficiently strong flow after drilling, so two wells combine to service one set of townhomes.
- Water for the sprinkler system needs to be stored on site. An additional well provides water to the 600-gallon storage tanks that are in the basement of each building.

Implications on site selection and project design

- This site had available space and adequate depth to groundwater conditions to meet the Town's requirements for septic tank location and distancing. If this were not true, the project would not be financially or physically feasible. A similar project with public water supply would have needed 10+ acres of land to meet Town regulations on radius and separation.
- Developers had assumed at the start of the project that it would rely on a public water supply. The shift to private wells came far along in permitting process. The Town planner reiterated that providing water to the project would have been a significant help, though was not possible given infrastructure constraints.
- Added costs due to having to store water on site and dig wells without knowing their reliability.

Relationship and interaction with the Town. Sherborn's local regulatory environment poses barriers to multi-family development and, like many suburban communities in the region, there is often neighborhood group opposition to new housing in the community. In this case, however, the town took specific steps to support the project.

- The Town agreed to a land swap of Town-owned land along Village Way for a separate parcel that Fenix Partners owned. This swap allowed for better access into site and maintained the total acreage at six, as required by zoning code. The Town benefited from the swap by receiving land along the Main Street frontage that facilitated a new sidewalk.
- Discussions during site plan review helped accommodate dimensional requirements:
 - EA zone requires 25% of the site be preserved as open space, excluding setback areas. The original plan designated open space land right up to the edge of buildings, which was not satisfactory.
 - An option was added during site plan review to require 50% open space but allow the setback areas and exclude land within 30 feet of the buildings.
- A portion of a retaining wall in front of the property that is subject to Historic District Commission jurisdiction needed to be moved to accommodate the new public sidewalk. The developer provided funding to design the sidewalk and move the wall so that it could be better incorporated into the sidewalk project.
- The Town could not provide water and sewer for the project, which would have reduced complexity and cost and increased the square footage of the project. Well and septic tank requirements limited the number of units that could be developed.

Case Study: The Residences at Stow Acres, Stow, MA

Project Overview

The Town of Stow has been working on purchasing and redeveloping Stow Acres since 2019 in collaboration with the Stow Conservation Trust, Stow Acres Golf Course, MCO & Associates (a development partner), and Dodson and Flinker, Inc. (a landscape architecture firm). The golf course hasn't been redeveloped yet, but the community has reached an agreement to acquire the golf course and established a vision for the site. This case study provides important takeaways for how a rural community can create housing options with minimal impacts on existing neighborhoods while also preserving open space for recreational use. Planning began in July 2019 with a town-wide public forum. After close to three years of planning and public engagement, Town Meeting members voted to acquire the South and North course in May and October of 2021.

The Planning Process Planning for the acquisition and redevelopment of Stow Acres began with public forums in 2019, and a masterplan for the site was developed in February 2021. The project team started by analyzing the golf course to identify environmental and recreational resources to determine which areas were most suitable for housing and which areas should be conserved. The total size of the South Course and North Course is 328 acres; thirty-two are proposed for redevelopment and 296 acres will be permanently preserved.

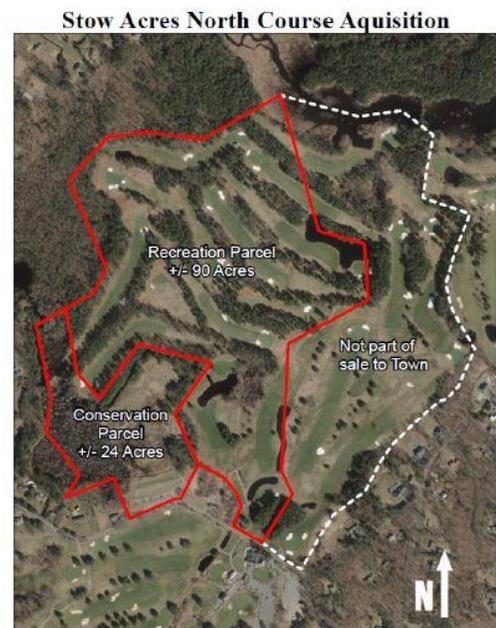
At the May 2021 Town Meeting, Stow voted to use \$1.5 million to acquire and place a conservation restriction on the South Course, preserving 18 golf holes for recreation and 151 acres, contingent on an agreement to redevelop the North Course. The Town seeks to acquire 115 of 175 acres of the North Course. Twenty-four acres is proposed to be given to the Stow Conservation Commission, 90 acres to the Stow Recreation Commission, and Stow Acres would retain 65 acres for sale and redevelopment.

The Conservation Area

The conservation parcel in the southwest corner of the site is about 24 acres and will allow the Town to convert the existing driving range to wetland/habitat restoration. Recreational infrastructure is proposed to provide an overlook in this area. A walking trail network is also envisioned to connect the conservation area with the development area.

The Development Area

The Town plans to sell the remainder of the North Course to MCO & Associates for planned redevelopment. Development of this section of the course is planned to be developed under



Source: Town of Stow

a comprehensive permit because the underlying zoning bylaw would not allow for a mix of housing types, a goal of the redevelopment.

Site and Building Design

The Residences at Stow Acres will follow traditional neighborhood design (TND) as a result of public input received from the project team throughout the planning process. TND design is an emerging best practice that promotes community, walkability, and recreation. It also makes efficient use of land with smaller lot sizes, while still providing open space and privacy desired by those seeking single-family homes.

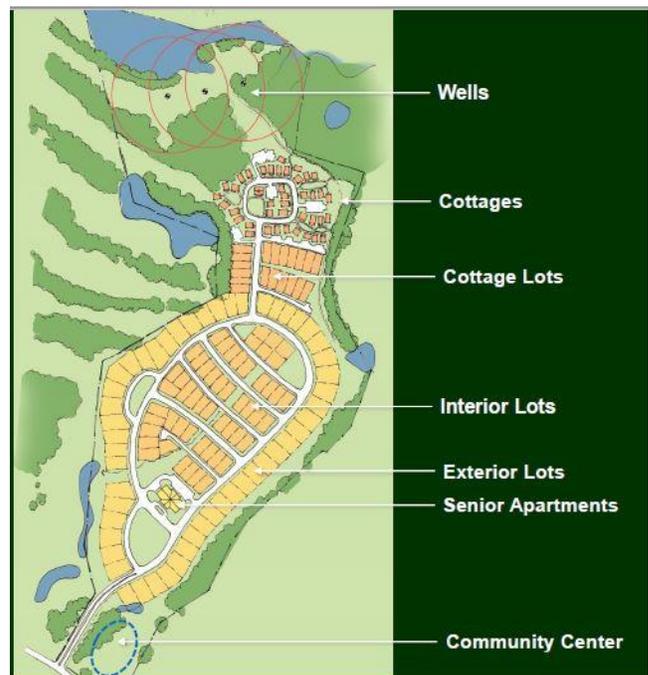
The proposed housing types include a mixture of different forms of single-family homes, many on small lots in the form of cottages, and small lot interior and exterior parcels for single-family homes. Several designs are proposed that would also allow for rental opportunities as cottages. The design of all proposed building types will harken to traditional New England architectural to blend with the existing character of the community. A detailed breakdown of the proposed housing types is summarized in the chart and graphics below:

Type	Count	Size	Affordability	Price
One-bedroom age-restricted apartments	25	-	50% AMI	Starting at \$1,00 per month
Two- and three-bedroom Rental Cottages and One Level Bungalows	40	1,200 - 1,400 sf	Market-rate with some Affordable at 80% AMI	\$1,900 per month
Detached Single-family on Small Lots	124	Interior Homes: 1,800 sf - 2,300 sf and Exterior Homes: 2,500 - 2,800 sf	Market-rate with some Affordable at 80% AMI	Affordable Homes starting at \$290,00 per month
TOTAL	189			

As the concept plan to the right shows, the site design also includes a community center to the south. The private wells needed to supply water to the development are planned at the northern end of the development area. As stated previously, the remainder of the site is to be preserved for golf, recreation, and open space.

Project Barriers

No Public Water and Sewer. Stow doesn't have a public water or a municipal sewer system. A wastewater treatment facility will be used to accommodate sewer needs for the entire site. With lots of open space on site, the Town



expects to find an adequate area for leaching. The Town is also assisting with the creation of water wells at the northern end of the site that will supply public water.

Zoning. The location of Stow Acres is zoned for residential development, favoring single-family homes. The current zoning would not allow for a variety of housing types, which was a goal for the Stow Acres redevelopment. Changing zoning requires a vote at Town Meeting and can be difficult to accomplish.

Traffic Concerns. The public frequently raised concerns about traffic near the site and how the development would affect traffic patterns.

Key Takeaways

Mixture of Funding Sources.

The Town was able to address public water and sewer challenges by seeking a mixture of state and local funding. CPA funds were critical to the acquisition of the site and ensured there was plenty of open space for public wells and a wastewater treatment facility. In August 2022, Stow was awarded a \$1.1 million grant from the Massachusetts Executive Office of Energy and Environmental Affairs to assist in shaping the protection of open space and the development of the North Course. Stow has also applied for a MassWorks grant that would help mitigate traffic impacts and improve safety and mobility in the area. 2022 MassWorks funds haven't been awarded yet. Stow submitted a strong application because it was able to show that MassWorks funding would support an Affordable Housing development likely to move forward because it is being permitted through the local initiative program (LIP).

Utilizing the LIP Program.

Stow was able to overcome zoning constraints on the site by utilizing the LIP program and following the Chapter 40B permitting process. This allowed the Town to permit the types of homes it would like to see on the site without asking for a zoning change at Town Meeting. The development will be permitted using this process and administered by the Stow Zoning Board of Appeals. Through the LIP program, the Town and development partner receive technical assistance from the state that is critical to planning for the redevelopment of Stow Acres.

Proactive Planning and Engagement.

Stow has long planned for the redevelopment of Stow Acres and engaged the public to build support for the redevelopment. Planning and engagement resulted in three successful votes at Town Meeting that made it possible to acquire the North and South Course for redevelopment and preservation. The redevelopment has received unanimous support from the Stow Select Board, Planning Board, Community Preservation Committee, and Open Space Committee. Coordination between these Town entities and the political will to take action was critical to the approval of the Stow Acres redevelopment. Having a development partner like MCO Associates was also a major reason for the success of this project. The Town had a long-standing relationship with MCO Associates from another development they partnered on in 2007 – the Villages at Stow.

Carlisle Board of Health Interview

Carlisle Board of Health Agent Linda Fantasia and Health Board Chair Tony Mariano were interviewed about water and wastewater constraints during a Zoom call on March 3, 2022. Topics of discussion centered on state regulations related to wastewater infrastructure, specifically Title 5 that regulates how septic systems must be installed and used in Massachusetts, the recent Benfield Farms development in Carlisle, and other responsibilities of the Carlisle Board of Health. The information gained from the interview is instructive; however, additional input from the Board of Health, including but not limited to specific details related to Title 5 and local Board of Health regulations, will be necessary as the Planning Board, Housing Trust, and other entities in Town explore the goals and strategies recommended in this Plan.

The board is tasked with ensuring new development complies with Title 5 regulations. Any development in Carlisle requiring a special permit must be reviewed by the board of health. However, Title 5 regulations are applied after the special permit is granted, limiting the ability of the board of health to issue conditions on the development beyond initial conversations prior to special permitting. At a minimum, developers must show they can site a septic system and a water well.

Carlisle doesn't have any municipal shared water wells; they are all private. Land is needed for septic systems as well as to dig private water wells, also subject to Title 5 regulations, and each of these needs drive up development costs. Board members noted there has been discussions in the past about joining the MWRA system by connecting into the adjacent Town of Bedford. However, there hasn't been political will to move forward in this direction.

The board members noted the greatest challenge when developing in Carlisle is to secure open space and find a location for the septic system. When open space is the top priority, septic systems may be placed in locations that are logistically challenging. In other cases, the board has had to notify developers they do not have enough land for unloading.

The only development in town that reached the size threshold to install a wastewater package treatment facility was the Carlisle Public School. However, when the school was first constructed, it didn't produce enough waste for the system to function properly. These issues have since been resolved, and the system has been in compliance for the last ten years. However, this system could likely handle additional capacity if other developments were to connect into it. Board members note there has also been conversations about using Town-owned land for a wastewater treatment facility that could support multiple new developments.

Board members discussed the recent Benfield Farms development, a 40B Affordable Housing development with 26 units, designed as an independent living senior community. The development was completed in 2014. The pre-treatment system at Benfield Farms has been consistently out of compliance over the last seven years. The board has looked at other pre-treatment systems over the last three years and found that similar problems exist for developments of this scale across the state. Soil and nitrogen complications have also contributed to the leaching issues at the site.

Figure 46 Benfield Farms Site Photos



Conclusion

In conclusion, development costs in Carlisle are much higher because of the cost of the land and the need to provide for open space, a leaching field, a septic system, private water wells, stormwater infrastructure, and fire protection infrastructure. A wastewater treatment facility offers a more efficient way to handle wastewater but requires a larger scale development or multiple developments connecting into one system. The public school could potentially offer a system for developments to connect into. Alternatively, the Town could provide easements on public land to build wastewater treatment facilities that could serve multiple developments.



HOUSING DEVELOPMENT OPPORTUNITIES

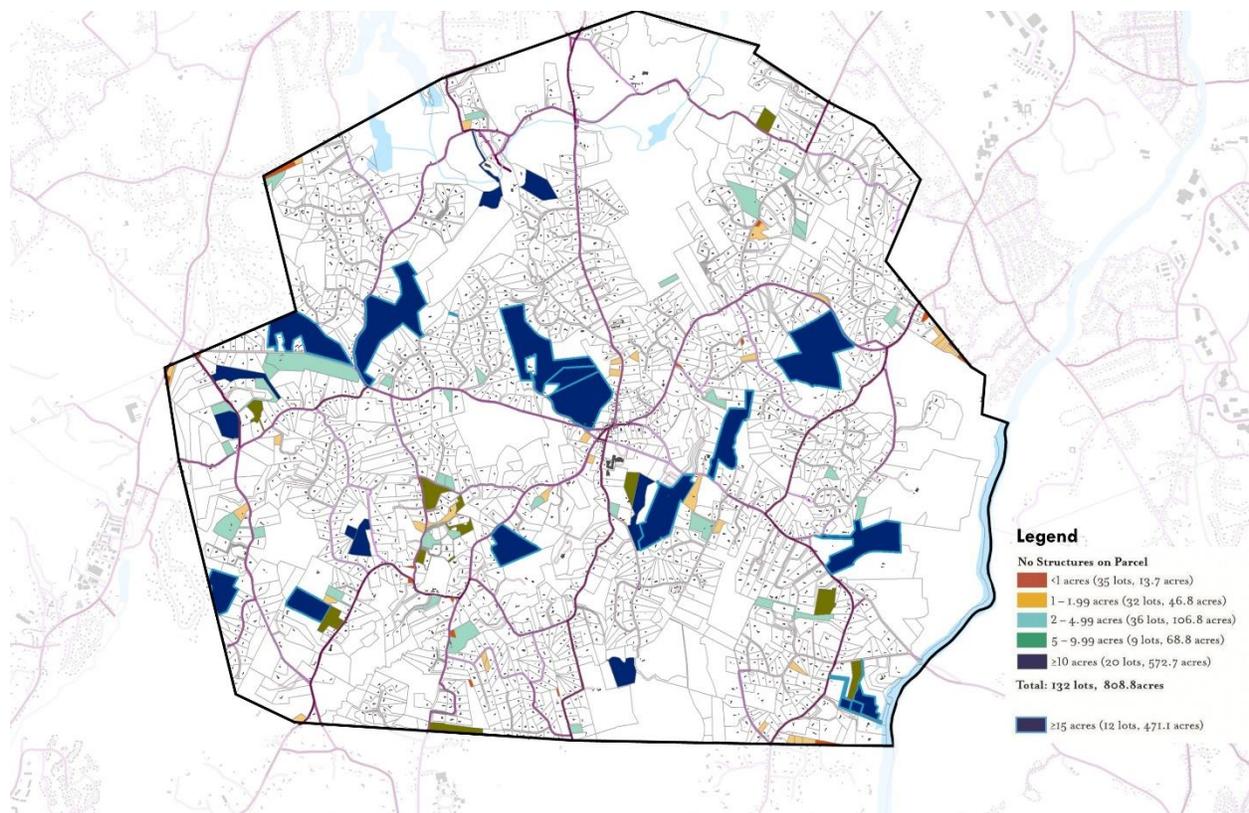
Housing Development Opportunities

The opportunities analysis is a town-wide evaluation of property characteristics that may indicate an opportunity for development with a particular focus on housing development. The series of map descriptions that follow help to illustrate the evaluation of opportunities. It should be noted that the maps and analysis were done without a town-wide GIS, and they are meant for representational purposes only, in order to illustrate that there are potential opportunities throughout Town.

Master Plan Opportunity Analysis

This map attempts to recreate the opportunity analysis that was developed for the master plan process. A similar map appears on Page 16 of the Land Use Existing Conditions draft from July 30, 2020. The re-produced map identifies 123 parcels that may be opportunities. In addition to the foundation that the Master Plan analysis provides, further analysis was completed to identify additional development parcels and to verify the opportunities previously identified.

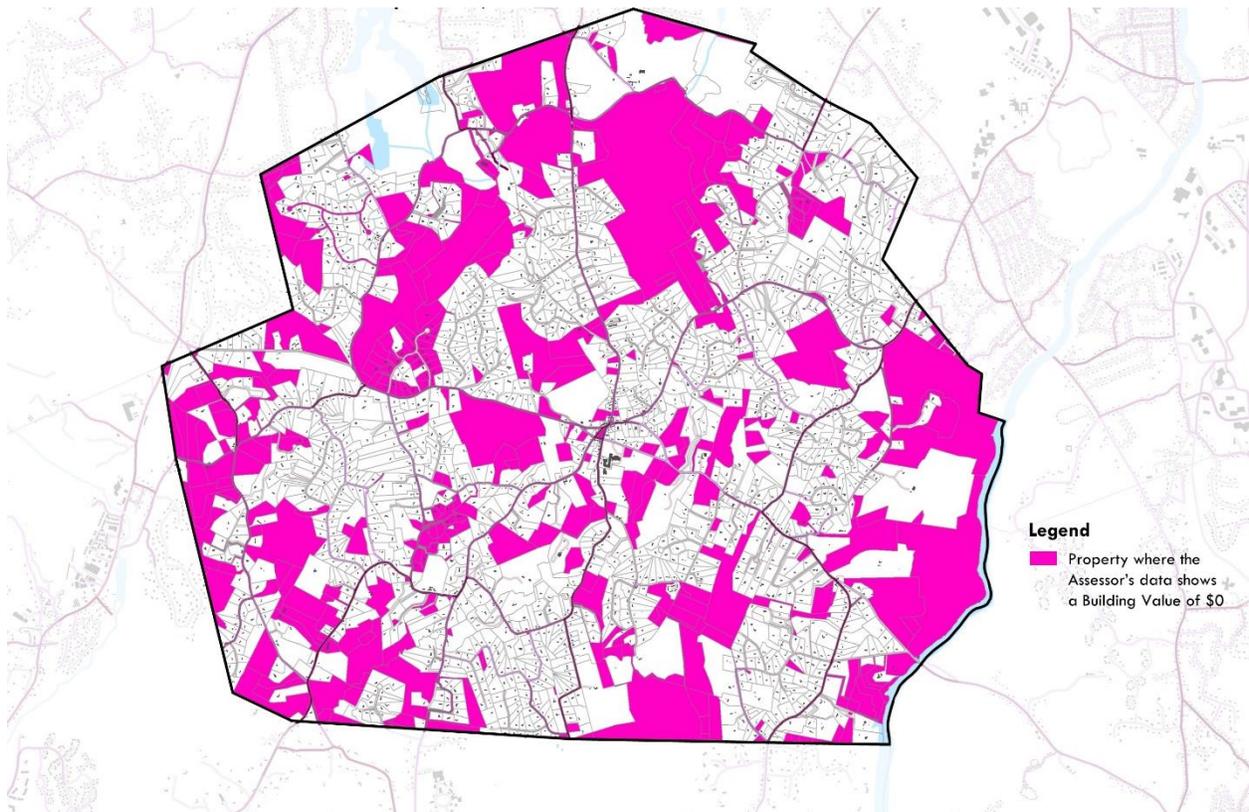
Figure 47 Master Plan Opportunity Analysis



Vacant Properties

The vacant properties identified included every property in which the assessor’s database showed an assessed building value of \$0. This includes a total of 386 parcels – many of the same parcels that were identified in the Master Plan analysis. It also includes an additional 193 parcels, which combine to total 753.4 additional acres. These parcels include properties that are open space or wetlands that have no buildings present, in addition to cemeteries and other properties that are very unlikely to be used for housing. The following maps and analyses are used to narrow the number of properties to focus on the opportunities that are the least constrained according to the constraints analysis.

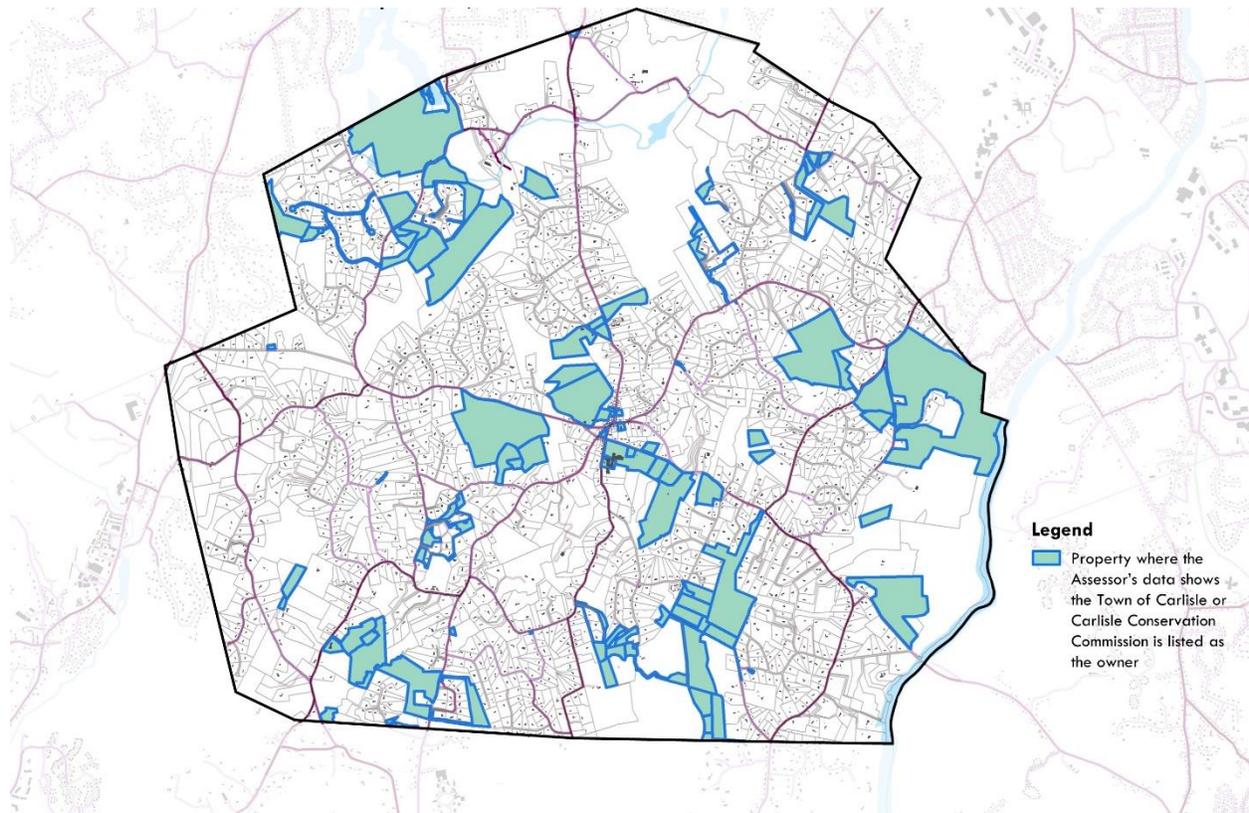
Figure 48 Vacant Properties



Town-owned Property Context

Another important map providing context to the analysis is a map of the Town-owned properties. The map shows 102 total properties where the ownership is listed either as “Town of Carlisle” or “Carlisle Conservation Commission.” Some Town-owned property may provide housing opportunities. The Town-owned properties add an additional 18 parcels beyond those identified by the Master Plan analysis or as vacant properties.

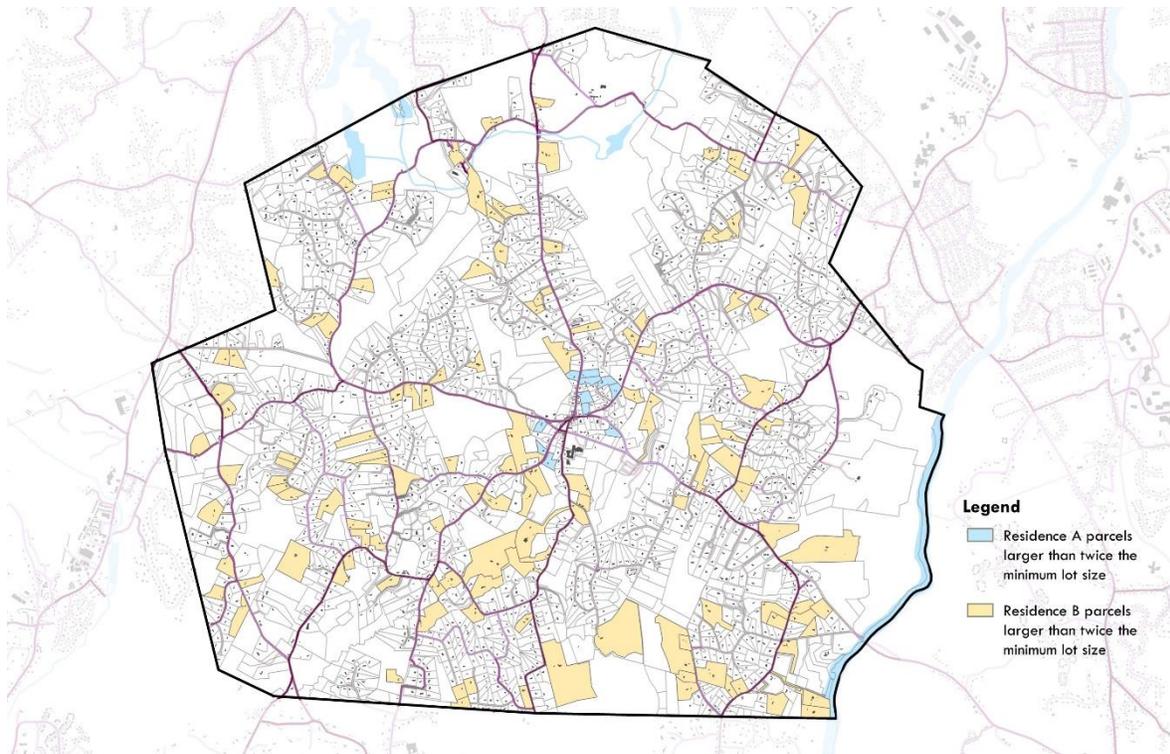
Figure 49 Town-owned Properties



Residential Redevelopment Opportunities

Thus far the analysis has primarily focused on properties that are vacant or Town-owned. Figure 50 expands the potential opportunities to include large residential properties that already have a home. Specifically, the analysis identified any residential property that was more than twice the size of the minimum lot size required by zoning. In the General Residence District A, the minimum lot size is one acre. The diagram shows the properties in the center of the town in this district that are more than two acres in size, including flag lots that are six acres or larger, more than twice their minimum size. Depending on the lot configuration, these properties could potentially be subdivided to create an additional housing lot. In Residence District A, 11 parcels (or 31.95 acres) were identified with a lot size twice as large as the minimum required. In General Residence District B, the minimum lot size is two acres. The diagram shows the properties throughout the town in this district that are more than four acres in size including flag lots that are eight acres or larger, more than twice their minimum size. Depending on the lot configuration, these properties could potentially be subdivided to create an additional housing lot. Several of these properties are substantial in size (more than 20 acres). In Residence District B, 128 parcels (1,031.51 acres) were identified with a lot size twice as large as the minimum required.

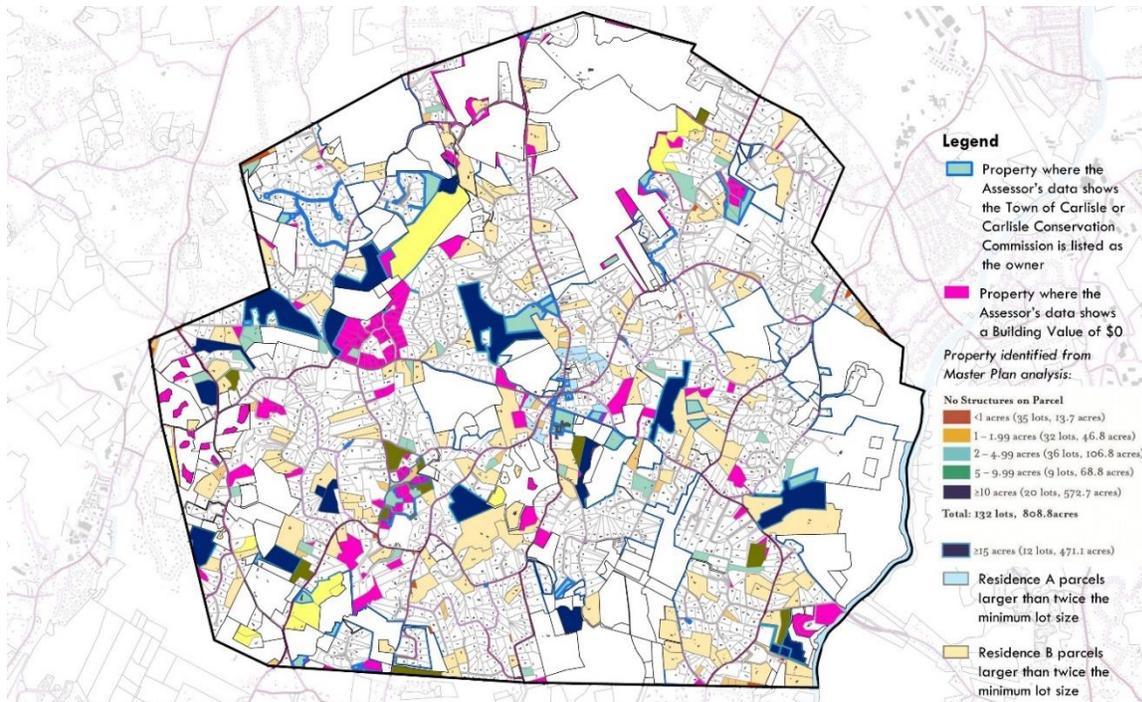
Figure 50 Residential Redevelopment Opportunities



Composite of Opportunities

All the opportunities identified through the map figures above are combined in this map with a first pass at eliminating opportunities that conflict with a constraint identified through the constraints analysis. Not all of these parcels are likely to present housing opportunities. This group has been reviewed further relative to the identified constraints.

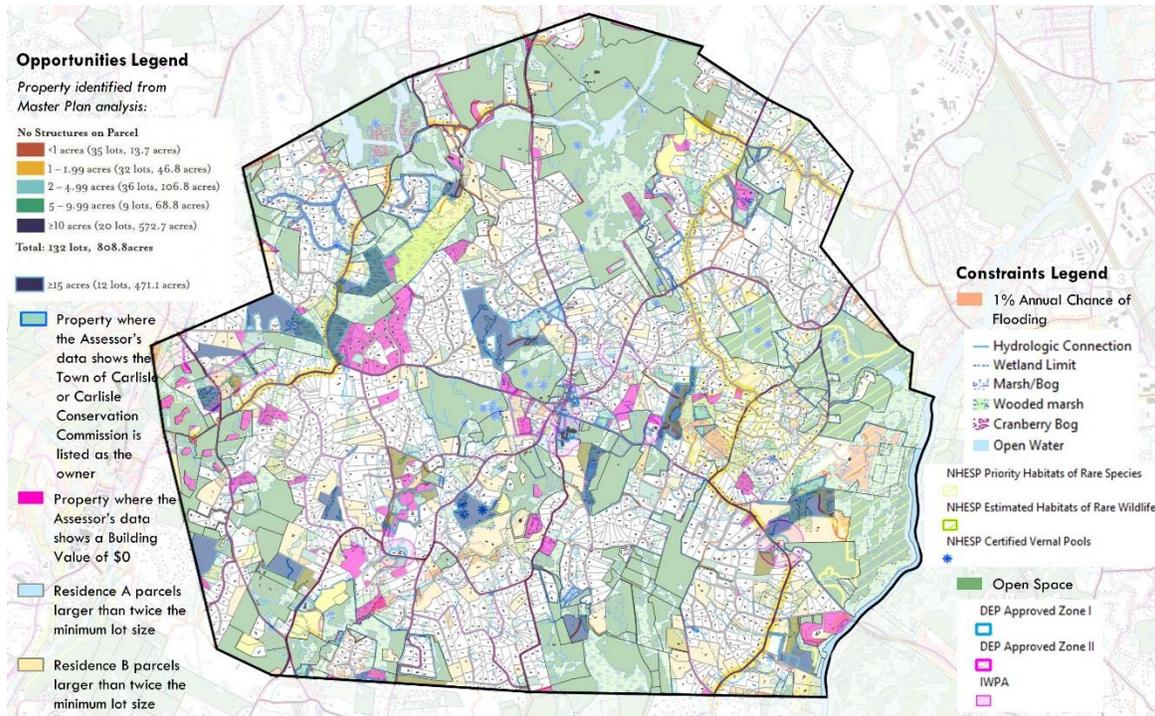
Figure 51 Composite of Opportunities



Composite of Opportunities and Constraints

This map combines all the potential opportunity sites identified and all the constraints identified. The mapping highlights additional opportunity parcels that overlap directly with the identified constraints, particularly protected open space, and wetland areas. These properties likely do not present an opportunity and were removed from the potential opportunities.

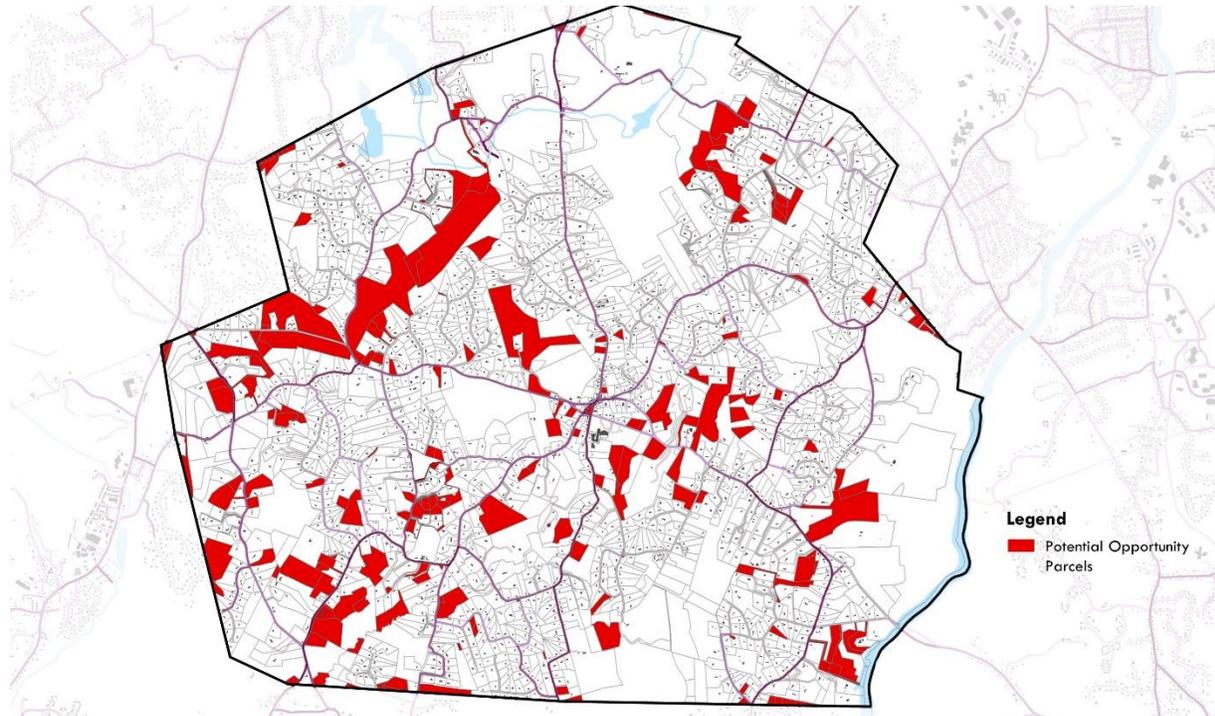
Figure 52 Composite of Opportunities and Constraints



Opportunities Narrowed

Based on an additional review of the potential opportunities relative to the constraints, the number of opportunities is narrowed to a total of 209 parcels. These parcels represent 1,085 acres.

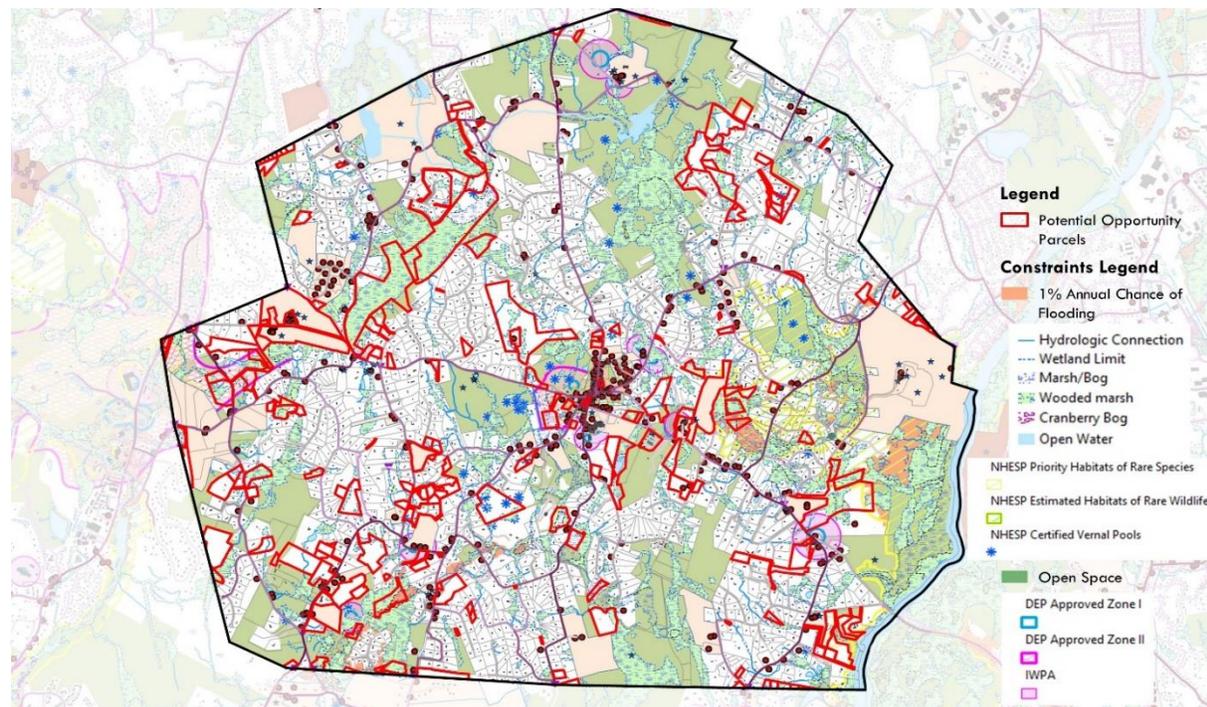
Figure 53 Opportunities Narrowed



Opportunities Narrowed with Constraints

In this iterative process of further narrowing the potential opportunities, the opportunities narrowed are again compared to the location of major constraints.

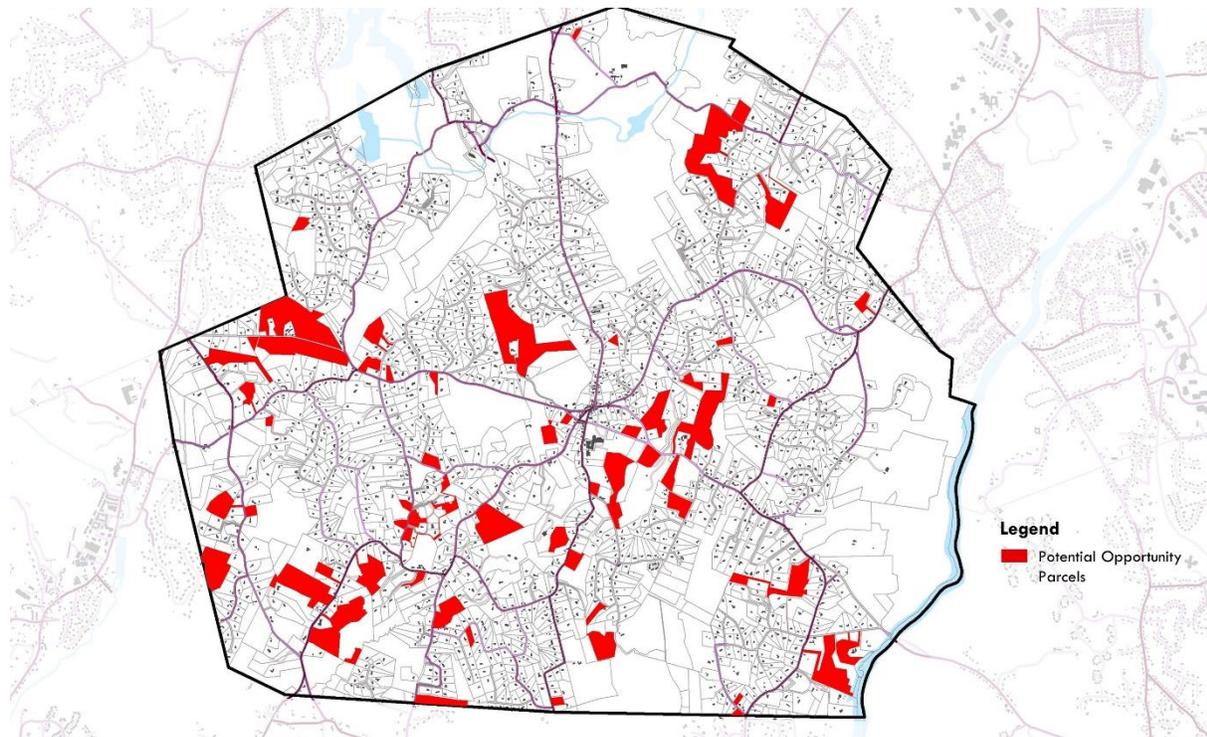
Figure 54 Opportunities Narrowed with Constraints



Opportunities Narrowed Final

This additional review of opportunities relative to the constraints results in a further reduction of potential opportunities. This final narrowed set of opportunities includes a total of 88 parcels for a total of 664.3 acres.

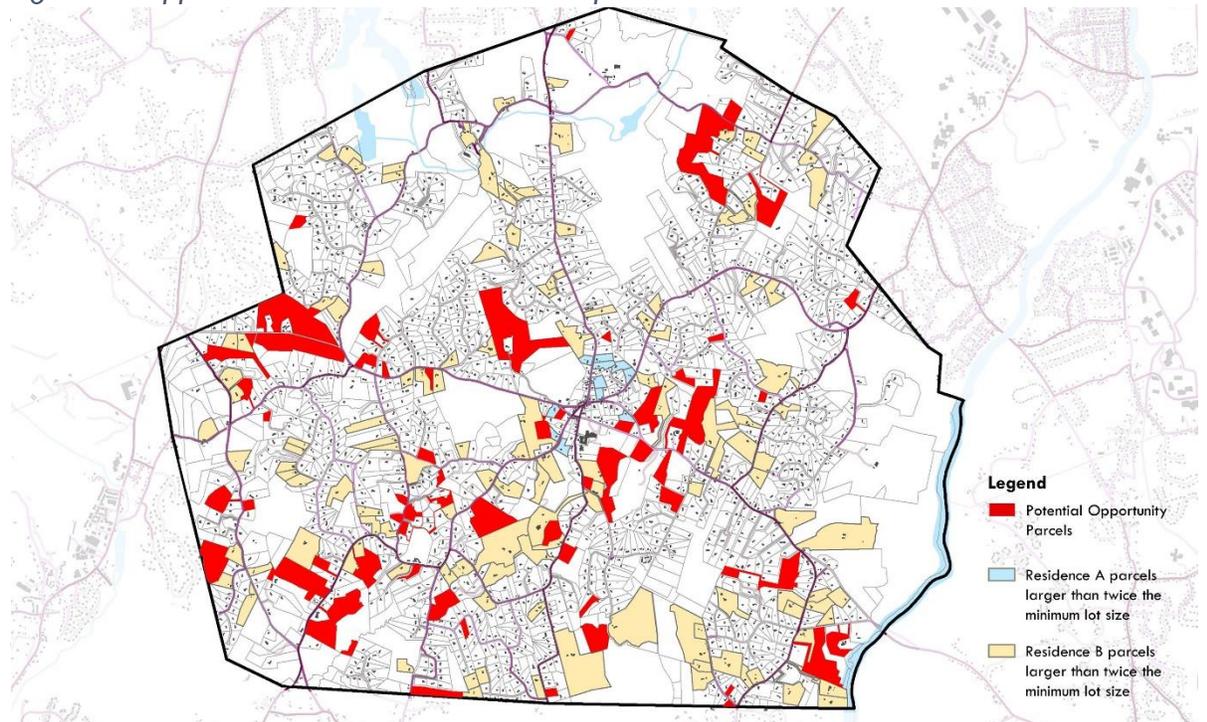
Figure 55 Opportunities Narrowed Final



Opportunities and Potential Redevelopment

In addition to the 101 potential opportunity parcels identified, Figure 56 shows the potential residential redevelopment opportunities in Residential Districts A and B where the parcels are more than twice as large as the minimum required lot size.

Figure 56 Opportunities and Potential Redevelopment



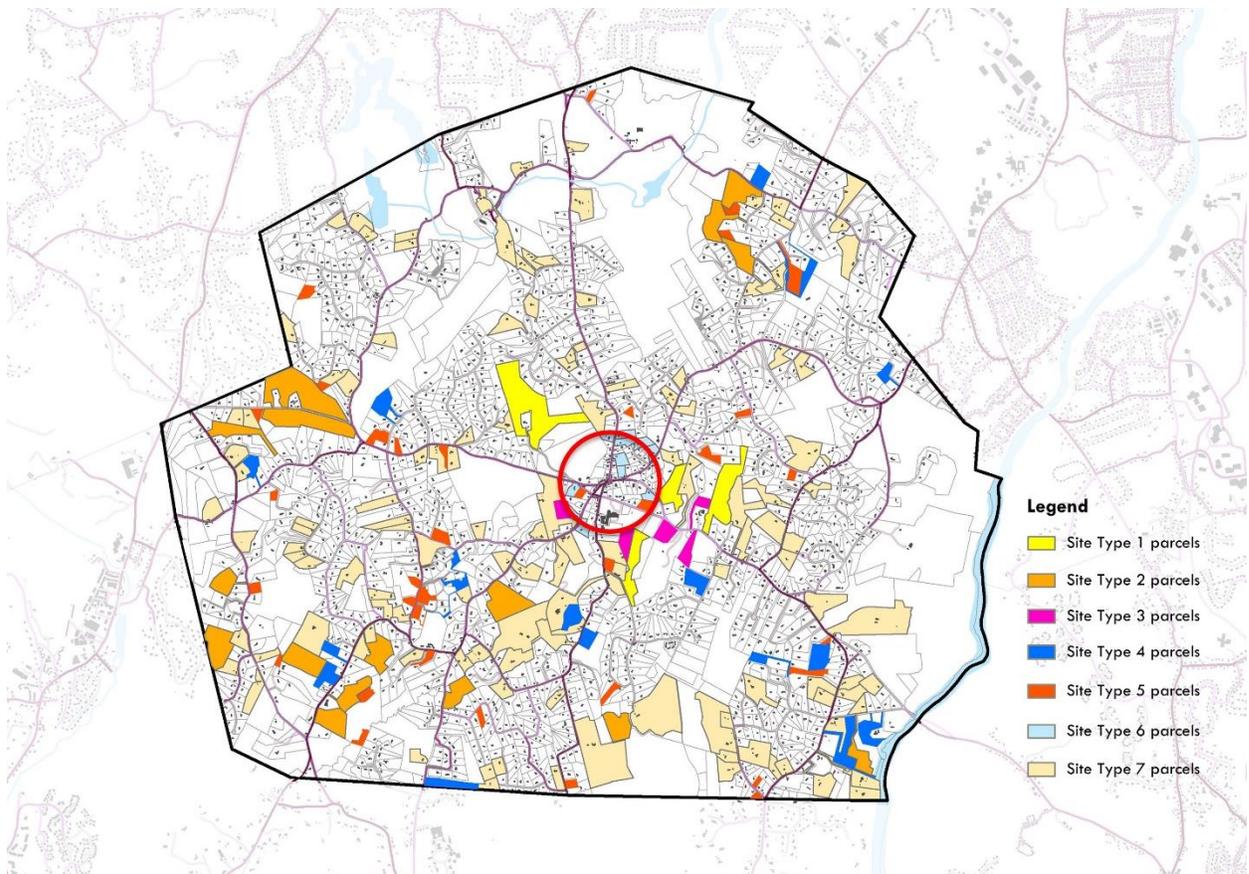
From the opportunity and constraints analysis, seven site types have been defined that group and classify the types of opportunities that are generally available for housing in Carlisle. These types include:

1. Large vacant sites near center (10+ acres) – 4 parcels
2. Large vacant sites outside center (10+ acres) – 16 parcels
3. Medium vacant sites near center (4-10 acres) – 5 parcels
4. Medium vacant sites outside center (4-10 acres) – 20 parcels
5. Modest vacant sites (1-3 acres) – 41 parcels
6. Res A site with opportunity (2+ acres) – 11 parcels
7. Res B site with opportunity (4+ acres) – 129 parcels

The Town of Carlisle is open to using 40B as a permitting tool to build Affordable Housing on the identified potential opportunity parcels. Utilizing this permitting tool is recommended as the first recommended strategy for the Carlisle Affordable Housing Trust (CAHT) and discussed in detail on Page 82.

Site Types Composite

Figure 57 Site Types Composite



Housing Types

A matching of potential housing types with the generalized site types has been made and follows these basic principles:

- Larger sites (10+ acres) near center provide opportunity for denser walkable housing
 - Cluster/cottage, multifamily, senior, mixed-use
- Medium sites (4-10 acres) provide opportunity for subdivision and increased density
 - Cluster/cottage, townhouse, two-family, three-family
- Modest sites (1-3 acres) provide opportunity for subdivision and matching context
 - Infill single-family homes, two-family, accessory dwellings

At the second public forum, 36 participants were polled on the types of homes they supported for each site type. Generally, there was strong support for cluster/cottage housing (especially for site type 2), multi-unit houses, and small multi-family housing. Accessory units were popular for site type five and mixed-use polled high for site types 1 and 3. Full poll results for each site type and matching housing types are detailed in Appendix G.

Priority Opportunity Sites

The development opportunity analysis is a tool that the Town and CAHT can use to identify strategic development opportunities when thinking about acquiring land, partnering with developers, and when encouraging private property owners to create diverse housing options. When any site is owned by a private owner, development or redevelopment is entirely up to that owner, but the Town can encourage development in these cases through regulatory and other tools. When publicly owned, the Town has more leverage to bring about desired housing development but would need to engage the public to gather input and address potential concerns before taking action. The following are priority opportunity sites where The Town of Carlisle is open to using 40B as a permitting tool to build Affordable Housing:

Privately Owned Sites

Westford Street Parcel ID: 18-42-Y

- Site type: Two – large site types outside the Town Center
- Size: 42 acres

West Street, Parcel 6-57-0

- Site type: Two – large site types outside the Town Center
- Size: 20 acres

Concord Street, Parcel 8-10-B

- Site type: Two – large site types outside the Town Center
- Size: 22.8 acres

Publicly Owned Sites

The Town of Carlisle owns two properties that have been considered for housing in the past and could potentially be considered for housing again in the future. These sites include the Conant Land (Parcel ID: 20-6-0, 21-1-0 and 22-82) and the Banta-Davis Land (Parcel ID: 14-23-0). Both properties are near the Town Center and currently contain municipal uses. Given the proximity of the Banta-Davis Land to the wastewater treatment facility for the Carlisle Public School, future development of the Banta-Davis Land may be able to utilize the facility's available treatment capacity, thus removing one major infrastructure hurdle for development of that property. In addition, Carlisle's 2022 Master Plan includes a recommendation for a community engagement process toward the development of a conceptual plan for the Banta-Davis land that incorporates multiple community needs.



GOALS & STRATEGIES

Goals & Strategies

HPP Goals

The Advisory Committee worked with the project team to establish five goals for the HPP. The 2015 HPP focused on numerical housing development goals and proposed actions to meet these production goals. This HPP establishes five overarching goals that correlate to priority policies. These goals are based on the data collected in the housing needs assessment, public input, and all the analysis included in this plan. The five HPP goals were presented for public input at public forum I and received wide public support. Corresponding HPP strategies were presented at public forum II and were also supported by public input. This input and how it was used to finalize the recommended HPP goals and strategies is summarized in Appendix E on Page 102. All the goals connect to the recommendations made in the Carlisle Master Plan.

Goal 1: Create community awareness of housing need

The HPP committee believes the greatest obstacle to advancing housing objectives in Carlisle is a lack of awareness of how housing challenges affect the Carlisle community. Therefore, the first goal of the HPP is to build understanding among Carlisle residents of housing needs. Creating awareness is the first step to building public support for taking action to address these needs. This goal fits with Carlisle April 2022 Master Plan Caring Community Goal 20A: Develop and implement a strategic plan for the Affordable Housing Trust that includes implementing a public education program about fair housing and Affordable Housing and consistently maintaining an up-to-date Housing Production Plan.

Goal 2: Produce and preserve “upper-case A” Affordable Housing

Data shows Carlisle needs more deed-restricted Affordable Housing that is required to cost no more than 30% of a household’s income. Despite some progress since the last HPP, there is only one Affordable Housing unit in Carlisle for every five low-income resident households. There are 59 housing units on the state’s Subsidized Housing Inventory (SHI), and 360 income-eligible households (earning 80% AMI or less). As noted elsewhere in this report, of Carlisle’s 59 housing units on the SHI, only two are available for families. Carlisle should work to expand the stock of Affordable Housing for families and ensure that existing Affordable Housing remains affordable. This goal is consistent with the Carlisle April 2022 Master Plan recommendation 20 C: Explore strategies to promote housing affordability.

Goal 3: Diversify housing options to provide “lower-case a” affordable housing

Housing that’s affordable in the marketplace is also a great need in town. Diversifying the housing stock will provide smaller housing types that are easier to afford than large single-family homes that currently dominate the housing stock in Carlisle. Ninety-two percent of the housing stock is large single-family homes and 94% of homes in town have three or more bedrooms. Carlisle has the smallest average household size of all context communities at 2.78. To reconcile the mismatch between the housing stock and the population’s needs and to provide more housing choice, Carlisle needs to develop more “lower-case a” affordable housing doing so will help seniors downsize, facilitate first-time homeownership, create more opportunities to rent in town, provide homes that better meet the needs of residents

living with disabilities, give town employees the ability to live in town, improve socio-economic and racial diversity, and create social capital, among other benefits. This goal fits with the April 2022 Carlisle Master Plan Caring Community Goal 20B: Explore strategies to promote housing diversity and allow development of “missing middle” housing in specified areas.

Goal 4: Affirmatively further fair housing

Equity and opportunity are connected to housing choice, and the Town of Carlisle recognizes this. The HPP committee has set Goal 4 to expand housing opportunity in Carlisle by affirmatively furthering fair housing. The Federal Fair Housing Act protects households from discrimination based on race, color, national origin, religion, sex, family status, and disability. Additionally, Massachusetts state law protects source of income (e.g. a Section 8 voucher), gender identity, marital status, veteran or active military status, and genetic information. Carlisle seeks to expand housing opportunities for all. This goal is consistent with the April 2022 Carlisle Master Plan recommendation 22: Expand policies and services to meet the needs of residents regardless of age and ability, including Carlisle's growing senior population.

Goal 5: Expand and leverage infrastructure for smart growth

As analysis in this HPP demonstrates, development in Carlisle is limited by infrastructure and environmental constraints, particularly a lack of municipal water and wastewater infrastructure. Carlisle should follow smart growth principles by targeting development near existing infrastructure such as the Town Center and the wastewater treatment facility at the public school. This goal also calls for expanding infrastructure that can support new development in well-resourced areas that are suitable for housing, considering walkability, recreational opportunities, and other assets. This goal is echoed in the April 2022 Carlisle Master Plan's Goal 7: to conduct long-range planning for public facilities, infrastructure, and other investment decisions/capital improvements.

HPP Strategies

The following is a detailed description of the final HPP strategies and some actions needed to implement them; it is not intended as an exhaustive list of all possible actions that the Town can take to expand housing choice and opportunity within Town. The strategies and actions identified herein are meant to broaden perspective on what can be possible if we think beyond the zoning limitations that currently exist and recognize that existing on-the-ground realities (i.e., lot configurations, etc.) can and will change over time. Each strategy works toward a number of HPP goals, which is visualized on the HPP strategy and goal matrix on Pages 88 to 92. Many of the strategies also connect to recommendations made in the Carlisle Master Plan that helped guide the development of HPP recommendations. Town strategies are detailed first, followed by CAHT strategies.

Town of Carlisle Strategies

1. Investigate the feasibility of adopting a new cluster/cottage housing zoning bylaw

As the housing needs assessment shows, Carlisle's housing stock offers mostly one option: to live in a large single-family house. However, many cannot afford the down payment necessary to purchase this housing type. Seniors, singles, and disabled persons may not be able to maintain a large single-family house and some simply may not prefer this type of home.

Cluster/cottages offer an alternative housing option that makes efficient use of land by grouping small cottages around open space. Cluster/cottages provide housing, preserve green space, and create an environment that encourages neighbors to socialize and support each other. As the development opportunity analysis shows, site type two (2) could accommodate cluster/cottages, and this was the most popular housing type among public forum II participants. Polling results from the second public forum also show 94% of participants were supportive of a zoning change that allows for the development of diverse housing types and 47% were extremely supportive.

Action Steps:

- Determine if a special permitting process or an overlay zone is most appropriate for allowing cluster/cottage development, and whether it is possible to amend the existing ROSC and/or SROSC bylaws to achieve the desired intent.
- Consider different approaches including but not limited to: planned residential development, small lot cluster subdivision, 40R Starter Home District, etc.
- Establish dimensional requirements based on the site types identified in the development opportunity analysis.
- Establish design guidelines for cluster/cottage development to be consistent with Carlisle's character.
- Host public forums and engagement events with Carlisle residents to gather input and address any concerns residents may have about permitting cluster/cottage developments before Town Meeting.
- Consider including or adding affordability requirements to this zoning bylaw (see Town recommendation 2 below for more information).

2. Review and update Town-wide zoning bylaws to encourage the creation of diverse housing, to include affordability requirements where feasible.

Carlisle was successful in adopting Residential Open Space and Community (ROSC) and Senior Residential Open Space Community (SROSC) special permitting processes. The Town could build on this progress by adding a range of options for achieving affordability within housing projects developed under these processes, where feasible. In adding these requirements, the Town should work with a consultant to set policy components that balance development financial feasibility with requirements for affordability. Policy components that offset the costs of affordability requirements, like reducing other zoning requirements for height, setbacks, open space, or parking should be thoughtfully considered during updates to these bylaws. In addition, the Town could consider lowering the minimum

tract size requirements and frontage requirements for development under the ROSC and SROSC bylaws.

In the long-term, the Town should continue efforts to pass inclusionary zoning that applies to the entire Town of Carlisle so that any time housing is developed, it adds to the Town's "upper-case A" Affordable Housing stock and increases the Town's SHI percentage. In laying the groundwork for inclusionary zoning, the Town will need to focus on creating community awareness of housing needs and engaging with the development community.

Action Steps:

- Review the density and dimensional regulations within the ROSC and SROSC special permitting processes and any development that has been permitted here. Evaluate implications on financial feasibility.
- Hire a consultant to create a pro-forma analysis testing different ways to structure affordability requirements for how they would impact development finance. The consultant should also facilitate conversations with development partners to learn more about implications for financial feasibility. This process will culminate in draft zoning changes that create affordability requirements for the ROSC and SROSC.
- In working toward Town Strategy 1 on Page 78, consider including affordability requirements.
- Host engagement events with the public to build support for the proposed zoning changes before Town Meeting.
- If successful in passing zoning changes at Town Meeting, use the affordability requirements in the ROSC and SROSC as a basis for exploring town-wide affordability requirements.

3. Collaborate with appropriate Town entities to create a vision to define the Town Center

Creating a sense of place in the Town Center and focusing on this area is discussed in the Carlisle Master Plan. The Town should take the next step and create a community-driven vision for the Town Center that can be implemented through new zoning. Form-based code is one option that focuses on size, scale, and design and could be an excellent tool for creating a sense of place in the Town Center where Carlisle residents can gather. Implementation of a vision for the Town Center could also possibly work towards compliance with the by-right multi-family zoning required under M.G.L. Chapter 40A Section 3A.

When considering where to invest in infrastructure that can expand housing options, Carlisle should follow smart growth principles and leverage housing development to advance other community goals. Housing can support the retention, attraction, and development of small businesses by increasing spending power within the community, and mixed-use housing can work towards this goal while creating a more walkable environment.

In addition to the Town Center, the Town should also consider other areas of Town that may benefit from and lend themselves more readily to an extension of infrastructure from neighboring communities and/or a modest but significant zoning change to allow for mixed-use surrounding other existing but less central commercial pockets.

Action Steps:

- Apply for assistance from the Urban Land Institute (ULI) or other consultant to conduct thorough community outreach to gain consensus around a vision for the Town Center, which would include a facilitated design charrette to lay the groundwork for a visioning plan.
- Host additional public forums and engagement events with Carlisle residents to gather input and address any concerns residents may have.
- Apply for state funds or use local funds to hire a consultant to assist with the creation of a Town Center visioning plan. Community engagement should be a strong element of this process and may include forums, pop-up events in the Town Center, and connecting the public with the business community and development partners.

4. Investigate the feasibility of complying with M.G.L. Chapter 40A Section 3A (a.k.a. “MBTA Communities”)

The Department of Housing and Community Development (DHCD) released updated guidelines for state law Chapter 40A Section 3A, which requires by-right multi-family zoning near transit stations. This is strictly a zoning requirement; the Town would not be responsible for building multi-family housing units. Originally, all communities were required to zone for a minimum of 750 housing units and locate this zone a certain distance from transit stations, which in Carlisle’s case would likely have had to be located near the town’s border. The updated guidelines reduce thresholds that Carlisle would need to meet to comply with the state law.

In the updated guidelines, Carlisle has been considered an “adjacent small town,” for its small number of total housing units and being located next to Acton and Concord, which each have commuter rail stations. With this classification, the minimum unit threshold for Carlisle was reduced to 95 housing units; the requirement that the zone be a certain distance from a transit station was removed, so the Town now has the flexibility to locate this zone wherever it determines is most suitable. One possibility could be the Town Center. The zone would need to allow for a minimum gross density of 15 dwelling units per acre. “Missing middle” housing types could be allowed in this zoning, many of which were supported by polling at public forum II.

If communities do not comply with 3A, they will not be eligible for Housing Choice Grants, funding from the Local Capital Projects Fund, and the MassWorks program (which is a funding source recommended in CAHT Strategy 4). Non-compliance will also be considered when the state decides how to award other discretionary state funding, possibly affecting transportation, clean energy, and climate related funding. This is important to consider in order to stay within Goal 9 of the April 2022 Carlisle Master Plan, which says, “Pursue alternative funding sources to supplement the Town’s budget.”

Under the adjacent small-town classification, by December 31, 2025, Carlisle has to demonstrate that compliant zoning has been adopted by Town Meeting. In the meantime, Carlisle has received interim compliance by submitting a simple action plan to DHCD by January 31, 2023, providing an overview of how the Town plans to pursue compliance.

Action Steps:

- Establish a Task Force of volunteers and stakeholders to begin to explore the feasibility of compliance with M.G.L. Chapter 40A Section 3A “MBTA Communities” legislation and guidelines.
- Coordinate efforts to establish a vision for the Town Center and explore the possibility of drafting 3A zoning here and/or other places in town.
- Explore technical assistance opportunities with Massachusetts Housing Partnership (MHP), and other state agencies to work toward 3A compliance.
- Hire a consultant to analyze Carlisle’s zoning in relation to 3A, utilize the DHCD 3A compliance model, facilitate community engagement, and draft 3A compliant zoning.
- Facilitate community engagement to build support to adopt 3A zoning at Town Meeting prior to December 31, 2025.

5. Investigate the feasibility of increasing housing supply and housing choice via zoning amendments that encourage “missing middle” housing typologies

In order to advance lower case “a” attainable housing, promote inclusion, and work towards increasing housing supply and housing choice, the Town should consider strategic changes that can be made throughout the zoning bylaw to encourage “missing middle” housing typologies. Certain zoning parameters in Town are restrictive and could be reduced without dramatically altering the character of Town or compromising underlying environmental resources. Regarding larger special permit developments, the Town could relax its minimum tract requirements, add flexibility to its open space requirements, and explore trade-offs and incentives to allowing small multi-family typologies within ROSC and SROSC developments. Enabling such developments to occur on additional parcels in Town, and in formats other than single-family homes, will increase housing supply and diversity.

The Town could also review its dimensional requirements for new lots and conduct a benefit cost analysis of reducing minimum frontage requirements, as a start. In addition, without changing the two-acre minimum lot size, the Town could allow single-family properties to have additional units by adding flexibility to zoning and relying on Title 5 and local Board of Health regulations and permitting to determine the total number of bedrooms per acre per property. For instance, if a two-acre property can have 8 bedrooms under Title 5, zoning does not need to dictate that all 8 bedrooms be in 1 housing unit. This could apply to new development, and also enable owners to carve up existing large single-family homes into some number of smaller units. In crafting the zoning, there would be a lot of factors for the Town to consider, including upper limits on unit count, design guidelines, and permitting process – perhaps requiring that any proposal beyond a single-family home would need a special permit, which would result in abutter notification and a public hearing process. This may be in addition to site plan review by the Planning Board.

The zoning bylaw currently allows a single-family home constructed before May 11, 1962, located on a conforming lot, to be converted by-right into a two-family. In addition to promoting this under-utilized section of the bylaw, the Town could consider adding flexibility to the limits – making the date more recent, and allowing it to occur on all properties, not just conforming lots.

The zoning bylaw also allows single-family homes to have an accessory apartment, either attached to or detached from the principal single-family dwelling. As noted earlier, the Accessory Apartment bylaw limits floor area and number of bedrooms. In addition, they are currently only allowed on properties of two acres or more. All of these limitations could be removed.

Figure 58 Missing Middle Housing Diagram, Source: Opticos



Actions Steps:

- Establish a Working Group or Task Force to explore all of these ideas.
- Engage the Planning Board, Zoning Board of Appeals, the Board of Health, and other boards, and the public in discussions of possible zoning changes.

Carlisle Affordable Housing Trust (CAHT) Recommendations

1. Utilize the Local Initiative Permitting (LIP) process and other state tools to facilitate Affordable Housing development in opportunity areas

Most of Carlisle’s zoning restricts housing development to large lot, single-family homes. Many development opportunities identified in this HPP that can expand housing options and affordability cannot be realized because of these zoning constraints. Because the Town’s current zoning bylaws limit housing diversity, the Town can use state tools to facilitate the development it hopes to see. The LIP program offers a state permitting process for a variety of housing developments that can be used by Carlisle’s Zoning Board of Appeals, technical assistance, and funding from the state. Utilizing the LIP process also gives Carlisle greater control over the design of 40B developments. See “Fostering Good Design” from the CHAPA 40B conference ([linked here](#)) to learn more about design solutions for developments at various scales.

Action Steps:

- Host a meeting between the Carlisle Affordable Housing Trust (CAHT) and the Carlisle Zoning Board of Appeals (ZBA) to review the HPP recommendations, focusing on the identified development opportunities. The ZBA should be aware of these opportunity sites and that the Town may choose to use the LIP process to facilitate development on these sites.
- Meet with development partners (see CAHT recommendation 2 below) and property owners of development opportunity sites and assess which sites are suitable for a LIP permitting process. Ensure Board of Health representation to evaluate well and septic plans.
- When a LIP development is proposed, the Town and CAHT should work with development partners to facilitate public engagement to gather input on the proposed development and address any community concerns.

2. Create a coalition of development partners to help produce “lower-case a” and “upper-case A” Affordable Housing opportunities

The CAHT will need to focus on forming partnerships with developers that can help implement the HPP goals to diversify the housing stock and create Affordable Housing. Establishing a coalition of development partners is needed to implement several of the recommendations in this HPP.

Action Steps:

- Many potential development partners were identified during the HPP process through focus groups and public meetings. After the HPP is adopted, the CAHT should host a forum with developers to review the HPP recommendations and discuss the development opportunities that were identified. The CAHT should invite developers to join a coalition that can meet with the CAHT on a quarterly basis to work towards realizing development opportunities.
- Through the joint commission detailed in the recommendation below, the CAHT can identify and recommend strategic sites for Affordable Housing development to partners in the coalition. Publicly owned sites should be evaluated and possibly deeded to development partners at little to no cost through a formal request for proposal process that asks the development partner to build Affordable Housing and provide other community benefits. Ensure Board of Health representation to evaluate well and septic plans.
- In addition to providing publicly owned land, the CAHT may support development partners with supplemental funding that increases the financial capacity to build deeply Affordable Housing units or increases the number of Affordable Housing units. Filling funding gaps or reducing soft costs associated with design, infrastructure, and permitting are effective uses of supplemental funding.
- Development partners from this coalition may work with the CAHT on MassWorks applications as described in CAHT recommendation 4.

3. Establish a joint commission to procure land for Affordable Housing development with public open space and to dispose publicly owned land for this development

The CAHT should establish a process for procuring land that can be leveraged by the CAHT's development partners for Affordable Housing. It is possible that the Community Preservation Committee is the best home for this process as it has representatives from all the land use stakeholders in town. However, at a minimum, it is imperative that the CPC consult the Trust before acquiring land for conservation and conversely the Trust consult the CPC.

Action Steps:

- Host public forums and engagement events with Carlisle residents to gather input and address any concerns residents may have.
- The CAHT, CPC, Carlisle Planning Board, and Carlisle Select board will meet to discuss goals for the land procurement process that follow the goals of the Carlisle Master Plan and this HPP. Together, these Town entities can set expectations and parameters for land that is procured for Affordable Housing development with public open space. The process should also establish guidelines for acquiring land based on cost, location, and development opportunity.
- The joint-commission should utilize the development constraints and opportunities analysis to identify sites to acquire or to plan for development on existing publicly owned land that is suitable for Affordable Housing development and public space.
- ARPA funds, in addition to CAHT and funds from the CPC, should be used for acquiring publicly owned land that can be developed with Affordable Housing and open space.
- The joint-commission should establish a framework for a request for proposal (RFP) process to dispose publicly owned land to development partners at little to no cost in exchange for Affordable Housing development and other public benefits. This framework can guide RFP processes for public land disposition.

4. Work with development partners to prepare a MassWorks application that provides funding for water and sewer upgrades

As detailed throughout the development constraints and opportunities chapter, development in Carlisle is constrained by a town-wide absence of water and wastewater infrastructure. The Town can pursue state funds through the MassWorks program that provides site or area-specific infrastructure to support Affordable Housing development. A successful MassWorks application will identify a private development that requires public infrastructure to move forward. The plans and engineering designs for the private development and associated infrastructure will each need to be at least 25% complete for strong consideration. The application is ultimately evaluated for its consistency with [MetroCommon 2050](#), Greater Boston's regional land use and policy plan. The CAHT can proactively plan for a MassWorks application by strategically identifying a site, developer, and public infrastructure.

Action Steps:

- Host additional public forums and engagement events with Carlisle residents to gather input and address any concerns residents may have.
- Utilize the development opportunity analysis on Pages 65 through 74 and development related HPP recommendations to identify the best site or sites for Affordable Housing development. The recommended development opportunity sites should be prioritized for a MassWorks application.
- Discuss the identified sites with the development partners identified in CAHT recommendation 2. Consult the development partner on the necessary infrastructure upgrades. For example, a wastewater treatment facility can be financed with MassWorks funds.
- Work with the development partner on zoning relief that may be needed for the development to move forward. Permitting the development should be timed with the MassWorks application. The application will be strongest if the development is permitted and “shovel-ready.” The Town should ensure the development will have Affordable Housing and meet excellent smart-growth standards.
- The CAHT should work with the developer to prepare the MassWorks application. The state will evaluate the application on whether the infrastructure is vital to the development and how consistent the development is with MetroCommon 2050. Affordable Housing, location, walkability, access to transit, and economic opportunity will all be considered in the application review. Therefore, a smart-growth, walkable location for the development should be chosen, and the CAHT should work with the developer on transportation demand management strategies, such as adding a shuttle to connect future residents to transit in nearby communities. Projects that result in deeply Affordable Housing are scored high and so the project should focus on creating this.

5. Join a Shared Housing Service Office (SHSO)

As Carlisle makes progress on adding deed-restricted Affordable Housing to its housing stock, additional administrative demands will further strain the Town’s capacity to monitor Affordable Housing and meet requirements set by the Massachusetts Department of Housing and Community Development (DHCD). Enlisting as a member in an SHSO can build the Town’s capacity and help Carlisle stay on top of new Affordable Housing development.

SHSO’s operate through an inner-municipal agreement that allows different cities and towns to share a housing planner based on year-to-year demand. A community can utilize however many hours from SHSO staff that they need to administer Affordable Housing, depending on how this demand changes over time. SHSO assistance with monitoring existing Affordable Housing also helps prevent the Town from losing expiring Affordable Housing units that could be removed from the Town’s Subsidized Housing Inventory (SHI) if they expire. SHSO staff can also help with housing planning initiatives, drafting zoning, and other housing needs. A SHSO is a cost-efficient way to build capacity without hiring a full-time staff member. Hudson currently hosts an SHSO in the MAGIC subregion that Carlisle could consider joining.

Action Steps:

- Meet with the Town staff and SHSO staff in Hudson to learn more about this SHSO and to evaluate whether Carlisle should join.
- Convene Town boards and present on the benefits of joining an SHSO and how this would build the town's capacity for housing administration and planning initiatives.
- Work with the Town's legal counsel to draft a proposal to join the Hudson SHSO and present the proposal at Town Meeting. Town Meeting members will need to approve an allocation from the Town's general fund to support membership in the SHSO. The proposal should emphasize the cost-benefits of joining an SHSO as opposed to hiring a full-time staff member.
- Alternatively, the CAHT could dedicate its own funds or funding that it acquires to provide an annual allocation for SHSO membership.

6. Establish a first-time homebuyers and housing assistance program

In addition to supporting housing development, the CAHT can work towards meeting housing needs through programming and assistance. The Trust should establish a housing assistance program that helps young people purchase their first home and assists seniors, single-person households, and other cost-burdened households afford housing costs and stay in Carlisle. The CAHT can dedicate funds that leverage existing state funds for down payment assistance and other financial tools to stimulate first-time homeownership. Assistance should also be offered to seniors and other income-eligible households to help pay for utilities and rent. Seniors should be able to utilize this assistance to finance home modifications that may be needed to allow them to safely age in place, such as a stair lift or other accessibility improvements. Small grants for weatherization can also help reduce heating and utility costs to all end users who need assistance.

Another form of assistance that may be worth considering and that would promote aging-in-place would be to reconsider establishing a funding mechanism to aid seniors in the development of affordable accessory apartments on their properties. The Town would create a mechanism to subsidize creation of the unit, and in turn deed restrict the unit to preserve the affordability for some time-period. Potential funding sources could include the creation of a Real Estate Investment Trust (REIT), or imposition of a real estate transfer fee on sales of all residential properties.

Action Steps:

- Dedicate a portion of CAHT funds, CPC funds, and ARPA funds for a first-time homebuyers and housing assistance program.
- Promote the program and related state programs through public forums, flyers, newsletters, and posts on the Town's website.
- Investigate the feasibility of establishing a real estate transfer fee in Town.
- Offer a residential tax reduction for income-eligible households, including seniors.

- Establish indicators to evaluate the success of the program by tracking how many first-time homebuyers have been assisted, as well as those seeking assistance with housing-related costs.
- Pilot the program and present findings to the Carlisle Planning Board and Select Board. Ask for a dedication of Town revolving funds to make the program permanent.
- Place an SHSO staff member (see above recommendation) in charge of administering the program.

		20A	20C	20B	22	7	
		Goal 1: Awareness	Goal 2: "Upper-case A"	Goal 3: "Lower-case a"	Goal 4: Fair housing	Goal 5: Smart growth	Direct Master Plan Connections
HPP GOALS AND STRATEGIES							
Town Strategies							
1	Investigate the feasibility of adopting a new cluster/cottage housing bylaw			X	X	X	20B 22 7
2	Review and update Town-wide zoning bylaws to encourage the creation of diverse housing, to include affordability requirements where feasible.		X		X		20C 22
3	Collaborate with appropriate Town entities to create a vision to define the Town Center	X	X	X	X	X	20A 20C 20B 22 7
4	Investigate the feasibility of complying with M.G.L. Chapter 40A Section 3A (a.k.a. "MBTA Communities")	X	X	X	X	X	20A 20C 20B 22 7 9

5	Investigate the feasibility of increasing housing supply and housing choice via zoning amendments that encourage “missing middle” housing typologies			X	X	X	20B 20C
CAHT Strategies							
1	Utilize the Local Initiative Permitting (LIP) process and other state tools to facilitate Affordable Housing development in opportunity areas		X	X	X		20C 20B 22
2	Create a coalition of development partners to help produce “lower-case a” and “upper-case A” Affordable Housing opportunities	X	X	X	X	X	20A 20C 20B 22 7
3	Establish a joint commission to procure land for Affordable Housing development with public open space and to dispose publicly-owned land for this development	X	X				20A 20C
4	Work with development partners to prepare a MassWorks application that provides funding for water and sewer upgrades		X	X	X	X	20C 20B 22 7

5	Join a Shared Housing Service Office (SHSO)	X	X	X	X	20A 20C 20B 22
6	Establish a first-time homebuyers and housing assistance program	X			X	20A 22

Implementation

Current members of the Carlisle Select Board, Planning Board, and CAHT that served on the HPP Advisory Committee should lead and monitor the implementation of the HPP strategies. The chart below provides guidance for this effort by identifying entities that should lead and support the implementation of each respective strategy. The timeframe and relationship between the strategies is also outlined here.

	TOWN STRATEGIES	Implementation entities	Timeframe and Relationship
1.	Investigate the feasibility of adopting a new cluster/cottage housing bylaw	Lead: Planning Board	Timeframe: Near-term
		Support: CAHT, Consultant	Relationship: Possibly used as a part of implementing Town Strategy 4.
2.	Review and update Town-wide zoning bylaws to encourage the creation of diverse housing, to include affordability requirements where feasible.	Lead: Planning Board	Timeframe: Mid-term
		Support: CAHT	Relationship: Possibly incorporated into implementation of Town Strategy 4.
3.	Collaborate with appropriate Town entities to create a vision	Lead: Select Board	Timeframe: Long-term

	to define the Town Center	Support: All Town entities, Planning Board, Town Meeting, Consultant	Relationship: It is recommended this Strategy is implemented prior to Strategy 4. This strategy may also be useful when implementing Strategy 1.
4.	Investigate the feasibility of complying with M.G.L. Chapter 40A Section 3A (a.k.a. “MBTA Communities”)	Lead: Planning Board w/Task Force	Timeframe: Long-term
		Support: Consultant	Relationship: Strategy 3 should be implemented before this strategy. Strategy 2 should be incorporated into this strategy.
5.	Investigate the feasibility of increasing housing supply and housing choice via zoning amendments that encourage “missing middle” housing typologies	Lead: Planning Board	Timeframe: Near-term
		Support: CAHT	Relationship: Strategy 5 can be implemented while other strategies are in process.

	CAHT STRATEGIES	Implementation entities	Timeframe and Relationship
1.	Utilize the Local Initiative Permitting Process (LIP) and other state tools to facilitate Affordable Housing development in opportunity areas	Lead: CAHT	Timeframe: Opportunity based
		Support: Planning Board, CPC and, ZBA	Relationship: Can be used when implementing CAHT strategies 2, 3, and 4.
2.	Create a coalition of development partners to help create “lower-case a” and “upper-case A” Affordable Housing opportunities	Lead: CAHT	Timeframe: Near-term
		Support: CPC	Relationship: Needed to implement CAHT strategies 1 and 4.

3.	Establish a joint commission to procure land for Affordable Housing development with public open space and to dispose publicly-owned land for this development	Lead: CPC + Select Board	Timeframe: Near-term
		Support: CAHT	Relationship: Direct connection to recommendation from Masterplan Goal 4D on Pages 3-10.
4.	Work with development partners to prepare a MassWorks application that provides funding for water and sewer upgrades	Lead: CAHT	Timeframe: Opportunity based
		Support: Town Staff	Relationship: 3A, developer coalition, and the joint commission
5.	Join or establish a Shared Housing Service Office (SHSO)	Lead: CAHT	Timeframe: Near-term
		Support: Select Board, CPC, and Consultant	Relationship: Builds capacity for implementing most several HPP strategies.
6.	Establish a first-time homebuyers and housing assistance program	Lead: CAHT + COA	Timeframe: Near-term
		Support: Town Staff	Related: Key to administering CAHT strategy 5.

Best And Emerging Practices

The following is a list of best and emerging practices recommended for Carlisle and CAHT to promote through the publication of this HPP and ongoing public engagement efforts. While these best practices are important, they are not considered to be at the same level of priority as the strategies above that are intended to be implemented in the next five years. Promotion and implementation of these best practices should be considered when opportunities arise.

BEST AND EMERGING PRACTICES

		Goal 1: Awareness	Goal 2: “ Upper-case A”	Goal 3: “ Lower-case a”	Goal 4: Fair housing	Goal 5: Smart growth
1	<p>Promote accessory dwelling units. If interest accumulates, consider best practice regulatory changes and financial assistance in exchange for an affordable renting agreement.</p> <p>Resources: Living Little Toolkit – Digital Toolkit The State of Zoning for Accessory Dwelling Units – Zoning Analysis Accessory Dwelling Unit financing guide – Oregon Example</p>	X	X	X		X
2	<p>Promote the concept of Community Land Trusts (CLT). If interest accumulates, consider offering publicly owned land and helping fund technical assistance.</p> <p>Resources: Greater Boston CLT Network – Description and resources</p>	X	X	X		
3	<p>Promote the concept of Co-housing. If interest accumulates, consider offering publicly owned land and helping fund technical assistance.</p> <p>Resources: Living Little Toolkit - Digital Toolkit New View Cohousing - Cohousing Example in Acton, MA</p>	X		X	X	
4	<p>Promote concept of limited equity co-operatives. If interest accumulates, consider providing staff assistance to run a co-op program.</p> <p>Resources: Local Housing Solutions – Limited equity cooperative description and related policies Massachusetts Association of Housing Cooperatives – Housing cooperative examples and resources</p>	X	X			

5	<p>Promote state programs for home modifications assisting seniors with aging in place and accommodating persons with disabilities.</p> <p>Resources: Massachusetts Home Modification Loan Program – Favorable loans for elderly and disabled persons to make home modifications.</p> <p>Age Friendly Home Improvements – AARP recommendations and resources for home modifications</p>	X		X	X	
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APPENDIX

Appendix A

Carlisle Subsidized Housing Inventory (2021)

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT CH40B SUBSIDIZED HOUSING INVENTORY

Carlisle

DHCD ID #	Project Name	Address	Type	Total SHI Units	Affordability Expires	Built w/ Comp. Permit?	Subsidizing Agency	
645	Carlisle Village Court	145 Church St.	Rental	18	2020*	No	RHS HUD	
4080	Laurel Hollow/Rocky Point	302 Lowell Street	Ownership	2	Perp	Yes	FHLBB MassHousing	
4233	DDS Group Homes	Confidential	Rental	13	N/A	No	DDS	
9285	Benfield Farms	Off South Street	Rental	26	Perp*	YES	DHCD	
Carlisle Totals				59	Census 2010 Year Round Housing Units		1,740	
							Percent Subsidized	3.39%

1/12/2021

Carlisle
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This data is derived from information provided to the Department of Housing and Community Development (DHCD) by individual communities and is subject to change as new information is obtained and use restrictions expire.

Appendix B

SHI Targets and Safe Harbor Pathways

To achieve safe harbor through the certification of this Housing Production Plan, Carlisle would need to hit the following targets.

TARGET 1: Obtain certification of the HPP

Certification of Municipal Compliance with the HPP will be achieved if, during a single calendar year following DHCD’s approval of the plan, Carlisle increases its number of Affordable Housing units (as counted on the SHI) in an amount equal to or greater than the following numbers:

HPP Certification Option 1

2-Year Safe Harbor

Increase SHI percentage by at least 1% by adding 17 SHI units or more, in one calendar year

HPP Certification Option 2

1-Year Safe Harbor

Increase SHI percentage by at least 0.5% by adding 9 SHI units or more, in one calendar year

TARGET 2: Achieve Safe Harbor by achieving and maintaining 10% of Carlisle’s housing stock as deed-restricted Affordable Housing.

10% SHI Option 1

5-Year Plan

Reach 174 SHI units by permitting 23 or more units per year over 5 years.

	2023	2024	2025	2026	2027	2028
Total Year-Round Units (U.S. Census, 2010)	1,740	1,740	1,740	1,740	1,740	1,740
Cumulative SHI Units	59	82	105	128	151	174
10% Requirement	174	174	174	174	174	174
Additional Units for 10% SHI	115	92	69	46	23	-
Units to Reach 10% in 5 Years	23	23	23	23	23	-

NOTE: When 2020 Decennial Census numbers are recorded by DHCD for total year-round units these calculations will change, and more SHI units may be required to meet safe harbor.

**10% SHI Option 2
10-Year Plan**

Add 115 SHI units by permitting 25 or more units per year over 10 years.

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Total Year-Round Units (U.S. Census)	1,740	1,740	1,740	1,740	1,740	1,740	1,740	1,740	1,740	1,740	1,740
Cumulative SHI Units	59	71	83	95	107	119	131	143	155	167	174
10% Requirement	174	174	174	174	174	174	174	174	174	174	174
Additional Units for 10% SHI	115	103	91	79	67	55	43	31	19	7	-
Units to Reach 10% in 10 Years		12	12	12	12	12	12	12	12	7	-

NOTE: When 2020 Decennial Census numbers are recorded by DHCD for total year-round units these calculations will change, and more SHI units may be required to meet safe harbor.

Appendix C

Interagency Fair Housing Agreement

INTERAGENCY AGREEMENT

Regarding Housing Opportunities for Families with Children

This Interagency Agreement (this "Agreement") is entered into as of the 17th day of January, 2014 by and between the Commonwealth of Massachusetts, acting by and through its Department of Housing and Community Development ("DHCD"), the Massachusetts Housing Partnership Fund Board ("MHP"), the Massachusetts Housing Finance Agency (in its own right and in its capacity as Project Administrator designated by DHCD under the Guidelines for Housing Programs in Which Funding is Provided By Other Than a State Agency, "MassHousing"), the Massachusetts Development Finance Agency ("MassDevelopment") and the Community Economic Development Assistance Corporation ("CEDAC"). DHCD, MHP, MassHousing, MassDevelopment and CEDAC are each referred to herein as a "State Housing Agency" and collectively as the "State Housing Agencies".

Background

A. DHCD's 2013 Analysis of Impediments to Fair Housing Choice ("AI") includes action steps to improve housing opportunities for families, including families with children, the latter being a protected class pursuant to fair housing laws, including the federal Fair Housing Act, as amended (42 U.S.C. §§ 3601 *et seq.*) and Massachusetts General Laws Chapter 151B. In order to respond to development patterns in the Commonwealth that disparately impact and limit housing options for families with children, such steps include requiring a diversity of bedroom sizes in Affordable Production Developments that are not age-restricted and that are funded, assisted or approved by the State Housing Agencies to ensure that families with children are adequately served.

B. The State Housing Agencies have agreed to conduct their activities in accordance with the action steps set forth in the AI.

C. This Agreement sets forth certain agreements and commitments among the State Housing Agencies with respect to this effort.

Definitions

1) "Affordable" - For the purposes of this Agreement, the term "Affordable" shall mean that the development will have units that meet the eligibility requirements for inclusion on the Subsidized Housing Inventory ("SHI").

2) "Production Development" - For purposes of this Agreement "Production Development" is defined as new construction or adaptive reuse of a non-residential building and shall include rehabilitation projects if the property has been vacant for two (2) or more years or if the property has been condemned or made uninhabitable by fire or other casualty.



Appendix D

Properties at Cottages in the Woods Unit Breakdown

<u>Parcel ID</u>	<u>Location</u>	<u>Built</u> <u>Type</u>	<u>Total Value</u>	<u>Beds</u> <u>Baths</u>	<u>Lot size</u> <u>Fin area</u>	<u>Sale date</u> <u>Sale price</u>
<u>022</u> <u>0003</u> <u>0120</u>	<u>2 ADELINE LN</u>	<u>2010</u> <u>CONDO DETACH</u>	\$177,200	3 2	0 1,256	<u>10/24/2012</u> \$168,500
<u>022</u> <u>0003</u> <u>0119</u>	<u>4 ADELINE LN</u>	<u>2010</u> <u>CONDO DETACH</u>	\$158,900	2 1	0 926	<u>8/10/2018</u> \$160,893
<u>022</u> <u>0003</u> <u>0118</u>	<u>6 ADELINE LN</u>	<u>2010</u> <u>CONDO DETACH</u>	\$198,100	3 2	0 1,260	<u>9/27/2017</u> \$178,661
<u>022</u> <u>0003</u> <u>0100</u>	<u>LOT G-1 BOSTON RD</u>	<u>[full parcel]</u>	\$0		240,887	<u>10/19/2010</u> \$1
<u>022</u> <u>0003</u> <u>0101</u>	<u>2 JOE'S WAY</u>	<u>2011</u> <u>CONDO DETACH</u>	\$181,300	2 1	0 869	<u>9/8/2017</u> \$163,854
<u>022</u> <u>0003</u> <u>0102</u>	<u>4 JOE'S WAY</u>	<u>2011</u> <u>CONDO DETACH</u>	\$170,900	2 1	0 970	<u>2/19/2019</u> \$172,856
<u>022</u> <u>0003</u> <u>0103</u>	<u>6 JOE'S WAY</u>	<u>2011</u> <u>CONDO DETACH</u>	\$185,100	3 1	240,887 1,240	<u>12/2/2015</u> \$183,787
<u>022</u> <u>0003</u> <u>0104</u>	<u>8 JOE'S WAY</u>	<u>2011</u> <u>CONDO DETACH</u>	\$180,200	2 1	0 716	<u>1/26/2021</u> \$192,618
<u>022</u> <u>0003</u> <u>0116</u>	<u>1 PORTER RD</u>	<u>2010</u> <u>CONDO DETACH</u>	\$177,300	3 1	0 980	<u>7/18/2012</u> \$168,500
<u>022</u> <u>0003</u> <u>0111</u>	<u>10 PORTER RD</u>	<u>2013</u> <u>CONDO DETACH</u>	\$181,100	2 1	0 934	<u>1/31/2014</u> \$151,000
<u>022</u> <u>0003</u> <u>0110</u>	<u>12 PORTER RD</u>	<u>2013</u> <u>CONDO DETACH</u>	\$218,900	2 2	0 1,280	<u>4/18/2014</u> \$168,500
<u>022</u> <u>0003</u> <u>0109</u>	<u>14 PORTER RD</u>	<u>2013</u> <u>CONDO DETACH</u>	\$180,900	2 1	0 935	<u>8/21/2013</u> \$151,000
<u>022</u> <u>0003</u> <u>0108</u>	<u>16 PORTER RD</u>	<u>2013</u> <u>CONDO DETACH</u>	\$181,400	3 2	0 1,250	<u>6/7/2013</u> \$168,500
		<u>2012</u>	\$180,800	3	0	<u>7/2/2013</u>

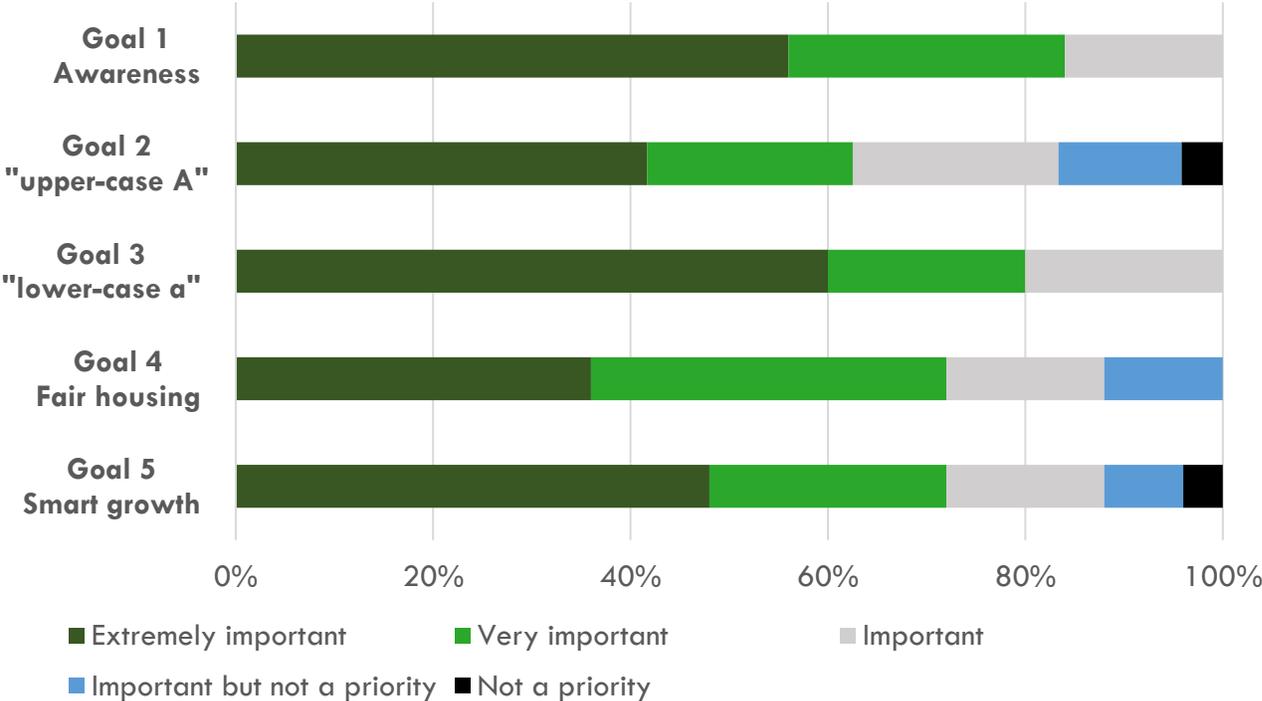
022 0003 0107	18 PORTER RD	CONDO DETACH		1	980	\$168,500
022 0003 0115	2 PORTER RD	CONDO DETACH	2013 \$198,000	3 2	0 1,280	3/18/2019 \$200,945
022 0003 0106	20 PORTER RD	CONDO DETACH	2013 \$185,100	2 1	0 918	8/19/2016 \$154,775
022 0003 0105	22 PORTER RD	CONDO DETACH	2013 \$183,700	3 2	0 1,280	9/30/2013 \$168,500
022 0003 0117	3 PORTER RD	CONDO DETACH	2010 \$177,300	2 1	0 868	7/13/2012 \$151,000
022 0003 0114	4 PORTER RD	CONDO DETACH	2012 \$178,000	2 1	0 909	3/18/2019 \$179,338
022 0003 0113	6 PORTER RD	CONDO DETACH	2013 \$181,600	2 1	0 869	1/7/2016 \$164,025
022 0003 0112	8 PORTER RD	CONDO DETACH	2013 \$180,900	3 1	0 980	8/19/2013 \$168,500

Appendix E

Public Input on HPP Goals

The project team and Advisory Committee used the first public forum to gather input on a vision for the HPP. This meeting focused on understanding what Carlisle residents valued and how they would like a housing plan to support their interests for the town. Input on the HPP goals was collected in Zoom breakout room discussions and then a poll with the full audience. As the graph below shows, the proposed HPP goals were widely supported with all of them being considered extremely important, very important, or important by at least 80% of participants. Based on these results and the HPP analysis, the Advisory Committee decided to finalize these goals and used them as a framework for thinking about HPP strategies.

Input on HPP Goals, Public Forum I

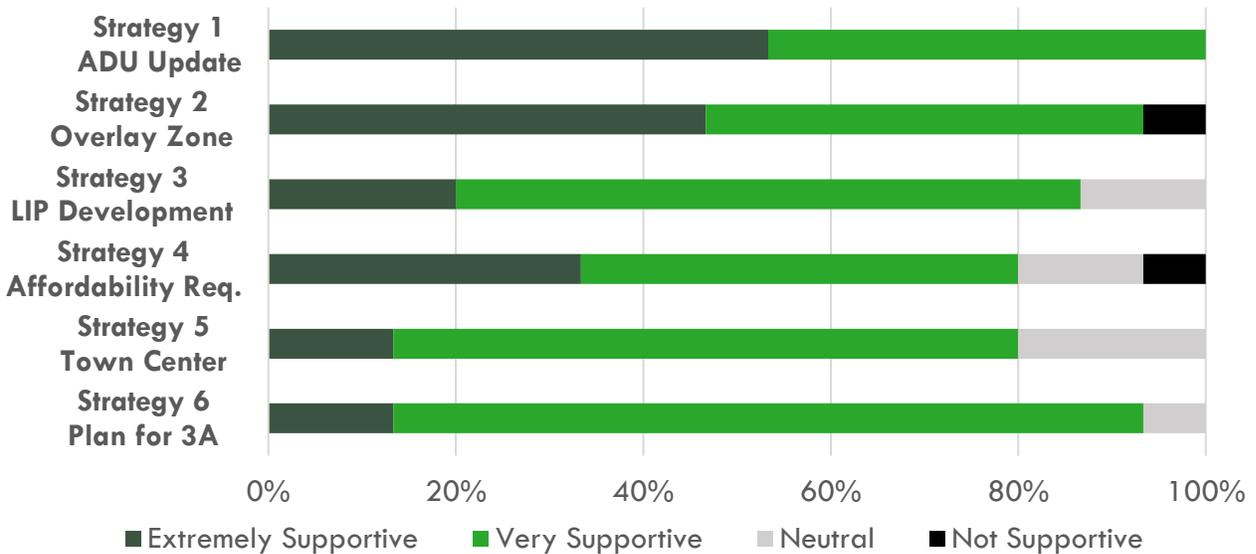


HPP Goals and Strategies Proposed at Public Forum II

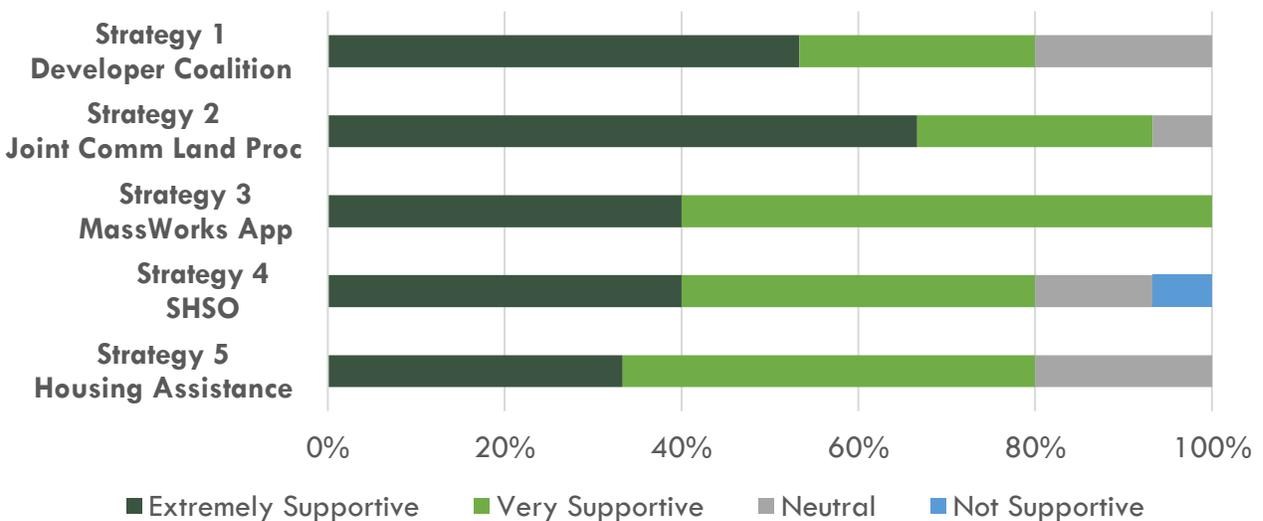
At the second public forum, the project team gave an overview of 11 HPP strategies that work towards the five HPP goals established after the first public forum. The first set of proposed strategies are focused on actions the Town of Carlisle can take while the second set are tailored for the Carlisle Affordable Housing Trust (CAHT). After receiving an overview of the proposed strategies, public forum II participants discussed the strategies in Zoom breakout rooms and then returned to the main room for polling. The graphs on the next page summarize the poll results. As with the proposed HPP goals, the strategies received wide

public support. Finalized HPP strategies are detailed and explained in the HPP Goals and Strategies Chapter beginning on Page 76.

Input on Town HPP Strategies Proposed at Public Forum II



Input on CAHT HPP Strategies Proposed at Public Forum II



Changes to Strategies Proposed at Public Forum II

Considering all the proposed strategies received public support, little changes were made to the final HPP strategies. Conversations in breakout room discussions and subsequent meetings with members of the Carlisle Planning Board did lead the Advisory Committee to downgrade proposed strategy 1 to update the Town’s accessory dwelling unit (ADU) bylaw from a priority strategy to a best practice. This strategy was replaced with a strategy to draft

a cluster/cottage housing bylaw. Information gathered from Planning Board members provided better understanding of Carlisle's current ADU bylaw, and it was determined that working towards a cluster/cottage housing bylaw would be more impactful and the Town should focus on this in the next five years.

Additionally, the Advisory Committee considered that several of the priority opportunity sites identified in the development opportunity analysis are site type two (2), and public input heavily favored cluster/cottage housing on these site types, as cluster/cottages won 29% of votes - the highest polling percentage for site type two (2), Cottage/cluster housing was a popular housing type across the board. This housing type also makes sense from a development feasibility standpoint. Because smaller homes are clustered around open space in this type of development, there is greater flexibility to address water and wastewater development constraints, such as with a leaching field. The advantages of cluster/cottage housing are discussed in detail within the case studies on Pages 48 through 60.

Appendix F

Context Community Analysis

The Carlisle Housing Production Plan (HPP) will compare the Town of Carlisle to several communities across several key indicators to better understand the demographics and housing of the town. These “context communities” will be discussed in the HPP’s Housing Needs and Demand Assessment and potentially when assessing Carlisle’s current and future housing policies.

This memo outlines the method of selecting context communities in Carlisle.

Method

To choose context communities for the HPP, MAPC takes the following steps:

1. Generate a list of potential context communities using qualitative assessment (MAPC community types, small communities with infrastructure limitations).
2. Use MAPC’s submarkets analysis and total population count to filter a shorter list of potential communities.
3. Pull key indicators on communities identified in steps (1) and (2). See below for indicators.
4. For each indicator, qualitatively establish a range of values that count as similar to Carlisle’s value for that indicator.
5. Rate whether a community is similar or dissimilar to Carlisle for each indicator, based on the value falls within the range established in step (4).
6. For each community, sum the number of indicators for which it is similar to Carlisle to create a “similarity score.”
7. Choose which communities will be context communities, based on their likeness score and other relevant qualitative and political factors.

Potential Context Communities

Using a qualitative assessment of other communities based on MAPC community subtype and significant infrastructure challenges, MAPC identified the following communities.

“Country suburb” communities:

- Bolton
- Boxboro
- Cohasset
- Dover
- Hopkinton
- Norwell
- Sherborn
- Stow
- Topsfield
- Wrentham

Other communities with limited sewer capacity:

- Bedford
- Essex
- Harvard²⁶

²⁶ Harvard is outside of the MAPC region so does not have a submarket analysis. It is included in the list of comparison communities due to qualitative similarity.

MAPC Submarkets and Population Size Filters

Reflecting the fact that housing contexts are not monolithic within municipal boundaries, MAPC has created an analysis of housing submarkets across greater Boston. “A housing submarket is a collection of neighborhoods—some next to each other, some not—with similar housing stock and housing market characteristics. These characteristics determine who can find, afford, and remain in suitable housing in that neighborhood. The neighborhoods in each submarket share common needs and challenges, regardless of geographic location.”²⁷ Carlisle is entirely composed of submarket 7. Other communities in the MAPC region that are composed solely of submarket 7 include:

- Bedford (also sewer match)
- Bellingham
- Bolton (also community type match)
- Essex (also sewer match)
- Holliston
- Hopkinton (also community type match)
- Littleton
- Lynnfield
- Medfield
- Middleton
- Mills
- Norfolk
- Norwell (also community type match)
- Scituate
- Sharon
- Sherborn (also community type match)
- Southboro

²⁷ (<https://housing-submarkets.mapc.org/submarkets>)

- Stow (also community type match)
- Sudbury
- Topsfield (also community type match)
- Wenham
- Westwood
- Wilmington
- Wrentham (also community type match)

With a total population of just over 5,000, Carlisle is smaller than many communities in the region (2020 Census Redistricting data). MAPC filtered the full list of potential context communities to those with a total population under 15,000, to yield a shorter list of communities with total populations sizes closer to Carlisle. These 18 communities are included in the remainder of this analysis:

- Bedford
- Bolton
- Essex
- Harvard
- Holliston
- Littleton
- Lynnfield
- Medfield
- Middleton
- Millis
- Norfolk
- Norwell
- Sherborn
- Southboro

- Stow
- Topsfield
- Wenham
- Wrentham

Indicators and Similarity Scores

Key Indicators to Compare to Carlisle

1. Total Population (Census Bureau Redistricting Data, 2020)
2. Percent Increase in Population, 2010–2020 (US Census, 2010; Census Bureau Redistricting Data, 2020)
3. Percent of population that is non-Latinx White (Census Bureau Redistricting Data, 2020)
4. Percent change in non-Latinx White population, 2010 - 2020 (ACS 5-year estimates 2010 – 2014 and Census Bureau Redistricting Data, 2020)
5. Percent of homes that are owner-occupied (ACS, 2014–2018 5-year estimates)
6. Percent of population with a disability (ACS, 2014–2018 5-year estimates)
7. Median household income (ACS, 2014–2018 5-year estimates)
8. Percent of low-income households that are housing cost-burdened (CHAS data, 2011–2015)
9. Percent of housing on the state Subsidized Housing Inventory (SHI) (DHCD, 2020)
10. Change in median single-family home sale price, 2010 - 2019 (Warren Group, 2019 and 2010)
11. Change in median rent, 2012 - 2018 (ACS 5-year estimates 2008 -2012 through 2014-2018)
12. Percent of housing stock built after 2010 (ACS, 2014–2018 5-year estimates)
13. Percent detached single family buildings (ACS, 2014–2018 5-year estimates)
14. Average household size (ACS, 2014–2018 5-year estimates)
15. Children (under age 18) and seniors (age 65 and older) as a percent of total population (ACS, 2014–2018 5-year estimates)

Table 1: Indicators for all potential context communities

Municipality	Total Population	Population change 2010 - 18	% of pop. non-Latinx White	Change in White pop. 2010-18	Homeownership rate	Change in school enrollment 2010-18	% of pop. With a Disability	Median household income	Rate of cost burden among LI households	Units on SHI	Change in home sale price 2010 - 19	Rent change 2012 - 18	Housing stock post-2010	Detached Single family homes	Average household size	Senior population (65+)	Child population (under 18)
Bedford	14,383	8%	74%	-9.68%	74%	12.84%	9.54%	\$129,726	77%	18.50%	209%	36%	5.28%	63.86%	2.62	18%	25%
Bolton	5,665	16%	87%	-6.97%	93%	#N/A	6.76%	\$155,093	86%	4.00%	68%	3%	5.90%	88.64%	3.10	13%	28%
Carlisle	5,237	8%	79%	-9.63%	94%	11.16%	6.40%	\$171,625	96%	3.40%	279%	-41%	2.69%	91.17%	2.84	18%	23%
Essex	3,675	5%	92%	-4.55%	83%	10.80%	11.39%	\$113,469	61%	2.70%	175%	-6%	5.17%	69.36%	2.60	17%	24%
Harvard	6,851	5%	78%	-3.21%	94%	17.28%	8.35%	\$148,625	73%	5.80%	20%	-8%	6.97%	86.79%	2.90	16%	22%
Holliston	14,996	11%	84%	-9.92%	90%	1.39%	7.19%	\$125,625	49%	4.80%	32%	12%	4.02%	82.94%	2.76	15%	26%
Littleton	10,141	14%	83%	-8.51%	85%	4.99%	12.53%	\$120,638	58%	13.20%	31%	123%	6.41%	85.79%	2.75	14%	23%
Lynnfield	13,000	12%	86%	-6.38%	88%	-4.59%	7.43%	\$132,632	82%	11.40%	43%	238%	5.03%	82.55%	2.85	19%	25%
Medfield	12,799	6%	87%	-3.98%	87%	11.50%	6.05%	\$155,039	73%	9.60%	23%	44%	4.12%	83.47%	3.06	12%	30%
Middleton	9,779	9%	84%	2.83%	89%	12.84%	12.63%	\$102,604	59%	5.20%	51%	71%	5.11%	67.42%	2.91	19%	20%
Millis	8,460	7%	88%	-5.50%	83%	19.52%	8.43%	\$106,336	82%	3.90%	43%	30%	2.53%	70.33%	2.71	17%	22%
Norfolk	11,662	4%	84%	-1.80%	96%	-2.77%	6.84%	\$146,607	70%	6.00%	42%	115%	6.83%	90.68%	2.99	13%	22%
Norwell	11,351	8%	91%	-4.62%	93%	-5.68%	7.63%	\$151,306	70%	4.90%	34%	-64%	4.00%	92.76%	2.93	17%	28%
Sherborn	4,401	7%	82%	12.30%	93%	-3.95%	5.00%	\$180,769	88%	2.30%	22%	-33%	1.35%	93.89%	2.76	17%	28%
Southborough	10,450	7%	75%	-6.78%	90%	14.67%	7.94%	\$145,079	68%	8.60%	19%	-2%	5.82%	83.98%	2.84	14%	27%

Stow	7,174	9%	86%	-7.02%	88%	9.91%	6.37%	\$145,967	58%	7.20%	24%	5%	9.94%	79.17%	2.75	17%	26%
Topsfield	6,569	8%	90%	-4.82%	91%	-0.15%	12.58%	\$136,812	48%	8.70%	47%	-100%	6.62%	84.60%	2.98	23%	26%
Wenham	4,979	2%	87%	-6.80%	91%	7.63%	8.08%	\$109,712	74%	9.10%	47%	58%	1.79%	74.73%	2.62	16%	17%
Wrentham	12,178	11%	90%	-8.30%	83%	-	22.54%	\$113,017	67%	11.30%	43%	27%	2.59%	78.73%	2.75	14%	26%

MAPC then determined a range of values for each indicator that would be considered similar to Carlisle. This determination was qualitative. (See Table 2) For most indicators, a community was given the score 1 if that indicator's value fell within the range determined to be similar to Carlisle. Total population and Units on the SHI were weighted more heavily, with communities with similar values to Carlisle receiving a score of 1.2 (See Table 3).

Table 2: Similarity range for all indicators

Municipality	Total Population	Population change 2010 - 18	% of pop. non-Latinx White	Change in White pop. 2010-18	Homeownership rate	Change in school enrollment 2010 - 20	% of pop. With a Disability	Median household income	Rate of cost burden among LI households	Units on SHI	Change in home sale price 2010 - 19	Rent change 2012 - 18	Housing stock post-2010	Detached Single family homes	Average household size	Senior population (65+)	Child population (under 18)
Carlisle	5,237	8%	79%	-	94%	-	6.40%	\$171,625	96%	3.40%	279%	-41%	2.69%	91.17%	2.84	18%	23%
Maximum	8,000	12%	85%	-6%	97%	+5%	10%	190,000	100%	5%	348%	50%	5%	100%	2.92	19%	25%
Minimum	2,000	4%	73%	-12%	85%	-15%	2%	150,000	79%	0%	100%	50%	0%	85%	2.76	17%	21%

Table 3: Similarity to Carlisle
(0 = does not fall in similarity range, 1 or 1.2 = falls in similarity range)

Municipality	Total Population	Population change 2010 - 18	% of pop. non-Latinx White	Change in White pop. 2010-18	Homeownership rate	Change in school enrollment 2010 - 20	% of pop. With a Disability	Median household income	Rate of cost burden among LI households	Units on SHI	Change in home sale price 2010 - 19	Rent change 2012 - 18	Housing stock post-2010	Detached Single family homes	Average household size	Senior population (65+)	Child population (under 18)
Bedford	0	1	1	1	0	0	1	0	0	0	1	1	0	0	0	1	0
Bolton	1.2	0	0	1	1	#N/A	1	1	1	1.2	0	1	0	1	0	0	0
Essex	1.2	1	0	0	0	0	0	0	0	1.2	1	1	0	0	0	1	1
Harvard	0	1	1	0	1	0	1	0	0	0	0	1	0	1	1	0	1
Holliston	0	1	1	1	1	1	1	0	0	1.2	0	1	1	0	1	0	0
Littleton	0	0	1	1	1	1	0	0	0	0	0	0	0	1	0	0	1
Lynnfield	0	0	0	1	1	1	1	0	1	0	0	0	1	0	1	1	1
Medfield	0	1	0	0	1	1	1	1	0	0	0	1	1	0	0	0	0
Middleton	0	1	1	0	1	1	0	0	0	0	0	0	0	0	1	1	0
Millis	0	1	0	0	0	0	1	0	1	1.2	0	1	1	0	0	1	1
Norfolk	0	0	1	0	1	1	1	0	0	0	0	0	0	1	0	0	1
Norwell	0	1	0	0	1	1	1	1	0	1.2	0	0	1	1	0	1	0
Sherborn	1.2	1	1	0	1	1	1	1	1	1.2	0	1	1	1	1	0	0
Southborough	0	1	1	1	1	1	1	0	0	0	0	1	0	0	1	0	0
Stow	1.2	1	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0
Topsfield	1.2	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
Wenham	1.2	0	0	1	1	0	1	0	0	0	0	0	1	0	0	0	0
Wrentham	0	1	0	1	0	0	1	0	0	0	0	1	1	0	0	0	0

The values in Table 3 were then summed to arrive at a “similarity score” relative to Carlisle. The higher the similarity score, the more similar (in theory) that community is to Carlisle.

Table 4: Communities by similarity score; with sewer and water capacities

Community	Similarity Score	Sewer Capacity (MAPC data)²⁸	Drinking Water Supply (MAPC)
Sherborn	16.4	Septic	Groundwater
Bolton	12.4	Mix: Sewer (municipal buildings), Septic (all other)	Unknown
Southborough	12.0	Septic	Some Surface Water
Holliston	11.2	Mix: Sewer (municipal buildings); Septic (all other)	Some Public Water Supply
Harvard	11.0	Unknown (outside MAPC region)	
Medfield	11.0	Sewer	Public Water Supply
Norwell	10.2	Septic	Groundwater
Lynnfield	10.0	Mix of sewer and septic	Unknown
Norfolk	10.0	Mix: Sewer & small WWTP for denser sites, septic elsewhere	Groundwater
Millis	8.2	Sewer	Public Water Supply
Stow	8.2	Septic	Groundwater
Bedford	8.0	Sewer	Surface Water
Essex	7.4	Mix: Town sewer & some septic	Unknown
Littleton	7.0	Mix: Septic systems, some sewer in town center	Groundwater
Middleton	6.0	Septic	Surface Water
Topsfield	5.2	Septic	Groundwater
Wenham	5.2	Mix of sewer and septic	Unknown
Wrentham	5.0	Septic	Groundwater

²⁸ Carlisle is on a septic system; and uses Groundwater as drinking supply

Choosing Context Communities

MAPC reviewed the potential context communities, the values for each indicator, and the similarity scores. Based on this information, qualitative assessment from the Advisory Committee of how these context communities would be received, and consideration of how useful each community's comparison to Carlisle would be in this planning process, MAPC and Town staff narrowed the list to the following context communities:

- Sherborn
- Bolton
- Southborough
- Holliston
- Harvard
- Norwell
- Lynnfield
- Norfolk

Appendix G

Site Types and Corresponding Housing Types | Poll Results

Public Input on Housing Types

The housing typologies below show the full range of housing types, running from smallest scale to largest. Several of the larger-scale housing types, such as Multifamily Over Parking, were removed from consideration because they were considered inappropriate for Carlisle based on land use patterns and given its small-town rural character. These housing types are faded in the diagram below and public input on these housing types was not collected.

Full Range of Housing Types

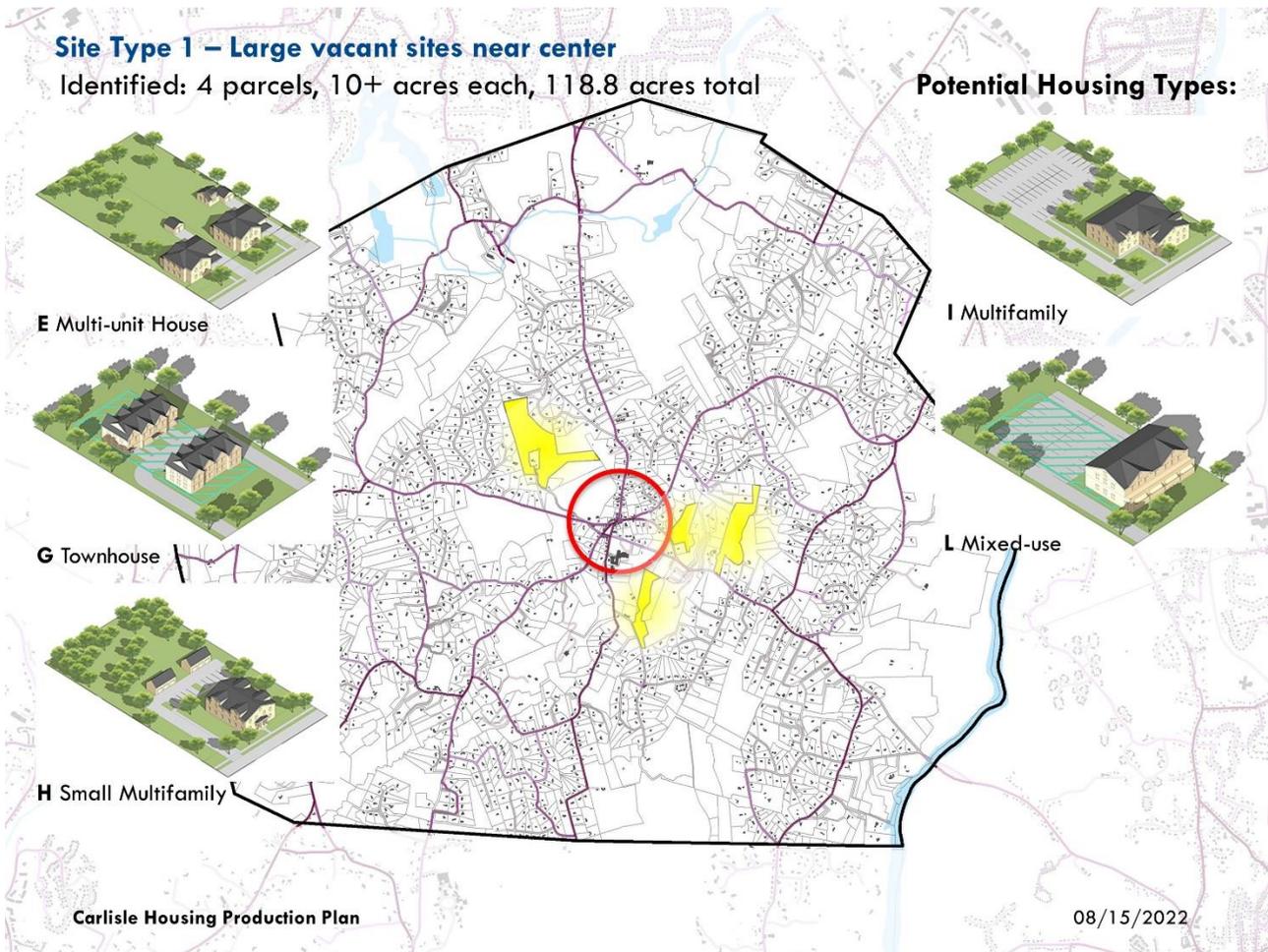


At the second public forum, the project team polled 36 participants to learn which of the highlighted housing types above they would like to see encouraged on the generalized site types established through the development opportunity analysis. This input was collected for site types one (1) through five (5). Participants were able to vote for as many housing types they believed were appropriate for each respective site type. The poll results are summarized on the next several pages.

Housing Type Poll Results for Site Type 1

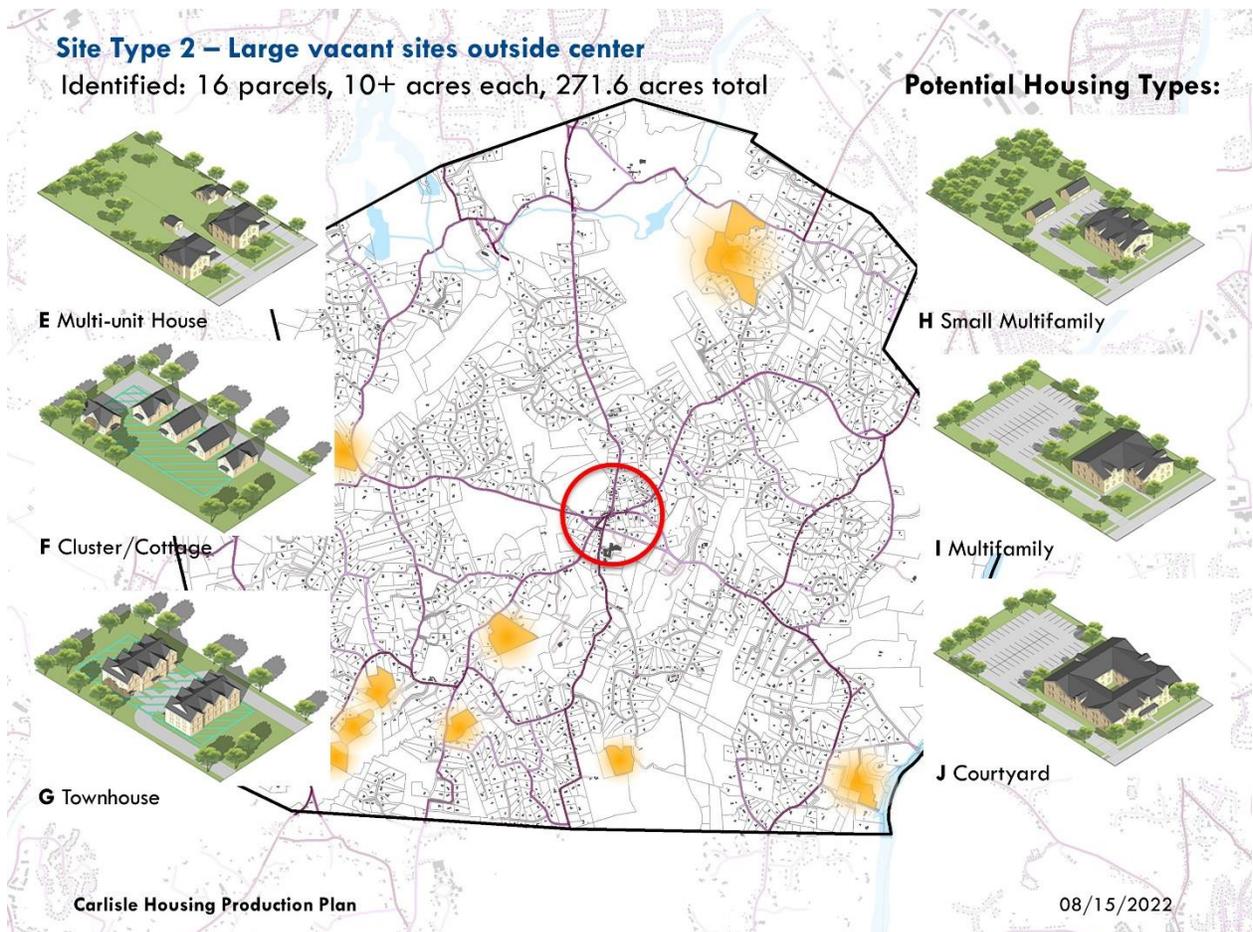
Small multifamily	27%
Multi-unit house	24%
Mixed-use	22%
Townhouse	16%
Multifamily	11%

NOTE: Polling results represent the percentage of total votes for each housing type. No housing was an option but was not selected for any site type.



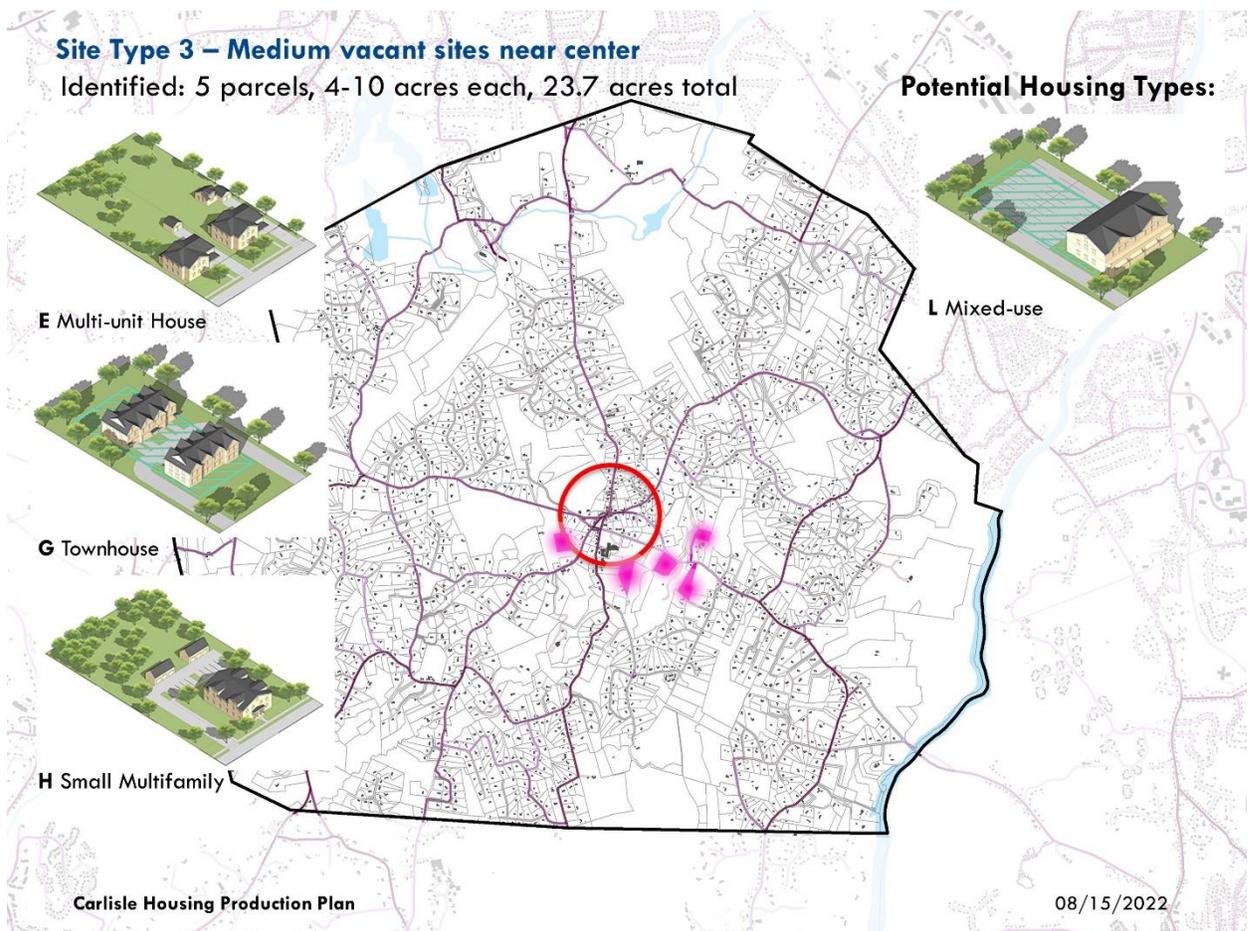
Housing Type Poll Results for Site Type 2

Cluster/Cottage	29%
Small Multifamily	23%
Multi-unit house	19%
Townhouse	13%
Multifamily	10%
Courtyard	6%



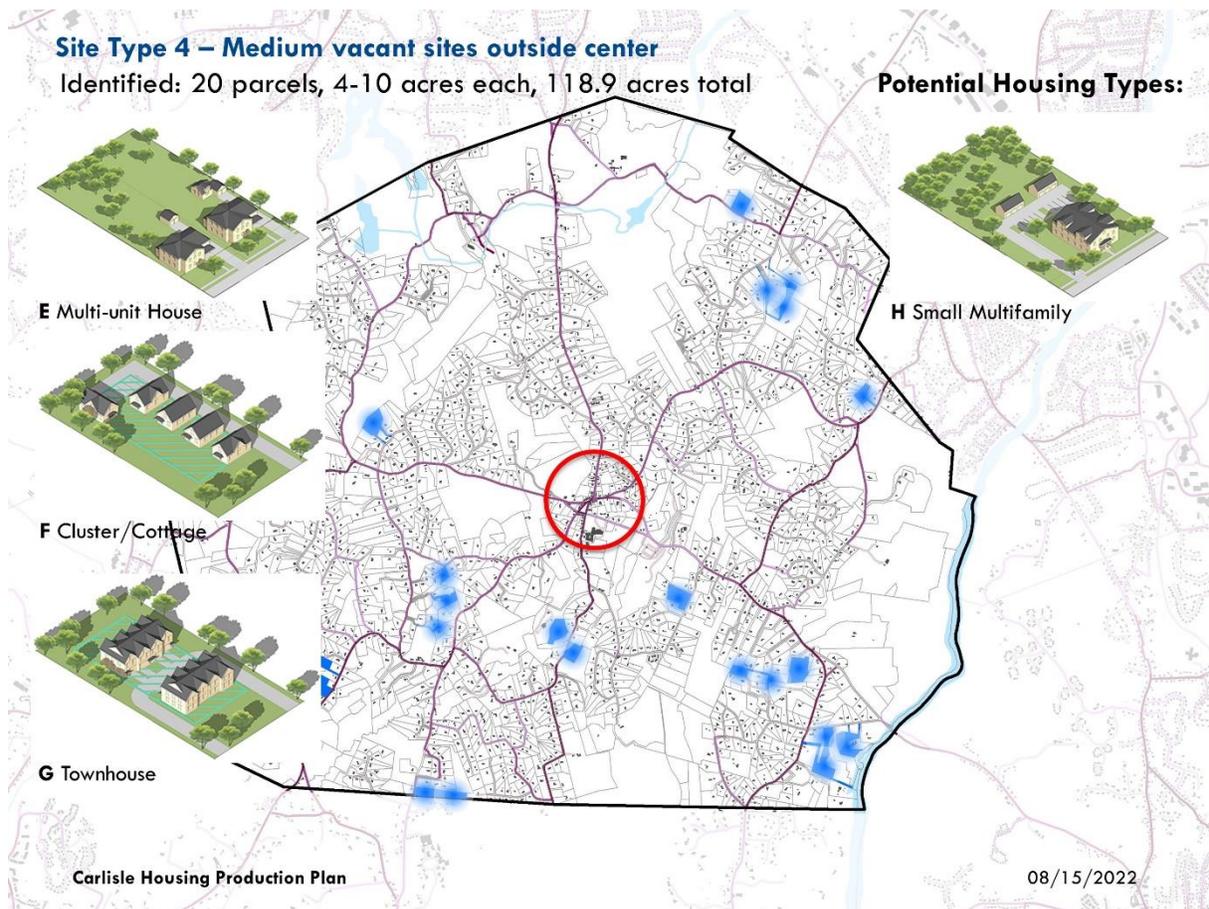
Housing Type Poll Results for Site Type 3

Small multifamily	35%
Mixed-use	26%
Multi-unit house	23%
Townhouse	16%



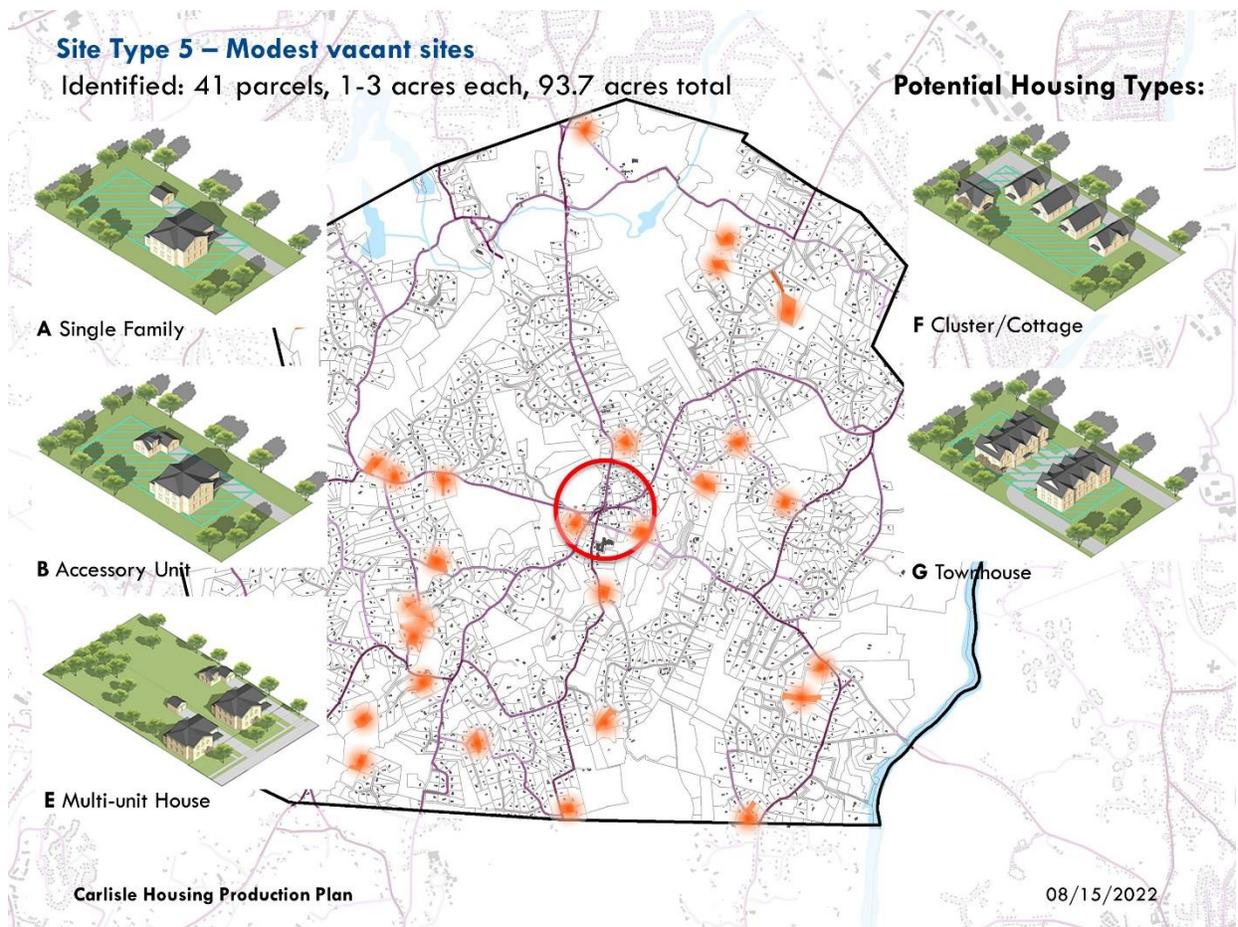
Housing Type Poll Results for Site Type 4

Cluster/cottage	34%
Small multifamily	26%
Multi-unit house	21%
Townhouse	18%



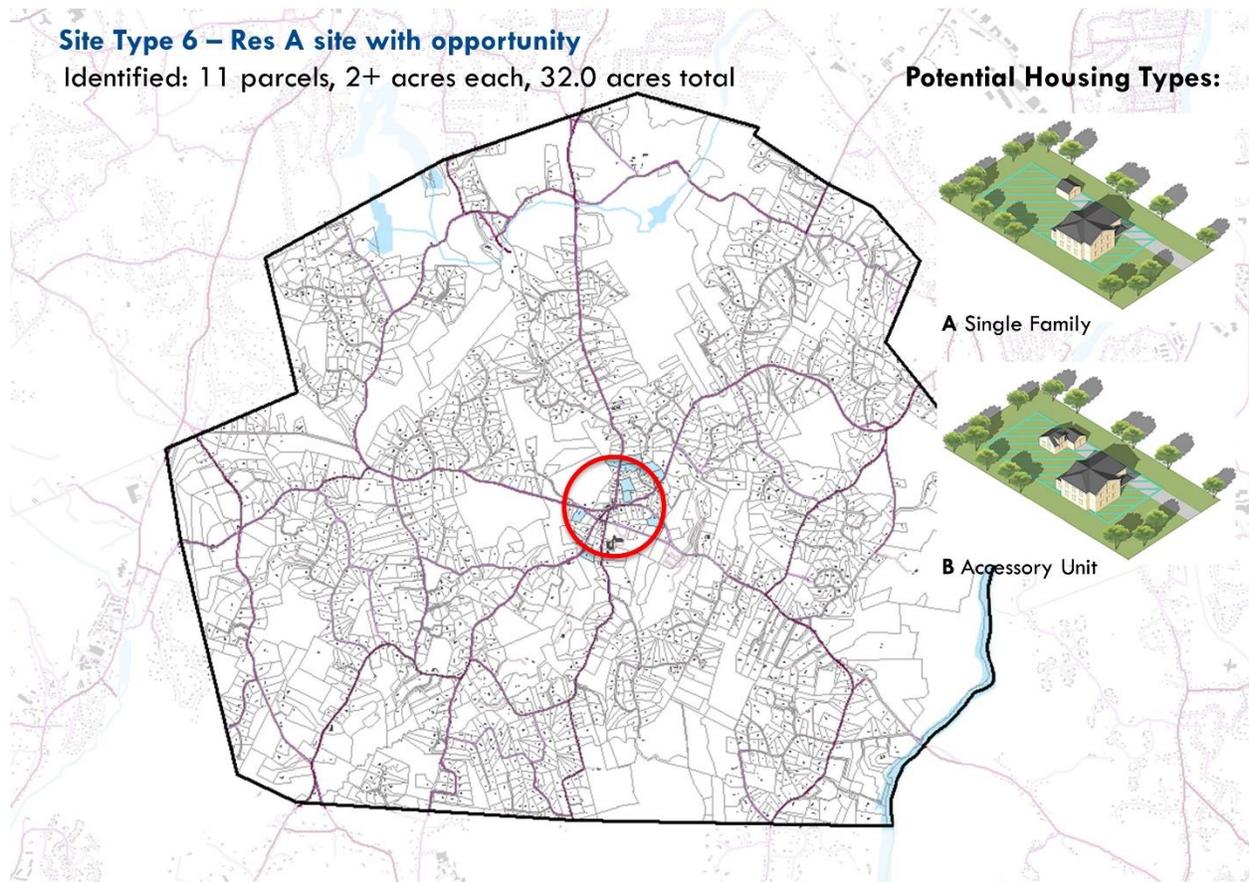
Housing Type Poll Results for Site Type 5

Accessory Unit	27%
Multi-unit House	24%
Single-family	19%
Cluster/cottage	19%
Townhouse	11%



Site Type 6

NOTE: Polling was not taken for site types six and seven because each show sites within the Residence A and Residence B single-family zoning districts that are currently occupied by homes. These sites present potential redevelopment, expansion, and infill opportunities for property owners if zoning requirements are relaxed to lower dimensional thresholds and allow for smaller diverse housing types (Town Recommendation 6). Potential housing types that would make sense from a land use standpoint are suggested here but aren't supported by polling.



Site Type 7 – Res B site with opportunity

Identified: 128 parcels, 4+ acres each, 1,031.5 acres total

Potential Housing Types:

