

SECTION 4: PLAN ELEMENTS

4.1 Cultural + Historic Resources

4.2 Economic Vitality

4.3 Housing

4.4 Land Use

4.5 Mobility + Transportation

4.6 Open Space + Natural Resources

4.7 Public Facilities + Infrastructure

4.8 Fiscal Planning

Each plan element section contains the following information:

- Introduction
- What the Community Said
- This “Element” Today (Existing Conditions)
- Goals + Policies, Strategies, and Actions
- Systems Matrix



Concord Center

SECTION 4.4 LAND USE

INTRODUCTION

This section has implications for all other Plan Element sections. The goals and recommendations for this CLRP must all be integrated into a land use plan for Concord to determine the best regulatory approach to achieve the desired land use patterns in the coming years. In addition to answering questions of “what uses?” and “where should certain uses be located?,” this section addresses the issue of how design in redevelopment or new development can be compatible with the existing physical character and the spirit of the town.

One of Concord’s most recognizable characteristics is the interplay of its land uses, including the historic and traditional town centers, concentrated commercial hubs surrounding its train stations, and the extensive amount of rural agricultural fields and conservation land. The majority of the town is composed of residential (mainly single family) uses. Immediately adjacent to the village centers, there are dense residential neighborhoods with homes of various ages and styles that largely define community character in those areas. There are also three industrial zones in Concord located along Route 62/Main Street, in West Concord by Baker Avenue/Route 2, and on the eastern side of the town adjacent to Hansom Air Force Base.

Concord’s zoning regulations have had regular amendments in the last decade to begin to address a variety of concerns. Recent amendments have responded to the replacement of smaller homes with larger houses, the need for mixed-use redevelopment and other types of development in the village centers (particularly West Concord Village), and climate-related issues, such as impacts on wetlands and flood plains. However, the general allowed uses have remained constant. As one of the Town’s main tools to maintain and direct uses the community wants, this comprehensive plan identifies changes to the zoning bylaws and historic preservation guidelines that focus on land use protection and allow specific development opportunities as articulated during the comprehensive planning process. More specific issues of natural resource protection, resilience planning, and recreational opportunities are covered in the Open Space + Natural Resources plan element.

Supporting land uses to help the Town achieve goals articulated in this plan provides the following benefits:

- Protects the land use characteristics that make Concord unique.
- Provides opportunities to allow for specific types of development to meet the goals articulated in the Open Space + Natural Resources, Housing, and Economic Vitality plan elements.
- Allows coordination of updated or new public facilities and infrastructure to meet current and future demand.
- Ensures that land uses are aligned with infrastructure services as well as public safety and social service areas.
- Allows the Town to be intentional with regard to strategies to meet sustainability goals by targeting desired footprints, desire to create wildlife corridors, clustering uses to reduce automobile dependence, and more.
- Takes the guesswork out of land use and development planning so that the Town can be proactive about attracting the types of uses and development it wants, while protecting and enhancing that which it holds dear.
- Identifies complementary incentives that tailor regulations to achieve desired development patterns.

This section offers recommendations for land use policies and actions, providing a guide for land use and regulatory decisions regarding location, patterns, distribution, protections, and density over time that will achieve the plan’s goals

WHAT THE COMMUNITY SAID...

October 2017 Envision Concord Survey Highlights

(Total of 458 Respondents from mid-September to mid-October 2017)

- Land Use alone as a category was noted as a medium priority to respondents.
- In the context of other categories, such as Open Space + Natural Resources, Housing, Economic Vitality, and Public Facilities + Infrastructure, there were many more specific comments, as described in individual plan element sections.
- Land use was considered moderately important to Concord's future as a desirable community to live/work (this is attributed to the fact that respondents had more specific opinions of land use when tied to another plan element such as open space or housing, than when it was presented as a "stand alone" element outside of context).

Envision Concord website and other input:

- Stop destruction of smaller homes and subsequent replacement with excessively large new construction.
- Big-box development apartment buildings/condos put pressure on Town services (schools/sewers) and don't fit in character of neighborhoods.
- Develop 2- or 3-unit residential units on second or third floors in business districts.
- Stop "growth" (not defined) – is it necessary?
- Land is expensive – this negatively impacts housing, commercial uses, open space/farmland acquisition.
- There's not much need for additional commercial growth beyond what the town already has.
- Re-development and renovation should be considered just as much or more than new development for adaptive reuse opportunities in already existing buildings – particularly but not exclusively near town centers.

LAND USE TODAY

Concord occupies approximately 26 square miles of land, which support a varied mix of land uses, including a relatively high proportion of land devoted to agriculture, forestry, and recreation. According to the 2015 Open Space & Recreation Plan (OSRP), 59% of Concord's total land area is considered open space, with 38% of all land in town listed as permanently protected open space. However, it is important to note that open space (both publicly and privately owned) comes in a variety of forms – from conservation land to golf course to playing fields and more – and land considered open space can sometimes have an alternately listed "primary use" in the tax assessment data.

From the Town's GIS and tax assessment data, the largest single use within Concord is forest and recreational lands (approximately 38%) closely followed by single-family housing (just over 36%). Commercial and industrial land uses comprise 2.4% of the town land. Centers of commercial activity include Concord Center, Thoreau Street Depot Area, and West Concord Village. Agricultural and horticultural lands make up 4.5% of land in the town. Most important for the purposes of this CLRP are the trends seen since the 2005 CLRP, with losses of Chapter 61A land as described in this section. Through land acquisition and other protection mechanisms, the Town has worked diligently to maintain a stable number of acres of forest, agricultural/horticultural, and recreational land in the face of single-family home development. The recommendations of this report support ongoing policies, priorities, and fiscal decisions that seek to preserve the natural and agricultural character of the town for the benefit of residents, wildlife, climate resilience, and a host of other goals. At the same time, these recommendations acknowledge the need to support a healthy tax base and direct development and commercial activity to appropriate areas that support the sustainability goals adopted by the Town.

Land Use Category	%	Acres
Hanscom Field/Airbase	2.6%	423
Agriculture/Horticulture	4.5%	746
Civic/Institution	6.5%	1,074
Commercial	1.8%	305
Industrial	0.6%	107
Forest (Ch. 61)/ Recreational (Ch. 61B)	38.7%	6,390
Residential - Multifamily (2-3 Units)	0.4%	67
Residential - Multifamily (4+ Units)	1.1%	177
Residential - Single Family	36.8%	6,080
Unlabeled Parcels/ Roadways	6.9%	1,137
Total:	100%	16,505

Table 7: Land Area Distribution by Land Use

Source: Town of Concord GIS and Tax Assessment Data. *Since there is no specific Open Space zoning category, tax assessment classification and data were used to identify open space parcels. Areas used or considered open space or agricultural are sometimes categorized as other uses that are on the same parcel. † There is a small margin of error for acreage numbers through GIS.

Type	%	Acres
Term (Limited)	6.4%	162
Perpetual	92.7%	2,356
Unknown	0.9%	24
Total	100%	2,542

Table 8: Conservation Land by Protection Timeframe

Source: Town of Concord GIS and Tax Assessment Data

An Explanation of Land Use Designations and Calculations...

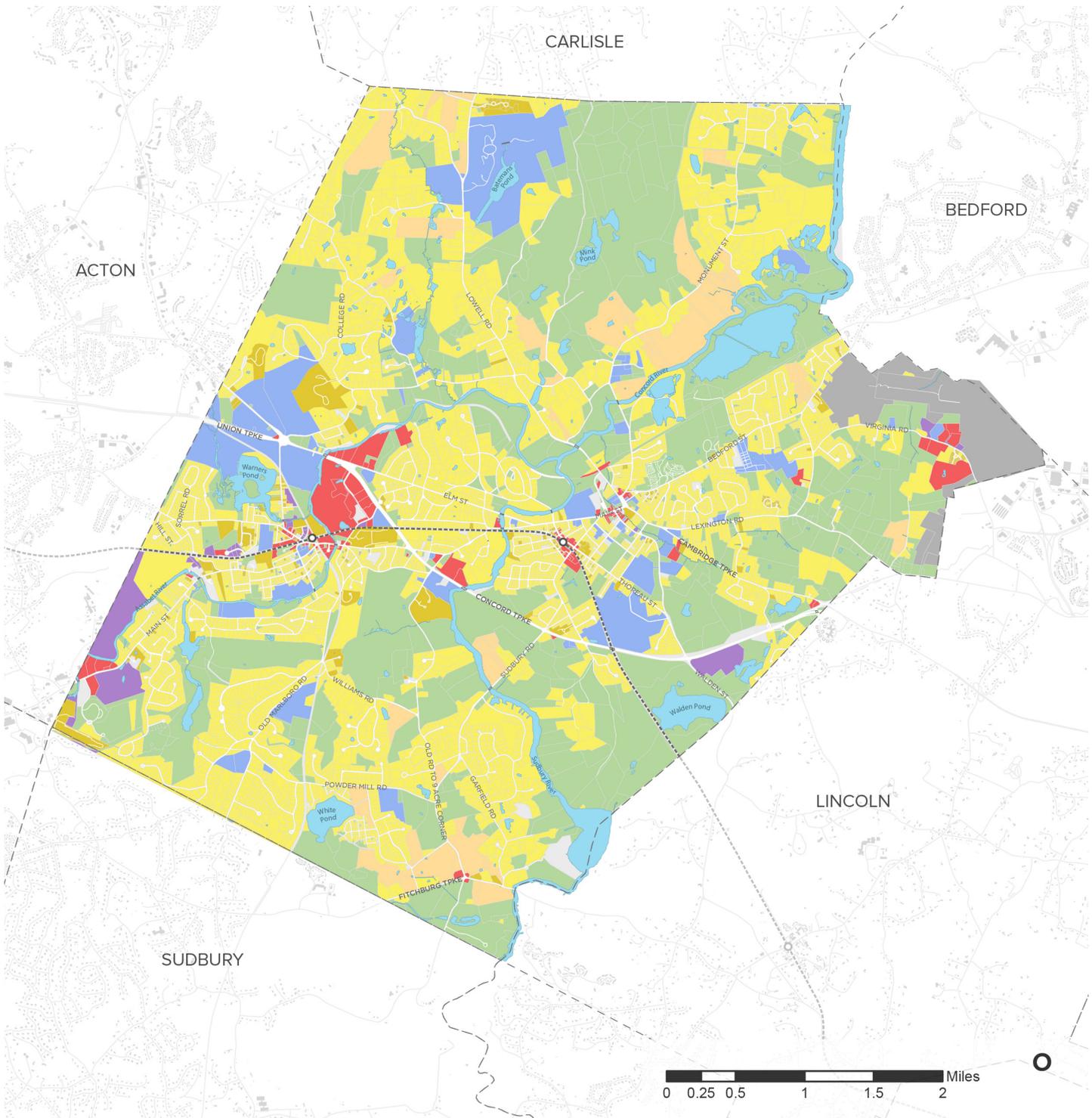
Open space is land that is primarily undeveloped (has few or no buildings or other built structures), is under public or private ownership, is permanently or temporarily protected from development and may or may not be publicly accessible.

Permanently protected land is land that is restricted from further development in perpetuity (such as with a Conservation Restriction or Agricultural Preservation Restriction) or has been acquired with funds designated to permanently protect a resource. Such land cannot be reconsidered for development without Town Meeting and State Legislative authorization to remove the permanent protection.

Protected land is essential to Concord's appearance, economy, and well-being. Conservation land helps maintain the town's character, provides adequate land area for outdoor recreation, and protects important wildlife habitat. Protected farmland provides a permanent base on which present and future farm businesses depend. Protected land also ensures clean water for wells and reservoirs supplying Town drinking water.

For this Plan, land use figures and percentages were calculated using Town GIS and 2017 Tax Assessment data. Therefore, each parcel is counted towards only one specific land use based on its "primary use" category, with the sum of all parcels equating roughly to the Town's overall land area.³ Parcels containing such uses as the Middlesex School or Reformatory Farms thus are considered civic/institutional use (and not forest or agricultural land despite containing these uses). As a result, the total open space figures listed in the 2015 OSRP are higher than the total lands labeled as Agricultural/Horticultural and Forest/Recreational, because they include residential, civic/institution,

³ "Primary use" categories utilized data in the field "USE_CODE" from MassGIS' standardized "Level 3" assessors' parcel mapping data set. This is defined as "Land use code as set by the Dept. of Revenue."



Land Use

 Residential (Single-family)	 Industrial	 Agricultural / Horticultural (Ch 61A)
 Residential (Multi-family)	 Civic / Institution	 Hanscom Airforce Base
 Commercial	 Forest (Ch 61) / Recreational (Ch 61B)	 Unlabeled / Roads

Figure 22 Land Use by Tax Assessment Category (Source: Town of Concord GIS and 2017 Assessment Data)

Development of Chapter 61, 61A and 61B Land

Portions of Concord’s land are currently under MGL Chapters 61, 61A, and 61B, which are voluntary programs where landowners of forestry (10 acres or more) or of agriculture or recreational land (five acres or more) can receive a reduction in property taxes in exchange for the Town being given the right of first refusal if the land is either sold or a change of use is planned while the landowner participates in the program. Some, but not all of the Chapter 61 land is permanently conserved.

There has been a modest increase in the overall number of acres of land under Chapter 61 since 2005. As anticipated in the 2005 CLRP, the trend of single-family home development has continued, and there have been more properties removed from Chapter 61A land, with the 2020 projection of a loss of about 700 acres to residential development. Fortunately, the Town has been diligently working with farmers and property owners to reduce the pace of the loss of 61A land. With a doubling of Chapter 61 (Forest) land and a modest increase in Chapter 61B (Recreational) land, the total number of acres participating in the program has remained fairly stable.

Category	# Parcels	Total Acres 2017	Total Acres 2005
Ch. 61 (Forest)	16	485	200
Ch. 61A (Agricultural)	62	771	1,053
Ch. 61B (Recreational)	35	845	771
Total	113	2,101	2,024

Table 9: Land in Chapter 61, 61A and 61B

(Source: Town of Concord GIS)

Commercial and Industrial Uses

According to the tax assessment data, an estimated 305 acres are currently used for commercial purposes and approximately 107 acres are used for industrial purposes. However, this is somewhat inconsistent with zoning as approximately 149 acres (0.9%) are zoned for Business and Medical Professional uses and about 536 acres (3.2%) of land are designated for Industrial, Industrial Park, and Light Industrial Park uses. The discrepancy in zoned and allowed uses is likely due to industrially-zoned properties being used for less intensive uses such as commercial/offices – particularly along Baker Avenue and near Virginia Road by Hanscom Air Force Base.



Figure 23 2010 West Concord Graphic Master Plan (Source: Town of Concord, West Concord Graphic Master Plan, 2010)

West Concord

In West Concord, as identified in the West Concord Master Plan, the limited area zoned for commercial and industrial uses allows for easier distinction between potential sites for new development or redevelopment versus possible renovation and rehabilitation. The sites identified in Section 4.5 of the West Concord Master Plan were included in the Smart Growth Analysis contained in this section.

The West Concord Village Task Force’s [2010 West Concord Village Master Plan](#) described the following priorities within the village center:

- Improve flow and connectivity.
- New building development attuned to village scale and character.
- Focus on small business preservation and development.
- Model best practices in environmental sustainability.
- Enhance recreation and social engagement opportunities.

Additional key recommendations were made regarding:

- *Road Design and Traffic Circulation* through enhanced street function and design, new connectors for easier circulation, and updated intersections;
- *Commuter Rail* with modifications to the platform and accessible ramp and potential satellite commuter parking;
- *Parking* through management strategies to improve efficiency and design and encourage shared parking;
- *Pedestrian and Bicycle Circulation* with additional connections and safety features to connect open spaces and key destinations;
- *Streetscapes* to improve quality of design, pedestrian amenities, and safety;
- *Parks, Trails, and Open Space* to promote trail connections and enhancements between resources and access to the Assabet River, Nashoba Brook, and Warner's Pond;
- *Wastewater Treatment* in support of capital planning and initiatives for future implementation phases as well as alternative wastewater treatment options;
- *Local Business Retention and Expansion* to support economic diversity and activity with affordable business space as well as options for growth within the village center;
- *Land Use Policies and Regulation* to evaluate the mix of uses and current zoning and guidelines and gain consensus on a future vision for the WC businesses and industrial uses;
- *Future Development and Renovation* buildings and parcels identified for future renovation or redevelopment consideration; and
- *Implementation* to guide coordinated redevelopment and development, land use planning, and funding for recommended projects to achieve the goals of the Plan.

Population Projections Compared to Neighboring Communities

According to MAPC’s Metro Boston Population and Housing Projections, Concord’s population will continue to be stable, similar to Carlisle. In comparison, Acton, Bedford, and Lexington are projected to continue to grow, while Lincoln and Sudbury may experience a decline in population.

The number of households per town, however, shows a slightly different change, with Concord projected to have a modest increase in number of households, with only Lincoln possibly experiencing a decline in household numbers. From these figures, Concord’s population and household projections are in the middle of the range of projections for its neighbors, which appears to show a stable condition.

Given the slight growth in households projected, Concord will likely see a light increase in demand for housing in the near future. However, it is possible for the overall town population to increase very modestly without an increase in housing units with larger households moving into existing homes previously owned by smaller households.

Looking at MAPC’s “Status Quo” population projection for Concord by age, the shift in population is striking. In 2010, approximately 20% of Concord’s population were school-age children and 20% were adults age 65 years and older. The MAPC model projects that by 2030, approximately 14% of the town’s population will be of school-age and about 34% will be adults 65 years old and over. When considering a potentially substantial change in service and physical needs of the town’s residents, it would be beneficial for the Town to incorporate reliance on Town services as part of the analysis and review process for any redevelopment or development, specifically for housing to account for these population shifts.

Population Projections: Regional Comparison

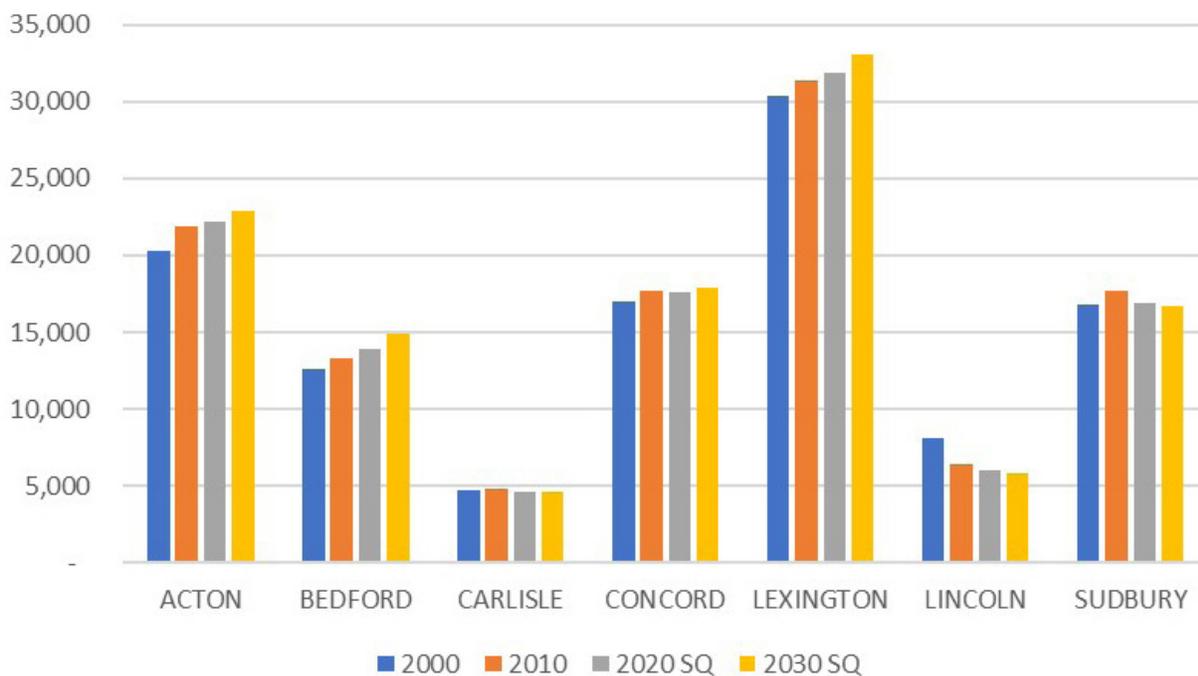


Figure 24 MAPC Population Projections for Concord and Neighboring Towns (Source: 2014 MAPC Metro Boston Population and Housing Demand Projections)

Household Percent Change 2010-2020 (MAPC Projections)

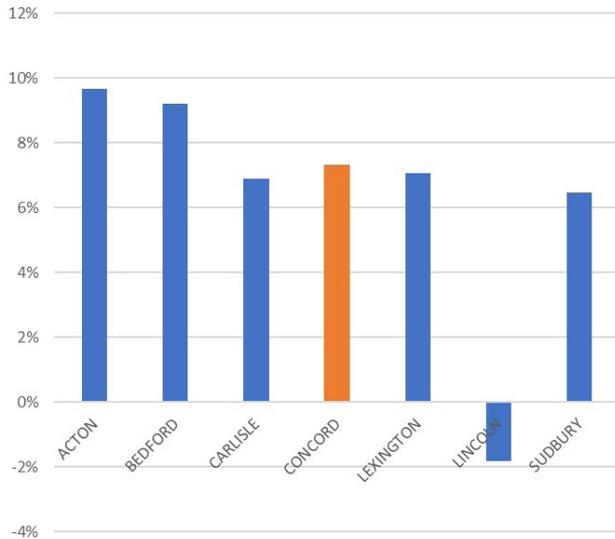


Figure 25 MAPC Projected Household Change in Concord and Neighboring Towns (Source: 2014 MAPC Metro Boston Population and Housing Demand Projections)

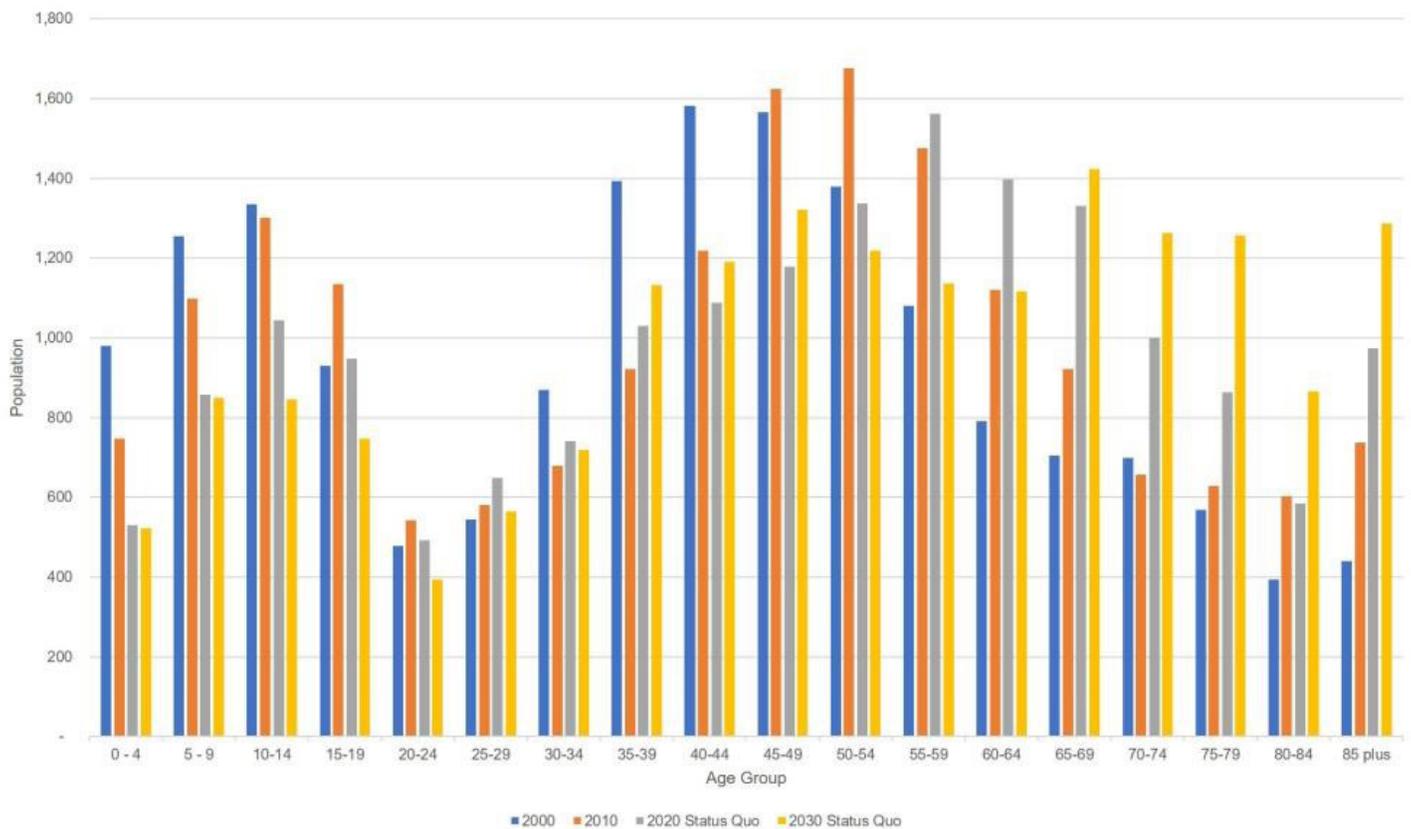


Figure 26 MAPC Projected Population in Concord by Age Group (Source: 2014 MAPC Metro Boston Population and Housing Demand Projections)

SMART GROWTH ANALYSIS

Before looking at how current development patterns can be shaped to achieve the goals expressed in this CLRP, it is worth reflecting on similar efforts from the 2005 plan. The 2005 CLRP's residential build-out analysis and projection was conducted and heavily influenced by the housing goal to reduce the 40B affordable housing deficit. Since 2011, the Town reached its ten percent goal, and with the 2015 HPP, has remained in compliance. However, it is important to note that even with a small or modest addition of new housing units, the Town will need to continue to add a proportionate number of affordable units to remain in compliance with the 40B ten percent threshold, which the Town will be able to balance with the proposed assisted living development of Junction Village.

The residential and mixed-use in village centers analysis conducted for this plan had a different focus than the 2005 plan which was informed by the systems approach of this planning process. "Smart Growth" is an approach to development that concentrates growth in and around existing town centers to utilize existing infrastructure, transportation options, and community amenities while protecting natural resources. The parameters for the Smart Growth analysis were informed by four high priorities that emerged from the public outreach process:

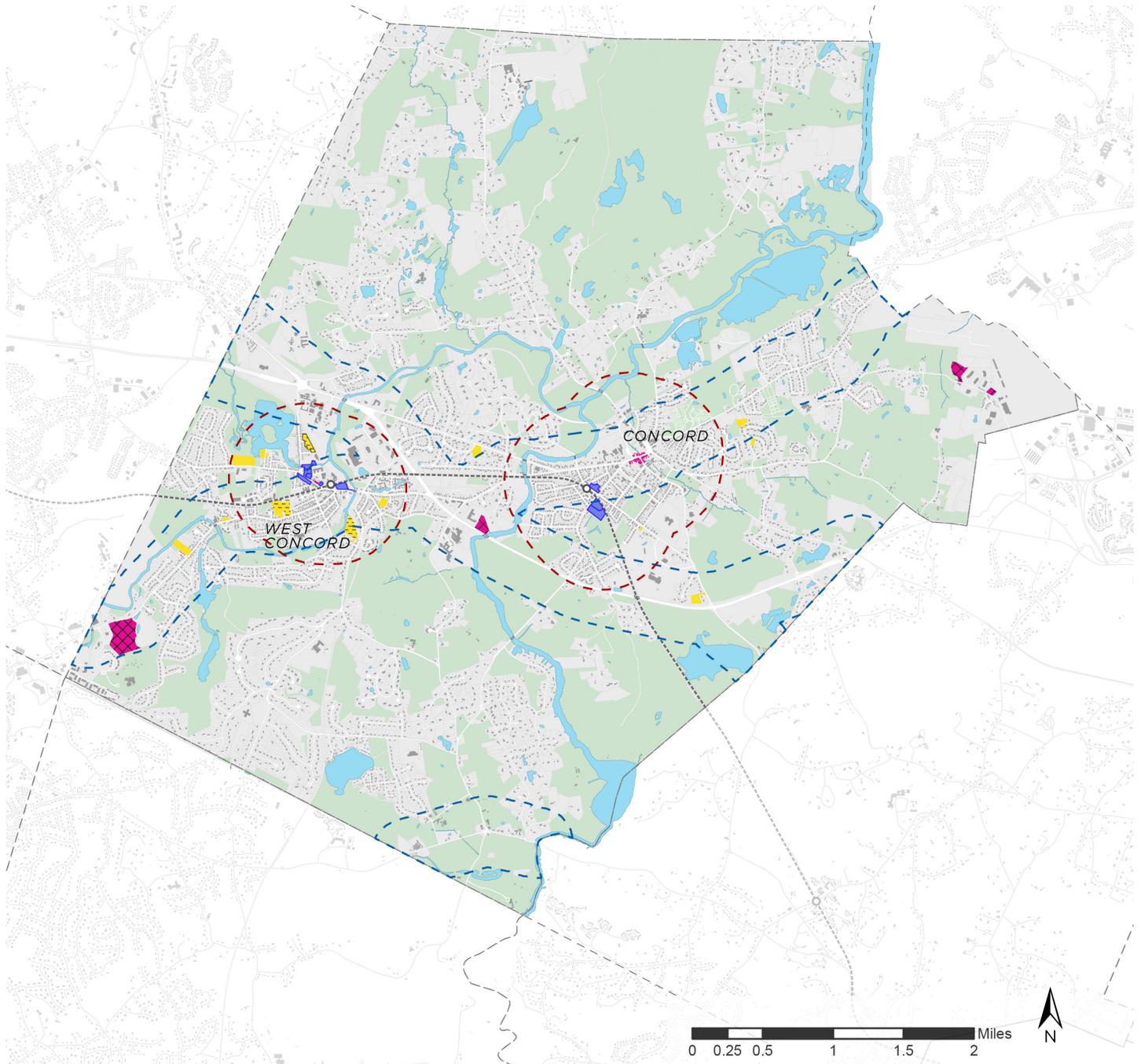
- Protect the historic, natural, and agricultural character of the town, including sustainable development practices.
- Support the independent businesses, cultural and historic organizations, and character of the town commercial centers.
- Provide more housing choice to allow Concord residents to remain in Concord and provide housing for a diversity of residents, including young professionals and families, empty nesters, seniors, and those increasingly squeezed out by high housing costs.
- Embrace fiscally responsible decisions to achieve goals.

The Smart Growth analysis focused on targeting areas appropriate to meeting the above goals. Therefore, the following assumptions were made:

New development, if it occurs, should be targeted near the existing denser areas of commercial and residential uses to:

- Take advantage of existing infrastructure and roadway networks.

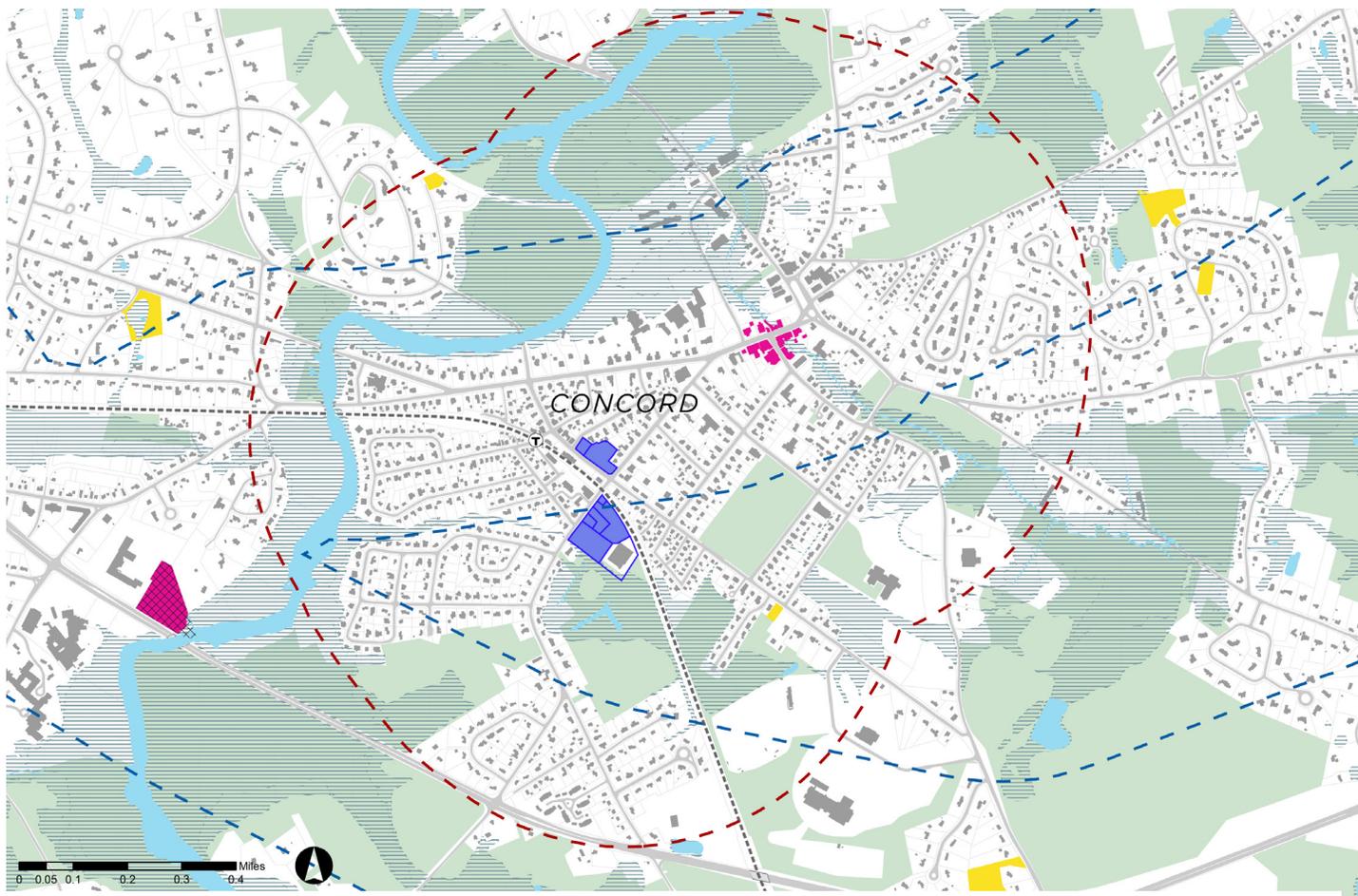
- Provide social connectivity for the goods and services residents need.
- Promote walkable, sustainable development.
- Encourage use of transit and less dependence on vehicles.
- Support existing businesses by providing more foot traffic and "market area" of customers.
- Avoid development on larger undeveloped parcels of land (outside of the development focus areas) that are contiguous with wetlands, flood plains, difficult topography or soils, and open space to protect wildlife and natural habitat corridors and avoid hopscotch development that erodes the rural character and landscape of the town.
- Focus on undeveloped or underdeveloped parcels that are 2+ acres for small-home neighborhoods or co-housing-type communities with possible mixed-use that are within ½-mile radius of a village center, or within ¼-mile of a major roadway.
- Concentrate residential, mixed-use, or commercial uses in the parcels identified by the Town as vacant and developable within the focus areas.
- Explore the potential addition of upper floors on existing buildings meeting certain criteria within the focus areas.
- Identify appropriate development or redevelopment parcels for small-home neighborhoods or co-housing-type communities, mixed-use opportunities, and commercial uses so clear policies can be articulated about the limits to development in other areas. (See following Goals + Policies, Strategies, and Actions.)



Smart Growth

- | | | |
|--------------------------------------|---------------------------------------|---------------------------------------|
| 1/4 Mile Buffer- Class 2 and 3 Roads | Commercial - Upper Floor Addition | Residential - Cluster Opportunity |
| 1/2 Mile Radius - Village Centers | Mixed-Use Redevelopment Opportunities | Residential - Redevelopment Potential |
| Commercial - Infill/Redevelopment | Residential - Infill Development | Wetlands |
| | | Water |

Figure 27 Smart Growth Analysis Areas (1/2-Mile Radius around Concord Center + Thoreau Street Depot Area and West Concord Center and 1/4-Mile Radius around Route 2 and Route 62)



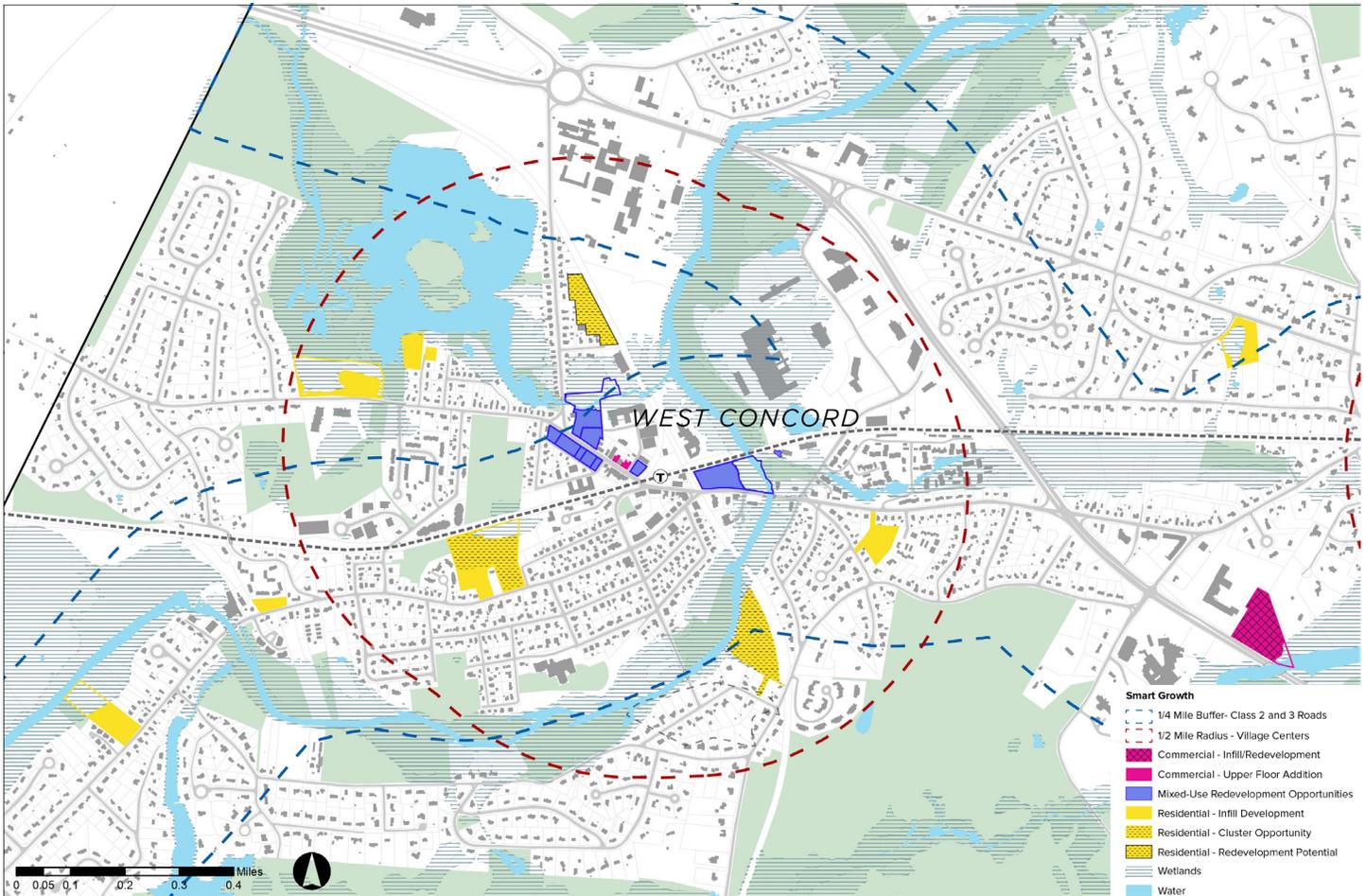
Smart Growth

- | | | |
|--------------------------------------|---------------------------------------|---------------------------------------|
| 1/4 Mile Buffer- Class 2 and 3 Roads | Commercial - Upper Floor Addition | Residential - Cluster Opportunity |
| 1/2 Mile Radius - Village Centers | Mixed-Use Redevelopment Opportunities | Residential - Redevelopment Potential |
| Commercial - Infill/Redevelopment | Residential - Infill Development | Wetlands |
| | | Water |

Figure 28 Concord Center/Thoreau Depot Area 1/2-Mile Radius Potential Smart Growth Analysis

While development will occur outside of the focus areas, the intent of this analysis is to show potential capacity for additional housing and commercial space that is more environmentally and socially sustainable. Location, transportation accessibility and walkability are significant factors for allowing appropriately denser projects to occur with fewer traffic and environmental impacts while increasing housing variety/choice and the overall market base for local businesses.

The following analyses are exercises using zoning, existing buildings and developments for reference, Town Assessing data, and Town GIS data. Since whole parcels were not always used for calculations due to removal of portions indicated as being wetlands, conservation or protected lands, etc., the resulting numbers are intended to provide a sense of scale versus exact figures for new housing units or square feet (SF) of commercial use. Also, important to note, a majority of the properties are privately owned, and these analyses did not include notification or discussions with property owners. (See criteria and assumptions by use and Appendix D for more information about methodology, criteria, and assumptions used to generate the calculations.)



Smart Growth

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| | | |
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| | | |

Figure 29 West Concord Area 1/2-Mile Radius Potential Opportunity Areas for Smart Growth Analysis

Summary Smart Growth Analysis: Residential Use Scenario A - Base Scenario with Current Zoning

This base scenario of the Smart Growth identifies all land parcels within the radius in each focus area that meet the following selection criteria regardless of ownership (data from Town GIS and Assessing Departments):

- Within 1/2-mile of commercial center or 1/4-mile of major roadway for accessibility.
- Identified as vacant in GIS and tax assessment database.
- Identified as developable or potentially developable land in the tax assessment database.
- Outside of estimated Wetlands or Conservation Areas.^A Not under Chapter 61, 61A, or 61B.
- Not already a proposed development site for a project or under construction.

^ANote: Several parcels identified through the Town GIS as “developable” partially included portions of waterbodies or Conservations Areas. Those parcels were re-sized to omit the protected/undevelopable areas that fall under municipal conservation lands, water supply lands, and recreation lands. Chapter lands were not included in these analyses but some may be identified as suitable for development on a case-by-case basis.

^A These analyses did not include notification or discussion with any property owners. The estimates generated from these analyses are for illustrative purposes.

Smart Growth Analysis Potential Residential, Zoning Scenario A

In Table 10, Scenario A is the current zoning that exists for each zoning district. Seventeen residentially zoned parcels and one industrial zoned parcel were identified as potential residential sites. The vacant developable parcels were reviewed under their existing residential zoning codes to determine the number of as-of-right housing units that could be developed (utilizing the parcels’ land area divided by the minimum required lot areas per residential zoning category and rounding down to the nearest whole number). For this analysis, the single identified parcel in the industrial zone differs from the residentially zoned parcels in that it has an existing building and would therefore only be viable for housing in the event the current owner redeveloped the parcel. This parcel was not included for mixed-use or higher density commercial use analysis due to it being surrounded by existing residential and its lack of any direct street frontage. The plan does not recommend that residential uses replace any existing, thriving commercial and industrial uses but included this parcel for this exercise only because of its size.

As shown in Table 10, under current zoning, there is potential for approximately 86 new housing units. All of the estimates are parcel-size dependent, but there is no associated timeline for any possible development.

The two residential parcels in Group 2 and the one industrial parcel from Group 3 were not necessarily identified as “vacant” or “undeveloped, but because they are larger in size, they were identified as “Residential - Cluster Opportunity.” Selection criteria for these “Potential Opportunity” land parcels, regardless of ownership^B, added an additional criterion (data from Town GIS and Assessing Departments):

- Parcel size of two or more contiguous acres

^BThese analyses did not include notification or discussion with any property owners. The estimates generated from these analyses are for illustrative purposes, and though the parcels used for this analysis were vetted through a series of criteria, it is possible that other parcels meeting similar criteria could become available for redevelopment.

Potential Number of New Housing Units by Zoning Scenario						
				A	B	C
	Zoning District	# Parcels	Min Lot Size (SF)	Current Zoning	Reduce Min Lot Size (by 1/2 of Current Zoning)	Cluster Development ¹
Group 1: Vacant Developable Parcels	Residence AA	4	80,000	4		
	Residence A	1	40,000	0		
	Residence B	4	20,000	15		
	Residence C	6	10,000	23		
	Estimated Total:	15		42		
Group 2: Identified Greater Residential Opportunity Parcels	Residence B	1	20,000	12	24	40
	Residence C	1	10,000	25	50	40 ²
	Estimated Total:	2		37	74	80
Group 3: Identified Potential Mixed-Use or Redevelopment Opportunity Sites	WCL ³	1	20,000	7	14	23
	Estimated Total:	1		7	14	23
Estimated Total of 1A + 2A + 3A				86		
Estimated Total of 1A + 2B + 3B					130	
Estimated Total of 1A + 2C + 3C						145

Table 10. Smart Growth Analysis - Potential Residential

¹Cluster Development was calculated using a minimum lot size of 6,500 SF, using the recent Concord Riverwalk as a reference for appropriate FAR on the developable land.

²Note: There are fewer potential units in Residential Zone C from modifying the zoning to 1/2 of the existing zoning to the fixed minimum lot size since 1/2 of Zone C's minimum lot requirement is 5,000SF vs the fixed minimum lot size of 6,500SF.

³WCI: This parcel includes an existing commercial/industrial use. The Plan does not recommend replacing this use with residential but illustrates that if the parcel were to be redeveloped in the future, it could be a cluster housing opportunity site.

Scenario B – Reduced Minimum Lot Size Requirement (by 50%)

In Scenario B, the three “cluster opportunity” parcels were calculated for housing potential if the existing minimum lot size requirements by zoning were reduced by 50%, which would increase the allowed number of homes per acre. The reduced zoning requirement was applied only to the three identified parcels in Group 2 and 3 because the parcels in Group 1 vary greatly in size and location within their neighborhoods. Adding the Group 1 parcels under Scenario A to Groups 2 and 3 parcels under Scenario B, the possible number of new housing units increases to approximately 130 homes.

Scenario C – Cluster Housing Opportunity

Examining the three “cluster opportunity” parcels, with an even more focused increase in allowed density, a minimum lot size of 6,500 SF was applied to the potential opportunity parcels based on the approximate developable square feet of land area per housing unit for the Concord Riverwalk community. The Town has been supportive of new housing typologies that would create smaller homes that are more compactly organized and are more sustainable in design at lower prices. The 6,500 SF lot size was calculated based on the developable portion of the Riverwalk site. Similarly, and for the purposes of this exercise, all of the parcels were decreased in size for the purposes of the calculations to remove any portions that are in wetlands or floodplains.

Using the 6,500 SF lot size to calculate potential new housing on the three “cluster opportunity” parcels and then adding to the number of potential units from Group 1 under current zoning, the total estimate of possible new housing units is approximately 145.

Smart Growth Analysis – Mixed-Use + Residential

Eight sites were identified as having potential for mixed-use redevelopment because of their location near either the Concord train station or the West Concord train station, frontage onto a main street, or previous identification by the Town or in the West Concord Master Plan. For the analysis, the following assumptions were used:

- Mixed-use program included a single floor of commercial/light industrial use with two upper floors of residential multi-family housing.
- Housing was calculated as a 50% of residential SF for 1-bedrooms (800 SF) and the other 50% of residential SF for 2-bedroom (950 SF) units.
- The recent Brookside Square was used for reference to help calculate an approximate FAR for the developable portion of the site.

This analysis indicates that approximately 227 units of multi-family housing could be added over eight sites of mixed-use development within the Concord Center, Thoreau Street Depot Area and West Concord Center focus areas. Adding this figure to the previous total estimate of 145 homes on the vacant parcels and cluster opportunity parcels, the new estimated total number of residences within the Smart Growth Analysis areas would be approximately 372 housing units.

Smart Growth Analysis – Commercial/Industrial and Mixed-Use

Seven distinct non-residential areas were identified during the initial criteria assessment and were analyzed for potential commercial/industrial and potential mixed-use redevelopment. For this analysis, the commercial/industrial subareas were referred to as: Concord Center, Thoreau Street Depot, West Concord Center, Baker Avenue, Concord Turnpike, Virginia Road, and 2229 Main Street (Starmet). These analyses did not include notification or discussion with any property owners. The estimates generated from these analyses are for illustrative purposes.

Potential Number of New Housing Units by Zoning Scenario							
				A	B	C	D
	Zoning District	# Parcels	Min Lot Size (SF)	Current Zoning	Reduce Min Lot Size (by 1/2 of Current Zoning)	Cluster Development ¹	Mixed Use Development ²
Group 1: Vacant Developable Parcels	Residence AA	4	80,000	4			
	Residence A	1	40,000	0			
	Residence B	4	20,000	15			
	Residence C	6	10,000	23			
	Estimated Total:	15		42			
Group 2: Identified Greater Residential Opportunity Parcels	Residence B	1	20,000	12	24	40	
	Residence C	1	10,000	25	50	40 ⁴	
	Estimated Total:	2		37	74	80	
		# Sites					
Group 3: Identified Potential Mixed-Use or Redevelopment Opportunity Sites	TDB	3					117
	WCL ³	1	20,000	7	14	23	
	WCV/WCB/WCI	5					110
	Estimated Total:	1		7	14	23	
Estimated Total of 1A + 2A + 3A				86			
Estimated Total of 1A + 2B + 3B					130		
Estimated Total of 1A + 2C + 3C						145	
Estimated Total of 1A + 2C + 3C + 3D							372

Table 10. Smart Growth Analysis - Potential Residential including Mixed-Use

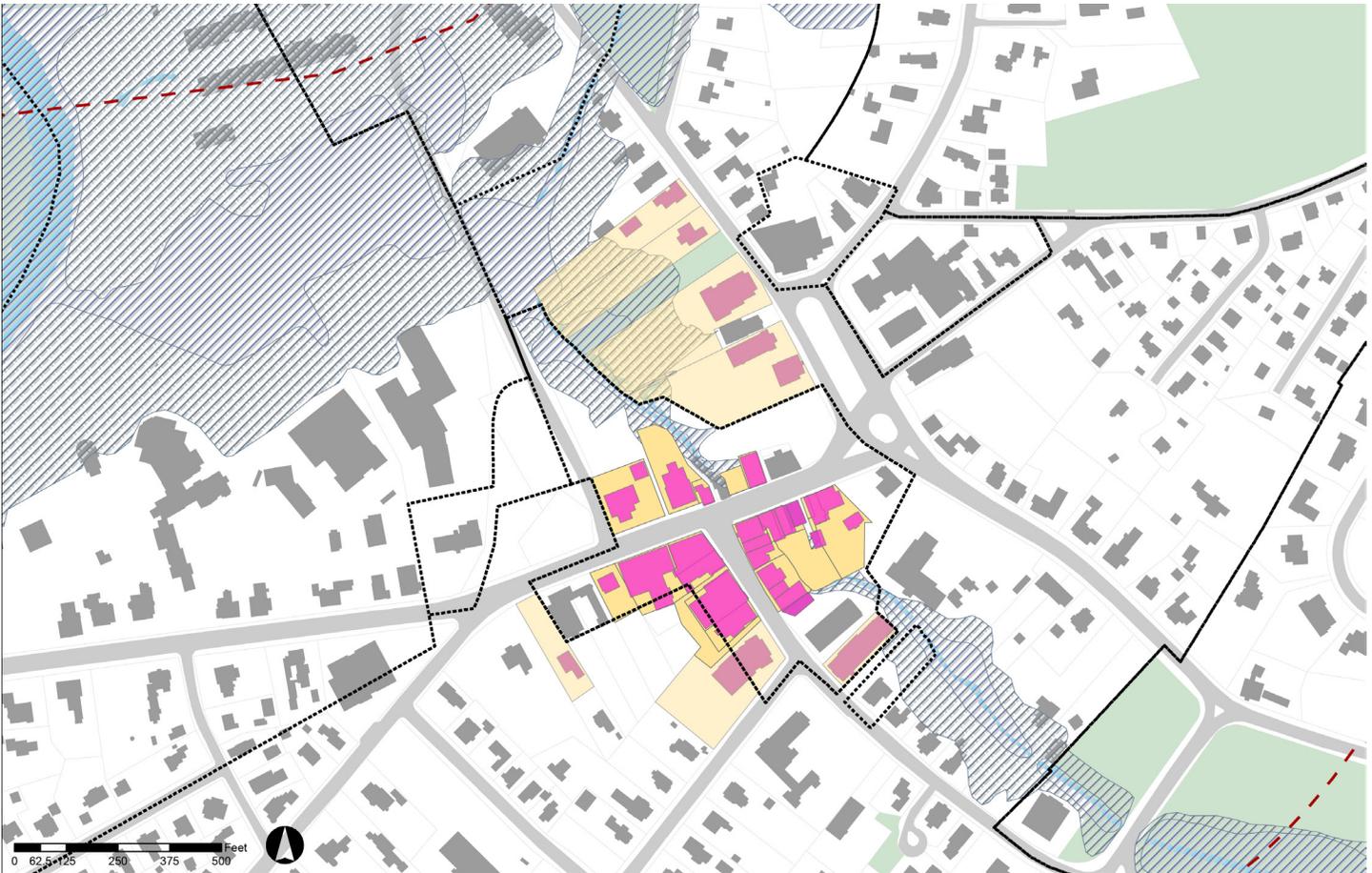
¹ Cluster Development was calculated using a minimum lot size of 6,500 SF, using the recent Concord Riverwalk as a reference for appropriate FAR on the developable land.

² Mixed-Use Development was calculated assuming a three-story building with two upper floors of residential, a combination of 1- and 2-bedroom units and using the recent Brookside Square as a reference for developable FAR of 0.7.

³ WCI: This parcel includes an existing commercial/industrial use. The Plan does not recommend replacing this use with residential but illustrates that if the parcel were to be redeveloped in the future, it could be a cluster housing opportunity site.

⁴ Note: There are fewer potential units in Residential Zone C from modifying the zoning to 1/2 of the existing zoning to the fixed minimum lot size since 1/2 of Zone C's minimum lot requirement is 5,000SF vs the fixed minimum lot size of 6,500SF.

**Summary Smart Growth Analysis:
Commercial/Industrial and Mixed-Use by Subarea**



Smart Growth - Concord Center

Potential Upper-Floor Additions (on Existing Buildings)

Figure 30 Concord Center Subarea for Commercial Smart Growth Analysis

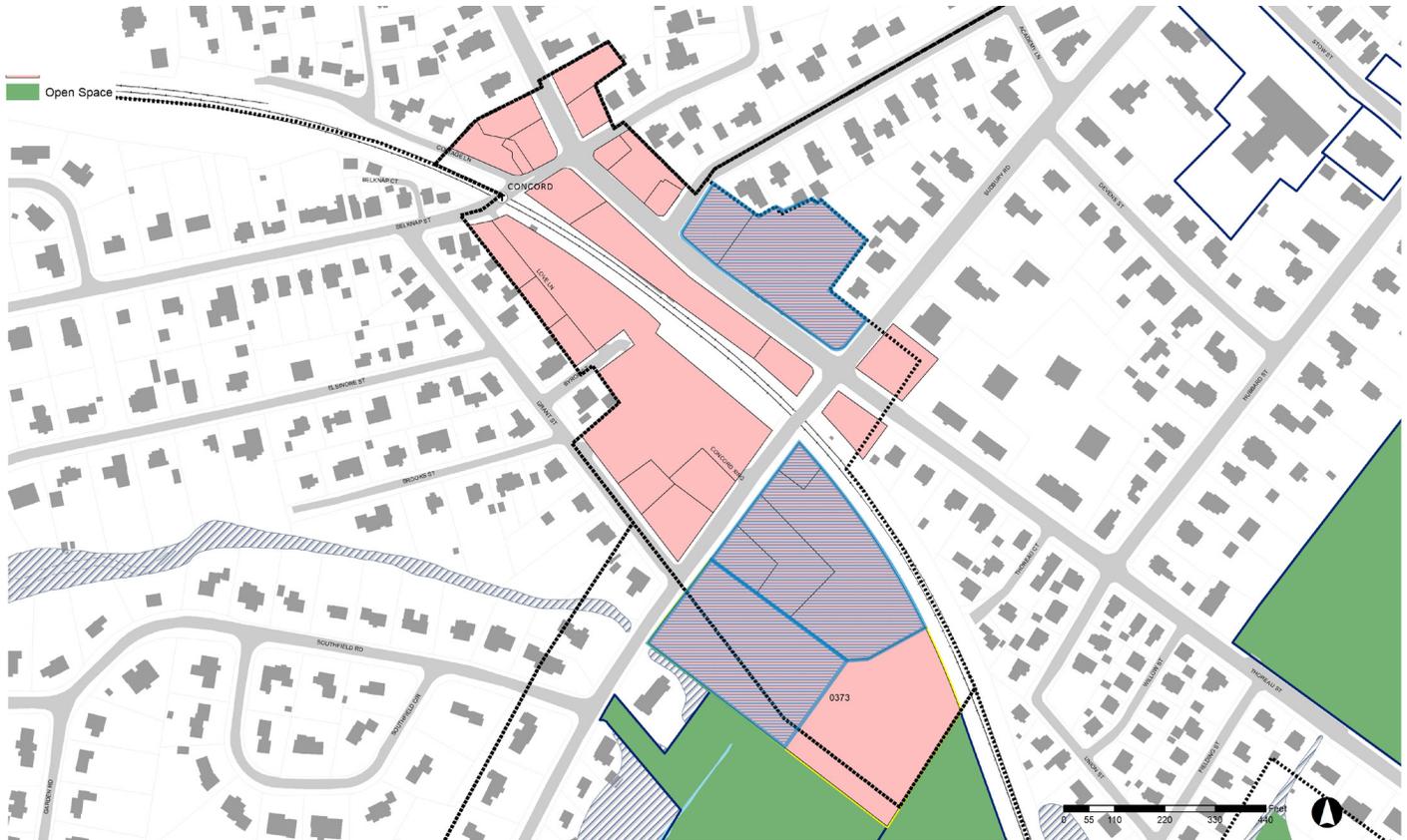
Concord Center

For the Concord Center Subarea analysis, the analysis sought to calculate what additional commercial space could be added above existing buildings instead of new construction or redevelopment. Residential use for new additions was not assumed at this time due to significant building and construction requirements and costs. For this analysis, the criteria included:

- Include parcels within the Concord Center Business District that are two stories or less.
- Exclude parcels with single family residential or tax-exempt, non-commercial, uses e.g., churches.
- Estimate a maximum of 3.5 floors based on existing height limit of 35 feet.

- Additional new square footage calculated by multiplying extra stories (3.5 minus existing) by existing building shape area.

This analysis indicates that Concord Center could theoretically add an additional 165,000 SF of commercial space in upper floor additions. However, any addition or renovation would have to be financially feasible for property owners, and this exercise did not take into account parking requirements for new commercial space. Also, given the important [historic character](#) and design of the center, the build-out of significant numbers of the existing buildings would not be recommended.



Smart Growth - Thoreau Street Depot

Potential Redevelopment Sites for Mixed Use

Figure 31 Thoreau Street Depot Subarea for Mixed-Use Smart Growth Analysis

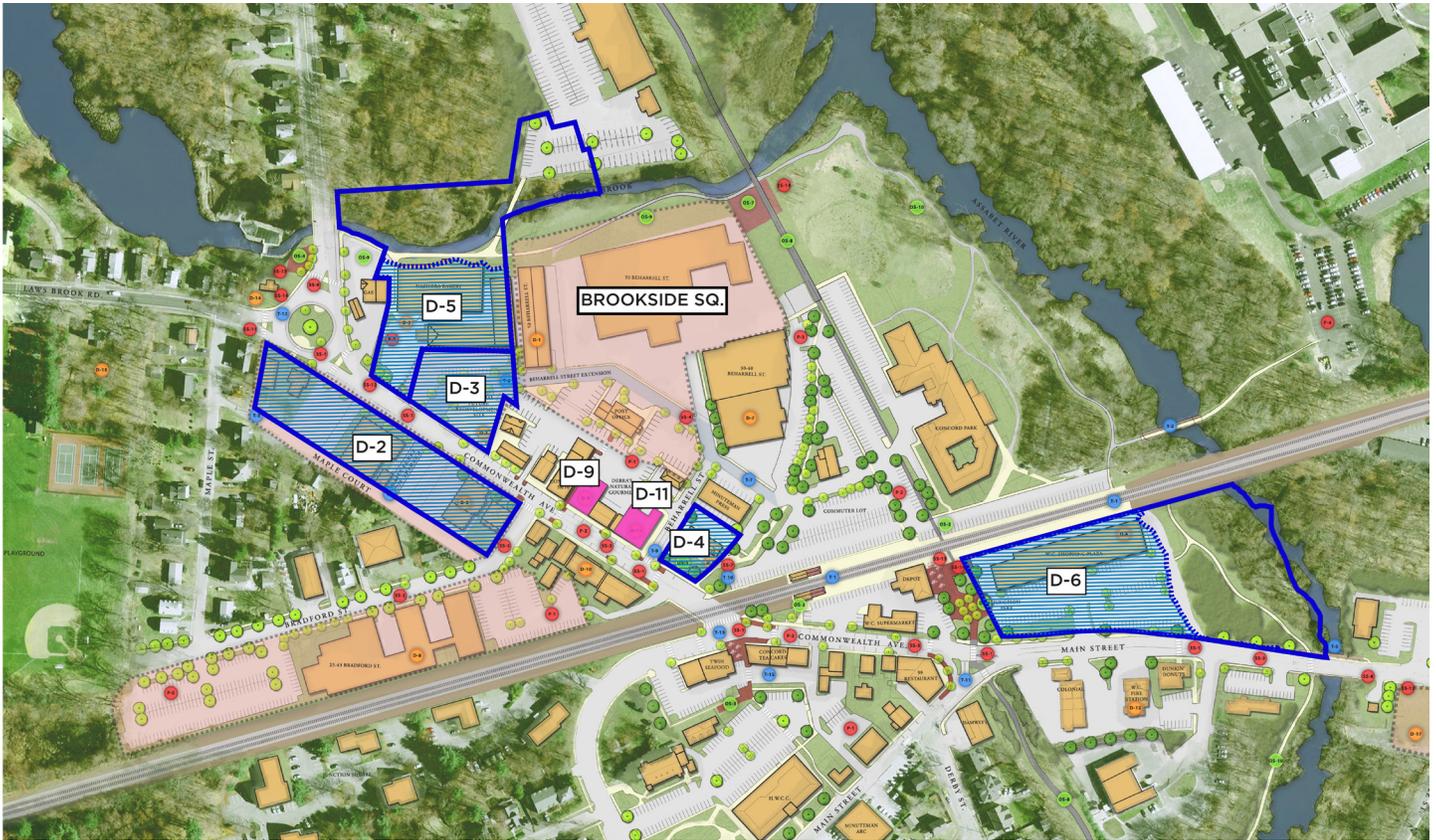
Thoreau Street Depot Area

In the Thoreau Street Depot Area, there were three potential sites reviewed for possible mixed-use redevelopment. The subarea that includes the land on which Crosby Market is located (the Crosby Market parcel) was previously identified for potential housing development in the 2015 HHP. The number of potential housing units is described as part of the residential analysis; this analysis focuses on commercial use. The methodology included the following assumptions:

- Include sites on main road over 1.5 acres within the Thoreau Depot Business Zoning District.
- Without specific FAR guideline for mixed-uses, Brookside Square was used as a reference for FAR (not including the Post Office building and area).

- Assume three floors of development (ground floor commercial/amenities; upper floor residential with 50-50% SF mix of 1BR and 2BR units).
- Crosby Market parcel analysis only includes the parking area, leaving the building intact.

Using this methodology and assuming redevelopment (not renovation) of existing buildings, the three sites can accommodate over 12,000 SF of net new ground floor commercial and over 100 units of multi-family housing units.



Smart Growth - West Concord Center

- Potential Upper-Floor Addition (on Existing Buildings)
- Potential Redevelopment Sites

Figure 32 West Concord Center Subarea for Commercial and Mixed-Use Smart Growth Analysis (Source: Base Map and Parcel Identification from 2010 West Concord Village Master Plan)

West Concord Center

Using the 2010 West Concord Village Master Plan’s assessment of potential renovation and redevelopment parcels, analysis included seven previously identified sites that have not been redeveloped. This subarea was the only one to include both mixed-use redevelopment potential and renovation/additions to existing buildings. The upper floor additions, similar to the Concord Center analysis, only include commercial uses at this time due to significant building and construction requirements for residential uses.

In the West Concord Center Subarea, five parcels were previously identified as potential redevelopment parcels, and these sites are considered mixed-use opportunities in this analysis. Two additional existing buildings were identified as targets for potential one-story additions. For all eight sites, the potential net new commercial space is just under 12,000 SF. The mixed-use sites also have the potential for over 100 housing units.



Figure 33 Baker Avenue Potential Infill for Commercial Smart Growth Analysis

Baker Avenue, Concord Turnpike, and Virginia Road Subareas

The three Subareas are referred to as Baker Avenue, Concord Turnpike, and Virginia Road. While the Virginia Road Subarea is outside of the Focus Areas, it is a significant industrial and research cluster in Concord. These areas were evaluated for potential commercial development using existing commercial/industrial buildings in Concord as references for FAR. These subareas consist of vacant parcels that were adjusted to omit wetlands, floodplains, or conservation lands from the calculable area. The total potential new commercial development for all three subareas is approximately 180,000 SF.



Figure 34 Concord Turnpike Potential Infill for Commercial Smart Growth Analysis



Figure 35 Virginia Road Subarea for Commercial Smart Growth Analysis



Figure 36 2229 Main Street (Starmet) if included for Commercial Smart Growth Analysis

2229 Main Street (Starmet) Subarea

The 2229 Main Street Oversight Committee has been working diligently to monitor the cleanup of the former Starmet and Nuclear Metals site. While the committee has been supporting the Town in efforts to acquire the site, they have also been the driving force behind the call for site and development planning by the Town to turn the Superfund site into an asset for the community. Though the 2229 Main Street Oversight Committee is not charged with planning for the site, it has suggested a variety of uses, including limited residential, recreation, conservation, transportation, public facilities maintenance, energy production, among others.

Following Smart Growth strategies, the suggestion of residential uses on the site may be sound in terms of certain amenities nearby, such as the Stop & Shop in Acton. However, the location is not easily accessible for Town-related programs, social and emergency services,

and non-driving residents. The site could, as suggested by the Oversight Committee, easily host multiple uses for Town departments and facilities, public recreational space, temporary or seasonal shuttle/remote parking, etc. Permanent uses would require further site planning and community discussion.

For the purposes of this analysis, the 2229 Main Street site was examined as a potential commercial site similar to the Baker Avenue business park. While currently there is not a strong demand for another significant commercial hub, the size and location on Main Street would make it a possibility.

While it is not likely that the former Starmet site would be used only for commercial or light industrial uses, the developable portion of the site is comparable to the developed portion of Baker Avenue area, which currently includes approximately 540,000 SF of commercial use.

Geographic Area	Predominant Zoning	# Parcels/Sites	Building Addition, Redevelopment, or Infill	Estimated Potential New Net Commercial SF
Concord Center	CCB	19 Parcels	Additions only to existing buildings with ≤ 2 stories; assumes maximum of 3.5 floors based on maximum height	165,700
Thoreau Depot	TDB	3 Sites	Mixed-Use redevelopment of each site; assumes ground floor commercial with 2 floors residential	12,700
West Concord Center	WCV	5 Sites	Mixed-Use redevelopment of each site; assumes ground floor commercial with 2 floors residential	3,100
	WCV	2 Parcels	Addition to identified existing buildings; assumes 1 floor addition per WCV MP	8,600
Baker Avenue	IPA	1 Site	Infill development; assumes building footprint and SF similar to adjacent existing 2-story building	50,400
Concord Turnpike	LB	1 Parcel	Infill development; assumes FAR similar to adjacent developed parcel	43,700
Virginia Mode*	IPB	2 Parcels	Infill Development; assumes FAR similar to adjacent developed parcels	89,500
			Subtotal	373,700
2229 Main Street (Starmet)	LIP1	1 Parcel	Redevelopment assumes just over 1/2 of parcel is developable; assumes FAR comparable to existing buildings at Baker Ave	540,000
			Total, if including maximized 2229 Main Street (Starmet)	913,700

Table 11. Smart Growth Analysis - Potential Commercial including Mixed-Use

Building Permits (excluding additions/alterations)	2011	2012	2013	2014	2015	2016	2017
New Single Family Homes	30	29	55	38	51	43	39
Multi-family attached units	0	0	0	75	6	6	4
<i>Total Residential Only</i>	<i>30</i>	<i>29</i>	<i>55</i>	<i>113</i>	<i>57</i>	<i>49</i>	<i>43</i>
Commercial	90	73	100	114	115	100	88
<i>Total Building Permits</i>	<i>120</i>	<i>102</i>	<i>155</i>	<i>227</i>	<i>172</i>	<i>149</i>	<i>131</i>

Table 12. Concord Building Permits by Year

(Source: Town of Concord)

Using the analyses for the seven subareas, the potential net new commercial development is approximately 370,000 SF not including the 2229 Main Street (Starmet) site and just over 900,000 SF with a significant development at 2229 Main Street. Each commercial subarea has a distinct real estate market with its own set of potential users and developers – the smaller spaces within the village centers compared to the larger business park-like buildings outside of the village centers would attract different users with different space needs. If the Town were to actively encourage additional commercial growth, it could do so with targeted recruitment.

Additionally, though the location of Smart Growth development includes taking into account infrastructure (roads, water, sewer, etc.), as the analyses areas follow, the existing capacity of that infrastructure varies throughout the system and may require increased capacity in order to service new development, even with new sustainable development technologies. As with any proposed development, an investigation of capacity is required during the development review process with the Town.

The potential housing and commercial development estimates in the Tables above are not linked to a specific timeframe. The data in Table 12 below, showing the number of permits pulled for residential development projects, indicates that the permits issued each year have ranged between 29 to 57 (except for 2014) for the entire town. These figures suggest that housing development will continue to grow at a similar rate.

Estimated Population Projection from Smart Growth Analysis

Using the housing unit estimates from the Smart Growth Analyses, a simplified population projection from possible development on these specific sites can be made based on the average household sizes. The most current average household size is 2.46 according to the 2010 U.S. Census. This is a decrease from the 2000 Census which listed Concord's average household size as 2.62. This follows the trend of smaller household sizes as children have grown and moved out, and changes in marital status.

Since the Smart Growth analysis does not take into account a specific timeframe for future development, the more accurate projection for overall town population growth would be MAPC's projections, which are included in Section 1 Demographics. Due in part to the excellent schools and related town services, Concord is, and will continue to be, an excellent place to raise a family. Projecting population growth is exceedingly difficult and Concord can do a better job of coordinating development initiatives (such as the 350 unit residential development on its western border) with various Town boards and the school administration to minimize the strain on Town services and school budgets. In 2018, Concord's schools are near 100% capacity. Expanding the population of school-aged children will require consideration of expanding school facilities.

Smart Growth Analysis Scenario	# of Possible Units from Analysis	Estimate of Additional Population*
Scenario A (1A + 1B + 1C)	86	211
Scenario B (1A + 2B + 3B)	130	319
Scenario C (1A + 2C + 3C)	145	356
Scenario D (1A + 2C + 3C + 3D)	372	915**

Table 13. Smart Growth Scenario Population Projection Estimates

* Based on Average Household Size of 2.46 from 2010 Census Data.

** Note that the Mixed-Use Units in the Thoreau Depot Subarea would include 50 - 1 BR and 50 - 2 BR units but the 2.46 Household size was still used for estimation

Housing and Household Units				
	2000	2010	2020	2030
Households	5,948	6,484	7,028	7,502
Housing Units	6,158	6,947	7,456	7,943

Table 14. MAPC Household and Housing Unit Projections for Concord

(Source: 2014 MAPC Metro Boston Population and Housing Demand Projections)

Zoning

Concord’s zoning bylaw, as shown in historic zoning maps, is based on the historic patterns of land use that existed in 1928 and has largely been driven by geographic location, wetlands proximity, and lot size rather than land or property characteristics. While the general uses have not changed significantly, the design and building specifications have become of increasing concern. While identified as an issue of concern in the 2005 CLRP, the continued increase in real estate demand has led to even greater numbers of smaller, traditional single-family homes being purchased, torn down, and replaced with larger homes. This trend towards construction of significantly larger, more expensive houses in existing older neighborhoods threatens the neighborhood’s character and decreases the availability of smaller, more affordable home choices.

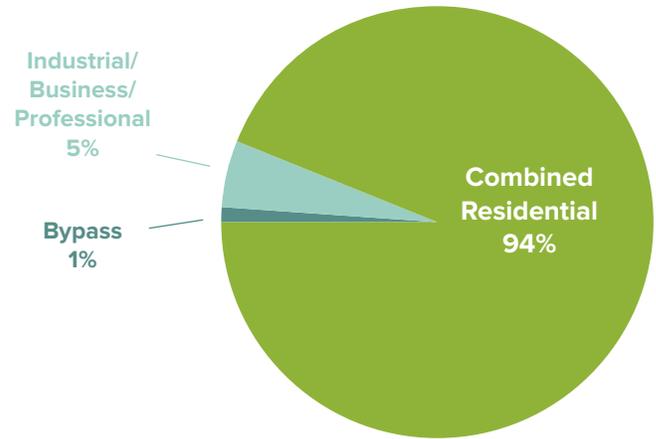


Figure 37 Percentage Distribution of Land by Town Zoning Land Use Designation (Source: Town of Concord GIS)

Zoning Category	% of Land Area	Acres	# of Households*
Residence AA	49.9%	8,238	1,221
Residence A	28.2%	4,652	1,130
Residence B	12.7%	2,090	1,940
Residence C	3.9%	643	1,780
Industrial Park	1.7%	284	20
Limited Industrial Park	1.2%	200	394
By-Pass	0.7%	114	1
Limited Business	0.5%	88	79
Business	0.5%	84	104
Medical Professional	0.4%	65	298
Industrial	0.3%	52	134

Table 15. Concord Acreage by Zoning Classifications

(Source: Town of Concord GIS; *Figures estimated by Town of Concord GIS and Town Assessing)

GOALS + STRATEGIES, POLICIES, AND ACTIONS

Unlike other plan elements, land use goals and policies are largely regulatory and policy-oriented. The overall existing distribution of different land uses within town has not changed dramatically in the past ten years. The majority of the town is residential and forest/recreational lands with commercial being focused around the train stations and village centers, and industrial pockets near the main highways and roads. There is significant concern – consistent with the 2005 CLRP – that new development and use changes would shift the distribution of use types, create more development sprawl that would reduce the open and natural resources, and change the aesthetic character of Concord.

There are five main goals that have been identified to encourage the preservation of the town’s assets and focus new development in areas that are near the village centers and train stations, which supports the Town’s commitment to sustainability. In addition, Concord can permit more contextually appropriate development outside of those center areas within the neighborhoods.

Goal 1: Preserve Concord’s current combination of land uses (e.g., open space, agriculture, and historically and culturally rich village centers) and consider design standards that preserve the town’s “New England character.”

Throughout the planning process, community members have stressed the importance of preserving the physical qualities that make Concord a unique and desirable place to live, work, and play (or visit). One of the tenets of this goal is to recognize that “maintaining the character of the town as a New England village or town” requires consideration of landscape, topography, open land, agriculture, small businesses, as well as architectural/design standards – many factors interacting with and impacting each other. Priority parcels of conservation interest were identified in the 2015 OSRP Seven-Year Action Map. There are focused areas that lend themselves to redevelopment or new development that would support Smart Growth in the village centers, while reinforcing the town’s character, such as the potential housing sites discussed in the HPP.

Six core action areas will be used to advance this strategy and development vision:

1. Adopt zoning and other alternative regulations to protect unique features of existing village centers (e.g., potential expansion of the existing formula business bylaw complemented by other fee/incentives options).
2. Explore strategies and adopt zoning that recognizes the value of landscape as well as the built environment, e.g. agricultural land, including fields, meadows, and orchards, and areas identified through the State’s BioMap2, including rare species habitats, geologic, scenic, or other significant resources.
3. Study realistic use of Transferrable Development Rights (TDR) in Concord. Work with other Town committees and departments to verify that there are acceptable areas for both the giving and the receiving of TDR.

4. Research alternate zoning methods to preserve the natural, agricultural, and architectural characteristics of Concord while allowing appropriately scaled and designed redevelopment or development. Possible approaches include:
 - a. Strengthening FAR bylaw to match the neighborhood or village center context
 - b. Develop design guidelines for each village center (similar to the design guidelines prepared as part of the West Concord Master Plan)
 - c. Develop design guidelines for established residential neighborhoods
 - d. Consider form-based codes for achieving some of the goals
 - e. Review possible Green Neighborhood or Cluster Zoning, agricultural overlay zones, and other zoning or review mechanisms
5. Adopt policies, appropriate zoning, and Town practices that recognize the value of street and neighborhood trees and natural spaces throughout the town. Consider expansion of the Tree Preservation Bylaw to protect existing trees in neighborhoods.
6. Identify regulatory tools that preserve and restore important ecosystems, increase use of green infrastructure, and minimize development and/or support use of permeable pavement where feasible in 100-year flood zones. Coordinating zoning, development review, and building permitting processes, along with any other applicable design review should include some standard for use of green infrastructure and other mitigating design features and materials.

Goal 2: Explore zoning alternatives (e.g., based on land characteristics rather than strictly geographic location) that enable higher density, mixed-use, more walkable and economically diverse neighborhoods within/near village centers while simultaneously preserving and restoring the rural and pastoral qualities of outlying neighborhoods and resilience of natural systems.

Enabling people to live, work, and play (visit) near the existing village centers and improving accessibility to those core areas of activity improves the viability of local businesses and the town's cultural and historical institutions. Residents and visitors who have opportunities to walk or bike from the neighborhoods or transit hubs can bring activity and liveliness to the village centers without adding to vehicular congestion. With the infrastructure already in place, renovation and redevelopment of buildings to include a mix of slightly more intense uses can meet the Town's sustainability goals, provide additional housing choices for residents closer to the centers, and strengthen commercial space opportunities.

Five core action areas will be used to advance this strategy and development vision:

1. Increase allowable density in certain locations by allowing multi-family houses, tiny houses, or townhouses that are well-designed and spaced while maintaining desirable neighborhood and street trees, small open spaces, and wildlife corridors/connections.
2. Incentivize or otherwise enable alternative housing development approaches that are owner-occupied or rental, such as Concord Riverwalk, Black Birch, or Brookside Square.
3. Identify what zoning changes would need to be in place to encourage greater mixed-use development within the village centers.
 - a. Encourage/incentivize 1-10 unit 2nd and 3rd floor residential in village centers and discourage non-retail uses on 1st floor in village centers.
 - b. Consider whether to allow 2-family housing by right in residential districts near village centers,

- c. Review Residential Cluster Developments and Planned Residential Development bylaws to determine whether these development options could be improved.
- 4. Streamline/coordinate zoning and permitting such that denser housing in the village centers is easier to build relative to “greenfield” development and discourage distant housing or new subdivisions.
 - a. Evaluate current legislation (e.g., Ch. 40R and 40S) as an alternative development provision that may streamline permitting but balances the desire for density around the train stations with any corresponding strain on town services such as water, wastewater, public safety, human services, and schools.
 - b. Study the opportunity for form-based codes as a mechanism for combining allowed massing and design standards.
- 5. Examine and prioritize alternative transportation options to link cluster housing/multi-family/age-in-neighborhood housing in Residential A or AA zones either by infrastructure connections, such as sidewalks and bike lanes, or provision of ride services to village centers and other high demand destinations.

Goal 3: Encourage production of small-scale affordable and workforce housing that is sustainable, resilient, and consistent with Town character.

Since the town’s cost of housing is so high, the term “affordable” is used broadly to reflect those who are working but are unable to afford the majority of Concord’s existing housing stock of single family homes or are looking to downsize from a single-family home to reduce maintenance and costs. Workforce housing should be coordinated with good connectivity to major destinations in town.

Six core action areas will be used to advance this goal:

1. Consider zoning alternatives, such as modifying the FAR bylaw and building setback requirements as well as form-based codes.
2. Support implementation of the 2015 Housing Production Plan goals as modified from the HPP:
 - a. Identify smaller land parcels with potential for affordable and workforce housing through various housing committees and taskforces.
 - b. Investigate or prepare feasibility analysis of possible linkage of demolition delay bylaw to Town purchase of property for renovation to create elderly, affordable, or young family housing.
 - c. Consider appropriate use of additional dwelling units (accessory housing) in all residential zoning districts (e.g. garage/barn conversions or tiny houses).
3. Consider feasibility of multi-family housing in other zoning districts;
 - a. Enable older Concord residents to age-in-neighborhood as an alternative to age-in-place.
 - b. Consider allowance of conversion of large single-family homes on sizable lots into multi-family units that maintain appearance and neighborhood character of single-family homes.
4. Encourage in-fill development with affordable and sustainable (passive or net-zero) housing. The emphasis should be that in-fill development be appropriately scaled to its surroundings.
5. Support Housing Goal #2 to develop additional funding mechanisms to achieve housing targets by considering new financing opportunities, such as sale and rental revenue of Town-owned assets, developer fees, or other real-estate transaction fees (e.g., the Aspen-Pitkin County Housing Authority policy in Aspen, CO).

6. Study the possibility of linking renewable energy and energy efficiency requirements on new large home construction to financing of workhouse housing, e.g., also in the City of Aspen, the Aspen-Pitkin County Renewable Energy Mitigation program includes guidelines that charges one-time fees to new homeowners with homes of 5,000 SF or larger, establishes an energy budget for those larger homes based on the local building code, and charges an additional fee if they exceed that budget or if the property includes energy-intensive amenities, such as pools, and offers on-site renewable credits for installation of renewable energy systems.

Goal 4: Support the expansion of commercial and industrial uses within the existing zoned areas to improve the Town's long-term financial sustainability through an expanded commercial tax base.

One of Concord's historical characteristics is its village centers and industrial areas. The continued viability and support for businesses that bring workers and non-residential tax revenues is critical to Concord's future. Within the existing areas zoned for business and industrial uses, there are still some opportunities for redevelopment and in-fill development, as well as possible mixed-use.

Four core action areas will be used to advance this goal:

1. Review existing business and industrial zoning bylaws. The ability for businesses, office, and industrial uses to continue to contribute to the Town's tax base is critical to balancing its reliance on residential property taxes for revenue, which is a major concern of Concord residents. In order to support in-fill development or redevelopment, review of existing zoning requirements should be done regarding:
 - a. Dimensional requirements and building requirements to be outlined and updated to reflect new sustainability principles and goals.
 - b. Review parking ratio requirements to reduce asphalt and encourage more sustainable materials and landscaping.

2. Recommend that new and in-fill development incorporate transportation-related sustainability features, e.g., bike racks, showers, walkways and paths to nearest transit, transit or ride service stops, preferred parking locations for carpool participants.
3. Encourage or incentivize mid- and larger-sized employers to coordinate new jobs with assistance in searching for or creating workforce housing. While the new or in-fill commercial development may not include mixed-use or be near new workforce housing, timing of development and ability for easy commutes and reduction of personal vehicles should be encouraged.
4. Encourage the Public Works Commission to review the current sewer improvement fee assessment to evaluate potential options to offset or mitigate an initial fee in response to situations where a change of use significantly reduces the calculated title 5 sewer demand and provide clarification as determined to be necessary or appropriate.

Goal 5: With participation of Town departments with operational experience and responsibility, require compliance to criteria when they are established by the Town's appointed committees for environmental sustainability and resilience with respect to clean energy use, stormwater management, ecosystem and landscape protection, groundwater recharge, and water resource preservation while also considering life-cycle costs.

Seven core action areas will be used to advance this goal:

1. Evaluate and determine need to regulate to Concord's 500-year floodplain or alternative indicator. Review how future precipitation projections due to climate change may affect the town's floodplain designations and require redevelopment and new development to respond accordingly.

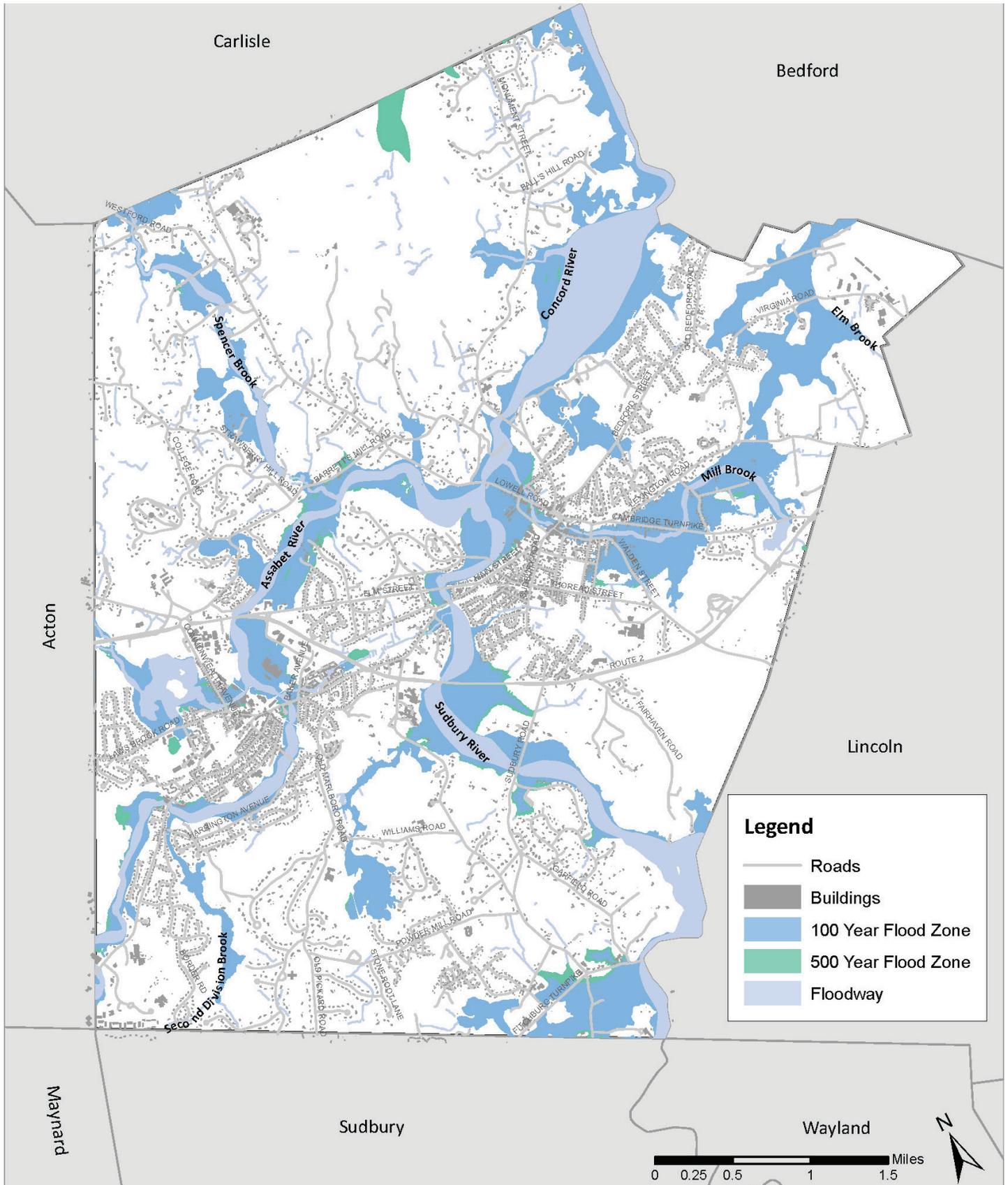


Figure 38 Flood Zone Map (Source: 2015 Open Space & Recreation Plan)

2. Consider raising the energy-saving requirements of the Building Code with the long-term goals consistent with the Sustainability Framework. Providing several alternatives would allow property owners and developers opportunities to reach higher energy conservation standards while recognizing the possible additional front-end costs.
 - a. Consider EV compliant plug in each new garage.
 - b. Require solar on all 3-story buildings.
 - c. Consider enhanced R-value requirements on new construction.
3. Promote use of low-impact development (LID) methods to reduce impacts of stormwater (e.g., increased volume or rate) by adopting a residential lot stormwater bylaw. With the flooding issues becoming more prevalent throughout the town, these efforts will benefit property owners in the long-term.
4. Preserve and strengthen the street tree replacement program and the enforcement of any tree preservation regulations on public or private properties.
5. Within the mandate of the existing Climate Action Advisory Board or any future resilience committee, and with participation of Town departments with operational experience and responsibilities, create net-zero and net-blue working groups modeled after the Cambridge Net Zero Taskforce to guide policies over the next 2-3 decades in order to achieve long-term goals for the built environment and for water use. These groups should further consider updates to zoning, financial incentives programs, community education, and other measures that would move Concord towards its net-zero and net-blue targets.
6. Support the CMLP in studying the impacts of offering a comprehensive set of energy efficiency financial incentives that meet or exceed those offered by Massachusetts investor-owned utilities, as suggested in the Energy Future Task Force Final Report. One option would be to join the Massachusetts Renewable Energy Trust Fund (RETF), which would come with substantial benefits for homeowners and businesses and eliminate the need for custom-designed efficiency programs in Concord. The benefits include more substantial rebates for energy-savings investments as well as eligibility for programs such as the 0% Heat Loan. The Town and CMLP should explore the RETF and its potential benefits and costs to the Town, homeowners, and businesses.
7. Consider increasing current or adding new incentives for individuals to make choices that further Concord's natural preservation and environmental sustainability goals. The Town and CMLP already offer a variety of rebate programs for PV installations, heat pumps, high-efficiency lighting, and additional renewable energy and efficiency measures, but with rapid growth in new technology, these incentives should regularly be updated and coordinated with housing interests.

SUSTAINABLE COMMUNITIES IN PRACTICE

HIGHLIGHT: COMMUNITY EDUCATION



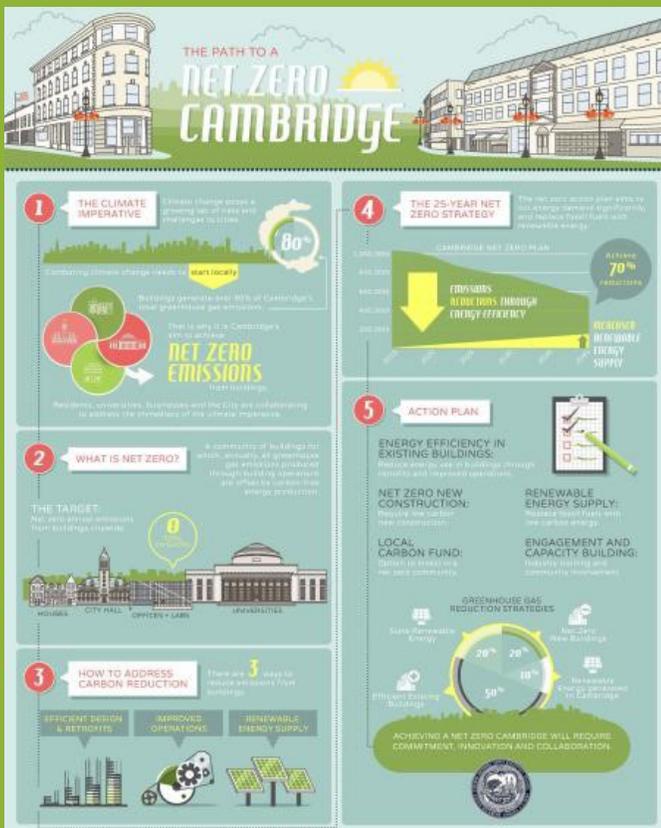
Location: Fort Collins, Colorado

Description: Fort Collins, Colorado has been particularly innovative in its climate action planning and sustainability initiatives, which incorporate a robust community education program. Concord could consider hosting themed gatherings, in concert with CSEC and other committees/organizations, similar to the Xeriscape Garden Party hosted annually in Fort Collins.

Fort Collins Utilities sponsors an annual Xeriscape Garden Party.

(Source: www.fcgov.com/utilities/residential/conserves/water-efficiency/xeriscape/xeriscape-garden-party/)

NET-ZERO BYLAWS IN PRACTICE



The City of Cambridge, MA has enacted net-zero requirements for new construction that may be a reference for modifications to Concord's zoning bylaws. Near 80% of the GHG emissions in Cambridge stem from buildings operations (Cambridge Net Zero Action Plan, 2015). As a result, the City of Cambridge chose to focus their net zero strategies on new construction and existing buildings. Between 2020-2030, Cambridge has outlined when specific sectors (municipal, residential, commercial, labs, etc.) of new construction will need to meet net zero standards. For existing buildings, the City is exploring a requirement for energy efficiency upgrades at time of renovation and/or sale. The City also passed the Building Energy Use Disclosure Ordinance, requiring owners of large buildings to track and report annual energy use to the City and publicly disclose the data, allowing various users to compare energy performance amongst properties. Concord should monitor the success of these programs in Cambridge and consider which measures would be applicable to the town.

(Source: City of Cambridge, www.cambridgema.gov/CDD/Projects/Climate/NetZeroTaskForce/)

LAND USE + ZONING SYSTEMS MATRIX

		Section 4.1				Section 4.2				Section 4.3						Section 4.4					Section 4.5				
		Cultural + Historic Resources				Economic Vitality				Housing						Land Use					Mobility + Transportation				
		Goal #1	Goal #2	Goal #3	Goal #4	Goal #1	Goal #2	Goal #3	Goal #4	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Goal #6	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5
Goal #1	#1				●	●										●									
	#2															●									
	#3															●									
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	#5															●									
	#6															●								●	
Goal #2	#1									●		●	●	●	●	●									
	#2										●	●		●	●	●									
	#3					●										●									
	#4														●	●									
	#5														●	●						●	●	●	
Goal #3	#1											●	●	●	●	●	●								
	#2									●	●	●	●	●	●	●	●								
	#3											●		●			●								
	#4											●		●			●								
	#5										●						●								
	#6										●				●		●								

Note: The Systems Matrix is intended to depict crossover between goals and actions throughout the Plan Elements section. It is intended as a tool to assist in prioritization of actions based on the "breadth" of their crossover with formalized goals both within and outside of their respective sections.

Section 4.6

Section 4.7

Section 4.8*

Open Space + Natural Resources										Public Facilities + Infrastructure								Fiscal Planning			
Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Goal #6	Goal #7	Goal #8	Goal #9	Goal #10	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Goal #6	Goal #7	Goal #8	Goal #1	Goal #2	Goal #3	Goal #4
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* For the purposes of this Matrix, Fiscal Planning is assumed to be a factor in all decisions involving the prioritization of action items. As a result, Goals from fiscal planning are not represented as being connected to specific actions. Rather, they are represented as a separate constant in the decision-making processes.

LAND USE + ZONING SYSTEMS MATRIX

(CONTINUED)

		Section 4.1				Section 4.2				Section 4.3						Section 4.4					Section 4.5				
		Cultural + Historic Resources				Economic Vitality				Housing						Land Use					Mobility + Transportation				
		Goal #1	Goal #2	Goal #3	Goal #4	Goal #1	Goal #2	Goal #3	Goal #4	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Goal #6	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5
Goal #4	#1					●		●	●							●			●						
	#2																		●		●				
	#3						●		●			●							●						
	#4					●		●											●						
Goal #5	#1															●				●					
	#2														●					●					
	#3														●	●				●					
	#4				●										●	●				●					
	#5																			●					
	#6														●					●					
	#7														●					●					

Note: The Systems Matrix is intended to depict crossover between goals and actions throughout the Plan Elements section. It is intended as a tool to assist in prioritization of actions based on the “breadth” of their crossover with formalized goals both within and outside of their respective sections.

Section 4.6

Section 4.7

Section 4.8*

Open Space + Natural Resources										Public Facilities + Infrastructure								Fiscal Planning			
Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Goal #6	Goal #7	Goal #8	Goal #9	Goal #10	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Goal #6	Goal #7	Goal #8	Goal #1	Goal #2	Goal #3	Goal #4
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* For the purposes of this Matrix, Fiscal Planning is assumed to be a factor in all decisions involving the prioritization of action items. As a result, Goals from fiscal planning are not represented as being connected to specific actions. Rather, they are represented as a separate constant in the decision-making processes.